

# Palestine Polytechnic University



College of Engineering & Technology  
Mechanical Engineering Department

Graduation Project

Mechanical Services Design Of Swimming Pool In Hebron Hotel

Project Team

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Hebron – Palestine

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Palestine Polytechnic University  
(PPU)  
Hebron-Palestine

PROJECT NAME

Mechanical Services Design of Swimming Pool in Hebron Hotel

Project Team

Hassan Garyib

According to the project supervisor and according to the agreement of the Testing committee members, this project is submitted to the Department of Mechanical Engineering at college of engineering and technology in partial fulfillment of the requirements of (B.SC) degree.

Supervisor Signature

.....

Examine community Signature

.....

Department Head Signature

.....



## **Dedication**

I gift this graduation project  
To who carry candle of science  
To light his avenue  
Of live

To all students & who  
Wish to look for  
The future

To who love the knowledge &  
Looking for all is new  
In this world

## **Acknowledgement**

Our thanks go first to our advisor DR. Ishaq Sider. His guidance and support made this work possible. His constant encouragement, intuitive wisdom, and resolute Leadership was instrumental in completing this work.

I wish to thank Eng. Mhoumed Awad, Eng. Khaled sider I sincerely believe that this work would not exist without their inspiration.

I also thank supervisor Dr. Ishaq sider who help me to success to complete this project. I also thank all those who have a role in helping private research Eng.Ismail Zamareh.

## **Abstract**

This project aims to design the swimming pools, mechanical room, to be ready accomplished.

I talk about swimming pools; definition, basic components, types, chose the mechanical cycle, plumbing and pool shell equipments such as floor drains, skimmers, and gutter and inlet lines.

Pipes and fittings have also great deal of information about which include types of pipes, methods of connections, accessories and friction head.

I also talk about filters; definition, types, function, turnover, flow rate. In addition we talk about centrifugal pumps; dynamic head, performance curves and motors.

I also covered chemical treatment of the water to deal with microorganism and balance water ph.

I talk also about the accessories that are used in this project such as ladders, diving boards, slides, cleaning devices, covers and safety equipments.

I talk also about the design procedure and calculations and selection of all the equipment need. Also the mechanical drawing and details will be prepared. 3-D simulation of the project will be shown.

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# CHAPTER

# 1

# *INTRODUCTION*

---



# **1 Introduction**

## **1.1 Introduction**

The world is full of recreational places like seas, lakes and water surfaces such as artificial pools, which are almost built far from seas and public recreational places .

Swimming pool in houses gives them a beauty, joy, and relaxing specially in summer, in hot weather countries. That's why it became important consideration when persons wants to buy houses to have swimming pool in it, because it healthy benefits that returns to its residents when they swim, also it has social benefits, so that family members gathers around it with an atmosphere of joy and happiness. And having natural green areas around the pool and to have some fountains and waterfalls.

Swimming pools is a physical sport in which people can use and move most of body muscles , So that she can activate blood circulation and feel active . Human nature tends to joy and excitement which can be found in swimming because water has a refreshing touch especially in summer if it's cold and in winter if it's warm.

Swimming pool means any basin , chamber or tank constructed of impervious material , located either indoors or outdoors containing an artificial body of water for swimming or recreational bathing and having a depth of 2 feet or more at any point . This include any related equipment , structure , areas and enclosures that are intended for the use of persons using or operating the swimming pool such as equipment , dressing lockers , showers and toilet rooms .

Swimming pools are environmental, the most beautiful sight-seeing is to see a swimming pool surrounded by decorative addictions and cascades. Recently, hotel designers go to make the ground floor an insider park for people who live in this floor contains a big swimming pool , fountains , waterfalls , steam paths and comfortable cafeterias .

## **1.2 History**

The Amateur Swimming Association was founded in 1869 in England, but it was much later, in 1909, that Oxford Swimming Club came into existence. One might guess that the presence of indoor baths in the cobbled area of Merton Street of London persuaded the less hardy of the aquatic brigade to join. Therefore, bathers gradually became swimmers, and bathing pools swimming pools. In 1939, Oxford, England had its first major public indoor pool at Temple Cowley. After the pool was installed, swimming began to take off and soon Oxford Swimming Club became Oxford City Swimming Club, and Temple Cowley Pool was its home.

The Racquet Club of Philadelphia clubhouse (1907) boasts one of the world's first modern above ground-level swimming pools. The first swimming pool to go to sea on an ocean liner was installed on the Olympic.

### **1.3 Reasons for the selections of this project**

This project is a principle requirement for Refrigeration and Air-Conditioning Engineering bachelor degree.

There are a lot of errors that occur when designing swimming pools and private mechanical errors of these ponds, so it is important to know how to design swimming pools.

The swimming pools of the most dangerous locations in the home or in the hotel so the engineer must know how to design swimming pools

In Palestine, the need for swimming pools came to light because of occupation. The large number of blocks made it extremely difficult for the civilians to travel from one city to another. So local investors started to install (construct) public parks and swimming pools

It's known also that Palestine lies on the Mediterranean sea which is hot in summer and big numbers of people come to recreational places because of the modern installation development, the being of the swimming pools, fountains and waterfalls became something common in Palestine. In Palestine construction of special houses with modern styles prevails because the building rocks are obtain locally.

The increase in demand to build special or public swimming pools and the shortage in Mechanical engineers specialized in this field are the reasons that made us to think about pools and other water features.



## 1.4 General project descriptions

This project aims to design a swimming pool and recreation water activities for Hebron Hotel in Hebron City in West Bank. This includes:

- 1) Swimming pool, public type.
- 2) Mechanical room or equipments room.

The following information for the situation of our project.

<b>Hotel Name:</b>	Hebron.
<b>Hotel Address:</b>	Hebron, aeen sara street.
<b>Hotel Area with surrounding area :</b>	38000 m <sup>2</sup> .
<b>Type of the swimming pool:</b>	Public.
<b>Pool surface Area:</b>	249.257 m <sup>2</sup> .
<b>Pool Depth:</b>	- Minimum depth: 51 cm. - Maximum depth: 270 cm. - Average depth: 160.5 cm.
<b>Volume of Water</b>	- About 398 m <sup>3</sup> .

Drawing below show the 3d draw of swimming pool. And the position in the Hotel.



Figure (1.1): 3D draw of swimming pool

### 1.5 Time table of the first semester

Table1.1: Explains the required time in the first semester of project:-

Subject	Week #																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Choosing the project title	■																
General study		■	■														
Chapter one				■	■	■											
Chapter two							■	■									
Chapter three									■								
Chapter four										■							
Chapter five											■	■					
Chapter six												■	■				
Chapter seven															■		
Printing and finishing																■	
Presentation																	■
Documentation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

### 1.6 Time table if the second semester

Table 1.2: Explains the required time in the second semester of project:-

Subject	Week #																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Pool capacity	■	■															
Turnover and balance tank			■	■													
Selection of filter					■												
Selection of shell equipments						■											
Piping system							■	■	■								
Selection of pump										■							
Selection of chlorine tank											■						
Selection of lights and ladder												■					
Drawing 3-D													■	■	■		
Printing and finishing																■	
Presentation																	■
Documentation	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

## **1.7 Budget**

In the following list is the estimation of cost of the project:-

- ❖ Transportations:- 100 NIS.
- ❖ Internet: 200 NIS.
- ❖ Printing and binding: 300 NIS.
- ❖ Total Cost: 600 NIS.

## **1.8 project outline**

### **Chapter Two: Swimming pools**

This chapter is about swimming pools; definition, basic components types, dimensions and capacity.

### **Chapter Three: Pool shell equipments**

Pool shell equipments of swimming pools contain many types of equipment such as floor drains, skimmers, inlet lines, and electricity of pools.

### **Chapter Four: Pipes and fittings**

In this chapter, we will talk about the types of pipes and method of connections and losses in pipes; in general. After that we have to specify the types of pipes that are used in pools and the losses and finally how to select pipes and fitting.

## **Chapter Five: Filters and Chemical treatment**

This chapter contains functions of filters, types, working method, turnover, flow rate and how to connect mechanical room with pumps. And the characteristics of pool water, which explain water qualities, transmissions and preventions of diseases, PH of water, alkalinity.

## **Chapter Six: Pumps**

This chapter about the pumps; definition, function, types, head (static & dynamic)

## **Chapter Seven: Accessories**

This chapter contains accessories that used in this project such as ladders, shower, diving board, slides, cleaning devices, lighting, and float lines, pool covers and safety equipments.

## **Chapter eight: Design**

In This chapter, we will design the swimming pool (overflow), selection the equipments and drawing 3-D the pool.

# CHAPTER

# 2

# *SWIMMING POOL*

---



## **2 Swimming pool**

### **2.1 Introduction**

A swimming pool, swimming bath, or wading pool is an artificially enclosed body of water intended for recreational or competitive swimming, diving, or for other bathing activities that involve swimming pool, e.g. water exercise, or merely cooling off in the hot day.

### **2.2 Basic mechanical components of swimming pools**

The basic mechanical components of swimming pools:

#### **1. Skimmers or over flow gutters**

Skimmer is mounted in the pool wall at water level, and connects to a branch of the suction piping from the filter pump.

Its purpose is to promote surface flow across the pool. Besides drawing in the water, which requires most treatment because of exposure to sun, wind, and rain, it also removes floating dust and debris, level, and oil films before they can accumulate on floor and walls.



Over flow gutter: A trough in the wall of the pool which may be used for over flow and to skim the pool surface.

## **2. Floor drain**

The outlet or outlets within the construction of pool floor, which function is to suck or take the pool water into the piping network, then the water enters the filter to be cleaned. Its function is similar to the function of the skimmer or gutter.

## **3. Return inlets**

An opening or fitting through which filtered water enters the pool, it is either wall mounted or floor mounted.

## **4. Pumps and motors**

A pump is a device that raises or transfers fluids from one location to another pump are selected for processes to not only raise and transfer fluids , but also to meet some other criteria.

There are two main categories of pumps, they are dynamic and displacement pumps. These two categories also have many subcategories of pumps.

Pumps are used for variety applications, in swimming pool the pump used for recirculation system.

## **5. Filters**

Filter is a mechanical device for straining suspended particles from pool water, it deals with particulate matter. It strains out suspended solids down to sub-micron size in

order to retain water clarity. It does not remove dissolved salts and other microorganisms. Filtration combined with disinfection produces effective water purification treatment that keeps water:

- Clear and non-toxic.
- Odorless and tasteless.
- Free of bacteria and algae.
- Balanced to prevent corrosion or scale formation.

## **6. Chlorine device**

This device used to control the chlorine in the pool water and it is very important in the chemical treatment of the pool water.

## **7. Flow meter**

A device that measures pressure differential across a calibrated orifice and indicates the rate of flow at that point. Usually expressed in liter per second (L/s). A flow meter is required in each pool and spa recirculation system. The flow meter measures the quantity of water passing a given point in a unit of time.

## **8. Pool water heater**

The need for pool water heater depends on the purpose of the pool and the general climate. A heated pool is more enjoyable at all times and extends the season at both ends by at least a month. The heater is connected into a loop in the return line from the filter, and may either be gas-fired, electric, or consists of a heat exchanger where steam or hot water service is available.

The heater is more vulnerable to lime deposits and corrosion than other pool equipment. As a result it should be checked frequently during the early weeks of operation to ensure that it suffers no adverse effects from the pool water chemistry.

## **9. Make-up tank**

It is helpful to be able to calculate the amount of make-up water that needs to be added to make up for water losses through filter backwashing, splash-out, evaporation or leaks. To do so, determine the number of meters of water depth required to fill the pool and your pool's surface area (length \* width) and supplement them into the following formula:

Meters of water depth \* pool surface area (m<sup>2</sup>) = cubic meter of water

### 2.3 How swimming pools work

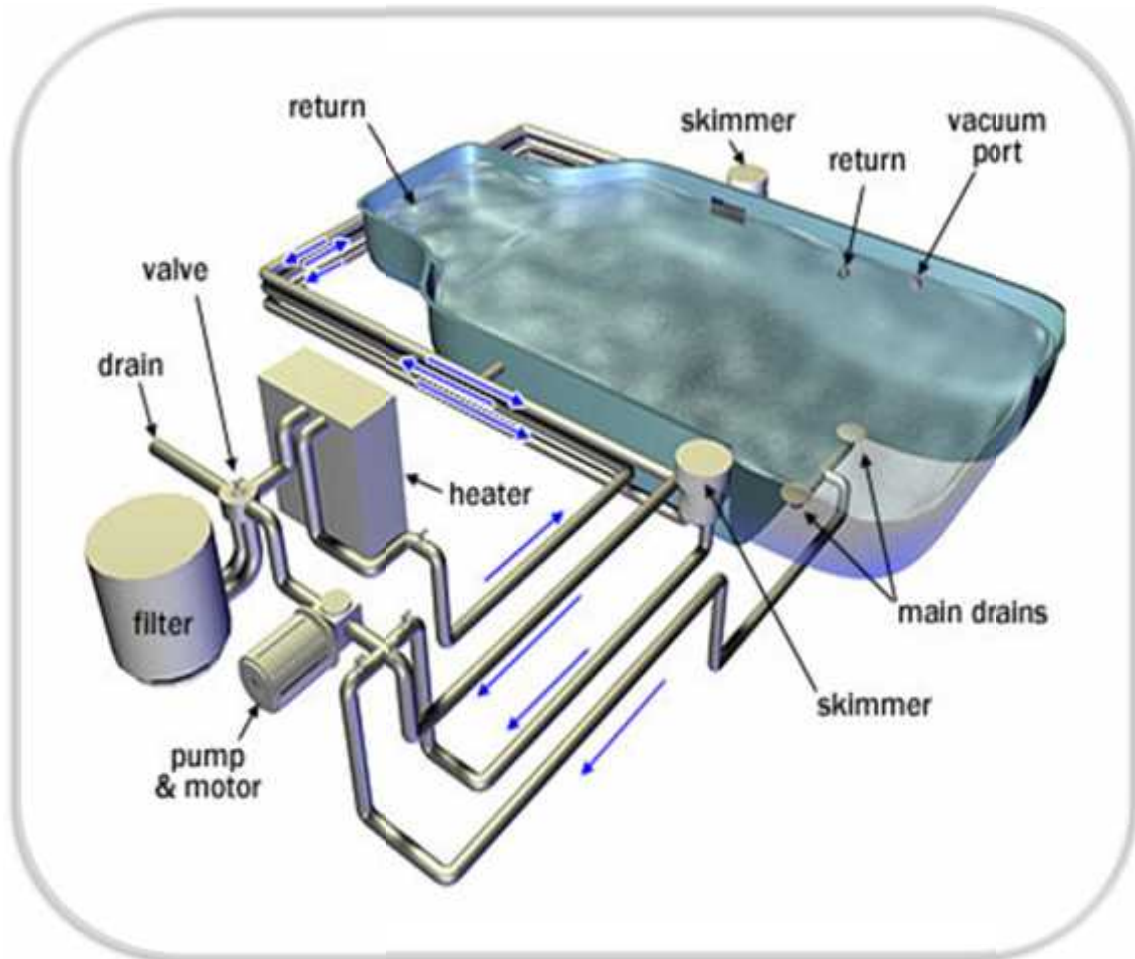


Figure (2.1): circulation of water in swimming pool

The process of pumping water from the pool through the filter system and returning it to the pool is called recirculation. Typical components of the recirculation system include the:

- 1- Piping Pump, 2- valves, 3- inlets, 4- outlets, 5- surge tank, 6- pressure gauges,
- 7- Flow meter

The source of the power used to the water circulation pump. Typically, a centrifugal pump is used to recirculation the pool water.

In the diagram below the arrows represent the direction of water flow, and the basic mechanical part of the pool.

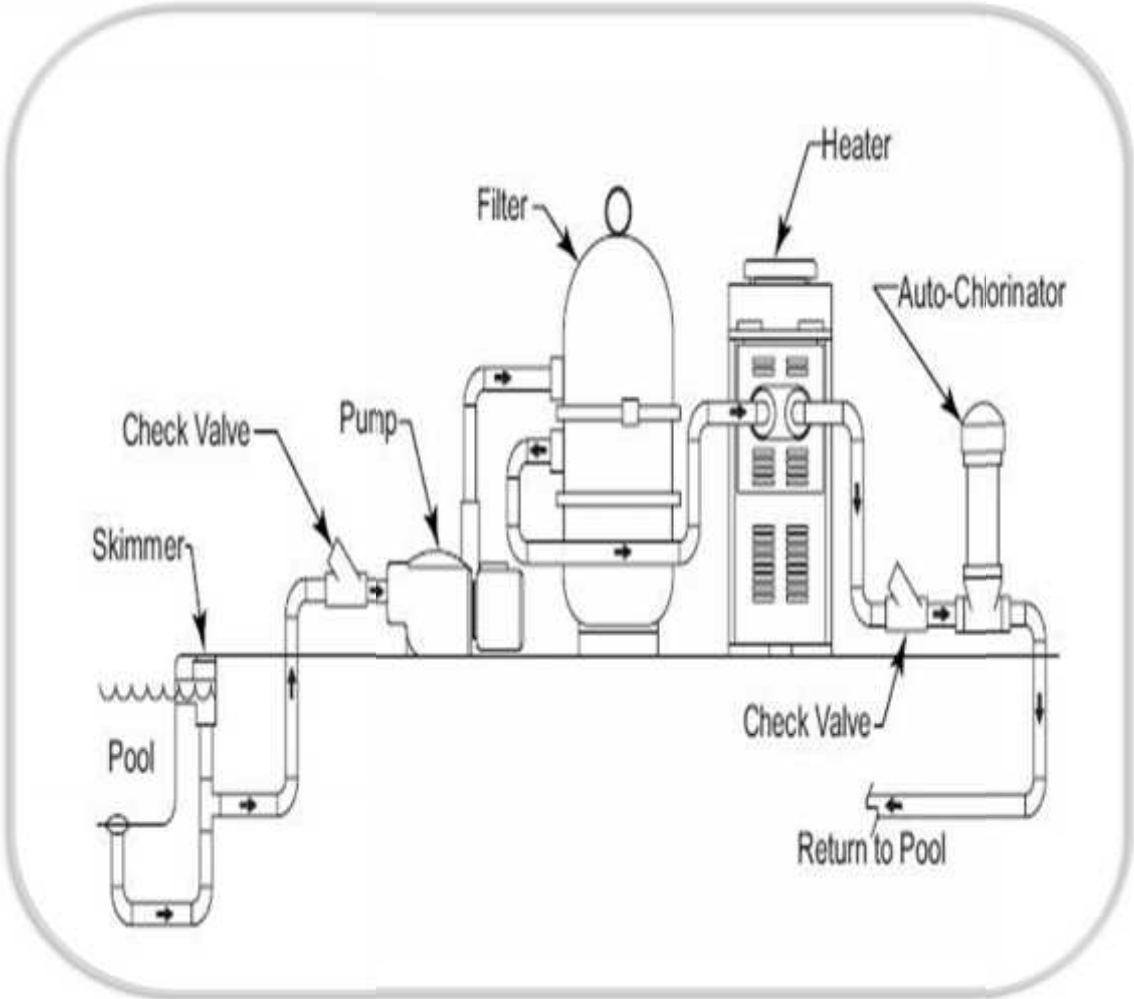


Figure (2.2): Simple pool water cycle

Start from the pool; water is sucked out of the pool, usually at two points, the bottom drain and the skimmer or overflow gutter (depend on the pool), which is indented into the wall in the deep end, near the surface. The surface traps floating debris as it sucks in water. From the drain and skimmer, the water is sucked to a check valve (one way valve). The one way valve determines the percentage of water sucked through the skimmer relative to the drain. It can do this because either the drain and skimmer has their own pipe leading to the way valve.



Skimmer



main drain

From the one way valve, the water is sucked into the pump, it is a centrifugal pump .the pump doing tow jobs, the first job include first filtration for the water by the filter in the pump. The second job, it sucks water into the center, and via spinning blades throws it to the outside, where it's shot out into the outgoing pipe.



Multiport valve



centrifugal pump

Coming out of the pump, the water is pushed into the filter valve. The exact configuration of the filter valve depends on the type of filter. The basic use of the filter valve is to either direct the water into the filter or out to the street via a hose. Obviously, normal operation requires direction to the filter. Filters requiring backwashing or rinsing which requires filter valves with additional positions to accomplish those functions.

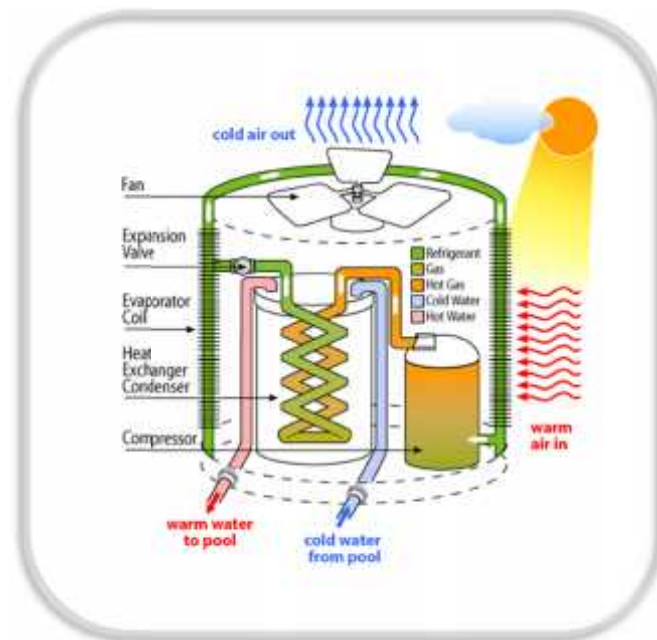


Sand Filter

Next, the water is pushed through the filter. The water passes through and the suspended particles are caught and held by the filter. After the filter has caught too much particles

matter, its ability to pass water is compromised, in which case either the filter's cartridge must be changed if its cartridge, or it must be backwashing. Filter's have a pressure gauge to tell you when they have absorbed too much particulate.

Now cleaned water is pushed out of the filter and into the heater and heating the water by heat exchanger and make the temperature of water suitable for human comfort



Heat pump

Cleansed and heating water pushed into the chlorinator , a simple canister which houses solid tablets of chlorine so that they dissolves over time and keep the chlorine level somewhat constant . From the chlorinator the water goes through underground pipes back to the pool, where it enters through the water jets on the sides of the pool.

Thus completing the water cycle.



## **2.4 Pool capacity**

The first step in pool design is the calculation of the volume water in the pool.

$$\text{Volume of water} = \text{surface area of the pool} \times \text{average depth}$$

$$\text{The average depth} = (\text{shallow end depth} + \text{deep end depth})/2$$

The formula used above for the calculation of average depth can be used if the slope of the bottom of the pool is gradual and even. If the slope of the bottom is not gradual then we have to treat the pool as two or three parts each with gradual bottom slope, and calculate the volume of each part and then add these volumes together to determine the total water volume of the pool. Volume of a swimming pool is given in units of cubic meters, liters, or gallons.

In this project the pool is called irregularly shaped swimming pool.

The pool capacity for this pool is

### **Surface area x Average water depth**

#### **2.4.1 Irregularly slope swimming pools**

To calculate the capacity of swimming pool which has no regular slope, we can divide the pool into parts of the same slope, and then we calculate each part as previous methods.

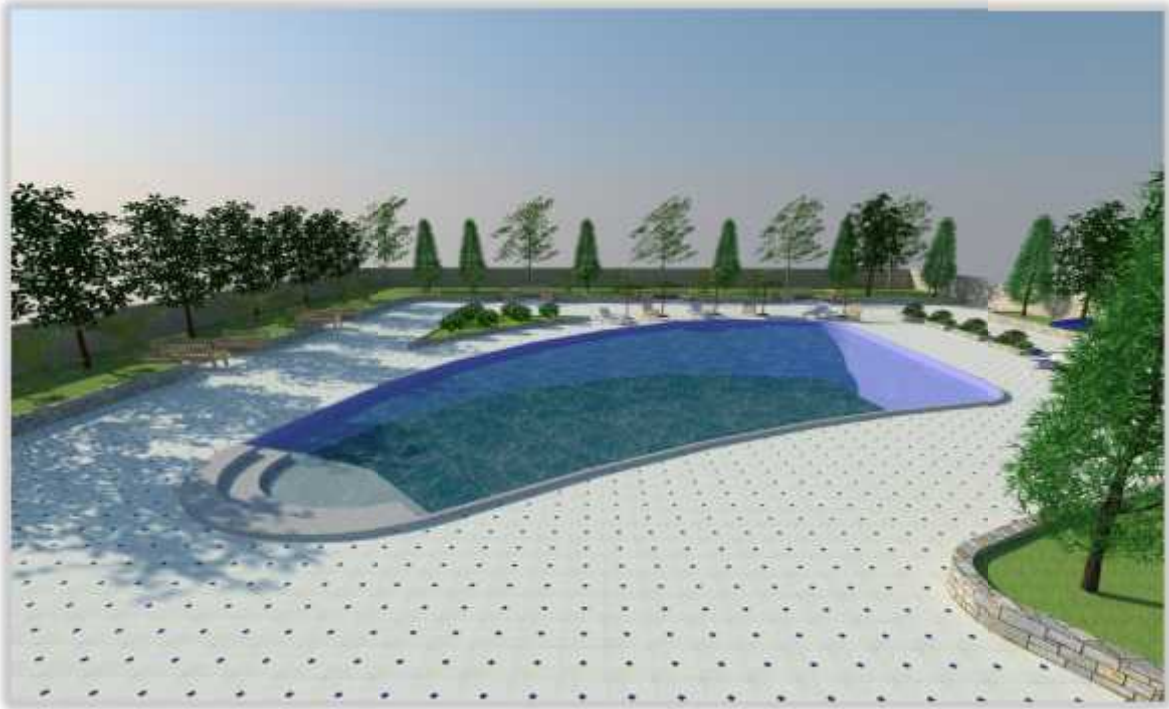


Figure (2.3): The pool picture for this project

# CHAPTER

# 3

## *POOL SHELL EQUIPMENT*

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### 3. Pool shell equipment

#### 3.1 skimmers

Skimmer is mounted in the pool wall at water level, and is connected to a branch of the suction piping from the filter pump

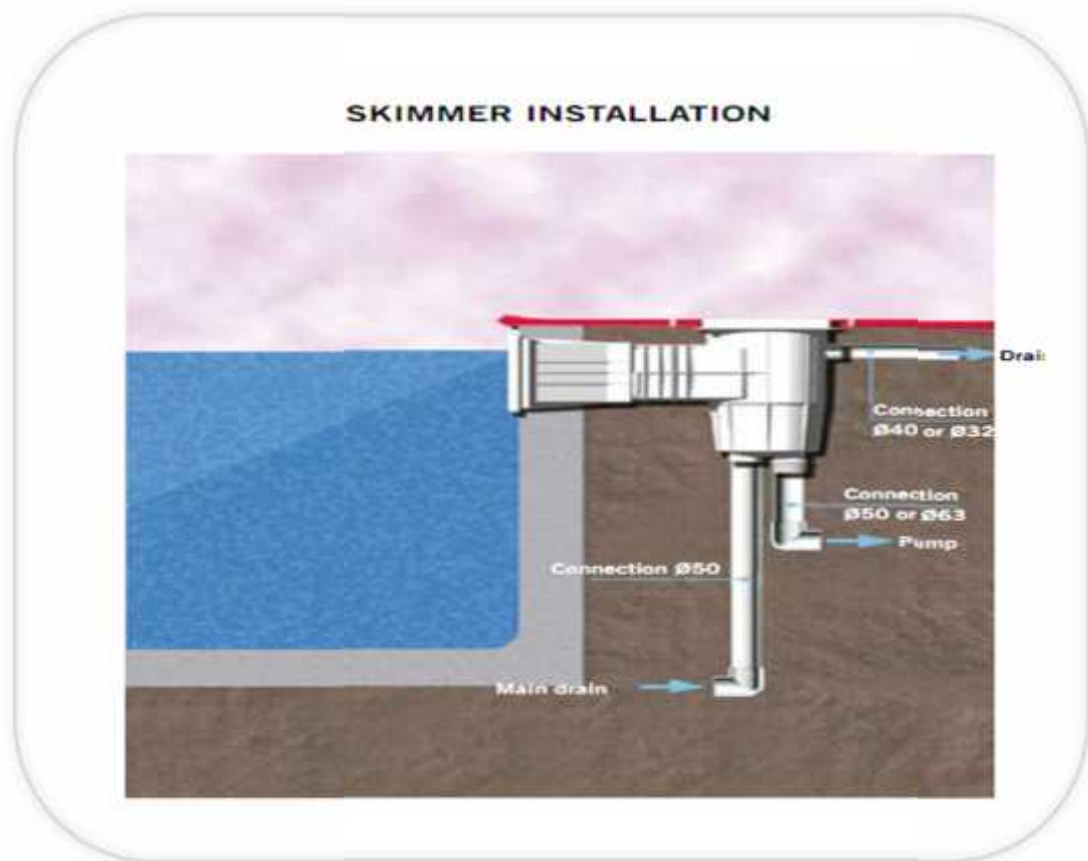


Figure (3.1): Skimmer position

Skimmer aims at promoting the surface flow across the pool. Besides drawing in the water, which requires most treatment because of exposure to sun, wind, and rain,

it also removes floating dust and debris, leaves, and oil films before they can accumulate on floors and walls.

A combination skimmer connects directly into the line between the main outlet and the filter pump. It incorporates a trimmer valve, which divides the total flow through the filter between that across the surface of the pool and that through the main outlet. It makes a further contribution to simple pipe work if it also provides a connection for the hose of a vacuum cleaner.

The number of skimmers required depends on the size and purpose of the pool. Their arrangement on a small outdoor pool should promote surface flows across the pool in conjunction with the return fittings and the prevailing wind.

### 3.1.1 Type of skimmers

#### a) Plastic skimmers



Figure (3.2): Plastic skimmer

b) Stainless steel skimmers



Figure (3.3): Shapes of Stainless steel skimmers

**3.1.2 Skimmer accessories**

1. Skimmer cover extension ring



## 2. Floating weir assembly



## 3. Skimmer lid thermometer



4. Water level regulator



5. Water level regulating valve





## 6. Telescopic lid



### 3.1.3 Selection of skimmer

The skimmer and selection, which forms the suction side equipment of the pool, should be based on the followings:

- Skimmers must be tough and durable .and must not trap neither fingers nor toes, nor catch skin nor in any way corrodible.
- For private pools, it is recommended to install one skimmer for every 25m<sup>2</sup> of pool surface area. Taking into account that the total capacity of all skimmers should be approximately 50% of the required filter flow rate.
- The number of skimmers can be calculated as:-

$$\text{❖ } \textit{Number of skimmers} = \frac{(50\% \times \textit{total flow rate})}{(\textit{capacity of each skimmer})}$$

OR

$$\diamond \text{ Number of skimmer} = \text{pool surface area} / 25$$

Therefore, the greater number of these is to be chosen

## **3.2 Main drains**

### **3.2.1 Definition and purpose**

It is located at the deepest point of the pool on the end of the suction piping from the filter pump.

It draws water from the bottom of the pool where dirt accumulates and permits complete drainage of the pool for maintenance purposes.

The main drain has one or more plumbing ports .One port feeds a pipe to the pump. In a spa, there might to be several ports for several pipes leading to different pumps.

Another port is a one way valve (check valve) that allows water that might collect under the pool to enter the pool, but no water can flow out

Water collecting under the pool creates extreme upward pressure that can crack the pool. This pressure is called hydrostatic pressure, is relieved by this valve

In any case, the drain area is covered by a gate, usually 20 to 30 centimeters in diameter that screws or twist-locks into a ring that has been plastered into the pool bottom.

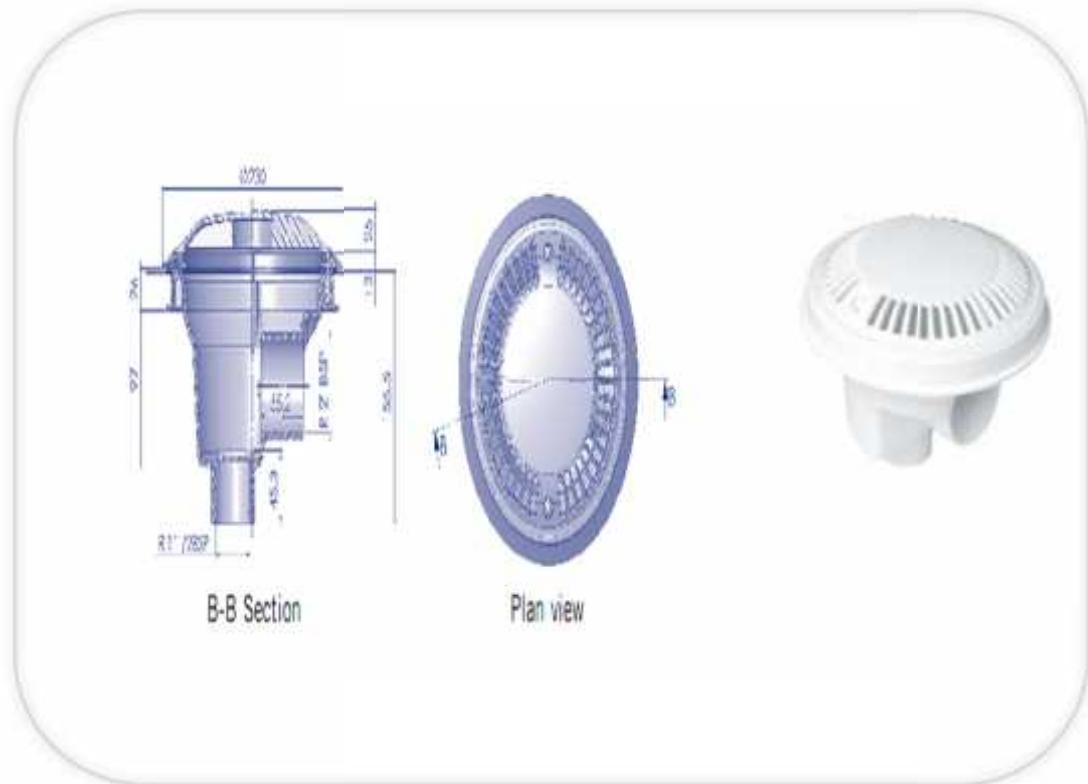


Figure (3.4): Main drains

### 3.2.2 Main drains models:

All main drains made in plastic are provided with UV protected grilles. There are many models of main drains such as:

- 1) Circular main drain Ø 270 mm with grille



2) Circular main drain, 2" outlet



3) Circular main drain Ø200 mm with anti vortex grille



4) Main drain in polyester and fiberglass



### 3.2.3 Main drains accessories

❖ Hydrostatic valve



❖ Drainage tube



❖ Flush anti vortex lid



❖ Drain grilles



### 3.2.4 Main drain selection

- The main drain is always situated at the lowest point in the pool , main drain aperture should be at least 4-times outlet pipe working area with a recommended maximum grill flow velocity of 0.5m/sec, but 0.2m/sec or lower is better.
- In practice, main drain grill must be designed never to allow excess suction or to be removable by swimmers.
- Main drain must be tough and durable .and must not trap neither fingers nor toes, nor catch skin nor in any way corrodible.
- In order to keep the main drain grill velocity lower than 0.5m/sec, avoid extra suction through main drain if one blocked, and to reduce suction head to a minimum which enhances pump efficiency, it is recommended to use more than one main drain in the swimming pool.
- Main drain positions see in figure below.

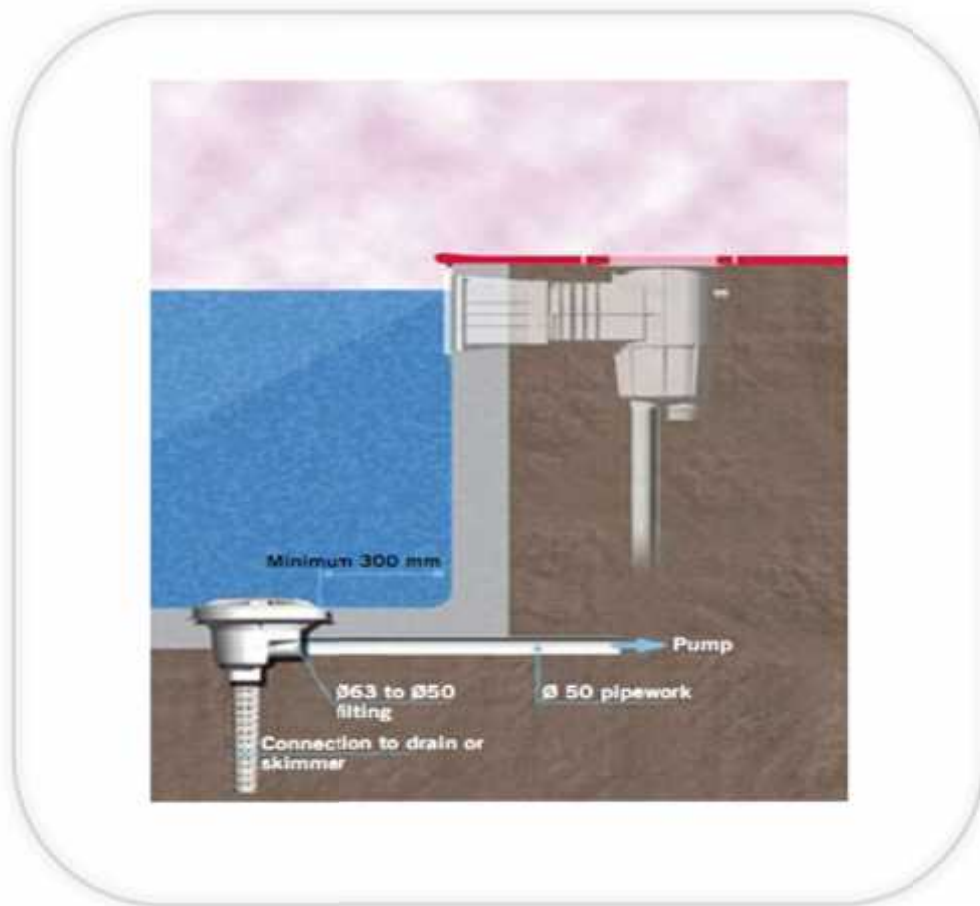


Figure (3.5): Main drain position

### 3.3 Return inlet

Return inlets are nozzles that used to return the water to the pool after the filtration process. There are two types of return inlets; wall and floor inlets.



### 3.3.1 Type of return inlet

#### A) Wall inlet circulation systems

Side wall flow to main drain and skimmers, or perimeter over flow or opposite side wall outlet. High inlets help surface clearance, and low inlets help heat distribution.

Inlet aim to sweep pool broadly or in streams, concentrating upon heavy load areas. Best for shallow pools, if it short circuiting can be avoided. Large inlets/low flow (laminar even distribution) sweep towards deep drain point. Small inlets/high flow (turbulent rapid distribution) increase mixing to avoid dead spots.



Figure (3.6): Wall inlet

#### B) Floor inlet circulation systems

Floor flow grills to main drain and/or skimmers/overflow. Effective circulation from pool floor with the number of inlets increased for shallow, polluted parts. The better distribution of heated water from this system. Up-flow center strip or low wall inlet (0.2m above floor), with or without floating weirs. 100 percent surface cleaners removing greatest pollution in shortest possible time. Treated water rises along whole pool floor center line the maximum rate allocated to shallow end.



Figure (3.7): Floor inlet

Sometimes additional end wall inlets with deep end main drains are included to offer lengthwise circulations as well.

### 3.3.2 Selection of return inlets

The return inlets in the pool wall below water level control the flow rate and direction of the filtered water entering the pool. So that there arrangement on small out door is usually provided in sufficient quantity and shall be properly speed to provide a maximum circulation of the main body and water surface in conjunction with the skimmers and the prevailing winds.

The selection of the return inlets is based on the followings:-

1. They must have large enough apertures to prevent back pressure into filters.
2. Adjustable or eyeball are used for directional currents in free from pools. So that they spread returned water to the side, up & down to mix with all shallow end levels.

3. High-level inlets help push surface debris skimming system. Whilst low-level inlets improve heat circulation. Best arrangement is a mixture of floor wall level and wall downward flow returns.
4. Set wall grills of return inlets 0.4m below water surface.
5. To ensure good water circulation through the pool a common practice requires one return inlet per 5m of pool perimeter.
6. Flow velocity through residential pool floor inlets should be in the range of (0.3- 1.25) m/sec.
7. The capacity of return inlets varies between 4m<sup>3</sup>/hr to 20m<sup>3</sup>/hr

**Therefore:**

$$\text{❖ } \textit{Number of required return inlets} = \textit{Filtration flow rate (m}^3\text{/hr)} / \textit{Flow rate for each inlet}$$

OR

$$\text{❖ } \textit{Number of required return inlet} = \textit{pool perimeter} / 5$$

**CHAPTER**

**4**

***PIPES AND FITTINGS***

---



## **4 Pipes and fittings**

### **4.1 Introduction**

Pipes play a basic important role in practical life; they are the channels used to carry gases and liquids from a certain place to another. They important appear in many practical fields; some of these include:

Water and fire nets, refrigeration and air conditioning nets, all kinds of gas nets, and rain and sanitary drainage nets.

### **4.2 Types of pipes**

Pipes are divided into two basic parts; metals and nonmetals.

a) Metal pipes:

- Steel and iron pipes.
- Red copper pipes.
- Pipes with special applications; stainless steel, lead, aluminum.

b) Nonmetal pipes:

Pipes that are used in relative low pressure and temperature applications Such as plastic, glass, clay, and others.

In this chapter we will about plastic pipes; because they are used much nowadays in swimming pools.

### **4.3 Common plastic pipes**

ABS pipe (Acrylonitrile butadiene styrene)

PVC pipe (polyvinyl chloride)

UPVC pipe (polyvinyl chloride, unplasticized)

CPVC pipe (polyvinyl chloride, post chlorinated)

#### **4.4 Selection of pipe materials**

In order to select the most suitable material for a pipe system the following factors need to be considered:

Medium or type of fluid and its chemical composition

Operating temperature

Operating pressure

These factors are interlinked and only when all have been addressed can the correct type of plastic Pressure Pipe System be selected

This chapter shows PVC plastic piping.

#### **4.5 PVC pipes**

Polyvinylchloride, widely known by its abbreviation PVC, is one of the most important and oldest mass produced plastics. PVC is a polymer having approximately 56% by weight chlorine. Only by using additives, does it become a workable and implement able material. The additives allow a wide variation in characteristics and so allow matching to the planned application. PVC is an environmentally compatible product and can be recycled.

## **Characteristics of PVC pipes**

- 1.** Basic properties: chemically inert; water, corrosion and weather resistant; high strength-to-weight ratio; tough, dent-resistant; an electrical and thermal insulator; and maintains properties over long periods.
- 2.** Process versatility; can be made in different form to permit processing on a wide variety of equipment; each form can be altered further by compounding to achieve particular properties in product, which range from soft to rigid in nature.
- 3.** Properties can be provided at economic cost. In the long term, PVC products are less energy-intensive on an installed basis than most conventional materials. Their lightweight, insulating-and maintenance-free characteristics contribute to conservation of energy over the life of the product.
- 4.** Manufactured from injection PVC and perfect water- tightness in all condition

### **4.6 Losses in pipe and fittings**

Losses of head are incurred by fluid, which occurs at fitting such as bends or valves, and by frictional resistance at the pipe wall. For long pipe line the head losses due to fittings is negligible., on the other hand, for short pipe the head loss is pig due to the local mixing near the fitting.

The head loss in piping system is dividing into two types:

1) **Major losses**

They are due to viscous resistance in straight constant diameter pipes.

2) **Minor losses**

They appear due to localized effects, which mainly a rise changes in the flow cross-sectional area (such as in nozzles, diffusers, valves, etc....) or changes in the flow direction due to the bends and elbows.

#### **4.6.1 Major losses**

The friction head loss: it represents the amount of energy converted into heat per unit weight of fluid.

The losses  $h_f$  is defined as follows:

$$h_f = f \frac{L}{D} \frac{v^2}{2g}$$

Where:

$h_f$ : head losses due to friction

f : friction factor

L: length of pipe

D: diameter of pipe

And the friction is related to Reynolds (Re), which related the type of flow whether it is laminar or turbulent.



For laminar flow:

$$f = \frac{64}{Re}$$

For turbulent flow:

$$f = 0.079Re^{-1/4} \quad \text{and} \quad Re = \rho v D / \mu$$

$\mu$ : coefficient of absolute viscosity of the fluid

#### 4.6.2 Minor losses

The fittings are used in many pipes connections, and there are several types of these fittings like:

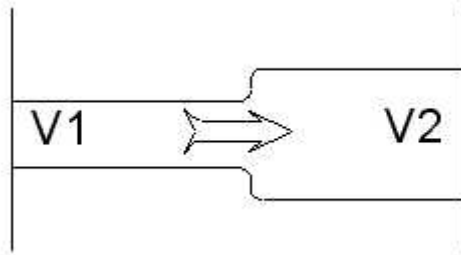
1- Elbows and bending:

$$h_f = K \frac{v^2}{2g}$$

Where :

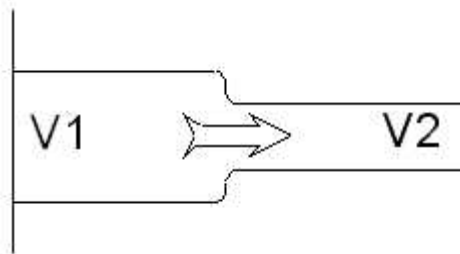
K: fittings constant

2- Sudden enlargement:



$$h_f = \frac{v_1^2 - v_2^2}{2g}$$

3- Losses due to sudden contraction:



$$h_f = \frac{v_2^2 - v_1^2}{2g}$$

#### 4.6.3 Fitting equivalent length

Theoretically, we can replace the fitting a pipe, which will cause the same head loss, as the replaced fitting, so we can determine the length of the pipe as follows:

$$h_f = K \frac{v^2}{2g} = f \frac{L}{D} * \frac{v^2}{2g}$$

$$K = f \frac{L}{D}$$

$$L = D \frac{K}{f}$$

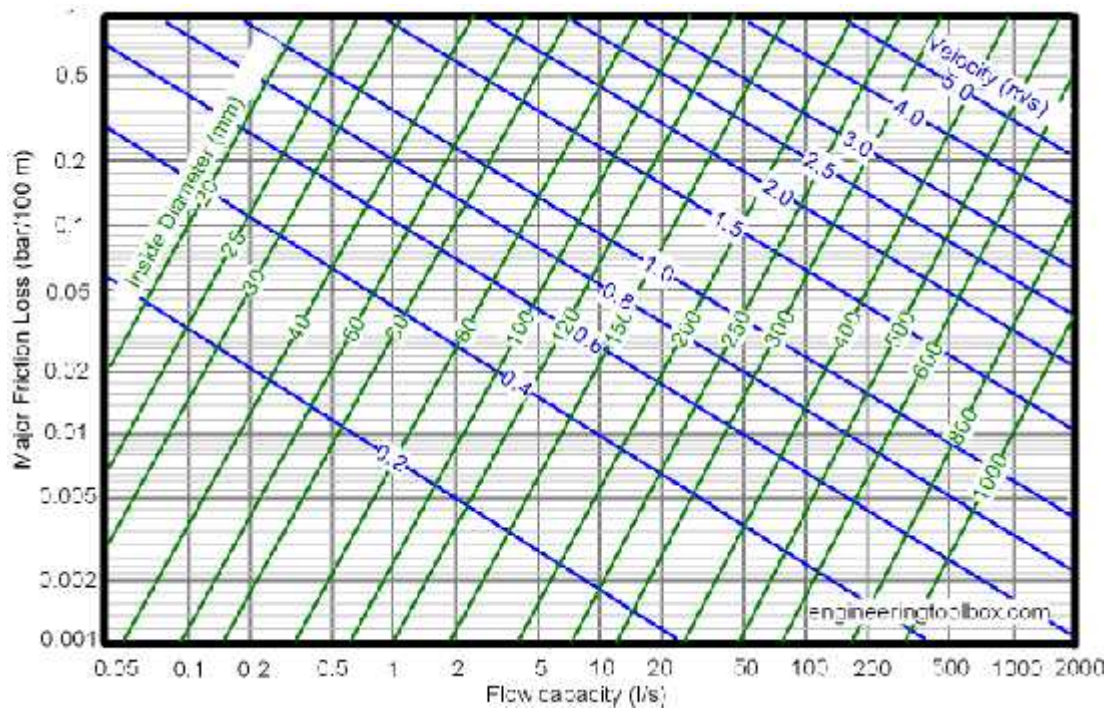


Figure (4.1): PVC Major Friction loss

#### 4.7 PVC fittings and accessories

PVC 90 elbow



PVC 45 elbow



PVC - T 90



PVC union socket



PVC adaptor nipple



PVC 3species union



PVC Ball valve



PVC pipe



Bush coupling



8 lateral ring manifold



3/4 in. lateral



filter sprinkler



Collector pipe for valve manifold



#### 4.8 Pressure fluid handling PVC accessories

Dissolvent for PVC



PVC- Gel

For large diameter pipe for handling pressure fluids. Moderate initial setting time .  
Permitting locating the parts in place . Gel consistency eliminates the any glue cob  
webbing. All are supplied with brush

**CHAPTER**

**5**

***FILTERS AND WATER CHEMEST***

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## **5. Filters**

### **5.1 Definition**

Filter is a mechanical device for straining suspended particles from pool water, which used to clean the water from pollution, just like dust and small impurities.

The body of filter has is from the UPVC material that resist acids and chemicals, it has Sand with special qualifications which stops the impurities in the water when it goes through the sand. And on the inside the upper line is supplied with water sprinkles that spray the water on the sand inside the filter. The filtered water is sucked from the filter by gaped pipes with small diameter gaps to allow the water to get from it, and don't allow the sand particles.

### **5.2 Clarity of pool water**

Clarity is reduced by suspended and colloidal matter in the water, and by colour. There are two principal reasons for requiring that water in a swimming pool should possess a high standard of clarity: user safety and public health. In fact, the user safety aspect can be more important as the cases of water-borne disease which are established as originating from a swimming pool hardly ever occur in the developed countries with a similar climate. The same cannot be claimed for fatalities due to bathing in a swimming pool containing water of sub-standard clarity.

If a bather gets into difficulties and sinks below the surface of the water, it can be very difficult for other users to notice what has occurred and to locate the body unless the water has a high standard of clarity. In practice, the water should be sufficiently clear that the bottom of the pool can be easily seen at the deepest part by persons on the walkway around the pool.

### **5.3 Pollutants caught by the filter**

Pollutants that filter should be catch during filtration process which are in the pool:

- particles matter- suspended and colloidal
- debris and dirt
- street soil
- hair
- grease and oil
- air pollutants
- dirt from human bodies
- traces of faecal material and urine
- scaly skin

### **5.4 Filter Sizing and Selection**

The filter removes insoluble, suspended solids from the recalcitrated water in order to retain water clarity. It does not remove dissolved salts nor does it deal with microorganisms. Filtration combined with disinfection produces effective water purification treatment that keeps water:



- Clean and non-toxic.
- Odorless and tasteless
- Free of bacteria and algae
- Balanced to prevent corrosion or scale formation

A clean filter usually creates 3-psi head loss (difference between the inlet and outlet pressure) as water is circulated downward through silica sand. As the dirt accumulates within the filter, the resistance to flow also increases, the filter pump cannot maintain the required rate of flow against the increased resistance (head).

Consequently, the filter requires regular cleaning, or Backwash to maintain its efficiency. Most filter manufacturers recommend that this backwashing should be done when the pressure gauge indicates an increase of  $0.5\text{kg/cm}^2$ , that equals (7.1psi) with respect to the initial pressure of the filter (clean filter). Therefore, the maximum head resistance of filter is:

$3\text{psi} + 7.1\text{psi} = 10.1\text{psi}$  (6.7m head loss), which should be used as the design pressure loss through filter.

High rate sand filter, which contains a deep bed of very fine silica sand supported on a mechanical under drain, is usually used. The filter pump forces water through the filter bed at a high rate ( $12\text{m}^3/\text{hr}/\text{m}^2 - 50\text{m}^3/\text{hr}/\text{m}^2$ ), where the dirt penetrates the sand to a considerable depth.

This gives the high-rate sand filter greater dirt-holding capacity than other filter types of equal size. These popular filters save space, maintenance, installation and running costs, and are very versatile and easy to operate. They offer short working runs, and (2 – 3) minutes backwashing cycle at normal flow rate reducing waste water to a minimum.

The Back washing is carried out at the rate as filtering, which makes pump selection much easier than for a rapid sand filter. The Palestinian code recommends

an  $8 \text{ m}^3/\text{hr}/\text{m}^2$  as a minimum and a  $40 \text{ m}^3/\text{hr}/\text{m}^2$  as a maximum for the filtration velocity.

For the filter, the cross sectional area is more important than its height because the water is sprayed over the cross-area. The water or filtration velocity through the filter is not constant and changes due to continuous piling of dirt in between the sands particles. The following Fig. shows the details of a high rate sand filter

- 1 Air relief valve
- 2 Adapter
- 3 Pressure gauge
- 4 O-ring
- 5 Nut
- 6 Lid
- 7 O-ring
- 8 Strainer
- 9 Air relief tube
- 10 Diffuser assembly
- 11 Upper pipe assembly
- 12 Air relief tube connector
- 13 Lower pipe assembly
- 14 Tank and foot assembly
- 15 Laterals
- 16 Lateral hub
- 17 Drain spigot
- 18 Drain plug
- 19 Lid wrench
- 20 Lock nut
- 21 Spacer
- 22 O-ring
- 23 Spacer
- 24 Gasket
- 25 Bulkhead
- 26 O-ring
- 27 Washer
- 28 Base
- 29 O-ring
- 30 2" threaded adapter kit
- 31 1.5" threaded adapter kit
- 32 (See 30, 31)
- 33 Closure kit
- 34 Fitting package
- 35 Spacer
- 36 Bulkhead kit

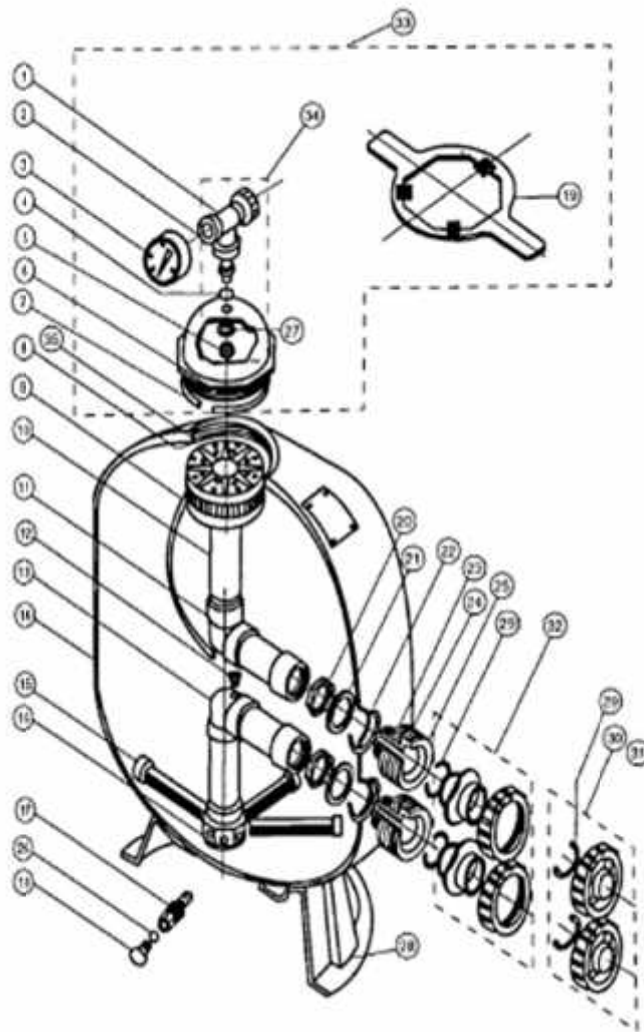


Figure (5.1): High rate sand filter

The efficiency of the filter decreases as the filtration velocity increases

As an example

For filtration velocity of  $20 \text{ m}^3/\text{hr}/\text{m}^2$ , the efficiency is 100%

For filtration velocity of  $30 \text{ m}^3/\text{hr}/\text{m}^2$ , the efficiency is 70%

For filtration velocity of  $40 \text{ m}^3/\text{hr}/\text{m}^2$ , the efficiency is 50%

Therefore, to maintain crystal clean water, a great care is to be taken when choosing

The filtration velocity and it is recommended to choose a filtration velocity that gives filter efficiency between 70 – 100%, so a  $25 \text{ m}^3/\text{hr}/\text{m}^2$  filtration velocity with a filter that is acceptable in size and price is convenient for this case.

So the filtration rate in ( $\text{m}^3/\text{hr}$ ) the filter must be able to handle can be calculated as:

$$\begin{aligned} \text{Filter flow rate} &= \text{Total water Circulation rate (m}^3/\text{hr)} \\ &= \frac{\text{pool water volume}}{\text{pool turnover period}} \end{aligned}$$

Moreover, the filter surface area can be:

$$\text{Filter surface area (m}^2\text{)} = (\text{filtration flow rate})/(\text{filtration velocity})$$

With the calculated surface area, the suitable filter can be selected from the manufacturer's catalogues.

## **5.5 Types of Filters**

There are many types of filters used to clean the pool water from pollution; Pressure Rapid Sand Filter, Diatomaceous Earth Filters, High Rate Sand Filter, and Cartridge Filters.

### **5.5.1 Pressure Rapid Sand Filter**

One type of filters is the conventional pressure sand filter (CPS). This unit filters water through several layers of various sized gravel and a layer of fine-grained sand. A CPS filter can operate at a flow rate of no more than 5 gallons per minute for each square foot of effective filter surface area. This system operates with the (influent) pool water entering the top of the filter, passing through the sand and gravel layers, and exiting the filter from the bottom of the tank.

When the difference between the influent and effluent pressure gauges reaches the manufacturer's suggested differential, it is an indication the filter needs to be backwashed. Typically, a pool or spa does not need to be backwashed daily. Backwashing is the process of cleaning a filter by reversing the flow of water through the filter and draining to waste. A six-inch air gap is required between the backwash pipe and the waste pipe to prevent backflow. Backwashing eliminates mud ball formations, calcification of the sand, and accumulation of organic matter that would hinder proper filter operation.

Due to the small amounts of dirt that can remain in the piping and in the sand after backwashing, some operators may wish to route the first amount of water that passes through the freshly cleaned filter to waste. The minimum backwash rate for

sand filters is  $610.5(\text{L}/\text{min})/\text{m}^2$ . To backwash a CPS filter, turn off the pump and slowly open the backwash water appears to be clear through the site glass, the filter is clean. Close both the effluent and influent valves slowly so the sand can settle evenly. Repeat this for each filter tank, then turn on the pump and adjust all the valves for normal operation.

### 5.5.2 Diatomaceous Earth Filters

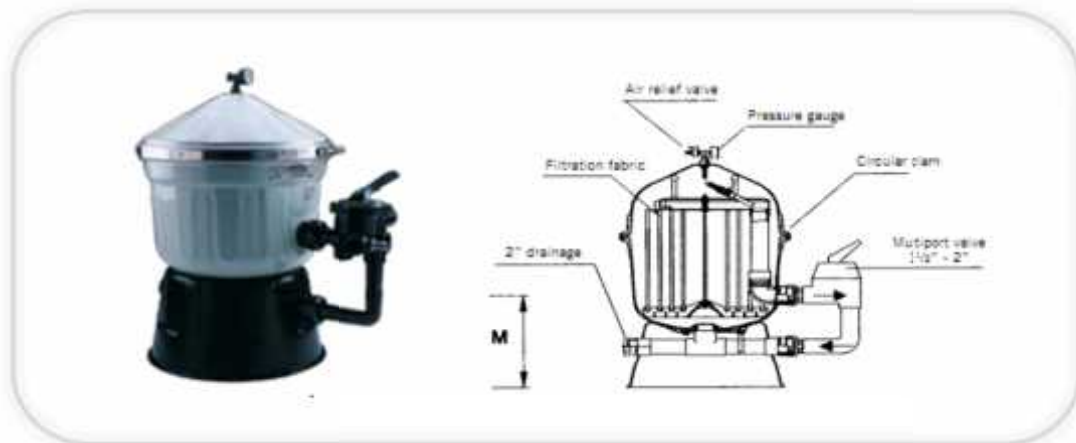


Figure (5.2): Diatomaceous Earth Filter

A diatomaceous earth (DE) filter uses finely crushed diatoms (tiny aquatic plant fossils) as the filter media. Pressure DE filters use a pump ahead of the filter to push water through the system. Vacuum DE filters have the pump after the filter to pull water through the system. The maximum filtration rate for both types of DE filters is  $61.05 (\text{L}/\text{min})/\text{m}^2$ . Except when continuous feeding (slurry feed) of DE is employed, in which case the maximum filtration rate is  $81.4 (\text{L}/\text{min})/\text{m}^2$ .

DE filters must be pre-coated with diatomite prior to operation. To recoat a DE filter, adjust the valves to isolate the filter from the pool and allow the water to

circulate from the filter to the pump and back to the filter. Once the filter is isolated, fill the filter tank or pre-coat pot (a basin that feeds the material mechanically) with clean water and start the recirculation pump. Add 42-52 gram of diatomite per square foot of filter surface area to the water. As the water containing the diatomite passes over the filter surface, the diatomite adheres evenly to the filter surface establishing a DE pre-coat. During this process, the flow should be directed to recycle through the filter or discharge to waste to avoid introducing the DE to the pool. When all the diatomite added has been coated onto the filter surface, open the valves leading to and from the pool. If the pool water has a milky cloudiness, check the DE filter for a broken or torn filter element.

### 5.5.3 High Rate Sand Filter

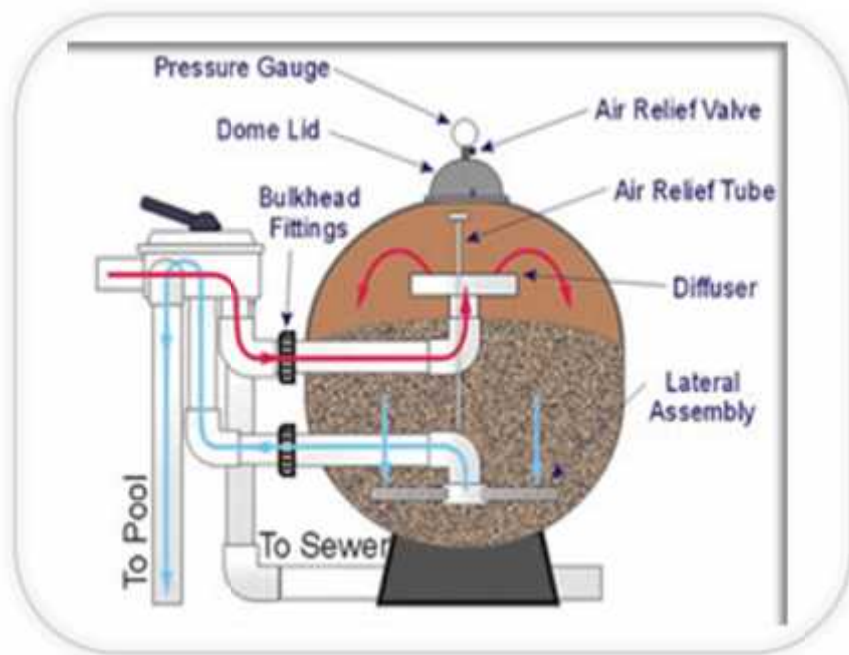


Figure (5.3): High Rate Sand Filter

The High Rate Sand Filter (HRS) is similar in appearance to the CPS filter except it is smaller and uses only sand. HRS filters are capable of filtration rates up to 814 (L/min)/m<sup>2</sup>. Backwashing a HRS filter should be performed when the difference between the influent and effluent pressure gauges reaches 0.68 to 1.02 bar. The backwash rate for HRS filters must be at least 610.5 (L/min)/m<sup>2</sup>. Of effective filter area. For all closed filters, air must be removed from each tank daily by a manual release valve.

#### 5.5.4 Cartridge Filters



Figure (5.4): Cartridge Filters

Cartridge filters have been around for some time, but they seem to be gaining in popularity in many parts of the country. They consist of a tank that houses three or four cylindrical filtering elements. The filters are actually made of polyester or some



other material that can provide a superfine filtering surface. The fabric catches and holds the impurities until you clean or replace the filter.

The cartridge can filter out anything down to about 5 to 10 microns in size. A grain of table salt is about 90 microns; anything below about 35 microns is invisible to the naked eye. It is important to remember that with any filter a small amount of dirt actually aids the filtering process. In most areas, cartridge filters are less expensive than diatomaceous earth filters but cost more than sand filters. However, cartridge filters are more popular because of the minimal maintenance involved. In any case, maintenance takes only few minutes to the filtration system in top shape.

## **5.6 Turnover**

The turnover time represents the number of hours required to recirculation the total capacity of the pool water (total water volume) through the filtration process. This time is affected by various factors such as, pool usage type, kind and behaviors of bathers, pre-cleanse facilities, usage of special swimming clothes ...etc.

Pools are polluted at different rates. Generally the shallower the water, the faster it becomes turbid, simply because more people wash off more dirt, occupying less water. Turnover times are subject to local regulations; typical figures given in the following table are based on the usage type and location of the different types of pools. The intensively used pools require a less turnover time than rarely used for decorative pools.

The Palestinian National Community for swimming pools requires that the filter turnover cycle shall be of a capacity to completely filter the entire pool body in not more than 6 hours. Various variables make calculations of turnover time complex

and unreal. Hence, turnover time is best taken from Engineers having a practical experience in this field. For example, in our country, the turn over time for outdoor residential pools should be taken as 4-hours for the following reasons:-

1. The bathing load (number of bathers) is more than the recommended, which is one bather per four meter square of pool surface area according to the Palestinian National Community.
2. The environmental air in our Country is highly polluted.
3. Each bather carries more dirt. Since pre-cleanse facilities are not used.
4. Most of the bathers do not use swimming pools Clothes.
5. The hardness of the water in our country is very high (Amount of dissolved minerals such as calcium and magnesium). Poor Chemical treatment disinfection rates and pool owners do not wish to operate the pump for long time.

Basic turnover time with filter at clean running pressure & full working head can be estimated as:

$$\begin{aligned}
 \text{Turnover Time (hr)} &= \left( \frac{\text{Pool capacity (m}^3\text{)}}{\text{Filter Rate (m}^3\text{/hr)}} \right) \\
 &= \left( \frac{\text{Volume of water in pool (m}^3\text{)}}{\text{rate of water flow through recirculation system (m}^3\text{/hr)}} \right)
 \end{aligned}$$

### 5.6.1 Density & turnover

$$\text{Bathing density per m}^3\text{per day} = \frac{\text{Total daily bathing load}}{\text{pool capacity m}^3}$$

Table (5.1) Turnover rating regarding to bather density

Bather density – number of people per volume in a given time			Turnover rating – number of hours to circulate the pool volume through filtration system
1	m <sup>3</sup> /day	requires an	8 hour turnover
2 - 3	m <sup>3</sup> /day	requires an	8 hour turnover
4 – 7	m <sup>3</sup> /day	requires an	6 hour turnover
8 – 10	m <sup>3</sup> /day	requires an	4hour turnover
12 – 17	m <sup>3</sup> /day	requires an	1 hour turnover
18 – 25	m <sup>3</sup> /day	requires an	0.5 hour turnover

Table (5.2) Basic turnover ratings for different pools

<b>Turnover (hours)</b>	<b>Type of swimming pool</b>
1	Paddling and intensive shallow water
2	Teaching and therapeutic, play pool
3	Public and intensive hotel, spa tubs
4	School and Olympic / international, lido
5	Training and competitive, light school, exclusive private / spa
6	Hotel and community thermal, water shows, championship diving
7	Club and intensive private, community plunge
8	Residential
9	Diving and light private, private plunge
10	Display and indoor private, above ground

Intensively used pools require a far higher turnover than rarely used or decorative pools.

### **5.6.2 Capacity, recovery period, flow rate and filter area**

The working capacity of a filter can be determined by the amount of dirt it is capable of holding without blocking, or passing more than, say, 10 micron sized particles, in a given time.

A pool's recovery period is the time it takes the filter to bring the whole body of water round to 99,9 per cent cleanliness after prolonged heavy bathing.

The rate of filtration is that flow of water through the filter designed to achieve a specified degree of clarification, say, down to 10 micron, or 0.01 mm, within a certain period.

We can calculate the filter flow rate by the equation:

$$\text{filter flow rate} = (\text{Pool Capacity})/(\text{Turnover Time})$$

The filter area is the surface area of filter medium exposed to the flow of unfiltered water. For a sand filter, it equals the cross-sectional area of the tank. We can calculate the filter area from the flow rate for the type of the filter to be used from by the equation:

$$\text{filter area} = (\text{flow rate})/(\text{filtration velocity})$$

Then we can select the size and number of filters to match the filter area required. Pool filtration is a continuing process of dilution and even a 100 percent efficient unit will require seven passes of the equivalent pool water volume to remove 99,9

per cent of the original dirt. This means a private pool operating an 8-hour turnover of the whole pool volume, needs 56 hours to reach 99,9 per cent water clarity. Unfortunately, such simple circumstances do not take into account the common practice of operating a home filter for 8 hours only, every day. Therefore, the pool water now takes 168 hours to reach equilibrium, providing there is no additional pollution whatsoever. And on top of this, since a filter's efficiency is always declining (it gradually gets blocked up until backwashing) a good 50 per cent average means the one-week period to reach equilibrium can extend into two weeks, in order to bring round a pool to perfect clarity, before trying to keep it in that state.

## **5.7 Filtration Media & Accessories**

### **1. Filtration sand**



## 2. Zeolite

Natural porous material that has higher filtration qualities than the normal substrate. It can be compared to that of diatomaceous earth but at a lower price and lasting much longer.



## 3. Sand filling funnel

Made of P.S. Funnel used for filling sand into the filter.



## 4. Pressure gauge panels

Including air vents.



## **5. AIR BLOWE**

Air blowers designed to shake the filtration bed during the backwashing process or to supply air wherever required.



## **5.8 Selector valve (Multiport)**

A six-way valve that is attached to the filter and directs water into six direction, these directions are include:



Figure (5.5): Selector valve

- 1- **Filtering:** Water from pump circulates down ward through filter and suspended particles are retained in sand and clear ware returns to swimming pool by return inlets.
- 2- **Back washing:** Through this operation water circulation reversed upward and the water containing suspending particles is directed towards the drain for two minutes.
- 3- **Rinse:** After back wash for one minute. It aims to clean the surface of the filter.
- 4- **Waste:** Used to empty the swimming pool.
- 5- **Recirculation:** This process by pass the filter.
- 6- **Recirculation:** This process by pass the filter.



**7- Closed:** Used to close all off inlets and outlets, and used to maintenance.

## **5.9 Water Chemistry of Swimming Pools**

### **5.9.1 Introduction**

Proper water chemistry is essential to maintain safe and consistent swimming pool operation. The addition of chemicals to the pool water is required for the following reasons:

1. To control the pH so that it is maintained in the range 7.2 to 7.8 (slightly alkaline);
2. To maintain the water in proper 'balance';
3. To disinfect the water to ensure a reasonable standard of bacterial purity.

### **5.9.2 Control of the PH**

PH is the single most important element in swimming pool water chemistry. It affects every other chemical balance in pool water. The control of the pH is essential for efficient water treatment. The pH is the hydrogen ion concentration; the neutral point is 7.0; values less than 7.0 indicate an acidic solution and values above 7.0

Indicate that the solution is alkaline. The pH scale is logarithmic, so that water with a pH of 5.0 has 100 times the hydrogen ion concentration of water with a pH of 7.0.

If the PH is too low (below 7)

- Water becomes acidic.
- Chlorine residuals dissipate rapidly.
- Eye irritation occurs and affects human bathers.
- Rapid loss of alkalinity.
- Metal fittings, pump impeller, heater core may corrode.

If PH is too high (above 8)

- Chlorine activity is slowed and inefficient and will not act as bacteria.
- Scale formation and discoloration of pool walls.
- Water becomes cloudy.
- Filter is overworked.

### **5.9.3 PH Adjustment**

To avoid the problems listed previous, PH must be maintained between 7.2 and 7.8. The most desirable level for PH is between 7.4 and 7.6. The main disinfecting agent used in swimming pools is chlorine. This may be in the form of chlorine gas, or derived from salt containing chlorine such as calcium or sodium hypochlorite or from an organic compound containing chlorine. When chlorine gas is dissolved in water, hypochlorous acid and hydrochloric acid are formed. Hypochlorous acid is very effective in destroying bacteria and the formation of this acid lowers the PH.

Therefore, the higher the concentration of hypochlorous acid, the lower the pH and the more effective is the solution in killing bacteria. The formation of hydrochloric acid (which is a strong acid) is undesirable as it lowers the pH still further, and it is not a very effective bactericide.

Both sodium and calcium hypochlorite are strongly alkaline, and if the pH is raised too high and the water is hard, calcium compounds may be deposited.

Chlorine reacts with ammonia to form compounds known as chloramines. These are unstable and in the presence of chlorine break down to produce hydrochloric acid, which as stated above is undesirable as it is aggressive and is not effective in destroying bacteria. If aluminum sulphate (alum) is used as a coagulant (to form a floc) before the water enters the filters, the PH is lowered as alum in solution is acidic. To raise the pH to the required level alkali is added, usually in the form of sodium carbonate (soda ash). The amount of soda ash added has to be determined by the PH.

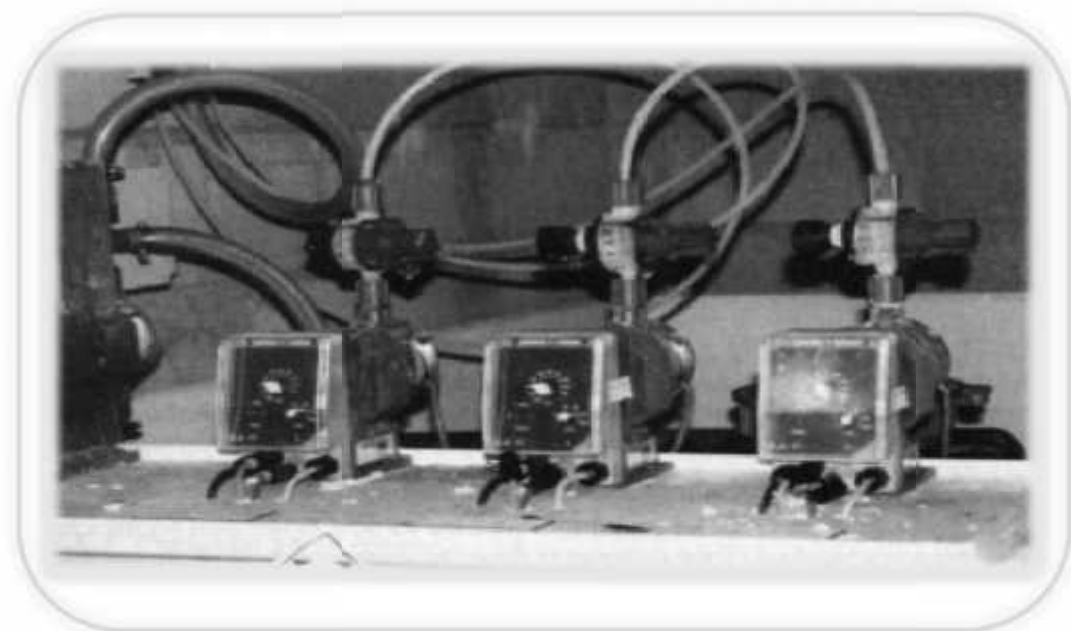


Figure (5.6): View of three small and one large dosing pumps for sodium hypochlorite solution for pools in a private leisure centre.

#### **5.9.4 The disinfection of pool water**

The words purification, sterilization and disinfection are used for the process which is aimed at the destruction of bacteria in the pool water. A proper balance of the previously described water chemistry factors will provide water that will not damage pool components. It is generally agreed that the disinfecting agent used should remain active in the pool water after passing through the treatment plant.

This stipulation is necessary because as soon as the treated water enters the pool fresh contamination occurs and this will remain (and increase) as the water is circulated in the pool until it again passes through the treatment plant which may take several hours. The figure below show the automatic disinfection



#### **5.9.5 Chlorination**

The most effective disinfectant for pool water is chlorine as it is not only very effective in the destruction of bacteria, but it is also a powerful oxidizing agent and can deal effectively with organic matter in solution and in suspension.

The smell of chlorine in pool halls is not due to a very low concentration of chlorine gas but arises from complex chlorine compounds. One such compound, dichloramine, can cause irritation to the eyes and throat of bathers.

Chlorine reacts with ammonia to form chloramines which are to a limited extent bactericidal but are slow reacting and are therefore more stable than free chlorine which reacts very rapidly. Ammonia is present in pool water as it is introduced by the bathers by the decomposition of nitrogenous compounds. The virtual elimination of the use of gaseous chlorine lead to the extensive use of solution feed using sodium hypochlorite or calcium.

Sodium hypochlorite is normally supplied as a solution, while calcium hypochlorite is supplied as a powder. Both compounds are strongly alkaline, and acidic solutions have to be added to correct the pH and maintain it in the range 7.2 to 7.8. This correction of the pH is achieved by the use of either hydrochloric acid, sodium hydrogen sulphate, or carbon dioxide. Hydrochloric acid is highly corrosive and if it comes into contact with the 'raw' sodium or calcium hypochlorite chlorine gas is liberated which can be very dangerous and special precautions must be taken to ensure that this contact does not occur, particularly as this can happen accidentally in a storage area.

Modern dosing equipment makes control easy and safe. This equipment automatically controls the chlorine residual in the pool water at a predetermined level, and regulates the pH of the water within acceptable limits.

The following forms of chlorine are commonly used in swimming pools:

- **Gas chlorine:** 100% available chlorine.
- **Calcium Hypochlorite:** granular or palletized 65% available chlorine.
- **Sodium Hypochlorite:** liquid bleach 12.5% available chlorine.
- **Trichloroisocyanuric:** Acid: sticks or tablets 90% available chlorine.

A free chlorine residual of 1.0 ppm should be adequate to maintain satisfactory bactericidal conditions in pool water. This may be increased to a maximum of 1.5 ppm when the pool loading is very high.

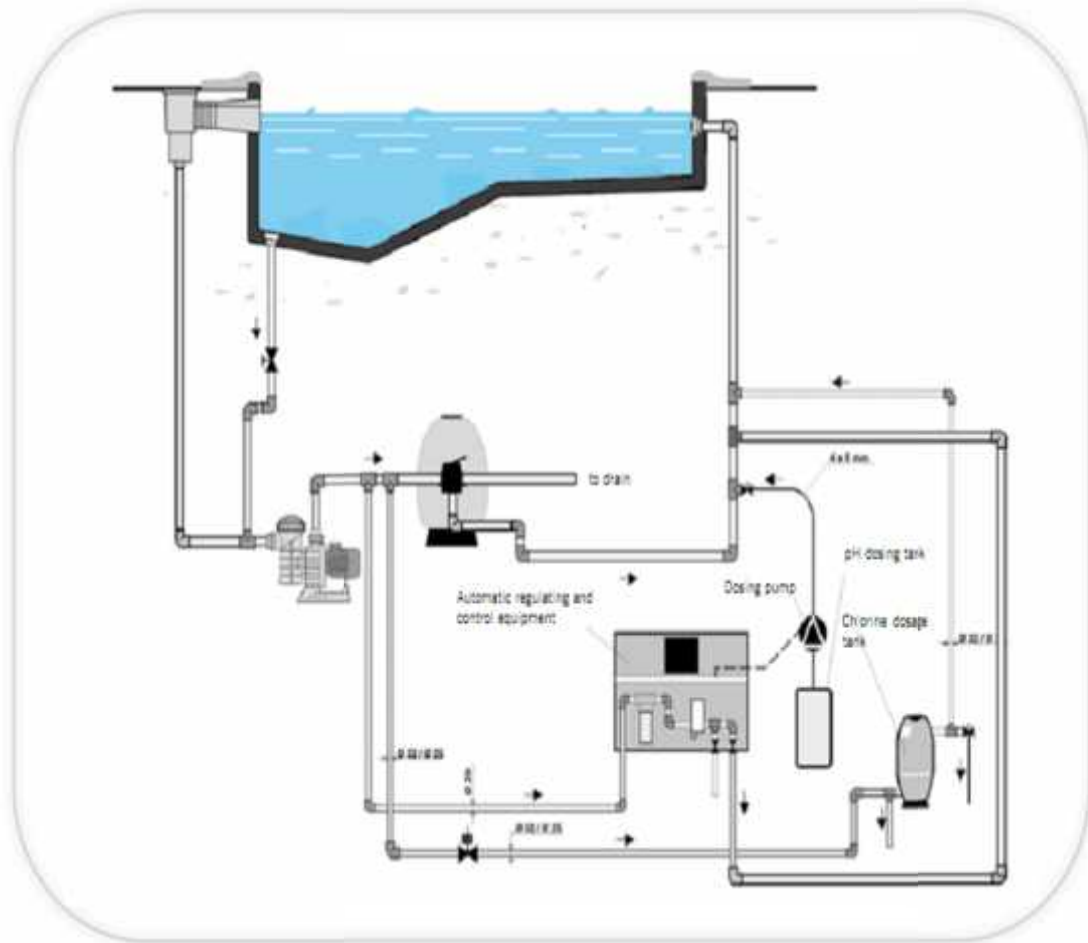


Figure (5.7): installation Diagram of Chlorine/Bromine Dosing units and Automatic regulating and Control equipment

In this diagram shows the process treatment water. The water goes from the pump to automatic regulating control equipment. This device testing PH and chlorine in the water and it is connected with this device PH tank and chlorine tank to balancing water, then return it to the pool swimming by return inlet.

**CHAPTER**

**6**

***PUMPS***

---



## **6 Pumps**

### **6.1 Introduction**

A pump, in general may be defined as a machine, when driven from some external source, lifts water or some other liquids from a lower level to a higher level. Or in other words, a pump may also be defined as a machine, which converts mechanical energy into pressure energy.

Pump and motor are two different elements of the water circulation system, not the same thing, not interchangeable. The motor is the device that converts electrical energy into mechanical energy. It powers the pump, which is the device that actually causes the water to move. One is not much use without the other.

Since the olden times, the man has been trying to find some convenient ways of lifting water to higher levels, for water supply or irrigation purposes. It is believed, that the idea of lifting water, by centrifugal force, was first given by L.D. Vinci (an Italian scientist and engineer) in the end of 16th century. Then this idea was put to experiments by French scientist and they designed centrifugal pump, having impeller and blades. At that time, the reciprocating pumps were very popular.

Then a continuous advancement of this pump has brought it to a high degree of perfection, which is used all over the world these days.

Pool and spa pumps are classified as centrifugal pumps. That is, they accomplish their task of moving water thanks to the principle of centrifugal force. To imagine this concept, hold a bucket with some water in it at the end of your arm and spin it around in a big sweeping circle. Centrifugal force is what keeps the water in



the bucket as you spin it. If you poke a hole in the bucket and spin it again, that same force, pushing the water to the bottom of the bucket, sends it shooting out the hole. If you spin the bucket faster, the water shoots out with more force. Obviously, if you make a larger hole, more water will shoot out as you spin it around.



Figure (6.1) : Centrifugal force.

The pump operates the same way (Fig. 6-2). The impeller in the pump spins, shooting water out of it. As the water escapes, a vacuum is created that demands more water to equalize this force. Water is pulled from the pool or spa and sent on its way through the circulation plumbing.

Just as various designs in your swinging bucket and its hole determine the amount of water and how fast it escapes, so too the various designs of impellers, diffusers, and volutes determine the same features in a pool pump. This is discussed in more detail in later sections.

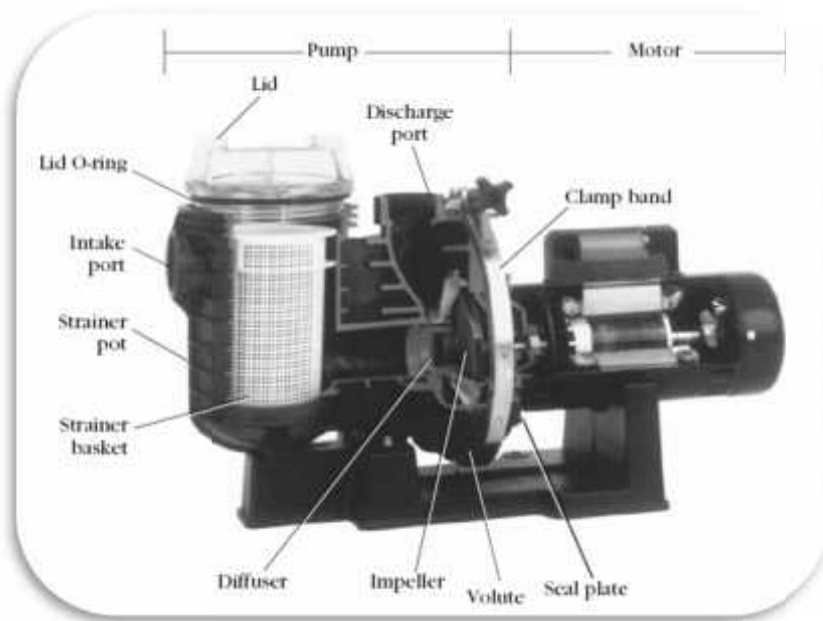


Figure (6.2) : Typical pump and motor combination.

In this chapter, we shall discuss the centrifugal pumps only.

## 6.2 Centrifugal Pump

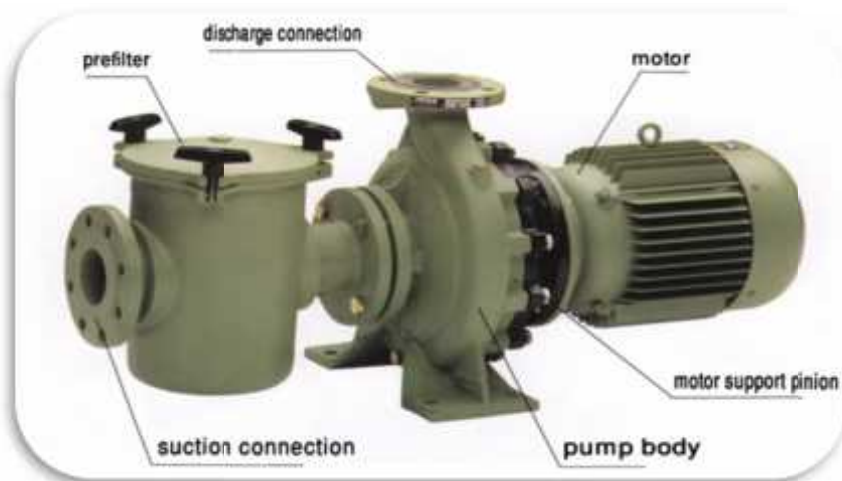


Figure (6.3) : Main parts of centrifugal pump.

The pump which raises water or a liquid from a lower level to a higher level by the action of centrifugal force is known as a centrifugal pump.

It will be interesting to know that the action of a centrifugal pump is that of a reversed reaction turbine. In a reaction turbine, the water at high pressure, is allowed to enter the casing which gives mechanical energy at its shaft; whereas in a pump, the mechanical energy is fed into the shaft and water enters the impeller (attached to the rotating shaft) which increases the pressure energy of the out-going fluid. The water enters the impeller radially and leaves the vanes axially.

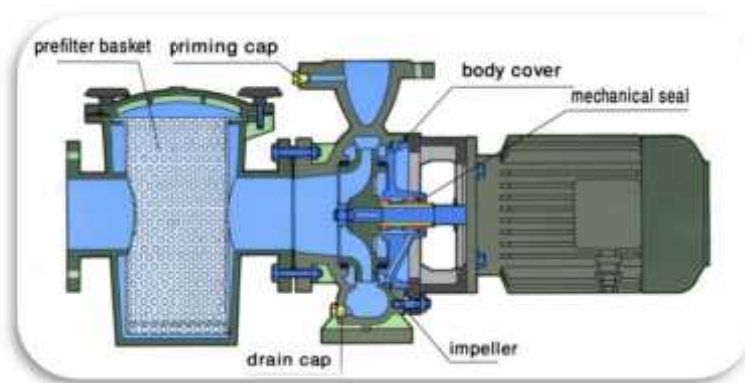


Figure (6.4): Cross section of a centrifugal pump.

### 6.2.1 Types of Casings for the Impeller of a Centrifugal Pump

We have discussed that a centrifugal pump consists of an impeller, similar to that of a turbine, to which curved vanes are fitted. The impeller is enclosed in a water-tight casing, having a delivery pipe in one of its sides. The casing for a centrifugal pump is so designed that the kinetic energy of the water is converted into pressure energy before the water leaves the casing. This considerably increases the efficiency of the pump. Following are the three types of casings or chambers of centrifugal pumps:

1. Volute casing (spiral casing).
2. Vortex casing.
3. Volute casing with guide blades.

### **1. Volute Casing (Spiral Casing)**

In a volute chamber, the impeller is surrounded by a spiral casing as shown in Fig.(6.4.a) Such a casing provides a gradual increase in the area of flow; which decreases the velocity of water, with a corresponding increase in pressure.

A considerable loss takes place due to the formation of eddies in this type of casing.

### **2. Vortex Casing**

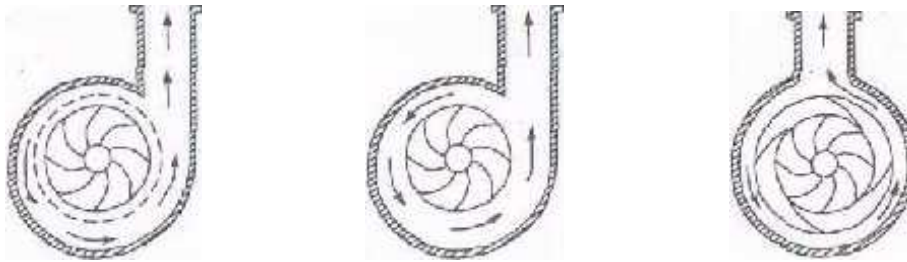
It is an improved type of a volute casing, in which the spiral casing is combined with a circular chamber as shown in Fig.(6.4.b). In a vortex casing, the eddies are reduced to a considerable extent and an increased efficiency is obtained.

### **3.Volute Casing with Guide Blades**

In this type of casing, there are guide blades surrounding the impeller as shown in Fig. (6.4.c). These guide blades are arranged at such an angle, that the

water enters without shock and forms a passage of increasing area, through which the water passes and reaches the delivery pipe.

The ring of the guide blades is called diffuser and is very efficient.



(a) Volute casing      (b) Vortex casing      (c) Volute casing with guide blades

Figure (6.5): Types of casing for the Impeller of a Centrifugal Pump.

### 6.2.2 Pump plumping



Figure (6.6) : Working method of centrifugal pump.

The successful working of a centrifugal pump depends on the correct selection and lay out of its piping system. An extreme care should always be taken in selecting the sizes of the pipes and their arrangement. In general, a centrifugal pump has suction pipe and delivery pipe.

### **(a) Suction pipe**

The suction pipe, of a centrifugal pump, plays an important role in the successful and smooth working of the pump. A poorly designed suction pipe causes insufficient net positive suction head (NPSH), vibration, noise, water hammer, excessive wear etc. While laying the pipe, a great care should be taken to make it air tight. A strainer foot-valve is connected at the bottom of the suction pipe to avoid the entry of foreign matter. Since the pressure at the inlet of the pump is suction (i.e., negative) and its value is limited to avoid cavitations, it is therefore essential that the losses in the suction pipe should be as small as possible. For this purpose, bends in the suction pipe are avoided and its diameter is often kept larger.

Sometimes, to reduce the axial thrust, the suction pipe is branched into two parts and the liquid is allowed to enter the impeller from both sides. Such a pump is called double suction pump.

### **(b) Delivery pipe**

A check valve is provided in the delivery pipe near the pump, in order to protect the pump from mechanical hammer and also to regulate the discharge from the pump. The size and length of the delivery pipe depends on the requirement.

## **6.2.3 Head of the pump**

**Suction Head:** by restricting the intake or requiring the pump to lift water from a source below it, you also create head. This is called suction head, sometimes called vertical feet of water, it's the same thing.

Each foot on the suction side equals a similar foot on the discharge side, called discharge head. The only thing to remember here is that head (resistance) is created on both sides and must be calculated when determining pump size.

**Dynamic and Static Head:** Up to now I have described static head as the head created by the weight of standing (static) water. This is only a small portion of the total head in the system. The rest is created by the friction of water flowing through the entire system, called dynamic (moving) head. The diameter of the pipe and the speed of the water determine how much resistance is created by friction. Further friction is created when water must go through or around other obstacles, such as through the filter, heater, and plumbing fittings.

And just to be clear at the outset, the length of the pipe (in m) does not always translate directly into the same number of feet in head loss. There are reference tables that tell you what head loss to expect for each foot of pipe or each fitting.

**Total Dynamic Head:** Total dynamic head (TDH) is the total of plumbing and equipment head for the entire system. Vacuum head (suction) plus pressure head (discharge) equals total dynamic head.

Total head = static head + friction losses in piping (suction, delivery) + dynamic head in (main drains, return inlets, and skimmers)  $\frac{v^2}{2g}$  + dynamic head in

(Filter, heater, and water chlorine device).

There are two positions where the swimming pool pumps are mounted:

- 1) Where the pump is above pool water level :

The check valve prevents water draining from the suction pipe when the hair and lint strainer is opened. If the pump does not have a built-in check valve, either a separate check valve or a gate valve may be installed in the suction line for the same purpose. In addition to the valve in the suction line, the use of a gate valve in the pool return line is necessary to prevent the hair and lint strainer from emptying because of siphon action through the filter. This use of valves ensures a quick return to service because the system remains full of water so that repriming is not necessary.

In this case the static head is active.

2) Where the pump is below pool water level:

A check valve is ineffective. Gate valves in the suction and pool return lines are essential to prevent a flood in the filter bit when the hair and lint strainer is opened.

In this case the static head is equal to zero.

#### **6.2.4 Discharge of a Centrifugal Pump**

The discharge of a centrifugal may be found out by the same method as that of a reaction turbine. Now consider centrifugal pump lifting water from a lower level to a higher level.

Let

$D$  : Diameter of impeller at inlet,

$V_f$  : Velocity of flow at inlet,

$b$  : Width of impeller at inlet, and



$D_1, b_1, V_{f1}$  : Corresponding values at the outlet.

Then the discharge,  $Q = D_b V_f = D_1 b_1 V_{f1}$

### **6.2.5 Cavitations in Centrifugal Pumps**

The phenomenon of cavitation or mechanical hammer. If a centrifugal pump, is working at high suction head or high vapor pressure, cavitation is formed. It damages the impeller.

The cavitation can be eliminated (or minimized) by the following precautions:

1. The liquid temperature should be as low as possible to keep the vapor pressure down and to obtain an increased NPSH.
2. The velocity of liquid in the suction pipe should be as low as practicable.
3. As far as possible, the sharp bends in the suction pipe should be avoided to reduce loss of head.

### **6.2.6 Characteristic Curves of Centrifugal Pumps**

As a matter of fact a centrifugal pump, like a turbine is designed and manufactured to work under a given set of conditions (or a limited range of conditions) such as discharge, speed, power required, head of water, efficiency etc. But a pump may have to be used under conditions, other than those for which it has been designed. It is, therefore, essential that the exact behavior of the pump under varied conditions should be predetermined. This is represented graphically by means

of curves, known as characteristic curves. Though there are many types of characteristic curves, yet the following are important from the subject point of view :

1. Characteristic curves for speed, and
2. Characteristic curves for discharge with varying speeds.

### 1. Characteristic curves for speed

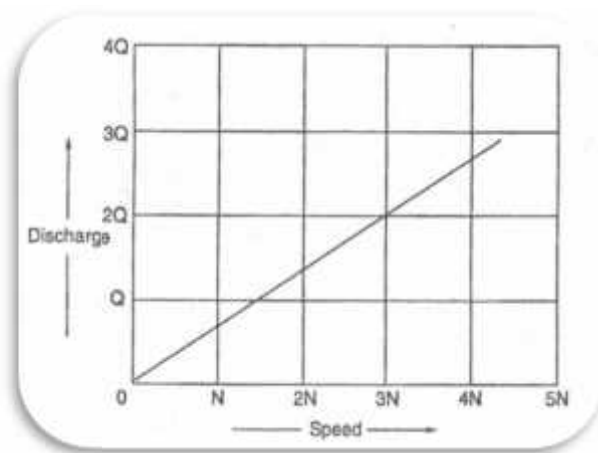


Fig.(6.7): Characteristic curve for Speed versus discharge.

Fig.(6.10) :shows the performance of a centrifugal pump under constant head. It is a straight line, which shows that the discharge increases with the speed.

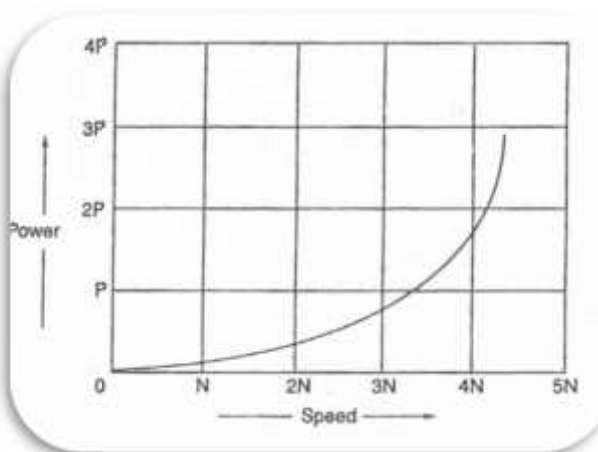


Fig. (6.8): Characteristic curve for speed versus power.

Fig. (6.11): shows the performance of a centrifugal pump under a constant head and discharge. It is a parabolic curve, which shows that the power increases with the speed .

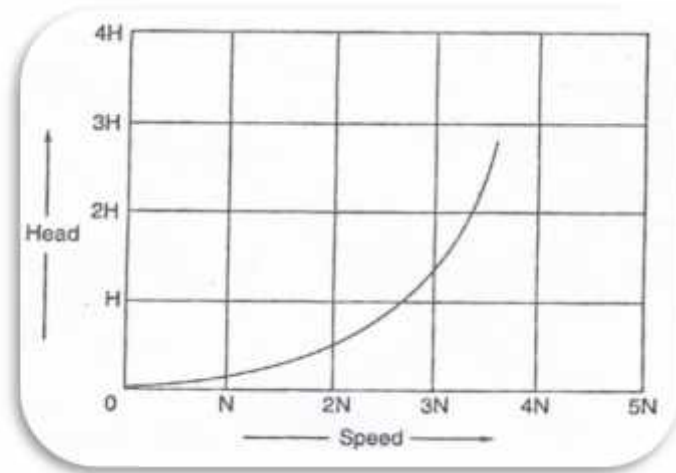


Fig. (6.9): Characteristic curves for Speed versus head.

Fig. (6.12): shows the performance of a centrifugal pump under constant discharge. It is a parabolic, curve which shows that the head increases with the speed.

## 2. Characteristic curves for discharge with varying speed

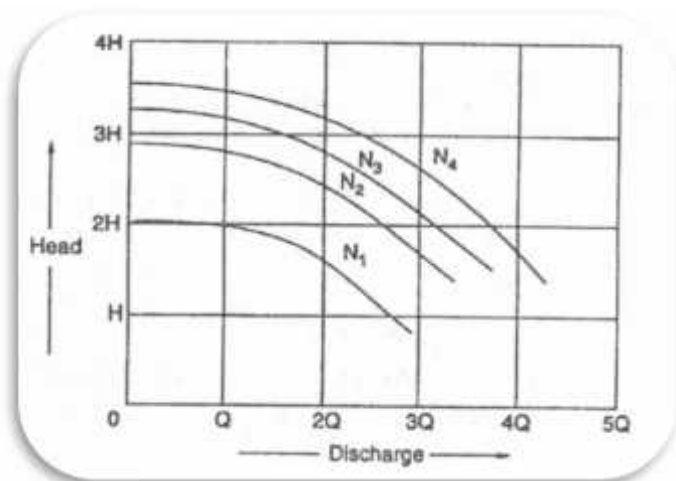


Fig. (6.10): Characteristic curves for Discharge versus head.

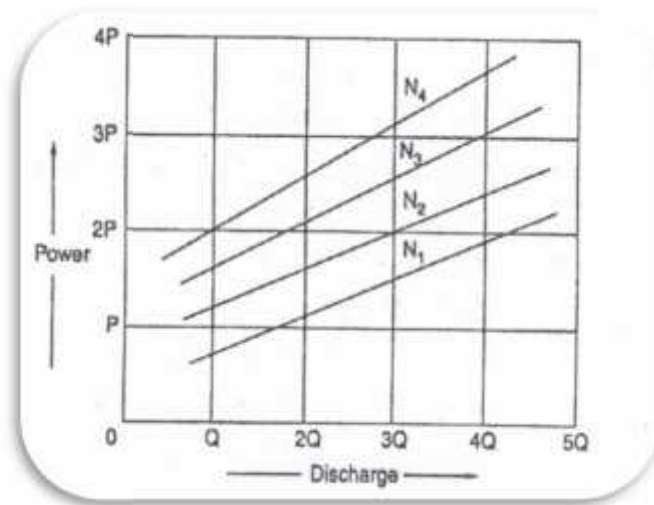


Fig.(6.11): Characteristic curves for discharge versus power.

Fig.(6.14): shows the performance of a centrifugal pump under variable rotational speeds. It is a parabolic curve, which shows that for a given rotational speed, the dynamic head decreases with the discharge.

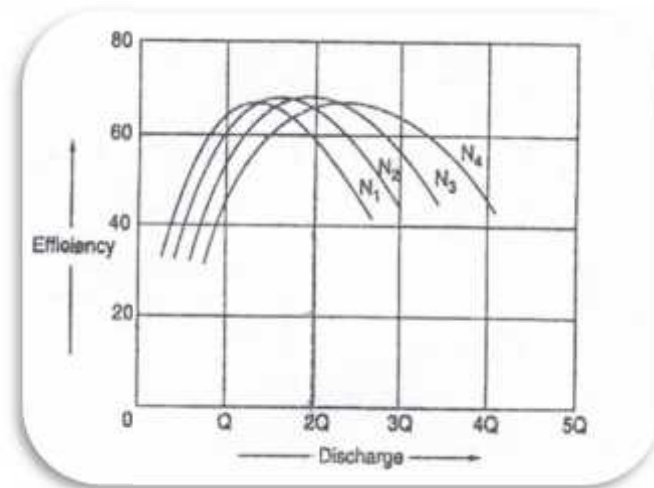


Fig. (6.12) : Characteristic curves for discharge versus efficiency.

Fig. (6.15) : shows the performance of a centrifugal pump under variable rotational speeds. It is a parabolic curve, which shows that for a given rotational speed, the

efficiency increases with the discharge. And beyond a certain discharge, the efficiency decreases.

### **6.3 How to Repair Pool Pump?**

#### **Step 1**

To start your pool pump repair job, find out whether the power source for your pump is functioning or not. Turn on the breaker and other switches necessary to start the pump. Go through all the wires connecting to the pump and look for any corrosion.

#### **Step 2**

In case the motors starts and then suddenly stops after a while, you will have to examine the impeller. Look for any junk and clean it. If the impeller is clean, the problem could be in the wiring or the capacitor of the pump. You would then have to either repair or replace the capacitor.

#### **Step 3**

If your pool pump is not functioning the way it used to before, it could be due to a choked up filter. Check the pump's filter and clean it once properly. The problem may also be with junk material choking up the system. For this you will have to clean up areas around the pool skimmer basket..

#### **Step 4**

During the pool pump repair job, if you realize that the pump is sucking in air, increase the water level in your pool. There could be a possibility of the skimmer weir being damaged and providing an entrance for air to enter the pump. Repair or replace it according to the extent of damage. Apart from this, check the 'O' ring on

the lid of the pump. It should not have any cracks on it and should be greased.

### **Step 5**

There are chances of the motor in your pool pump being faulty. To find out, detach the motor from the pump and take it out. Start the motor separately and find out if it is still making noises. In case it does, you will have to get it changed. And if it does not make sounds when detached from the pool pump, you could be facing the problem of a choked line.

### **Step 6**

If you notice that the pool pump turns on and off by itself, at short intervals, there may be a problem in the manner in which the pump was installed. Examine the voltage and wiring of your pool pump to see whether it has been attached correctly. Also look and clean any dirt blocking the pump's ventilator. If vents have become very old, it is a good idea to replace them instead of repairing.

# **CHAPTER**

# **7**

# ***ACCESSORIES***

---



## 7 Accessories

This chapter contains accessories used in the swimming pools such as ladders, diving boards, pool chairs, cleaning devices, floating devices and safety.

### 7.1 Diving Boards

Diving boards come in simple fulcrum models and spring-assisted jump models for extra bouncing action. Residential boards are from 1.8 to 3.6 meters in length and 45 centimeters wide. Commercial boards are usually 50 centimeters wide and up to 5 meters in length.

Generally, to accommodate the smallest board, a pool must be at least 2.3 meters deep and at least 4.6 meters wide by 8.5 meters long.

#### ❖ Shapes of diving board



Figure (7.1a): Clip model





Figure (7.1b): Dolphin model



Figure (7.1c): Ballista model



Figure (7.1d): Elevado model

**Figure (7.1): Models of diving boards**

## 7.2 Slides

Slides are generally made of fiberglass with metal frames and steps. A straight slide will be 2.5 to 4 meters long, requiring a lot of deck space. If deck space is limited, left-handed or right-handed curved slides are available. As with diving boards, safety is a key consideration ---the higher the slide, the deeper the pool needs to be.

### ❖ Shapes of slides



Figure (7.2a): Curved model



Figure (7.2b): Slides for public use

### 7.3 SHOWERS

The person love to wash after or before swimming by using shower. There is many types of showers depended on the number of head, valve, water pressure and type of water cold or hot water.

Generally, the diameter tube in shower between 63-129 mm depending in the model and the distance between the shower head and the floor varies from 2m to 2.5 m depending on the model.

#### ❖ Shapes of Showers



Figure (7.3a): luxe shower range



Figure (7.3b): solar shower with 35 liters water tank



Figure (7.3c): shower with twin heads and 2 valves



Figure (7.3d): shower with detachable shower head and foot wash



Figure (7.3e): shower anchoring fixtures

### **Figure (7.3): shapes of showers**

## **7.4 Automatic Pool Cleaners**

There are numerous designs of automatic pool cleaner available today. Some of them are no longer manufactured but you might encounter them in existing installations.

There are two categories of automatic pool cleaner in common, use today and three other less effective.

### 7.4.1 Electric Robot

The electric robot type of automatic pool cleaner sounds futuristic, but is nothing more than a battery-powered vacuum cleaner with a bag that catches debris as the unit patrols the pool bottom. As you might guess, these are expensive and are found most often on large commercial pools.



Figure (7.4): Styles of automatic pool cleaners.

### 7.4.2 Booster less water pressure designs

Some automatic cleaners work like your leaf vacuum by sending a pressurized stream of water up into a catch bag, creating a vacuum for the unit as it patrols the bottom. The pressure is created by taking return water and boosting the pressure with a separate pump and motor. There is nothing wrong with this bolstered type of automatic cleaner.

A variation on this theme, however, is the unit that uses the circulation pump itself as the booster, by connecting too the return line after the pump but before the filter. This style is called booster less because it uses no separate water pressure-boosting device. These units require an automated valve and control system so that the heater does not try to operate while the cleaning unit is in operation.

### 7.4.3 Shapes of pool cleaners



Figure (7.5a): Pool cleaners pump



Figure (7.5b): MANUAL SUCTION CLEANERS



Figure (7.5c): Leaf Skimmer



Figure (7.5d): BRUSHES





Figure (7.5e): HYDROCLEANERS

**Figure (7.5): Shapes of pool cleaner**

## 7.5 Covers

Pool and Spa covers have come into increasing use over the past ten years in an effort save heating energy costs and water through evaporation. As water evaporates, the minerals in it are left behind in the remaining pool or spa water. Covers slow down the rate of evaporation and , therefore, reduce chemical use. Covers keep out leaves and dirt, which also absorb chemicals. Keeping out the dirt means, you vacuum less and clean filter less.

Covers can provide safety. Heavy-duty spa covers can prevent kids from falling into spas, especially when combined with straps or locks to ensure only adults can remove them.



Figure (7.6): Pool covering

### 7.5.1 Automatic cover

1. Roussillon submerged model

The Roussillon automatic cover is the submerged model which incorporates the motor in a separate pit, and both the roller shaft as well as the cover is housed at one end inside the pool itself.

The submerged pit containing the roller shaft from the main pool should be separated from the main pool by a small concrete partition at the time of construction or with a PVC partition later on.

The basic elements for assembling the cover are the slats, the step slats, the mechanical kit, the embedding kit, the aluminum tie beam and the pit cover.

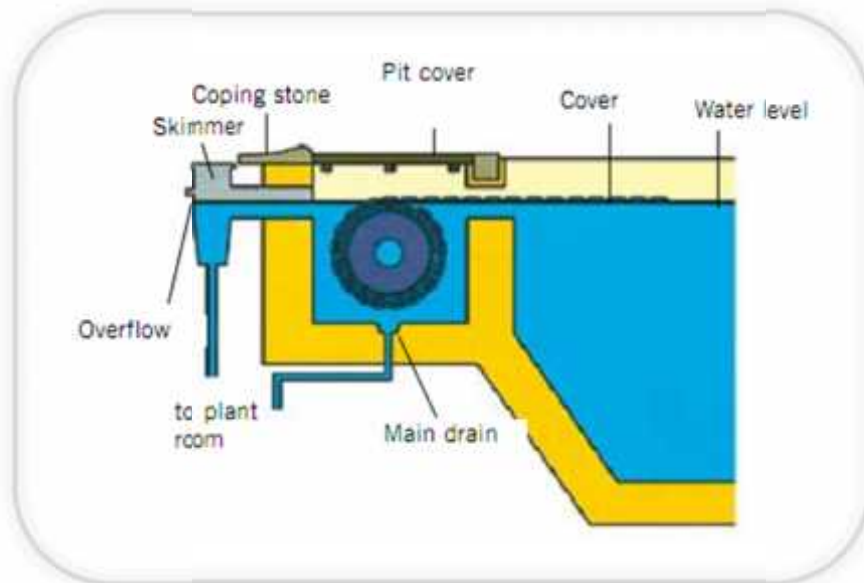


Figure (7.7): Design of Roussillon submerged cover

❖ Mechanical Kit

Includes the following elements:

- Ø 146 mm extruded aluminum roller shaft, 5 mm thick and Ø 30 mm connecting shaft.
- Motor supporting bracket.
- Watertight gaskets on the wall conduit side.
- Watertight gaskets on bearing support side.
- 24V geared motor with stainless steel support bracket.
- 220/24V standard switchboard.
- On-off key switch.

Should be installed in full view of the pool. It operates with the key in the continuous contact position.

## 2. Above Ground Model (Carlit)

The automatic cover model Carlit is ideal for installation in existing swimming pools whose dimensions do not exceed 6 x 12 m. It is an above-ground cover, which means that the roller shaft is located out of the pool. Anchored near the pool edge.

The electrical connections have been simplified to the maximum. These consist of a two-wire cable between the roller and the electrical switchboard (4 mm<sup>2</sup> up to 15 m and 6 mm<sup>2</sup> up to 30 m).

The elements making up the Carlit cover are the slats together with the mechanical kit.

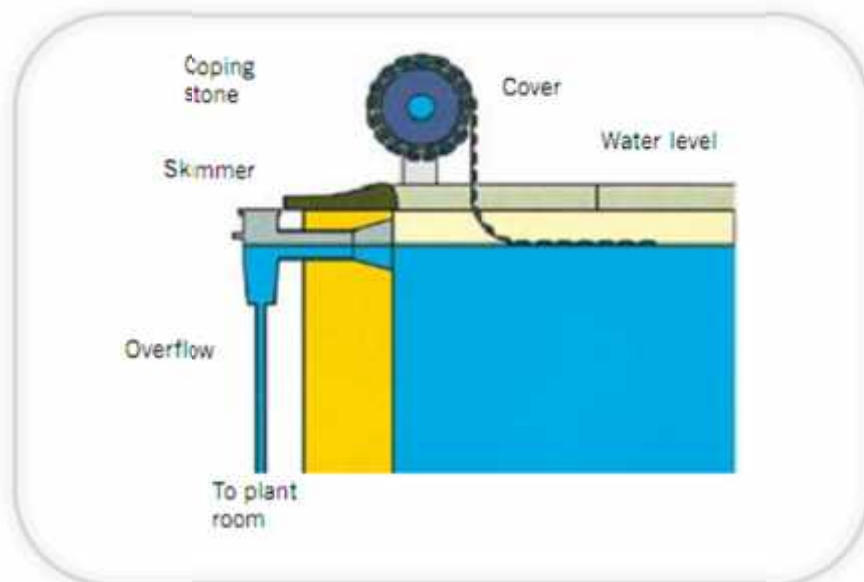


Figure (7.8): Design of Carlit cover

Mechanical Kit:

Consists of:

- Two white or sand colour coated stainless steel stands.
- Ø 146 mm anodized aluminum roller shaft.
- 24V tubular motor with limit switch adjustment, or 12 volts depending on the pool width.
- key switch with self return to 0 point.
- Switchboard with 220/24V transformer.

## 7.6 Overflow Grating

It's used to cover the overflow gutter of swimming pools. Made of stabilized Polypropylene against U.V. rays. Standard white colour.

These are supplied as modules of gratings for straight or curved runs (outer radius of 1 or 2 meters). The gratings click together with a male-female pressure fit permitting a certain amount of flexibility in assembly which absorbs any expansion which may occur when the tiles are exposed to heat fluctuations.

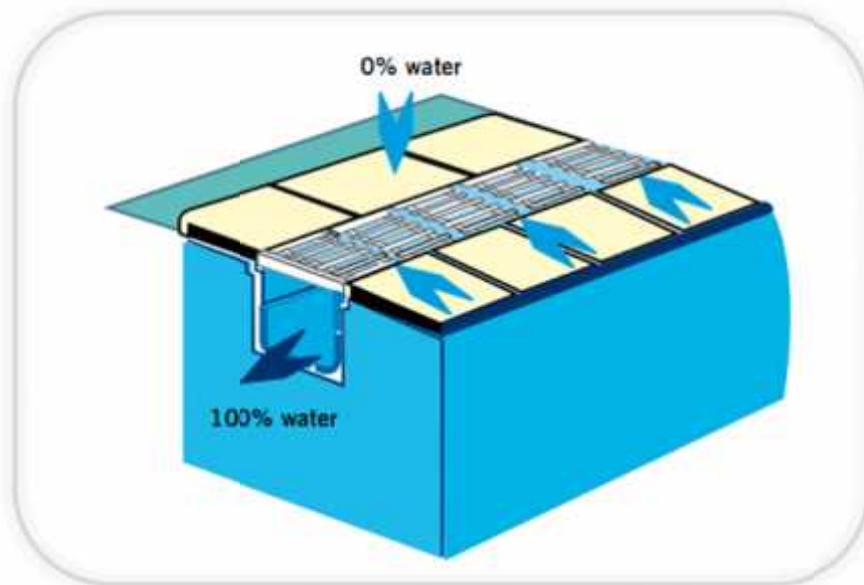




Figure (7.9): Overflow grating

### 7.7 Under-water lighting and under-water windows

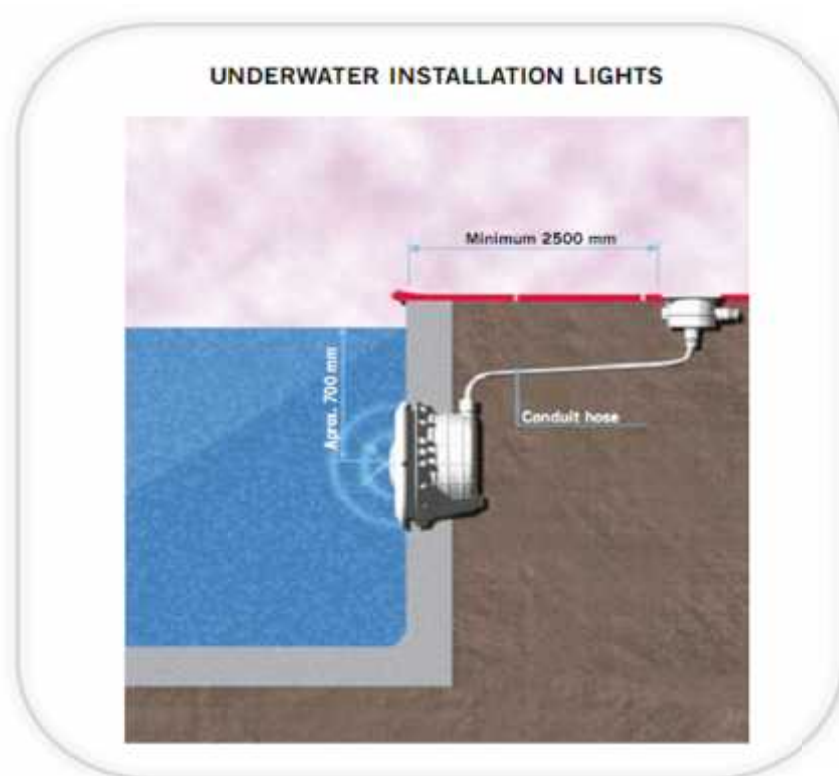


Figure (7.10): Position of under water light

The provision of under-water lighting can be very attractive, and it can improve safety for the bathers. Under-water windows require an access corridor or similar for use by viewers, and should be installed between two under-water lights.

It is essential that recesses for the light fittings should be formed when the pool shell is being cast, and the same applies if the light fitting is installed in a watertight tube.

The lights should be installed at a depth of about 0.90 m below the water surface as this will prevent dazzle to swimmers and spectators. In deep pools, it may be desirable to install a second row of lights. The longitudinal distance between the lights is usually 2.0 m to 3.0 m. In diving pools, lights should only be installed in the side walls.

#### ❖ Shapes of under water lighting



Figure (7.11a): under water light with Niche



Figure (7.11b): Plastic under water light with Niche

**Figure (7.11): shapes of under water lights**

## 7.8 Life Saving

There are many accessories used to save the human life's such as :

1. lifebuoy holder



2. lifebelt holder post





### 7.8.1 Electronic security fences

Electronic security fences for residential swimming pools improve swimming pool safety using infrared beam without removing the need for vigilance by adults over small children. When somebody approaches in the vicinity of the swimming pool, the infrared beams set off an alarm. Its aesthetic design allows it to blend with the surroundings, compared to conventional fences.



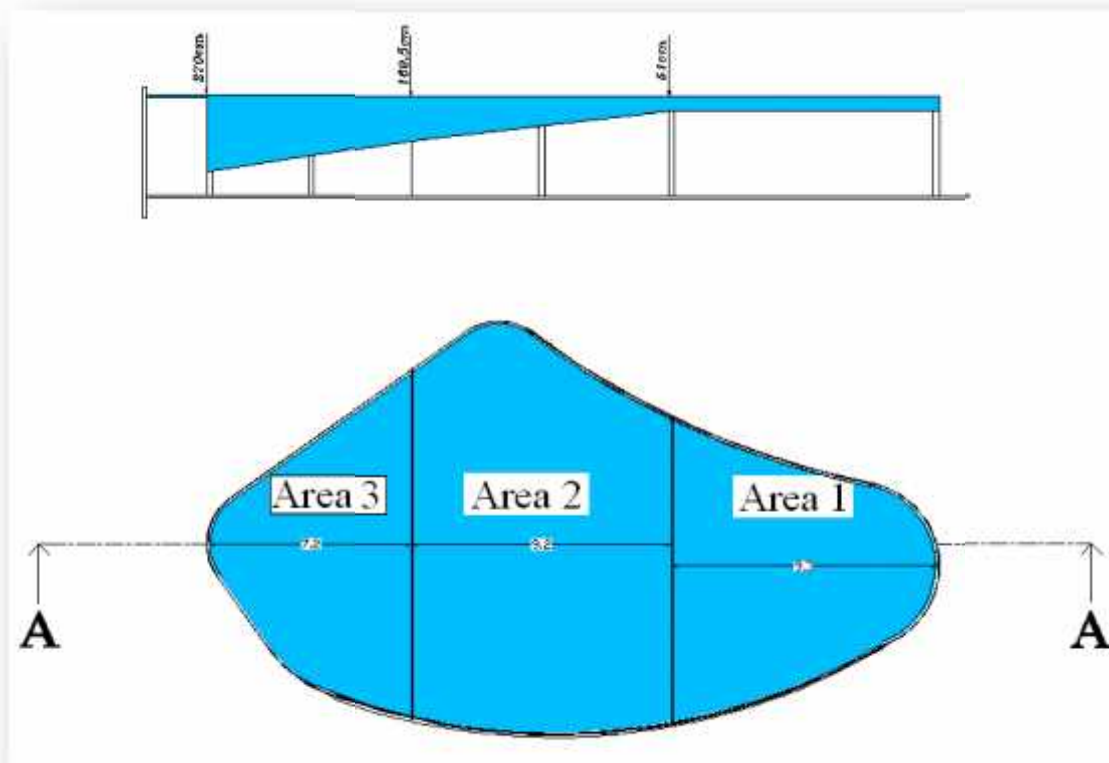
Figure (7.12): Electronic security fences

# CHAPTER

# 8

# DESIGN OF SWIMMING POOL

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## 8 Design of overflow swimming pool

### 8.1 Capacity of pool

The first step in pool design is the calculation of the volume of water in the pool.

$$\text{Volume of water} = \text{surface area of the pool} * \text{average depth}$$

$$\text{Average depth} = \frac{\text{max.dept} + \text{min.dept}}{2}$$

If the slope of the bottom not gradual as it in our project then we have to treat the pool as three parts , each with gradual bottom slope, and calculate the volume of each part and then add these volumes together to determine the total water volume of the pool.

The figure below shows the swimming pool plan

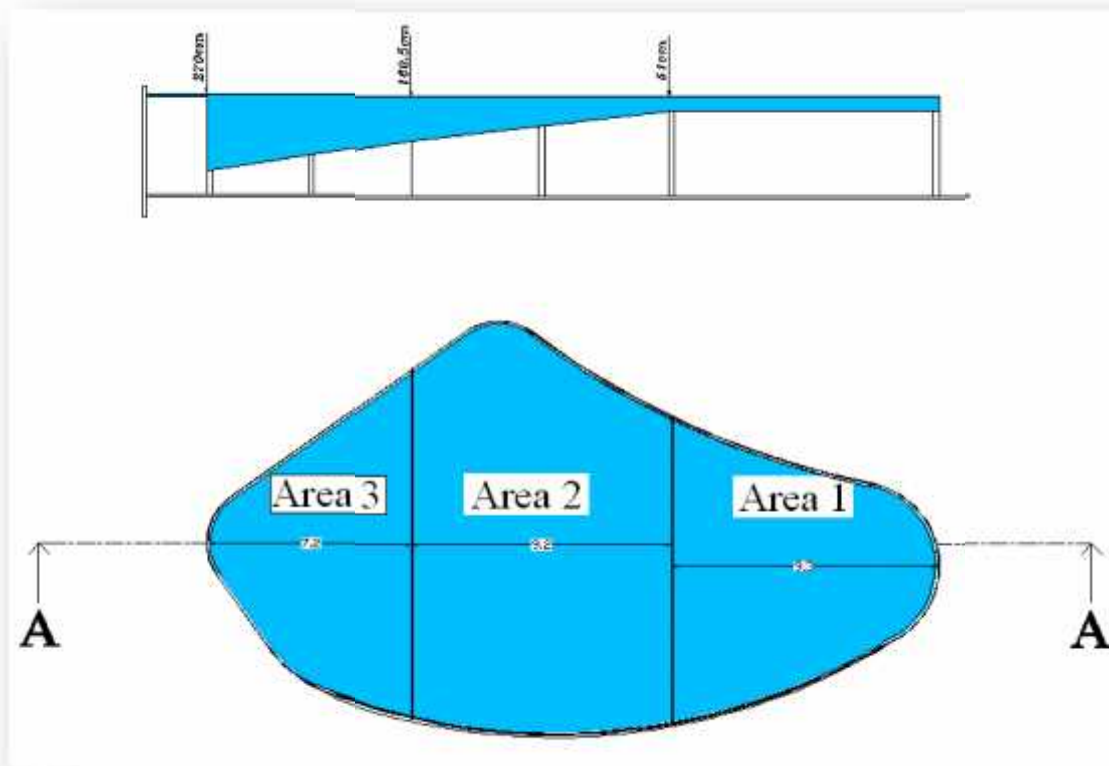


Figure (8:1): swimming pool plan

**Area 1** = 78.47 m<sup>2</sup> (by AutoCAD)

Min.depth = max.depth = 51 cm

**Area 2** = 106.92 m<sup>2</sup>

Average depth = max. depth + min. Depth / 2 = 270 + 51 / 2 = 160.5 cm

**Area 3** = 63.79 m<sup>2</sup>

Min.depth = max.depth = 270 cm

**Volume of water** = area \* depth

$$V = V1 + V2 + V3$$

$$V1 = 40.01 \text{ m}^3$$

$$V2 = 171.6 \text{ m}^3$$

$$V3 = 172.233 \text{ m}^3$$

$$V = 383.8 \text{ m}^3$$

## 8.2 Turnover

Turnover is the number of hours it takes the filter to pass one pools worth volume of water.

Basic turnover with filter at clean running pressure and full working head:

$$\textit{Turnover} = \frac{\textit{pool capacity} \textit{ m}^3}{\textit{filter rating} \textit{ m}^3/\textit{h}}$$

The turnover periods should always relate to the type of pool.

In our project turnover should be calculated on the largest volume possible at any given time.

The Palestinian National Community for swimming pools, requiring that the filter turnover cycle shall be of a capacity to filter the entire pool body completely in not more than 6 hours and 2 hours in kid pools.

By table (5.2) the turnover period for the hotel, diving is 5 hours, and 2 hours for the public, intensive use hotel leisure.

In our project we select 3.5 hours turnover for the following reasons:

- 1) The environmental air in our country is high polluted.
- 2) The number of bathers is more than recommended.

### 8.3 Filtration velocity

From Astral pool catalogue:

- The minimum filtration velocity  $20 \text{ m}^3/\text{hr}/\text{m}^2$  of filter surface area.
- The maximum filtration velocity  $40 \text{ m}^3/\text{hr}/\text{m}^2$  of filter surface area

By referring to manufactures catalogue there is a relationship between velocity of water inside the filter and filtration efficiency:

Table (8.1): filtration velocity

<b>Efficiency</b> (%)	<b>Filtration velocity</b> $\text{m}^3/\text{hr}/\text{m}^2$ of filter surface area
100	20
70	30
50	40

In this project we chose filtration velocity of  $25 \text{ m}^3/\text{hr}/\text{m}^2$  of filter surface area and 85% Efficiency to have crystal clean water with filter that is acceptable in size and price.

## **8.4 The balance tank**

The balance tank is provided as a reservoir for a volume of water extra to that of pool tank. The size of this tank must be able to hold water at least equal to that of the total displacement that could be caused should the maximum bathing load enter the pool all at one time (Base Capacity). In addition to that, waves caused by movement within the water mean it must also be able to contain an extra volume of water (surge capacity) and an additional margin for safety (safety capacity).

Balance tank volume formula may be calculated in many ways. The tank will also be designed to incorporate a non-return valve to prevent fall back of water to the pool.

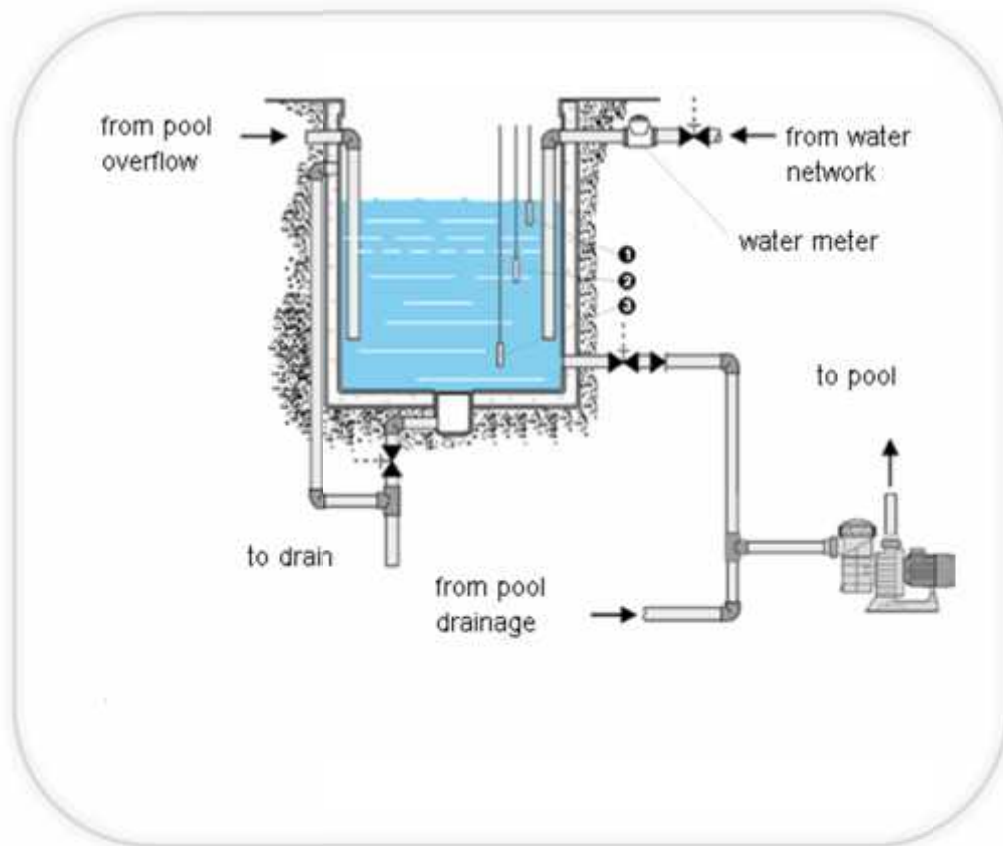


Figure (8:2): Balance tank diagram

Where:

The following information explains the numbers in figure:

1. Water level at A, the swimming pool pump stop and solenoid valve opened.
2. Water level at B, pump will start working.
3. Water level relaces C, the solenoid valve will close.



### 8.4.1 Balance tank volume

Volume = water surface area \* F

The sum of this calculation is only the base capacity which contributes to only 33% of the required volume.

F: may be taken from the following.

Table (8.2): Tank volume factor

Type of pool	F (litre)
Commercial pool with excessive activity	75 – 100
Commercial pool with play /water features	50 – 75
Commercial pool (swimming only)	25 – 50
Private pool	15 – 20

In this project:

Base capacity in balance tank = water surface area \* F

Water surface area = Area1+Area2+area3

$$= 249.18 \text{ m}^2$$

F: from table (8.2) for the commercial pool with play / water features (50-70) litre,

We select (62.5) litres (the average).

Base capacity in balance tank = 249.18 \* 62.5

$$= 15573.75 \text{ L} = 15.573 \text{ m}^3$$

B.T.C: Balance Tank Capacity.

B.T.C = base capacity (33.3%) + surge capacity (33.3%) + safety capacity (33.3%)

$$= 15.573 + 15.573 + 15.573$$

$$= 46.719 \text{ m}^3$$

The balance tank will be fitted with the following:

- Easy access inspection covers
- Safety overflow
- Level indicator
- Suction valve

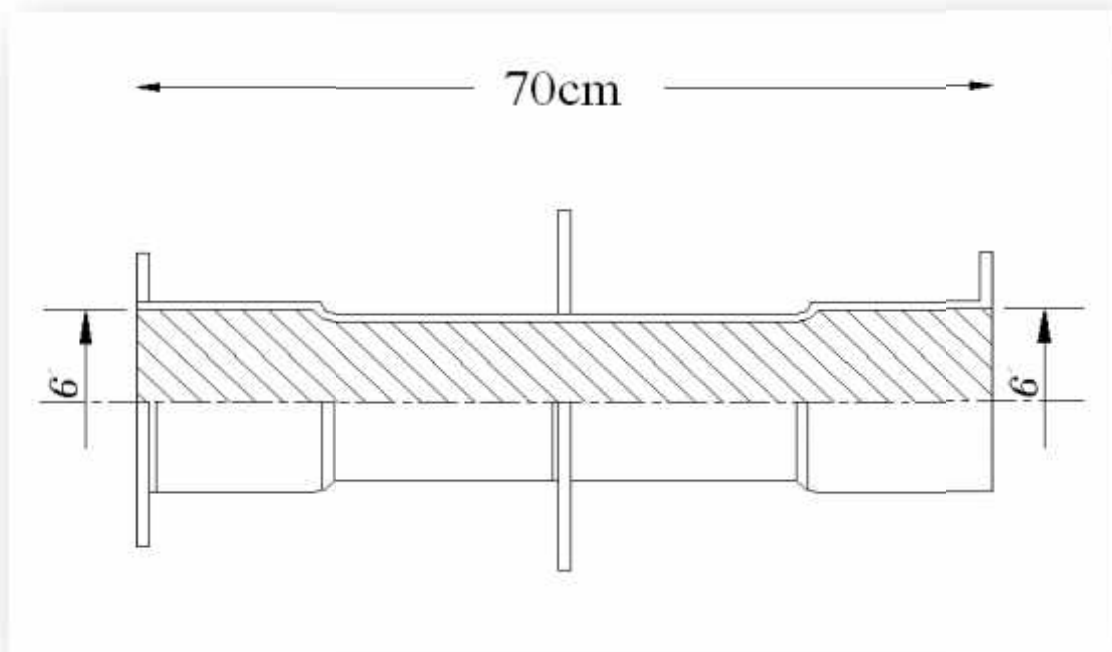


Figure (8:3): pipe from balance tank

## 8.4.2 Total capacity of water

$$\begin{aligned}\text{Total capacity of water} &= \text{pool capacity} + \text{base capacity in balance tank} \\ &= 383.8 + 15.573 \\ &= 399.373 \text{ m}^3\end{aligned}$$

## 8.5 Filter sizing and selection

### 8.5.1 Filtration rate

To calculate the filtration rate we use the following equation:

$$\text{turnover time (hr)} = \frac{\text{water capacity (m}^3\text{)}}{\text{filter rate (}\frac{\text{m}^3}{\text{hr}}\text{)}}$$

$$\text{filter rate } \frac{\text{m}^3}{\text{hr}} = \frac{\text{water capacity (m}^3\text{)}}{\text{turnover time (hr)}}$$

$$\text{Filter rate (m}^3\text{/hr)} = 399.373 / 3.5 = 114.10$$

$$\text{Filter rate (L/hr)} = 114.10 * 1000 / 3600 = 31.69 \text{ L/sec}$$

The chosen design filtration velocity = 25 m<sup>3</sup>/hr/m<sup>2</sup> of filter surface area.

$$\text{filter surface area} = \frac{\text{filtration rate}}{\text{filtration velocity}} = \frac{114.10}{25} = 4.56 \text{ m}^2$$

### 8.5.2 Pressure loss through filter

A clean filter usually creates 3-psi head loss (difference between the inlet and outlet pressure) as water is circulated downward through silica sand. As the dirt accumulates within the filter, the resistance to flow also increases, the filter pump cannot maintain the required rate of flow against the increased resistance (head).

Consequently, the filter requires regular cleaning, or Backwash to maintain its efficiency. Most filter manufacturers recommend that this backwashing should be done when the pressure gauge indicates an increase of  $0.5\text{kg/cm}^2$ , that equals (7.1psi) with respect to the initial pressure of the filter (clean filter). Therefore, the maximum head resistance of filter is:

$3\text{psi} + 7.1\text{ psi} = 10.1\text{ psi}$  (6.7m head loss), which should be used as the design pressure loss through filter.

Which should be used as the design pressure loss through filter.

### 8.5.3 Selection of the filter

- Filtration rate is  $114.10\text{ m}^3/\text{hr}$
- Filtration velocity is  $25\text{ m}^3/\text{hr}/\text{m}^2$  of filter surface area

From Astral pool catalogue, we selection the filter for the following specifications:-

- ❖ Filter name: Atena model (bobbin Wound filter)
- ❖ Filtration surface area:  $2.54\text{ m}^2$
- ❖ Filter diameter: 1800 mm

- ❖ Filter flow rate = velocity of filtration \* filter surface area
  - = 25 \* 2.54
  - = 63.5 m<sup>3</sup>/hr
- ❖ Volume : 3400 L
- ❖ Sand: (0.4 – 0.8) mm, 3100 kg
- ❖ Gravel: (1.0 – 2.0) mm, 750 kg
- ❖ Weight: 270 kg
- ❖ Total weight in operation: 5100 kg

$$\text{number of filter} = \frac{\text{total flow rate}}{\text{flow rate for one filter}} = \frac{114.1}{63.5} = 1.80$$

The number of filters is two

## 8.6 Drains sizing and selection

### 8.6.1 Main drains selection

Total filtration rate = flow rate from main drains + flow rate from balance tank.

The best way is to take 20% of the total filtration rate from main drains and 80% flow rate from balance tank.

- Flow rate from main drains = 20% of the total filtration rate  

$$= 0.20 * 114.10$$

$$= 22.80 \text{ m}^3/\text{hr}$$

From Astral pool catalogue we choose the concrete pool main drains of code No. 00273, and the following specifications are:

- Main drains name: concrete pools – main drains, square main drains with grille, outlet of 2 ".
- Recommended flow rate: 13m<sup>3</sup>/hr
- Side connection: 2"

$$\text{number of main drains} = \frac{\text{flow rate of main drains}}{\text{flow rate for each main drain}}$$

$$= \frac{22.80}{13} = 1.75$$

We select two main drains to:

- Reduce the main drains grill velocity lower than 0.5 m/sec.
- Avoid extra suction through main drains if one is blocked.
- Reduce suction head to a minimum which enhance pump efficiency.

### 8.6.2 Main drains distribution

The minimum distance between drains is more than 2m, (Astral pool catalogue).

We chose to install two main drains in the deepest region of the pool and the distance between main drains is two meters and so between main drains and walls.

### 8.6.3 Drains of over flow gutter selection

From Palestinian National Community

- Minimum depth of overflow gutter is 7.5cm and the slope is 2% to overflow drains.
- Maximum distance between drains of overflow gutter is 4.5m and its diameter is 2 in.
- Minimum distance between drains of overflow gutter is 0.5m.
  
- ❖ The perimeter of pool in our project is 62.94 (AutoCAD Application)
- ❖ Flow from overflow gutter = 80% of filtration rate
$$= 0.80 * 114.10$$
$$= 91.2 \text{ m}^3/\text{hr}$$

From Astral catalogue, we select the overflow channel drainage point, body and grill in ABC, screws in S.S. to be glued to external 63mm, and the following specifications:

- Code: 00302
- Standard packing: 12
- Standard weight: 3.1 kg
- Standard volume: 0.016 m<sup>3</sup>
- Maximum advisable flow rate: 7 m<sup>3</sup>/ hr

To determine the number of over flow channel drainage we selected the flow rate of each overflow drains is half of the maximum advisable flow rate for more safety.

Flow rate for each overflow drain = 50% \* 7 = 3.5 m<sup>3</sup>/hr

$$\text{number of overflow drains} = \frac{\text{total flow rate}}{3.5} = \frac{91.2}{3.5} = 26.05$$

Then the number is = 26

$$\text{distance between overflow drain} = \frac{\text{perimeter}}{\text{number of overflow drains}} = \frac{62.9}{26} = 2.4$$

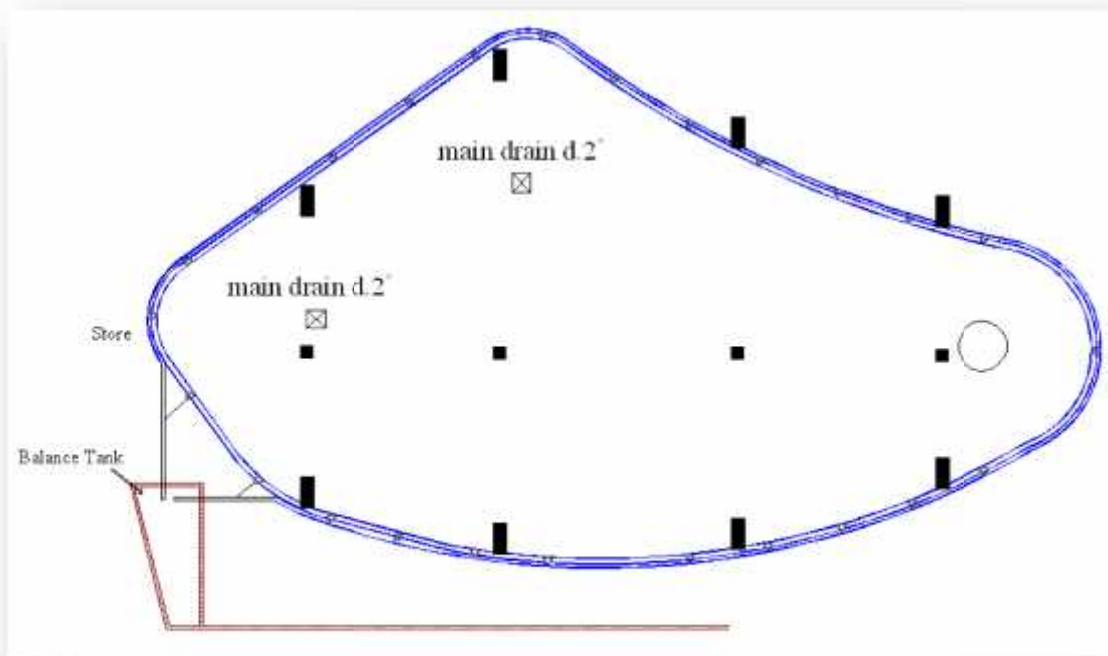


Figure (8:4): main drains and overflow distribution



### Dimensions of overflow channel:-

1. Length = perimeter = 62.9 m
2. Width = 25 cm
3. Depth = 20 cm

### 8.7 Return inlets selection

Flow rate of all floor inlets = filtration rate = 114.10 m<sup>3</sup>/hr

From Astral pool catalogue, we choose the ABC inlets (with 63mm) and maximum flow rate 9.5 m<sup>3</sup>/hr; we select 9 m<sup>3</sup>/hr for design and dosing.

$$\begin{aligned} \text{number of floor inlets} &= \frac{\text{total of floor inlets}}{\text{flow rate for one inlet}} = \frac{114.10}{9} \\ &= 12.6 \end{aligned}$$

The number of floor inlets is 13

Specification of each floor inlet:

- 2" external thread
- 63mm
- Standard volume:0.021 m<sup>3</sup>

Distance between floor inlets is 3m in all directions

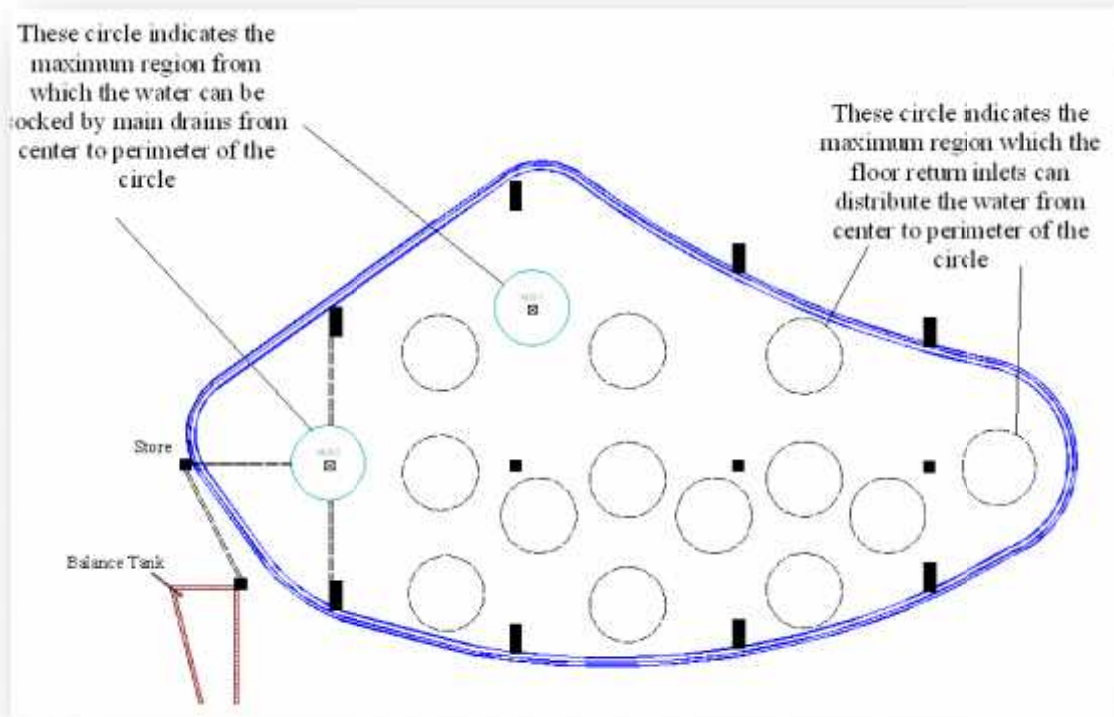


Figure (8:5): Return inlet distribution

## 8.8 Pool pipes system

1. The main suction line plays a critical part in the wear and efficiency of the pump. This pipeline should be short, straight and full-pored, allowing a water flow of between (0.5-1 m/sec), which equals (1.6-3.3 ft/sec) with maximum friction losses 6ft/100ft.
2. All piping on the discharge side of the pump for filtration shall have pipe size determined so that the velocity in any pipe should be between (1.0-3.0 m/sec ) Which equals (3.3-10.0 ft/sec) with maximum friction losses 12ft/100ft.

3. Pump is weakest at suction side. Therefore; ensure shortest possible suction runs.
4. All discharge and suction lines shall have a uniform slope in one direction of not less than 3in/100ft.

### 8.8.1 Discharge lines pipe sizing

The discharge line from the pump to the various return inlets is shown in the schematic diagram. In this diagram, the required flow rate for each part of the discharge line is shown.

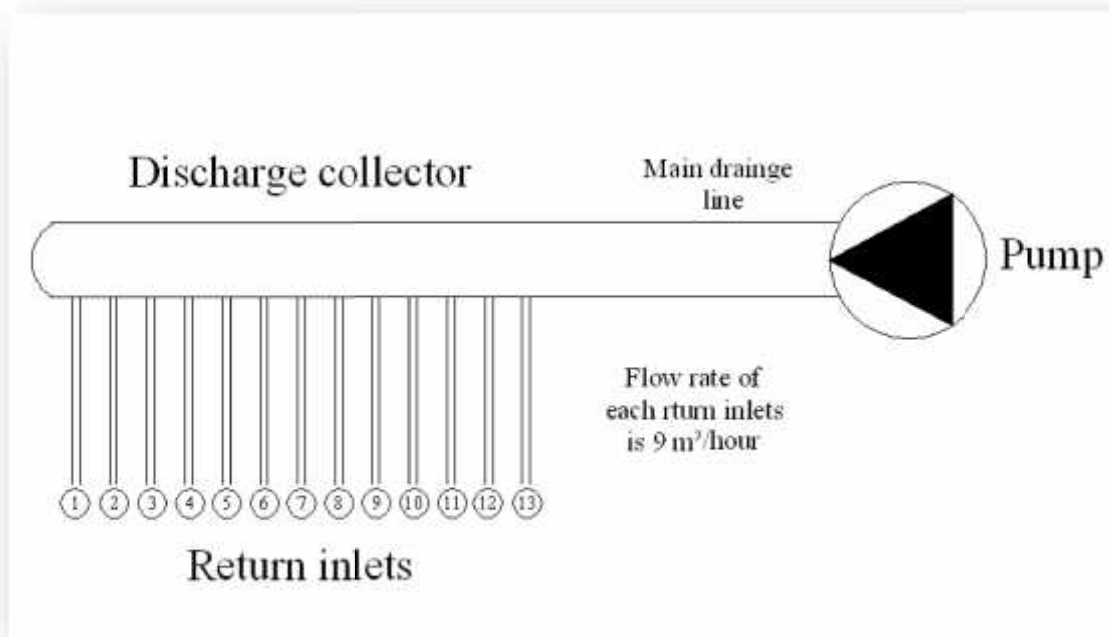


Figure (8:6): schematic diagram for discharge line

### **Main discharge lines and collector**

- Flow rate =  $114.10 \text{ m}^3/\text{hr} = 502.6 \text{ gpm}$
- Maximum velocity acceptable =  $10 \text{ ft/sec}$
- Maximum friction loss =  $12 \text{ ft}/100 \text{ ft}$
- Length =  $16.30$  (from Auto CAD drawing by measurement)

From PVC tables in Appendix A, we find:

- Friction head =  $1.5 \text{ ft}/100 \text{ ft}$
- Velocity =  $5.6 \text{ ft/sec}$
- Diameter =  $6 \text{ in}$

### **Return inlets information**

(From PVC pipes tables in Appendix A)

Table (8:3): Return inlets information for overflow pool

No	Flow rate (m <sup>3</sup> /hr)	Flow rate (gpm)	Diameter (mm)	Friction head (ft/100ft)	Velocity (ft/sec)
1	9	39.6	50	2.8	3.9
2	9	39.6	50	2.8	3.9
3	9	39.6	50	2.8	3.9
4	9	39.6	50	2.8	3.9
5	9	39.6	50	2.8	3.9
6	9	39.6	50	2.8	3.9
7	9	39.6	50	2.8	3.9
8	9	39.6	50	2.8	3.9
9	9	39.6	50	2.8	3.9
10	9	39.6	50	2.8	3.9
11	9	39.6	50	2.8	3.9
12	9	39.6	50	2.8	3.9
13	9	39.6	50	2.8	3.9

### **Pressure drops in the discharge lines**

To calculate the total pressure drop in the discharge line, we have to calculate the total equivalent length of the pipes, which is the pipe length, and the equivalent length of the fittings.

Total equivalent length = pipe length \* 2

#### **Note:**

- 1 m pipe length = 3.28 ft

- The pipe diameter from the discharge line to each return inlet is (50 mm), because the selected return inlets connections equal (50 mm).

The total friction head from discharge line is

$$\begin{aligned}
 &= (\text{total equivalent length of each pipe (ft)} * \text{friction head for each (ft/100ft)}) \\
 &= (16.30 \text{ m}) * 2 * (3.28 \text{ ft/m}) * (1.5 \text{ ft/100ft}) + (30.32 \text{ m}) * 2 * (3.28 \text{ ft/m}) * (2.8 \text{ ft/100ft}) \\
 &= 7.17 \text{ ft} = (7.17 / 3.28) \text{ m} = 2.18 \text{ m}
 \end{aligned}$$

### 8.8.2 Suction line

The suction line from balance tank and main drains to the pump is shown in the schematic diagram.

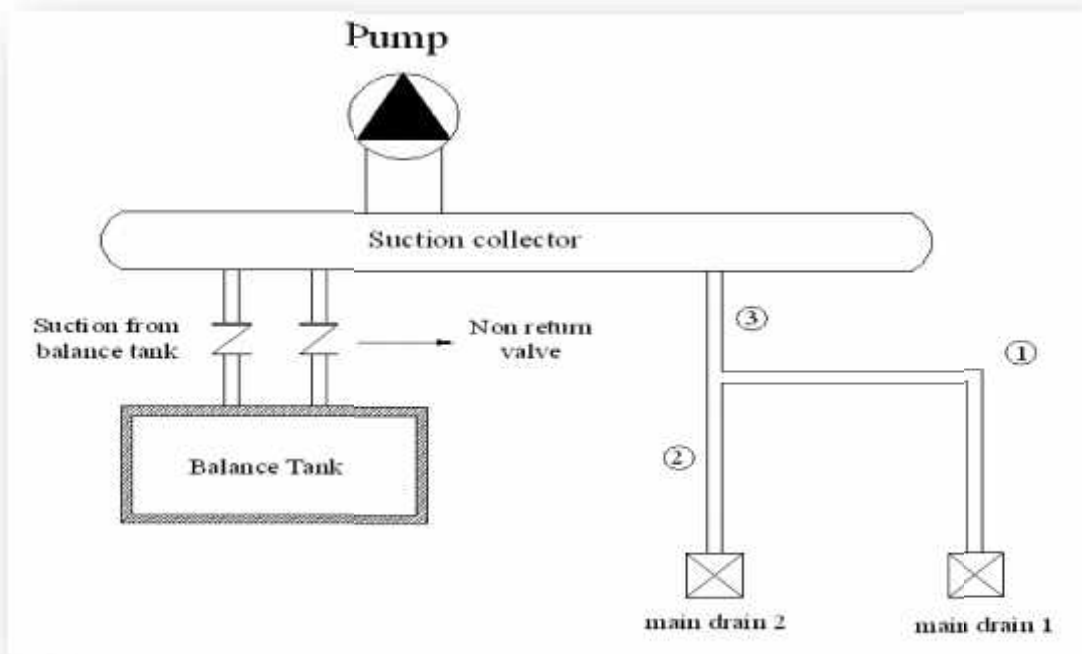


Figure (8:7): schematic diagram for suction line

### **Information for main drains pipes**

- Maximum velocity acceptable = 3.3 ft/sec
- Maximum friction loss = 6 ft/100ft

From PVC tables in Appendix A

<b>Pipe NO</b>	<b>Flow rate (m<sup>3</sup>/hr)</b>	<b>Flow rate (gpm)</b>	<b>Length (m)</b>
1	13	57.5	17.04
2	13	57.5	4.45
3	26	114.4	6.10

Where: the length from AutoCAD drawing by measurement.

By interpolation we find:

<b>Pipe NO</b>	<b>Diameter (in)</b>	<b>Friction head (ft/100ft)</b>	<b>Velocity (ft/sec)</b>
1	2	5.8	5.9
2	2	5.8	5.9
3	4	0.73	2.95

### **Information for pipe from balance tank**

- Maximum velocity acceptable = 3.3 ft/sec
- Maximum friction loss = 6 ft/100ft
- Total flow rate required from balance tank = 91.2 m<sup>3</sup>/hr = 401.8 gpm

From stainless steel pipes tables Appendix A:

At flow rate 401.8 gpm, diameter 5", the velocity is more than 3.3 ft/sec.

To decrease the velocity we divided the flow rate into two parts, each part is 200.9 gpm.

Then at 200.9 gpm and diameter 6"

Velocity = 2.3 ft/sec

Friction head = 0.3 ft/100ft

These values in the range acceptable

Where: the length of each pipe is 1.30 m (from AutoCAD drawing)

### **Suction collector information**

- Maximum velocity acceptable = 3.3 ft/sec
- Maximum friction loss = 6 ft/100ft
- Flow rate =  $114.10 \text{ m}^3/\text{hr} = 502.6 \text{ gpm}$
- Length = 2.0 m (from AutoCAD drawing)

From PVC tables in Appendix A, at 8" diameter we find:

- Velocity = 2.9 ft/sec
- Friction head = 0.3 ft/100ft
- Diameter = 8 in

### **Pressure drop in the suction line**

The total friction head from suction equals =

$$\begin{aligned} &= (\text{total equivalent length of each pipe (ft)} * \text{friction head for each (ft/100ft)}) \\ &= (17.04 \text{ m}) * 2 * (3.28 \text{ ft/m}) * (5.8 \text{ ft/100ft}) + (4.45 \text{ m}) * 2 * (3.28 \text{ ft/m}) * (5.8 \text{ ft/100ft}) \\ &+ (6.10 \text{ m}) * 2 * (3.28 \text{ m/ft}) * (0.73 \text{ ft/100ft}) + ((1.30 \text{ m}) * 2 * (3.28 \text{ ft/m}) * (0.3 \text{ ft/100ft})) * 2 \\ &+ (2.0 \text{ m}) * 2 * (3.28 \text{ m/ft}) * (0.32 \text{ ft/100ft}) \\ &= 8.55 \text{ ft} \\ &= (8.55 \text{ ft}) / (3.28 \text{ ft/m}) \\ &= 2.6 \text{ m} \end{aligned}$$



### Pipe lines from drains of gutter to balance tank

There are two lines with slope 2% (1/4 in/ft).

$$\begin{aligned} \text{velocity of water flow} &= \frac{\text{circulation rate } \left(\frac{\text{m}^3}{\text{hr}}\right)}{\text{free open area of grill } \text{m}^2 * 3600} \\ &= 114.10 / 0.25 \text{ m} * 0.2 \text{ m} * 3600 \\ &= 0.63 \text{ m/s} \end{aligned}$$

To determine the diameter we apply the continuity equation:

$$Q = A * V \quad \text{then } A = \frac{Q}{V}$$

Where:

- Q : flow rate of water in pipe
- A: cross section area of pipe  $\left(\frac{\pi D^2}{4}\right)$
- V: velocity of water flow

$$A = \frac{Q}{V} \quad \text{then} \quad \frac{\pi D^2}{4} = \frac{Q}{0.63 * 3600}$$

$$D^2 = \frac{4}{\pi} * \frac{1}{0.63 * 3600} * Q$$

$$D = 0.0225 \sqrt{Q} \quad (\text{diameter in meter})$$

$$D = 22.5 \sqrt{Q} \quad (\text{diameter in millimeter})$$

The figure below explains the pipe from gutter channel to balance tank.

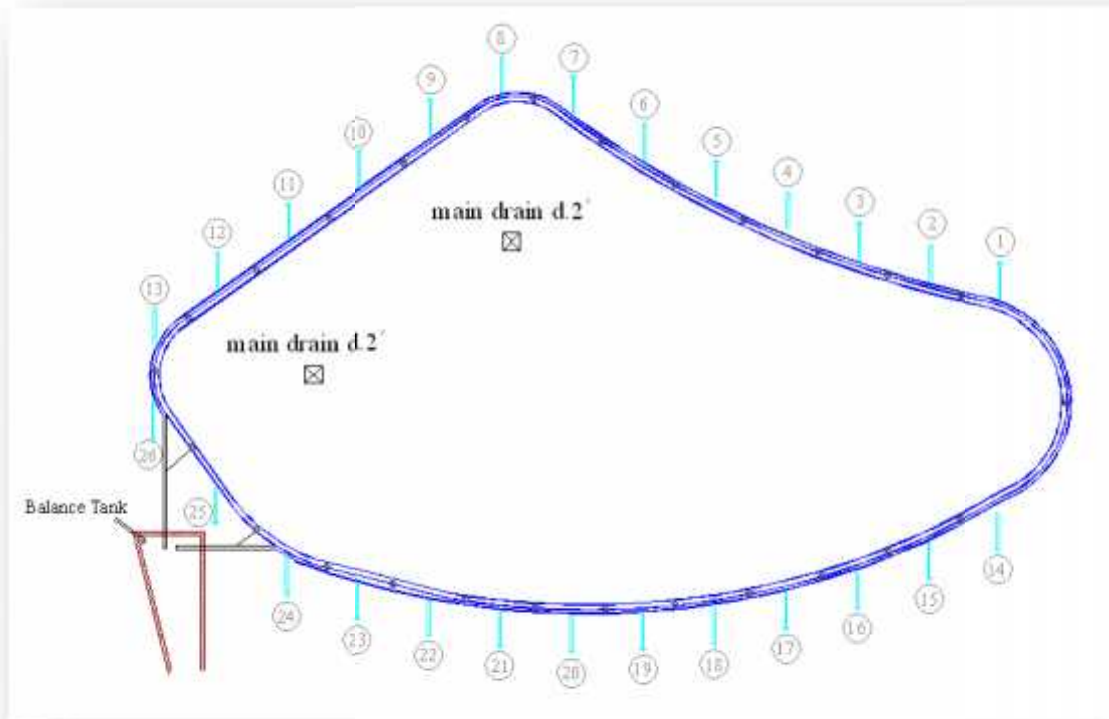


Figure (8:8): Gutter pipes

**Calculation diameter for pipe No 1:**

- Flow rate of pipe No 1 = 3.5 m<sup>3</sup>/hr
- $D = 22.5 \sqrt{3.5} = 42 \text{ mm}$
- Design diameter is 63 mm = 2 in

The table below explains the diameter in each pipe.

Table (8:4): Diameter of gutter pipes

pipe	Flow rate	Calculated diameter (mm)	Design diameter (mm)	Design diameter (in)
1	3.5	42	63	2
2	7	59.5	63	2
3	10.5	72.9	75	2 ½
4	14	84	90	3
5	17.5	94	110	4
6	21	103	110	4
7	24.5	111.4	125	5
8	28	119	125	5
9	31.5	126.3	140	6
10	35	133.1	140	6
11	38.5	139.6	140	6
12	42	145.8	160	7
13	45.5	151.7	160	7
14	3.5	42	63	2
15	7	59.5	63	2
16	10.5	72.9	75	2 ½
17	14	84	90	3
18	17.5	94	110	4
19	21	103	110	4
20	24.5	111.4	125	5
21	28	119	125	5
22	31.5	126.3	140	6
23	35	133.1	140	6
24	38.5	139.6	140	6

25	42	145.8	160	7
26	45.5	151.7	160	7

## 8.9 Pump Selection

The pump is the heart of swimming pool .It must operate economically and reliably, reasonably quietly and be compact. The pool filter pumps are centrifugal type, powered by a close-coupled electric motor; they usually include an integral strainer basket before the impeller and volute. Most pool pumps are self-priming; they still best suited just below water level with a direct flooded suction line rising evenly and slowly to the pump. Most self priming pumps can extract air from the circulation system even with suction line full of air, providing there is some water in the pump chamber to lubricate the pump seal.

The recirculation pump shall be selected to meet the conditions of flow rate required for filtering and cleaning the filters with the total dynamic head developed by the recirculation system (The recirculation system includes all the pipes, fittings and equipment concerned with filtering, heating and disinfecting the pool water). Head is the resistance of water flow through plumbing and equipment created by friction, resistance, distance or lift expressed in meters.

Figure below shows typical performance curves for pool pump. Therefore, to select the suitable pump, total pump head and flow rate are to be determined.

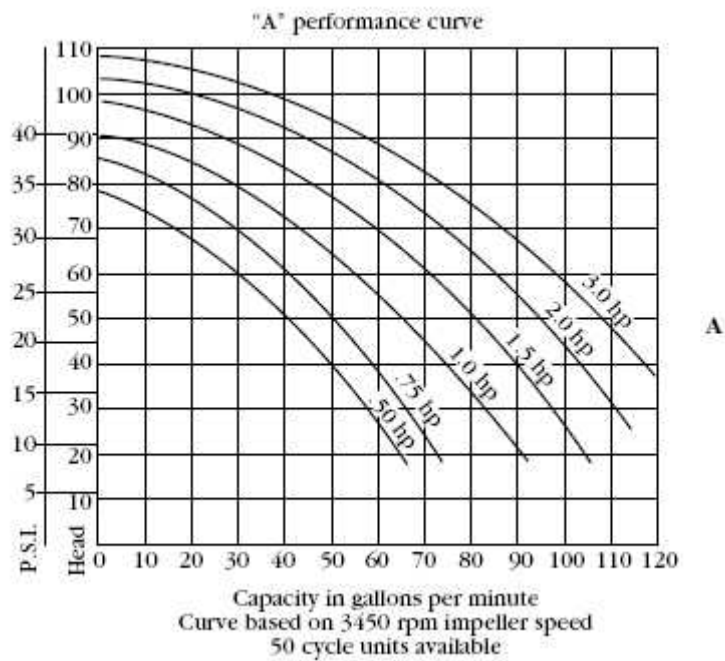


Figure (8:9): Typical performance curves for pool pump.

### 8.9.1 Pump head selection

The total pump head = static head + dynamic head

Where:-

- Static head equals zero, because the pump suction and velocity below water surface and according to Bernoulli's equation the static head will be zero.
- Dynamic head

It is the friction resistance of water flowing through suction lines, discharge lines, valves and equipment but mainly from within the filter.

The friction head calculations include:

- Friction head losses in piping (both suction and discharge piping), fittings and valves.
- Friction head losses within filter.
- Friction head losses through main drains and return inlets.

Where:

- ❖ Friction head in pipes = friction head loss in suction line + friction head loss in discharge line

$$= 2.6 + 2.18 = 4.78$$

- ❖ Friction head in filter = 6.7 m
- ❖ Friction head through main drains, skimmer and return inlets, should be taken from manufacture specification for each one. However; general rule of thumb is to add 1.5 m of head to allow for the total of such component of the system.

Total head = friction head in suction line + friction head in discharge line + friction head in filters + friction head in main drains, skimmer and return inlets

$$= 4.78 + 6.7 + 1.5 = 12.98 \text{ m}$$

### **Pump selection**

Required specification of the pump is:

- Total head = 12.98 m
- Flow rate = 114.10 m<sup>3</sup>/hr

From Astral catalogue, the flow rate is very high, then divided the flow rate into two pump.

$$\text{Flow rate for one pump} = 114.10 / 2 = 57 \text{ m}^3/\text{hr}$$

$$\text{Total head for one pump} = 16 \text{ m}$$

We select three pumps, two for working and other standby working.

Specification for each pump:

- ❖ Pump Name: cast iron 1450 rpm
- ❖ Code: 01211
- ❖ Power: 4 KW (5.5 HP)
- ❖ Flow rate: 58 m<sup>3</sup>/hr at 16 m head
- ❖ Connection: suction Ø90 mm, discharge Ø75 mm

## 8.10 Chlorine tank and treatment pool systems

- **Chlorine tank**

From Astral catalogue, we select the following compact dosage tank:

- ❖ Code: 16632
- ❖ Standard packing: 1
- ❖ Standard weight: 18
- ❖ Standard volume: 0.185
  - Compact dosage tank 60 L
- ❖ Triclor (for pool from 500 to 1000 m<sup>3</sup>)
- ❖ Bromine (for pool from 300 to 450 m<sup>3</sup>)



Figure (8:10): chlorine tank

➤ **Treatment pool systems**

There are two treatment systems used in regulation the pool water: Manual and Automatic treatment.

In our project we selected the automatic regulation treatment because the pool is public and located in a hotel.

The figure below explains the connection of automatic regulation system



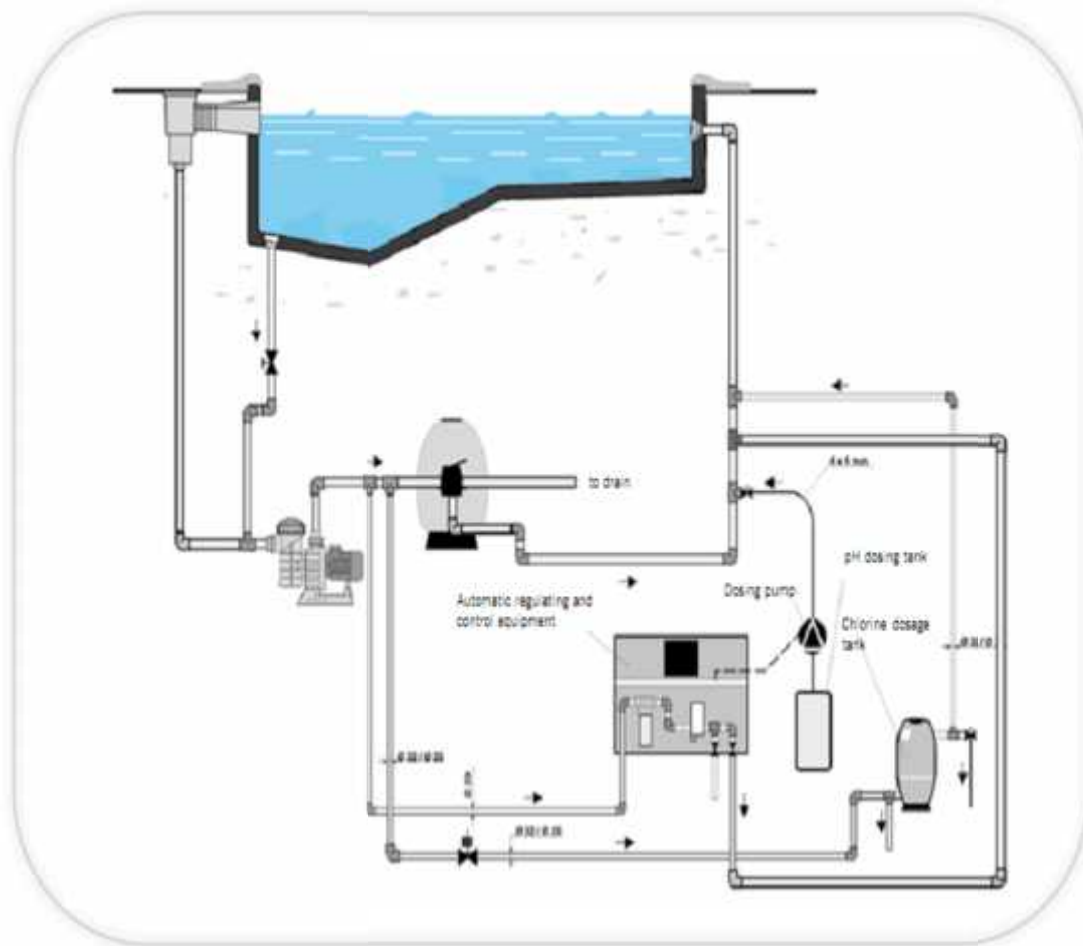


Figure (8:11): Automatic regulation connection for overflow pool

## 8.11 Pool lighting

Submerged light is the main light in the pool, where the power of lamps chosen should be 300 watt per meter square of the pool surface area.

From Astral catalogue, we select lamp with power 300 watt for half deep pool.

$$\begin{aligned} \text{number of lights} &= \frac{\text{pool surface area}}{25} = \frac{249.18}{25} = 9.96 \\ &= 10 \end{aligned}$$

Then the number is 10

$$\begin{aligned} \text{distance between lights} &= \frac{\text{perimeter}}{\text{number of lights}} = \frac{62.94}{10} \\ &= 6.29 \text{ m} \end{aligned}$$

## 8.12 Pool ladders

From Palestine National Community, each 25 m of perimeter of pool we need one ladder.

In our project:

Swimming pool perimeter = 62.94 m

$$\begin{aligned} \text{number of ladders} &= \frac{\text{pool perimeter}}{25} = \frac{62.94}{25} \\ &= 2.51 \end{aligned}$$

Then we need 3 ladders

$$\begin{aligned} \text{distance between ladders} &= \frac{\text{pool perimeter}}{\text{number of ladders}} = \frac{62.94}{3} \\ &= 20.9 \text{ m} \end{aligned}$$

From Astral catalogue, we select ladders with the following specifications.

- ❖ Ladder width 500 mm
- ❖ Handrail in hand polished stainless steel
- ❖ Steps in stainless steel or plastic
- ❖ Complete with fixing anchors and earth connection

# PREFABRICATED POOLS AND ACCESSORIES

- 3 • Skypool Commercial Pools
- 9 • Skypool Residential Pools





## SKYPOOL COMMERCIAL POOLS

**A versatile public pool...**

**Skypool Commercial Pools** is the range of prefabricated panel pools developed by **AstralPool** for public pools. **Skypool Commercial Pools** is composed of a hot galvanised steel structure that facilitates the construction of all sizes of above or inground pools in a very short period of time.

The method used by AstralPool in order to protect the materials used from rust is hot galvanisation. This is an innovative process which is being applied for the first time to 2-mm thick steel sheets, and consists of immersing the steel in molten zinc baths at approximately 450° C.

**Skypool Commercial Pools** can be adapted to all public pool requirements with tailor made technical solutions. Movable floors and booms are available; panels and overflow gutter can be individually adjusted to absorb possible construction deficiencies in the slab or paving.

This, combined with a variety of accessories, allow a more generalised use of the pool.

A broad range of models and variations of **Skypool Commercial Pools** enable total adaptation to any existing infrastructures such as stadiums, sports halls and other venues for any type of regional, national or international event. Fixed models can also be created to increase pool facilities available such as spa installations, hotels, water parks, etc.

## Skypool Commercial Pools, high-performance pool

### Quick assembly

Reduced assembly time thanks to easy-to-assemble fully prefabricated components.

### Extremely long-lasting

Manufactured for maximum quality, functionality and durability.

### Excellent reliability

Totally safe construction system using the best components.

### The best investment

No complex infrastructure required for a fully equipped pool at low cost



## FIXED MODEL

### Fixed Skypool Commercial Pools

A multi-purpose pool anchored to the previously installed concrete slab with chemical anchors, can be adapted to the needs of any installation.

Depending on to your needs, you may choose between an above ground or an in-ground pool. The selection of one option or the other does not need modifications to either the assembly method or the design of the panels or anchoring system. All procedures and materials are fully compatible for both alternatives.

The size and the amount of chemical plugs will depend on the type of pool.

## Fixed Skypool Commercial Pools,

a multi-purpose pool fixed to the ground



### Yeroskipou (Paphos-Chipre)

AstralPool together with our local partner Capershill Ltd., have managed to produce, install and finish an olympic size swimming pool (50x25x2m), within record time.

The President of Cyprus, Mr.Tassos Papadopoulos, attended the installations inauguration with many government officials, which took place on July 30th, 2004.

Materials supplied by Astral for this project:

- Hot-dip galvanised steel panels
- PVC Liner
- Ceramic tiles
- Filters: 8 bobbin wound filters Ø 2000 mm
- Ozone contact chamber
- All accessories: Overflow grating, starting blocks, false start posts, backstroke posts, float lines + rollers, S.S. underwater lights (28), fittings.



### Skyline Skypool (Manchester - UK)

Cheshire Spas and Pools have installed UK's first fixed Skypool. This time, the pool, from Astral UK, is on the 18th floor of a prestigious new residential complex in Manchester and is thought to be the highest pool in Europe. The pool, which will serve residents of the 248 apartments, will be part of a complete leisure center gym, sauna and steam baths.

Materials supplied by Astral for this project:

- Hot-dip galvanised steel panels
- 2 bobbin wound filters Ø 1200 mm
- 9 LED underwater lights
- 2 ladders for overflow pools
- 2 Maxim pumps
- Pool surround equipment



**SUSPENDED MODEL**

**Suspended Skypool Commercial Pools**

Panels are mounted onto structures which are joined via a longitudinal beam. In order to be able to withstand water pressure, opposing blocks are connected via steel cables which run length and breadth-wise across the pool floor.

In order to fully conceal the cables, a raised floor is installed. The final result is a perfectly level and consistent slab onto which the liner can be fitted. As the water fills the shell of the pool, the steel cables become tighter, counteracting the pressure exerted by the water mass on the pool structure.

**Suspended Skypool Commercial Pools, an adaptable and temporary pool**



**Melbourne**

**A technological milestone:**

The pool for the Championships had to fulfil special FINA requirements and face many challenges. The main ones where to fit a 3m, deep olympic size suspended pool onto the famous floor of the Rod Laver Arena, home to the tennis Australian Open. All of it had to be done in a short period of time and of course without damaging the court.

Thanks to the Skypool technology, AstralPool could provide a solution to these requirements. In only four weeks, 350 galvanised steel panels were installed over a floating structure, which supported a pressure of 4500 kg per square metre, more than double of a conventional pool. After finishing the Championships in just two weeks, both the competition pool and the warm-up pool (25 x 50 x 2 m) were dismantled. Both swimming pools will be permanently installed by the government of Victoria as part of its legacy programme.

The technique applied in Melbourne was used for the first time by Aquaria when installing the pool at the Palau Sant Jordi in Barcelona for the 2003 World Championships and later FINA once again placed their trust in the company to construct the main pool for the 2006 Shanghai World Championships.

**Key figures:**

- Dimensions: 50 x 25 m with a 3 m depth
- Capacity: 3750 m<sup>3</sup>
- Filling time: 30 hours
- Assembly time: 4 weeks
- Dismantling time: 2 weeks
- Rod Laver spectators: 12,000

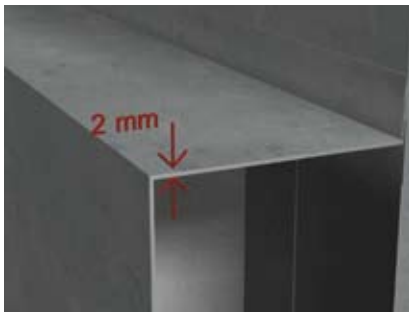




## THE PANEL SET ELEMENTS

The panel set is composed of a series of elements that form the basic assembly unit. Each set is essentially made up of a panel, overflow channel and reinforcing brackets.

The panel, pool wall



Overflow channel



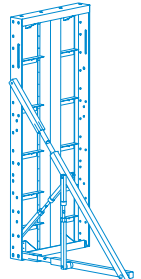
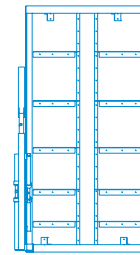
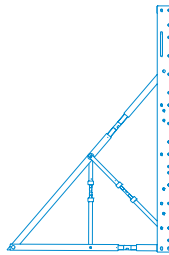
Supporting brackets



## EGO Panels



Besides straight panels, we also offer **curved models (EGO panels)** which allow free form pools of all sizes to be easily constructed.



## Skypool Commercial Pools panel sets

### Several depths to choose from:

- 0.80 m high panel, for children's pools.
- 1.20 m high panel, for leisure pools.
- 1.40 m high panel, for leisure pools.
- 1.60 m high panel, for leisure pools.
- 1.80 m high panel, for swimming pools.
- 2.00 m high panel, for Water polo pools.

### Several widths to choose from:

- 0.50 m wide panel for 12.5 m wide pools.
- 0.80 m wide panel for 16.6 m wide pools.
- 1.00 m wide panel.

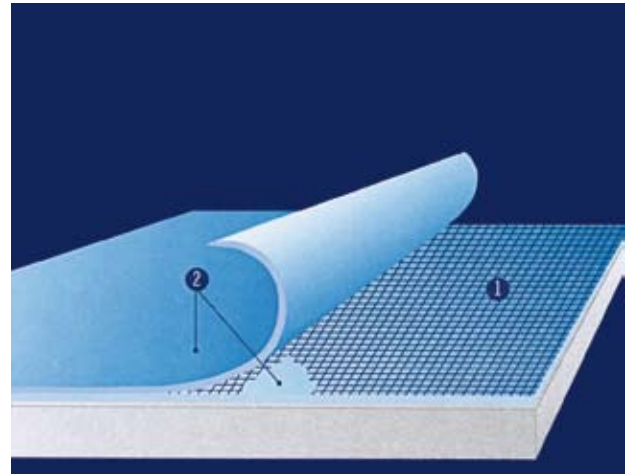
The width of panels can be custom designed, depending on the needs of the pool design, up to 1 m wide.

### Possible combinations:

- Synchronised swimming pools 3.00 m deep composed of a 1.80 panel + a 0.40 m inverted swimmer's step and a 0.80 m panel.
- Diving pools 5.00 m deep composed of a 2.00 m panel + a 1.80 panel + a 0.40 m inverted swimmer's step and a 0.80 m panel.

**LINER**

The best solution for pool watertightness. Manufactured in 150/100 reinforced PVC-P, this material is the most used for lining pools thanks to enhanced malleability, resistance to tearing, ease of welding, resistance to colour fading and with a wide range of available colours.



- 1 Inner layer made of fiberglass.
- 2 Highly resistant PVC.

**Placing of the liner**

In **Skypool Commercial Pools**, the liner is installed by welding several rolls together until the entire surface of the basin is fully watertight. The liner is laid from the external part of the overflow to prevent the panel surface coming into contact with water. This prevents any leakage due to possible structural movements, insufficient tightening or an inadequate gasket arrangement.

Pool shell accessories feature a sealing system with gaskets to prevent any leakage.

**Return and suction inlets**

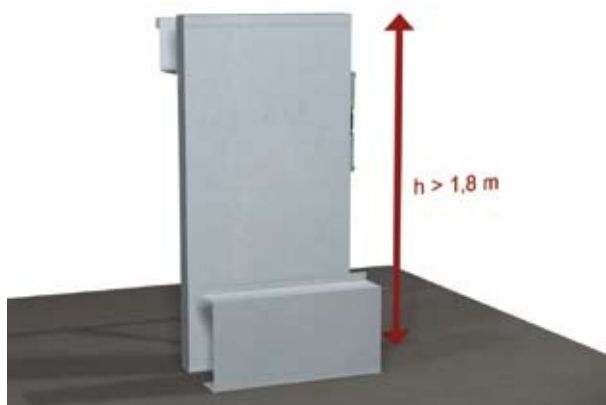
A side or bottom return system for filtered water can be installed in all models and designs of **Skypool Commercial Pools**.

We recommend bottom return. This system ensures the perfect homogenisation of physical and chemical water parameters, since the return inlets are evenly distributed.

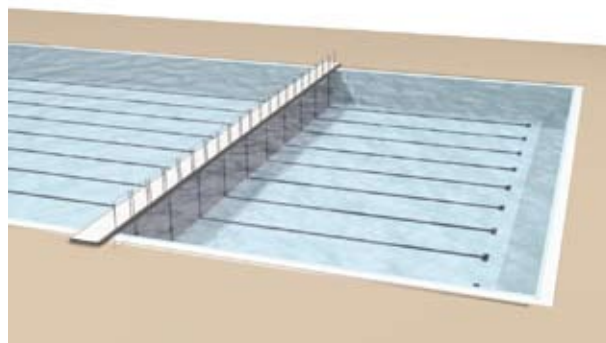
The usage of automatic equipment for monitoring and controlling chemicals in the water requires installing a prefabricated pool suction nozzle. The nozzle designed for **Skypool Commercial Pools** is manufactured entirely of ABS and complies with the established standards, which require grille slots of 8 mm maximum.

## ACCESSORIES

Swimmer's step,  
an extra feature for the pool



Movable boom, to adjust pool length

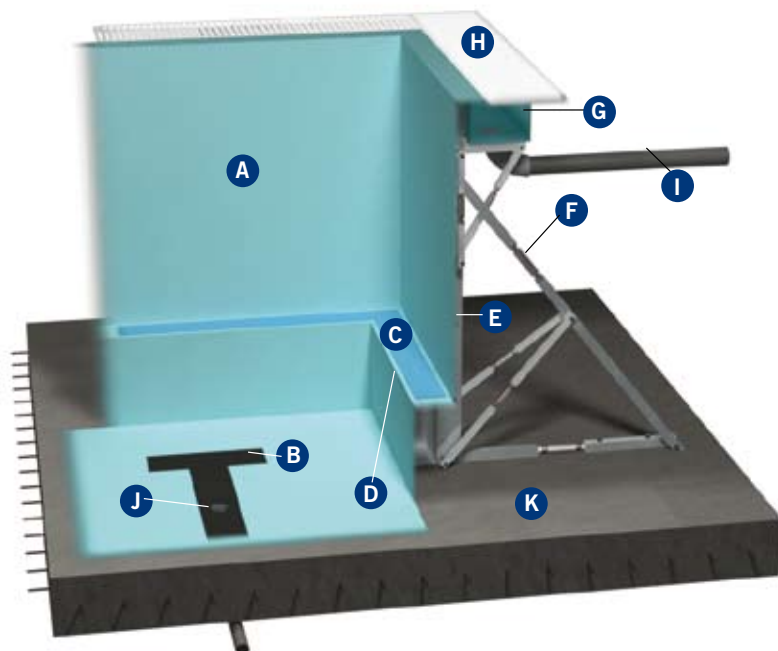


Starting block platforms



## DIAGRAM

- A** Plain liner 150/100.
- B** Black liner 150/100 (lane).
- C** Plain non-slip liner 150/100.
- D** Bather's step.
- E** 2 mm thick panel with hot dip galvanized coating.
- F** Panel tie rod.
- G** Overflow channel.
- H** Overflow grille in ABS.
- I** Overflow drain.
- J** Bottom return inlet.
- K** Concrete slab.







# Enter the World of Skypool

Skypool allows you to enjoy a quality swimming pool at a very attractive price, thanks to its quick, easy and convenient installation system.

## Skypool, a swimming pool in just a few days.

Now you can enjoy your pool in the quickest, most convenient and the safest way possible.

## A pool you can assemble yourself.

Skypool uses galvanised steel panels that are both easy to assemble and extremely strong and resistant.

## An all-terrain pool.

Skypools adapt to any kind of ground regardless of its access, inclination or composition.

## An exclusive pool.

Your Skypool swimming pool is unique, choose from a wide range of shapes, sizes, colours and AstralPool range of accessories.

10  
Years  
Guarantee



### SKYPOOL SIMPLICITY

The smooth inner wall makes pool cleaning easier.

### SKYPOOL STABILITY

Resistant to ground movement.

### SKYPOOL RESISTANCE

In extreme temperatures.

### SKYPOOL DURABILITY

Galvanised steel panels with zinc guaranteed anticorrosion.

### SKYPOOL STRENGTH

Skypool's support braces compensate the panel against water pressure.

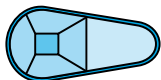


**MODELS**

**Regina**

With smooth yet defined and evocative lines, the **Regina** is the ideal pool to create a pleasant, relaxed environment.

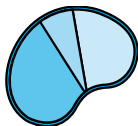
Imagine swimming and diving in this pool, or simply having a refreshing dip...



**Monterrey**

With its curved shape, the **Monterrey** pool adapts to terrain and space of any kind.

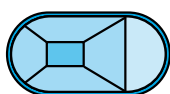
It is broad, spacious and very decorative. Perhaps the most elegant of our pools.



**Manhattan**

The **Manhattan** turns the shape of a rectangular pool into a gently oval shape, giving a decorative touch to a high capacity, high performance pool.

This pool is ideal for large spaces in any type of terrain.



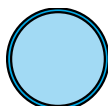
## MODELS

### Phoenix

Our most original pool!

With our **Phoenix** model you won't have to give up the idea of having a pool, no matter what space you have available.

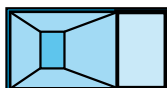
This model means you can be cool and relaxed in an inviting setting.



### Providence

The **Providence** is the classic swimming pool par excellence. With its straight, angular lines it allows you to make the most of the space available.

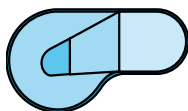
This is the ideal keep-fit pool!



### Chicago

Its asymmetric shape and gentle outline make the **Chicago** a different type of pool, with a number of location options.

For diving, swimming, splashing about or simple cooling off and relaxing, this pool meets your needs.

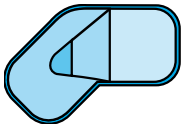




**MODELS**

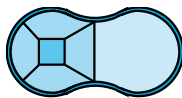
**Boston**

A pool with two areas of equal size and shape. If you wish you can order this pool with two different depths: one for children and the other one for adults. Its size and shape make the **Boston** an ideal pool for the whole family.



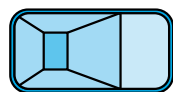
**Carolina**

A subtle yet fun pool, with a touch of distinction. The **Carolina's** rounded forms will improve the look of any back yard.



**Denver**

The **Denver** tones down the shape of the traditional rectangular pool, while maintaining its advantages. As such, it's a spacious pool perfect for enjoying with the whole family.





## CUSTOMISE THE DEPTH AND THE COLOUR

Once you have chosen your ideal pool, it's time to decide what depth you want.

### FLAT bottom



Especially designed for serious swimming, for adults and children alike. Recommended for smaller pools.

Choose a flat bottom with the depth you prefer: 1.20 m, 1.35 m or 1.50 m.

### SLOPING bottom



Your pool can have two different depths by combining a flat bottom with a sloping one. Ideal for the whole family.

Choose the depth you prefer by combining 1.20 m, 1.35 m or 1.50 m panels.

### DEEP SLOPING bottom



A deep sloping pool is designed for serious sportspeople.

The deepest part of your pool can be up to 2.75 metres deep, depending on the pool model.

### STANDARD liners



White

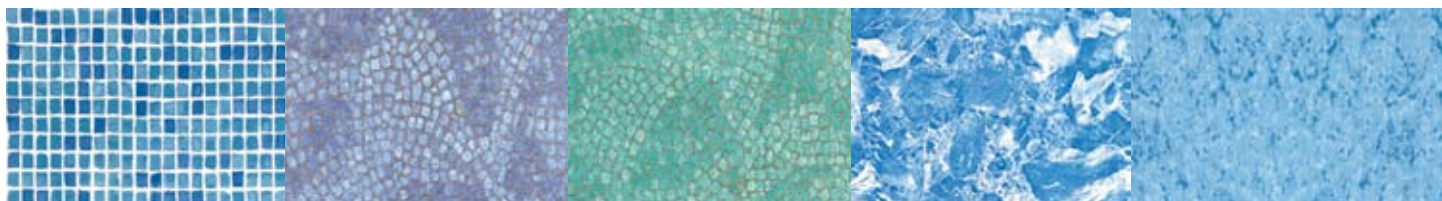
Sand

Light Blue

Navy Blue

Caribbean Green

### PATTERNED liners



Mosaic

Byzantium Blue

Byzantium Green

Marble

Servanne

### Liners with FRIEZE BORDERS



Carthage

Pompeii

Mykonos

Olympia

Florentine

### WELDED liners

**POOL SHELL EQUIPMENT**



Skypool is a system made up of complete self-supporting kits.

Easy-to-install panels mean that you can assemble your own pool in just a few weeks.

**Galvanized panel kit**

Steel panels: 1,50, 1,35 and 1,20 m high and 2 mm thick plus the liner.

**Compact filtration system**

Pre-assembled kit with sand filter, side mounted multiport valve and recirculation pump.

**Stainless steel ladder**

**Underwater Lighting**

**Pool shell kit**

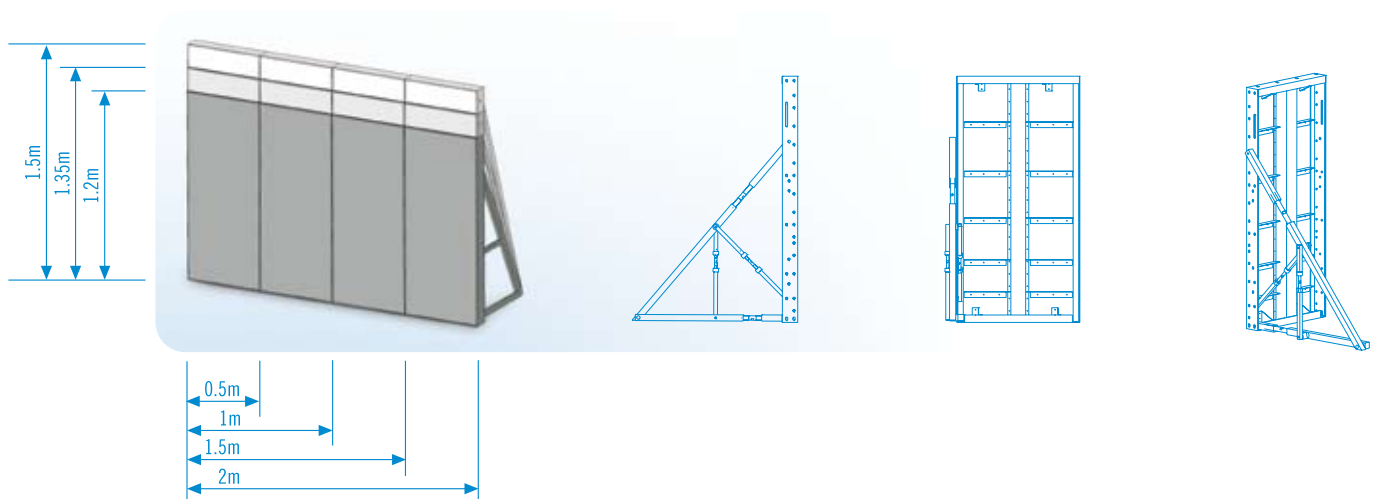
**Pool cleaning kit**

**Plumbing kit**

**Chemical starter kit**

**Skypool flexibility**

The flexibility of the panel system enables you to design the shape and depth of your pool.



## ACCESSORIES

### Retro-fit filter units



COMBO, MINI COMBO BASIC  
AND MINI WITH LIGHTING



COMPACT FILTRATION UNITS

### Other accessories



LED LIGHTS



COPING STONES



HEATING



CHEMICAL PRODUCTS



COUNTERCURRENT



AUTOMATIC 4 KG CHLORINE  
AND BROMINE FEEDER



EASYKLEEN



SOLAR SHOWER



DIVING BOARD AND SLIDES



SOLAR POOL COVER



NET'N'CLEAN



PUMPS

## POOL SURROUND EQUIPMENT

- 18 • Pool access - Ladders
- 24 • Pool access - Exit grab rails
- 27 • Pool access - Accessories
- 29 • Access ladders for disabled persons
- 31 • Grab rails
- 32 • Handrails
- 33 • Handrail brackets
- 35 • Lifeguard chairs
- 36 • Life saving accessories
- 37 • Diving & Springboards
- 39 • Slides
- 42 • Showers
- 49 • Shower Tunnels
- 50 • Showers - Shower trays
- 51 • Outdoor footwash
- 52 • Overflow gratings
- 58 • Safety barriers



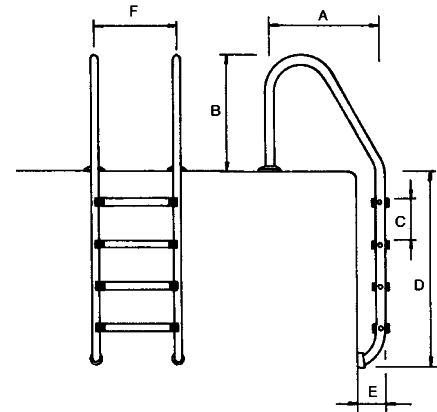
## POOL ACCESS - LADDERS

### Standard model ladders with handrails



Ladders for embedded pools. Handrails in polished Stainless Steel (Ø 43 mm) tube. Steps in Stainless Steel and plastic. Its perfect design assures anti-slip security. Complete with anchoring fixtures and earthing connection.

Steps	A	B	C	D	E	F
2	650	620	250	710	180	500
3	650	620	250	960	180	500
4	650	620	250	1210	180	500
5	650	620	250	1460	180	500



### Standard ladder with Luxe model steps

Rails & steps in AISI-316.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	05476	1	9.8	0.07
3 steps ladder	05477	1	11.5	0.08
4 steps ladder	05478	1	14.0	0.08
5 steps ladder	05479	1	15.0	0.10



### Standard ladder with Standard model steps

Rails & steps in AISI-304.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	05488	1	9.6	0.07
3 steps ladder	05489	1	12.0	0.08
4 steps ladder	05490	1	15.0	0.09
5 steps ladder	05491	1	15.0	0.09



### Standard ladder with Plastic model steps

Rails in AISI-304 & steps in plastic.

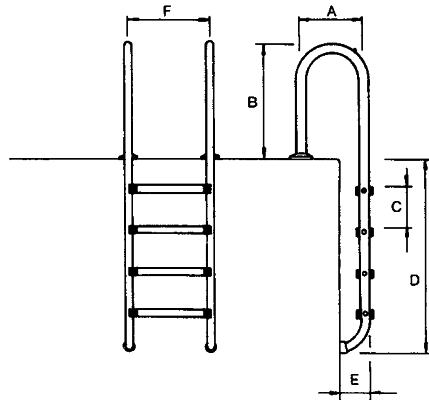
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	05500	1	8.9	0.07
3 steps ladder	05501	1	10.8	0.08
4 steps ladder	05502	1	12.3	0.09
5 steps ladder	05503	1	13.9	0.09

**POOL ACCESS - LADDERS**

**Muro model ladders with handrails**

Ladders for embedded pools. Handrails in polished Stainless Steel (Ø 43 mm) tube. Steps in Stainless Steel and plastic. Its perfect design assures anti-slip security. Complete with anchoring fixtures and earthing connection.

Steps	A	B	C	D	E	F
2	350	620	250	710	180	500
3	350	620	250	960	180	500
4	350	620	250	1210	180	500
5	350	620	250	1460	180	500



**Muro model ladder with Luxe model steps**

Rails & steps in AISI-316.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	<b>05480</b>	1	9.0	0.05
3 steps ladder	<b>05481</b>	1	10.5	0.06
4 steps ladder	<b>05482</b>	1	12.4	0.06
5 steps ladder	<b>05483</b>	1	13.7	0.07



**Muro model ladder with Standard model steps**

Rails & steps in AISI-304.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	<b>05492</b>	1	9.0	0.05
3 steps ladder	<b>05493</b>	1	12.7	0.06
4 steps ladder	<b>05494</b>	1	14.8	0.06
5 steps ladder	<b>05495</b>	1	13.6	0.07





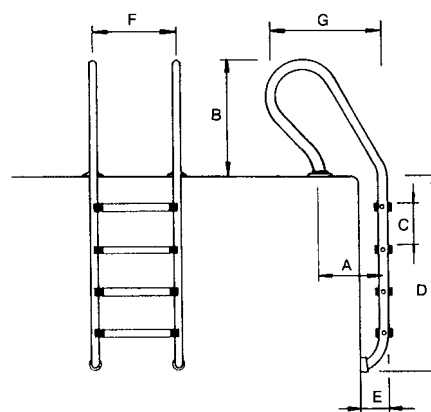
## POOL ACCESS - LADDERS

### Mixed model ladders with handrails



Ladders for embedded pools. Handrails in polished Stainless Steel (Ø 43 mm) tube. Steps in Stainless Steel and plastic. Its perfect design assures anti-slip security. Supplied with anchoring fixtures and earthing connections.

Steps	A	B	C	D	E	F	G
2	350	620	250	710	180	500	522
3	350	620	250	960	180	500	522
4	350	620	250	1210	180	500	522
5	350	620	250	1460	180	500	522



### Mixed model ladder with Luxe model steps

Rails & steps in AISI-316.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	05484	1	9.7	0.07
3 steps ladder	05485	1	11.5	0.08
4 steps ladder	05486	1	12.6	0.09
5 steps ladder	05487	1	14.8	0.09



### Mixed model ladder with Standard model steps

Rails & steps in AISI-304.


	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps ladder	05496	1	9.7	0.07
3 steps ladder	05497	1	11.4	0.08
4 steps ladder	05498	1	15.3	0.09
5 steps ladder	05499	1	14.8	0.10

**POOL ACCESS - LADDERS**



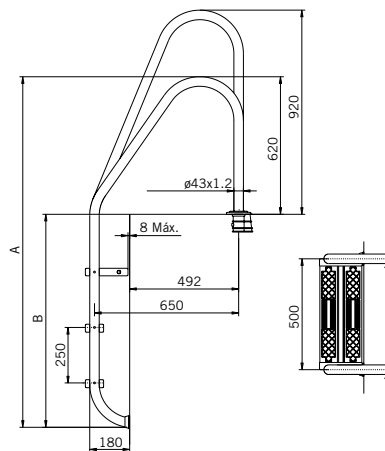
**Standard asymmetrical model**

Standard model ladder for embedded pools. Handrails in polished Stainless Steel (Ø 43 mm) pipe. Complete with anchoring fixtures and earthing connection. Rails and non-slip LUXE steps in AISI -316. Its design assures safety against any slipping or cuts.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1 step "Luxe" + 1 double safety step	<b>19938</b> 	1	13.0	0.07
2 steps "Luxe" + 1 double safety step	<b>19939</b>	1	13.9	0.08
3 steps "Luxe" + 1 double safety step	<b>19940</b>	1	15.8	0.10
4 steps "Luxe" + 1 double safety step	<b>19941</b>	1	17.0	0.10



Code	Steps	A	B
<b>19938</b>	2	1330	710
<b>19939</b>	3	1580	960
<b>19940</b>	4	1830	1210
<b>19941</b>	5	2080	1460



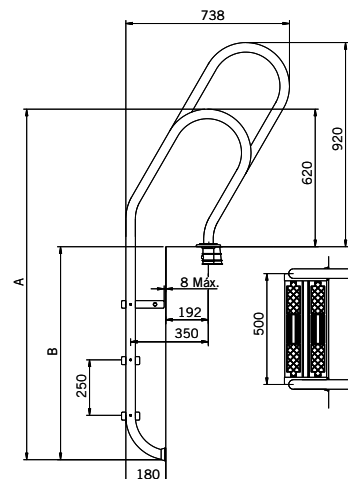
**Mixed asymmetric model**

Mixed model ladder for embedded pools. Handrails in polished Stainless Steel (Ø 43 mm) pipe. Its design assures safety against any slipping or cuts. Supplied with anchoring fixtures and earthing connection. Rails and non-slip LUXE steps in AISI -316.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps "Luxe" + 1 double safety step	<b>19943</b>	1	14.0	0.08
3 steps "Luxe" + 1 double safety step	<b>19944</b>	1	15.6	0.09
4 steps "Luxe" + 1 double safety step	<b>19945</b>	1	17.5	0.10



Code	Steps	A	B
<b>19943</b>	3	1580	960
<b>19944</b>	4	1830	1210
<b>19945</b>	5	2080	1460





## POOL ACCESS - LADDERS



### Overflow 1000 model

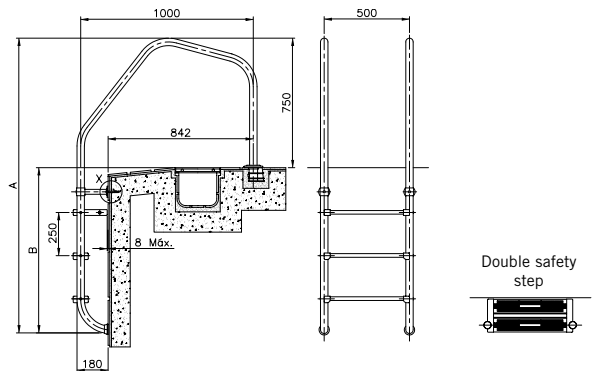


Ladder width 500 mm. Handrails in polished Stainless Steel (Ø 43 mm) pipe. With anchoring fixtures and earthing connection. Manufactured in accordance to EN 13451-1 and EN 13451-2 Standards. Rails and non-slip steps in AISI-316.

- 1 steps "Luxe" + 1 double safety step
- 2 steps "Luxe" + 1 double safety step
- 3 steps "Luxe" + 1 double safety step
- 4 steps "Luxe" + 1 double safety step

Code	Steps	A	B
07514	2	1460	710
07515	3	1710	960
07516	4	1960	1210
07517	5	2210	1460

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07514	1	13.2	0.57
07515	1	15.3	0.57
07516	1	17.1	0.18
07517	1	19.2	0.20



### Ladder for overflow pool

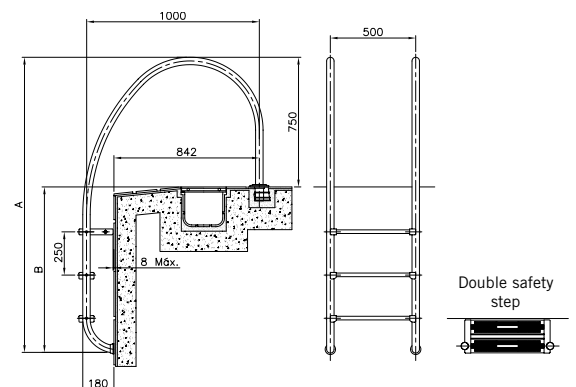


A new feature of this ladder is the variable radius of the curve in the grip section giving a more modern and attractive appearance. Steps with a width of 500 mm and made according to European Standards EN 13451-1 and EN-13451-2. Easily installed. Handrails Ø 43 mm x 1.5 mm and steps in AISI-316 with polished finish. With anchoring fixtures and earth connection.

- 2 steps ladder
- 3 steps ladder
- 4 steps ladder
- 5 steps ladder

Code	Steps	A	B
32653	2	1460	710
32654	3	1710	960
32655	4	1960	1210
32656	5	2210	1460

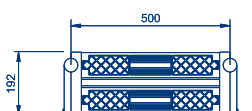
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
32653	1	13.2	0.158
32654	1	16.2	0.180
32655	1	17.1	0.202
32656	1	19.2	0.217



### Double non-slip safety step



Complies with EN 13451-1 and EN 13451-2 Standards. Steps in AISI-316 with polished finish. Suitable for all inground ladder models.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07603	1	2.05	0.003



**POOL ACCESS - LADDERS**



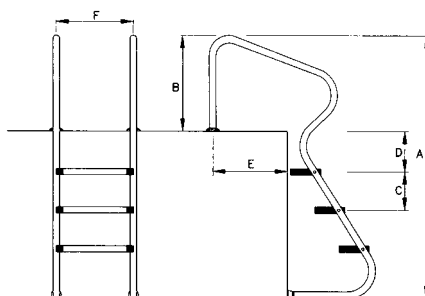
**Easy access model**

Ladder width 500 mm. Complies with EN 13451-1 and EN 13451-2 European Standards. Handrails in polished Stainless Steel (Ø 43 mm) pipe. With anchoring fixtures and earthing connection. With double safety steps and increased overall height in accordance to BS EN 13451 Standard. Rails and non-slip steps in polished AISI -316.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
3 steps ladder	<b>07782</b>	1	21.6	0.145
4 steps ladder	<b>11979</b>	1	25.9	0.202



Code	Steps	A	B	C	D	E	F
<b>07782</b>	3	1835	750	250	243	490	500
<b>11979</b>	4	2085	750	250	243	490	500



**Split bottom half ladder**

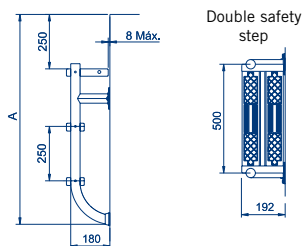


Complete with top and bottom flange fixings and top double safety step in accordance with EN 13451-1 and EN 13451-2 European Standards. Rails and non-slip steps in polished AISI-316. Can be used with any type of exit rails. With fixing plates, gaskets, screws and rawl plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1 step "Luxe" + 1 double safety step	<b>08090</b>	1	6.0	0.04
2 steps "Luxe" + 1 double safety step	<b>08091</b>	1	7.6	0.04
3 steps "Luxe" + 1 double safety step	<b>08092</b>	1	9.0	0.05
4 steps "Luxe" + 1 double safety step	<b>08093</b>	1	10.5	0.07



Code	Steps	A
<b>08090</b>	2	710
<b>08091</b>	3	960
<b>08092</b>	4	1210
<b>08093</b>	5	1460



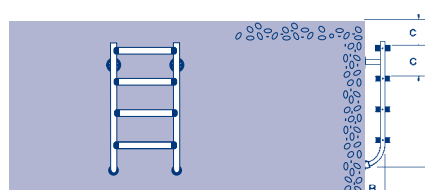
**Split bottom half ladder**

Rails and steps in polished Stainless Steel AISI-316. With fixing plates, gaskets, screws and rawl plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 steps "Luxe"	<b>01456</b>	1	5.0	0.04
3 steps "Luxe"	<b>01457</b>	1	6.3	0.04
4 steps "Luxe"	<b>01458</b>	1	7.7	0.05
5 steps "Luxe"	<b>01459</b>	1	9.2	0.07



Code	Steps	A	B	C
<b>01456</b>	2	710	180	250
<b>01457</b>	3	960	180	250
<b>01458</b>	4	1210	180	250
<b>01459</b>	5	1460	180	250



## POOL ACCESS - EXIT GRAB RAILS

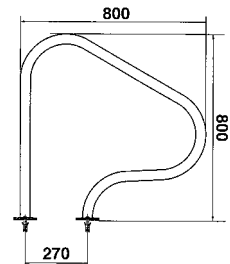


### 800 x 800 mm model



In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, gaskets, screws and rawl plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With fixing plates (pair)	05541	1	9.27	0.10
For embedding (pair)	05540	1	8.40	0.10

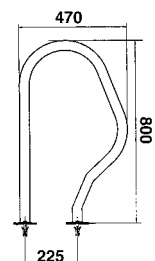


### 470 x 800 mm model



In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, gaskets, screws and rawl plugs.

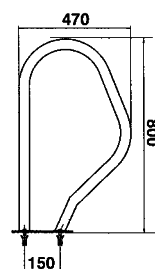
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With fixing plates (pair)	05542	1	6.97	0.08



### 470 x 800 mm model with rectangular base plate model

In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, screws and rawl plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With fixing plates (pair)	05543	1	7.6	0.08



**POOL ACCESS - EXIT GRAB RAILS**

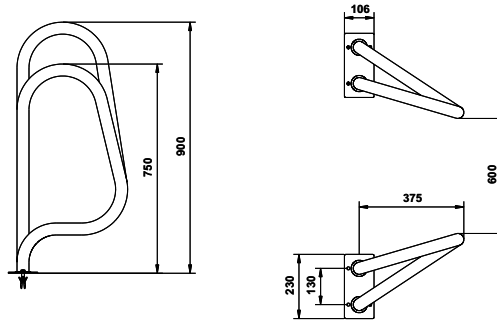


**Crossover model with rectangular base plate**

In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, screws and rawl plugs.


With fixing plates (pair)

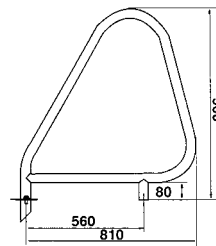
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
05544	1	8.46	0.18



**Parallel model**

In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, gaskets, screws and plugs. For fixing with anchoring fixture code 00143 (not included).

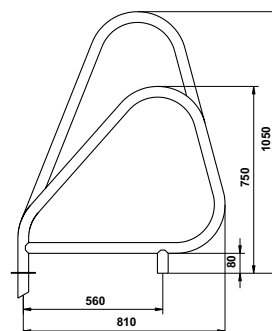
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00110 	1	10.0	0.11



**Asymmetrical model**

In polished S.S. AISI-316 Ø 43 mm pipe. Exit grab rails supplied as a pair including fixing plates, gaskets, screws and plugs. For fixing with anchoring fixture code 00143 (not included).

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00111	1	10.1	0.14



## POOL ACCESS - EXIT GRAB RAILS



### Grab rails, fixed in and out of the water

Polished S.S. AISI-316 Ø 43 mm pipe.

#### For embedding

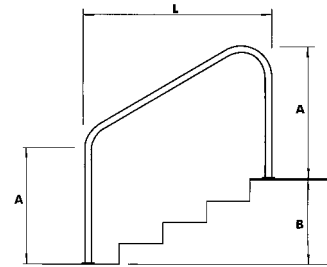
(Pair) Length 1,220 mm  
(Pair) Length 1,524 mm

#### With flanges (gaskets, fixing plugs and screws)

(Pair) Length 1,220 mm  
(Pair) Length 1,524 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00034	1	11.4	0.14
00035	1	13.0	0.16
00036	1	12.2	0.21
00037	1	13.6	0.24

L	A	B
1220	800	608
1524	800	855



### Grab rail fixed out of the water

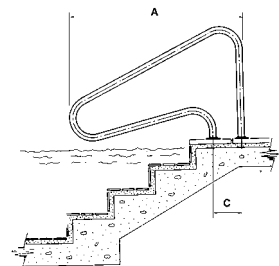
Polished S.S. AISI-316 (Ø 43 mm pipe)  
1 unit

#### For embedding

**With flanges** (gaskets, fixing plugs and screws)

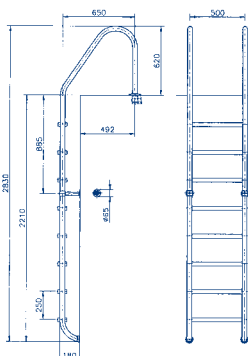
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07780	1	6.7	0.118
07781	1	6.7	0.118

Code	A	B	C
07780	1250	800	203
07781	1250	800	203

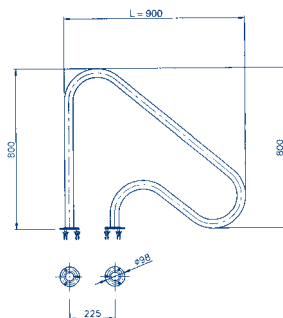


## Ladders and grab rails made to measure

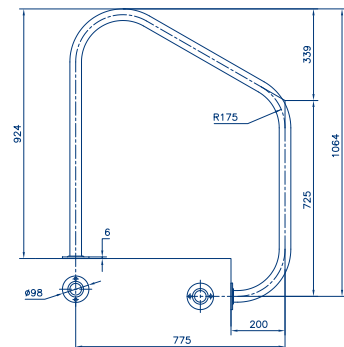
Stainless Steel ladders and handrails AISI-304 and AISI-316 can be manufactured to suit your requirements.



8 STEPS LADDER



GRAB RAIL L = 900



SPECIAL HANDRAIL

**POOL ACCESS - ACCESSORIES**

**Ladder anchoring sockets**

In plastic for Ø 43 mm pipe. With earthing connection.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00042	50	7.0	0.03


**Ladder hinge without base plate**

In polished Stainless Steel (AISI-304) for Ø 43 mm pipe.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00043	1	0.93	0.002


**Flanged ladder hinge**

In polished Stainless Steel (AISI-304) for Ø 43 mm pipe.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
08727	1	1.0	0.002


**Removable anchoring with base plate**

In polished Stainless Steel (AISI-316) for Ø 43 mm pipe. Includes gaskets, screws and rawl plugs.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07331	1	1.00	0.003
18243	1	1.17	0.003

Set of 2 units

Set of 2 units with reinforced base plate



## POOL ACCESS - ACCESSORIES



### Anchor with locking bolts

In polished Stainless Steel AISI-316. For  $\varnothing$  43 mm pipe.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00143	2	1.2	0.003



### Ladder foot pad

Made in plastic, angle can be adjusted by rotating the eye ball socket.



For  $\varnothing$  43 mm pipe  
For  $\varnothing$  28 mm pipe

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00045	50	12.6	0.03
00046	50	14.0	0.03

**ACCESS LADDERS FOR DISABLED PERSONS**

For easy entry and exit into leisure or hydrotherapy pools for people not requiring an hydraulic lift chair. Easy assembly.



**500 mm width model**

In polished Stainless Steel AISI-316, Ø 43 mm pipe, with plastic non-slip steps. With anchoring fixtures and earth connection.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
4 steps	<b>00116</b>	1	28.0	0.300
5 steps	<b>00117</b>	1	40.9	0.300
6 steps	<b>00118</b>	1	47.5	0.370
7 steps	<b>00119</b>	1	51.4	0.370
8 steps	<b>00120</b>	1	48.0	1.057



**970 mm width model**

In polished Stainless Steel AISI-316, Ø 43 mm pipe, with plastic non-slip steps. With anchoring fixtures and earth connection.

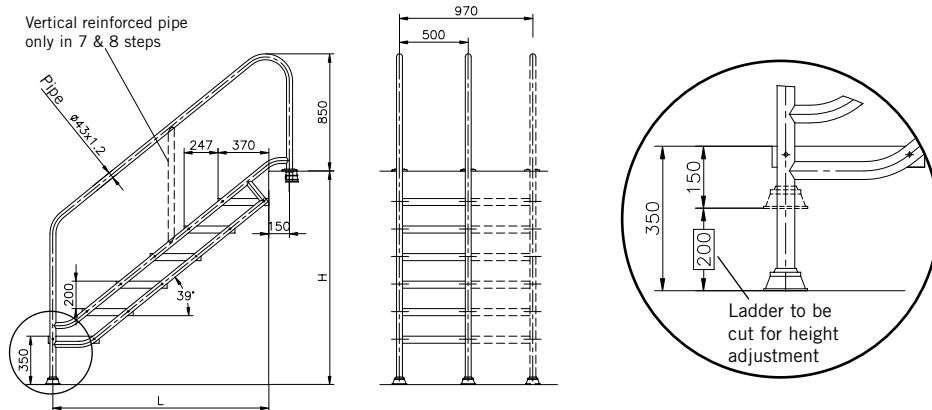
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
4 steps	<b>00116 + 4 Kit 28615</b>	1	-	-
5 steps	<b>00117 + 5 Kit 28615</b>	1	-	-
6 steps	<b>00118 + 6 Kit 28615</b>	1	-	-
7 steps	<b>00119 + 7 Kit 28615</b>	1	-	-
8 steps	<b>00120 + 8 Kit 28615</b>	1	-	-

Modelo 500	Modelo 970	Steps	H	L
<b>00116</b>	<b>00116 + 4 x. KIT 28615</b>	4	950 a 1150	1075
<b>00117</b>	<b>00117 + 5 x. KIT 28615</b>	5	1150 a 1350	1325
<b>00118</b>	<b>00118 + 6 x. KIT 28615</b>	6	1350 a 1550	1570
<b>00119</b>	<b>00119 + 7 x. KIT 28615</b>	7	1550 a 1750	1820
<b>00120</b>	<b>00120 + 8 x. KIT 28615</b>	8	1750 a 1950	2065

**Example:**

For a 970 mm ladder with 7 steps, please order:

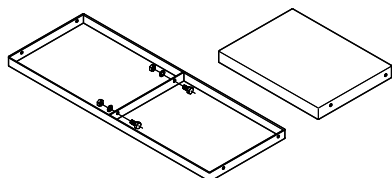
- 1 **00119**
- 7 **28615** (1 Kit per step)



**Step Kit for transforming a ladder from width 500 to 970 mm**

To convert a ladder from 500 mm to 970 mm. One "Step Kit" will be necessary for each of the steps of the ladder. In polished AISI-316 Stainless Steel, with plastic non-slip surface.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>28615</b>	1	5.9	0.027





## ACCESS LADDERS FOR DISABLED PERSONS



### Hydraulic chair lift

Frame made of polished Stainless Steel AISI-316 with a central hydraulic mechanism and seat, provided also with a ladder for the assistant. For correct hydraulic operation a minimum 3.5 kg/cm<sup>2</sup> water supply pressure is required.

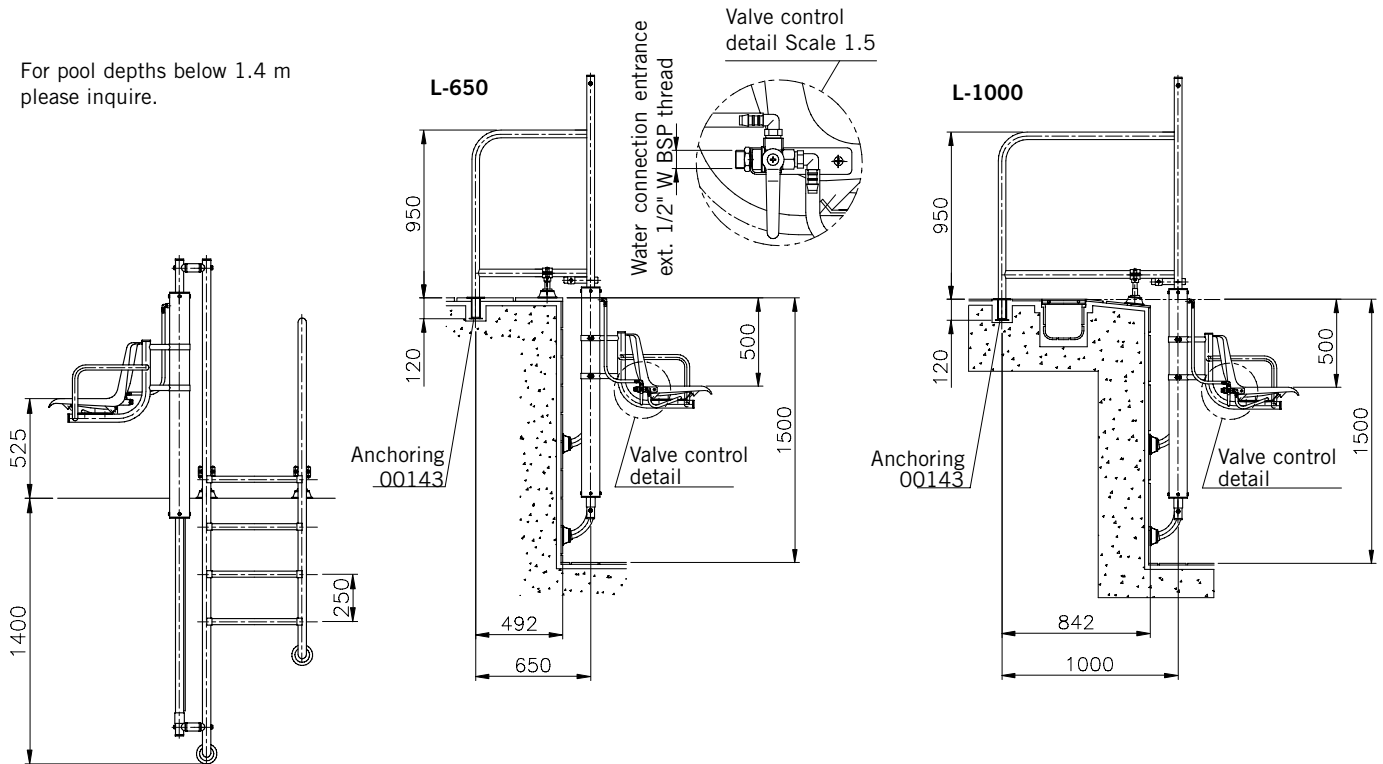
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Rails L-650	28619	1	-	-
Rails L-1000	28620	1	-	-
Cylinder	28621	1	-	-
Accessories	28622	1	-	-

#### INSTALLATION:

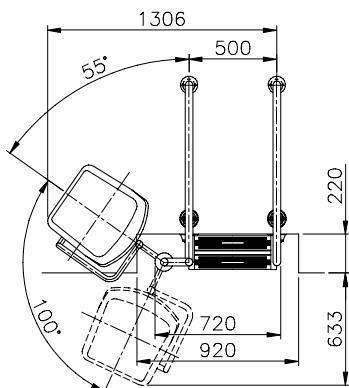
The external fixings are 2 metal anchoring fixtures (supplied with the unit) the 2 front connecting supports are adjustable allowing the height to be changed to adapt to different types of swimming pool surround.



For pool depths below 1.4 m please inquire.



Valid for both models



Valid for both models

Lift	Rails	Cylinder	Components
L-650	28619	28621	28622
L-1000	28620		

**GRAB RAILS**

**Handrails in Stainless Steel**

In polished S. S. AISI-316. Ø 43 mm pipe.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>For embedding</b>				
0.5 m	00047	2	2.4	0.03
1 m	00048	2	3.8	0.04
2 m	00049	2	8.4	0.09
2.5 m	00050	2	9.1	0.11
<b>With fixing flanges</b> (Supplied with gaskets, fixing plugs, and screws)				
0.5 m	00051	2	2.8	0.02
1 m	00052	2	4.3	0.04
2 m	00053	2	7.9	0.09
2.5 m	00054	2	9.5	0.11


**Easybath access range**

Pool access range for persons with reduced mobility. With a special non-slip surface which offers better grip to the user. Made in Ø 28 mm AISI-304 Stainless Steel pipe, with polished finish.

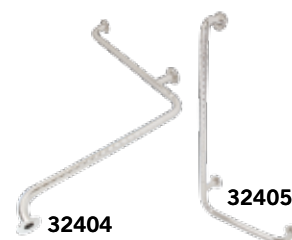
The grab rails are straight and are available in 5 lengths. Ready to be fixed directly to concrete walls using fixing plugs, flanges and screws.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Easybath L-300 grab rail	32399	1	0.70	0.005
Easybath L-400 grab rail	32400	1	0.75	0.005
Easybath L-500 grab rail	32401	1	0.85	0.005
Easybath L-650 grab rail	32402	1	1.00	0.008
Easybath L-800 grab rail	32403	1	1.10	0.008


**32403 - 32402**

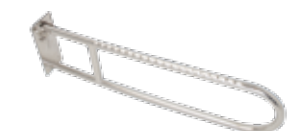
The grab bars are angular, specially designed for assembly in the corners of a swimming pool or adjacent facilities. Available in two models for vertical fixing.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Easybath horizontal grab bar	32404	1	1.75	0.044
Easybath vertical grab bar	32405	1	1.65	0.034


**32404**
**32405**

Three support models: 90° angular support to be fixed to the ground, bridge support for fixing to the wall and folding support with two positions.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Easybath 90° support	32406	1	2.40	0.175
Easybath wall support	32407	1	2.00	0.078
Easybath folding support	32408	1	3.90	0.025


**32406**
**32407**

**32408**

**Tee bar**

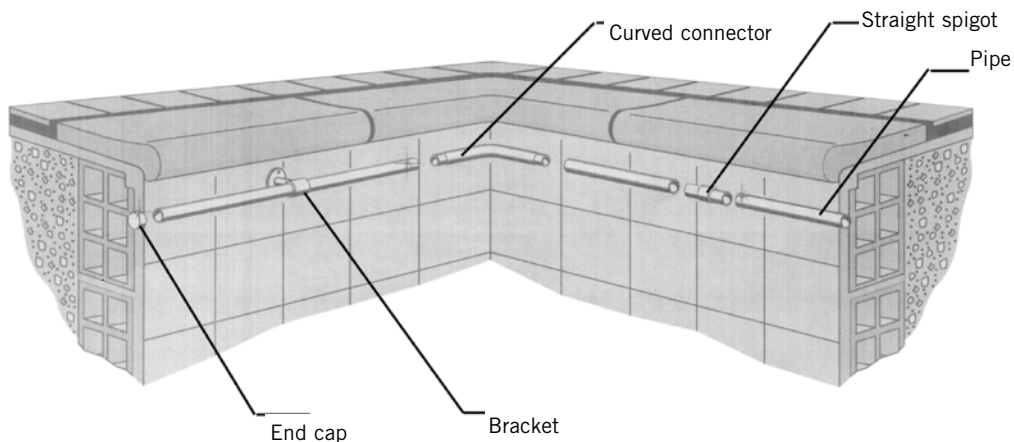
In polished S. S. AISI-316. Ø 43 mm pipe.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>For embedding</b>	00055	1	0.80	0.01
<b>With fixing plates</b> (Supplied with gaskets, fixing plugs, and screws)	00056	1	2.09	0.01



## HANDRAILS

We also supply pipes and items needed to install grab rails or other decorative features around the edge of the pool.



### Straight handrails

In polished Stainless Steel AISI-316. Handrail length: 1 m. Length must be specified when placing order.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Ø 43 mm tubing with sealed ends	05545	1	1.5	0.002
Ø 43 mm tubing with open ends	19946	1	1.3	0.002
Ø 43 mm tubing with 1 sealed end and the other open	20092	1	1.3	0.002



### Straight connector

In polished Stainless Steel AISI-316. For joining Ø 43 mm pipe.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	09452	1	0.32	0.001



### Curved connector

In polished Stainless Steel AISI-316. For joining Ø 43 mm pipe.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	11286	1	0.3	0.001



### End caps

In polished Stainless Steel AISI-316. For Ø 43 mm pipe end.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	08014	1	0.1	0.001

**HANDRAIL BRACKETS**

**Split bracket**

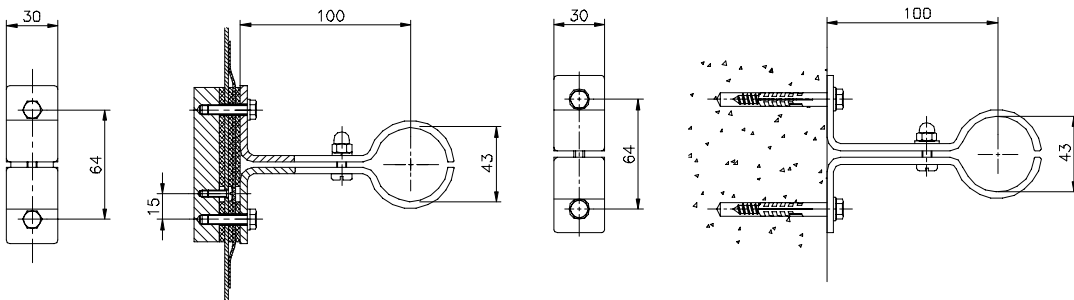
For Ø 43 mm pipe. In polished S.S. AISI-316. Supplied with rawl plugs and screws (concrete pool) & with gaskets and screws (liner pool).

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Concrete pool	<b>25342</b>	2	0.72	0.002
Liner pool	<b>28618</b>	2	1.40	0.002



**28618**

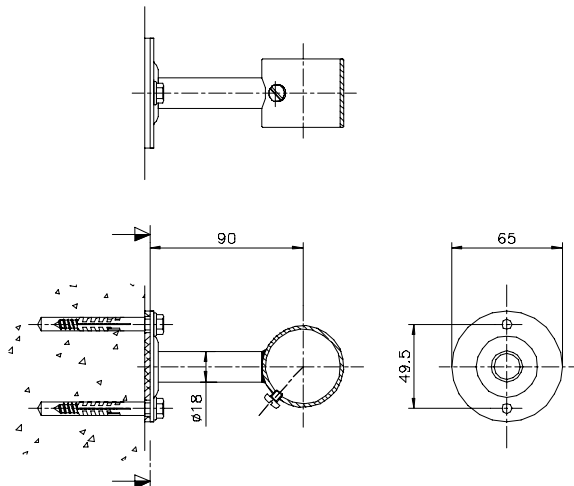
**25342**



**Straight bracket with base plate**

For Ø 43 mm pipe. In polished S.S. AISI-316. Supplied with gaskets, rawl plugs, and screws.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>08013</b>	2	0.5	0.002



## HANDRAIL BRACKETS

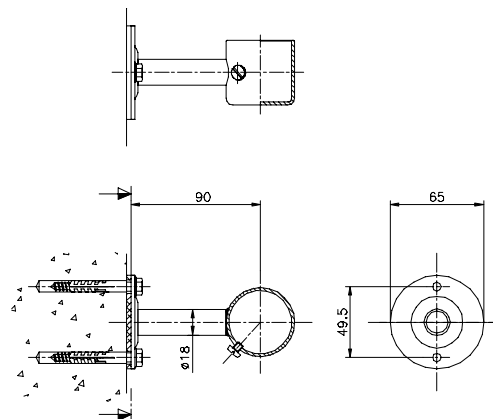


### One side closed bracket

For  $\varnothing$  43 mm pipe. In polished S.S. AISI-316. Supplied with gaskets, rawl plugs and screws.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07789	2	0.6	0.002

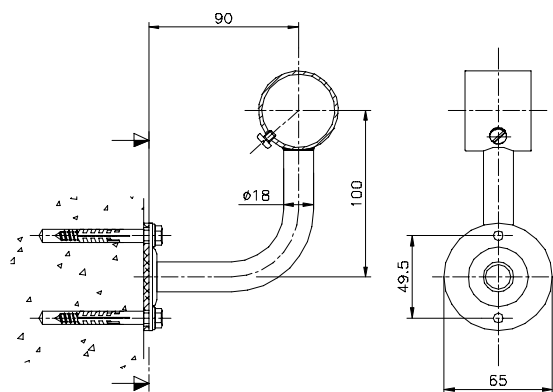


### 90° Angle handrail support

For  $\varnothing$  43 mm pipe. In polished S.S. AISI-316. Supplied with gaskets, rawl plugs and screws.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
11143	1	1.17	0.002



### Fixing plate kit for liner pools

In S.S. AISI-316.




Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
26172	1	0.3	0.002

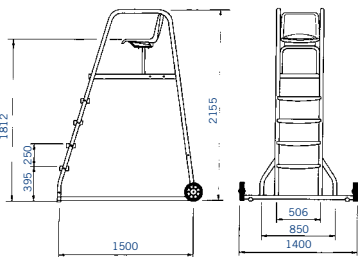
**LIFEGUARD CHAIRS**



**Lifeguard chair**

Made in Stainless Steel AISI-304, Ø 43 mm pipe. With dismantlable base plate. Steps, platform, chair, made of plastic. Parasol holder and lifebuoy bracket included. Optional base bar with wheels.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Lifeguard chair	<b>00109</b>	1	55.6	0.92
Wheeled base for lifeguard chair	<b>08730</b> 	1	8.9	0.04




**SIDE**

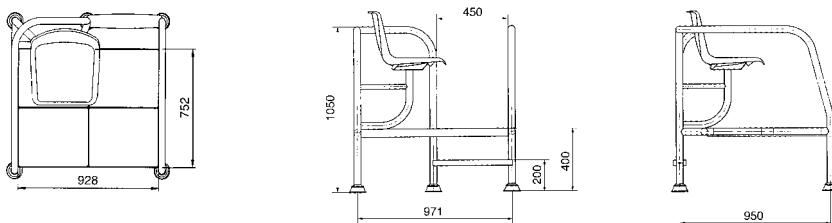
**FRONT**



**H-400 lifeguard chair with quick access**

Made in Stainless Steel AISI-304, Ø 43 mm pipe. Steps, platform, chair made of plastic. Large platform and 90° rotating seat to increase the range of vision. Ideal for children's pools, water parks or shallow areas of public pools. Includes parasol holder.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>15673</b> 	1	39.6	0.66



**TOP**

**FRONT**

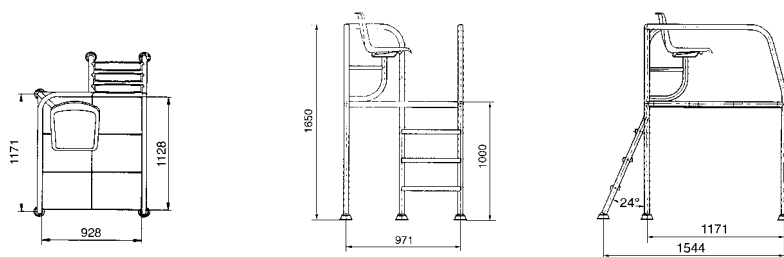
**SIDE**



**Multipurpose H-1000 lifeguard chair**

Made in Stainless Steel AISI-304, Ø 43 mm pipe. Steps, platform, chair made of plastic. Large platform and 90° rotating seat to increase the range of vision. Includes parasol holder.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>15674</b> 	1	65.0	1.64



**TOP**

**FRONT**

**SIDE**



## LIFE SAVING ACCESSORIES



### Lifebuoy holder

In Stainless Steel AISI-304. For use with telescopic handles 01361, 01362, 01363, & 15838.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01368	1	1.46	0.03



### Lifebuoy

In orange plastic, outer Ø 730 mm.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01369	6	18.0	0.330



### Lifebuoy holder

In Stainless Steel AISI-304. Designed to be hung on wall or fitted on to a lifebelt holder post (code 01371). Supplied with anchor plugs and screws.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01370	1	1.16	0.01



### Lifebelt holder post

In AISI-304 Stainless Steel, Ø 43 mm. Base plate with 3 holes. Supplied with gaskets, anchor plugs and screws.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01371	1	3.0	0.01

**DIVING & SPRINGBOARDS**

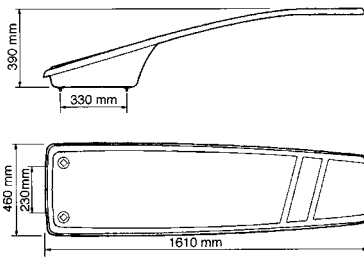
**Flexible springboard Dynamic**

Made of Polyester and fibreglass resistant to UV exposure and adverse weather conditions. Non-slip surface covering entire length of board. Supplied with anchoring fixtures. Can also be adapted to 00076 model anchoring.



Length 1.61 m Width 0.46 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>21392</b>	1	22.0	0.335



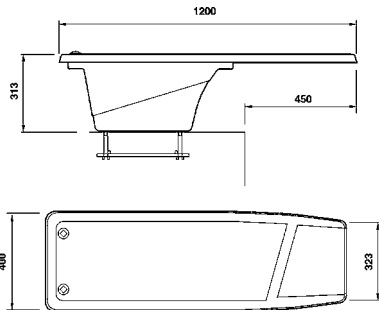
**Diving board 1200 Dynamic**

Made of Polyester and fibreglass resistant to UV exposure and adverse weather conditions. Non-slip surface covering entire length of board. Supplied with anchoring fixtures.



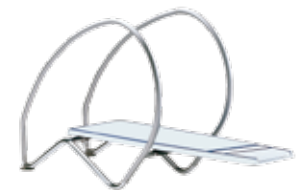
Length 1.20 m Width 0.40 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>20090</b>	1	20.0	0.325



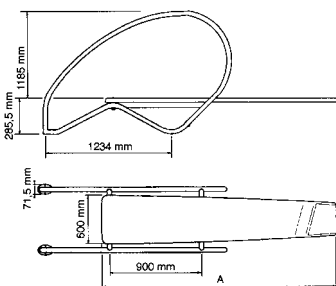
**Diving board Dynamic**

Board made of Polyester and fibreglass, with non-slip surface. Grab rails and supports made of Stainless Steel with matt finish. Supplied with anchoring fixtures.



Length 2 m Width 0.60 m  
Length 2.30 m Width 0.60 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>23199</b>	1	50.0	1.585
<b>23200</b>	1	52.0	1.585



Code	A (m)
<b>23199</b>	2
<b>23200</b>	2,3



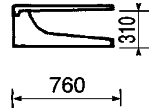
## DIVING & SPRINGBOARDS

### Clip model



Portable Polyester and fibreglass springboard. Ivory coloured base. Light blue coloured board.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 0.76 m Height 0.31 m Width 0.37 m	00079	1	12.0	0.108

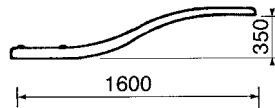


### Dolphin model

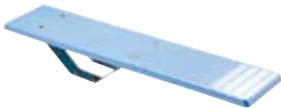


Flexible Polyester and fibreglass springboard in light blue. Supplied with anchoring fixtures.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 1.6 m. Width 0.35 m	00076	1	123.0	0.138

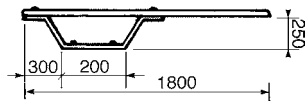


### Ballesta model

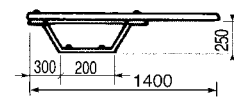


Light blue Polyester and fibreglass springboard. Springboard bracket made of galvanized Steel. Supplied with anchoring fixtures.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 1.8 m Height 0.25 m Width 0.4 m	00077	1	27.0	0.084
Length 1.4 m Height 0.25 m Width 0.4 m	00078	1	25.0	0.072



Code 00077



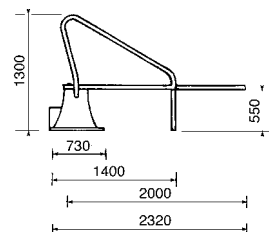
Code 00078

### Elevado model

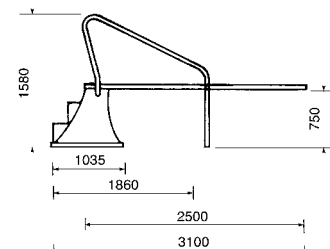


Base laminated in ivory-coloured Polyester and fibreglass, with light blue board. With 2 handrails in Stainless Steel. Non-slip board and steps. Supplied with anchoring fixtures.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 2 m Height 0.55 m Width 0.4 m	00068	1	38.0	0.850
Length 2.5 m Height 0.75 m Width 0.46 m	00069	1	68.0	1.380



Code 00068



Code 00069

**DIVING & SPRINGBOARDS**



**Diving boards**

Polyester and fibreglass boards with new patented non-slip surface in blue. Anchoring fixtures are not supplied.

**Width 0.40 m**

Length 1.8 m

Length 2.0 m

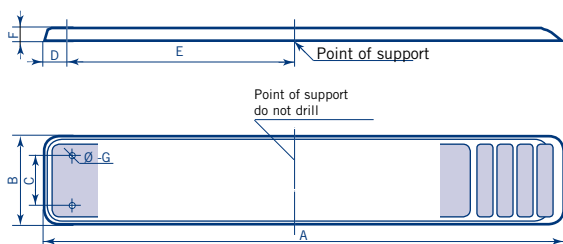
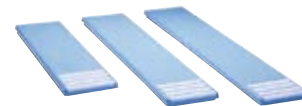
Length 2.3 m

**Width 0.46 m**

Length 2.5 m

Length 3.2 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00061</b>	1	16.0	0.046
<b>00062</b>	1	18.0	0.050
<b>00063</b>	1	22.0	0.060
<b>00064</b>	1	31.0	0.080
<b>00065</b>	1	46.0	0.100



Code	Board	A	B	C	D	E	F	Ø	G
<b>00061</b>	1.80 mts.	1800	390	247	80	910	30	16	M-14
<b>00062</b>	2.00 mts.	2000	390	247	80	940	30	16	M-14
<b>00063</b>	2.30 mts.	2300	390	247	80	1150	30	16	M-14
<b>00064</b>	2.50 mts.	2500	465	290	125	1225	30	-	min. M-16
<b>00065</b>	3.20 mts.	3200	465		125	1540	30	-	min. M-16



**Diving board supports**

In polished Stainless Steel AISI-304, Ø 43 mm tube. With plathform fixing bolts.

For boards up to 2.30 m in length

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>14586</b>	1	8.0	0.040



**SLIDES**

**Pranaslide model**

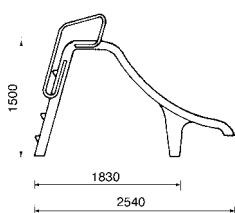
Light blue polyester and fibreglass slide. Grab rails in white painted Aluminium. Fitted with water supply connection to ease sliding. Supplied with anchoring fixtures.

Height 1.50 m

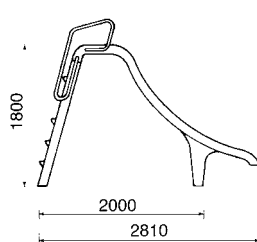
Height 1.80 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00085</b>	1	62.0	1.214
<b>00086</b>	1	70.0	1.368

Code 00085



Code 00086



## SLIDES

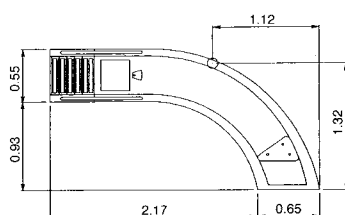
### Curved model



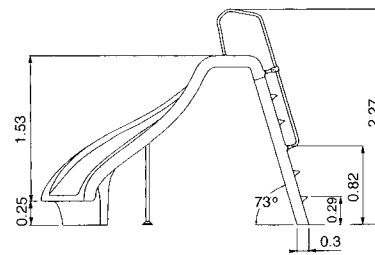
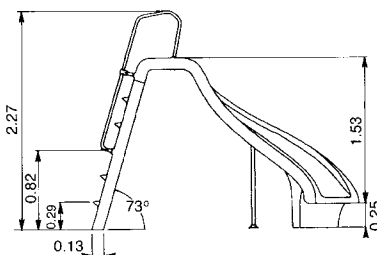
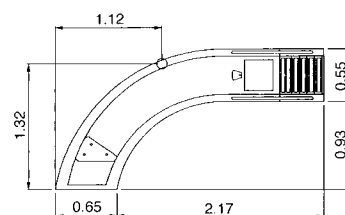
Light blue Polyester and fibreglass slide. Grab rails in white painted aluminium. Fitted with water supply connection to ease sliding. Supplied with anchoring fixtures.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Right curve, height 1.78 m	<b>00088</b>	1	83.0	2.913
Left curve, height 1.78 m	<b>00089</b>	1	83.0	2.913

**00088 RIGHT**



**00089 LEFT**

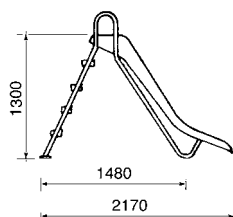


### Straight model

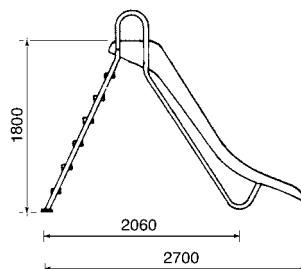


Light blue Polyester and fibreglass slide. Steps in Polypropylene and fibreglass. Polished Stainless Steel handrails. Fitted with water supply connection to ease sliding. Supplied with anchoring fixtures.

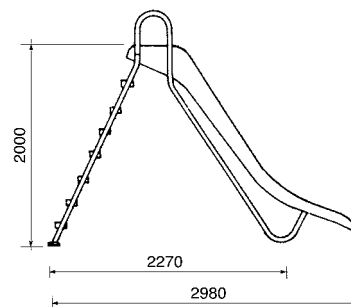
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 1.30 m	<b>00081</b>	1	31.0	0.550
Height 1.80 m	<b>00082</b>	1	38.0	0.850
Height 2.00 m	<b>00083</b>	1	44.0	0.750



**00081**



**00082**



**00083**

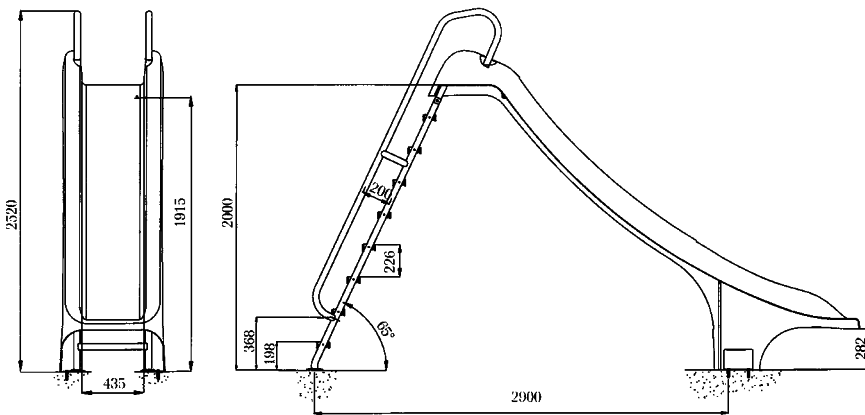
**SLIDES**



**Slides for public use**

White coloured slide made of polyester, reinforced with fibreglass. Steps in Polypropylene and fibreglass. Handrails in Stainless Steel. Supplied with water jet. Height 2 m. Fitted with anchoring fixtures.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Straight	<b>18543</b>	1	-	3.000
Left curve	<b>18545</b>	1	-	3.000



## SHOWERS

### Luxe shower range

New advanced design Luxe range of showers in S.S. AISI-304. Easy access to inner connections and easy anchor fixing. **Options:** anchor for embedding, set of support fixings for assembling in sets of 2, 3, or 4 Luxe showers. Height (shower head to ground): 2 m.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Luxe shower with timer	25334	1	8.0	0.11
Luxe shower with hot and cold mixer tap	25335	1	8.0	0.11
Luxe shower with plastic knob	25336	1	8.0	0.11
<b>Options:</b>				
Luxe shower anchoring fixture	25337	1	0.7	0.001
Central support plate	25338	1	0.4	0.001
Shower extension	26170	1	0.8	0.004



TIMER



MIXER TAP



KNOB



SHOWER HEAD

Luxe shower assembly kit	Code 25338	Code 25337	Code 26170
2 shower assembly	1 uni.	2 uni.	-
3 shower assembly	1 uni.	3 uni.	1 uni.
4 shower assembly	1 uni.	4 uni.	2 uni.

Examples of assembly:

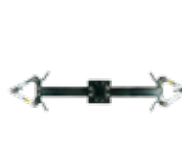


25337



25338

26170



Two shower heads



Three shower heads



Four shower heads

ANCHORING FIXTURES



### Solar shower with a flexible 20 litre tank

new

A shower in painted steel, which with a single cold water tap, heats up by means of a flexible 20 litre accumulator tank thus taking advantage of the solar energy. With 2 valves (cold/hot) and a chromed brass nozzle. Attaches to the ground by means of anchoring screws and plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.10 m	34312	1	15.4	0.089



SHOWER HEAD



KNOB



**SHOWERS**

**ECO solar shower with 30 litre tank**

*new*

Shower in painted steel, which with a single cold water tap, heats up by means of a 30 litre aluminium accumulator tank thus taking advantage of the solar energy. Adjustable massage shower nozzle with 3 functions and an anti-lime membrane. A water flow limiter device is incorporated, thus reducing consumption by approximately 50%. With 2 valves (cold/hot). Water drain plug. 1/2" inner thread connection. Attaches to the ground by means of anchoring screws and plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2 m	<b>36848</b>	1	12.0	0.16



**SHOWER HEAD**



**KNOB**



**Solar shower with 35 liters water tank**

In polished Stainless Steel AISI-304. With a single water inlet. Aluminium water tank of 35 lts. capacity which is heated using solar energy. Has 2 mixer taps and swivel shower head. Quick fixing water connection. Fixed to ground with screws and plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.10 m	<b>15840</b>	1	16.9	0.13



**SHOWER HEAD**



**KNOB**



**Solar shower with 50 litre tank**

*new*

AISI-304 polished Stainless Steel shower. With a single cold water tap, it heats up by means of a 50 litre aluminium accumulator tank thus taking advantage of the solar energy. With 2 valves (cold/hot) and an adjustable nozzle. Water drain plug. Attaches to the ground by means of anchoring screws and plugs.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.10 m	<b>33828</b>	1	21.3	0.193



**SHOWER HEAD**



**KNOB**



## SHOWERS

### Shower with 1 shower head and 1 valve

In Stainless Steel AISI-304, Ø 43 mm pipe. 00107 anchoring fixture included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.00 m	00091	1	5.6	0.05



SHOWER HEAD



KNOB

### Shower with 1 shower head and 1 automatic timer valve

In Stainless Steel AISI-304, Ø 63 mm pipe. 27333 anchoring fixture included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.00 m	00095	1	7.2	0.05



SHOWER HEAD



AUTOMATIC  
TIMER VALVE

### Shower with 1 shower head, 1 valve and 1 footwash

In Stainless Steel AISI-304, Ø 43 mm pipe. 00107 anchoring fixture included.

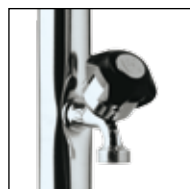
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.00 m	00092	1	6.0	0.05



SHOWER HEAD



KNOB



FOOTWASH

**SHOWERS**



**Shower with 1 shower head and 2 valves**

For hot & cold water. In Stainless Steel AISI-304, Ø 63 mm pipe. Anchoring not allowed.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.00 m	<b>00096</b>	1	7.8	0.05



**SHOWER HEAD**



**MIXER TAPS**



**Shower with 1 shower head, footwash and automatic timer valve**

In Stainless Steel AISI-304, Ø 63 mm pipe. 27333 anchoring fixture included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2 m	<b>15841</b>	1	7.3	0.05



**SHOWER HEAD**



**AUTOMATIC  
TIMER VALVE**



**FOOTWASH**



**Shower with 1 shower head and 1 mixer valve**

For hot & cold water. In Stainless Steel AISI-304, bright polished finish. Anchoring fixtures included. Base dimensions 185 x 250 mm.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2 m	<b>00090</b>	1	40.0	0.27



**SHOWER HEAD**



**MIXER VALVE**





**SHOWERS**



**Shower with twinheads and 2 valves**

In Stainless Steel AISI-304, Ø 63 mm pipe. 27333 anchoring fixture included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2 m	<b>00098</b>	1	13.9	0.25



**SHOWER HEAD**



**MIXER VALVES**



**Shower with twinheads and 2 timer press knobs**

In Stainless Steel AISI-304, Ø 63 mm pipe. 27333 anchoring fixture included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.20 m	<b>19947</b>	1	14.91	0.25



**SHOWER HEAD**



**AUTOMATIC  
TIMER VALVE**



**Shower with twinheads and 2 timer press knobs**

Designed for public pools. In Stainless Steel AISI-316. Ø 129 mm pipe. Anchoring fixtures included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.35 m	<b>08728</b>	1	42.8	0.94



**SHOWER HEAD**



**AUTOMATIC  
TIMER VALVE**

**SHOWERS**



**Shower with 3 shower heads and 3 valves**

In Stainless Steel AISI-304, Ø 84 mm pipe. Anchoring fixtures included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2 m	00094	1	23.82	0.027



SHOWER HEADS



VALVE KNOB



**Shower with 3 shower heads and 3 automatic timer valves**

In Stainless Steel AISI-304, Ø 129 mm pipe. Anchoring fixtures included. Designed for public pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height (shower head to ground): 2.10 m	00097	1	29.39	0.27



SHOWER HEADS



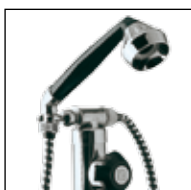
AUTOMATIC  
TIMER VALVE



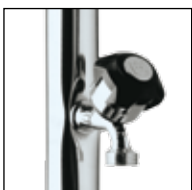
**Shower with detachable shower head and footwash**

In Stainless Steel AISI-304, Ø 43 mm pipe. 00107 anchoring fixtures included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 1.05 m	00099	1	4.63	0.02



TELEPHONE TYPE  
SHOWER



FOOTWASH



## SHOWERS



### Shower anchoring fixtures

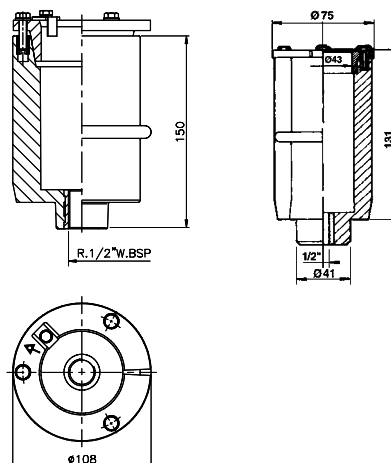


With fixing device and earth connection. Allows easy dismantling of shower.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Shower anchoring Ø 43 mm</b> In PVC for models: 00091, 00092 and 00099	00107	1	0.48	0.003
<b>Shower anchoring Ø 63 mm</b> In PVC for models: 00095, 00098, 19947 and 15841	27333	1	1.0	0.003

27333

00107



### Stainless Steel polish cleaner

Decalcifer and degreaser suitable for cleaning all Stainless Steel surfaces.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1 Liter	18713	12 u.	13.8	0.023
5 Liters	16630	2 u.	22.0	0.034

**SHOWER TUNNELS**



**Shower tunnel with 1 arch**

For public pool entry. In polished Stainless Steel AISI-304 and Ø 28 mm tube. Rawl plugs and screws included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1 arch with 3 shower heads. Width: 1.2 m	00100	1	9.6	0.10
1 arch with 5 shower heads. Width: 2 m	19948	1	10.4	0.14




SHOWER HEAD



**Shower tunnel with 2 arches**

Tunnel with two polished AISI-304 Stainless Steel arches and Ø 28 mm piping, with 5 shower heads. Width 1.2 m. Plastic side panels. Maximum height 2.5 m. Length 2.10 m.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2 arches with 5 shower heads	00101 	1	44.8	1.12



**Control column**

In Stainless Steel AISI-304. Controls automatically the water flow electrically. Includes 220V/24V transformer, photoelectric timer cell, and electrovalve. Rawl plugs and screws included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	00102	1	7.0	0.02



## SHOWERS - SHOWER TRAYS

### Relax model shower tray



Dimensions 80 cm x 90 cm. Large size drain grille in Stainless Steel positioned away from standing area. Tray in polyester and fibreglass with non-slip pattern and gel-coat finish.

**With anchoring fixture Ø 43 mm**  
For showers 00091, 00092 and 00099

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
20066	1	9.0	0.143

### Classic model shower tray



Dimensions 100 cm x 80 cm. Large size drain grille in Stainless Steel. Tray in Polyester and fibreglass with non-slip pattern and gel-coat finish.

**With anchoring fixture Ø 43 mm**  
For showers 00091, 00092 and 00099

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
19723	1	10.0	0.143

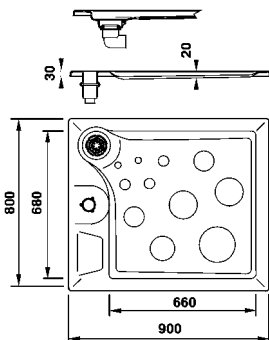
### Shower tray



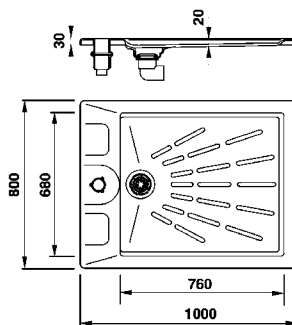
Dimensions 80 cm x 80 cm. with adjustable bottom drain. Drain grille Ø 130 mm, connection Ø 50 mm. Tray in Polyester and fibreglass.

**With anchoring fixture Ø 43 mm**  
For showers 00091, 00092 and 00099

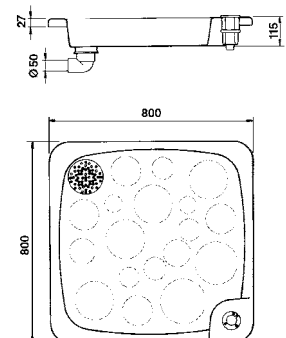
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00103	1	11.0	0.120



20066 – 20067 – 20073



19723 – 19724 – 19725



00103 – 00104

**OUTDOOR FOOTWASH**



**Footwash for public use**

Polyester resin and fibreglass base plate. 2 x 1 m with gel coat finish.

Features:

- Drain grille 3/8"
- Overflow and water inlet connection 3/8" .
- Non-slip surface.
- Angled bottom plate to prevent water build up.

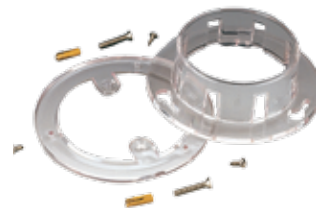


	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Blue colour	<b>21255</b>	1	4.0	0.91
White colour	<b>21255CL07</b>	1	4.0	0.91



**Disinfectant dispenser**

Designed to be installed to the footwash, (can be screwed or glued). To place a 200 gr Chlorine tablet to disinfect the water. Includes locking screws, to prevent opening as well as assuring safety to the user.



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>25356</b>	-	-	-

## OVERFLOW GRATINGS

### GENERAL NOTE FOR ALL MODELS

Made of stabilised Polypropylene against U.V. rays. Standard white colour. Please enquire for other colours.

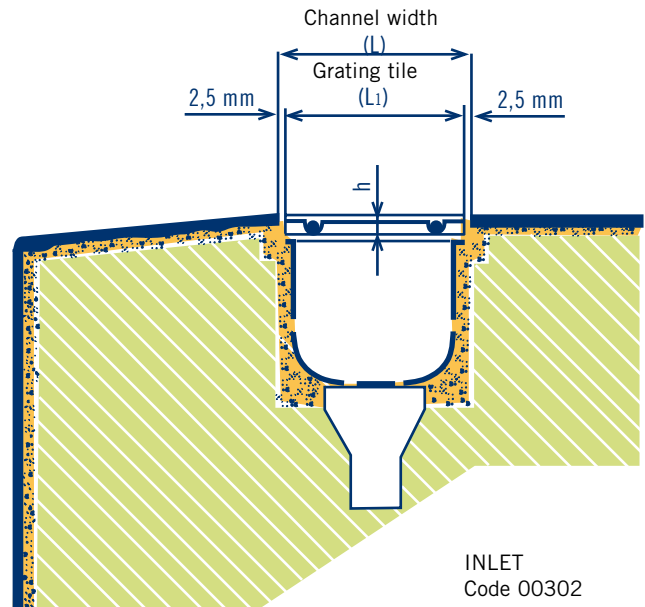
These are supplied as modules of gratings for straight or curved runs (outer radius of 1 or 2 metres). The gratings click together with a male-female pressure fit permitting a certain amount of flexibility in assembly which absorbs any expansion which may occur when the tiles are exposed to heat fluctuations.

For all types of gratings it is necessary to construct the channel 5 mm wider than the grating itself, to allow for ease of removal and for expansion.

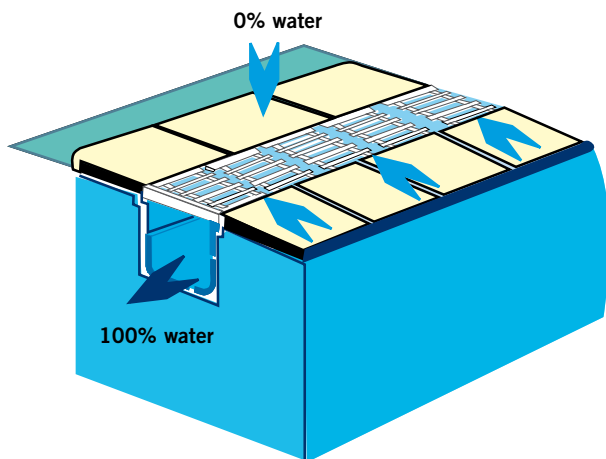
Channel width	Grating width
200.....	195
250.....	245
300.....	295
350.....	345

Height of grating (h) varies according to model.

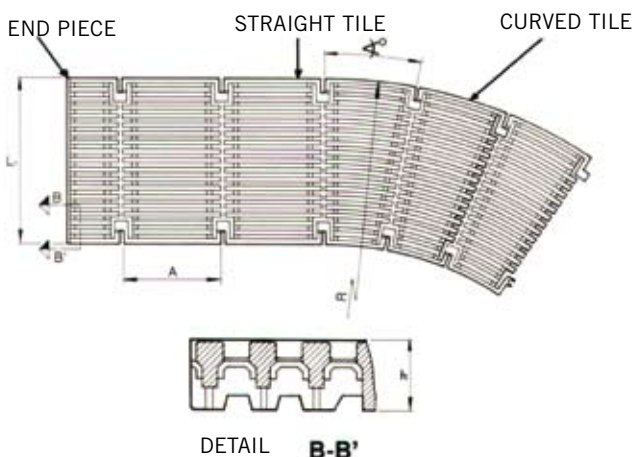
- Longitudinal model h = 24 mm
- Transversal model h = 22 mm and h = 35 mm



### LONGITUDINAL MODEL



The longitudinal design of the tiles ensures that any excess water from the pool is not allowed to overflow onto the pool deck, maintaining the area dry.



	Model		L	L1	h	A	↖r.1m.	↖r.2m.
	STRAIGHT TILE	05581	05585	200	195	24	206	-
05582		05586	250	245	24	206	-	-
05583			300	295	24	206	-	-
05584			350	345	24	206	-	-
CURVED TILE	r.1m.	r.2m.						
	08001	05585	200	195	24	-	11° 15'	6°
	07565	05586	250	245	24	-	11° 15'	6°
	08002		300	295	24	-	11° 15'	6°
END PIECE	06420		200	195	24	-	-	-
	06421		250	245	24	-	-	-
	06422		300	295	24	-	-	-
	06423		350	345	24	-	-	-

**OVERFLOW GRATINGS**

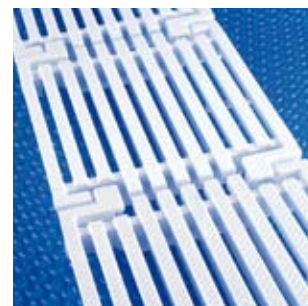


**Parallel grating tile**






Made of PP, stabilised against UV rays. Gratings are locked together with male-female hooks (5 units = 1024 m) Their flexibility allows them to bend up to a 5 m radius.

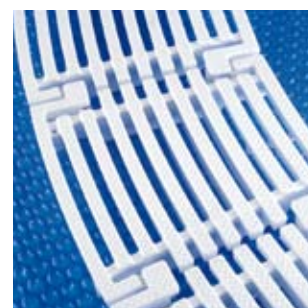
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 24 mm, width 195 mm	<b>05581</b>	45	16.2	0.080
Height 24 mm, width 245 mm	<b>05582</b>	29	13.4	0.080
Height 24 mm, width 295 mm	<b>05583</b>	28	15.6	0.080
Height 24 mm, width 345 mm	<b>05584</b>	19	13.2	0.080



**Curved grating tile**





Made of PP, stabilised against UV rays. Locked together in the same direction as the tiles. Ideal for free design pools. Can be combined with straight tiles.

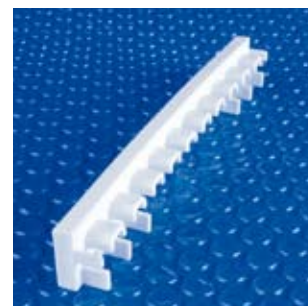
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>External radius 1 m</b>				
Height 24 mm, width 195 mm	<b>08001</b> 	60	18.3	0.080
Height 24 mm, width 245 mm	<b>07565</b> 	42	16.2	0.080
Height 24 mm, width 295 mm	<b>08002</b> 	32	15.3	0.080
Height 24 mm, width 345 mm	<b>07566</b> 	24	13.7	0.080
<b>External radius 2 m</b>				
Height 24 mm, width 195 mm	<b>05585</b> 	48	16.5	0.080
Height 24 mm, width 245 mm	<b>05586</b> 	30	13.4	0.080



**End piece for parallel tiles**





To adapt and finish tiles in case cutting is needed. Made of Polypropylene.

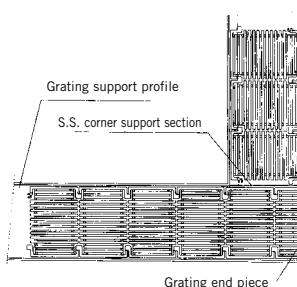
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 24 mm, width 195 mm	<b>06420</b> 	1	0.025	0.001
Height 24 mm, width 245 mm	<b>06421</b> 	1	0.028	0.001
Height 24 mm, width 295 mm	<b>06422</b> 	1	0.030	0.001
Height 24 mm, width 345 mm	<b>06423</b> 	1	0.040	0.001



**End piece kit for parallel grating**

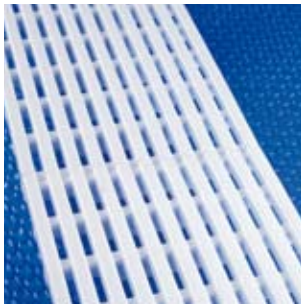
AISI-304 slate, made of PP with chemical stabilizers to protect from UV rays. Made to adapt to the last tile in case it cutting is needed.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 24 mm, width 195 mm	<b>16064</b> 	1	0.380	0.001
Height 24 mm, width 245 mm	<b>16065</b> 	1	0.432	0.002
Height 24 mm, width 295 mm	<b>16066</b> 	1	0.525	0.002
Height 24 mm, width 345 mm	<b>16067</b> 	1	0.655	0.002





## OVERFLOW GRATINGS



### Perimeter grating

Range of overflow grating for swimming pools. Made in homopolymer Polypropylene, with additives to protect against UV rays. Available in 500 mm long modules with male-female hooks for easy and fast assembly.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Longitudinal grating 0.5 m Height 22 mm. Width 195 mm	<b>28664</b>	20	19.9	0.080



### Stainless Steel longitudinal grating and Stainless Steel 90° corner

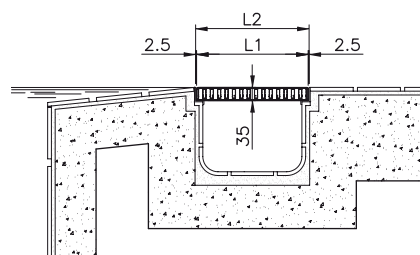


Longitudinal overflow grating, made in Stainless Steel. It is necessary to construct the channel 5mm wider than the grille itself, to allow for easy assembly.

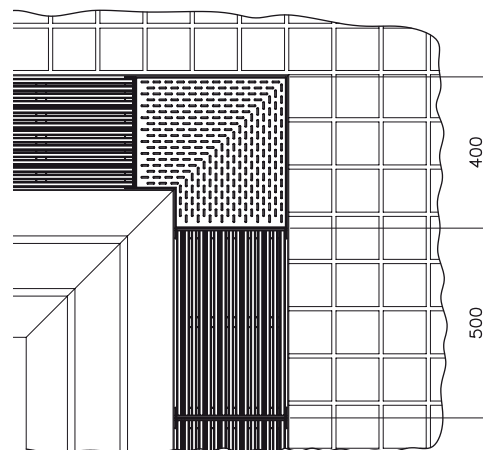
It is made up of straight sections of AISI-304 Stainless Steel, 500 mm in length. Straight sections can be made-to-measure in order to fit the length of the swimming pool.

The 90° corner is made of Stainless Steel and is the perfect complement to the Stainless Steel longitudinal grating. Metal with non-slip surface. 4 models with different sizes according to the width of grating used.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Stainless Steel longitudinal grille 195 mm	<b>32415</b>	-	-	-
Stainless Steel longitudinal grille 245 mm	<b>32416</b>	-	-	-
Stainless Steel longitudinal grille 295 mm	<b>32417</b>	-	-	-
Stainless Steel longitudinal grille 345 mm	<b>32418</b>	-	-	-
Stainless Steel 90° corner 195 mm	<b>32729</b>	-	-	-
Stainless Steel 90° corner 245 mm	<b>32730</b>	-	-	-
Stainless Steel 90° corner 295 mm	<b>32731</b>	-	-	-
Stainless Steel 90° corner 345 mm	<b>32732</b>	-	-	-



Grating code	Corner code	L1	L2
<b>32415</b>	<b>32729</b>	195	200
<b>32416</b>	<b>32730</b>	245	250
<b>32417</b>	<b>32731</b>	295	300
<b>32418</b>	<b>32732</b>	345	350



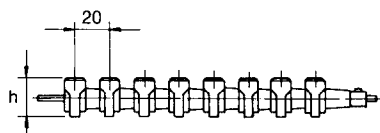
**OVERFLOW GRATINGS**



**Transversal grating**

Made of PP, stabilised against UV rays. Assembled together by a pass-through cable (49 units per metre).

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 22 mm, width 195 mm	<b>00212</b>	340	11.9	0.039
Height 22 mm, width 245 mm	<b>00213</b>	305	13.2	0.039



Code	Channel Width (L)	Grating Width (L1)	h
<b>00212</b>	200	195	22
<b>00213</b>	250	245	22



**Plasticized steel cable**

Ø 2.5 mm. To assemble straight modular gratings.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00214</b> 	1000 m	21.0	0.036



**Stainless Steel AISI-316 plasticized cable**


Ø 2.5 mm. To assemble straight modular gratings.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00215</b>	1000 m	21.0	0.036



**Locking pins for cable**

Made of brass.

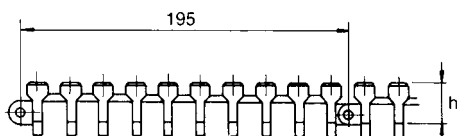
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00216</b> 	100	1.5	0.001



**Transversal grating tile**

Made of PP, stabilised against UV rays. Tiles are hooked together by male-female hooks. (5 units = 0.975 m).

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 22 mm, width 245 mm	<b>00217</b>	52	22.8	0.080
Height 22 mm, width 295 mm	<b>00218</b>	45	23.1	0.080
Height 22 mm, width 335 mm	<b>00219</b>	38	22.0	0.080



Code	Channel Width (L)	Grating Width (L1)	h
<b>00217</b>	250	245	22
<b>00218</b>	300	295	22
<b>00219</b>	340	335	22



**Grating support profile**

Suitable for 22, 24 and 35 mm grating heights. Made of plastic. Supplied in 2 m lengths. Inside measurement 24 mm x 37 mm.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00224</b>	25	13.2	0.033

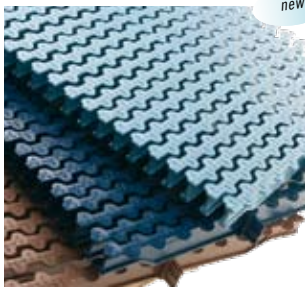
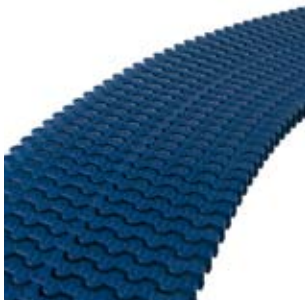


## OVERFLOW GRATINGS



### Modular transversal grating for curves

Made of PP stabilised against UV rays. Assembled together by modular fitting. According to EN-13451-1 standard (8 mm). Available in 5 colours. **Other grating colours can be supplied on request. For further information, please contact your AstralPool distributor.**



new

#### MODULAR GRATING FOR CURVES

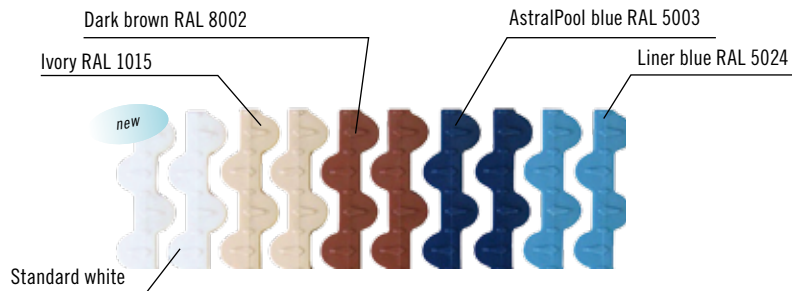
Height 22 mm, width 195 mm  
 Height 22 mm, width 245 mm  
 Height 22 mm, width 295 mm  
 Height 22 mm, width 335 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>34190</b>	470	14.1	0.08
<b>34191</b>	320	12.4	0.08
<b>34192</b>	300	15.0	0.08
<b>34193</b>	250	15.0	0.08

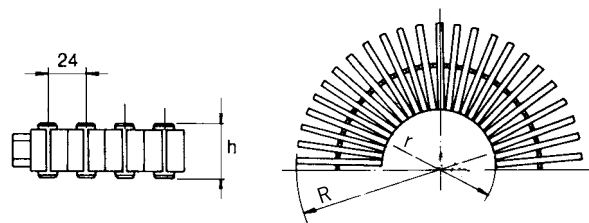
#### MODULAR GRATING FOR CURVES (REVERSIBLE)

Height 35 mm, width 195 mm  
 Height 35 mm, width 245 mm  
 Height 35 mm, width 295 mm  
 Height 35 mm, width 335 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>34194</b>	450	16.0	0.08
<b>34195</b>	300	13.7	0.08
<b>34196</b>	290	17.3	0.08
<b>34197</b>	250	17.4	0.08



Colour	Code
White	-
RAL 1015	<b>CL90</b>
RAL 8002	<b>CL109</b>
RAL 5003	<b>CL60</b>
RAL 5024	<b>CL 108</b>



Code	h	Channel Width (L)	Grating Width (L1)	R	r
<b>34190</b>	22	200	195	645	450
<b>34191</b>	22	250	245	825	580
<b>34192</b>	22	300	295	1055	760
<b>34193</b>	22	340	335	1155	820
<b>34194</b>	35	200	195	645	450
<b>34195</b>	35	250	245	825	580
<b>34196</b>	35	300	295	1055	760
<b>34197</b>	35	340	335	1155	820

Measurements in mm



### Modular transversal gratings for curves

Made of PP, stabilised against UV rays. Assembled together by modular fitting (45 units per m).



#### MODULAR GRATING FOR CURVES

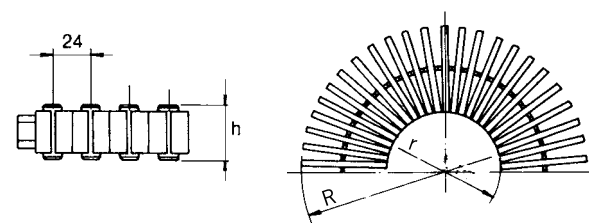
Height 22 mm, width 195 mm  
 Height 22 mm, width 245 mm  
 Height 22 mm, width 295 mm  
 Height 22 mm, width 335 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>11107</b>	470	15.8	0.080
<b>11108</b>	320	13.6	0.080
<b>19202</b>	300	18.0	0.080
<b>19203</b>	250	17.0	0.080

#### MODULAR GRATING FOR CURVES (REVERSIBLE)

Height 35 mm, width 195 mm  
 Height 35 mm, width 245 mm  
 Height 35 mm, width 295 mm  
 Height 35 mm, width 335 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00220</b>	450	16.5	0.080
<b>00221</b>	300	14.3	0.080
<b>00222</b>	290	19.3	0.080
<b>00223</b>	250	18.1	0.080



Code	h	Channel Width (L)	Grating Width (L1)	R	r
<b>11107</b>	22	200	195	445	250
<b>11108</b>	22	250	245	545	300
<b>19202</b>	22	300	295	645	350
<b>19203</b>	22	340	335	785	450
<b>00220</b>	35	200	195	445	250
<b>00221</b>	35	250	245	545	300
<b>00222</b>	35	300	295	645	350
<b>00223</b>	35	340	335	785	450

Measurements in mm.

**OVERFLOW GRATINGS**





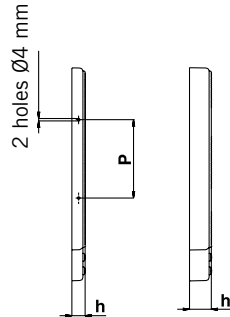
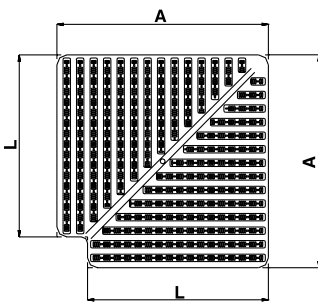
**90° Corner tiles for overflow channels**



Made of injected white copolymer Polypropylene.



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Height 22 mm, width 195 mm	<b>22379</b>	4	2.8	0.006
Height 22 mm, width 245 mm	<b>22380</b>	4	3.6	0.009
Height 22 mm, width 195 mm	<b>22381</b>	4	4.8	0.012
Height 22 mm, width 335 mm	<b>22382</b>	4	5.7	0.016
Height 35 mm, width 195 mm	<b>22383</b>	4	3.2	0.009
Height 35 mm, width 245 mm	<b>22384</b>	4	4.1	0.014
Height 35 mm, width 295 mm	<b>22385</b> 	4	5.3	0.012
Height 35 mm, width 335 mm	<b>22386</b> 	4	6.2	0.023



Code	A	H	L	P
<b>22379</b>	245	22	195	127
<b>22380</b>	295	22	245	127
<b>22381</b>	345	22	295	127
<b>22382</b>	385	22	335	127
<b>22383</b>	245	35	195	-
<b>22384</b>	295	35	245	-
<b>22385</b>	345	35	295	-
<b>22386</b>	385	35	335	-

Measurements in mm.

## SAFETY BARRIERS

### Safety barriers

These safety barriers are developed according to French Standard NF P90-306. They are available in two models. Top model, with Stainless Steel posts and glass panel and Medium model, with Stainless Steel posts and green mesh. Designed for easy assembly, these barriers prevent children under-5, animals and objects entering the area pool.



Top model



Medium model

#### Top model safety barrier (S.S. AISI-304 post with glass)

Ø 63 mm S.S. post

90° S.S. post

Set of glass fixing profiles

Glass panel

Glass barrier door

#### Medium model safety barrier (S.S. AISI-304 post with mesh)

Ø 43 mm S.S. post

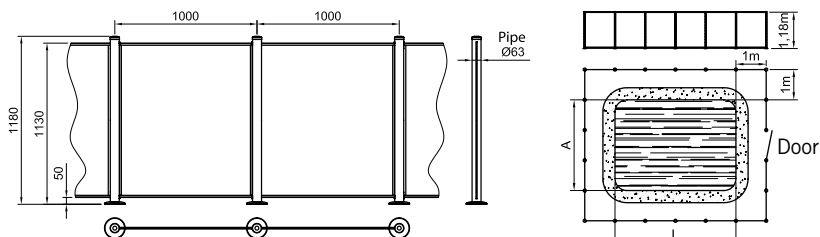
S.S. barrier door with mesh

1 m long mesh

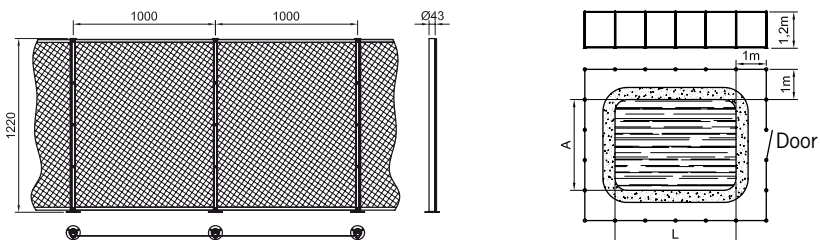
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
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32664	1	-	-
32665	1	-	-
32666	1	-	-
32667	1	-	-
32668	1	-	-
32657	1	-	-
32660	1	-	-
32674	1	-	-

#### Top model



#### Medium model



Pool (A x L)	Perimeter (m)	Top model					Medium model		
		32664	32665	32666	32667	32668	32657	32660	32674
3 x 6 m	26	20	4	25	25	1	24	1	26
4 x 8 m	32	26	4	31	31	1	30	1	32
5 x 10 m	38	32	4	37	37	1	36	1	38
6 x 12 m	44	38	4	43	43	1	42	1	44



**SAFETY BARRIERS**

**Electronic security fences**

Electronic security fences for residential swimming pools improve swimming pool safety using infrared beams without removing the need for vigilance by adults over small children. When somebody approaches in the vicinity of the swimming pool, the infrared beams set off an alarm. Its aesthetic design allows it to blend in with the surroundings, compared to conventional fences.

The basic kit comprises a transmitter pole and one receiver. A maximum of 6 poles can be used (1 from the basic kit + 5 additional poles). The maximum distance between the poles for their correct functioning is 30 m. Connected to mains electricity, the Standard kit is activated by a security key or with an optional remote control to switch it on or off. The alarm is programmable, and may be activated using a timer for between 30 minutes and 5 hours, without the need to switch off the whole system. The transmitter pole is equipped with a battery which keeps the system working for 5 hours in the event of a power cut.

The kit is made in accordance with the AFNOR NF P90-307 standard and endorsed by the French National Centre for Prevention and Protection (CNPP).

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Basic kit (basic pole and one receiver)	<b>32698</b>	-	-	-
Additional pole	<b>32699</b>	-	-	-
Remote control	<b>33836</b>	-	-	-



**Underwater Pool alarm systems**

Complete range of underwater detectors to suit the needs of the pool owner. All three models available; AstralPool Basic, AstralPool Sun and AstralPool Comfort can be used with the DOMOTIC remote control device.

The AstralPool underwater detector works on the principle that it is able to detect and analyse the under-water wave caused by an object or person falling or entering the pool and activate its powerful alarm siren. Complies with the French Standard NF P90-370/A1. All three alarms are fitted the pool coping and are designed to blend easily into the surroundings.

**Basic Model:** Underwater detector that operates on an alkaline battery. It is fixed onto the pool coping and is equipped with a powerful integrated siren. Option to install a DOMOTIC remote information device.

**Sun model:** Underwater detector operating on a lithium battery and a solar panel for higher autonomy. It is fixed onto the pool coping and has two alarm sirens: the first integrated into the detection unit and the second into an independent remote device (DOMOTIC) placed inside the house.

**Confort model:** Underwater detector which offers the user various safety and comfort data. Powered with a lithium battery and a solar panel. Fixed onto the pool coping. In addition to the integrated siren, it offers a temperature sensor and a pH probe. This data is transmitted by a secured radio link to a remote DOMOTIC device situated inside the house.

**Domotic:** It is a remote transmission device, designed for the convenience of the user. It consists of a packet portable unit, accessible from the house. There are 2 models: Domotic for Sun and Basic alarms for information of safety at the pool and Domotic for Comfort Model for information of safety at the pool + temperature and pH readings.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Basic	<b>37058</b>	1	1.50	0.041
Sun	<b>37059</b>	1	2.25	0.041
Confort	<b>37060</b>	1	2.50	0.041
Domotic for Basic alarm	<b>37061</b>	1	-	-



new



# POOL SHELL EQUIPMENT

## Concrete pools

- 62 • Skimmers 15 L
- 63 • Skimmers 17.5 L
- 65 • Skimmers - Accessories
- 67 • S.S. Skimmers
- 69 • S.S. Skimmers - Accessories
- 69 • Water level regulators
- 70 • Main drains
- 74 • Main drains - Accessories
- 75 • Drain grilles
- 77 • ABS inlets
- 80 • S.S. inlets
- 82 • Wall conduits
- 83 • Winter accessories

## Liner and prefabricated pools

- 84 • Skimmers 15 L
- 85 • Skimmers 15 L for panelled pools
- 86 • Skimmers 17.5 L
- 88 • Water level regulators
- 89 • Main drains
- 92 • Main drains - Accessories
- 93 • ABS inlets
- 97 • S.S. inlets
- 98 • Wall conduits





## CONCRETE POOL - SKIMMERS 15 L

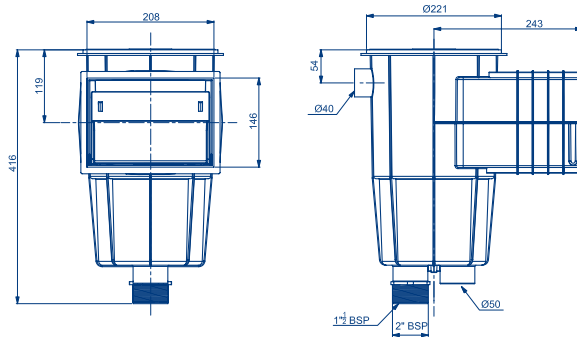
All exposed skimmer parts are UV resistant. In white ABS with silent weir flap and flow regulation plug. G 1 1/2" female - G 2" male threaded lower suction connections. Ø 50 mm solvent connection also provided. Overflow connection Ø 40 mm. Basket secured to base with bayonet fixing. **Recommended flow 5 m<sup>3</sup>/h.** We recommend installing one skimmer for every 25 m<sup>2</sup> of water surface area.

### Skimmer with standard mouth opening



Round lid  
Square lid

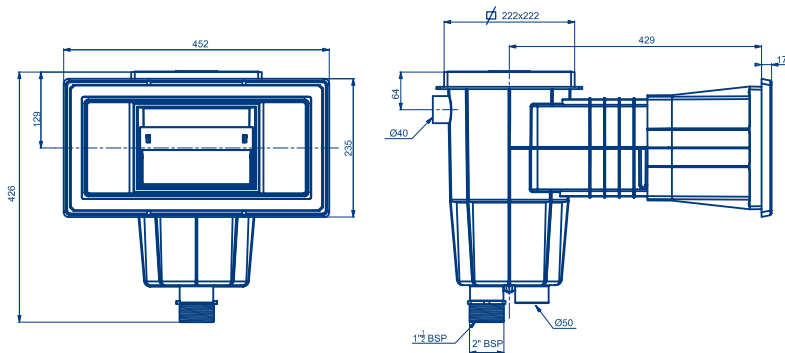
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00249</b>	1	2.95	0.059
<b>00250</b>	1	3.15	0.059



### Skimmer with wide mouth opening

Round lid  
Square lid

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00251</b>	1	4.47	0.12
<b>00252</b>	1	3.00	0.12

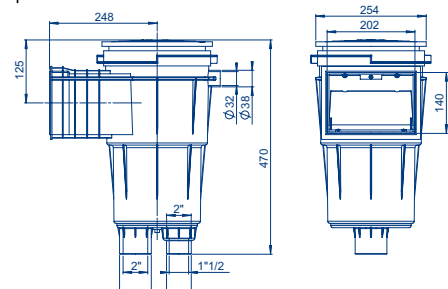


**CONCRETE POOL - SKIMMERS 17.5 L**



All exposed skimmer parts are UV resistant. In white ABS with silent weir flap and flow regulation plug. G 1½" female - G 2" male suction connections. Ø 50 mm solvent connection also provided. Overflow connection Ø 32 mm. Lid with clip fastening system with lid height adjustment to fit surround perfectly. Basket secured to base with bayonet fixing. Weir flap included. **Recommended flow 7.5 m³/h.** We recommend installing one skimmer for every 25 m² of water surface area.

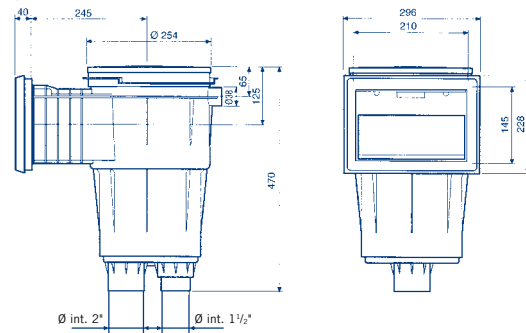
**Skimmer with standard mouth opening**

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	<b>05589</b>	1	4.20	0.062
Square lid	<b>11306</b>	1	4.20	0.062



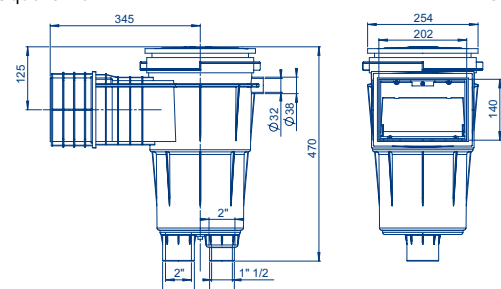
**Skimmer with standard mouth opening and decorative face plate**

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	<b>05280</b> 	1	5.10	0.062
Square lid	<b>11302</b> 	1	5.20	0.062



**Skimmer with extended throat and standard mouth opening**

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	<b>05590</b>	1	4.85	0.077
Square lid	<b>11307</b>	1	5.90	0.077



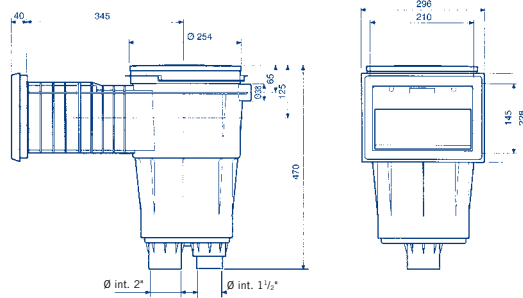
## CONCRETE POOL - SKIMMERS 17.5 L

### Skimmer with standard mouth opening, extended throat and face plate



Round lid  
Square lid

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
05281	1	5.09	0.077
11303	1	5.75	0.060

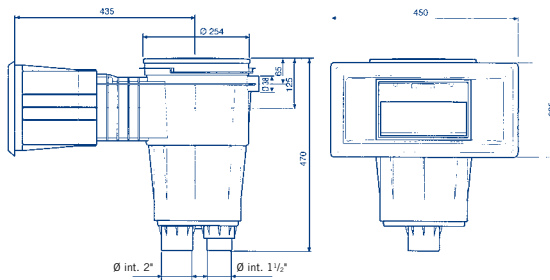


### Skimmer with wide mouth opening



Round lid  
Square lid

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
05282	1	6.20	0.135
11304	1	6.24	0.135

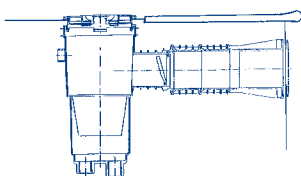
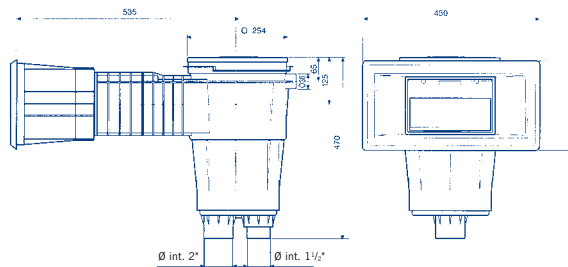


### Skimmer with extended throat and wide mouth opening



Round lid  
Square lid

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
05283	1	6.75	0.161
11305	1	6.90	0.161



Versions of the 17.5 litre skimmer can be supplied with throat extensions much larger than those stated above. This could be of particular interest when using wider coping stones than the usual width.

**CONCRETE POOL - SKIMMER ACCESSORIES**

**15 lts skimmer cover extension ring**

Additional spacer ring to increase distance between 15 l skimmer and lid. 25 mm lengthening distance. Made in ABS. Height can be increased by overlaying various connections. Can also be slightly tipped to level with ground.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
19919	17	4.08	0.069



**17.5 lts skimmer cover extension ring**


Additional ring for better adjusting and levelling 17.5 l skimmer lid to the deck level. 20 mm lengthening distance. Made in white ABS. Height can be millimetrically gauged by overlaying various rings. Can also be slightly tipped to level with ground.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
18153	17	4.70	0.069



**15 lts skimmer lid thermometer**

Lid for 15 lts. skimmer with thermometer incorporated. Made in UV stabilised ABS. Allows easy temperature reading of pool water.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
15865 	1	8.9	0.060



## CONCRETE POOL - ACCESORIOS SKIMMERS

### Floating weir assembly in ABS



Complete with strainer basket in white ABS.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For 15 l skimmers	00253	12	20.5	0.207
For 17.5 l skimmers	05703	12	20.5	0.207

### Bag for skimmer strainer basket



Hygienic residue retention throw away bag placed inside the skimmer basket to protect the filter and obtain the high-est efficiency level. Suits all skimmer types with baskets till Ø 24 cm.

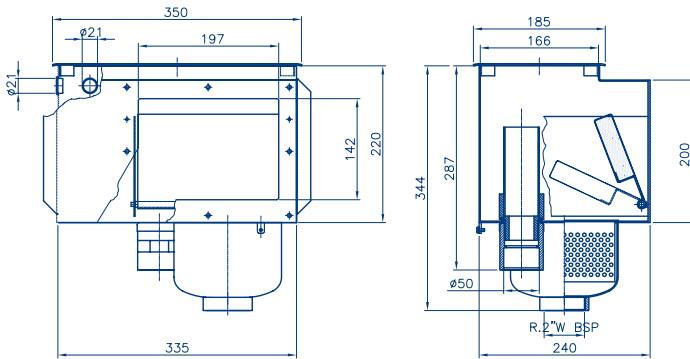
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
12 units per box	25768	12	0.40	0.006

**CONCRETE POOL - S.S. SKIMMERS**

**A-100 S.S. skimmer**

Made of S.S. AISI-316. With Ø 50 mm overflow with S.S. lid and strainer basket, both included. Provided with space for installing water level regulating valve 00256. With earth connection. Recommended flow: 7.5 m<sup>3</sup>/h.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Suction connection 2"	<b>00254</b>	1	8.4	0.04



**Decorative frame**

For 00254 skimmer. Made in S.S. AISI-316.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00255</b>	1	0.62	0.003

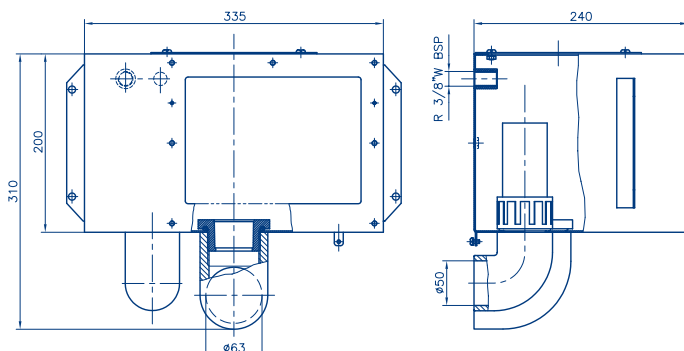


**Skimmer body A-201**

In S.S. AISI-316. With Ø 50 overflow. Skimmer housing without telescopic lid. Provided with space for fitting water level regulating valve 00256. With earth connection.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>07520</b>	1	6.51	0.04

Suction connection Ø 63 mm



## CONCRETE POOL - S.S. SKIMMERS

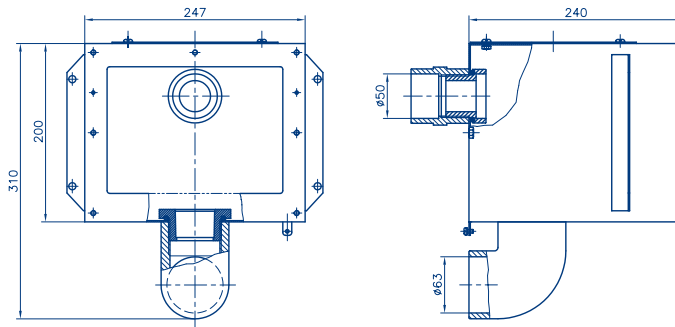
### Skimmer body A-202



Made of S.S. AISI-316. With  $\varnothing$  50 mm overflow. Skimmer housing without telescopic lid. With earth connection.

Suction connection  $\varnothing$  63 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>07610</b>	1	5.25	0.04



### Skimmer strainer basket for A-201 and A-202



Made of S.S. AISI-316. Includes face plate for direct removal through skimmer mouth.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>07521</b>	1	2.19	0.02

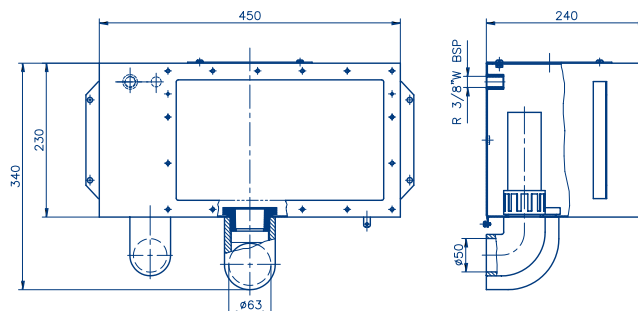
### Skimmer body A-400



Made of S.S. AISI-316. With  $\varnothing$  50 mm overflow. Skimmer housing without telescopic lid. Provided with space for fitting water level regulating valve 00256. With earth connection.

Suction connection,  $\varnothing$  63 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>07523</b>	1	8.0	0.06



**CONCRETE POOL - SKIMMERS EN S.S.**
**Skimmer strainer basket for A-400 skimmer**

Made of S.S. AISI-316. For direct removal through skimmer throat.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07522	1	3.5	0.04


**CONCRETE POOL - SKIMMER ACCESSORIES IN S.S.**
**Telescopic lid**

Made of S.S. AISI-316. For skimmer models A-201, A-202 and A-400. Square lid 180 x 180 mm. Adjustable height from 60 to 110 mm.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07524	1	1.63	0.01


**Water level regulating valve**

Valve to be fitted into all S.S. skimmer models, except in model A-202. Adjustable buoy. Connection 3/8".

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00256	1	0.21	0.002


**CONCRETE POOL - WATER LEVEL REGULATORS**
**Water level regulator**

Made in ABS. Installed by lateral or inferior connection, as required. Knockout outlets. Hight and level adjustable cover. Compatible with any type of skimmer.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
15862	1	2.0	0.016





## CONCRETE POOL - MAIN DRAINS

All main drains made in plastic are provided with UV protected grilles.

· According to EN 13451-1 Standard, public pools require:

- Water velocity 0.5 m/sec
- Maximum suction velocity in pipe 1.5 m/sec
- Minimum distance between drains: >2 m
- Recommended use of WARNER security system to detect any excessive suction and automatic shut-down of pumps

### Circular main drain Ø 270 mm with grille in ABS



Made totally in white ABS, 1½" bottom connection and 2" side connections which can be plugged from the inside for pressure testing. 1½" bottom connection with plug or for fitting the hydrostatic relief valve (00277) & drainage tube (21581). Grille cover diameter Ø 250 mm. Maximum flow rate: 13 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
01466	4	5.0	0.045

### Circular main drain, 2" outlet



Body and grille in white ABS. Grille fixed with screws. Maximum flow: 13 m³/h.

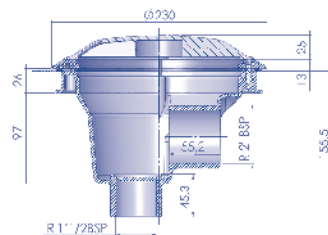
Code	Standard Packing	Standard Weight kg	Standard Volume m³
01467	4	2.8	0.028

### Circular main drain Ø 200 mm with antivortex grille

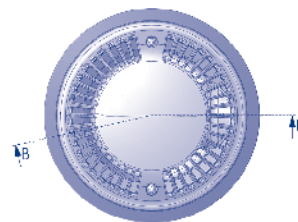


Made in ABS. Side connection 2" and bottom connection 1½" with knockout sockets. Drainage pipe (21581) can be fitted. Maximum flow: 13 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
27837	1	2.807	0.028



B-B Section



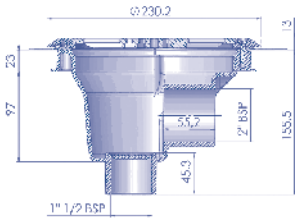
Plan view

**CONCRETE POOL - MAIN DRAINS**

**Circular main drain Ø 200 mm with flat grille**

Made in white ABS. Side connection 2" and bottom connection 1 1/2" with knockout sockets. With bottom knockout sockets closed which allow to open the appropriate one when ever necessary.  
Maximum flow: 13 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
27839	1	2.651	0.028



B-B Section



Plan view

**Square main drain with ABS grille 210 mm x 210 mm**

Side connection 2". Body and grille in white ABS. Grille fixed with screws. Maximum flow: 13 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00258	4	4.0	0.044



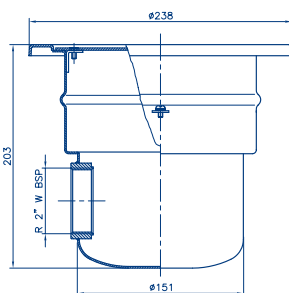
**Circular S.S. main drain, 2" outlet**

Side connection 2". In S.S. AISI-316. Grille fixed with screws. Maximum flow: 13 m<sup>3</sup>/h.

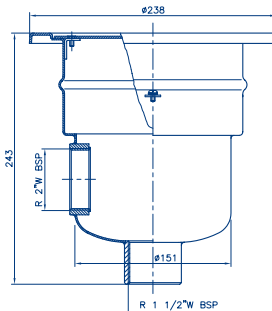
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00268	1	2.56	0.02
26196	1	2.80	0.02

Side connection 2"

Side connection 2" and bottom connection 1 1/2"



00268



26196



## CONCRETE POOL - MAIN DRAINS



### Main drain with square lid in S.S., 2" outlet



Side connection 2". Made in S.S. AISI-316. Antivortex lid. Can be used with liner and prefabricated pools with liner adaptor kit 00276. Maximum recommended flow: 6 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00269	1	1.14	0.01



### Main drain in polyester and fibreglass - 330 mm x 330 mm

Gel-coat finish. With optional hydrostatic valve.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
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Grille in S.S. AISI-316. Slots < 8 mm

Solvent socket outlet connection	Grille	Flow
Ø 75 mm	AISI-316	16 m <sup>3</sup> /h
Ø 90 mm	AISI-316	22 m <sup>3</sup> /h
Ø 110 mm	AISI-316	33 m <sup>3</sup> /h

20282	1	5	0.047
20283	1	5	0.047
20284	1	5	0.047

ABS grille UV protected

Solvent socket outlet connection	Grille	Flow
Ø 75 mm	Plastic	16 m <sup>3</sup> /h
Ø 90 mm	Plastic	22 m <sup>3</sup> /h
Ø 110 mm	Plastic	33 m <sup>3</sup> /h
Ø 125 mm	Plastic	43 m <sup>3</sup> /h

22359	1	4.5	0.034
22360	1	4.5	0.034
22361	1	4.5	0.034
22362	1	4.5	0.034



Max. recommended flow according to EN 13451-1 Standard.

**CONCRETE POOL - MAIN DRAINS**

**Main drain in polyester and fibreglass - 515 mm x 515 mm**

Gel coat finish. With optional hydrostatic valve.

			Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Grille in S.S. AISI-316. Slots < 8 mm						
<b>Solvent socket outlet connection</b>	<b>Grille</b>	<b>Flow</b>				
Ø 110 mm	AISI-316	33 m <sup>3</sup> /h	<b>20285</b>	1	11.5	0.132
Ø 125 mm	AISI-316	43 m <sup>3</sup> /h	<b>20286</b>	1	11.5	0.132
Ø 140 mm	AISI-316	54 m <sup>3</sup> /h	<b>20287</b>	1	11.5	0.132
Ø 160 mm	AISI-316	70 m <sup>3</sup> /h	<b>20288</b>	1	11.5	0.132
Ø 200 mm	AISI-316	100 m <sup>3</sup> /h	<b>20289</b>	1	11.5	0.132



ABS grille UV protected

<b>Solvent socket outlet connection</b>	<b>Grille</b>	<b>Flow</b>				
Ø 110 mm	Plastic	33 m <sup>3</sup> /h	<b>28709</b> ▲	1	11.5	0.132
Ø 125 mm	Plastic	43 m <sup>3</sup> /h	<b>28710</b> ▲	1	11.5	0.132
Ø 140 mm	Plastic	54 m <sup>3</sup> /h	<b>28711</b> ▲	1	11.5	0.132
Ø 160 mm	Plastic	70 m <sup>3</sup> /h	<b>28712</b> ▲	1	11.5	0.132
Ø 200 mm	Plastic	100 m <sup>3</sup> /h	<b>28713</b> ▲	1	11.5	0.132



Max. recommended flow according to EN 13451-1 Standard.


**Combined anti-suction and antivortex lid**
**Fina**

Combination of main drain (plastic grille) &amp; antivortex lid 28556.

			Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Main drain 330 mm x 330 mm</b>						
Combined anti-suction Ø 75 mm			<b>28666</b> ▲	1	-	-
Combined anti-suction Ø 90 mm			<b>28706</b> ▲	1	-	-
Combined anti-suction Ø 110 mm			<b>28707</b> ▲	1	-	-
Combined anti-suction Ø 125 mm			<b>28708</b> ▲	1	-	-
<b>Main drain 515 mm x 515 mm</b>						
Combined anti-suction Ø 110 mm			<b>28665</b> ▲	1	-	-
Combined anti-suction Ø 125 mm			<b>28702</b> ▲	1	-	-
Combined anti-suction Ø 140 mm			<b>28703</b> ▲	1	-	-
Combined anti-suction Ø 160 mm			<b>28704</b> ▲	1	-	-
Combined anti-suction Ø 200 mm			<b>28705</b> ▲	1	-	-



## CONCRETE POOL - MAIN DRAIN ACCESSORIES



### Hydrostatic valve



To alleviate pressure that underground water can build up under the pool shell, it is recommended that a hydrostatic valve & drainage tube are fitted to a main drain.

**Hydrostatic valve:** To thread into the bottom of main drain with 2" outlet. Made of white ABS with screw and spring in S.S. Male thread 1½".

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00277	4	1.0	0.003



### Drainage tube



For hydrostatic valve. 1½" BSP threading for 01466, 27837 and 27839 main drains. In UV resistant ABS.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
21581	24	3.54	0.021



### Flush antivortex lid



New flush design to allow unobstructed passage of cleaners. Complies with EN 13451-1: 2000 Standard. 415 x 415 mm lid suitable with the following drains:

**With S.S. grille:**

- 20282
- 20283
- 20284

**With plastic grille:**

- 22359
- 22360
- 22361
- 22362

570 x 570 mm lid suitable with the following drains:

**With S.S. grille:**

- 20285
- 20286
- 20287
- 20288
- 20289

**With plastic grille:**

- 28709
- 28710
- 28711
- 28712
- 28713



Code	Standard Packing	Standard Weight kg	Standard Volume m³
25344	1	2.25	0.012
28556	1	4.00	0.032

415 mm x 415 mm. Height: 70 mm  
570 mm x 570 mm. Height: 60 mm

**CONCRETE POOL - DRAIN GRILLES**



**Drain grille of Ø 200 mm**

Ring support and grille in white ABS. Supplied with grille fixing screws.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00280	10	3.0	0.031



**Drain grille in S.S. of Ø 200 mm**

Support ring in white plastic, grille in S.S. AISI-316. Supplied with grille fixing screws. Recommended max. flow: 13 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00279	10	6.0	0.02



**Drain grille in S.S. of Ø 300 mm**

Support ring in Aluminium, grille in S.S. AISI-316. Supplied with grille fixing screws. Recommended max. flow: 17 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00282	4	5.8	0.02



**Drain grilles**



Stainless steel frame. Stainless steel grille. Polished AISI-304. Supplied with grille fixing screws. Other dimensions can be supplied on order.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
------	------------------	--------------------	--------------------------------

**Dimensions:**

- 200 mm x 200 mm** Max. recommended flow 15 m<sup>3</sup>/h (0.5 m/s)
- 300 mm x 300 mm** Max. recommended flow 43 m<sup>3</sup>/h (0.5 m/s)
- 400 mm x 400 mm** Max. recommended flow 83 m<sup>3</sup>/h (0.5 m/s)
- 500 mm x 500 mm** Max. recommended flow 136 m<sup>3</sup>/h (0.5 m/s)

00284	1	1.2	0.01
00285	1	2.2	0.01
00286	1	4.0	0.03
00287	1	4.5	0.04



## CONCRETE POOL - DRAIN GRILLES



### Drain grilles range

Manufactured in compliance with EN 13451-1:2000 standard. Available in stainless steel and plastic. Frames are made in polyester and fibreglass with a gel-coat finish. Possibility of mounting antivortex lids (codes 25344 and 28556).

#### Main drain grille in stainless steel

490 mm x 490 mm

#### Main drain grille in plastic

490 mm x 490 mm

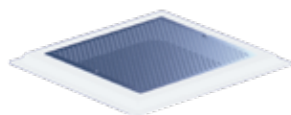
#### Main drain grille in stainless steel

345 mm x 345 mm

#### Main drain grille in plastic

345 mm x 345 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
28560	1	5.0	0.029
28561	1	4.7	0.029
28562	1	3.0	0.029
28563	1	2.9	0.029



new

### Drain grilles for residential pool

New range of Drain grilles for use in residential and commercial swimming pool applications. Available in plastic or stainless steel. Frames made in plastic. Grilles designed according to standard EN-13451-1:200. Excellent finish.

Drain grille 252 x 252 in plastic

Drain grille 252 x 252 in S.S.

Drain grille 410 x 410 in plastic

Drain grille 410 x 410 in S.S.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
34331	1	-	0.0129
34332	1	-	0.0129
34333	1	-	0.0540
34334	1	-	0.0540

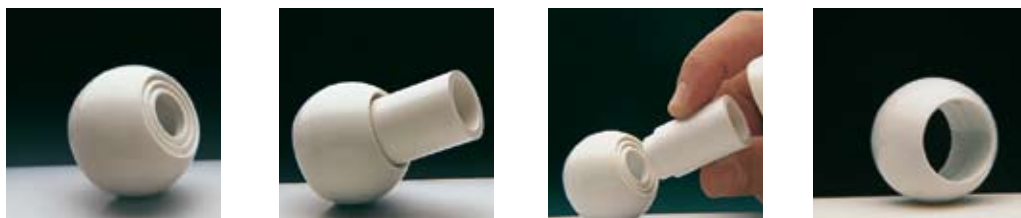
**CONCRETE POOL - ABS INLETS**

**MULTIFLOW SYSTEM**

The eyeball has been marked with a series of "knock-out" sockets of 14, 20, and 25 mm, enabling the desired flow to be selected at the time of installation.

Recommended max flow velocity 4 m/sec, complies with EN 13451-1: Standard

Flow rates: Ø 14 mm = 2.2 m<sup>3</sup>/h, Ø 20 mm = 4.5 m<sup>3</sup>/h, Ø 25 mm = 7 m<sup>3</sup>/h



**Return inlet "Multiflow" to glue**

To glue into Ø 50mm 10 bar pipe. Made in white ABS.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
24413	40	4.0	0.020



**Return inlet "Multiflow" to glue**

*new*

Made of ABS in white colour. For glueing inside diam 50 mm PN10 pipes. and 1½" SCH 40.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
33501	50	2.9	0.020



**Return inlet "Multiflow" (threaded)**

2" male thread, inner Ø 50 mm for glueing. Made in white ABS. Can be installed with wall conduits: 15658-15659.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00295	24	4.35	0.020





## CONCRETE POOL - ABS INLETS



### Return inlet "Multiflow" to glue



To glue onto  $\varnothing$  63 mm, outside 6 bar pipe and inside  $\varnothing$  50 mm. Made in white ABS. Can be installed with wall conduits: 15661-15660.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00298	24	4.24	0.020



### Return inlet



In white ABS UV resistant. 3 adjustable positions. (100%, 65%, & 35%). Max. flow rate: 13.5 m<sup>3</sup>/h complies with EN 13451-1 Standard. Connection:  $\varnothing$  63 mm to glue on the outside.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
15863	24	3.4	0.020



### Concrete floor inlet



Return / Suction. Adjustable flow. Made in white ABS, screw in S.S. Max. flow rate: 12 m<sup>3</sup>/h complies with EN 13451-1 Standard.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00303	24	5.0	0.020
20140	20	4.4	0.021

2" male thread, inner  $\varnothing$  50 mm to glue  
To glue onto  $\varnothing$  63 mm PN 6, inner  $\varnothing$  50 mm



### Adjustable 3" Concrete floor inlet



Made in white ABS. Adjustable flow by rotating the grille. Suction surface area: 0.015 m<sup>2</sup>. Outer  $\varnothing$  295 mm. Flow rate: 20 m<sup>3</sup>/h. (0.4 m/s.) Max. recommended flow rate: 26 m<sup>3</sup>/h. (0.5 m/s.) according to EN-13451-1 Standard.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
08317	2	2.65	0.047
11796	2	2.65	0.047

Grille in S.S. AISI-304  
Grille in white ABS

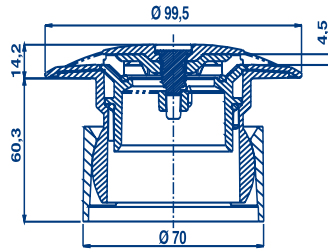
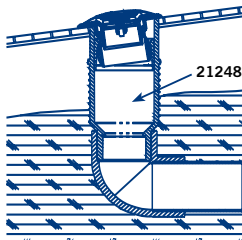
**CONCRETE POOL - ABS INLETS**



**Adjustable floor inlets with swivel joint**

Swivel body in PVC. Lid in ABS. Regulating screw in POM. Max. flow rate: 14 m<sup>3</sup>/h. To be fixed on Ø 75 mm pipe and wall conduit 21248.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
22353	24	4.1	0.022



**Wall conduit**

Wall conduit appropriate to glue the swivel joint floor inlet code 22353. 50 mm inside and 63 mm outside diameter.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
21248	12	7.3	0.032



**Concrete suction nozzle**

To glue to Ø 63 mm 6 bar pipe and Ø 50 mm solvent internal. Made in white ABS. Plug thread 1½". Recommended to be installed with wall conduits 15661 & 15660.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00300	24	3.62	0.020



**Concrete suction nozzle**

2" male thread, Ø 50 mm solvent internal. Maxim pressure: 6 bar. Made in white ABS. Plug thread 1½". Recommended to be installed with wall conduits 15658 & 15659.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00301	24	3.8	0.020



**Concrete suction nozzle**

To glue to Ø 50 mm 10 bar pipe. Made in white ABS . Plug thread 1½". End connection 07958 and push fit connection 01393. Recommended to be installed with wall conduits 15658 & 15659.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
24415	60	3.72	0.02



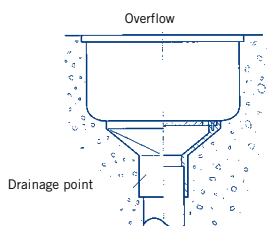
## CONCRETE POOL - ABS INLETS



### Overflow channel drainage point



Body and grille in ABS. Screws in S.S. To be glued to Ø 63 mm pipe. Particularly suitable for overflow gutters and to be used as a lateral suction point for pools using the Net'n'Clean infloor cleaning system. Max. recommended flow rate: 7 m<sup>3</sup>/h.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00302	12	3.1	0.016

### Hydromassage kit



Consists of a return inlet and wall conduit fitted with an air inlet and a venturi jet. Two wall conduit lengths. Ø 50 mm water connection pipe and Ø 20 mm air suction pipe.

#### Hydromassage kit for concrete pools:

Length of wall conduit 195 mm  
Length of wall conduit 280 mm

#### Hydromassage kit for concrete pools with liner:

Length of wall conduit 190 mm  
Length of wall conduit 275 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
32113	12	3.5	0.021
32370	12	3.6	0.021
31443	12	3.5	0.021
32371	8	3.5	0.021

## CONCRETE POOL - S.S. INLETS

### Return inlet



Male thread 1½". Made in S.S. AISI-316. Recommended max. flow 4.5 m<sup>3</sup>/h. Complies with EN 13451-1 Standard. Ball Ø 20 mm.

Length 35 mm  
Length 50 mm  
Length 70 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
32994	1	0.3	0.001
16325	1	0.3	0.001
16326	1	0.5	0.001



### Adjustable pool floor return inlet



Male thread 2". Made in S.S. AISI-316. For both concrete and prefabricated pools. Water flow can be adjusted by the central screw. Recommended max. flow 14 m<sup>3</sup>/h. Complies with EN 13451-1 Standard.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
15839	1	0.9	0.002

**CONCRETE POOL - S.S. INLETS**

**Suction point**

Male thread 1 1/2". Made in S.S. AISI-316. Requires the fitting 05684.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 50 mm	<b>16328</b>	1	0.2	0.001
Length 50 mm with lid	<b>21644</b>	1	0.3	0.001



**Adjustable concrete return inlet**

Chromed brass, body grille in S.S. AISI-304.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Max. flow 21 m <sup>3</sup> /h female thread 2"	<b>00312</b>	12	7.0	0.013
Max. flow 40 m <sup>3</sup> /h female thread 3"	<b>00313</b>	6	10.0	0.014



**Suction point with sliding cover**

Chromed brass body with S.S. AISI-304 lid. Push fit. 2" female thread (01392 coupling is required for hose).

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00315</b>	12	8.0	0.008



**Suction point with threaded cover**

Chromed brass. Female thread 2". (01395 coupling is required for hose).

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00317</b>	12	10.0	0.012



## CONCRETE POOL - WALL CONDUITS

Range of 300 mm long conduits for Ø 2" inlets and "Multiflow" models, that can easily be cut to required lengths depending on the pool wall thickness. Made in ABS. The flanged rib has 2 holes for positioning within the pool shell.

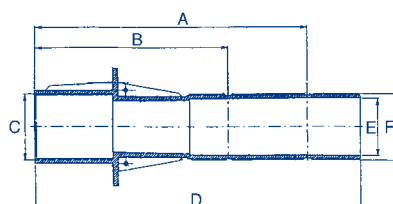


### Rear 2" male thread and inside Ø 50 mm solvent socket

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2" front female thread for 2" male thread return	<b>15658</b>	15	4.3	0.040
Ø 59.3 mm solvent internal for returns suitable for gluing in to Ø 63 mm 6 bar pipe & light "MINI" 33684	<b>15661</b>	15	4.2	0.040

### Rear Ø 63 mm solvent weld and inside Ø 50 mm solvent weld

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2" front female thread for 2" male thread return	<b>15659</b>	15	4.2	0.040
Front Ø 59.3 mm inner diameter for gluing to Ø 63 mm. 6 bar pipe & light "MINI" 33684	<b>15660</b>	15	5.6	0.040



Dimensions	Models			
	15658	15661	15659	15660
A	250	250	250	250
B	175	175	175	175
C	2"	Ø59.3	2"	Ø59.3
D	300	300	300	300
E	Ø50	Ø50	Ø50	Ø50
F	2"	2"	Ø63	Ø63

### PVC wall conduit



PVC grey colour.

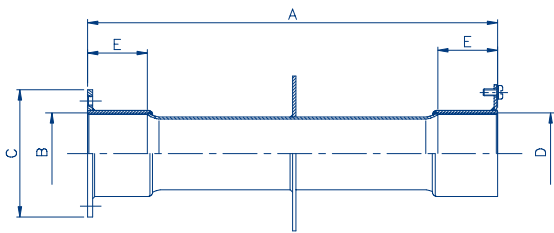
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>150 mm length:</b> 2" Male thread + inside Ø 50 mm. Female thread 2"	<b>00322</b>	12	3.0	0.011
<b>300 mm length:</b> 2" female & male connection	<b>00323</b>	6	3.0	0.011
2" Rear male thread pipe connection, inside Ø 50 mm, solvent weld for 33684 light	<b>00324</b>	6	3.0	0.011
2" Male thread + inside Ø 50 mm. Female thread 1½"	<b>00325</b>	6	3.0	0.011
2" Male thread + inside Ø 50 mm. Ø 50 mm special for 00289, 07957, 00304, 00305 and 00306 returns	<b>00326</b>	6	3.0	0.011

**CONCRETE POOL - WALL CONDUITS**

**Stainless steel wall conduits**

Made of S.S. AISI-304. Both ends with male thread of 1 1/2". Earth connection.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 240 mm	00327	1	0.7	0.003
Length 340 mm	00328	1	0.8	0.005



Dimensions	Models	
	00327	00328
A	240	340
B	1 1/2"	1 1/2"
C	74	74
D	1 1/2"	1 1/2"
E	35	35



**CONCRETE POOL - WINTER ACCESSORIES**

**Winter plugs**

To cover returns and prevents from possible frosts.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For 1 1/2" nozzles	06211	-	-	-
For 2" nozzles	06212	-	-	-



**Skimmer winterising plugs**

Prevents skimmer damage in case of frost. 1" - 2" thread.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
06210 	1	0.10	0.093



**Floating icebreakers**

Length: 50 cm. Other colours are available under special order.

- CL02 dark blue
- CL08 light blue
- CL03 green
- CL17 magenta

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
CL01 black (standard)	00148 	5	14.8	0.25



## LINER AND PREFABRICATED POOL - SKIMMERS 15 L

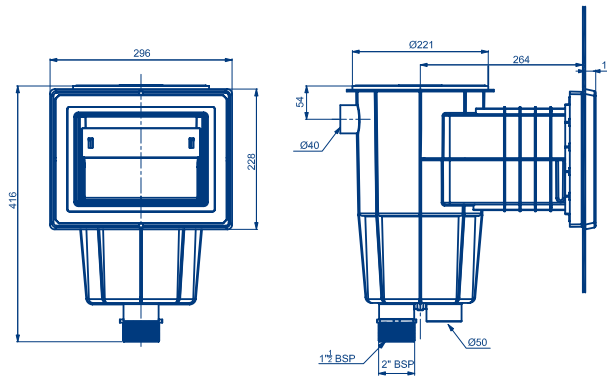
All skimmer parts exposed are UV resistant. In white ABS with silent weir flap and flow regulation plug. G 1 1/2" female, G 2" male threaded lower connections. Ø 50 mm. drainage connection also provided. Overflow connection Ø 40 mm. **Recommended flow rate: 5 m<sup>3</sup>/h.** Advisable 1 skimmer for every 25 m<sup>2</sup> of pool water surface. Skimmers are available in two different models, the model with inserts and the PARKER model, supplied with self-tapping screws.

### Skimmer with standard mouth

Supplied with adhesive gaskets, flanges, and screw kit.



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Round lid fixed by pressure	<b>01461</b>	1	4.0	0.059
Square lid fixed by pressure	<b>01462</b>	1	4.2	0.059

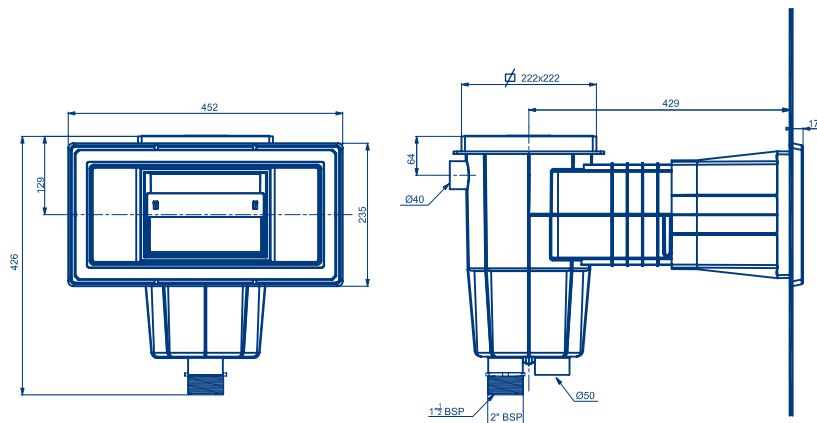


### Skimmer with wide mouth

Supplied with adhesive gaskets, flanges and screw kit.



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Round lid fixed by pressure	<b>01463</b>	1	5.04	0.12
Square lid fixed by pressure	<b>01464</b>	1	5.28	0.12

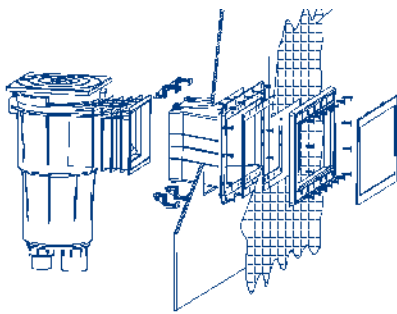


**PANELLED POOL - SKIMMERS 15 L**

**Skimmer Panel Protect, inside assembly**

Supplied with adhesive gaskets and flanges. Special skimmers for panelled pools. The wide throat assembly is fixed on the inside of the panel. Each skimmer box includes the necessary glue.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Skimmer Panel Protect 15 l wide mouth, round lid	<b>32372</b>	1	4.47	0.116
Skimmer Panel Protect 15 l wide mouth, square lid	<b>30866</b>	1	5.13	0.116
Adhesive for ABS	<b>30884</b>	1	0.20	0.001



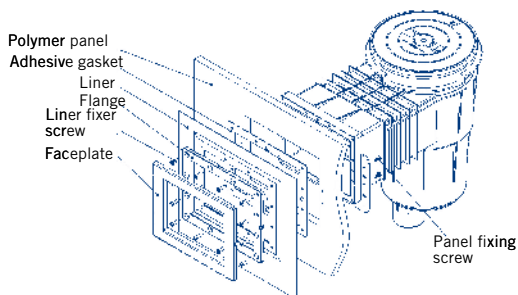
**Skimmer Panel Protect outside assembly**

Range of skimmers for Moonpool panels (polymer) and Skypool panels (galvanized steel), which, due to their design and special assembly protect the panel from direct contact with water. Their design allows perfect alignment with the liner in panels between 2 and 18 mm thick.

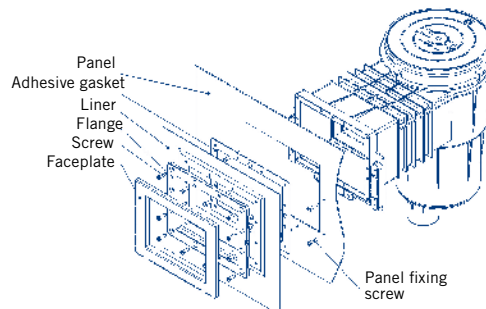
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Skimmer Panel Protect 15 l Standard mouth, round lid	<b>32376</b>	1	5.12	0.063
Skimmer Panel Protect 15 l wide mouth, round lid	<b>32377</b>	1	6.30	0.159
Skimmer Panel Protect 15 l Standard mouth, square lid	<b>32378</b>	1	5.12	0.063
Skimmer Panel Protect 15 l wide mouth, square lid	<b>32379</b>	1	6.30	0.159



**Installation in Moonpool panels**



**Installation in Skypool panels**





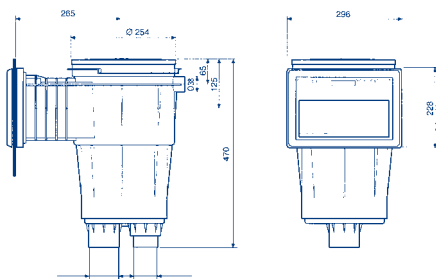
## LINER AND PREFABRICATED POOL - SKIMMERS 17.5 L

All skimmer parts exposed are UV resistant. In white ABS with silent weir flap and flow regulation plug. G 1 1/2" female, G 2" male lower suction connections. Ø 50 mm drainage connection also provided. Overflow connection Ø 40 mm. Secured to base with bayonet fixing system. **Recommended flow rate: 7,5 m³/h.** Advisable 1 skimmer for every 25 m² of pool water surface. Skimmers are available in two different models, the model with inserts and the PARKER model, supplied with self-tapping screws.

### Skimmer with standard mouth

Supplied with adhesive gaskets, flanges, and screw kit.

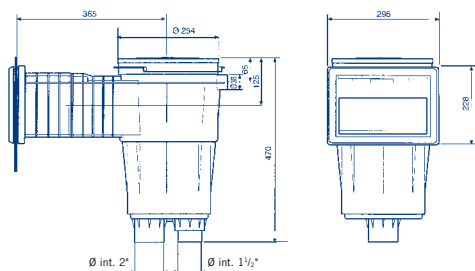
	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	05284	1	5.30	0.062
Square lid	11309	1	5.30	0.062
Round lid, PARKER model	07874	1	5.30	0.062
Square lid, PARKER model	11315	1	5.30	0.062



### Skimmer with standard mouth and extended throat

Supplied with adhesive gaskets, flanges, and screw kit.

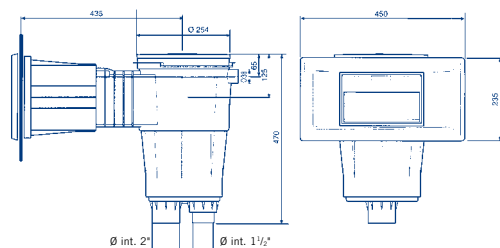
	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	05285	1	5.90	0.077
Square lid	11310	1	5.90	0.077
Round lid, PARKER model	07875	1	5.90	0.077
Square lid, PARKER model	11316	1	5.90	0.077



### Skimmer with wide mouth

Supplied with adhesive gaskets and flanges.


	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Round lid	05286	1	6.50	0.135
Square lid	11311	1	6.52	0.135
Square lid, PARKER model	11317	1	6.52	0.135

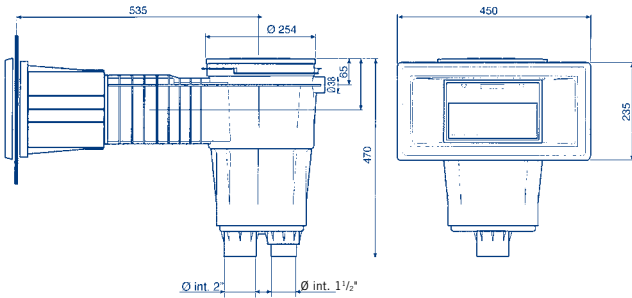


**LINER AND PREFABRICATED POOL - SKIMMERS 17.5 L**

**Skimmer with wide mouth and extended throat**

Supplied with adhesive gaskets, flanges, and screw kit.

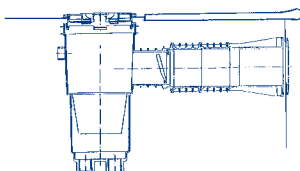
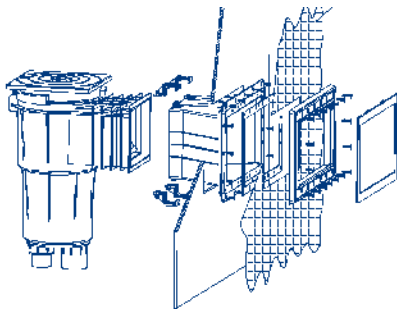
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Round lid	<b>07830</b> 	1	7.08	0.161
Square lid	<b>11313</b>	1	7.00	0.161
Round lid, PARKER model	<b>07873</b>	1	7.00	0.161
Square lid, PARKER model	<b>11314</b>	1	7.00	0.161



**Skimmer Panel Protect inside assembly**

Skimmers for panelled pools. The wide mouth is to be fixed in the inside of the panel. Each skimmer box includes the necessary glue.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Skimmer Panel Protect 17.5 l wide mouth, round lid	<b>32373</b>	1	6.20	0.137
Skimmer Panel Protect 17.5 l wide mouth, square lid	<b>30867</b>	1	6.20	0,116
Adhesive for ABS	<b>30884</b>	25	5.05	0.129



Versions of the 17.5 litre skimmer can be supplied with extensions much longer than those previously stated. This could be of particular interest when using wider coping stones than usual.

## LINER AND PREFABRICATED POOL - SKIMMERS 17.5 L

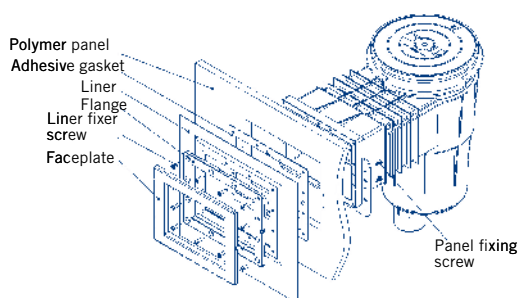
### Skimmer Panel Protect



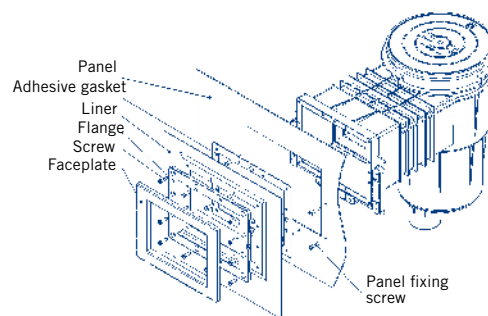
Skimmers range for Moonpool panels (polymer) and Skypool panels (galvanized steel), which, due to their design and special assembly, protect the panel from direct contact with water. Their design allows perfect alignment with the liner in panels between 2 and 18 mm thick.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Skimmer Panel Protect 17.5 l Standard mouth, round lid	<b>31973</b>	1	5.25	0.079
Skimmer Panel Protect 17.5 l wide mouth, round lid	<b>31974</b>	1	6.40	0.159
Skimmer Panel Protect 17.5 l Standard mouth, square lid	<b>32374</b>	1	5.25	0.079
Skimmer Panel Protect 17.5 l wide mouth, square lid	<b>32375</b>	1	6.43	0.159

#### Installation in Moonpool panels



#### Installation in Skypool panels



### Liner adaptor kit for S.S. skimmer

For liner, prefabricated and panelled pools. Includes: 2 adhesive gaskets, faceplate in S.S. AISI-316 and fixing screws.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For skimmer A-100, A-201 and A-202 (00254, 07520 and 07610)	<b>07525</b>	1	0.78	0.002
For A-400 (Code 07523)	<b>07526</b>	1	1,13	0,01

## LINER AND PREFABRICATED POOL - WATER LEVEL REGULATORS

### Water level regulator



Made in ABS. With lateral or bottom connection, as required. Knockout outlets. Height and level adjustable cover. Compatible with any type of skimmer.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>15862</b>	1	2.0	0.016

**LINER AND PREFABRICATED POOL - MAIN DRAINS**

All main drains made in plastic are provided with UV protected grilles.


· According to EN 13451-1, standard, in public pools require:

- Water flow velocity 0.5 m/sec
- Maximum suction velocity 1.5 m/sec
- Minimum distance between drains: >2 m

· Recommended use of WARNER security system to detect any high suction and automatic shutdown of pumps.

**Mini drain**

Side connection with 2" female thread. Made in white ABS with grille fixed to flange. Suction velocity at grille 0.5 m/sec and max. flow rate: 11 m<sup>3</sup>/h. Bottom connection with plug or to fit the hydrostatic relief valve & drainage pipe. Slots < 8 mm. M5 threaded screws and brass inserts to secure flange and grille. Can also be used in concrete spas and lateral suction inlet.

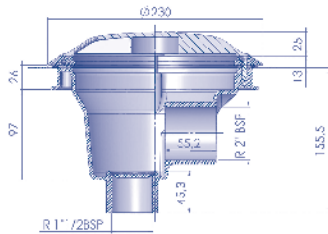
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Mini drain	<b>27814</b> 	1	2.64	0.013



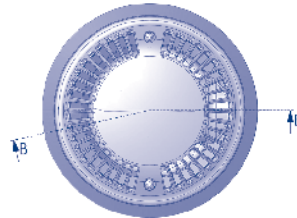
**Circular main drain Ø 200 mm with antivortex grille**

Made in ABS. Side suction connection 2" and bottom connection 1 1/2" with knockout sockets. Bottom outlet blocked with a knock out cover that can be removed as required. Drainage pipe (21581) can be fitted. Maximum flow rate: 13 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>27125</b>	1	3.543	0.028



B-B Section

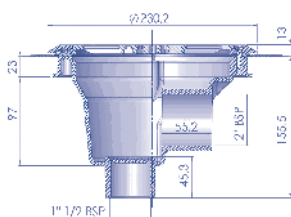


Plant view

**Circular main drain Ø 200 mm with flat grille**

Made in white ABS. Side connection 2" and bottom connection 1 1/2" with knockout sockets. Bottom outlet blocked with a knock out cover that can be removed as required. Drainage pipe (21581) can be fitted. Maximum flow rate: 13 m<sup>3</sup>/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>27838</b>	1	3.391	0.028



B-B Section



Plant view

## LINER AND PREFABRICATED POOL - MAIN DRAINS



### Drain Ø 290 mm for Liner. PARKER model



Made specially for liner pools, totally in white ABS, with self adhesive synthetic gaskets and S.S. screws. 2" side connections which can be plugged for pressure testing. 1½" bottom connection with plug for fitting the hydrostatic relief valve (00277) and drainage pipe (21581). Suction velocity 0.5 m/sec. Recommended max. flow rate: 13 m³/h. Installed flush with floor bottom for total drainage.

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
	00270	4	5.71	0.044
Parker model (with self tapping screws)	07880	4	5.71	0.044



### Drain Ø 210 mm with ABS grille

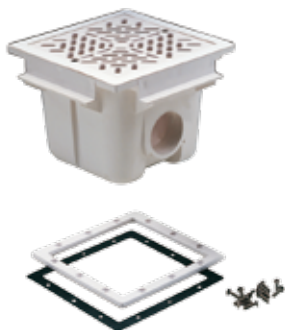


Side connection 2". Body and grille in white ABS, with self-adhesive gaskets, flange, and screws. Maximum flow rate: 13 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00271	4	4.0	0.028



### Square drain 210 mm x 210 mm with ABS grille



Side connection 2". Body and grille in white ABS, with self-adhesive gaskets, flange, and screws. Maximum flow rate: 13 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00273	4	5.5	0.043

### Drain with S.S. grille



Outlet with Ø 50 mm inside diameter and 63 mm outside diameter. Body in white ABS with Stainless Steel grille. With self-adhesive gaskets, flange, and screws. Maximum flow rate: 7 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00274	4	4.0	0.023



### Circular drain 2" in AISI-316 S.S.



Lateral inlet 2" in AISI 316 S.S., grille fixed with screws. Includes gaskets, flange, and fixing screws. Maximum recommended flow rate: 13 m³/h.

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Side connection 2"	00275	1	2.27	0.02
Side connection 2", bottom connection 1½"	26197	1	4.23	0.04

## LINER AND PREFABRICATED POOL - MAIN DRAINS



### Adaptor kit for drain



For drain 00269. Includes: gaskets, flange and screws. Frame in S.S. AISI-316.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00276 	40	9.7	0.01



### Drain in polyester and fibreglass 355 mm x 355 mm

Gel-coat finish. With gaskets, flange, and screws. Slots < 8 mm. Outlet connections for glueing. With optional hydrostatic valve.

Grille in S.S. AISI-316

**Solvent socket**   **Grille**   **Flow**  
**outlet connection**


Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Ø 75 mm   AISI-316   18 m <sup>3</sup> /h <b>20074</b>	1	6.5	0.047
Ø 90 mm   AISI-316   27 m <sup>3</sup> /h <b>20075</b>	1	6.5	0.047
Ø 110 mm   AISI-316   33.5 m <sup>3</sup> /h <b>20290</b>	1	6.5	0.047

Recommended max. flow 33.5 m<sup>3</sup>/h (0.5 m/s)

Recommended flow 20 m<sup>3</sup>/h (0.3 m/s)

ABS grille UV protected

**Solvent socket**   **Grille**   **Flow**  
**outlet connection**

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Ø 75 mm   Plastic   18 m <sup>3</sup> /h <b>22416</b>	1	6.5	0.047
Ø 90 mm   Plastic   27 m <sup>3</sup> /h <b>22417</b>	1	6.5	0.047
Ø 110 mm   Plastic   42 m <sup>3</sup> /h <b>22418</b>	1	6.5	0.047
Ø 125 mm   Plastic   45 m <sup>3</sup> /h <b>22419</b> 	1	6.5	0.047

Recommended max. flow 45 m<sup>3</sup>/h (0.5 m/s)

Recommended flow 27 m<sup>3</sup>/h (0.3 m/s)



### Drain in polyester and fibreglass 515 mm x 515 mm

Gel-coat finish. With gaskets, flange, and screws. Slots < 8 mm. Outlet connections for glueing. Recommended flow 62 m<sup>3</sup>/h (0.3 m/s). Recommended max. flow 103 m<sup>3</sup>/h (0.5 m/s). With optional hydrostatic valve.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
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Grille in S.S. AISI-316

**Solvent socket**   **Grille**   **Flow**  
**outlet connection**

Ø 110 mm   AISI-316   42 m <sup>3</sup> /h <b>20076</b>	1	1.4	0.132
Ø 125 mm   AISI-316   51 m <sup>3</sup> /h <b>20077</b>	1	1.4	0.132
Ø 140 mm   AISI-316   66 m <sup>3</sup> /h <b>20078</b>	1	1.4	0.132
Ø 160 mm   AISI-316   95 m <sup>3</sup> /h <b>20079</b>	1	1.4	0.132
Ø 200 mm   AISI-316   103 m <sup>3</sup> /h <b>20291</b>	1	1.4	0.132

ABS grille UV protected

**Solvent socket**   **Grille**   **Flow**  
**outlet connection**

Ø 110 mm   Plastic   42 m <sup>3</sup> /h <b>28722</b> 	1	1.4	0.132
Ø 125 mm   Plastic   51 m <sup>3</sup> /h <b>28723</b> 	1	1.4	0.132
Ø 140 mm   Plastic   66 m <sup>3</sup> /h <b>28724</b> 	1	1.4	0.132
Ø 160 mm   Plastic   95 m <sup>3</sup> /h <b>28725</b>	1	1.4	0.132
Ø 200 mm   Plastic   103 m <sup>3</sup> /h <b>28726</b> 	1	1.4	0.132



## LINER AND PREFABRICATED POOL - MAIN DRAIN ACCESSORIES



### Hydrostatic valve



To alleviate pressure which underground water can cause to the pool shell. We recommend fitting a hydrostatic valve & drainage tube to the main drain.

The **hydrostatic valve** screwed to the bottom of the main drain 2" outlet. Made in white ABS with screw & spring in S.S. Male thread 1½".

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00277	4	1.0	0.003



### Drainage tube



Threaded connection 1½" BSP for main drains 00270, 07880, 27838, 26197 and 27125. Made in ABS.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
21581	24	3.54	0.021



### Flush antivortex lid



New flush design to allow unobstructed operation of cleaners. Complies with EN 13451-1: 2000 Standard.

415 mm x 415 mm lid suitable with the following drains:

<b>With S.S. grille:</b>	<b>With plastic grille:</b>
- 20074	- 22416
- 20075	- 22417
- 20290	- 22418
	- 22419

570 mm x 570 mm lid suitable with the following drains:

<b>With S.S. grille:</b>	<b>With plastic grille:</b>
- 20076	- 28722
- 20077	- 28723
- 20078	- 28724
- 20079	- 28725
- 20291	- 28726



415 mm x 415 mm. Height: 70 mm  
570 mm x 570 mm. Height: 60 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m³
25344	1	2.25	0.012
28556	1	3.90	0.015



**LINER AND PREFABRICATED POOL - ABS INLETS**

**MULTIFLOW SYSTEM**

The eyeball has been marked with a series of “knock-outs” sockets of 14 mm, 20 mm, and 25 mm, enabling the required flow to be selected at the time of installation by using the frin-punch fitting supplied. Recommended max flow velocity 4 m/sec, complies with EN 13451-1 Standard  
 Ø 14 mm = 2.2 m³/h, Ø 20 mm = 4.5 m³/h, Ø 25 mm = 7 m³/h



**Liner return inlet “Multiflow” threaded**

Male thread of 2”, Ø 50 mm solvent interior. For liner pools, white ABS plastic with gaskets and screws. Installation with wall conduits 15662 or 15663 is recommended.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00330	12	4.5	0.020



**Liner return inlet “Multiflow” threaded, Parker model**



Male thread of 2”, Ø 50 mm inside diameter. For liner pools, white ABS plastic with gaskets and self-tapping screws. Installation with wall conduits 15664 or 15665 is recommended.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
06498	20	4.72	0.021



**Return inlet for prefabricated pools with liner**

These inlets have a smaller exterior diameter than previous models in order to achieve superior adaptation in pools with curved walls.

	Code	Standard Packing	Standard Weight kg	Standard Volume m³
Return inlet 1½” BSP thread	32450 	24	7.1	0.021
Return inlet Ø 50 mm solvent weld	32451 	24	6.9	0.021



**Panel return “Multiflow” inlet threaded, for prefabricated pools**

2” male thread and inside solvent weld Ø 50 mm. Made in white ABS.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00334	24	4.61	0.020





## LINER AND PREFABRICATED POOL - ABS INLETS



### Threaded return inlet "Multiflow" for prefabricated pools



2" male thread, and 1 1/2" female thread. In white ABS, with gaskets. Holes in grilles are not bigger than 8 mm, according to EN 13451-1.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
06481	30	5.1	0.021

### Return inlet "Multiflow" for panelled pools

new



New inlets especially designed to be installed in panelled pools between 10 and 15 cm thick. To glue to Ø 50 mm pipe. Made in white ABS, with gaskets.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
33091	8	3.35	0.021



### Adjustable return inlet



With gaskets, flanges and screws. 3 adjustable positions: (100%, 65%, 35%). Flow rate: 13.5 m<sup>3</sup>/h. Outer connection Ø 63 mm.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
15864	12	4.2	0.02



### Floor return inlet for prefabricated pool



For water return. With gaskets, flanges and screws. Adjustable flow. Max. flow rate: 12 m<sup>3</sup>/h.

2" male thread and inside Ø 50 mm  
Outside Ø 63 mm PN 6, inside Ø 50 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00340	12	5.4	0.020
20139	12	5.4	0.021



### 3" adjustable floor inlet



Made in white ABS. With gaskets, flanges and screws. Adjustable flow by rotating the grille. Suction area: 0.015 m<sup>2</sup>. Flow rate at 0.4 m/s: 20 m<sup>3</sup>/h. Max. recommended flow rate: 26 m<sup>3</sup>/h (0.5 m/s).

Grille in S.S. AISI-304  
Grille in white ABS





Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
08316	2	2.65	0.047
11795	2	2.65	0.047

**LINER AND PREFABRICATED POOL - ABS INLETS**



**Floor inlet BCN03**

Adjustable liner floor inlet. For glueing into PN6 and PN10 pipe. In white ABS, with self tapping screws or with metal inserts. With flange in plastic or S.S., depending on the model. Maximum flow rate 9.5 m<sup>3</sup>/h.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Plastic flange with self-tappers PN6	28230	 12	3.25	0.031
Plastic flange with metal inserts PN6	28231	 12	3.55	0.031
S.S. flange with self-tappers PN10	28501	 12	4.24	0.031
S.S. flange with metal inserts PN10	28502	 12	4.54	0.031



**Suction nozzle for liner pool**

2" male thread, Ø 50 mm inside diameter. Made in white ABS, with cap, gaskets and screws. Recommended to be installed with wall conduit 15663.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
00332	12	4.22	0.020



**Suction nozzle for panelled pools**

*new*

Especially designed to be installed in panelled pools between 10 and 15 cm thick. With gaskets. Connections: Inside Ø 50 mm pipe and 1 1/2" BSP male thread.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
33092	8	3.35	0.021



**Suction inlet for liner pools**



Made in white ABS. With gaskets, flanges and screws. Connections: 2" male thread, Ø 50 mm inside diameter.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
17382	20	6.0	0.020



**Suction inlet for prefabricated pool with liner**

Smaller outside diameter than traditional nozzles for better adaptation to curved panels.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Suction inlet for 1 1/2" BSP thread	32387	 24	6.7	0.021
Suction inlet to glue to Ø 50 mm pipe	32386	 24	6.5	0.021



## LINER AND PREFABRICATED POOL - ABS INLETS

### Suction inlet for prefabricated pool



2" male thread, Ø 50 mm inside diameter. Made in white ABS, with cap thread 1½", gaskets and screws.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
00336	24	4.13	0.020

### Suction inlet for prefabricated pool



2" male thread, 1½" female thread. Made in white ABS.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
06484	30	4.3	0.021

### Hydromassage kit



Made of a return inlet and wall conduit fitted with an air inlet and a venturi. Two wall conduit lengths available. Ø 50 mm water connection pipe and Ø 20 mm air suction pipe.

#### Hydromassage kit for fibreglass pools:

Length of wall conduit 190 mm

Length of wall conduit 275 mm

#### Hydromassage kit for prefabricated pools with liner:

Length of wall conduit 190 mm

Length of wall conduit 275 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m³
32114	12	3.5	0.021
32384	10	3.4	0.021
32115	12	3.5	0.021
32385	8	3.5	0.021

## LINER AND PREFABRICATED POOL - S.S. INLETS

### Return inlet for liner pool



1½" male thread. Made of S.S. AISI-316. Ø 20 mm eyeball. With gaskets and screws. Recommended flow rate: 4.5 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
16327	1	0.5	0.001

**LINER AND PREFABRICATED POOL - S.S. INLETS**

**Pool wall conduit adapter**

1½" male thread. Made in S.S. AISI-316. To convert a concrete pool conduit into a prefabricated one. To be used with S.S. inlet 16331.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
26171 	1	0.2	0.001



**Return inlet for liner pool**

Made in S.S. AISI-316. Can be used with wall conduits 00344, 00345 and panel adapter 26171. Supplied with gaskets and screws. Ø 20 mm eyeball blocked with screws. Recommended flow rate: 4.5 m³/h.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
16331	1	0.3	0.001



**Adjustable pool floor return inlet**

2" male thread. Made in S.S. AISI-316. Can be installed both in concrete as well as prefabricated pools. Water flow may be adjusted with the central screw. Max. recommended flow rate: 14 m³/h, complies with EN 13451-1 Standard.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
15839	1	0.9	0.002



**Suction nozzle for liner pool**

Made in S.S. AISI-316, with gaskets, flange and screws. With 1½" BSP male thread.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
16330	1	0.5	0.001



## LINER AND PREFABRICATED POOL - WALL CONDUITS

New range of 300 mm long conduits for Ø 2" inlets and "Multiflow" that can be easily cut to different lengths depending on pool wall thickness. Made in ABS. The flange rib has 2 holes for positioning inside the pool shell. The front face of the conduit is recessed which means the inlet body is installed flush with the wall leaving the liner flat and only the inlet face plate visible.

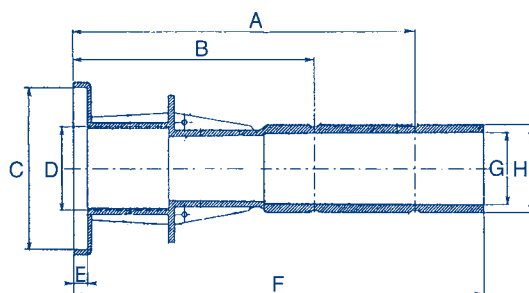


### Rear 2" male thread and Ø 50 mm inside solvent socket

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2" front female thread return for 2" male thread	15663	12	4.0	0.040
2" front female thread exclusively for inlet 06498	15664	14	4.2	0.040

### Rear outside Ø 63 mm and inside Ø 50 mm to glue

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
2" front female thread return for 2" male threading	15662	12	5.0	0.040
2" front female thread exclusively for inlet 06498	15665	14	5.4	0.040



Dimensions	Models			
	15663	15664	15662	15665
A	250	250	250	250
B	175	175	175	175
C	Ø118.5	Ø84	Ø118.5	Ø84
D	2"	2"	2"	2"
E	10	24	10	24
F	300	300	300	300
G	Ø50	Ø50	Ø50	Ø50
H	2"	2"	Ø63	Ø63

### PVC wall conduits



PVC grey colour.

#### 150 mm length:

2" male thread + inside Ø 50 mm.  
2" female thread

#### 300 mm length:

Connection 2" female and male thread

2" male thread rear connection and inside connection for 33684 "MINI" light

2" male thread + inside Ø 50 mm + female thread 1½"

2" male thread + inside Ø 50 mm.  
Inside Ø 50 mm special for 00289, 07957, 00304, 00305 and 00306 inlets.

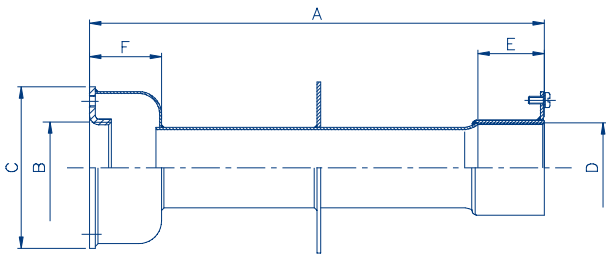
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
150 mm length: 2" male thread + inside Ø 50 mm. 2" female thread	00322	12	3.0	0.011
300 mm length: Connection 2" female and male thread	00323	6	3.0	0.011
2" male thread rear connection and inside connection for 33684 "MINI" light	00324	6	3.0	0.011
2" male thread + inside Ø 50 mm + female thread 1½"	00325	6	3.0	0.011
2" male thread + inside Ø 50 mm. Inside Ø 50 mm special for 00289, 07957, 00304, 00305 and 00306 inlets.	00326	6	3.0	0.011

**LINER AND PREFABRICATED POOL - WALL CONDUITS**

**Stainless Steel wall conduits**

Made in S.S. AISI-304. Both ends with 1 1/2" female threads. Earth connection. For inlet 16331.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 240 mm	<b>00344</b>	1	0.7	0.003
Length 340 mm	<b>00345</b>	1	0.9	0.005



Dimensions	Models	
	00344	00345
A	240	340
B	1 1/2"	1 1/2"
C	85	85
D	1 1/2"	1 1/2"
E	35	35
F	38	38



## FILTRATION

- 102 • Retro-fit filter combination units
- 104 • Diatomaceous earth filters
- 106 • Cartridge filters
- 109 • Injection moulded sand filters
- 111 • Blow-moulded sand filters
- 113 • Stainless Steel filters
- 114 • Laminated filters
- 124 • Bobbin wound filters
- 159 • Nefrona monoblocs
- 161 • Multiport valves
- 172 • Valve manifold
- 174 • Control panel
- 175 • Supports for valve manifold
- 176 • Compact filtration housings
- 177 • Compacts with inside assembly
- 178 • Air vents
- 179 • Filtration media & accessories
- 179 • Pressure gauge panels
- 180 • Air blowers





## RETRO-FIT FILTER COMBINATION UNITS



Made of heat-moulded ABS, and high quality acrylic finish and advanced design. Specially designed to install in all types of private pools, whether concrete or prefabricated. The compact unit saves the traditional pipework assembly.

The Combo units consist of two separate parts:

- 1) The first part is designed for installation inside the pool and contains the skimmer, return and suction inlets, an underwater light is optional.
- 2) The second part incorporates the pump, filtration equipment, control box and depending on model type, chlorinator, electric heater and transformer for the light. It also includes water discharge connection for backwashing and drainage plug.

The two units can be installed as one compact unit (being adaptable to any type of pool with a wall thickness of 180 to 300 mm) or as a split unit installing the filtration part in a convenient spot not more than 3.5 m away.

### Combo I

With 3/4 HP pump with 11 m<sup>3</sup>/h flow at 10 m.c.a., 3 cartridge filters of 5 m<sup>3</sup>/h flow rate each. Total filtration surface 6.9 m<sup>2</sup>. Control box included.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
18546	1	92	1.241



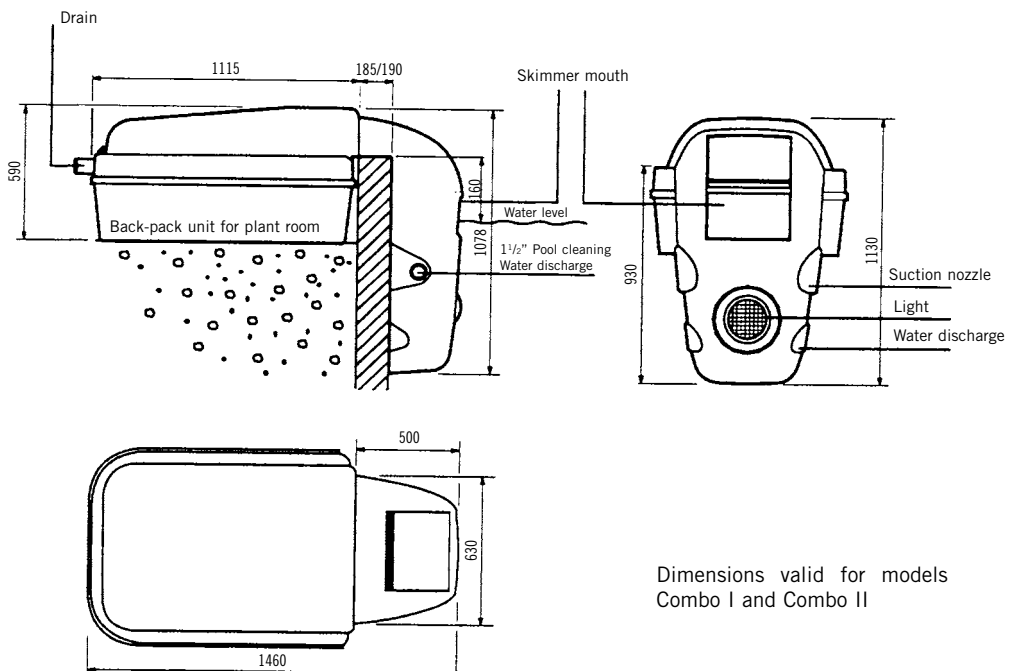
### Combo II

With Terra 50 cartridge filter with maximum flow 15 m<sup>3</sup>/h, Sena pump 1.25 HP, 100 W light and programmable control box. An electric heater and chlorinator can also be incorporated. One single filter replaces the three used in Combo I. Improved return of water to pool. This Combo II can also be installed as one compact unit or can be installed as 2 separated parts.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
27413	1	79	1.41



White cartridge filter, 15 m<sup>3</sup>/h flow



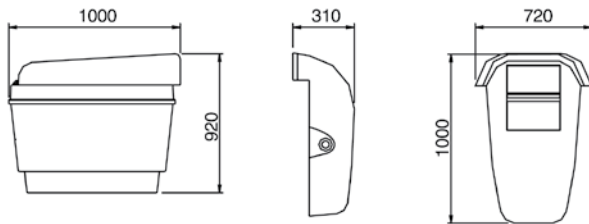
Dimensions valid for models Combo I and Combo II

**RETRO-FIT FILTER COMBINATION UNITS**

**Mini Combo Basic**

Made of heat-moulded ABS, and high quality acrylic finish with advanced design. Includes a 3/4 HP pump, a 500 mm sand filter with multiport valve and control box. It also includes water discharge nozzle and drainage plug. This arrangement allows it to be adapted to any pool basin with a wall thickness between 180 and 300 mm. It can also be installed as a split system, using 25900 adapter unit, and placing the filtration section away from the pool in a convenient place but not more than 3.5 m away.

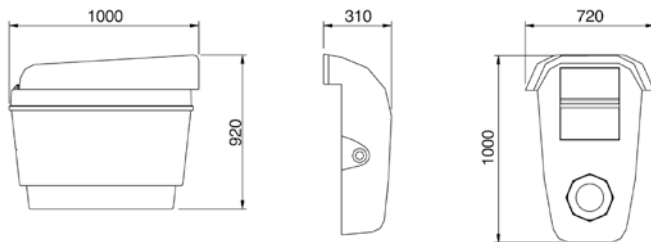
Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
22439	1	95	1.460



**Mini Combo with lighting system**

The same features as the Basic Mini Combo but also includes a 100 W, 12 V underwater light with transformer.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
22440	1	95	1.460



**Streamlined covers for Mini-Combo**

Includes front covers and cover for filtration unit.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
25900 	1	1	0.062



## DIATOMACEOUS EARTH FILTERS

### Diatomaceous earth filters, CEL series



Made in PP and fibreglass. With pressure gauge and manual air vent. High filtration capacity. Easy maintenance. 1 1/2" outlet. Filtration velocity 6 m<sup>3</sup>/h/m<sup>2</sup>. Maximum working pressure: 2.5 Kg/cm<sup>2</sup>. NB: D.E. not included in price.

**Cel 30.** Flow rate 6.8 m<sup>3</sup>/h

Filtration surface 1.2 m<sup>2</sup>  
D.E. required 1.2 Kg

**Cel 40.** Flow rate 9 m<sup>3</sup>/h  
Filtration surface 1.6 m<sup>2</sup>

D.E. required 1.6 Kg

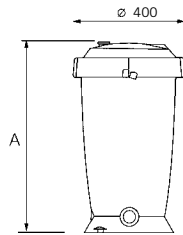
**Cel 50.** Flow rate 11.4 m<sup>3</sup>/h  
Filtration surface 2.2 m<sup>2</sup>

D.E. required 2.2 Kg

**Cel 70.** Flow rate 15.9 m<sup>3</sup>/h  
Filtration surface 2.7 m<sup>2</sup>

D.E. required 2.7 Kg

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
18215	1	8.3	0.086
18216	1	10.0	0.100
18111	1	11.2	0.120
18217	1	12.8	0.130



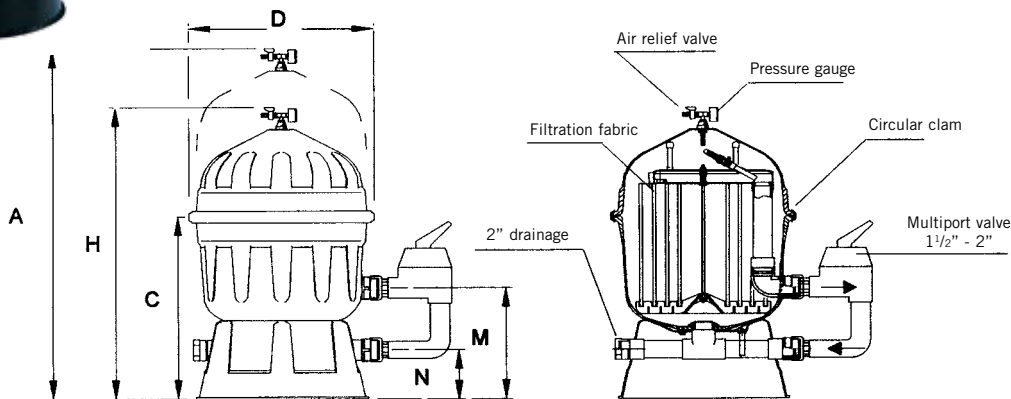
Code	A
18215	450
18216	570
18111	690
18217	810

### Diatomaceous earth Clarity filters



Made in polyester and fibreglass. Supplied with pressure gauge, air vent and side mounted multiport valve. Filtration velocity 4.9 m<sup>3</sup>/h/m<sup>2</sup>.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
11000 l/h Ø 600 mm Outlet 1 1/2" Model DE-24 <b>11619</b>	1	34.0	0.410
16400 l/h Ø 600 mm Outlet 1 1/2" Model DE-36 <b>11620</b>	1	39.0	0.460
21800 l/h Ø 600 mm Outlet 2" Model DE-48 <b>11621</b>	1	44.0	0.550
27300 l/h Ø 600 mm Outlet 2" Model DE-60 <b>11622</b>	1	48.0	0.610



Code	H	D	M	C	N	A
11619	930	610	420	675	190	1230
11620	1080	610	420	675	190	1380
11621	1230	610	420	825	190	1530
11622	1400	610	420	825	190	1900

Code	11619	11620	11621	11622
Filtration area m <sup>2</sup>	2.2	3.3	4.5	5.6
Diatomaceous earth weight kg	1.4	2.3	3.2	4.1
Maxi. working pressure kg /cm <sup>2</sup>	2.5	2.5	2.5	2.5

Dimensions in mm.

**DIATOMACEOUS EARTH FILTERS**

**Multiport valve for Clarity filter**

This valve is valid only for the diatomaceous earth filter "Clarity".

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>For D.E. filter 1 1/2"</b> with filter connections (config. 2)	<b>15385</b>	6	15.5	0.079
<b>For D.E. filter 2"</b> with filter connections (config. 2)	<b>15389</b>	6	22.7	0.158

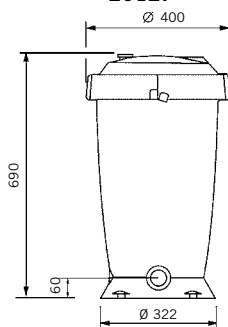
Consult valve variations on page 161



**Diatomaceous earth collector**

To collect waste diatomaceous earth from filter. Made of PP & PVC.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>20127</b>	1	9.5	0.112



**Diatomaceous earth Celatom FW-60**

Approx. 20 Kg bags.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>03247</b>	1	20	0.60



**Diatomaceous earth Celite 545**

Marine fossils with diverse shapes that help retention of suspended particles. This feature increases its performance. Approx. 23 kg bags.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>03246</b>	1	23	0.60

**Diatomaceous earth**

Special package in 4.5 Kg box.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>19784</b>	1	4.7	0.016

## DIATOMACEOUS EARTH FILTERS



### Replacement cartridges for CEL

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
For Cel 30 filter	<b>19789</b>	1	2.6	0.017
For Cel 40 filter	<b>19790</b>	1	3.3	0.024
For Cel 50 filter	<b>19791</b>	1	4.1	0.032
For Cel 70 filter	<b>19792</b>	1	4.8	0.039

## CARTRIDGE FILTERS

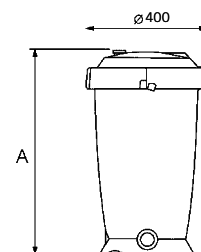


### Cartridge filters, Terra series

Made of PP and fibreglass. Fitted with pressure gauge and manual air vent. High filtration capacity. Easy maintenance. 1 1/2" outlet. Filtration velocity 1.8 m<sup>3</sup>/h x m<sup>2</sup> of filtration cloth. Maximum working pressure: 2.5 Kg/cm<sup>2</sup>.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Terra 50.</b> Recommended flow. 8.4 m <sup>3</sup> /h Filtration surface: 4.7 m <sup>2</sup>	<b>18218</b>	1	7.5	0.086
<b>Terra 75.</b> Recommended flow. 12.5 m <sup>3</sup> /h Filtration surface: 7 m <sup>2</sup>	<b>18219</b>	1	8.8	0.100
<b>Terra 100.</b> Recommended flow. 16.5 m <sup>3</sup> /h Filtration surface: 9.3 m <sup>2</sup>	<b>18112</b>	1	9.7	0.120
<b>Terra 150.</b> Recommended flow. 25 m <sup>3</sup> /h Filtration surface: 14 m <sup>2</sup>	<b>18220</b>	1	11.2	0.130

Code	A
<b>18218</b>	450
<b>18219</b>	570
<b>18112</b>	690
<b>18220</b>	810



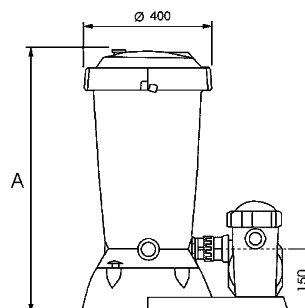
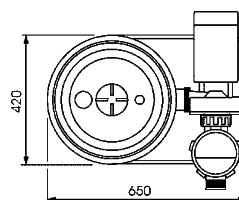
**CARTRIDGE FILTERS**

**Monobloc cartridge filters, Terra series**

Made of PP and fibreglass. Fitted with pressure gauge and manual air vent. High filtration capacity. Easy maintenance. 2" BSP outlet (Supplied with 1 1/2" reduction bushing). Filtration velocity 1.8 m<sup>3</sup>/h x m<sup>2</sup> of filtration cloth. Maximum working pressure: 2.5 Kg/cm<sup>2</sup>.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Terra 50.</b> Recommended flow. 8.4 m <sup>3</sup> /h Filtration surface: 4.7 m <sup>2</sup> AstraMax pump 3/4 HP 230 V 1~	<b>18549</b>	1	-	-
<b>Terra 75.</b> Recommended flow. 12.5 m <sup>3</sup> /h Filtration surface: 7 m <sup>2</sup> AstraMax pump 1 HP 230 V 1~	<b>18550</b>	1	-	-
<b>Terra 100.</b> Recommended flow. 16.5 m <sup>3</sup> /h Filtration surface: 9.3 m <sup>2</sup> AstraMax pump 1.25 HP 230 V 1~	<b>18551</b>	1	-	-
<b>Terra 150.</b> Recommended flow. 25 m <sup>3</sup> /h Filtration surface: 14 m <sup>2</sup> AstraMax pump 1.25 HP 230 V 1~ Filtration velocity 1.2 m <sup>3</sup> /h/m <sup>2</sup>	<b>18552</b>	1	-	-

Code	A
<b>18549</b>	585
<b>18550</b>	705
<b>18551</b>	825
<b>18552</b>	945



**Replacement cartridges**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
For Terra 50 filter	<b>19785</b>	1	1.4	0.017
For Terra 75 filter	<b>19786</b>	1	1.7	0.024
For Terra 100 filter	<b>19787</b>	1	2.2	0.032
For Terra 150 filter	<b>19788</b>	1	2.8	0.039

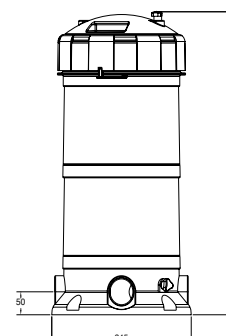


**ZX Cartridge Filters**

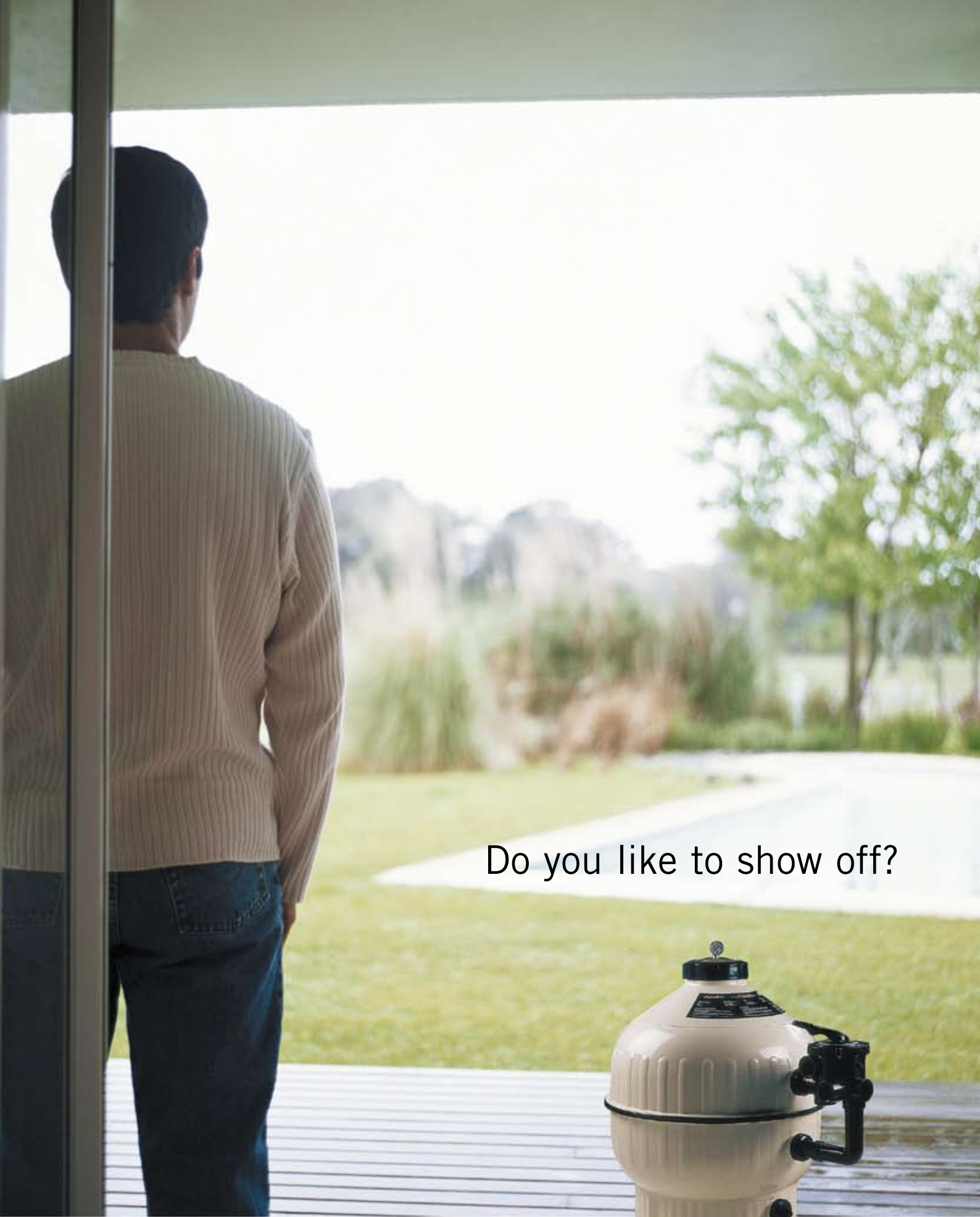
High quality cartridge element for long life filtration, suitable for spa temperatures. Complete with quality pressure gauge and 63 mm water connections.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
ZX 50. Recommended flow 13.5 m <sup>3</sup> /h. Filtration surface 4.7 m <sup>2</sup>	<b>41331</b>	1	7.00	0.075
ZX 75 - Recommended flow 17.4 m <sup>3</sup> /h. Filtration surface 7.0 m <sup>2</sup>	<b>41332</b>	1	8.00	0.075
ZX 100 - Recommended flow 22.5 m <sup>3</sup> /h. Filtration surface 9.4 m <sup>2</sup>	<b>41333</b>	1	15.50	0.101
ZX 150 - Recommended flow 26.7 m <sup>3</sup> /h. Filtration surface 14.0 m <sup>2</sup>	<b>41334</b>	1	16.50	0.101
ZX 200 - Recommended flow 29.4 m <sup>3</sup> /h. Filtration surface 19.0 m <sup>2</sup>	<b>41335</b>	1	24.00	0.127
ZX 250 - Recommended flow 30.9 m <sup>3</sup> /h. Filtration surface 24.0 m <sup>2</sup>	<b>41336</b>	1	25.00	0.127

Model	"A" dim (mm)
ZX 50	465
ZX 75	465
ZX 100	700
ZX 150	700
ZX 200	1160
ZX 250	1160







Do you like to show off?



Then it's going to be difficult to decide where to put the new Cantabric filter from AstralPool. Its attractive design and excellent performance qualities for domestic pools will make you so proud of having chosen it that you'll always want to have it in sight. Whoever shows off is because they can: AstralPool quality.

**ASTRALPOOL**   
Leading in solutions for your pool

**INJECTION MOULDED SAND FILTERS**

Ivory colour. Injected thermo-plastic shell with built in base. Top and bottom parts are thermally welded. Supplied with pressure gauge, manual air vent, water purge, and multiport valve. Maximum filtration velocity: 50 m<sup>3</sup>/h/m<sup>2</sup>. Maximum working pressure: 2.5 Kg/cm<sup>2</sup>.

**Top mounted Cantabric filter**

Top mounted multiport valve. Threaded filter locking ring in ABS.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
6000 l/h Ø 400 mm outlet 1½"	<b>22399</b>	1	10.7	0.23
9000 l/h Ø 500 mm outlet 1½"	<b>15780</b>	1	17.5	0.37
14000 l/h Ø 600 mm outlet 1½"	<b>15781</b>	1	19.9	0.49
21000 l/h Ø 750 mm outlet 1½"	<b>20128</b>	1	30.4	0.83
21000 l/h Ø 750 mm outlet 2"	<b>23866</b>	1	32.1	0.83



**Side mounted Cantabric filter**

Clear lid & threaded locking ring in ABS, supplied with side mounted multiport valve.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>With multiport side valve</b>				
6.000 l/h Ø 400 mm outlet 1½"	<b>22398</b>	1	9.0	0.15
9.000 l/h Ø 500 mm outlet 1½"	<b>15782</b>	1	15.8	0.29
14.000 l/h Ø 600 mm outlet 1½"	<b>15783</b>	1	17.8	0.40
21.000 l/h Ø 750 mm outlet 2"	<b>15784</b>	1	29.0	0.67
<b>Without multiport valve</b>				
30.000 l/h Ø 900 mm outlet 2½"	<b>22402</b>	1	49.0	1.30


**Cantabric monobloc Ø 400 mm with Sena pump 1/3 HP**

Made up of a Cantabric filter Ø 400 mm, with top mounted valve and single phase Sena pump 1/3 HP. Injected thermo-plastic base.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 400 mm - Top, Sena 1/3 HP	<b>27813</b> 	1	23	0.32

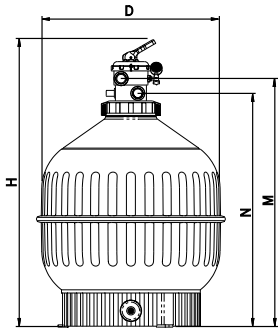




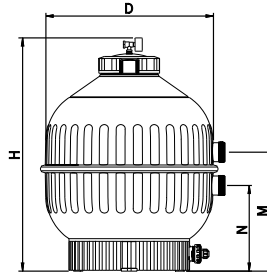
## INJECTION MOULDED SAND FILTERS

### Cantabric filters

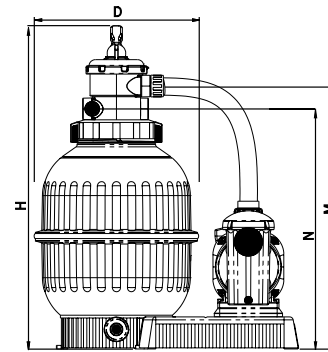
Top mounted



Side mounted



Top mounted monobloc



	Top mounted					Side mounted					Monobloc Top
	22399	15780	15781	20128	23866	22398	15782	15783	15784	22402	27813
Ø D (mm)	400	500	600	750	750	400	500	600	750	900	400
H (mm)	894	1009	1069	1239	1250	715	800	875	1045	1215	894
M (mm)	744	829	894	1064	1098	380	415	445	575	675	744
N (mm)	680	765	830	1000	1023	255	290	320	345	405	680
Connections	1½"	1½"	1½"	1½"	2"	1½"	1½"	1½"	2"	2½"	1½"
Flow rate m³/h	6	9	14	21	21	6	9	14	21	30	6
Approx. pool volume (m³) (8 hours)*	48	72	112	168	168	48	72	112	168	240	48
Sand, kg	60	100	150	300	300	60	100	150	300	550	60
Net weight, kg	8	14	15	23	25	7	12	14	24	34	23
Package volume m³	0.2	0.37	0.49	0.83	0.83	0.15	0.29	0.4	0.67	1.3	0.34

Fitted with sand dump port of Ø 2" in Ø 750 mm & Ø 900 mm models, and of 1½" in Ø 400 mm, Ø 500 mm & Ø 600 mm models

\* 8 hours turnover rate

Cantabric / Sena	
	27813
Ø (mm)	400
Pump	Sena
Power (HP)	1/3
Voltage (V)	230 II
Frequency (Hz)	50

**BLOW-MOULDED SAND FILTERS**

One piece blow-moulded filters made of plastic With threaded lid, multiport valve, pressure gauge, manual air vent and water purge. Ivory colour. Maximum working pressure: 2.5 Kg/cm<sup>2</sup> for filters Ø 380 mm, Ø 430 mm & Ø 480 mm, & 2 Kg/cm<sup>2</sup> for filter Ø 560 mm & Ø 660 mm.

**Millennium filters with Top mounted valve**

Maximum filtration velocity: 50 m<sup>3</sup>/h/m<sup>2</sup>.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 380 mm - 5500 l/h outlet 1 1/2"	<b>27811</b>	1	13.0	0.17
Ø 430 mm - 7000 l/h outlet 1 1/2"	<b>22407</b>	1	14.0	0.17
Ø 480 mm - 9000 l/h outlet 1 1/2"	<b>22408</b>	1	16.0	0.24
Ø 560 mm - 12000 l/h outlet 1 1/2"	<b>22409</b>	1	17.0	0.35
Ø 660 mm - 17000 l/h outlet 1 1/2"	<b>28253</b>	1	24.5	0.52


**Millennium filters with side mounted valve**

Maximum filtration velocity: 50 m<sup>3</sup>/h/m<sup>2</sup>.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 380 mm - 5500 l/h outlet 1 1/2"	<b>27809</b>	1	10.5	0.13
Ø 430 mm - 7000 l/h outlet 1 1/2"	<b>25296</b>	1	13.0	0.13
Ø 480 mm - 9000 l/h outlet 1 1/2"	<b>25297</b>	1	16.0	0.18
Ø 560 mm - 12000 l/h outlet 1 1/2"	<b>25298</b>	1	18.0	0.26
Ø 660 mm - 17000 l/h outlet 1 1/2"	<b>28252</b>	1	29.0	0.42


**Millennium model monobloc with top mount MPV**

Threaded locking ring, top mount.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 380 mm - Sena 1/3 HP 230 V II	<b>27805</b>	▲ 1	27.0	0.33
Ø 430 mm - Sena 1/3 HP 230 V II	<b>23342</b>	▲ 1	27.0	0.33
Ø 480 mm - Sena 1/2 HP 230 V II	<b>23343</b>	▲ 1	31.0	0.43
Ø 560 mm - Sena 3/4 HP 230 V II	<b>23344</b>	▲ 1	35.0	0.50
Ø 660 mm - Sena 1.25 HP	<b>28299</b>	▲ 1	41.0	0.59


**Millennium model monobloc with side mount MPV**

Threaded cover, side mount.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 380 mm - Sena 1/3 HP 230 V II	<b>27804</b>	1	28.0	0.33
Ø 430 mm - Sena 1/3 HP 230 V II	<b>23348</b>	1	28.0	0.33
Ø 480 mm - Sena 1/2 HP 230 V II	<b>23349</b>	1	31.0	0.43
Ø 560 mm - Sena 3/4 HP 230 V II	<b>23350</b>	1	35.0	0.50
Ø 660 mm - Sena 1.25 HP	<b>28301</b>	1	41.0	0.59



## BLOW-MOULDED SAND FILTERS

### Millennium filters

#### Top mounted



#### Side mounted



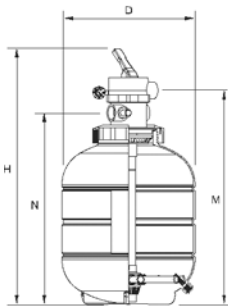
#### Top mounted monobloc



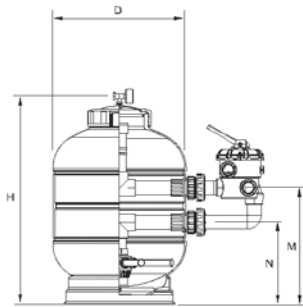
#### Side mounted monobloc



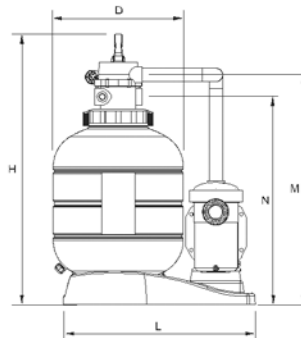
A



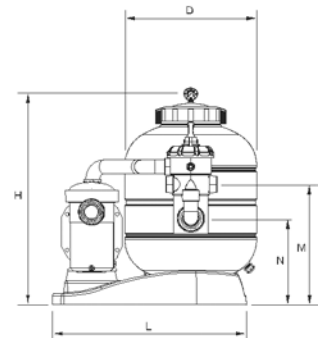
B



C



D



	A - Top mounted					B - Side mounted					C - Top mounted monobloc					D - Side mounted monobloc				
	27811	22407	22408	22409	28253	27809	25296	25297	25298	28252	27805	23342	23343	23344	28299	27804	23348	23349	23350	28301
Ø D (mm)	380	430	480	560	660	380	430	480	560	660	380	430	480	560	660	380	430	480	560	660
H (mm)	895	875	920	995	1160	675	715	742	830	960	905	955	975	1055	1125	685	735	745	830	962
M (mm)	725	735	780	855	920	385	395	420	460	570	735	815	835	915	990	390	415	410	460	570
N (mm)	660	655	700	775	850	260	270	295	335	510	670	735	755	815	925	265	290	285	335	510
Length L (mm)	-	-	-	-	-	-	-	-	-	-	710	715	835	835	835	710	715	835	835	835
Connections	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Flow rate m³/h	5.5	7	9	12	17	5.5	7	9	12	17	5.5	7	9	12	17	5.5	7	9	12	17
Approx. pool volume m³	up to 40	40-50	50-75	75-100	140	up to 40	40-50	50-75	75-100	140	up to 40	40-50	50-75	75-100	140	up to 40	40-50	50-75	75-100	140
Sand, kg	40	60	85	135	250	40	60	85	135	250	40	60	85	135	250	40	60	85	135	250
Maxi working pressure kg/cm²	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Net weight kg	13	14	16	17	24.5	10.5	13	16	18	29	27	27	31	35	41	28	28	31	35	41
Package volume m³	0.17	0.17	0.24	0.35	0.52	0.13	0.13	0.18	0.26	0.42	0.33	0.33	0.43	0.50	0.59	0.33	0.33	0.43	0.50	0.59






	Millennium / Sena				
Side monobloc	27804	23348	23349	23350	28301
Top monobloc	27805	23342	23343	23344	28299
Ø (mm)	380	430	480	560	660
Pump	Sena	Sena	Sena	Sena	Sena
Power (HP)	1/3	1/3	1/2	3/4	1.25
Voltage (V)	230 II	230 II	230 II	230 II	230 II
Frequency (Hz)	50	50	50	50	50

**STAINLESS STEEL FILTERS**

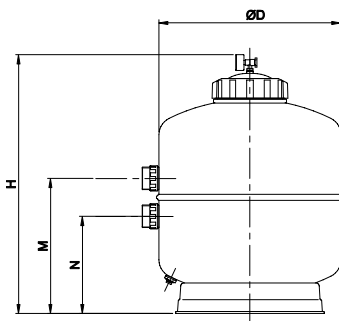
**Stainless Steel filters**

Transparent lid Ø 175 mm with threaded nut ring. In polished S.S. (AISI-304) fitted with side mounted multiport valve and pressure gauge. Filtration velocity: 50 m<sup>3</sup>/h/m<sup>2</sup>.

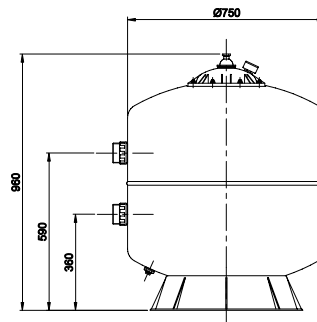


	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
5000 l/h Ø 350 mm outlet 1½"	<b>05559</b>	 1	13.2	0.126
8000 l/h Ø 450 mm outlet 1½"	<b>05560</b>	 1	18.2	0.206
9000 l/h Ø 500 mm outlet 1½"	<b>05561</b>	 1	21.4	0.236
14000 l/h Ø 600 mm outlet 1½"	<b>05562</b>	 1	27.2	0.416
*21000 l/h Ø 750 mm outlet 2"	<b>00523</b>	 1	41.8	0.618

\*Screwed lid.



05559 - 05560 - 05561 - 05562



00523

	05559	05560	05561	05562	00523
Ø D mm	350	450	500	600	750
H mm	780	700	780	850	960
M mm	475	385	410	445	590
N mm	350	260	285	320	360
Connections	1½"	1½"	1½"	1½"	2"
Flow rate m <sup>3</sup> /h at 50 m <sup>3</sup> /h/m <sup>2</sup>	5	8	9	14	21
Pool (volume) m <sup>3</sup> (8 hours)	up to 40	40-65	50-75	75-115	115-170
Sand kg	35	62	85	150	330
Maxi working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5
Net weight kg	14	25	28	36	60
Package volume m <sup>3</sup>	0.145	0.27	0.335	0.49	0.94

## LAMINATED FILTERS

### Aster filters

Laminated fibreglass filter with fibreglass. Grey colour, with new boltless lid and polypropylene base. Fitted with pressure gauge, water drainage plug, and multiport valve. Maximum working pressure: 2.5 kg/cm<sup>2</sup>. Maximum filtration velocity 50 m<sup>3</sup>/h/m<sup>2</sup>.



#### With top mounted multiport valve

5000 l/h Ø 350 mm outlet 1½"  
 8000 l/h Ø 450 mm outlet 1½"  
 9000 l/h Ø 500 mm outlet 1½"  
 14000 l/h Ø 600 mm outlet 1½"  
 15000 l/h Ø 650 mm outlet 1½"  
 21000 l/h Ø 750 mm outlet 2"  
 32000 l/h Ø 900 mm outlet 2"

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
30768	1	17	0.16
30769	1	20	0.27
30770	1	22	0.30
30771	1	27	0.46
30772	1	33	0.52
33847	1	38	0.74
33848	1	72	1.49

#### With side mounted multiport valve

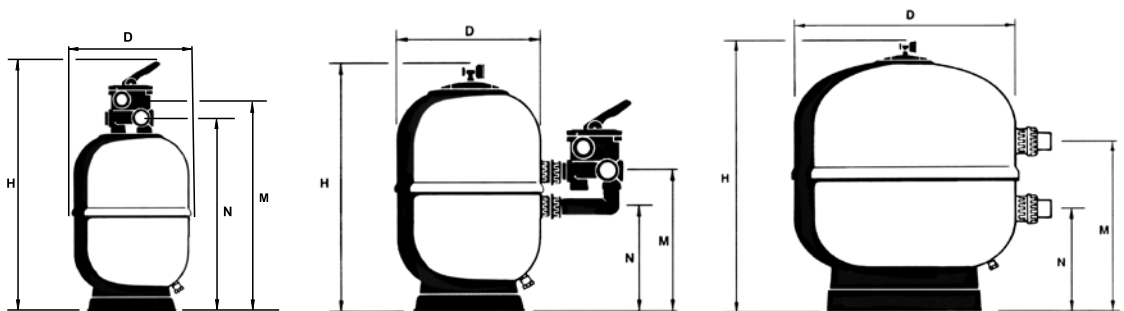
5000 l/h Ø 350 mm outlet 1½"  
 8000 l/h Ø 450 mm outlet 1½"  
 9000 l/h Ø 500 mm outlet 1½"  
 12000 l/h Ø 550 mm outlet 1½"  
 14000 l/h Ø 600 mm outlet 1½"  
 15000 l/h Ø 650 mm outlet 1½"  
 18000 l/h Ø 680 mm outlet 1½"  
 21000 l/h Ø 750 mm outlet 2"

00497	1	12.5	0.110
00498	1	15.5	0.160
19781	1	20.0	0.265
32706	1	20.0	0.360
00499	1	21.0	0.320
21071	1	32.0	0.472
28479	1	26.0	0.690
00500	1	31.0	0.570

#### Without multiport valve

31000 l/h Ø 900 mm outlet 2½"

00501	1	65.0	1.250
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	With Top mounted multiport valve							With side mounted multiport valve							Without valve	
	30768	30769	30770	30771	30772	33847	33848	00497	00498	19781	32706	00499	21071	00500	28479	00501
Ø D mm	350	450	500	600	650	750	900	350	450	500	550	600	650	750	680	900
H mm	910	965	960	1005	1060	1184	1344	780	795	770	825	850	880	945	915	1050
M mm	740	795	790	835	890	973	1133	420	430	415	455	455	480	555	525	660
N mm	680	785	730	775	830	897	1057	295	305	290	330	330	355	325	400	390
Connections	1½"	1½"	1½"	1½"	1½"	2"	2"	1½"	1½"	1½"	1½"	1½"	1½"	2	1½"	2½"
Flow rate m <sup>3</sup> /h at 50m <sup>3</sup> /h/m <sup>2</sup>	5	8	9	14	15	21	31	5	8	9	12	14	15	21	18	30
Pool (volume) m <sup>3</sup> (8 hours)	40	64	72	112	120	168	240	40	64	72	96	112	120	168	144	240
Sand kg	50	70	95	125	230	305	400	50	70	95	130	125	230	240	250	400
Maxi working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Net weight kg	17	20	22	27	33	38	72	12.5	15.5	18	20	21	24	30	26	51
Packaging volume m <sup>3</sup>	0.16	0.27	0.30	0.46	0.52	0.74	1.49	0.13	0.18	0.26	0.36	0.36	0.44	0.6	0.69	1.03

**LAMINATED FILTERS**
**Aster model monoblocs**

Base injected in PP. With side mounted filter and Sprint pump.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 350 mm Sprint 0.24 kW (1/3 HP) 230 V II	<b>00502</b>	1	32.5	0.110
Ø 450 mm Sprint 0.37 kW (1/2 HP) 230 V II	<b>00503</b>	1	35.0	0.380
Ø 600 mm Sprint 0.55 kW (3/4 HP) 230 V II	<b>00504</b>	1	46.0	0.670



	Monoblocs		
	00502	00503	00504
Ø D mm	350	450	600
Connections	1 1/2"	1 1/2"	1 1/2"
Flow rate m <sup>3</sup> /h at 50 m <sup>3</sup> /h/m <sup>2</sup>	5	8	14
Pool (volume) m <sup>3</sup> (8 hours)*	40	64	112
Sand kg	50	70	125
Maxi working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5

Monobloc	Aster / Sprint		
	00502	00503	00504
Ø (mm)	350	450	600
Pump	Sprint	Sprint	Sprint
Power (HP)	1/3	1/2	3/4
Voltage (V)	230 II	230 II	230 II
Frequency (Hz)	50	50	50

\* 8 hours updated period



## LAMINATED FILTERS

### Vesubio filters

The Vesubio range covers both public and residential pools. Filters manufactured with simultaneous projection of resin and fibreglass. Lid fastened with high resistance bolts. Top opening of Ø 210 mm. Ø 1050 mm and Ø 1200 mm models are also available with top opening of Ø 400 mm. Maximum working pressure of 2.5 kg/cm<sup>2</sup>.



#### Side mount version

8000 l/h Ø 450 mm outlet 50 mm	<b>15785</b>
9000 l/h Ø 500 mm outlet 50 mm	<b>19353</b>
14000 l/h Ø 600 mm outlet 50 mm	<b>15786</b>
22000 l/h Ø 750 mm outlet 63 mm	<b>15787</b>
32000 l/h Ø 900 mm outlet 75 mm	<b>15788</b>
43000 l/h Ø 1050* mm outlet 75 mm	<b>15789</b>
43000 l/h Ø 1050** mm outlet 75 mm	<b>32391</b>
56000 l/h Ø 1200* mm outlet 90 mm	<b>15790</b>
56000 l/h Ø 1200** mm outlet 90 mm	<b>32392</b>

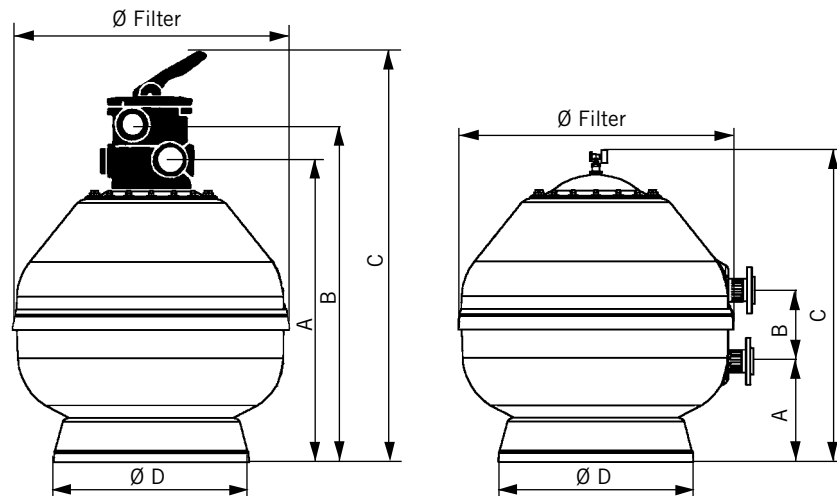
#### Top mount version

8000 l/h Ø 450 mm outlet 50 mm	<b>32430</b>
9000 l/h Ø 500 mm outlet 50 mm	<b>32431</b>
14000 l/h Ø 600 mm outlet 50 mm	<b>32432</b>
22000 l/h Ø 750 mm outlet 63 mm	<b>33850</b>
32000 l/h Ø 900 mm outlet 63 mm	<b>33851</b>

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
		1	16	0.200
		1	20	0.260
		1	23	0.357
		1	32	0.595
		1	48	1.003
		1	97	2.052
		1	97	2.052
		1	130	2.450
		1	140	2.430
		1	19	0.280
		1	23	0.350
		1	26	0.480
		1	40	0.787
		1	56	1.276

\* Small upper lid of Ø 210 mm  
 \*\* Upper lid of Ø 400 mm

Filters up to Ø 1050 mm can be fitted with side mounted multiport valve. Ø 900 and Ø 1050 mm filters with side outlets are supplied without multiport valve.



	Top mounted version					Side mounted version									
	32430	32431	32432	33850	33851	15785	19353	15786	15787	15788	15789	32391	15790	32392	
Ø Filter mm	450	500	600	750	900	450	500	600	750	900	1050	1050	1200	1200	
A mm	650	690	790	837	987	265	305	325	300	325	435	410	490	490	
B mm	710	750	850	913	1063	125	125	125	230	270	270	270	270	270	
C mm	880	920	1020	1124	1274	725	765	865	895	1080	1110	1235	1235	1360	
D mm	347	400	400	490	625	347	400	400	490	625	760	775	855	940	
Filtration area	0.16	0.19	0.30	0.44	0.64	0.16	0.19	0.30	0.44	0.64	0.86	0.86	1.13	1.13	
Connections	1½"	1½"	1½"	2"	2"	1½"	1½"	1½"	2"	2½"	2½"	2½"	90	90	
Flow rate m <sup>3</sup> /h at 50m <sup>3</sup> /h/m <sup>2</sup>	8	9	14	22	32	8	9	14	22	32	43	43	6	56	
Pool (volume) m <sup>3</sup> (8 hours)	64	72	112	176	256	64	72	112	176	256	344	344	448	448	
Sand kg	60	95	148	245	415	60	95	148	245	415	660	660	1000	1000	



**LAMINATED FILTERS**
**Filtration bed 1 m**
**Vesubio filters- Commercial pools**

 With sand discharge port of 2<sup>1</sup>/<sub>2</sub>".

**Maximum working pressure 2.5 Kg/cm<sup>2</sup>**
**Filtration bed 1 m**

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	41304	1	90	870
	30/40	75	25/34	41305	1	90	870
	50	90	43	41306	1	90	870
1200	20/30	75	22/33	41307	1	105	1290
	40/50	90	45/56	41308	1	105	1290
1400	20	75	30	41309	1	125	1810
	30	90	46	41310	1	125	1810
	40/50	110	61/77	41311	1	125	1810
1600	20	90	40	41312	1	175	2285
	30/40	110	60/80	41313	1	175	2285
	50	125	100	41314	1	175	2285
1800	20	90	50	41315	1	210	2950
	30	110	76	41316	1	210	2950
	40	125	101	41317	1	210	2950
	50	140	125	41318	1	210	2950
2000	20	110	62	41319	1	245	3850
	30	125	94	41320	1	245	3850
	40	140	125	41321	1	245	3850
	50	160	157	41322	1	245	3850



Ø D (mm)	Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	Code	Connections		Flow (m <sup>3</sup> /h)	Pool volume (8h) (m <sup>3</sup> )	Filtration area (m <sup>2</sup> )	C (mm)	A (mm)	B (mm)	Ø D (mm)	Gravel 1-2 mm (kg)	Sand 0.4-0.8 mm (kg)
			mm	inches									
1050	20	41304	63	2"	17	136	0.86	1545	465	500	760	175	1125
	30/40	41305	75	2 <sup>1</sup> / <sub>2</sub> "	25/34	200/272							
	50	41306	90	3"	43	344							
1200	20/30	41307	75	2 <sup>1</sup> / <sub>2</sub> "	22/33	176/264	1.13	1730	675	500	850	275	1350
	40/50	41308	90	3"	45/56	360/448							
1400	20	41309	75	2 <sup>1</sup> / <sub>2</sub> "	30	240	1.54	1845	725	500	1085	350	1850
	30	41310	90	3"	46	368							
	40/50	41311	110	4"	61/77	488/616							
1600	20	41312	90	3"	40	320	2.01	1850	710	500	1230	450	2725
	30/40	41313	110	4"	60/80	480/640							
	50	41314	125	4 <sup>1</sup> / <sub>2</sub> "	100	800							
1800	20	41315	90	3"	50	400	2.54	1915	755	570	1370	550	3175
	30	41316	110	4"	76	608							
	40	41317	125	4 <sup>1</sup> / <sub>2</sub> "	101	808							
	50	41318	140	5"	125	1000							
2000	20	41319	110	4"	62	496	3.14	2030	775	570	1560	675	3650
	30	41320	125	4 <sup>1</sup> / <sub>2</sub> "	94	752							
	40	41321	140	5"	125	1000							
	50	41322	160	6"	157	1256							

**Note: Codification options according to table on page 126**



## Filtration bed 0.6 m

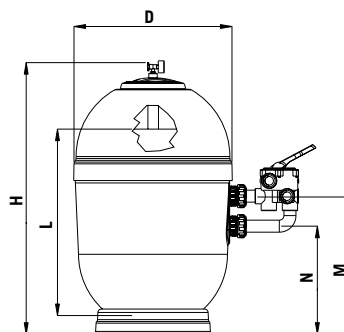
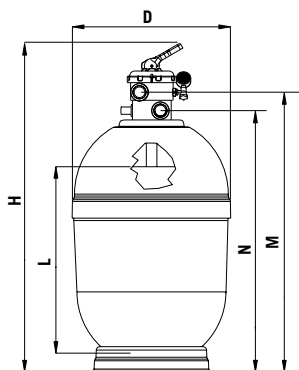
## LAMINATED FILTERS

### High performance filter Rapidpool

Laminated polyester filter with fibreglass. Red colour, polypropylene base, boltless lid. Port for emptying sand and water, fitted with pressure gauge and air relief valve. Side mount multiport valve. Maximum filtration velocity 50 m<sup>3</sup>/h/m<sup>2</sup>. Maximum working pressure 2.5 kg/cm<sup>2</sup>. Filtration bed 0.6 m.



	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Top mounted valve version</b>				
6000 l/h Ø 400 mm outlet 1 1/2"	32427	1	19.0	0.200
9000 l/h Ø 500 mm outlet 1 1/2"	32428	1	25.0	0.355
15000 l/h Ø 650 mm outlet 1 1/2"	32429	1	34.0	0.600
24000 l/h Ø 800 mm outlet 2"	33849	1	44.0	1.050
<b>Side mounted valve version</b>				
6000 l/h Ø 400 mm outlet 1 1/2"	00488	1	15.0	0.150
9000 l/h Ø 500 mm outlet 1 1/2"	00489	1	22.0	0.280
15000 l/h Ø 650 mm outlet 1 1/2"	00490	1	30.0	0.500
24000 l/h Ø 800 mm outlet 2"	00491	1	45.0	0.880



	Top mounted valve				Side mounted valve			
	32427	32428	32429	33849	00488	00489	00490	00491
Ø Filter mm	400	500	650	800	400	500	650	800
H mm	1020	1165	1285	1566	860	1032	1126	1272
M mm	850	995	1115	1355	442	527	552	592
N mm	790	935	1055	1279	317	402	427	362
Connections	1 1/2"	1 1/2"	1 1/2"	2"	1 1/2"	1 1/2"	1 1/2"	2"
Flow rate m <sup>3</sup> /h at 50m <sup>3</sup> /h/m <sup>2</sup>	6	9	15	24	6	9	15	24
Pool (volume) m <sup>3</sup> (8 hours)	48	72	120	120	48	72	120	192
Sand kg	60	130	255	445	60	130	255	445
Sand height mm	545	571	650	785	545	571	650	785
Maxi working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Net weight kg	19	25	34	44	15	22	30	45
Packaging Volume m <sup>3</sup>	0.20	0.355	0.60	1.05	0.16	0.3	0.53	0.9

**LAMINATED FILTERS**



## Filtration bed 1 m



new

## LAMINATED FILTERS

The new **range of laminated Delta filters** have evolved from the PTK filter series. Using new manufacturing processes, which provide multiple product configuration options. A new 30% larger joint reinforces the seal of both parts of the filter with double security: fibreglass laminated on the inside and high tensile strength composite at the outer union of the filter. All connections are on a thicker base, thus improving resistance. Connection to any valve is also made easier thanks to the re-location of the fittings. The height of the lower part of the filter has been increased in order to strengthen the internal nozzle plate support. Guarantee 2 years. Blue RAL 5024.colour. Other colours available on request, subject to a minimum order of 5 filters.



### Delta 1000 filters

The **Delta 1000** model is the equivalent of the PTK series 1000 and is available in 650, 800, 1000 and 1200 mm diameters. It features a 1m filtration bed and is available with either lateral or nozzle plate collector systems.

- DN 200 filter lid with quick-locking system for 650 and 800 models and DN 400 bolt down lid for 1000 and 1200 models.
- DN200 lateral manhole with bolt down cover.
- Filter interior left with natural resin finish.
- Optional methacrylate sight glass available on request.
- Inner pipe and fittings in PVC, PP and ABS.
- Pressure gauge included in filter lid.
- Gaskets in EPDM and all screw fittings in stainless steel.
- Vinylester option. In this case, all laminated layers are manufactured from vinylester resin (and not only the top layer in contact with the water), to a maximum chemical resistance of 0.4 ppm of ozone dissolved iand to a maximum water temperature of 40°C.



#### Maximum working pressure 2.5 Kg/cm<sup>2</sup>

#### Conventional collector arms. Arm slots 0.3 mm

Diameter Ø mm	Outlet Ø mm	Flow** m <sup>3</sup> /h 40m <sup>3</sup> /h/m <sup>2</sup>	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
650	1 1/2"	13.3	36676	1	112	0.56
800	2"	20.1	36677	1	115	0.88
1000	2 1/2"	31.4	36678	1	121	1.45
1200	90	45.2	36679	1	113	2.17

\*\* Maximum flow and filtration velocity recommended



#### Maximum working pressure 2.5 Kg/cm<sup>2</sup>

#### Nozzle collector plate. Nozzle slots 0.5 mm

Diameter Ø mm	Outlet Ø mm	Flow** m <sup>3</sup> /h 40m <sup>3</sup> /h/m <sup>2</sup>	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
650	1 1/2"	13.3	36684	1	119	0.60
800	2"	20.1	36685	1	121	0.93
1000	2 1/2"	31.4	36686	1	129	1.54
1200	90	45.2	36687	1	123	2.34

\*\* Maximum Flow and filtration velocity recommended

\*except diam. 1200 mm models

**LAMINATED FILTERS**

Filtration bed 1.2 m



**Delta 1200 filters**

new

The **Delta 1200 filter** is equivalent to the old PTK series 1200 and is available in 650, 800, 1000 and 1200 mm diameters. The high performance filter bed measures 1.2 m and is available with either lateral or nozzle plate collector systems.

- DN 200 filter lid with quick-locking system for 650 and 800 models and DN 400 bolt down lid for 1000 and 1200 models.
- DN200 lateral manhole with bolt down cover.
- Filter interior left with natural resin finish.
- Methacrylate sight glass as standard. Further sight glasses are available on request.
- Internal pipe and fittings in PVC, PP and ABS.
- Pressure gauge included in filter lid.
- Gaskets in EPDM and all bolt fasteners in stainless steel.
- Vinylester option. In this case, all laminate layers are manufactured from vinylester resin (and not only the top layer in contact with the water), to a maximum chemical resistance of 0.4 ppm of ozone dissolved and to a maximum water temperature of 40°C.



Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Conventional collector arms. Arm slots 0.3 mm

Diameter Ø mm	Outlet Ø mm	Flow m <sup>3</sup> /h 40m <sup>3</sup> /h/m <sup>2</sup>	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
650	1½"	13.3	36680	1	120	0.60
800	2"	20.1	36681	1	121	0.92
1000	2½"	31.4	36682	1	129	1.54
1200	90	45.2	36683	1	130	2.24

Nozzle collector plate. Nozzle slots 0.5 mm

Diameter Ø mm	Outlet Ø mm	Flow m <sup>3</sup> /h 40m <sup>3</sup> /h/m <sup>2</sup>	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
650	1½"	13.3	36688	1	127	0.64
800	2"	20.1	36689	1	127	0.97
1000	2½"	31.4	36690	1	137	1.63
1200	90	45.2	36691	1	141	2.42



Nozzle plate detail



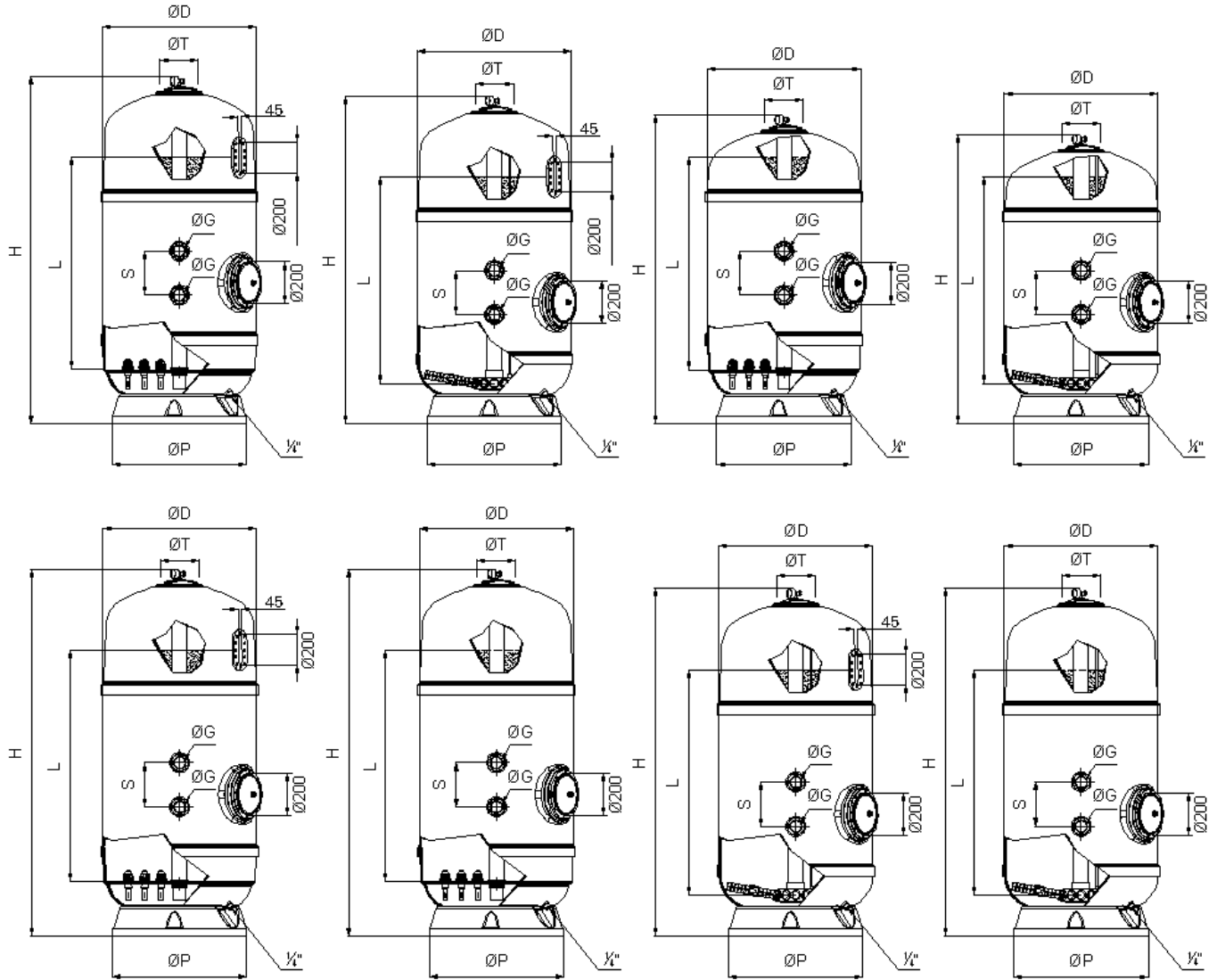
Collector arms detail

Note: Codification options according to table on page 126

## LAMINATED FILTERS



### Delta filters



### TECHNICAL FEATURES

	DELTA 1000								DELTA 1200							
	Collector arms				Nozzle plate				Collector arms				Nozzle plate			
	36676	36677	36678	36679	36684	36685	36686	36687	36680	36681	36682	36683	36688	36689	36690	36691
D (mm)	650	800	1.000	1.200	650	800	1.000	1.200	650	800	1.000	1.200	650	800	1.000	1.200
Ø P(mm)	490	625	890	1145	490	625	890	1145	585	700	890	1145	585	700	890	1145
H (mm)	1702	1749	1840	1915	1802	1843	1955	2071	1825	1830	1960	1980	1925	1924	2075	2136
L (mm)	1000	1000	1000	1000	1000	1000	1000	1000	1200	1200	1200	1200	1200	1200	1200	1200
S (mm)	125	230	270	300	125	230	270	300	125	230	270	300	125	230	270	300
Ø T	200	200	400	400	200	200	400	400	200	200	400	400	200	200	400	400
Ø G	1½"	2"	2½"	3"	1½"	2"	2½"	3"	1½"	2"	2½"	3"	1½"	2"	2½"	3"
Flow rate m³/h at 30 m³/h/m²	9	15	23	34	9	15	23	34	9	15	23	34	9	15	23	34
Flow rate m³/h at 40 m³/h/m²	12	20	30	45	12	20	30	45	12	20	30	45	12	20	30	45
MULTILAYER	Anthracite 0.8 - 1.6 mm (l)	-	-	-	-	-	-	-	148	250	387	564	148	250	387	564
	Sand 0.4 - 0.8 mm (Kg)	-	-	-	-	-	-	-	160	271	419	611	160	271	419	611
	Gravel 1 - 2 mm (Kg)	-	-	-	-	-	-	-	46	78	120	175	46	78	120	175
	Gravel 3 - 5 mm (Kg)	-	-	-	-	-	-	-	86	156	300	350	46	78	120	175
SINGLE LAYER	Sand 0.4 - 0.8 mm (kg)	400	640	990	1425	400	640	990	451	767	1325	1763	451	767	1325	1763
	Gravel 1 - 2 mm (kg)	86	156	300	350	46	78	120	86	156	300	350	46	78	120	175

**LAMINATED FILTERS**

Filtration bed 1.2 m



**Norma filters**

Laminated filter in polyester reinforced with fibreglass (PRFV). Filtration bed can be of single or multilayer. Maximum working pressure 2.5 kg/cm<sup>2</sup>. Complies with DIN standard 19643/19605. Collector system with nozzle plate (0.5 mm slot). Fitted with sight glass, sand dump port, lateral manhole, pressure gauge and manual air vent and water purge. Top sand charge lid Ø 200 mm and manhole Ø 200 mm or Ø 400 mm according to model type. PVC and PP internal components. A4 bolts and EPDM gaskets. **Options:** Interior vinylester coating (resistant to ozone concentrations <0.4 ppm) and maximum temperature of 40°C. Standard colour: Ivory.

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

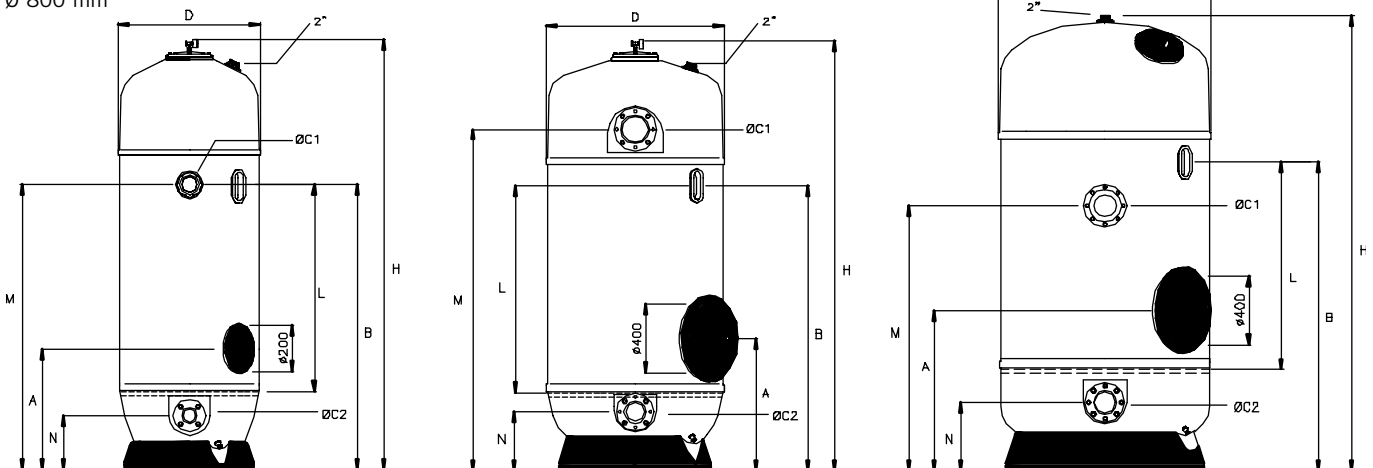


Diameter Ø mm	Filtration velocity	Outlet Ø mm	Flow m <sup>3</sup> /h 30m <sup>3</sup> /h/m <sup>2</sup>	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
650	30	90-75	10	08142	1	100	1.33
800	30	90-75	15	08143	1	125	2.00
1.000	30	140-110	23	08144	1	145	3.00
1.200	30	140-140	34	08145	1	177	5.50

Ø 650 mm  
Ø 800 mm

Ø 1000 mm

Ø 1200 mm



**TECHNICAL FEATURES**

	08142	08143	08144	08145	
D (mm)	650	800	1000	1200	
A (mm)	680	700	770	950	
B (mm)	1660	1640	1655	1790	
H (mm)	2480	2480	2490	2640	
L (mm)	1200	1200	1200	1200	
M (mm)	1650	1650	1980	1600	
N (mm)	320	320	340	400	
Ø C1 (mm)	90	90	140	140	
Ø C2 (mm)	75	75	110	140	
Flow rate m <sup>3</sup> /h at 30 m <sup>3</sup> /h/m <sup>2</sup>	10	15	23	33	
MULTILAYER	Antracita 0.8 – 1.6 mm (l)	148	250	390	564
	Sand 0.4 – 0.8 mm (Kg)	160	271	420	611
	Gravel 1 – 2 mm (Kg)	46	78	120	175
	Gravel 3 – 5 mm (Kg)	46	78	120	175
SINGLE LAYER	Sand 0.4 - 0.8 mm (kg)	451	767	1215	1763
	Gravel 1 - 2 mm (kg)	46	78	120	175



## BOBBIN WOUND FILTERS



### Berlin filter

Bright satin finish with a transparent polyurathane varnish dust-repellant coating. Ø 230 mm injected lid fixed with bolts. Fitted with pressure gauge, manual air vent, water purge, and side mounted multiport valve. Maximum filtration velocity 50 m<sup>3</sup>/h/m<sup>2</sup>.



Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
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#### With multiport valve:

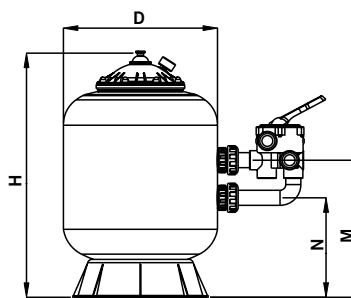
9000 l/h Ø 500 mm outlet 1½"	00541	1	17.3	0.230
14000 l/h Ø 600 mm outlet 1½"	00542	1	21.8	0.360
21000 l/h Ø 750 mm outlet 2"	00543	1	36.0	0.620

#### Without multiport valve:

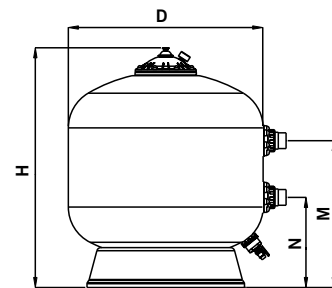
30000 l/h Ø 900 mm outlet 2½"	00544	1	60.0	0.980
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#### Without multiport valve and with Ø 400 mm polyester and FV lid:

43000 l/h Ø 1050 mm outlet Ø 75 mm	00545	1	101.0	1.610
56000 l/h Ø 1200 mm outlet Ø 90 mm	00546	1	130.0	2.306



With multiport valve



Without multiport valve

### Berlin model monoblocs

Base injected in PP. With side mounted multiport valve and Sprint pump.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
--	------	------------------	--------------------	--------------------------------

Ø 500 mm - Sprint 0.37 kW (½ HP) 230 V II	00547	1	41.0	0.380
Ø 600 mm - Sprint 0.55 kW (¾ HP) 230 V II	00548	1	46.0	0.708



	Side mounted valve			Without valve			Monoblocs	
	00541	00542	00543	00544	00545	00546	00547	00548
Ø D mm	500	600	750	900	1050	1200	500	600
H mm	805	910	1050	1145	1300	1450	-	-
M mm	450	505	610	685	810	870	-	-
N mm	325	380	380	415	500	560	-	-
Connections	1½"	1½"	2"	2½"	*D75	**D90	1½"	1½"
Flow rate m <sup>3</sup> /h at 50 m <sup>3</sup> /h/m <sup>2</sup>	9	14	21	30	43	56	9	14
Pool (volume) m <sup>3</sup>	50-75	75-115	115-170	170-240	240-350	350-450	50-75	75-115
Sand kg	100	175	300	525	575/300	800/300	100	175
Maxi working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Net weight kg	14.6	18.6	27.5	43.4	83	93	-	-
Packaging volume m <sup>3</sup>	0.23	0.36	0.26	0.99	1.92	2.75	-	-

Monobloc	Berlin / Sprint	
	00547	00548
Ø (mm)	500	600
Pump	Sprint	Sprint
Power (HP)	1/2	3/4
Voltage (V)	230 II	230 II
Frequency (Hz)	50	50

\*Filter outlet to be glued Ø 75 mm to accessories.

\*\*Filter outlet with Ø 90 mm flange.



**BOBBIN WOUND FILTERS**
**In-ground compact housings with Berlin filter**

Made in polyester and fibreglass. Includes filter, multiport valve, pump, control cabinet, with programmer and valve manifold.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>In-ground compact</b>				
Ø 500 mm Pump 0.37 kW (1/2 HP) 230 V II	<b>00549</b>	1	82.0	0.948
Ø 600 mm Pump 0.55 kW (3/4 HP) 230 V II	<b>00550</b>	1	92.0	0.948
Ø 750 mm Pump 1.10 kW (1.5 HP) 230 V II	<b>00551</b>	1	182.0	2.229


**Semi in-ground compact housings with Berlin filter**

Made in Polyester and fibreglass. Includes filter, multiport valve, pump, control cabinet with programming unit and valve manifold.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Semi in-ground compact</b>				
Ø 500 mm Pump 0.37 kW (1/2 HP) 230 V II	<b>00552</b>	1	64.0	1.056
Ø 600 mm Pump 0.55 kW (3/4 HP) 230 V II	<b>00553</b>	1	74.0	1.056
Ø 750 mm Pump 1.10 kW (1.5 HP) 230 V II	<b>00554</b>	1	121.0	1.791



Consult our wide range of housings for your filtration needs



## FILTER CODIFICATION FOR COMMERCIAL FILTERS



### Filter coding

The filter code is composed of eight digits. The first five digits correspond to the filter code and the last three digits correspond to the model – this information is given in the tables below.

**This codification system is used for the Praga, Oslo, Olot, Ampuria, Rodas, Vic, Europe, Vesubio and Delta filters.**

Position	1	2	3	4	5	-	6	7	8
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Position 1 to 5: Five digit code of the standard product.

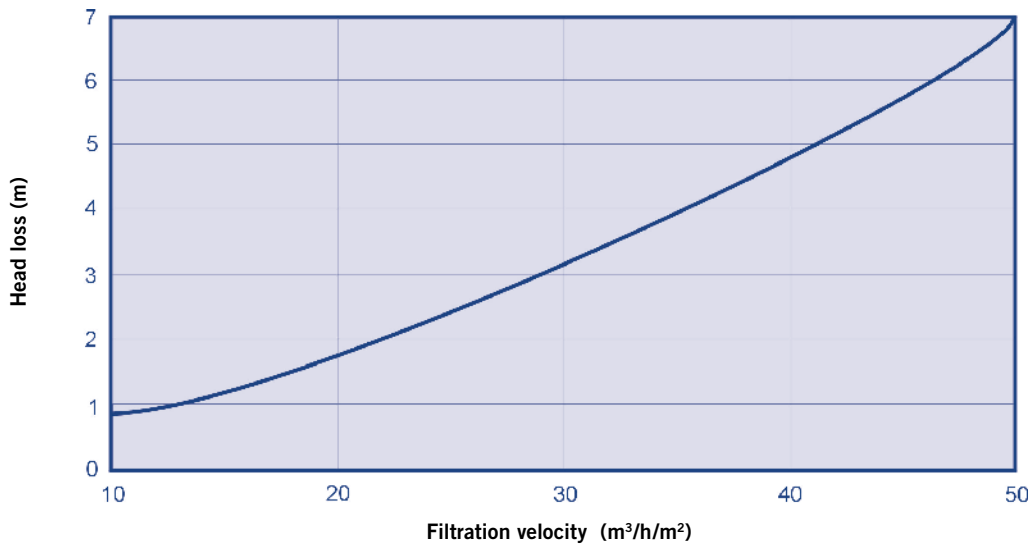
Position 6 Specifies the nozzle plate and vinyester options		Position 7 Specifies manhole options		Position 8 Specifies sightglass options	
0	Filter without nozzle plate	0	No manholes	0	No sightglass
1	Filter with nozzle plate	1	1 Ø 225 mm manhole	1	1 sightglass for laminated filter
2	Vinylester finish	2	1 Ø 400 mm manhole	2	1 Ø 135 mm sightglass
3	With nozzle plate and vinylester	3	2 Ø 225 mm manholes	3	2 sightglass for laminated filter
		4	2 Ø 400 mm manholes	4	2 Ø 135 mm sightglass

Please enquire pricing for various options:

- Vinylester finish
- Ø 225 mm and Ø 400 mm manhole
- Sightglass

## Head loss curve

Ø 1050 mm to Ø 3000 mm filters



**LAMINATED FILTERS**



Europe filters



Polyester and fibreglass filters: complete fitted with pressure gauge panel, manual air relief valve and water purge Ø 200 sand discharge port. Ø 400 mm top lid. Suitable for filtration velocities of 20, 30, 40 and 50 m<sup>3</sup>/h/m<sup>2</sup>. Please enquire for other velocities. All Europe filters can be fitted with valve manifold.

Filtration bed 1 m

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filtration bed 1 m

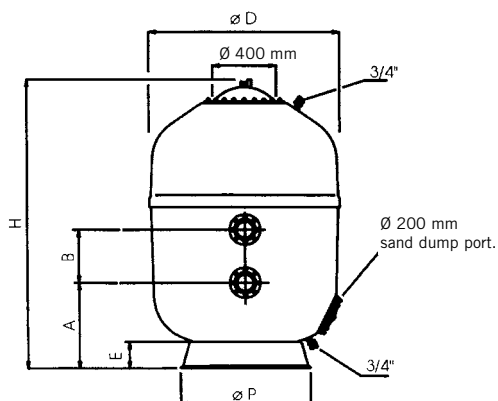
Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20*	63	17	20070	1	125	2.823
	30/40**	75	25/34	20071	1	125	2.823
	50	90	43	20072	1	125	2.823
1200	20/30	75	22/33	20068	1	150	3.597
	40/50	90	45/56	20069	1	150	3.597
1400	20	75	30	21497	1	214	5.880
	30	90	46	21498	1	214	5.880
	40/50	110	61/77	21499	1	214	5.880
1600	20	90	40	21500	1	230	7.80
	30/40	110	60/80	21501	1	230	7.80
	50	125	100	21502	1	230	7.80
1800	20	90	50	21503	1	344	10.00
	30	110	76	21504	1	344	10.00
	40	125	101	21505	1	344	10.00
	50	140	125	21506	1	344	10.00
2000	20	110	62	21507	1	400	12.10
	30	125	94	21508	1	400	12.10
	40	140	125	21509	1	400	12.10
	50	160	157	21510	1	400	12.10
2350	20	125	87	33820	1	600	15.70
	30	140	130	33822	1	600	15.70
	40	160	174	33824	1	600	15.70
	50	200	217	33826	1	600	15.70
2500	20	140	100	34302	1	630	-
	30	160	150	34303	1	630	-
	40	200	200	34304	1	630	-
	50	225	225	34305	1	630	-



\* Can use a 2" multiport valve  
\*\*Can use a 2 1/2" multiport valve.

DOES NOT INCLUDE VALVE MANIFOLD

new



Ø (mm)	1050	1200	1400	1600	1800	2000	2350	2500
Filtration bed height (m)	1	1	1	1	1	1	1	1
H (mm)	1860	1860	2000	2100	2200	2200	2430	2525
B (mm)	270*	350	400	400	400	400	400	500
A (mm)	540	570	615	710	725	805	950	1015
Ø P (mm)	760	850	1083	1230	1370	1558	1830	1830
E (mm)	170	180	240	250	270	300	355	-
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.9
Volume (l)	1250	1575	2185	2965	3850	4850	7230	9385
Sand 0.4 – 0.8 mm (Kg)	1050	1360	1820	2375	3010	3750	5000	5600
Gravel 1 – 2 mm (Kg)	265	325	410	515	760	1060	2000	2920
Total weight in operation (Kg)	2060	2600	3500	4700	6150	7800	10786	13800

\* For 2" multiport valve the height will be 230 mm.

Note: Codification options according to table on page 126

## Filtration bed 1.2 m



DOES NOT INCLUDE  
VALVE MANIFOLD

## LAMINATED FILTERS



Europe filters



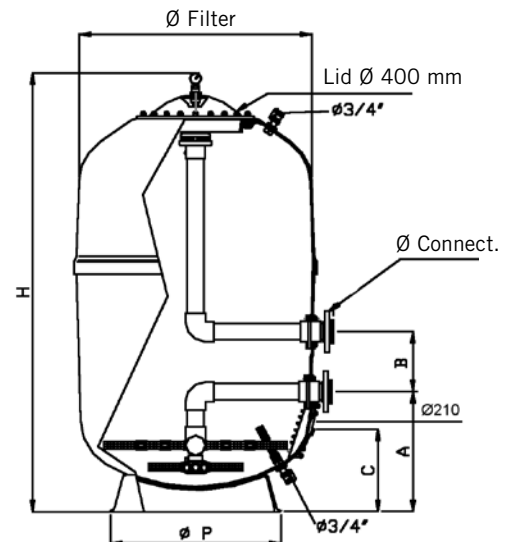
Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filtration bed 1.2 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20*	63	17	31857	1	140	3.04
	30/40**	75	25/34	31858	1	140	3.04
	50	90	43	31859	1	140	3.04
1200	20/30	75	22/33	31860	1	155	3.89
	40/50	90	45/56	31861	1	155	3.89
1400	20	75	30	21511	1	215	6.27
	30	90	46	21512	1	215	6.27
	40/50	110	61/77	21513	1	215	6.27
1600	20	90	40	21514	1	255	8.31
	30/40	110	60/80	21515	1	255	8.31
	50	125	100	21516	1	255	8.31
1800	20	90	50	21517	1	385	10.65
	30	110	76	21518	1	385	10.65
	40	125	101	21519	1	385	10.65
	50	140	125	21520	1	385	10.65
2000	20	110	62	21521	1	425	12.90
	30	125	94	21522	1	425	12.90
	40	140	125	21523	1	425	12.90
	50	160	157	21524	1	425	12.90
2350	20	125	87	33821	1	630	16.80
	30	140	130	33823	1	630	16.80
	40	160	174	33825	1	630	16.80
	50	200	217	33827	1	630	16.80
2500	20	140	100	34306	1	860	-
	30	160	150	34307	1	860	-
	40	200	200	34308	1	860	-
	50	225	225	34309	1	860	-

new

Ø (mm)	1050	1200	1400	1600	1800	2000	2350	2500
Filtration bed height (m)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
H (mm)	2060	2060	2200	2300	2400	2400	2630	2675
B (mm)	270	350	400	400	400	400	400	500
A (mm)	540	570	615	710	725	805	950	1015
Ø P (mm)	760	850	1085	1230	1370	1560	1830	1830
E (mm)	170	180	240	250	270	300	355	-
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.90
Volume (l)	1500	1900	2650	3560	4620	5820	8060	-
Sand 0.4 – 0.8 mm (Kg)	1300	1660	2220	2950	3680	4600	6130	6680
Gravel 1 – 2 mm (Kg)	265	325	410	515	760	1060	2000	2920
Total weight in operation (Kg)	2375	2950	4000	5475	6950	8800	12180	14460



**LAMINATED FILTERS**

**Filtration bed 1 m**



**Europe filters**

Polyester and fibreglass filters. Totally corrosion-resistant and resistant to salt water Fitted with pressure gauge panel, manual air relief valve and water purge. Ø 400 mm lid. Ø 200 mm sand discharge port. Suitable for filtration velocities of 20, 30, 40 and 50 m<sup>3</sup>/h/m<sup>2</sup>. Please enquire for other velocities. All Europe filters can be fitted with valve manifold.

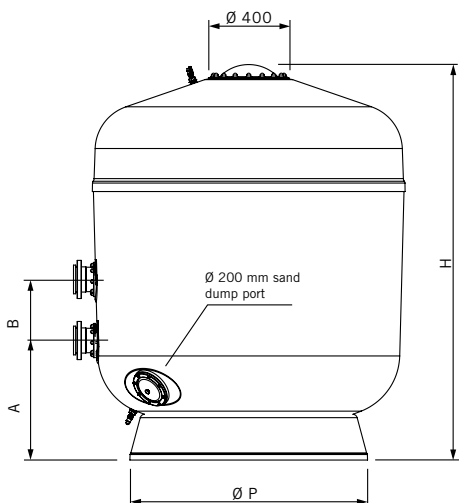
*new*



Maximum working pressure 4 Kg/cm<sup>2</sup>

Filtration bed 1 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	34238	1	125	2.823
	30/40	75	25/34	34239	1	125	2.823
	50	90	43	34240	1	125	2.823
1200	20/30	75	22/33	34241	1	150	3.597
	40/50	90	45/56	34242	1	150	3.597
1400	20	75	30	34244	1	214	5.880
	30	90	46	34245	1	214	5.880
	40/50	110	61/77	34246	1	214	5.880
1600	20	90	40	34248	1	230	7.80
	30/40	110	60/80	34249	1	230	7.80
	50	125	100	34250	1	230	7.80
1800	20	90	50	34253	1	344	10.00
	30	110	76	34254	1	344	10.00
	40	125	101	34255	1	344	10.00
	50	140	125	34256	1	344	10.00
2000	20	110	62	34258	1	400	12.10
	30	125	94	34259	1	400	12.10
	40	140	125	34260	1	400	12.10
	50	160	157	34261	1	400	12.10
2350	20	125	87	34262	1	600	15.70
	30	140	130	34263	1	600	15.70
	40	160	174	34264	1	600	15.70
	50	200	217	34265	1	600	15.70
2500	20	140	100	34266	1	860	18.00
	30	160	150	34267	1	860	18.00
	40	200	200	34268	1	860	18.00
	50	225	225	34269	1	860	18.00



Ø (mm)	1050	1200	1400	1600	1800	2000	2350	2500
Filtration bed height (m)	1	1	1	1	1	1	1	1
H (mm)	1860	1860	2000	2100	2200	2200	2430	2525
B (mm)	270*	350	400	400	400	400	400	500
A (mm)	540	570	615	710	725	805	950	1015
Ø P (mm)	760	850	1083	1230	1370	1558	1830	1830
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.9
Volume (l)	1250	1575	2185	2965	3850	4850	7230	9385
Sand 0.4 – 0.8 mm (Kg)	1050	1360	1820	2375	3010	3750	5000	5600
Gravel 1 – 2 mm (Kg)	265	325	410	515	760	1060	2240	2920
Total weight in operation (Kg)	2060	2600	3500	4700	6150	7800	11040	13800

\* For 2" multiport valve the height will be 230 mm.

Note: Codification options according to table on page 126

## Filtration bed 1.2 m

## LAMINATED FILTERS



DOES NOT INCLUDE VALVE MANIFOLD



Europe filters

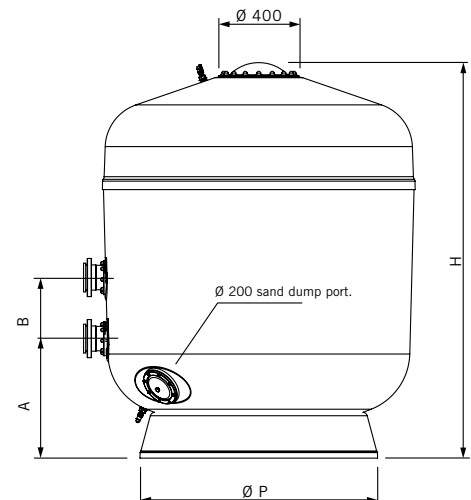


Maximum working pressure 4 Kg/cm<sup>2</sup>

Filtration bed 1.2 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	34270	1	140	3.04
	30/40	75	25/34	34271	1	140	3.04
	50	90	43	34272	1	140	3.04
1200	20/30	75	22/33	34273	1	155	3.89
	40/50	90	45/56	34274	1	155	3.89
1400	20	75	30	34276	1	215	6.27
	30	90	46	34277	1	215	6.27
	40/50	110	61/77	34278	1	215	6.27
1600	20	90	40	34280	1	255	8.31
	30/40	110	60/80	34281	1	255	8.31
	50	125	100	34282	1	255	8.31
1800	20	90	50	34285	1	385	10.65
	30	110	76	34286	1	385	10.65
	40	125	101	34287	1	385	10.65
	50	140	125	34288	1	385	10.65
2000	20	110	62	34290	1	425	12.90
	30	125	94	34291	1	425	12.90
	40	140	125	34292	1	425	12.90
	50	160	157	34293	1	425	12.90
2350	20	125	87	34294	1	630	16.80
	30	140	130	34295	1	630	16.80
	40	160	174	34296	1	630	16.80
	50	200	217	34297	1	630	16.80
2500	20	140	100	34298	1	860	18.00
	30	160	150	34299	1	860	18.00
	40	200	200	34300	1	860	18.00
	50	225	225	34301	1	860	18.00

Ø (mm)	1050	1200	1400	1600	1800	2000	2350	2500
Filtration bed height (m)	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2
H (mm)	2060	2060	2200	2300	2400	2400	2630	2675
B (mm)	270	350	400	400	400	400	400	500
A (mm)	540	570	615	710	725	805	950	1015
Ø P (mm)	760	850	1085	1230	1370	1560	1830	1830
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.90
Volume (l)	1500	1900	2650	3560	4620	5820	8060	-
Sand 0.4 – 0.8 mm (Kg)	1300	1660	2220	2950	3680	4600	6130	6680
Gravel 1 – 2 mm (Kg)	265	325	410	515	760	1060	2240	2920
Total weight in operation (Kg)	2375	2950	4000	5475	6950	8800	12450	14460



**BOBBIN WOUND FILTERS**

**Filtration bed 1 m**



Vic filters



Industrial bobbin wound filters with diameters from 1050 mm to 3000 mm, with the corresponding flange connections for different filtration velocities. Replaces the Atenas model. New top cover system with quick closing system 400 x 500 mm opening. The air relief valve is fitted into the cover in order to help eliminate air from the filter. 1½" collector arms injected in ABS at the necessary lengths for each of the filters and without joints. Lengths from 90 mm to 525 mm. A reduced head loss is achieved thanks to the greater diameter of the arms.

The 90 mm diam collector tubing is injected in PVC. Water purge and air relief are faster due to a 1" connection. The distance between the top sand layer and the difusor head ("freeboard") has been increased to ensure greatest water distribution during filtration and to prevent sand entering into the laterals during the backwashing.

In filters with diameters of 2350 mm, 2500 mm and 3000 mm, the top cover is Ø 400 mm, sealed with bolts for high resistance.



**Maximum working pressure 2.5 Kg/cm<sup>2</sup>**

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	11511N	1	120	1.9
	30-40	75	25-34	11517N	1	120	1.9
	50	90	43	11526N	1	120	1.9
1200	20-30	75	22-33	11512N	1	154	2.7
	40-50	90	45-56	11522N	1	154	2.7
1400	20	75	30	11513N	1	173	3.7
	30	90	46	11518N	1	173	3.7
	40-50	110	61-77	11523N	1	173	3.7
1600	20	90	40	11514N	1	235	5.0
	30-40	110	60-80	11519N	1	235	5.0
	50	125	100	11527N	1	235	5.0
1800	20	90	50	11515N	1	270	6.4
	30	110	76	11520N	1	270	6.4
	40	125	101	11524N	1	270	6.4
	50	140	125	11528N	1	270	6.4
2000	20	110	62	11516N	1	295	8.7
	30	125	94	11521N	1	295	8.7
	40	140	125	11525N	1	295	8.7
	50	160	157	11529N	1	295	8.7
2350	20	125	87	33039	1	530	14.8
	30	140	130	33040	1	530	14.8
	40	160	175	33041	1	530	14.8
	50	200	217	33042	1	530	14.8
2500	20	140	100	33043	1	780	19.5
	30	160	150	33044	1	780	19.5
	40	200	200	33045	1	780	19.5
	50	225	250	33046	1	780	19.5
3000	20	160	140	33047	1	1350	29.0
	30	200	212	33048	1	1350	29.0
	40	225	282	33049	1	1350	29.0
	50	250	353	33050	1	1350	29.0

- SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT VEHICLES. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

NOTE: The lateral manholes (Ø 400 mm or Ø 225 m) are recommended for filters with nozzle collector plates for emptying of filter media.



Filter base



Collector arms

Note: Codification options according to table on page 126

## Filtration bed 1 m



Connections

Sand dump port



Water purge



Access lid

## BOBBIN WOUND FILTERS



### Vic filters

Industrial bobbin wound filters with diameters from 1050 mm to 3000 mm, with the corresponding flange connections for different filtration velocities.

Maximum working pressure 4 Kg/cm<sup>2</sup>

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	32131	1	120	1.9
	30-40	75	25-34	32132	1	120	1.9
	50	90	43	32133	1	120	1.9
1200	20-30	75	22-33	32134	1	154	2.7
	40-50	90	45-56	32135	1	154	2.7
1400	20	75	30	32136	1	173	3.7
	30	90	46	32137	1	173	3.7
	40-50	110	61-77	32138	1	173	3.7
1600	20	90	40	32139	1	235	5.0
	30-40	110	60-80	32140	1	235	5.0
	50	125	100	32141	1	235	5.0
1800	20	90	50	32142	1	270	6.4
	30	110	76	32143	1	270	6.4
	40	125	101	32144	1	270	6.4
	50	140	125	32145	1	270	6.4
2000	20	110	62	32146	1	370	9.9
	30	125	94	32147	1	370	9.9
	40	140	125	32148	1	370	9.9
	50	160	157	32149	1	370	9.9
2350	20	125	87	41137	1	630	14.8
	30	140	130	41138	1	630	14.8
	40	160	175	41139	1	630	14.8
	50	200	217	41140	1	630	14.8
2500	20	140	100	41141	1	960	19.5
	30	160	150	41142	1	960	19.5
	40	200	200	41143	1	960	19.5
	50	225	250	41144	1	960	19.5
3000	20	160	140	41145	1	1600	29.0
	30	200	212	41146	1	1600	29.0
	40	225	282	41147	1	1600	29.0
	50	250	353	41148	1	1600	29.0



**BOBBIN WOUND FILTERS**



Vic filters



Code 2.5 Kg	Code 4 kg	Ø Filter mm	A mm	B mm	C mm	H mm	Ø P mm	Ø Connection mm	Filtration surface m <sup>2</sup>
11511N	32131	1050	685	85	535	1950	760	63	0.86
11517N	32132	1050	685	85	535	1950	760	75	0.86
11526N	32133	1050	685	85	535	1950	760	90	0.86
11512N	32134	1200	680	85	530	1970	860	75	1.13
11522N	32135	1200	680	85	530	1970	860	90	1.13
11513N	32136	1400	685	85	575	2000	1020	75	1.54
11518N	32137	1400	685	85	575	2000	1020	90	1.54
11523N	32138	1400	685	85	575	2000	1020	110	1.54
11514N	32139	1600	695	85	625	2050	1150	90	2.01
11519N	32140	1600	695	85	625	2050	1150	110	2.01
11527N	32141	1600	695	85	625	2050	1150	125	2.01
11515N	32142	1800	710	85	670	2080	1320	90	2.54
11520N	32143	1800	710	85	670	2080	1320	110	2.54
11524N	32144	1800	710	85	670	2080	1320	125	2.54
11528N	32145	1800	710	85	670	2080	1320	140	2.54
11516N	32146	2000	730	85	715	2150	1470	110	3.14
11521N	32147	2000	730	85	715	2150	1470	125	3.14
11525N	32148	2000	730	85	715	2150	1470	140	3.14
11529N	32149	2000	730	85	715	2150	1470	160	3.14
33039	41137	2350	965	85	1030	2520	1830	125	4.34
33040	41138	2350	965	85	1030	2520	1830	140	4.34
33041	41139	2350	965	85	1030	2520	1830	160	4.34
33042	41140	2350	965	150	1030	2520	1830	200	4.34
33043	41141	2500	1050	85	1080	2550	1830	140	4.90
33044	41142	2500	1050	85	1080	2550	1830	160	4.90
33045	41143	2500	1050	150	1080	2550	1830	200	4.90
33046	41144	2500	1050	150	1080	2550	1830	225	4.90
33047	41145	3000	1175	85	1140	2750	2365	160	7.07
33048	41146	3000	1175	150	1140	2750	2365	200	7.07
33049	41147	3000	1175	150	1140	2750	2365	225	7.07
33050	41148	3000	1175	170	1140	2750	2365	250	7.07



- SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT VEHICLES. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

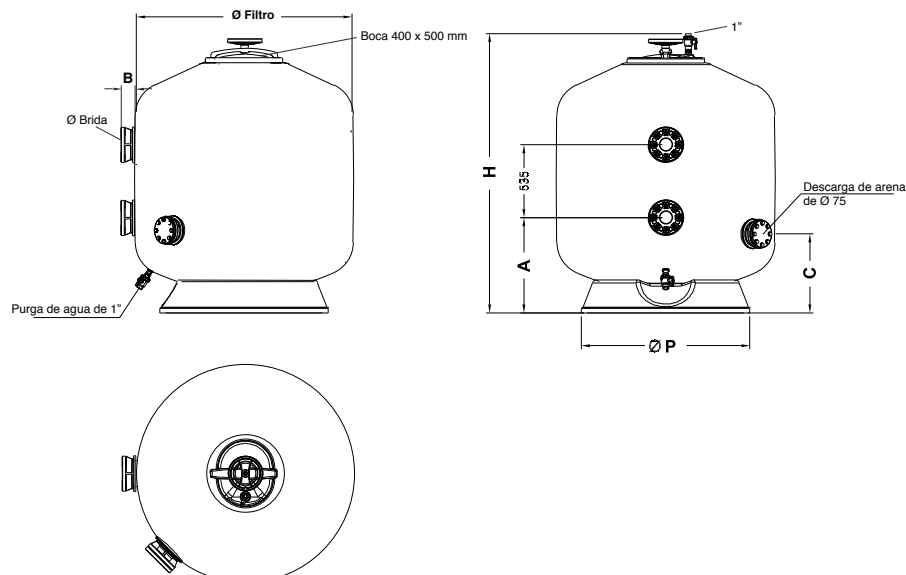
NOTE: The lateral manholes (Ø 400 mm or Ø 225 mm) are recommended for filters with nozzle collector plates for emptying of filter media.



Filter base



Collector arms





## Filtration bed 1 m



- ALTERNATIVE HEIGHTS AVAILABLE UNDER SPECIAL ORDER.
- SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

NOTE: The lateral manholes (Ø 400 mm or Ø 225 mm) are recommended for filters with nozzle collector plates for the emptying of filtration media.

## BOBBIN WOUND FILTERS



### Praga filters

Single layer filter in polyester and fibreglass. Lid Ø 400 mm. Supplied with manual air relief valve and water purge, sand dump port, and pressure gauge panel. Valid for 20, 30 and 40 m<sup>3</sup>/h/m<sup>2</sup> filtration velocities. For other filtration velocities, please enquire.

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	00687	1	120	1.9
	30-40	75	25-34	00694	1	120	1.9
1200	20-30	75	22-33	00688	1	154	2.7
	40	90	45	00702	1	154	2.7
1400	20	75	30	00689	1	173	3.7
	30	90	46	00696	1	173	3.7
	40	110	61	00703	1	173	3.7
1600	20	90	40	00690	1	235	5.0
	30-40	110	60-80	00697	1	235	5.0
1800	20	90	50	00691	1	270	6.4
	30	110	76	00698	1	270	6.4
	40	125	101	00705	1	270	6.4
2000	20	110	62	00692	1	295	8.7
	30	125	94	00699	1	295	8.7
	40	140	125	00706	1	295	8.7
2350	20	125	87	00693	1	530	14.8
	30	140	130	00700	1	530	14.8
	40	160	175	04935	1	530	14.8
2500	20	140	100	08695	1	780	19.5
	30	160	150	08696	1	780	19.5
	40	200	200	08697	1	780	19.5
3000	20	160	140	08699	1	1350	29.0
	30	200	212	08700	1	1350	29.0
	40	225	282	08701	1	1350	29.0

Note: Codification options according to table on page 126

**BOBBIN WOUND FILTERS**

**Filtration bed 1 m**



**Praga filters**

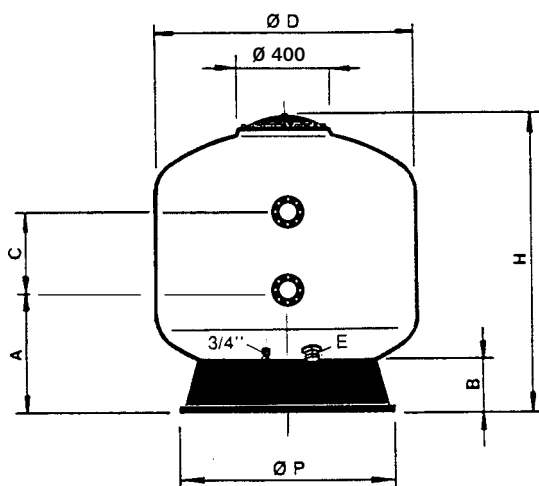
Lid Ø 400 mm.

Maximum working pressure 4 Kg/cm<sup>2</sup>

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	20	63	17	09209	1	142	1.9
	30-40	75	25-34	00712	1	142	1.9
1200	20-30	75	22-33	00713	1	169	2.7
	40	90	45	00719	1	169	2.7
1400	20	75	30	09210	1	192	3.7
	30	90	46	00714	1	192	3.7
	40	110	61	00720	1	192	3.7
1600	20	90	40	09211	1	250	5.0
	30-40	110	60-80	00715	1	250	5.0
1800	20	90	50	09212	1	300	6.4
	30	110	76	00716	1	300	6.4
	40	125	101	00722	1	300	6.4
2000	20	110	62	09213	1	350	8.7
	30	125	94	00717	1	350	8.7
	40	140	125	00723	1	350	8.7
2350	20	125	87	09214	1	530	14.8
	30	140	130	09217	1	530	14.8
	40	160	175	09220	1	530	14.8
2500	20	140	100	09215	1	960	19.5
	30	160	150	09218	1	960	19.5
	40	200	200	09221	1	960	19.5
3000	20	160	140	09216	1	1600	29.0
	30	200	212	09219	1	1600	29.0
	40	225	282	09222	1	1600	29.0



- ALTERNATIVE HEIGHTS AVAILABLE UNDER SPECIAL ORDER.
- SOME FILTERVESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.



Ø (mm)	1050	1200	1400	1600	1800	2000	2350	2500	3000
Filtration bed height (m)	1	1	1	1	1	1	1	1	1
H (mm)	1640	1780	1755	1835	1875	2040	2520	2550	2750
B (mm)	200	230	240	260	280	300	340	340	350
A (mm)	540	570	585	680	720	790	965	1080	1100
C (mm)	645	640	610	515	465	510	600	450	440
Ø P (mm)	755	940	1085	1230	1370	1550	1859	1859	2650
E (mm)	90	90	90	140	140	140	140	140	140
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.90	7.07
Volume (l)	1050	1500	2000	2600	3400	4400	8045	9050	12800
Sand 0.4 – 0.8 mm (Kg)	950	1375	1650	2150	2800	3800	5275	5950	8600
Gravel 1 – 2 mm (Kg)	300	300	450	675	750	1050	1800	2200	3300
Total weight in operation (Kg)	2000	2700	3700	4900	6100	7900	12550	13760	20200

THIS CHART APPLIES ONLY TO HIGH PERFORMANCE OSLO, OLOT AND AMPURIA BOBBIN WOUND FILTERS

## BOBBIN WOUND FILTERS



### Vertical high performance bobbin wound filters

**General features:**

- 100% resistant to corrosion unlike conventional steel filters
- Maximum operating temperature 50° C
- Comply with European standards for pressure vessels 97/23/CE included in section 3 of article 3
- Hydraulic pressure test 1.5 times the maximum admissible pressure

**Technical features of internal components:**

- Internal components and pipe in PVC
- Laterals and nozzles in PP
- Airwash connection in models with underdrain nozzle plates
- Bolts, nuts and washers in AISI-316
- EPDM seals and gaskets.

**Advantages of using an underdrain nozzle plate system over the conventional lateral system:**

- There are no areas beneath the nozzles for water to stagnate as could occur in a lateral system
- Optimum filter bed back wash with an uniform water distribution
- Possibility of air wash with consequent saving of clean water
- The lateral manhole is recommended for sand discharge

The characteristics of liquids to be filtered should be indicated clearly when requesting ozone or other chemical resistant coatings for the filter interior.



Oslo



Olot



Ampuria

**MEDIA RECOMMENDATIONS:**

MULTILAYER - Nozzle plate - Filtration bed 1.2 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Hydroanthracite (0.8-1.6) Kg	600 mm	450	575	775	1000	1275	1575	2175	2450	2548	2956	3550
Sand (0.4-0.8) Kg	400 mm	475	625	825	1100	1400	1700	2350	2675	2973	3448	3850
Gravel (1-2) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
Gravel (3-5) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
MULTILAYER - Nozzle plate - Filtration bed 1.5 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Hydroanthracite (0.8-1.6) Kg	600 mm	450	575	775	1000	1275	1575	2175	2450	2548	2956	3550
Sand (0.4-0.8) Kg	600 mm	725	950	1250	1650	2100	2550	3525	4025	4460	5172	5775
Gravel (1-2) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
Gravel (2-3) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
Gravel (3-5) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
SINGLELAYER - Nozzle plate - Filtration bed 1.2 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Sand (0.4-0.8) Kg	1100 mm	1300	1775	2300	3000	3800	4650	6300	7075	8176	9483	10575
Gravel (1-2) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
SINGLELAYER - Nozzle plate - Filtration bed 1.5 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Sand (0.4-0.8) Kg	1200 mm	1450	1900	2500	3300	4200	5100	7050	8050	8920	10345	11550
Gravel (1-2) Kg	100 mm	150	175	250	300	400	500	675	775	7964	9236	1100
Gravel (2-3) Kg	100 mm	150	175	250	300	400	500	675	775	7964	9236	1100
Gravel (3-5) Kg	100 mm	150	175	250	300	400	500	675	775	7964	9236	1100
MULTILAYER - Collector arms - Filtration bed 1.2 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Hydroanthracite (0.8-1.6) Kg	600 mm	450	575	775	1000	1275	1575	2175	2450	2548	2956	3550
Sand (0.4-0.8) Kg	400 mm	475	625	825	1100	1400	1700	2350	2675	2973	3448	3850
Gravel (2-3) Kg	100 mm	150	175	250	300	400	500	675	775	796	924	1100
Gravel (3-5) Kg	100 mm (1)	300	350	500	775	850	1150	1800	1975	2123	2463	3850
SINGLELAYER - Collector arms - Filtration bed 1.2 m												
Diameter mm		1050	1200	1400	1600	1800	2000	2350	2500	2600	2800	3000
Sand (0.4-0.8) Kg	1100 mm	1300	1775	2300	3000	3800	4650	6300	7075	8176	9483	10575
Gravel (1-2) Kg	100 mm (1)	300	350	500	775	850	1150	1800	1975	2123	2463	3850

Densities: Hydroanthracite = 0.8 Kg/dm<sup>3</sup> - Sand = 1.4 Kg/dm<sup>3</sup> - Gravel = 1.5 Kg/dm<sup>3</sup>

(1) 100 mm above laterals

**BOBBIN WOUND FILTERS**

Filtration bed 1.2 m



Oslo filters



**Features:**

Vertical high performance bobbin wound filters

**Collector system:**

A - Conventional collector system using laterals with 0.3 mm slots

For working pressure of 2.5 and 4 bars.

B - Nozzle plate with 0.5 mm slots. For working pressure of 2.5 and 4 bars.

**Fitted with:**

- Pressure gauge panel
- Manual air vent and water purge

**Options:**

- Positioning of water connections flanges, sightglasses and manhole covers are provided according to customer specification.
- Diameters of connections and purges depend on customer specifications
- For other variations such as height, chemical resistant internal coating, pressure rating, etc., please enquire.



- ALTERNATIVE HEIGHTS AVAILABLE UNDER SPECIAL ORDER.
- SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	75	25	04611	1	207	2.5
	40	90	34	04612	1	207	2.5
1200	30	75	33	04613	1	234	3.2
	40	110	45	04650	1	234	3.2
1400	30	90	46	04615	1	294	4.7
	40	125	61	04616	1	294	4.7
1600	30	110	60	04619	1	360	6.2
	40	140	80	04651	1	360	6.2
1800	30	125	76	04623	1	416	8.5
	40	160	101	04624	1	416	8.5
2000	30	125	94	04626	1	483	10.3
	40	160	125	04652	1	483	10.3
2350	30	140	130	08693	1	651	15.8
	40	200	175	08694	1	651	15.8
2500	30	160	150	08704	1	820	20.8
	40	225	200	08706	1	820	20.8
3000	30	200	212	08708	1	1300	31.0
	40	250	282	08710	1	1300	31.0



Lateral manhole Ø 400 mm



Nozzle plate



Sightglass

## Filtration bed 1.2 m



- SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT VEHICLE. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

NOTE: The lateral manholes (Ø 400 mm or Ø 225 m) are recommended for filters with nozzle collector plates for the emptying of filter media.

## BOBBIN WOUND FILTERS



Oslo filters

Fina®

Maximum working pressure 4 Kg/cm<sup>2</sup>

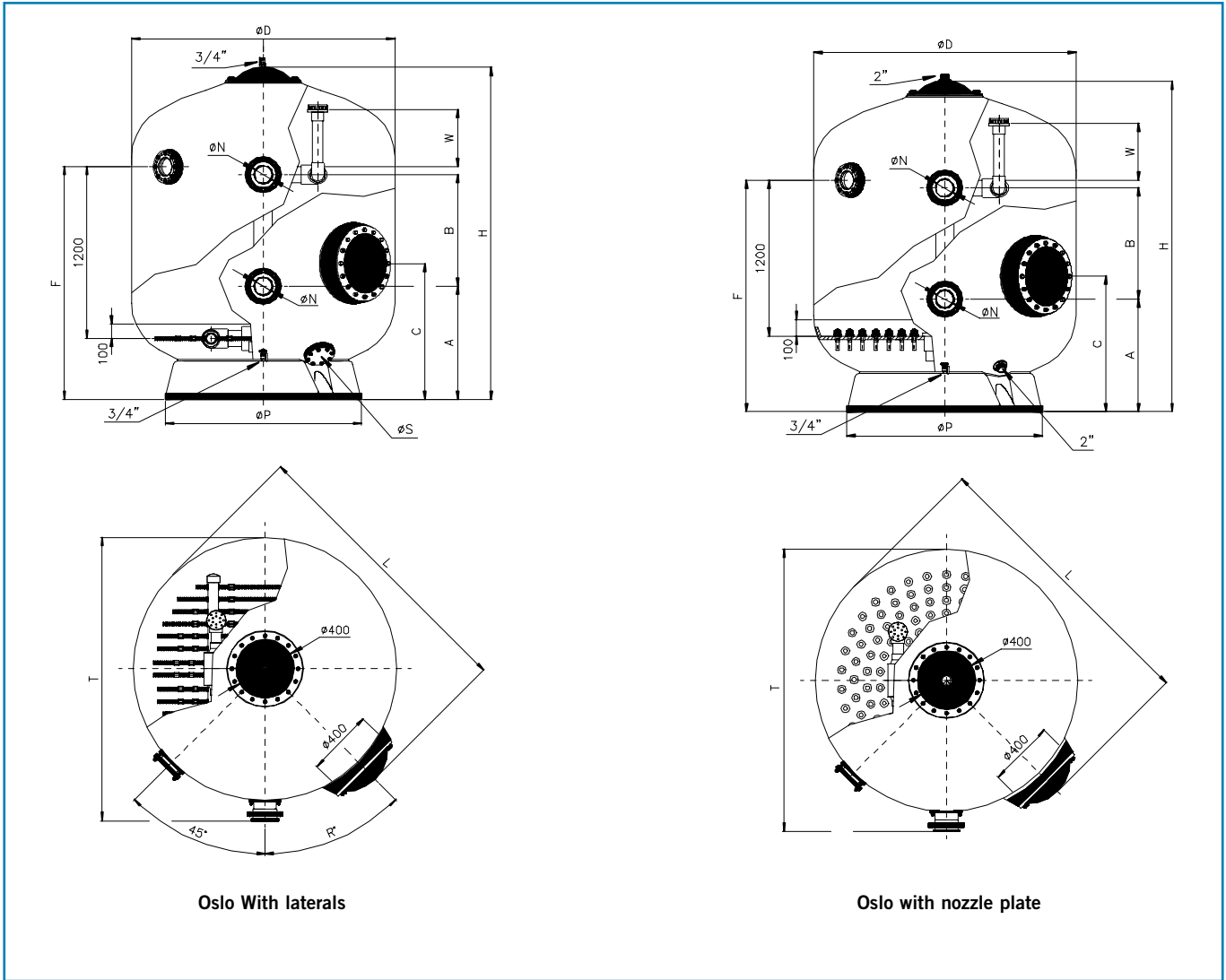
Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	75	25	05168	1	230	2.5
	40	90	34	05173	1	230	2.5
1200	30	75	33	05169	1	265	3.2
	40	110	45	05174	1	265	3.2
1400	30	90	46	07436	1	364	4.7
	40	125	61	07437	1	364	4.7
1600	30	110	60	05170	1	442	6.2
	40	140	80	05175	1	442	6.2
1800	30	125	76	07438	1	518	8.5
	40	160	101	07439	1	518	8.5
2000	30	125	94	05171	1	644	10.3
	40	160	125	05176	1	644	10.3
2350	30	140	130	05172	1	786	15.8
	40	200	175	05177	1	786	15.8
2500	30	160	150	08712	1	964	20.8
	40	225	200	08714	1	964	20.8
3000	30	200	212	08716	1	1613	31.0
	40	250	282	08718	1	1613	31.0

Note: Codification options according to table on page 126

**BOBBIN WOUND FILTERS**



**Oslo filters**



**Oslo With laterals**

**Oslo with nozzle plate**

Ø D (mm)	Filtration velocity (m <sup>3</sup> /hr/m <sup>2</sup> )	Ø N (mm)	2.5 bar		4 bar		Flow m <sup>3</sup> /h	Filtration area m <sup>2</sup>	Volume (l)	A (mm)	B (mm)	C (mm)	F (mm)	H (mm)	L (mm)	Ø P (mm)	R (mm)	Ø S (mm)	T (mm)	W (mm)	Total weight in oper. Kg
			Code	Code	Code	Code															
1050	30	75	DN65	04611	05168	25	0.86	1500	650	940	770	1550	2070	1240	750	55	90	1220	325	2450	
	40	90	DN80	04612	05173	34															
1200	30	75	DN65	04613	05169	33	1.13	1860	670	830	770	1550	2080	1390	940	45	90	1380	350	3000	
	40	110	DN100	04650	05174	45															
1400	30	90	DN80	04615	07436	46	1.54	2700	680	820	840	1570	2175	1590	1085	45	90	1570	350	4300	
	40	125	DN110	04616	07437	61															
1600	30	110	DN100	04619	05170	60	2.01	3620	780	800	870	1625	2310	1790	1230	45	140	1780	400	5825	
	40	140	DN125	04651	05175	80															
1800	30	125	DN110	04623	07438	76	2.54	4725	790	780	950	1625	2320	1990	1370	45	140	2000	400	7300	
	40	160	DN150	04624	07439	101															
2000	30	125	DN110	04626	05171	94	3.14	5800	790	840	950	1695	2460	2190	1550	45	140	2200	400	9000	
	40	160	DN150	04652	05176	125															
2350	30	140	DN125	08693	05172	130	4.34	8800	1065	700	1030	1850	2720	2550	1830	45	140	2550	500	13750	
	40	200	DN175	08694	05177	175															
2500	30	160	DN150	08704	08712	150	4.90	9850	1125	450	1080	1760	2750	2700	2000	45	140	2750	500	14885	
	40	225	DN200	08706	08714	200															
3000	30	200	DN175	08708	08716	212	7.07	15350	1150	600	1140	1870	2950	3200	2365	45	140	3200	500	21615	
	40	250	DN225	08710	08718	282															

## Filtration bed 1.2 and 1.5 m



## BOBBIN WOUND FILTERS



### Olot filters



#### Features:

#### Collector system:

Nozzle plate with 0.5 mm slots, working pressure 2.5 bar.

#### Fitted with:

- Pressure gauge panel
- Manual air vent and water purge
- Air wash connection flange
- Ø 400 mm manhole

#### Options:

- Positioning of water connection flanges, sightglasses and manhole covers are provided according to customer specifications.
- Diameters of connections and purges depend on customer specifications.
- Please enquire for the variations such as height, chemical resistant internal coating, pressure rating, etc...

According to DIN 19605/19643 Standard

### Maximum working pressure 2.5 Kg/cm<sup>2</sup>

### Filtration bed 1.2 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	110	25	07355	1	265	2.95
1200	30	125	33	07356	1	345	3.86
1400	30	140	46	07447	1	380	5.22
1600	30	160	60	07357	1	420	7.09
1800	30	200	76	07448	1	470	9.09
2000	30	225	94	07358	1	540	11.25
2350	30	250	130	07359	1	825	16.20
2500	30	250	150	19335	1	940	24.40
2600	30	250	160	23969	1	1021	25.21
2800	30	250	185	23970	1	1135	29.50
3000	30	250	212	19336	1	1425	30.00

### Filtration bed 1.5 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	110	25	18227	1	285	3.21
1200	30	125	33	18228	1	385	4.20
1400	30	140	46	18229	1	420	5.68
1600	30	160	60	18230	1	460	7.69
1800	30	200	76	18231	1	515	9.58
2000	30	225	94	18232	1	625	12.90
2350	30	250	130	18233	1	920	17.50
2500	30	250	150	19337	1	1010	25.87
2600	30	250	160	23971	1	1144	26.51
2800	30	250	185	23972	1	1264	30.63
3000	30	250	212	19338	1	1590	32.12

• SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT VEHICLE. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

Note: Codification options according to table on page 126

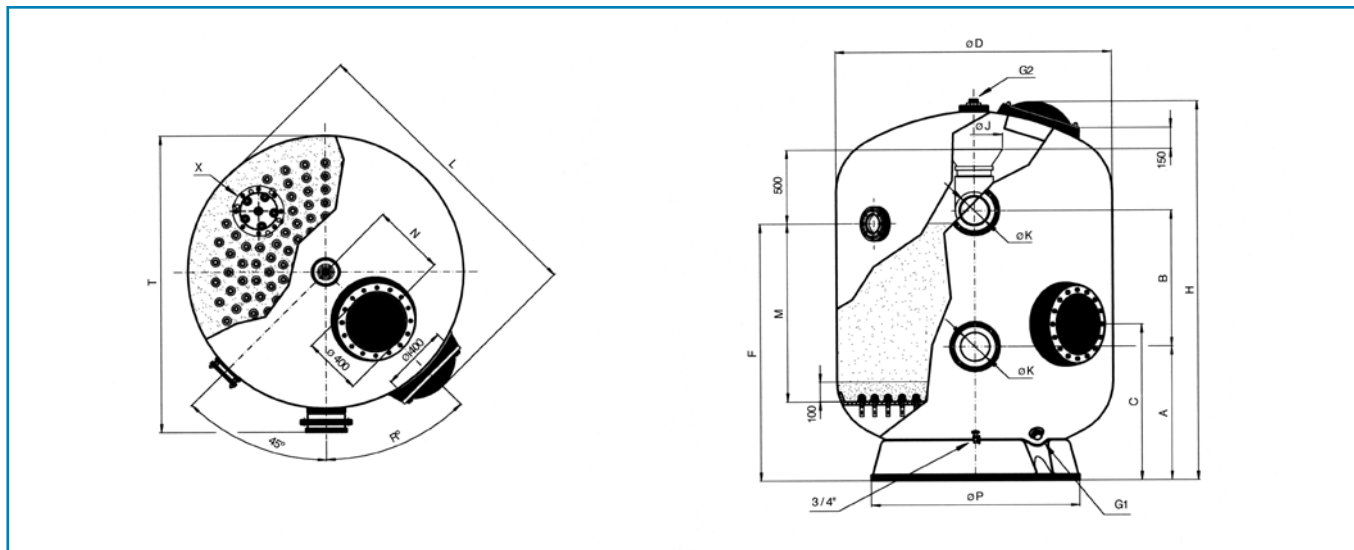


**BOBBIN WOUND FILTERS**



Olot filters

**Fna**



Ø D (mm)	<b>1050</b>	<b>1200</b>	<b>1400</b>	<b>1600</b>	<b>1800</b>	<b>2000</b>	<b>2350</b>	<b>2500</b>	<b>2.600</b>	<b>2.800</b>	<b>3000</b>	
Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	30	30	30	30	30	30	30	30	30	30	30	
Ø K (mm)	110	125	140	160	200	225	250	250	250	250	250	
	DN100	DN110	DN125	DN150	DN175	DN200	DN225	DN225	DN225	DN225	DN225	
FILTRATION BED 1.2 m	Code	<b>07355</b>	<b>07356</b>	<b>07447</b>	<b>07357</b>	<b>07448</b>	<b>07358</b>	<b>07359</b>	<b>19335</b>	<b>23969</b>	<b>23970</b>	<b>19336</b>
	H (mm)	2380	2400	2520	2520	2570	2660	2800	2850	2920	3030	2900
	F (mm)	1615	1635	1645	1690	1740	1750	1870	1870	1880	1920	1880
	Vol. (l)	1735	2175	3000	4350	5450	6650	9575	11700	12800	15500	18000
	Total weight in operation (kg)	2600	3325	4475	6250	7500	9625	13600	15500	16650	19500	22500
FILTRATION BED 1.5 m	Code	<b>18227</b>	<b>18228</b>	<b>18229</b>	<b>18230</b>	<b>18231</b>	<b>18232</b>	<b>18233</b>	<b>19337</b>	<b>23971</b>	<b>23972</b>	<b>19338</b>
	H (mm)	2680	2700	2820	2820	2870	2960	3100	3150	3220	3330	3200
	F (mm)	1915	1935	1945	1990	2040	2050	2170	2170	2180	2220	2180
	Vol (l)	1995	2745	3590	5150	6350	7650	11255	12950	14100	16900	19700
	Total weight in operation (kg)	3000	3900	5300	7150	8750	11250	15800	17950	19400	22600	26250
Flow rate (m <sup>3</sup> /h)	25	33	46	60	76	94	130	150	160	185	212	
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.90	5.31	6.16	7.07	
Nozzle number	59	78	102	134	168	200	286	333	333	381	433	
A (mm)	700	700	830	830	900	950	1050	1100	1160	1230	1140	
B (mm)	1000	1000	900	950	920	760	680	600	600	650	600	
C (mm)	830	840	840	870	950	950	1030	1100	1200	1230	1220	
L (mm)	1240	1390	1600	1810	1990	2194	2550	2720	2800	3000	3220	
Ø P (mm)	730	940	1080	1230	1390	1550	1850	2050	2050	2200	2360	
T (mm)	1220	1380	1570	1780	2000	2240	2630	2750	2800	3000	3270	
N (mm)	0	130	130	400	450	480	550	700	600	600	720	
Ø X Inspection lid (mm)	125	250	250	250	250	250	250	250	250	250	250	
° R	55°	45°	45°	45°	45°	45°	45°	45°	45°	45°	45°	
Ø J (mm)	380	380	380	380	380	380	600	600	600	600	600	
Ø G1	2"	2"	2"	2"	2"	2"	2"	2"	90	110	140	
Ø G2*	2"	2"	2"	2"	2"	2"	75	75	75	75	75	

\* In models Ø 1050 mm, 1200 mm and 1400 mm, this fitting is fitted on to the cover.



## Filtration bed 1.2 and 1.5 m



• SOME FILTER VESSELS FROM Ø 2000 mm AND ABOVE MAY REQUIRE SPECIAL TRANSPORT. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.



## BOBBIN WOUND FILTERS



Ampuria filters



### Features:

According to DIN 19605/19643 Standard

**Collector system:** Nozzle plate with 0.5 mm slots for working pressure of 2.5 bar.

### Equipped with:

- Pressure gauge panel
- Manual air vent and water purge
- Air lateral manhole
- Ø 400 lower manhole to access nozzle plate

### Options:

- Positioning of connections, sightglasses and manhole covers are provided according to customer specification.
- Diameters of connections and purges depend on customer specifications.
- For other variations such as height, chemical resistant internal coating, pressure rating, etc., please enquire.

### Maximum working pressure 2.5 Kg/cm<sup>2</sup>

### Filtration bed 1.2 m

Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	110	25	22445	1	280	3.34
1200	30	125	33	22446	1	357	4.40
1400	30	140	46	22447	1	402	5.96
1600	30	160	60	22448	1	436	8.16
1800	30	200	76	22449	1	497	10.49
2000	30	225	94	22450	1	560	12.98
2350	30	250	130	22451	1	876	17.24
2500	30	250	150	22452	1	989	27.69
2600	30	250	160	23973	1	989	27.69
2800	30	250	185	23974	1	989	27.69
3000	30	250	212	22453	1	1511	35.44

### Filtration bed 1.5 m

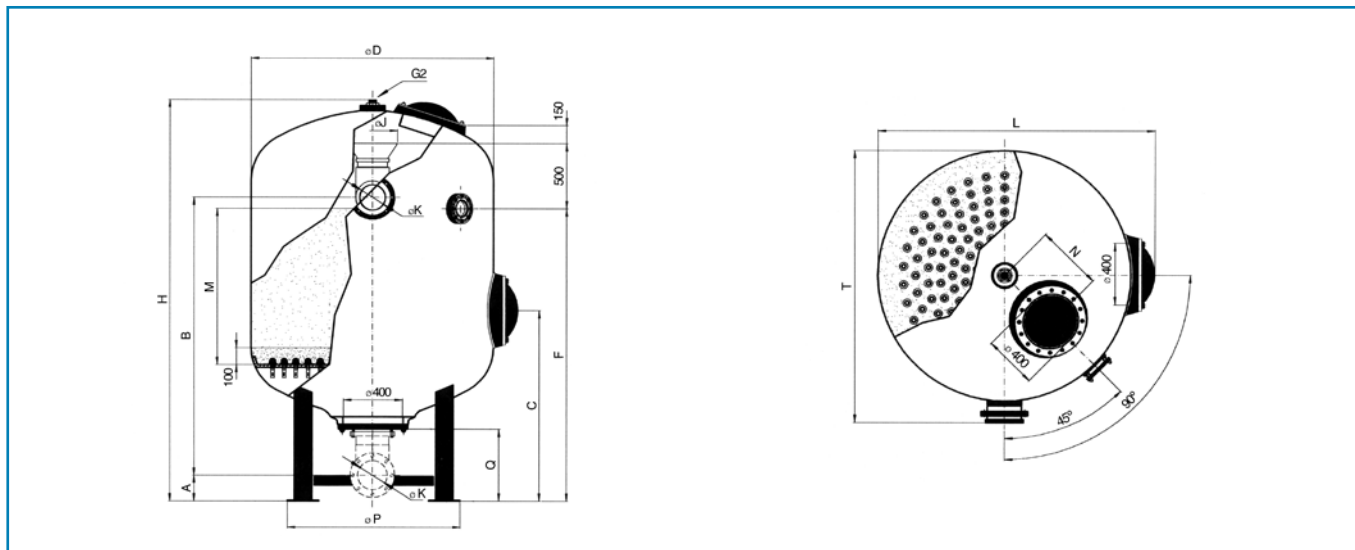
Diameter Ø mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1050	30	110	25	22454	1	300	3.60
1200	30	125	33	22455	1	397	4.74
1400	30	140	46	22456	1	442	6.42
1600	30	160	60	22457	1	656	8.76
1800	30	200	76	22458	1	524	10.98
2000	30	225	94	22459	1	645	13.92
2350	30	250	130	22460	1	971	20.54
2500	30	250	150	22461	1	1059	29.16
2600	30	250	160	23975	1	989	27.69
2800	30	250	185	23976	1	989	27.69
3000	30	250	212	22462	1	1676	37.56

Note: Codification options according to table on page 126

**BOBBIN WOUND FILTERS**



Ampuria filters



Bottom connection not included with filter (Dimension A approximate)

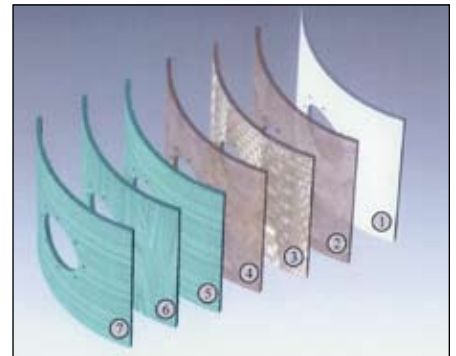
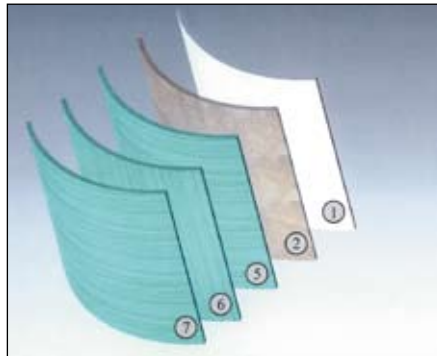
Ø D (mm)	1050	1200	1400	1600	1800	2000	2350	2500	2.600	2.800	3000	
Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	30	30	30	30	30	30	30	30	30	30	30	
Ø K (mm)	110	125	140	160	200	225	250	250	250	250	250	
	DN100	DN110	DN125	DN150	DN175	DN200	DN225	DN225	DN225	DN225	DN225	
HEIGHT FILTRATION BED 1.5 m	Code	<b>22454</b>	<b>22455</b>	<b>22456</b>	<b>22457</b>	<b>22458</b>	<b>22459</b>	<b>22460</b>	<b>22461</b>	<b>23973</b>	<b>23974</b>	<b>22462</b>
	H (mm)	3040	3100	3250	3260	3390	3480	3800	3800	3880	4040	3900
	F (mm)	2280	2340	2380	2380	2530	2550	2840	2700	2830	2940	2880
	Vol. (l)	1995	2745	3590	5150	6350	7650	11255	12950	14100	16900	19700
	Total weight in operation (kg)	3025	3925	5325	7175	8800	11300	15850	18000	19450	22700	26350
HEIGHT FILTRATION BED 1.2 m	Code	<b>22445</b>	<b>22446</b>	<b>22447</b>	<b>22448</b>	<b>22449</b>	<b>22450</b>	<b>22451</b>	<b>22452</b>	<b>23975</b>	<b>23976</b>	<b>22453</b>
	H (mm)	2740	2800	2950	2960	3090	3180	3500	3500	3580	3740	3600
	F (mm)	1980	2040	2080	2180	2230	2250	2540	2400	2530	2640	2580
	Vol (l)	1735	2175	3000	4350	5450	6650	9575	11700	12800	15500	18000
	Total weight in operation (kg)	2625	3350	4500	6275	7550	9675	13650	15550	16700	19600	22600
Flow rate (m <sup>3</sup> /h)	25	33	46	60	76	94	130	150	160	185	212	
Filtration area (m <sup>2</sup> )	0.86	1.13	1.54	2.01	2.54	3.14	4.34	4.90	5.31	6.16	7.07	
Nozzle number	57	83	113	145	179	221	309	355	355	403	455	
A (mm)	260	260	260	270	200	200	250	280	250	270	290	
B (mm)	1800	1850	1900	2020	2140	2030	2160	2030	2170	2310	2200	
C (mm)	1190	1245	1270	1380	1470	1470	1710	1700	1850	1950	1900	
L (mm)	1240	1390	1580	1790	1990	2190	2550	2720	2800	3000	3220	
Ø P (mm)	820	820	1000	1000	1310	1310	1570	1570	1900	1470	1470	
T (mm)	1220	1380	1570	1780	2000	2200	2850	2750	2800	2000	3200	
N (mm)	0	130	130	400	450	480	550	700	600	600	720	
Ø J (mm)	380	380	380	380	380	380	600	600	600	600	600	
Ø G2*	2"	2"	2"	2"	2"	2"	75	75	75	75	75	

\* In models Ø 1050 mm, 1200 mm and 1400 mm, this connection is filtered the cover.

## BOBBIN WOUND FILTERS

### Construction features of the filter according to DIN 18820:

- (1) Chemical protective gel-coat barrier isoneopenligical type CSS-UP3. Superior hardness and resistance to the abrasion of sand and salt water. Complies with German standard KTW recommendations and certified by LVHT. The optional vinylester layer for protection against ozone is of the CCS-PHAS class.
- (2) Polyester reinforced laminated resin with randomly orientated fibreglass filament GF-UP1type.
- Reinforced in MW areas under greater stress with an additional woven matting, alternating non-aligned (4) with aligned fibres (3).
- Bobbin wound layers using computer controlled machinery that lay down a set of radial bobbin layers (5) (7) on the cylindrical part and a set of polar layers (6) along the entire filter body with type GF-UP1. The most essential features of these filters is their great mechanical resistance that enables them to withstand greater internal pressures.
- All filters are submitted to a seasoning process at a temperature of 60°C.



### Ø 1050 mm and Ø 1200 mm Rodas filters



Ø 1050 mm  
Ø 1200 mm

#### General features:

- Resistant to corrosion unlike conventional steel filters
- Excellent relation between filter weight and its mechanical characteristics
- Maximum operating temperature 50°C
- Comply with European standards for pressure vessels 97/23/CE included in section 3 of article 3.
- Hydraulic pressure test 1.5 times the maximum admissible pressure
- Resistance and thickness calculations are based on norms BS-4994 and AD Merkblatt N1

#### Fitted with:

- Pressure gauge panel
- Manual air relief valve and water drain
- Ø 400 mm lateral manhole and Ø 140 mm top port

#### Characteristics of internal components:

- Internal components and pipe in PVC
- PP laterals with 0.3 slots
- Bolts, nuts and washers in AISI-316
- EPDM seals and gaskets

**BOBBIN WOUND FILTERS**

Filtration bed 0.6 m



Ø 1050 mm and Ø 1200 mm Rodas filters

**Fina**

 Maximum working pressure 2.5 Kg/cm<sup>2</sup>
**Filters Ø 1050 mm**

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	75	34	05102	1	230	2.95
	30	90	52	05105	1	230	2.95
	40	110	69	05108	1	230	2.95
2300	20	110	42	11331	1	280	3.57
	30	125	64	11332	1	280	3.57
	40	140	85	11333	1	280	3.57
2500	20	110	46	24842	1	305	3.88
	30	125	70	24843	1	305	3.88
	40	140	93	24844	1	305	3.88
2700	20	110	50	11334	1	330	4.20
	30	125	75	11335	1	330	4.20
	40	140	100	11336	1	330	4.20
3000	20	110	56	22647	1	370	4.67
	30	140	84	22648	1	370	4.67
	40	160	112	22649	1	370	4.67


 Ø 1050 mm  
 Ø 1200 mm

**Filters Ø 1200 mm**

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	110	39	22650	1	270	3.08
	30	125	59	22651	1	270	3.08
	40	140	79	22652	1	270	3.08
2300	20	110	48	22653	1	330	3.73
	30	140	73	22654	1	330	3.73
	40	160	97	22655	1	330	3.73
2500	20	125	53	24845	1	360	4.05
	30	140	79	24846	1	360	4.05
	40	160	106	24847	1	360	4.05
2700	20	125	57	22656	1	390	4.38
	30	140	86	22657	1	390	4.38
	40	160	115	22658	1	390	4.38
3000	20	125	64	22659	1	435	4.86
	30	140	96	22660	1	435	4.86
	40	160	129	22661	1	435	4.86

Filtration bed 0.6 m

## BOBBIN WOUND FILTERS



Ø 1050 mm and Ø 1200 mm Rodas filters

Fina



Ø 1050 mm  
Ø 1200 mm

Maximum working pressure 4 Kg/cm<sup>2</sup>

Filters Ø 1050 mm

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	75	34	07124	1	270	2.95
	30	90	52	07125	1	270	2.95
	40	110	69	07126	1	270	2.95
2300	20	110	42	11321	1	330	3.57
	30	125	64	11322	1	330	3.57
	40	140	85	11323	1	330	3.57
2500	20	110	46	25016	1	355	3.88
	30	125	70	25017	1	355	3.88
	40	140	93	25018	1	355	3.88
2700	20	110	50	11326	1	380	4.20
	30	125	75	11327	1	380	4.20
	40	140	100	11328	1	380	4.20
3000	20	110	56	22683	1	420	4.67
	30	140	84	22684	1	420	4.67
	40	160	112	20895	1	420	4.67

Filters Ø 1200 mm

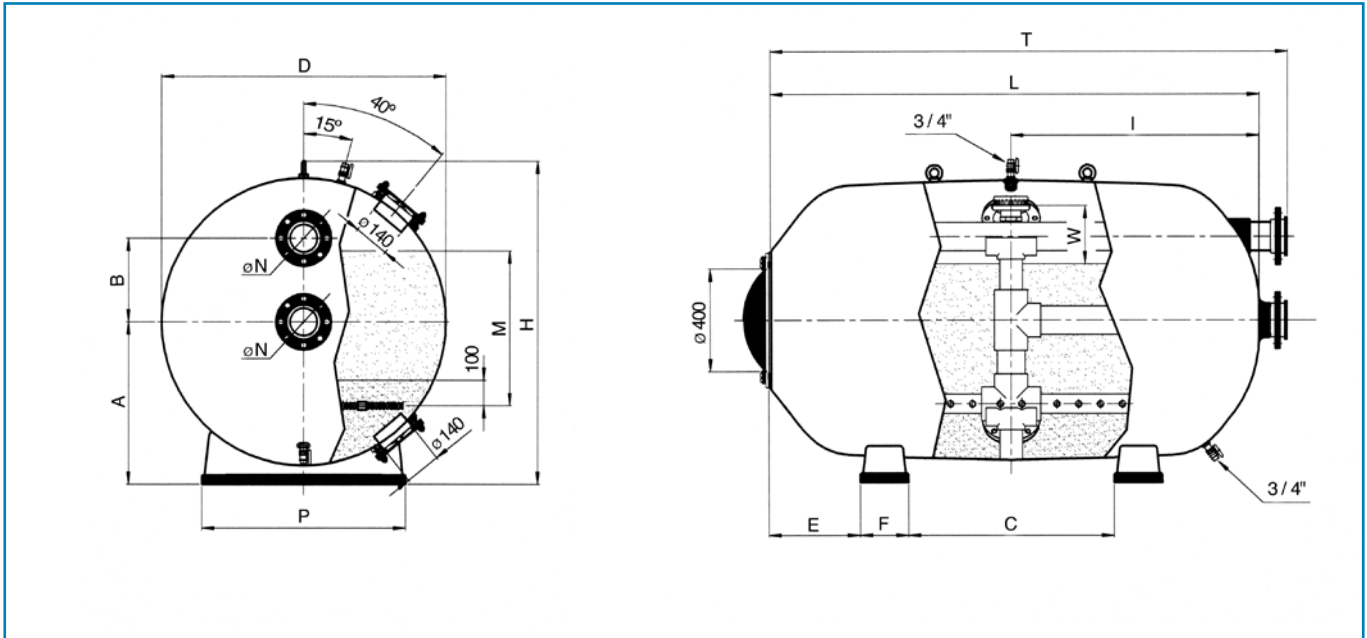
Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	110	39	22685	1	310	3.08
	30	125	59	22686	1	310	3.08
	40	140	79	22687	1	310	3.08
2300	20	110	48	22688	1	375	3.73
	30	140	73	22689	1	375	3.73
	40	160	97	20897	1	375	3.73
2500	20	125	53	25019	1	410	4.05
	30	140	79	25020	1	410	4.05
	40	160	106	25021	1	410	4.05
2700	20	125	57	22690	1	440	4.38
	30	140	86	22691	1	440	4.38
	40	160	115	20898	1	440	4.38
3000	20	125	64	22692	1	480	4.86
	30	140	96	22693	1	480	4.86
	40	160	129	20899	1	480	4.86

**BOBBIN WOUND FILTERS**



Ø 1050 mm and Ø 1200 mm Rodas filters

**Fina**



Length (mm)	Filtration velocity (m³/h/m²)	Ø N (mm)	2.5 bar		4 bar		Flow m³/h	Filtration area m²	Volume (l)	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)	H (mm)	I (mm)	P (mm)	T (mm)	W (mm)	Total weight in oper. Kg	Sand charge	
			Code	Code	1 - 1.2 mm	0.4 - 0.8 mm																
<b>Diameter 1050 mm - Height of filtration bed 0.6 m.</b>																						
1900	20	75	DN65	05102	07124	34	1.72	1480	630	325	760	380	190	1260	950	800	2160	170	2530	350	950	
	30	90	DN80	05105	07125	52																
	40	110	DN100	05108	07126	69																
2300	20	110	DN100	11331	11321	42	2.12	1820	630	325	1000	460	190	1260	1150	800	2560	170	3100	475	1250	
	30	125	DN110	11332	11322	64																
	40	140	DN125	11333	11323	85																
2500	20	110	DN100	24842	25016	46	2.32	2000	630	325	1120	500	190	1260	1250	800	2760	170	3380	575	1525	
	30	125	DN110	24843	25017	70																
	40	140	DN125	24844	25018	93																
2700	20	110	DN100	11334	11326	50	2.51	2170	630	325	1240	540	190	1260	1350	800	2960	170	3670	700	1800	
	30	125	DN110	11335	11327	75																
	40	140	DN125	11336	11328	100																
3000	20	110	DN100	22647	22683	56	2.81	2430	630	325	1420	600	190	1260	1500	800	3260	170	4100	775	20250	
	30	140	DN125	22648	22684	84																
	40	160	DN150	22649	20895	112																
<b>Diameter 1200 mm - Height of filtration bed 0.6 m.</b>																						
1900	20	75	DN100	22650	22685	39	1.96	1900	725	325	760	380	200	1390	950	900	2130	225	3220	425	1100	
	30	90	DN110	22651	22686	59																
	40	110	DN125	22652	22687	79																
2300	20	110	DN100	22653	22688	48	2.42	2350	725	325	1000	460	200	1390	1150	900	2530	225	3960	550	1425	
	30	125	DN125	22654	22689	73																
	40	140	DN150	22655	20897	97																
2500	20	110	DN110	24845	25019	53	2.65	2580	725	325	1120	500	200	1390	1250	900	2750	225	4320	700	1750	
	30	125	DN125	24846	25020	79																
	40	140	DN150	24847	25021	106																
2700	20	110	DN110	22656	22690	57	2.87	2800	725	325	1240	540	200	1390	1350	900	2950	225	4690	825	2075	
	30	125	DN125	22657	22691	86																
	40	140	DN150	22658	20898	115																
3000	20	110	DN110	22659	22692	64	3.21	3140	725	325	1420	600	200	1390	1500	900	3250	225	5240	925	2325	
	30	140	DN125	22660	22693	96																
	40	160	DN150	22661	20899	129																

**MEDIA RECOMMENDATIONS - Sand = 1.4 Kg/dm³ - Gravel = 1.5 Kg/dm³**

## Filtration bed 0.8 and 1 m



DOES NOT INCLUDE VALVE  
MANIFOLD

Ø 1400 mm  
Ø 1600 mm  
Ø 1800 mm

## BOBBIN WOUND FILTERS



Ø 1400 mm, Ø 1600 mm and Ø 1800 mm Rodas filters

Fina

### General features:

- Resistant to corrosion unlike conventional steel filters
- Maximum operating temperature 50°C
- Comply with European standards for pressure vessels 97/23/CE included in section 3 of article 3
- Hydraulic pressure test 1.5 times the maximum admissible pressure

### Fitted with:

- Pressure gauge panel
- Manual air relief valve and water purge
- Ø 400 mm lateral manhole

### Characteristics of internal components:

- Internal components and pipe in PVC
- PP laterals with 0.3 mm slots
- Bolts, nuts and washers in AISI-316
- EPDM seals and gaskets

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filters Ø 1400 mm - Filtration bed 0.8 m

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	110	45	24848	1	340	4.84
	30	125	67	24849	1	340	4.84
	40	140	89	24850	1	340	4.84
2500	20	110	60	24854	1	435	6.23
	30	140	91	24855	1	435	6.23
	40	160	121	24856	1	435	6.23
3000	20	125	73	24860	1	530	7.44
	30	160	110	24861	1	530	7.44
	40	200	147	24862	1	530	7.44

Filters Ø 1600 mm - Filtration bed 1 m

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	110	49	22662	1	400	5.49
	30	140	74	22663	1	400	5.49
	40	160	99	22664	1	400	5.49
2500	20	140	67	24866	1	520	7.18
	30	160	101	24867	1	520	7.18
	40	200	134	24868	1	520	7.18
3000	20	140	82	22671	1	620	8.60
	30	160	123	22672	1	620	8.60
	40	200	164	22673	1	620	8.60

**BOBBIN WOUND FILTERS**
**Filtration bed 0.8  
and 1 m**

**Ø 1400 mm, Ø 1600 mm and Ø 1800 mm Rodas filters**
**Fina**
**Maximum working pressure 2.5 Kg/cm<sup>2</sup>**
**Filters Ø 1800 mm - Filtration bed 1 m**

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>2500</b>	20	125	75	<b>24875</b>	1	585	10.40
	30	160	112	<b>24876</b>	1	585	10.40
	40	200	150	<b>24877</b>	1	585	10.40
<b>3000</b>	20	140	92	<b>24881</b>	1	700	12.25
	30	160	137	<b>24882</b>	1	700	12.25
	40	200	183	<b>24883</b>	1	700	12.25
<b>3500</b>	20	140	108	<b>24887</b>	1	875	14.20
	30	200	162	<b>24888</b>	1	875	14.20
	40	225	216	<b>24889</b>	1	875	14.20
<b>4000</b>	20	160	125	<b>24893</b>	1	930	16.00
	30	200	187	<b>24894</b>	1	930	16.00
	40	225	250	<b>24895</b>	1	930	16.00


**DOES NOT INCLUDE VALVE  
MANIFOLD**
**Ø 1400 mm  
Ø 1600 mm  
Ø 1800 mm**
**Maximum working pressure 4 Kg/cm<sup>2</sup>**
**Filters Ø 1400 mm - Filtration bed 0.8 m**

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>1900</b>	20	110	45	<b>25022</b>	1	385	4.84
	30	125	67	<b>25023</b>	1	385	4.84
	40	140	89	<b>25024</b>	1	385	4.84
<b>2500</b>	20	110	60	<b>25028</b>	1	485	6.23
	30	140	91	<b>25029</b>	1	485	6.23
	40	160	121	<b>25030</b>	1	485	6.23
<b>3000</b>	20	125	73	<b>25034</b>	1	585	7.44
	30	160	110	<b>25035</b>	1	585	7.44
	40	200	147	<b>25036</b>	1	585	7.44



Filtration bed 0.8  
and 1 m



DOES NOT INCLUDE VALVE  
MANIFOLD

Ø 1400 mm  
Ø 1600 mm  
Ø 1800 mm

## BOBBIN WOUND FILTERS



Ø 1400 mm, Ø 1600 mm and Ø 1800 mm Rodas filters

Fina

Maximum working pressure 4 Kg/cm<sup>2</sup>

Filters Ø 1600 mm - Filtration bed 1 m

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
1900	20	110	49	22694	1	450	5.49
	30	140	74	22695	1	450	5.49
	40	160	99	20900	1	450	5.49
2500	20	140	67	25040	1	570	7.18
	30	160	101	25041	1	570	7.18
	40	200	134	25042	1	570	7.18
3000	20	140	82	22700	1	685	8.60
	30	160	123	22701	1	685	8.60
	40	200	164	20903	1	685	8.60

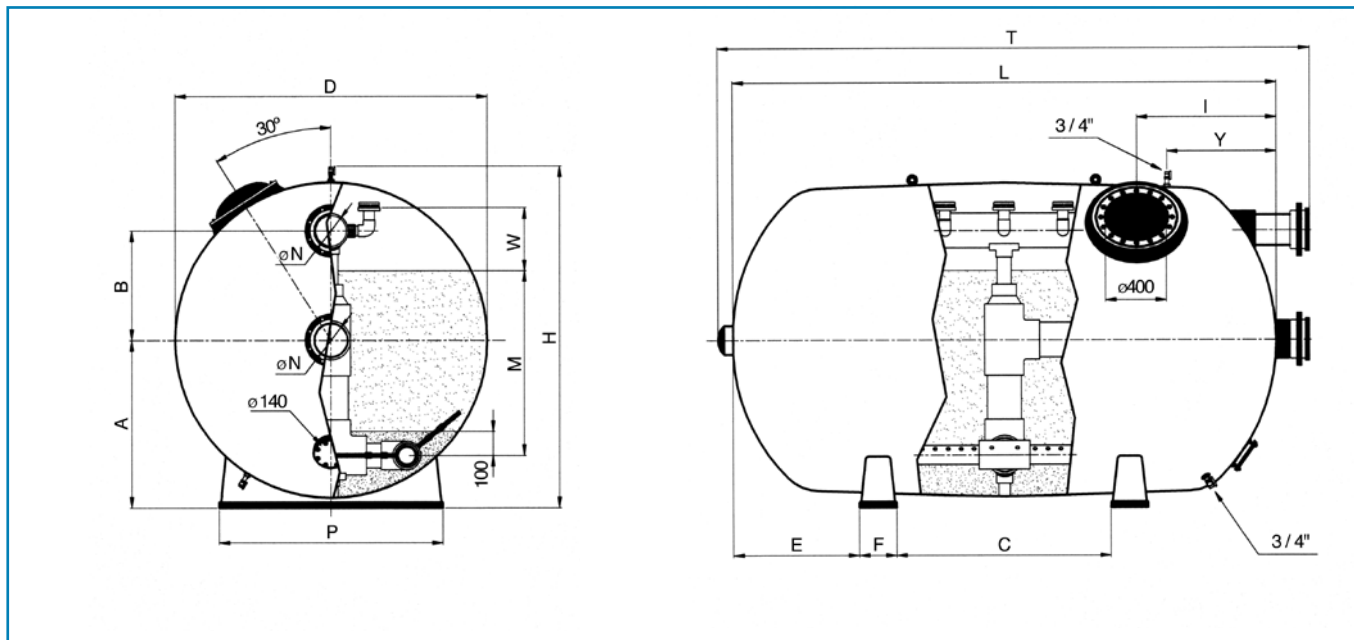
Filters Ø 1800 mm - Filtration bed 1 m

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
2500	20	125	75	25049	1	680	10.40
	30	160	112	25050	1	680	10.40
	40	200	150	25051	1	680	10.40
3000	20	140	92	25055	1	805	12.25
	30	160	137	25056	1	805	12.25
	40	200	183	25057	1	805	12.25
3500	20	140	108	25061	1	930	14.20
	30	200	162	25062	1	930	14.20
	40	225	216	25063	1	930	14.20
4000	20	160	125	25067	1	1055	16.00
	30	200	187	25068	1	1055	16.00
	40	225	250	25069	1	1055	16.00

**BOBBIN WOUND FILTERS**



Ø 1400 mm, Ø 1600 mm and Ø 1800 mm Rodas filters



Length (mm)	Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	Ø N (mm)	2.5 bar		4 bar		Flow m <sup>3</sup> /h	Filtration area m <sup>2</sup>	Volume (l)	A (mm)	B (mm)	C (mm)	E (mm)	F (mm)	H (mm)	I (mm)	P (mm)	T (mm)	W (mm)	Y (mm)	Total weight in oper. Kg	Sand charge	
			Code	Code	Code	Code																1 - 1.2 mm	0.4 - 0.8 mm
<b>Diameter 1400 mm - Filtration bed 0.8 m.</b>																							
1900	20	110	DN100	24848	25022	45	2.23	2530	810	390	720	380	210	1600	890	1080	2160	220	1380	4250	575	2100	
	30	125	DN110	24849	25023	67																	
	40	140	DN125	24850	25024	89																	
2500	20	110	DN100	24854	25028	60	3.02	3460	810	390	1080	500	210	1600	890	1080	2780	220	1380	5740	800	2825	
	30	140	DN125	24855	25029	91																	
	40	160	DN150	24856	25030	121																	
3000	20	125	DN110	24860	25034	73	3.67	4230	810	390	1380	600	210	1600	890	1080	3320	220	1380	6990	1000	3450	
	30	160	DN150	24861	25035	110																	
	40	200	DN175	24862	25036	147																	
<b>Diameter 1600 mm - Filtration bed 1 m.</b>																							
1900	20	110	DN100	22662	22694	49	2.47	3220	925	475	470	475	240	1830	920	1230	2220	250	1380	5420	600	2850	
	30	140	DN125	22663	22695	74																	
	40	160	DN150	22664	20900	99																	
2500	20	140	DN125	24866	25040	67	3.36	4430	925	475	1020	500	240	1830	920	1230	2820	250	1380	7400	850	3875	
	30	160	DN150	24867	25041	101																	
	40	200	DN175	24868	25042	134																	
3000	20	140	DN125	22671	22700	82	4.1	5430	925	475	1320	600	240	1830	920	1230	3360	250	1380	9020	1050	4750	
	30	160	DN150	22672	22701	123																	
	40	200	DN175	22673	20903	164																	
<b>Diameter 1800 mm - Filtration bed 1 m.</b>																							
2500	20	125	DN110	24875	25049	75	3.74	5530	1040	550	1020	380	270	2050	920	1380	2820	350	1380	9170	975	4850	
	30	160	DN150	24876	25050	112																	
	40	200	DN175	24877	25051	150																	
3000	20	140	DN125	24881	25055	92	4.58	6800	1040	550	1320	460	270	2050	920	1380	3320	350	1380	11230	1225	5925	
	30	160	DN150	24882	25056	137																	
	40	200	DN175	24883	25057	183																	
3500	20	140	DN125	24887	25061	108	5.41	8070	1040	550	1620	500	270	2050	920	1380	3850	350	1380	13290	1475	7000	
	30	200	DN175	24888	25062	162																	
	40	225	DN200	24889	25063	216																	
4000	20	160	DN150	24893	25067	125	6.25	9340	1040	550	1920	540	270	2050	920	1380	4350	350	1380	15350	1700	8075	
	30	200	DN175	24894	25068	187																	
	40	225	DN200	24895	25069	250																	

**MEDIA RECOMMENDATIONS - Sand = 1.4 Kg/dm<sup>3</sup> - Gravel = 1.5 Kg/dm<sup>3</sup>**

Filtration bed 1  
and 1.2 m



Ø 2000 mm  
Ø 2350 mm

## BOBBIN WOUND FILTERS



Ø 2000 mm and Ø 2350 mm Rodas filters

Fina

### General features:

- Resistant to corrosion unlike conventional steel filters
- Maximum operating temperature 50°C
- Comply with European standards for pressure vessels 97/23/CE included in section 3 of article 3
- Hydraulic pressure test 1.5 times the maximum admissible pressure

### Fitted with:

- Pressure gauge panel
- Manual air relief valve and water purge
- Ø 400 mm lateral manhole

### Characteristics of internal components:

- Internal components and pipe in PVC
- PP laterals with 0.3 mm slots
- Bolts, nuts and washers in AISI-316
- EPDM seals and gaskets

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filters Ø 2000 mm

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
2500	20	140	87	05103	1	650	13.20
	30	160	130	05106	1	650	13.20
	40	200	174	05109	1	650	13.20
3000	20	140	106	24899	1	775	15.65
	30	160	159	24900	1	775	15.65
	40	200	212	24901	1	775	15.65
3500	20	160	125	05104	1	900	18.10
	30	200	187	05107	1	900	18.10
	40	225	250	05110	1	900	18.10
4000	20	160	144	24908	1	1025	20.55
	30	200	216	24909	1	1025	20.55
	40	225	288	24910	1	1025	20.55
4500	20	200	163	24914	1	1150	23.00
	30	225	245	24915	1	1150	23.00
	40	250	326	24916	1	1150	23.00

**BOBBIN WOUND FILTERS**

 Filtration bed 1  
and 1.2 m


Ø 2000 mm and Ø 2350 mm Rodas filters

**Fina**

 Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filters Ø 2350 mm

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
3000	20	160	119	24917	1	1350	20.25
	30	200	178	24918	1	1350	20.25
	40	225	238	24919	1	1350	20.25
3500	20	160	141	17120	1	1500	23.00
	30	200	212	16696	1	1500	23.00
	40	225	282	17121	1	1500	23.00
4000	20	200	163	24926	1	1650	25.75
	30	225	245	24927	1	1650	25.75
	40	250	327	24928	1	1650	25.75
4500	20	200	186	22674	1	1800	28.50
	30	225	279	22675	1	1800	28.50
	40	250	371	22676	1	1800	28.50
5000	20	200	208	24935	1	1950	31.25
	30	250	312	24936	1	1950	31.25
	40	350	416	24937	1	1950	31.25


 Ø 2000 mm  
Ø 2350 mm

 Maximum working pressure 4 Kg/cm<sup>2</sup>

Filters Ø 2000 mm

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
2500	20	140	87	07127	1	795	13.20
	30	160	130	07128	1	795	13.20
	40	200	174	07129	1	795	13.20
3000	20	140	106	25073	1	945	15.65
	30	160	159	25074	1	945	15.65
	40	200	212	25075	1	945	15.65
3500	20	160	125	07130	1	1100	18.10
	30	200	187	07131	1	1100	18.10
	40	225	250	07132	1	1100	18.10
4000	20	160	144	25082	1	1260	20.55
	30	200	216	25083	1	1260	20.55
	40	225	288	25084	1	1260	20.55
4500	20	200	163	25088	1	1420	23.00
	30	225	245	25089	1	1420	23.00
	40	250	326	25090	1	1420	23.00

Filtration bed 1  
and 1.2 m



Ø 2000 mm  
Ø 2350 mm

## BOBBIN WOUND FILTERS



Ø 2000 mm and Ø 2350 mm Rodas filters

Maximum working pressure 4 Kg/cm<sup>2</sup>

Filters Ø 2350 mm

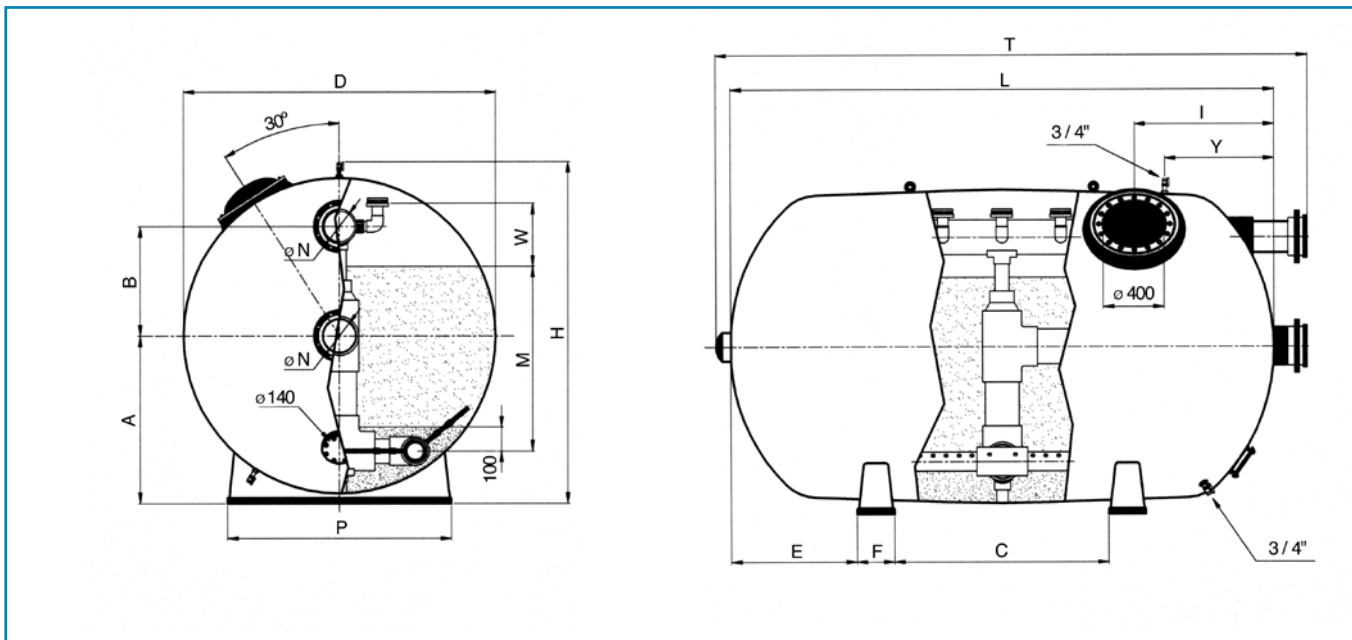
Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet Ø mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
3000	20	160	119	25091	1	1150	20.25
	30	200	178	25092	1	1150	20.25
	40	225	238	25093	1	1150	20.25
3500	20	160	141	22702	1	1300	23.00
	30	200	212	22703	1	1300	23.00
	40	225	282	22704	1	1300	23.00
4000	20	200	163	25100	1	1450	25.75
	30	225	245	25101	1	1450	25.75
	40	250	327	25102	1	1450	25.75
4500	20	200	186	22705	1	1600	28.50
	30	225	279	22706	1	1600	28.50
	40	250	371	22707	1	1600	28.50
5000	20	200	208	25109	1	1750	31.25
	30	250	312	25110	1	1750	31.25
	40	350	416	25111	1	1750	31.25

**BOBBIN WOUND FILTERS**



Ø 2000 mm and Ø 2350 mm Rodas filters

**Fina**



Length (mm)	Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	Ø N (mm)	2.5 bar	4 bar	Flow m <sup>3</sup> /h	Filtration area m <sup>2</sup>	Volume (l)	A (mm)	B (mm)	* C (mm)	E (mm)	F (mm)	H (mm)	I (mm)	P (mm)	T (mm)	W (mm)	Y (mm)	Total weight in oper. Kg	Sand charge		
			Code	Code																Granulometry 1 - 1.2 mm	Granulometry 0.4 - 0.8 mm	
<b>Diameter 2000 mm - Filtration bed 1 - 1.2 m.</b>																						
2500	20	140	DN125	05103	07127	87	4.34	6900	1090	710	1020	500	240	2220	1300	1470	2820	410	1250	11300	1050	6575
	30	160	DN150	05106	07128	130															M=1.2 m	M=1.2 m
	40	200	DN175	05109	07129	174																
3000	20	140	DN125	24899	25073	106	5.3	8470	1090	710	1320	600	240	2220	1300	1470	3320	410	1500	13790	1300	8025
	30	160	DN150	24900	25074	159															M=1.2 m	M=1.2 m
	40	200	DN175	24901	25075	212																
3500	20	160	DN150	05104	07130	125	6.25	10040	1090	710	1620	700	240	2220	1300	1470	3850	410	1750	16280	1550	9475
	30	200	DN175	05107	07131	187															M=1.2 m	M=1.2 m
	40	225	DN200	05110	07132	250																
4000	20	160	DN150	24908	25082	144	7.21	11600	1090	710	2320	600	240	2220	1300	1470	4350	410	2000	18780	1800	10925
	30	200	DN175	24909	25083	216															M=1.2 m	M=1.2 m
	40	225	DN200	24910	25084	288																
4500	20	200	DN175	24914	25088	163	8.16	13180	1090	710	2800	600	240	2220	1300	1470	4880	410	2250	21380	2075	12375
	30	225	DN200	24915	25089	245															M=1.2 m	M=1.2 m
	40	250	DN225	24916	25090	326																
<b>Diameter 2350 mm - Filtration bed 1 - 1.2 m.</b>																						
3000	20	160	DN150	24917	25091	119	5.94	11130	1270	710	1020	750	240	2560	1300	1740	3350	500	1500	18300	2575	9300
	30	200	DN175	24918	25092	178															M=1.2 m	M=1.2 m
	40	225	DN200	24919	25093	238																
3500	20	160	DN150	17120	22702	141	7.06	13300	1270	710	1480	770	240	2560	1300	1740	3850	500	1750	21790	3125	11050
	30	200	DN175	16696	22703	212															M=1.2 m	M=1.2 m
	40	225	DN200	17121	22704	282																
4000	20	200	DN175	24926	25100	163	8.17	15470	1270	710	2020	750	240	2560	1300	1740	4380	500	2000	25280	3650	12800
	30	225	DN200	24927	25101	245															M=1.2 m	M=1.2 m
	40	250	DN225	24928	25102	327																
4500	20	200	DN175	22674	22705	186	9.28	17640	1270	710	2520	750	240	2560	1300	1740	4880	500	2250	28880	4200	14525
	30	225	DN200	22675	22706	279															M=1.2 m	M=1.2 m
	40	250	DN225	22676	22707	371																
5000	20	200	DN175	24935	25109	208	10.4	19800	1270	710	3020	750	240	2560	1300	1740	5440	500	2500	32380	4750	16250
	30	250	DN225	24936	25110	312															M=1.2 m	M=1.2 m
	40	315	DN250	24937	25111	416																

**MEDIA RECOMMENDATIONS:** Hydroanthracite = 0.8 Kg/dm<sup>3</sup> - Sand = 1.4 Kg/dm<sup>3</sup> - Gravel = 1.5 Kg/dm<sup>3</sup>

\*With lengths (dimension L) of 4000 mm or more, an additional central support is provided.

Filtration bed 1  
and 1.2 m



∅ 2500 mm

• ALL FILTER VESSELS FROM ∅ 2.5 m AND ABOVE WILL REQUIRE SPECIAL TRANSPORT VEHICLE. PLEASE ASK FOR A QUOTATION AT THE TIME OF YOUR ENQUIRY.

## BOBBIN WOUND FILTERS



∅ 2500 mm Rodas filters

Fina

### General features:

- Resistant to corrosion unlike conventional steel filters
- Maximum operating temperature 50°C
- Comply with European standards for pressure vessels 97/23/CE included in section 3 of article 3
- Hydraulic pressure test 1.5 times the maximum admissible pressure

### Fitted with:

- Pressure gauge panel
- Manual air relief valve and water purge
- ∅ 400 mm lateral manhole

### Characteristics of internal components:

- Internal components and pipe in PVC
- PP laterals with 0.3 mm slots
- Bolts, nuts and washers in AISI-316
- EPDM seals and gaskets

Maximum working pressure 2.5 Kg/cm<sup>2</sup>

Filters ∅ 2500 mm

Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet ∅ mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
3500	20	160	149	24938	1	1285	28.00
	30	200	223	24939	1	1285	28.00
	40	225	297	24940	1	1285	28.00
4000	20	200	172	22677	1	1450	31.80
	30	225	258	22678	1	1450	31.80
	40	250	345	22679	1	1450	31.80
4500	20	200	196	24947	1	1615	35.55
	30	250	294	24948	1	1615	35.55
	40	315	392	24949	1	1615	35.55
5000	20	200	220	22680	1	1780	39.30
	30	250	329	22681	1	1780	39.30
	40	315	439	22682	1	1780	39.30

Maximum working pressure 4 Kg/cm<sup>2</sup>

Filters ∅ 2500 mm

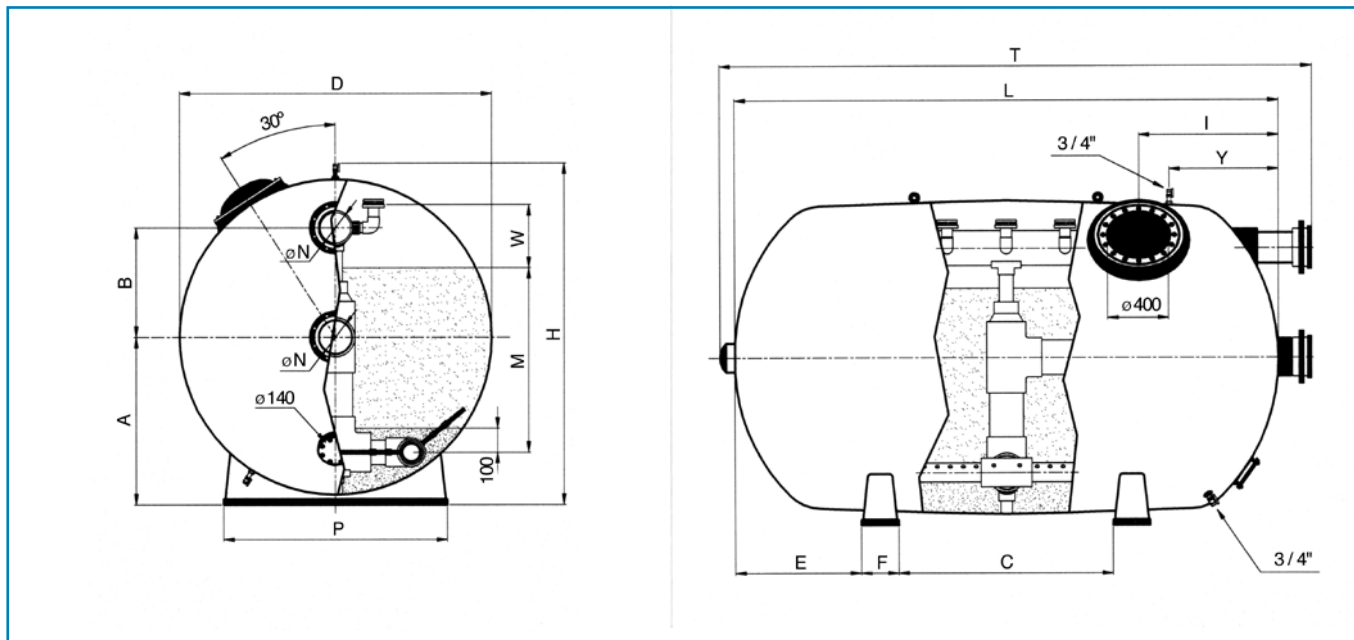
Filter length mm	Filtration velocity m <sup>3</sup> /h/m <sup>2</sup>	Outlet ∅ mm	Flow rate m <sup>3</sup> /h	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
3500	20	160	149	25112	1	1505	28.00
	30	200	223	25113	1	1505	28.00
	40	225	297	25114	1	1505	28.00
4000	20	200	172	22708	1	1670	31.80
	30	225	258	22709	1	1670	31.80
	40	250	345	22710	1	1670	31.80
4500	20	200	196	25121	1	1835	35.55
	30	250	294	25122	1	1835	35.55
	40	315	392	25123	1	1835	35.55
5000	20	200	220	22711	1	2000	39.30
	30	250	329	22712	1	2000	39.30
	40	315	439	22713	1	2000	39.30

**BOBBIN WOUND FILTERS**



Ø 2500 mm Rodas filters

**Fna**



Length (mm)	Filtration velocity (m <sup>3</sup> /h/m <sup>2</sup> )	Ø N (mm)	2.5 bar	4 bar	Flow m <sup>3</sup> /h	Filtration area m <sup>2</sup>	Volume (l)	A (mm)	B (mm)	* C (mm)	E (mm)	F (mm)	H (mm)	I (mm)	P (mm)	T (mm)	W (mm)	Y (mm)	Total weight in oper. Kg	Sand charge		
			Code	Code																Granulometry	Granulometry	
<b>Diameter 2500 mm - Filtration bed 1 - 1.2 m.</b>																						
3500	20	160	DN150	<b>24938</b>	<b>25112</b>	149	7.34	14920	1360	710	1620	770	440	2710	1300	1850	3850	500	1750	24320	3175	11675
	30	200	DN175	<b>24939</b>	<b>25113</b>	223															M=1.2 m	M=1.2 m
	40	225	DN200	<b>24940</b>	<b>25114</b>	297																
4000	20	200	DN175	<b>22677</b>	<b>22708</b>	172	8.62	17380	1360	710	1920	800	440	2710	1300	1850	4380	500	2000	28250	3725	13500
	30	225	DN200	<b>22678</b>	<b>22709</b>	258															M=1.2 m	M=1.2 m
	40	250	DN225	<b>22679</b>	<b>22710</b>	345																
4500	20	200	DN175	<b>24947</b>	<b>25121</b>	196	9.80	19830	1360	710	2420	800	440	2710	1300	1850	4940	500	2250	32300	4300	15350
	30	250	DN225	<b>24948</b>	<b>25122</b>	294															M=1.2 m	M=1.2 m
	40	315	DN250	<b>24949</b>	<b>25123</b>	392																
5000	20	200	DN175	<b>22680</b>	<b>22711</b>	220	10.98	22300	1360	710	2820	800	440	2710	1300	1850	5440	500	2500	36230	4850	17200
	30	250	DN225	<b>22681</b>	<b>22712</b>	329															M=1.2 m	M=1.2 m
	40	315	DN250	<b>22682</b>	<b>22713</b>	439																

**MEDIA RECOMMENDATIONS: Sand = 1.4 Kg/dm<sup>3</sup> - Gravel = 1.5 Kg/dm<sup>3</sup>**

\*With lenghts (dimension L) of 4000 mm or more, an additional central support is provided.



## BOBBIN WOUND FILTERS



### Top or side manholes DN500 and DN600 for bobbin wound filters

Optional manhole access for bobbin wound filters in lateral or top position with nominal diameters of 500 and 600 mm. Designed to comply with DIN standard 19605 and to facilitate access in and out of the filter during maintenance work. Manholes are in fibreglass reinforced polyester in the form of a flange with concave lid and can only be integrated into the filter at the factory or by a specialist. The nut and bolt fastenings are removable, as apposed to the standard DN400 manholes.

The manhole options are available with the following bobbin wound filter diameters:

**Manhole DN500 mm\***

Filters from Ø 1200 mm to Ø 3000 mm

**Manhole DN600 mm\***

Filters from Ø 1800 mm to Ø 3000 mm

Optional manhole Ø 500 mm\*

Optional manhole Ø 600 mm\*

\*Either lateral or top position

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
27950	-	-	-
27951	-	-	-



**NEFRONA MONOBLOCS**



Nefrona compact units



**A new concept in filtration and chemical water treatment.**

The Nefrona compact unit is a new concept in water treatment, designed and developed by AstralPool for the X FINA World Swimming Championships 2003 held in Barcelona, featuring the most innovative solution available in the market. The Nefrona is a compact, transportable and modular water treatment unit.

**Compact** with all equipment parts completely assembled and ready to use, mounted on a hot-dipped galvanised steel bedplate to prevent corrosion. To start the system, simply connect the pool water inlets and outlets and the electrical mains. This compact unit ensures an excellent level of disinfection and filtration that provides the highest water quality.

**Transportable** as it's sized for easy shipment anywhere worldwide in standard shipping containers. You can have a filtration unit assembled anywhere in the world in record time and with factory warranty.

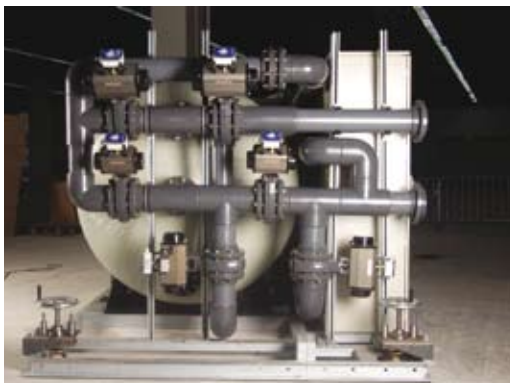
**Modular** because its design allows it to be disassembled into several sections. Due to its modular construction, the Nefrona can be installed in areas with restricted access (minimum 1.70 m x 2.20 m height). Once the different modules are located in place, they are interconnected and assembled together.

\* According to model type, the Nefrona takes care of filtration, water disinfection and pH control.

With the exception of the Basic model which has a manual valve manifold, all the other Nefrona models can automatically manage all filtration processes without any human intervention.

The Nefrona Ozone and Nefrona Plus models also include the MCS control Software which allows complete automatic operation of the installation from filtration to chemical water treatment.

All Nefrona models can be optionally equipped with a balance tank, a control panel and probes for water level regulation, automatic dosing devices for chemical products which may include automatic measuring and regulating (Controller) as well as control of chemical levels. All these and more options make the Nefrona compact unit the best choice for filtration and chemical water treatment.



## NEFRONA MONOBLOCS

### Nefrona Basic

The Nefrona Basic is a manual model offering filtration equipment and water treatment which incorporates basic filtration elements.

#### Main equipment

	Code	Sand Filtration	Automatic Control	MCS Software	Ozone Disinfection	Pool Heating	D.E. Microfiltration
Nefrona Basic	28763	√					
Nefrona Basic C	28764	√				√	
Nefrona Basic D	28765	√					√
Nefrona Basic CD	28766	√				√	√

### Nefrona Automatic

With higher performance than the Nefrona Basic, this model works automatically thanks to the inclusion of a set of 5 units of Ø 140 mm motorised pneumatic valves.

#### Main equipment

	Code	Sand Filtration	Automatic Control	MCS Software	Ozone Disinfection	Pool Heating	D.E. Microfiltration
Nefrona Automatic	28767	√	√				
Nefrona Automatic C	28768	√	√			√	
Nefrona Automatic D	28769	√	√				√
Nefrona Automatic CD	28770	√	√			√	√

### Nefrona Ozone

Combines all the performance of the Nefrona Automatic unit with a complete system of ozone disinfection and MCS monobloc control software which manages the physical parameters, and the chemical parameters of the pool allowing a remote automatic management.

#### Main equipment

	Code	Sand Filtration	Automatic Control	MCS Software	Ozone Disinfection	Pool Heating	D.E. Microfiltration
Nefrona Ozone	28771	√	√	√	√		
Nefrona Ozone C	28772	√	√	√	√	√	
Nefrona Ozone D	28773	√	√	√	√		√

### Nefrona Plus

Offering the highest performance, Nefrona Plus incorporates all the features of the Ozone model and includes a standard system of diatomaceous earth microfiltration and temperature control.

#### Main equipment

	Code	Sand Filtration	Automatic Control	MCS Software	Ozone Disinfection	Pool Heating	D.E. Microfiltration
Nefrona Plus	28774	√	√	√	√	√	√

**MULTIPOINT VALVES**

A wide range of valves which offers the New Generation series, the Classic series and Flat series with 1½" and 2" valve configurations. The Magnum series with 2½", 3" and 4" valves completes the range.



**Multiport valve configurations**

Multiport valves (MPV) are available in 5 different configurations. The inlet to the filter is called "TOP" and the outlet from the filter is called "BOTTOM".

- Conf. 1: Both filter inlet "Top" and filter outlet "Bottom" from and to the MPV base.
- Conf. 2: Filter inlet "Top" from the MPV base and filter outlet "Bottom" to the MPV side.
- Conf. 3: Filter inlet "Top" from the MPV side and filter outlet "Bottom" to the MPV base. This configuration can be supplied with pipework and connections for side mounting.
- Conf. 4: Both the filter inlet "Top" and the filter outlet "Bottom" from and to the MPV sides.
- Conf. 5: All inlets and outlets open.

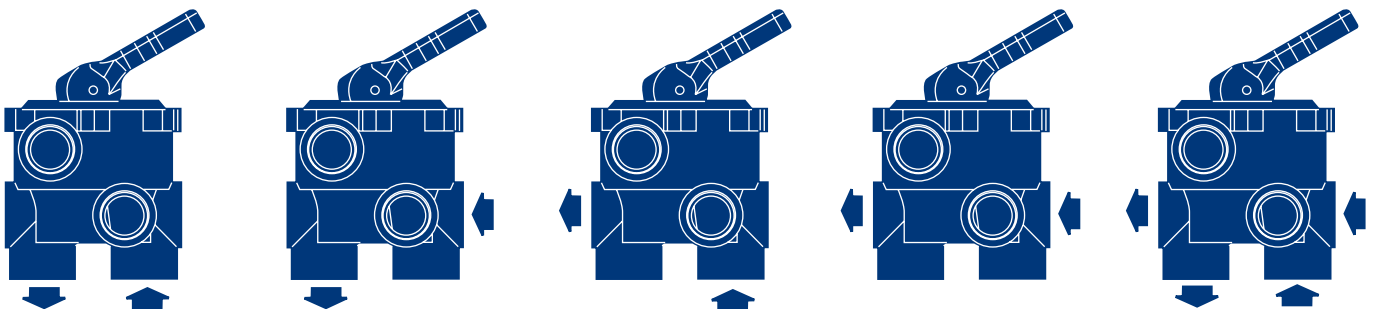
**Configuration 1**

**Configuration 2**

**Configuration 3**

**Configuration 4**

**Configuration 5**



Configuration 1: Commonly used for filters with top mounted multiport valve  
 Configuration 3: Commonly used for filters with side mounted multiport valve

**Six-way Multiport valve**

A six-way valve to perform different functions in an hydraulic circuit: filtration, emptying, shut off, backwashing, circulation and rinsing of the filter. Its functional design, offers a wide range of possibilities of connection in any installation assuring a perfect sealing and easy operation.

When designing and choosing appropriate materials for manufacturing the different Multiport valve components, extreme care has been taken for assuring minimum friction and resistance, maximum security and an attractive finish. Housing, cover and handle are made of ABS, distributor in PPO, gaskets in EPDM and metallic components in S.S.

Models at a glance	New Generation			Classic		Flat	Magnum		
	1 ½" Eco	1 ½"	2"	1 ½"	2"	1 ½"	2 ½"	3"	4"
									

## MULTIPOINT VALVES

New generation of manual multiport valves which incorporate a bayonet closing system (replacing bolts). This eases dismantling for maintenance and prevents rust. The range includes the 1½" and 2" versions, including a "Top Eco" version available in 1½".

### 1½" Multiport valve with filter connections - New Generation



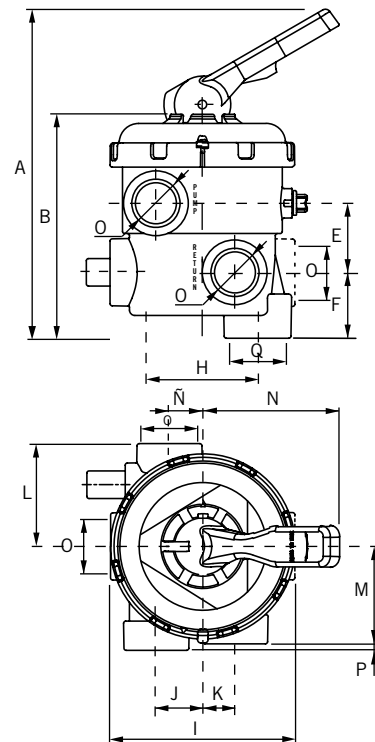
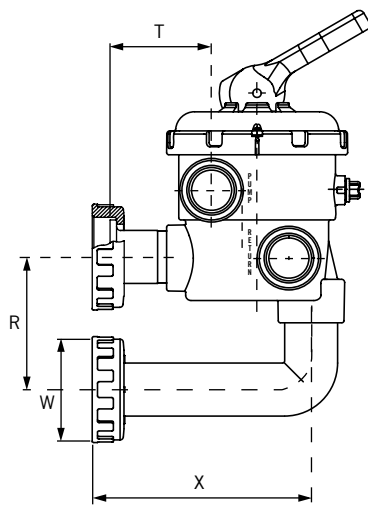
	Code	Standard Packing	Standard Weight Kg	Standard Volume m³
Configuration 3	<b>20569</b>	6	14.0	0.079
Config. 3 with filter connections	<b>28512</b>	6	26.4	0.165



### 1½" and 2" Multiport valve - New Generation

	Code	Standard Packing	Standard Weight Kg	Standard Volume m³
<b>Multiport valve 1½" - Configuration 3</b>	<b>20043</b>	-	11.5	0.079
<b>Multiport valve 2":</b>				
Config. 1	<b>28509</b>	6	22.3	0.165
Config. 2	<b>28510</b>	6	22.3	0.165
Config. 3	<b>28511</b>	6	22.3	0.165
Config. 4	<b>28513</b>	6	22.3	0.165
Config. 5	<b>28514</b>	6	22.3	0.165

Dimensions (mm)	A	B	E	F	H	I	J	K	L	M	N	Ñ	O	P	Q	R	T	W	X
1 ½"	294	205	64	61	-	-	43	30	95	90	121	31	1½"	6	50	125	97.5		211
2"	350	242	76	62.5	127	240	42	31.5	115.5	105.5	145	31.5	2"	5	63	230	120	96	247

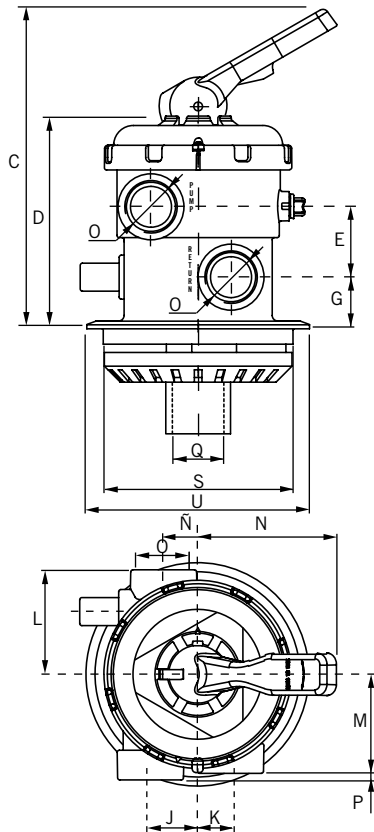


**MULTIPOINT VALVES**

**1½" and 2" multiport valve. Top Config. - New Generation**

Top 1½" Multiport valve  
Top 2" Multiport valve

Code	Standard Packing	Standard Weight Kg	Standard Volume m³
<b>20565</b>	6	12.1	0.079
<b>33968</b>	1	3.95	0.028



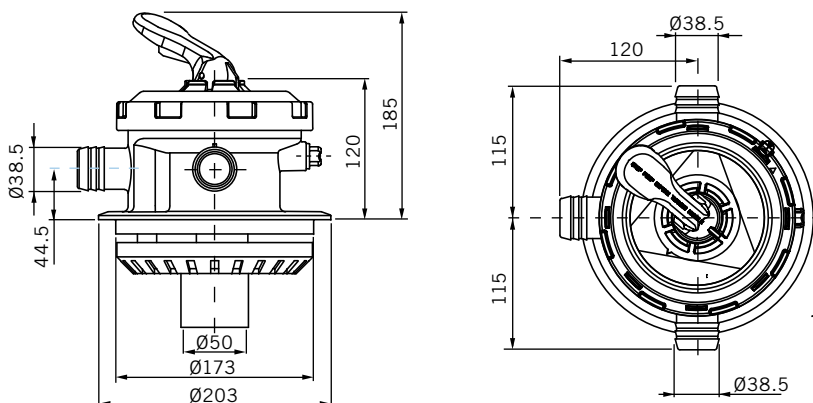
Dimensions (mm)	C	D	E	G	J	K	L	M	N	N̄	O	P	Q	S	U
<b>1 ½"</b>	280	193	64	47	43	30	95	90	121	31	1½"	6	50	173	203
<b>2"</b>	350	242	76	62.5	42	31.5	115.5	105.5	145	31.5	2"	5	63		208

**1½" Multiport valve. Top ECO version - New Generation**

6-way multiport valve for above ground pool filters where the pressure does not exceed 1.5 bar, of maximum diameter 380 mm. Bayonet closing system

Top ECO 1½" multiport valve

Code	Standard Packing	Standard Weight Kg	Standard Volume m³
<b>32583</b>	6	8.83	0.082





## MULTIPOINT VALVES

Manual multiport valves with six channels to carry out different functions in an hydraulic circuit. Its design, basically functional, offers a wide range of possibilities of connection to any installation, assuring perfect water-tightness and comfortable handling.

### 1 1/2" and 2" multiport valve with filter connections - Classic



1 1/2" multipor valve- Configuration 3  
2" multipor valve- Configuration 3

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00599	6	15.5	0.079
07444	6	22.7	0.150

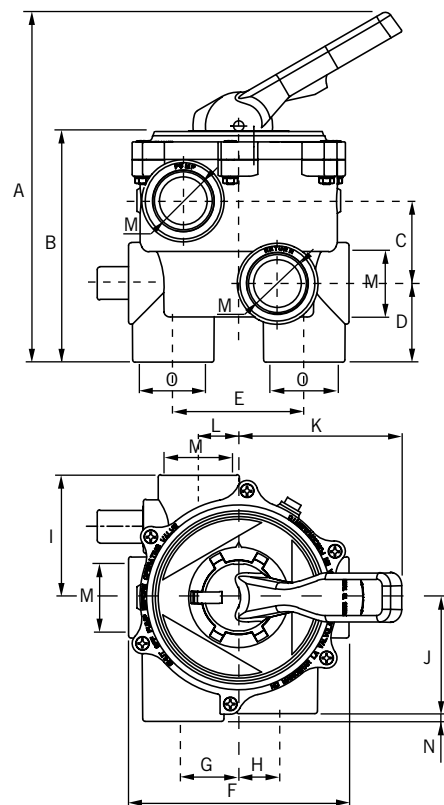
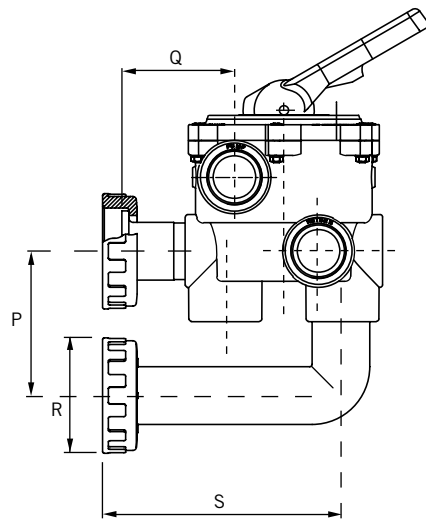
### 1 1/2" and 2" multiport valve - Classic

1 1/2" Multiport valve  
Configuration 1  
Configuration 3  
2" Multiport valve:  
Configuration 3

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00597	6	12.2	0.079
00598	6	12.1	0.079
07441	6	19.9	0.150




Dimensions (mm)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1 1/2"	271	180	64	61	101.5	172	43	30	95	90	121	31	1 1/2"	6	50	125	97.5	96	211
2"	317	211	76	62.5	127	237	42	31.5	115.5	105.5	145	31.5	2"	5	63	230	120	96	247

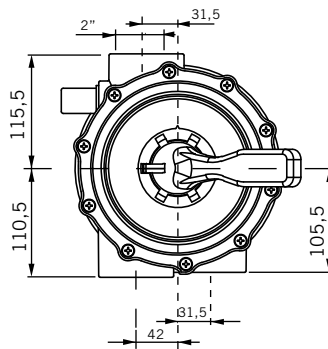
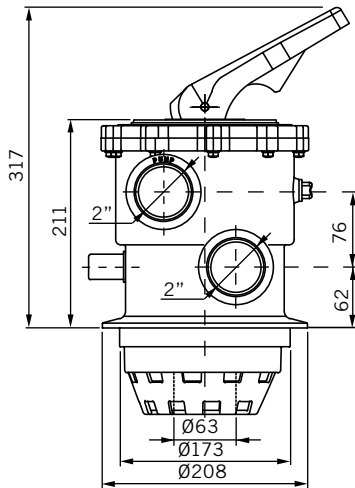


**MULTIPOINT VALVES**

**2" TOP multiport valve- Classic**

6-way TOP multiport valve for residential pools. Body, cover and handle injected in ABS. 2" thread.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
22490 	1	3.45	0.028





## MULTIPOINT VALVES

Introducing a new multipoint valve which for the first time features a special compact look thanks to its single-level design (compared to the normal twin-level set-up in other multipoint valves). This reduced size makes the equipment especially suitable in installations where space is at a premium, such as in filter housing or monoblocks.



new

### 1 1/2" lateral multipoint valve with filter connections - Flat

Configuration 3

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
34543	1	-	-



new

### 1 1/2" lateral multipoint valve - Flat

Configuration 3 (bottom port threaded)  
Configuration 3 (bottom port solve weld)

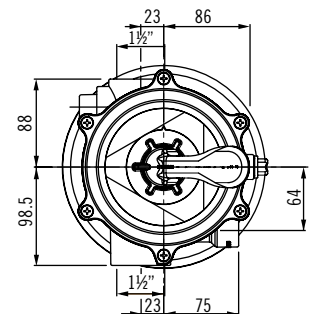
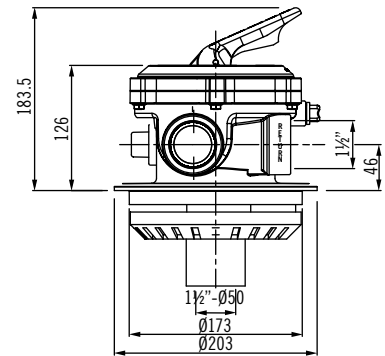
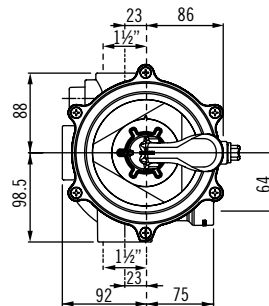
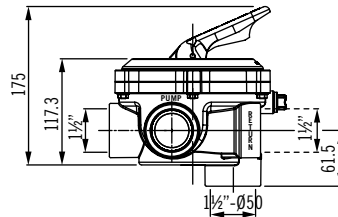
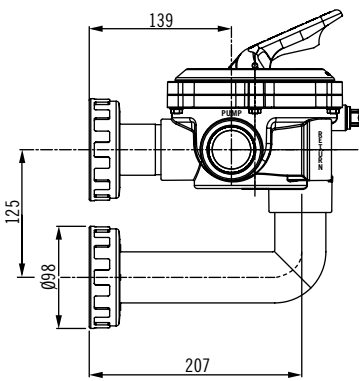
Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
34544	1	-	-
34545	1	-	-



new

### 1 1/2" TOP multipoint valve - Flat

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
34546	1	-	-



**MULTIPOINT VALVES**

Specially designed to support high working pressures and connection to large filters which require special connections. Choose from the models offered: 2 1/2", 3" and 4" multiport valves.



**2 1/2" multiport valve with filter connections - Magnum**

Multiport valve with connections.

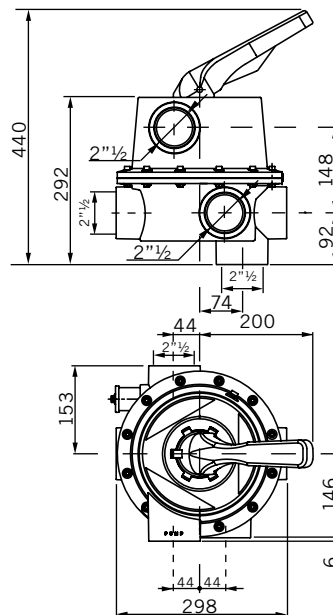
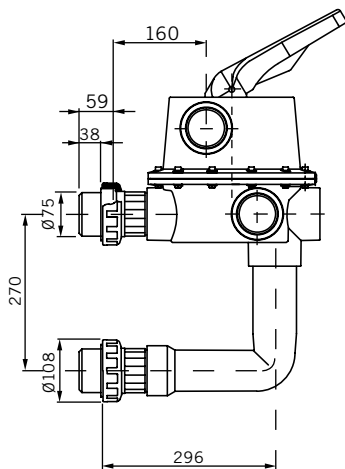
	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Configuration 3	24837	1	9.5	0.060



**2 1/2" multiport valve - Magnum**

Filter inlet from the side and outlet from the bottom. With connections to pool pipes.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Configuration 3	24838	1	8.2	0.061



## MULTIPOINT VALVES



### 3" multiport valve - Magnum



Side mounted 6-way multiport valve for connecting to filters. Body and cover injected in ABS and fibre glass. Handle injected in ABS. Sealing system by stainless steel screws. Supplied with two plugs so that the customer can adapt the valve to the most suitable configuration.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
28515	1	9.8	0.064

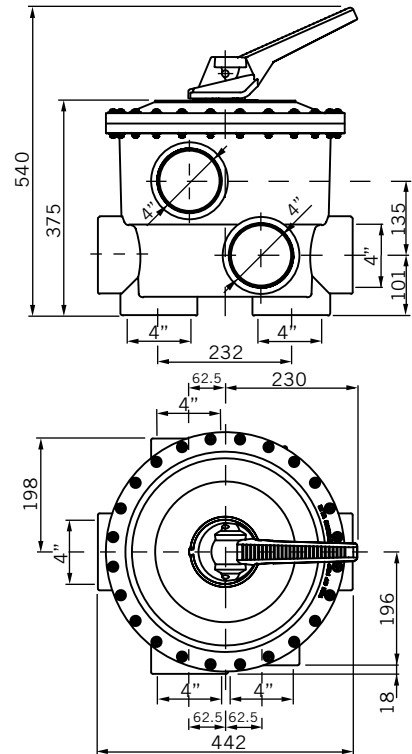
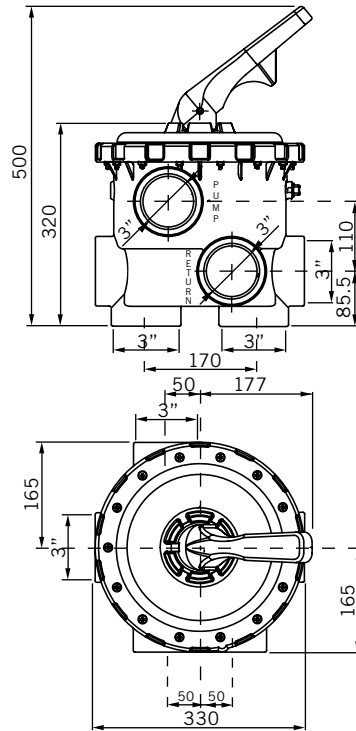


### 4" multiport valve - Magnum



Side mounted 6-way multiport valve for connecting to filters. Body and cover in polyurethane (PUR). Handle in PUR. Fastening system by stainless steel screws. Supplied with two plugs so that the customer can adapt the valve to the most suitable configuration.

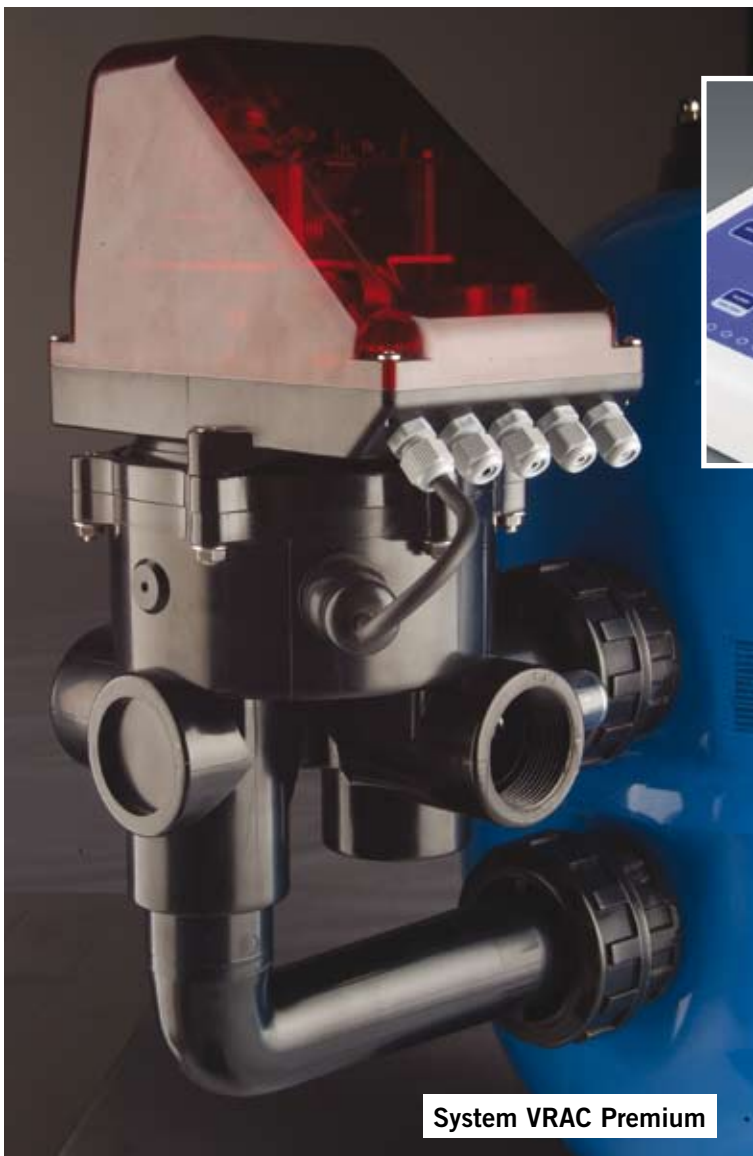
Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
33933	1	17	0.148



**MULTIPOINT VALVES**

**Automatic multiport valves**

The need for innovation in the swimming pool world has encouraged AstralPool to develop the VRAC System range: automatic multiport valves which can replace traditional manually operated valves. The models PREMIUM and BASIC make up the VRAC System family of valves, including the two most common sizes in filter connection, 1½" and 2".



Of innovative design and easy installation, these valves will allow to maintain the water in optimum conditions for swimming. The filtration system works daily under suitable conditions with filter backwashing whenever required.

The models PREMIUM and BASIC make up the VRAC System family of valves, including the two most common sizes in filter connection, 1½" and 2".



## MULTIPOINT VALVES

### 1 1/2" - 2" automatic multiport valve - Config. 3 System VRAC Premium



Automatic multiport valve model provided with remote control. 24 VDC voltage. In the automatic mode it operates with two filtration programmes, backwashing, rinsing, and programmed or manual pool lights switching. In the manual mode it operates with deep filtration, filtration skimmers, backwashing, rinsing, recirculation, emptying and closure.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Premium 1 1/2" side mounted, Config. 3	<b>28268</b>	1	4.75	0.023
Premium 2" side mounted, Config. 3	<b>28624</b>	1	6.20	0.033

### 1 1/2" - 2" automatic multiport valve - Config. 3 System VRAC Basic



Automatic multiport valve model provided with push button keyboard for operation. Voltage 230/115 volts. Controls filtration, backwashing, rinsing and emptying.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Basic 1 1/2" side mounted, Config. 3	<b>32581</b>	1	4.27	0.023
Basic 2" side mounted, Config. 3	<b>32582</b>	1	5.75	0.033

**Note:** An electrovalve for drainage, code 23139, is needed when valve installed below the pool water level.

### Electrical cabinet for automatic multiport valve. VRAC Premium System with electrovalve security

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>WITHOUT TRANSFORMER</b>				
Single phase up to 1HP	<b>32024</b> ▲	1	-	-
Single phase up to 1.5-2HP	<b>32025</b> ▲	1	-	-
Three phase up to 1HP	<b>32026</b> ▲	1	-	-
Three phase up to 1.5-2HP	<b>32027</b> ▲	1	-	-
<b>WITH TRANSFORMER</b>				
Single phase up to 1HP + transf. pool lights 300W	<b>32016</b>	1	-	-
Single phase up to 1HP + transf. pool lights 600W	<b>32017</b> ▲	1	-	-
Single phase up to 1.5-2HP + transf. pool lights 300W	<b>32018</b>	1	-	-
Single phase up to 1.5-2HP + transf. pool lights 600W	<b>32019</b> ▲	1	-	-
Three phase up to 1HP + transf. pool lights 300W	<b>32020</b>	1	-	-
Three phase up to 1HP + transf. pool lights 600W	<b>32021</b>	1	-	-
Three phase up to 1.5-2HP + transf. pool lights 300W	<b>32022</b>	1	-	-
Three phase up to 1.5-2HP + transf. pool lights 600W	<b>32023</b> ▲	1	-	-

**MULTIPOINT VALVES**
**Electrical cabinet for automatic multiport valve. VRAC Premium System with battery security**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>WITHOUT TRANSFORMER</b>				
Single phase up to 1HP	32012	▲ 1	-	-
Single phase up to 1.5-2HP	32013	▲ 1	-	-
Three phase up to 1HP	32014	▲ 1	-	-
Three phase up to 1.5-2HP	32015	▲ 1	-	-
<b>WITH TRANSFORMER</b>				
Single phase up to 1HP + transf. pool lights 300W	32004	▲ 1	-	-
Single phase up to 1HP + transf. pool lights 600W	32005	▲ 1	-	-
Single phase up to 1.5-2HP + transf. pool lights 300W	32006	1	-	-
Single phase up to 1.5-2HP + transf. pool lights 600W	32007	1	-	-
Three phase up to 1HP + transf. pool lights 300W	32008	▲ 1	-	-
Three phase up to 1HP + transf. pool lights 600W	32009	1	-	-
Three phase up to 1.5-2HP + transf. pool lights 300W	32010	1	-	-
Three phase up to 1.5-2HP + transf. pool lights 600W	32011	▲ 1	-	-

**Additional control cabinet**

Additional cabinet for use with an existing standard control cabinet. With 3 models: basic, with a safety electrovalve and with a battery security.

- Basic cabinet: Pump contactor relay + 24 V transformer + rectifier
- Control panel with electrovalve security: Also includes pump contactor relay, Manual-Automatic position and 24 V transformer + rectifier
- Control panel with security battery: Also includes pump contactor relay, Manual-Automatic position and 24 V transformer + rectifier

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Basic control panel	31930	▲ 1	-	-
Control panel with electrovalve security	30944	▲ 1	-	-
Control panel with battery security	30945	▲ 1	-	-

## VALVE MANIFOLD



### Valve manifold - Coding



All manifolds are supplied **disassembled** and **without support brackets**. (For supports see page 175).

All valve manifolds (manual or automatically driven) are made of PVC (PN 10) with flanges for connection to filters as per DIN-2501 standard.

Butterfly valves or Ball valves in PVC.

Automatic valve manifold, driven either by electric power or pneumatically, for carrying out filtration, back washing, rinsing and shut down of the filters. Fitted with two valves without safety blocks (electric) or double acting (Pneumatic), and the remaining valves with safety blocks (electric) or spring return (pneumatic), to prevent an unexpected emptying of the installation.



**Electric control panel:**  
5 valves code: **16223**  
4 valves code: **16222**



**A: Electric driven without safety block**  
**B: Pneumatic driven spring return**

In order to simplify the ordering process for Catalogues and Price Lists we have introduced a new code structure of valve manifolds for filters. This new coding system consists in assigning a code for each manifold model as indicated in the tables below.

In order to determine the code you must identify the **Type of filter, diameter** and the desired type of manifold according to the tables below.

For manifolds with more than one filter please consult.

**Table to identify filter type.**

BB	Bobbin wound Berlin filter, - 0.6 m height filter bed
BS	Bobbin wound Praga filter
BA	Bobbin wound Oslo filter
OL	Bobbin wound Olot filters 1.2 & 1.5 m bed depth
AM	Bobbin wound Ampuria filters 1.2 &* 1.5 m bed depth
HZ	Bobbin wound Rodas horizontal filters
EU	Laminated Europe filter
VP	Laminated Volcano filters, 0.6 m bed depth
VI	Bobbin wound Vic filter
VO	Laminated Vesubio filter, 1 m bed depth

**Table to identify filter diameter:**

10	1050
12	1200
14	1400
16	1600
18	1800
20	2000
23	2350
25	2500
26	2600
28	2800
30	3000

**Examples:**

- 1.- Manual manifold 4 Val. for Praga filter D.2000-140
- 2.- Electric manifold 5 Val. for Praga filter D.1800-125
- 3.- Manual manifold 5 Val. for Olot filter D.1200-125
- 4.- Pneumatic manifold 5 Val. for Vic filter D.2350-160

Code	Filter type	Ø code
1.- <b>00767</b>	BS	20
2.- <b>00785E</b>	BS	18
3.- <b>00785</b>	OL	12
4.- <b>09177N</b>	VI	23



**VALVE MANIFOLD**

**Valve manifold for one filter**


Ø	Code	Description	Ø	Code	Description
<b>Manual Manifolds - 4 Valves</b>			<b>Manual Manifolds - 5 Valves</b>		
63	00747	MANUAL MANIFOLD 4 VAL. D. 63	63	00769	MANUAL MANIFOLD 5 VAL. D. 63
75	00749	MANUAL MANIFOLD 4 VAL. D. 75	75	00771	MANUAL MANIFOLD 5 VAL. D. 75
90	00754	MANUAL MANIFOLD 4 VAL. D. 90	90	00776	MANUAL MANIFOLD 5 VAL. D. 90
110	00758	MANUAL MANIFOLD 4 VAL. D.110	110	00780	MANUAL MANIFOLD 5 VAL. D.110
125	00763	MANUAL MANIFOLD 4 VAL. D.125	125	00785	MANUAL MANIFOLD 5 VAL. D.125
140	00767	MANUAL MANIFOLD 4 VAL. D.140	140	00789	MANUAL MANIFOLD 5 VAL. D.140
160	09205	MANUAL MANIFOLD 4 VAL. D.160	160	09177	MANUAL MANIFOLD 5 VAL. D.160
200	09160	MANUAL MANIFOLD 4 VAL. D.200	200	09180	MANUAL MANIFOLD 5 VAL. D.200
225	09164	MANUAL MANIFOLD 4 VAL. D.225	225	09185	MANUAL MANIFOLD 5 VAL. D.225
250	26244	MANUAL MANIFOLD 4 VAL. D.250	250	19133	MANUAL MANIFOLD 5 VAL. D.250

<b>Electric Manifolds - 4 valves</b>			<b>Electric Manifolds - 5 valves</b>		
63	00747E	ELECTRIC MANIFOLD 4 VAL. D. 63	63	00769E	ELECTRIC MANIFOLD 5 VAL. D. 63
75	00749E	ELECTRIC MANIFOLD 4 VAL. D. 75	75	00771E	ELECTRIC MANIFOLD 5 VAL. D. 75
90	00754E	ELECTRIC MANIFOLD 4 VAL. D. 90	90	00776E	ELECTRIC MANIFOLD 5 VAL. D. 90
110	00758E	ELECTRIC MANIFOLD 4 VAL. D.110	110	00780E	ELECTRIC MANIFOLD 5 VAL. D.110
125	00763E	ELECTRIC MANIFOLD 4 VAL. D.125	125	00785E	ELECTRIC MANIFOLD 5 VAL. D.125
140	00767E	ELECTRIC MANIFOLD 4 VAL. D.140	140	00789E	ELECTRIC MANIFOLD 5 VAL. D.140
160	09205E	ELECTRIC MANIFOLD 4 VAL. D.160	160	09177E	ELECTRIC MANIFOLD 5 VAL. D.160
200	09160E	ELECTRIC MANIFOLD 4 VAL. D.200	200	09180E	ELECTRIC MANIFOLD 5 VAL. D.200
225	09164E	ELECTRIC MANIFOLD 4 VAL. D.225	225	09185E	ELECTRIC MANIFOLD 5 VAL. D.225
250	26244E	ELECTRIC MANIFOLD 4 VAL. D.250	250	19133E	ELECTRIC MANIFOLD 5 VAL. D.250

<b>Pneumatic Manifolds - 4 Valves</b>			<b>Pneumatic Manifolds - 5 Valves</b>		
63	00747N	PNEUMATIC MANIFOLD 4 VAL. D. 63	63	00769N	PNEUMATIC MANIFOLD 5 VAL. D. 63
75	00749N	PNEUMATIC MANIFOLD 4 VAL. D. 75	75	00771N	PNEUMATIC MANIFOLD 5 VAL. D. 75
90	00754N	PNEUMATIC MANIFOLD 4 VAL. D. 90	90	00776N	PNEUMATIC MANIFOLD 5 VAL. D. 90
110	00758N	PNEUMATIC MANIFOLD 4 VAL. D.110	110	00780N	PNEUMATIC MANIFOLD 5 VAL. D.110
125	00763N	PNEUMATIC MANIFOLD 4 VAL. D.125	125	00785N	PNEUMATIC MANIFOLD 5 VAL. D.125
140	00767N	PNEUMATIC MANIFOLD 4 VAL. D.140	140	00789N	PNEUMATIC MANIFOLD 5 VAL. D.140
160	09205N	PNEUMATIC MANIFOLD 4 VAL. D.160	160	09177N	PNEUMATIC MANIFOLD 5 VAL. D.160
200	09160N	PNEUMATIC MANIFOLD 4 VAL. D.200	200	09180N	PNEUMATIC MANIFOLD 5 VAL. D.200
225	09164N	PNEUMATIC MANIFOLD 4 VAL. D.225	225	09185N	PNEUMATIC MANIFOLD 5 VAL. D.225
250	26244N	PNEUMATIC MANIFOLD 4 VAL. D.250	250	19133N	PNEUMATIC MANIFOLD 5 VAL. D.250



## CONTROL PANEL



### Control panel for valve manifolds

Control panel for electrically or pneumatically actuated manifolds of 4 or 5 valves. For automatic filtration, backwashing, rinsing and shut-down operations. Fitted with automatic programming installation that enables the execution of all the required operations and can be personalised to suit your requirements. Quick and easy installation with numbered terminal connection strip.

Voltage 230 V single phase. Does not include valve manifold.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
For 4 valves	<b>16222</b>	1	-	-
For 5 valves	<b>16223</b>	1	-	-

Factory programmed automation as follows:

	Type of actuator	
	Electric	Pneumatic
<b>For 4 valves</b>	2 valve without block 2 valve with block	2 valve double acting 2 valve spring return
<b>For 5 valves</b>	2 valve without block 3 valve with block	2 valve double acting 3 valve spring return

## Distance between PVC valve manifold supports

Overhead PVC pressure pipe installations should be mounted on supports. Distances between them should be as indicated in the chart. Distances are shown in metres (according to UNE 53.399).

The distances shown correspond to maximum temperatures of 20°C. For higher temperatures multiply the values indicated by the following reducing coefficients:

- Between 20° and 35°C coefficient 0.9

- Between 35° and 45°C coefficient 0.85

In vertical installations, the distance between supports can be as per chart multiplied by 1.3.

Ø mm	NOMINAL PRESSURE			
	0.4 MPa	0.6 MPa	1.0 MPa	1.6 MPa
10	-	-	-	0.3
12	-	-	-	0.3
16	-	-	-	0.3
20	-	-	-	0.4
25	-	-	0.5	0.5
32	-	-	0.6	0.6
40	-	0.8	0.8	0.8
50	-	0.9	0.9	0.9
63	1.0	1.0	1.0	1.0
75	1.0	1.0	1.2	1.2
90	1.0	1.2	1.3	1.4
110	1.2	1.3	1.5	1.7
125	1.3	1.5	1.7	1.9
140	1.3	1.6	1.8	2.0
160	1.5	1.7	2.0	2.2
180	1.6	1.8	2.1	2.4
200	1.7	1.9	2.3	2.6
225	1.8	2.1	2.5	2.9
250	1.8	2.2	2.6	3.0
280	2.0	2.3	2.8	3.2
315	2.1	2.5	3.0	3.5
355	2.2	2.7	3.2	3.8
400	2.4	2.8	3.4	4.0
450	2.5	3.0	3.7	4.3
500	2.7	3.2	3.9	4.6

**SUPPORTS FOR VALVE MANIFOLD**

**Valve manifold brackets**

Easy assembly valve manifold brackets from Ø 75 mm to Ø 225 mm for all filter types. Totally adjustable in height, consisting of vertical support pipes in zinc-plated steel, together with box of accessories.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Zinc-plated steel (2 bars)</b>				
Height 1.85 m	<b>28690</b>	1	3.8	-
Height 2.30 m	<b>28691</b>	1	4.5	-
Height 3.0 m	<b>28692</b>	1	5.9	-
<b>Box of accessories consisting of:</b>				
2 support brackets with anti-vibration clamps and fixing bolts				
For Ø 75 mm pipe	<b>28693</b>	1	1.5	0.011
For Ø 90 mm pipe	<b>28694</b>	1	1.5	0.011
For Ø 110 mm pipe	<b>28695</b>	1	1.5	0.011
For Ø 125 mm pipe	<b>28696</b>	1	1.5	0.011
For Ø 140 mm pipe	<b>28697</b>	1	1.5	0.011
For Ø 160 mm pipe	<b>28698</b>	1	2.5	0.011
For Ø 200 mm pipe	<b>28699</b>	1	2.5	0.011
For Ø 225 mm pipe	<b>28700</b>	1	2.5	0.011
<b>Accessory box for additional supports:</b>				
Fixing plug and protection cap	<b>28701</b>	1	-	-


**Wall brackets for valve manifold**

For all filter type from Ø 63 mm pipe onwards. Consisting in zinc-plated steel support bracket with anti-vibration clamp and fixing screws.

Supply: 1 vertical support with manifold bracket..

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
For Ø 63 mm pipe <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">new</span>	<b>35585</b>	1	1.0	0.007
For Ø 75 mm pipe	<b>00855</b>	1	1.2	0.007
For Ø 90 mm pipe	<b>00856</b>	1	1.3	0.007
For Ø 110 mm pipe	<b>00857</b>	1	1.4	0.007
For Ø 125 mm pipe	<b>00858</b>	1	1.4	0.007
For Ø 140 mm pipe	<b>00859</b>	1	1.5	0.007
For Ø 160 mm pipe	<b>00860</b>	1	1.6	0.007
For Ø 200 mm pipe	<b>00861</b>	1	1.7	0.007
For Ø 225 mm pipe	<b>00862</b>	1	1.7	0.007
For Ø 250 mm pipe <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">new</span>	<b>36120</b>	1	2.0	0.011
For Ø 315 mm pipe <span style="border: 1px solid blue; border-radius: 50%; padding: 2px;">new</span>	<b>36602</b>	1	2.4	0.011



## COMPACT FILTRATION HOUSINGS

### In-ground models



Can be stored inside one another for easy transport and storage. Rationalization of the inner space, obtaining maximum utilization performance within the minimum available space. Lightweight lid with reinforced hinges. Prefabricated in polyester, fibreglass and gel-coat finish. Lid in green, with ivory interior.

**Supplied undrilled:**  
For Ø 500 mm filters  
For Ø 650 mm filters

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
15260	6	200.0	4.0
15261	6	244.0	4.5

**Supplied with drilled connection outlets:**  
For Ø 350 mm filters  
For Ø 400-450-500-600 mm filters  
For Ø 650 mm filters  
For Ø 650-750-800 mm filters

00615	5	175.0	3.0
00616	3	130.0	4.0
00617	2	175.0	3.4
00618	1	126.0	3.6



### Semi-in-ground models



Prefabricated in polyester and fibreglass. Ivory colour. Totally openable cover.

**With fully opening lid:**  
For Ø 450-500-600 mm filters  
For Ø 600-450-650-750 mm filters

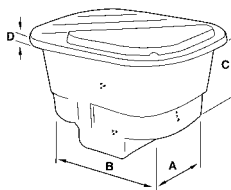
Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00619	2	80.0	2.7
00620	2	145.0	4.7

**With partially opening lid:**  
For Ø 600 mm filters

00621	2	50.0	2.11
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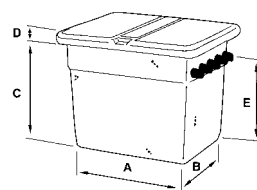


### IN-GROUND



	15260	15261
A	1100	1200
B	1310	1420
C	740	840
D	90	90

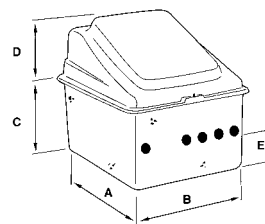
Dimensions in mm



	00615	00616	00617	00618
A	900	1000	1200	1500
B	650	1000	1000	1200
C	730	900	925	1220
D	70	70	70	70
E	620	725	740	1035

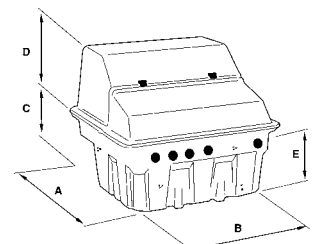
Dimensions in mm

### SEMI IN-GROUND



	00619	00620
A	1040	1350
B	870	1200
C	525	675
D	500	470
E	270	500

Dimensions in mm



	00621
A	1230
B	1230
C	540
D	535
E	430

Dimensions in mm

**COMPACT FILTRATION HOUSINGS**
**Above ground housing**

For outdoor installation. Lid with reinforced edging. Length 148 cm; Width 86 cm; Height 122 cm.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
25881	1	25	0.400


**COMPACTS WITH INSIDE ASSEMBLY**
**Keops in-ground compact unit**

In-ground box injected in plastic. Complete and pre-assembled, the compact unit contains a filter of up to Ø 660 mm in diameter, a pump, a control box, a valve manifold and a chemical feeder (optional). For Cantabric, Millennium and Aster filters we have the following options: a Chlorine and Bromine tablets 4 Kg off-line feeder (Code 11130).

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Sena 0.3 HP + Cantabric Ø 400 mm	28778	1	96	1.60
Compact 28778 with control box	28779	1	96	1.60
Sena 0.5 HP + Cantabric Ø 500 mm	28780	1	96	1.60
Compact 28780 with control box	28781	1	96	1.60
Sena 0.7 HP + Cantabric Ø 600 mm	28782	1	96	1.60
Compact 28782 with control box	28783	1	96	1.60
Sena 0.5 HP + Millennium Ø 430 mm	28784	1	96	1.60
Compact 28784 with control box	28785	1	96	1.60
Sena 0.5 HP + Millennium Ø 480 mm	28786	1	96	1.60
Compact 28786 with control box	28787	1	96	1.60
Sena 0.7 HP + Millennium Ø 560 mm	28788	1	96	1.60
Compact 28788 with control box	28789	1	96	1.60
Sena 1 HP + Millennium Ø 660 mm	28790	1	96	1.60
Compact 28790 with control box	28791	1	96	1.60
Sena 0.5 HP + Aster Ø 450 mm	28792	1	96	1.60
Compact 28792 with control box	28793	1	96	1.60
Sena 0.7 HP + Aster Ø 500 mm	28794	1	96	1.60
Compact 28794 with control box	28795	1	96	1.60
Sena 1 HP + Aster Ø 600 mm	28796	1	96	1.60
Compact 28796 with control box	28797	1	96	1.60


**Kefren semi in-ground compact unit**

Box injected in plastic. Complete and pre-assembled, the compact unit contains a sand filter of up to Ø 600 mm, lateral multiport valve and a recirculation pump. Cantabric, Millennium and Aster filters can be installed optional electrical control box available.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Cantabric Ø 500 mm + Victoria 3/4 HP	33398	1	86	2
Compact 33398 with control box	33399	1	86	2
Cantabric Ø 600 mm + Victoria 1 HP	33400	1	86	2
Compact 33400 with control box	33401	1	86	2
Millennium Ø 480 mm + Sena 3/4 HP	33394	1	86	2
Compact 33394 with control box	33395	1	86	2
Millennium Ø 560 mm + Sena 1 HP	33396	1	86	2
Compact 33396 with control box	33397	1	86	2
Aster Ø 500 mm + Sprint 3/4 HP	33390	1	86	2
Compact 33390 with control box	33391	1	86	2
Aster Ø 600 mm + Sprint 1 HP	33392	1	86	2
Compact 33392 with control box	33393	1	86	2



## AIR VENTS

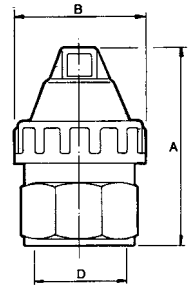


### Air vents

In cast Aluminium painted yellow. Inner ball in PVC.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 1"	04143	12	2.3	0.009
Ø 1½"	04144	12	4.0	0.009
Ø 2"	04145	12	4.5	0.018

Code	D	A (mm)	B (mm)
04143	1"	74	44
04144	1½"	105	69
04145	2"	105	69



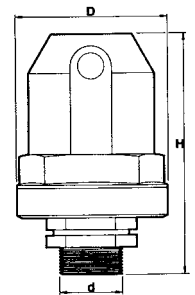
### Double effect air vent



Body in PP and fibreglass. Maximum pressure 16 Kg/cm<sup>2</sup>. Seal in nitrile rubber.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 1"	09381	1	0.3	0.001

Code	D	A (mm)	B (mm)
09381	1"	81	133



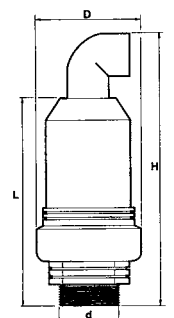
### Double effect air vent



Body in PP and fibreglass. U-bend outlet with PVC elbow. Maximum pressure 16 Kg/cm<sup>2</sup>. Seal in nitrile rubber.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 2"	09382	1	0.7	0.001

Code	L (mm)	d	D (mm)	H (mm)
09382	210	2"	101	275



**FILTRATION MEDIA & ACCESSORIES**

**Filtration sand**

Please ask for a quotation for other grades. 25 Kg bag.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Granulometry 0.4 - 0.8 mm	00596	1	25	0.667


**Gravel**

Please ask for a quotation for other grades. 25 Kg bag.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Granulometry 1 - 2 mm	10697	1	25	0.667
Granulometry 3 - 5 mm	11346	1	25	0.667


**Anthracite**

Please ask for a quotation for other grades. Bags 50 l.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Granulometry 0.8 - 1.6 mm	03696	1	50	0.8


**Zeolite**

Natural porous material that has higher filtration qualities than the normal substrate. It can be compared to that of diatomaceous earth but at a lower price and lasting much longer. Bags 30 Kg.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Zeolite standard 0.5 - 1 mm	25845	1	-	-
Zeolite standard 1-2 mm	25846	1	30	0.023
Zeolite standard 2-5 mm	25847	1	30	0.023


**Sand filling funnel**

Made of P.S. Funnel used for filling sand into the filter.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
	19145	18	-	0.069


**PRESSURE GAUGE PANELS**

**Pressure gauge panels**

Including air vents.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
With pressure gauges 3 kg/cm <sup>2</sup>	00729	1	1	0.007
With pressure gauges 6 kg/cm <sup>2</sup>	00730	1	1	0.007
Metallic panel bracket	00731	1	-	-



## PRESSURE GAUGE PANELS



### Digital pressure gauge

A range of digital pressure gauges with precise display at the measuring point or at a distance. Easily incorporated into control panels.



28585



28587



28588



28589

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Basic sensor	28585	1	-	-
Plus sensor	28586	1	-	-
Basic display	28587	1	-	-
Medium display	28588	1	-	-
Plus display	28589	1	-	-

## AIR BLOWERS



### Air blowers

Air blowers designed to shake the filtration bed during the backwashing process or to supply air wherever required.

The blower housing and the impeller are made of a light Aluminium alloy, whereas the shaft is made of S.S. on which the impeller is mounted and dynamically balanced.

The 100-120/200-240 V single phase and the 200-240/280-440 V three phase motors at 50/60 Hz for non-stop operation, are manufactured according to the IEC Standards and come with an IP 54 outer protection and an F Class insulation.

The pumps can be installed both horizontally and vertically, and as there is no contact between the fixed and movable blower parts, it does not require any lubrication nor maintenance, neither is there any wear and tear.



	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Air blower 1.75 KW Trif 2V	35389	1	-	-
Air blower 3.4 KW Trif 2V	31094	1	47	0.096
Air blower 4 KW Trif 2V	31096	1	59	0.217
Air blower 7.5 KW Trif 2V	31098	1	86	0.269
Air blower 11 KW Trif 2V	33973	1	150	0.388

Code	Ø Filter mm	Maxi Pressure (mbar)	Maxi Flow m <sup>3</sup> /h	Power kW
35389	900	320	156	1.75
31094	1200	410	222	3.4
31096	1800	380	312	4
31098	2000	360	552	7.5
33973	3000	600	552	11



## PUMPS

- 182 • Self-priming pumps
- 187 • Centrifugal pumps
- 198 • Strainers
- 202 • Valves and flanges
- 203 • AstralPool control boxes
- 206 • Submersible pumps







**SELF-PRIMING PUMPS**

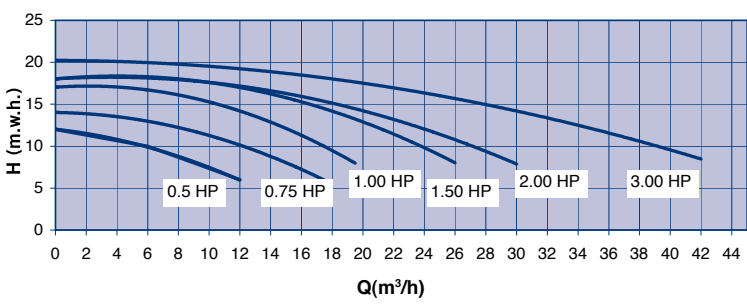


**Columbia pump**

High performance pump for residential pools offering silent operation and reliability at low temperatures. Available from 1 HP to 3 HP, with single-phase and three-phase motors. Simple assembly with high quality mechanical seal and bearings. Easy-open strainer lid. Connections with standardised fittings. Possibility of removing the motor without touching the pump's hydraulic system. Flow rates in l/h at 10 m head for all the models.

Models:	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Columbia Single-phase pump				
17,500 l/h 0.9 kW (1 HP) 230 V II	<b>32772</b>	1	19.2	0.183
24,000 l/h 1.1 kW (1,5 HP) 230 V II	<b>32774</b>	1	23.4	0.183
27,000 l/h 1.5 kW (2 HP) 230 V II	<b>32776</b>	1	23.6	0.183
40,000 l/h 2.2 kW (3 HP) 230 V II	<b>32778</b>	1	28.6	0.183
Columbia Three-phase pump				
17,500 l/h 0.96 kW (1 HP) 230/400 V III	<b>32773</b>	1	19.4	0.183
24,000 l/h 1.1 kW (1,5 HP) 230/400 V III	<b>32775</b>	1	21.7	0.183
27,000 l/h 1.5 kW (2 HP) 230/400 V III	<b>32777</b>	1	21.8	0.183
40,000 l/h 2.2 kW (3 HP) 230/400 V III	<b>32779</b>	1	24.0	0.183

All Columbia pumps have an ATB motor.



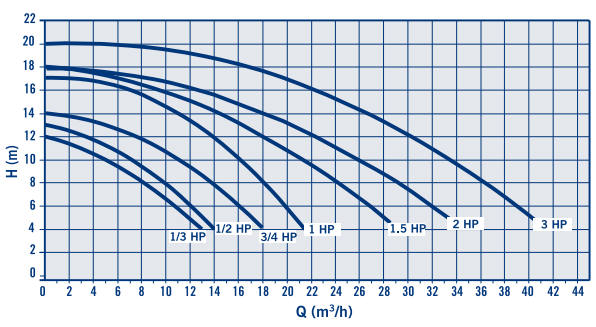
**Victoria Plus pump**



Robust design with new generation easy to handle lid-locking nut. Low noise levels due to rubber paddings. IP-55 Motor protection. Large capacity strainer basket. Flow rates given at 8 m head for 1/3 HP and 1/2 HP, and 10 head from 3/4 HP onwards. 3,000 rpm.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
10,000 l/h 0.37 kW (1/2 HP) 230 V II	<b>38769</b>	1	13.0	0.071
10,000 l/h 0.43 kW (1/2 HP) 230/400 V III	<b>38770</b>	1	13.0	0.071
11,000 l/h 0.61 kW (3/4 HP) 230 V II	<b>38771</b>	1	14.0	0.071
11,000 l/h 0.60 kW (3/4 HP) 230/400 V III	<b>38772</b>	1	14.0	0.071
16,000 l/h 0.78 kW (1 HP) 230 V II	<b>38773</b>	1	15.0	0.071
16,000 l/h 0.76 kW (1 HP) 230/400 V III	<b>38774</b>	1	15.0	0.071
21,500 l/h 1.10 kW (1.5 HP) 230 V II	<b>38775</b>	1	17.0	0.071
21,500 l/h 1.10 kW (1.5 HP) 230/400 V III	<b>38776</b>	1	17.0	0.071
26,000 l/h 1.50 kW (2 HP) 230 V II	<b>38777</b>	1	18.0	0.071
26,000 l/h 1.46 kW (2 HP) 230/400 V III	<b>38778</b>	1	18.0	0.071
34,000 l/h 2.20 kW (3 HP) 230 V II	<b>38779</b>	1	19.0	0.071
34,000 l/h 2.20 kW (3 HP) 230/400 V III	<b>38780</b>	1	19.0	0.071

Performance curves



**SELF-PRIMING PUMPS**

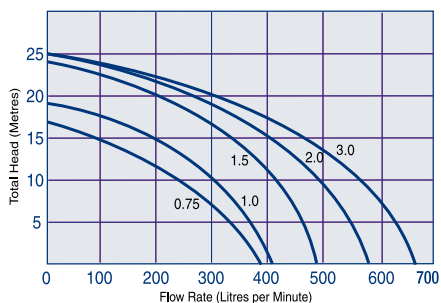
**TX High Performance pump**

High Performance and high pressure whisper quiet pump. Suitable for in-floor cleaning systems, spa jets and demanding applications. 30% glass filled noryl for high strength, ramp on lid, 63 mm barrel union connections, true carbon seal. Non return valve included. Flow rates given at 8 m head.



	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
TX ¾ - 15,900 l/h 0.55 kW (¾ HP) 220/240 V II	<b>41337</b>	1	19.0	0.072
TX 1.0 - 18,600 l/h 0.74 kW (1 HP) 220/240 V II	<b>41338</b>	1	21.0	0.072
TX 1.5 - 24,600 l/h 1.1 kW (1.5 HP) 220/240 V II	<b>41339</b>	1	21.0	0.072
TX 2.0 - 30,180 l/h 1.47 kW (2 HP) 220/240 V II	<b>41340</b>	1	25.0	0.072
TX 3.0 - 36,600 l/h 2.20 kW (3HP) 220/240 V II	<b>41341</b>	1	-	0.072
TX ¾ - 15,900 l/h 0.55 kW (¾ HP) 230/415 V III	<b>41342</b>	1	-	0.072
TX 1.0 - 18,600 l/h 0.74 kW (1 HP) 230/415 V III	<b>41343</b>	1	-	0.072
TX 1.5 - 24,600 l/h 1.1 kW (1.5 HP) 230/415 V III	<b>41344</b>	1	19.30	0.072
TX 2.0 - 30,180 l/h 1.47 kW (2 HP) 230/415 V III	<b>41345</b>	1	-	0.072

**Performance curves**



**Sena pump**

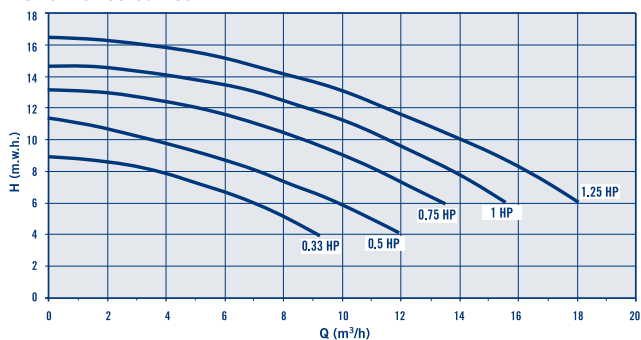
New generation pump range. Motors from 1/3 HP to 1.25 HP in single-phase and from ¾ HP to 1.25 HP in three-phase motors. GS marking. IP-55 Motor protection, Class F insulation. All parts in contact with water made of S.S. AISI-316. Ø 50 mm solvent weld fittings for connection. Flow rates given at 6 m head for 1/3 HP, 8 m head for 1/2 HP, and 10 m head for the rest of the range. 3,000 rpm.



	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
7,000 l/h. 1/3 HP. 230 V II	<b>25461</b>	1	10.20	0.055
8,500 l/h. 1/2 HP. 230 V II	<b>25462</b>	1	10.20	0.055
9,000 l/h. ¾ HP. 230 V II	<b>25463</b>	1	11.65	0.055
9,000 l/h. ¾ HP. 230/400 V III	<b>25464</b>	1	11.40	0.055
11,800 l/h. 1 HP. 230 V II	<b>25465</b>	1	12.75	0.055
11,800 l/h. 1 HP. 230/400 V III	<b>25466</b>	1	13.00	0.055
14,000 l/h. 1.25 HP. 230 V II	<b>25467</b>	1	13.75	0.055
14,000 l/h. 1.25 HP. 230/400 V III	<b>25468</b>	1	13.55	0.055



**Performance curves**



## SELF-PRIMING PUMPS

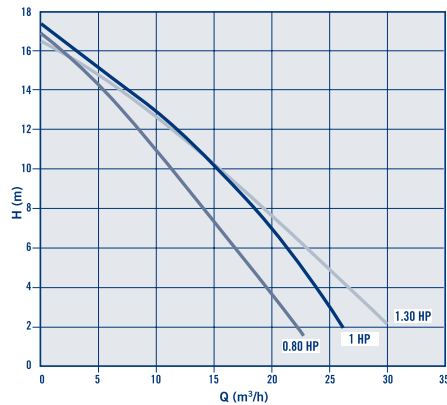
### Super Sprint pump



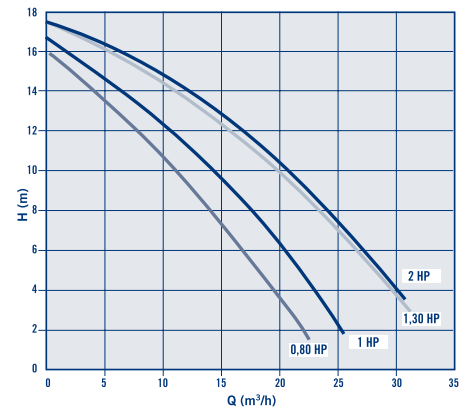
Low noise due to lack of ball bearings and rubber padding. Patented water cooling system motor. This pump offers long life and high efficiency. Motor protection IP-54. Large capacity strainer basket. Flow rates given at 10 m head. 3,000 rpm. Caution in areas with hard and salt water.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
10,000 l/h. 0.60 kW (0.80 HP). 230 V II	<b>26628</b>	1	14.0	0.066
10,000 l/h. 0.60 kW (0.80 HP). 400 V III	<b>26629</b>	1	14.0	0.066
15,000 l/h. 0.75 kW (1 HP). 230 V II	<b>26630</b>	1	14.0	0.066
15,000 l/h. 0.75 kW (1 HP). 400 V III	<b>26631</b>	1	14.0	0.066
19,000 l/h. 0.95 kW (1.30 HP). 230 V II	<b>26632</b>	1	20.0	0.066
19,000 l/h. 0.95 kW (1.30 HP). 400 V III	<b>26633</b>	1	20.0	0.066
25,000 l/h. 1.50 kW (2 HP). 400 V III	<b>26634</b>	1	20.0	0.066

PERFORMANCE CURVES SINGLE-PHASE PUMPS



PERFORMANCE CURVES THREE-PHASE PUMPS

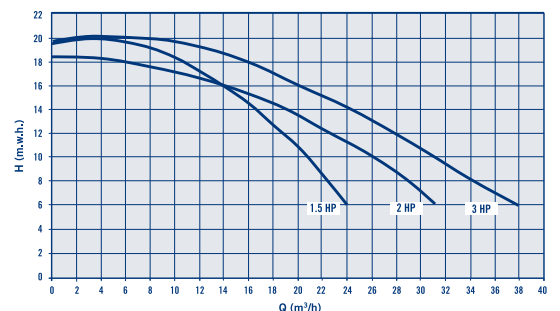
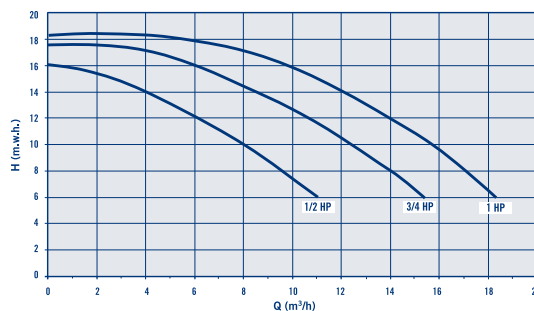


### Bomba Glass Plus



Glass Plus Pumps are manufactured in advanced synthetic material and resistant to heat and corrosion. Motor protection IP-55. Lid-locking nut system. Single phase motors have an in-built thermal protection. Pump housing has an in-built strainer basket. There cannot be any electrical connection with water as no motor part in contact with it. Flow rates given at 10 m head. 3,000 rpm.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Connection 2"</b>				
8,000 l/h. 0.37 kW (1/2 HP). 230 V II	<b>15238</b>	1	12.3	0.073
8,000 l/h. 0.37 kW (1/2 HP). 220/380 V III	<b>15239</b>	1	12.1	0.073
12,500 l/h. 0.55 kW (3/4 HP). 230 V II	<b>15240</b>	1	13.7	0.073
12,500 l/h. 0.55 kW (3/4 HP). 220/380 V III	<b>15241</b>	1	13.3	0.073
15,500 l/h. 0.74 kW (1 HP). 230 V II	<b>15242</b>	1	14.3	0.073
15,500 l/h. 0.74 kW (1 HP). 220/380 V III	<b>15243</b>	1	14.0	0.073
20,000 l/h. 1.10 kW (1.5 HP). 230 V II	<b>15244</b>	1	17.2	0.073
20,000 l/h. 1.10 kW (1.5 HP). 220/380 V III	<b>15245</b>	1	15.3	0.073
26,000 l/h. 1.47 kW (2 HP). 230 V II	<b>15246</b>	1	19.8	0.073
26,000 l/h. 1.47 kW (2 HP). 220/380 V III	<b>15247</b>	1	17.1	0.073
31,000 l/h. 2.20 kW (3 HP). 220/380 V III	<b>15248</b>	1	19.8	0.073



**SELF-PRIMING PUMPS**



**Aral SP-3000 pump**

Made in cast iron. Stainless steel mechanical seal. IP-54 motor protection. Stainless steel AISI-316 shaft. 3.000 rpm.



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
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**Power 1.5 kW (2 HP)**

Connect. DN 50-2" for glueing to Ø 63 mm pipe

m.w.h.	6	8	10	12	14	15.2
m <sup>3</sup> /h	28	26	23.5	19	13	0

Voltage 230 V II	<b>01186</b>	1	38	0.050
Voltage 230/400 V III	<b>01187</b>	1	38	0.050
Voltage 24/42	<b>22645</b>	1	38	0.050

**Power 2.20 kW (3 HP)**

Connection DN 66-2 1/2" for glueing to Ø 75 mm pipe

m.w.h.	8	10	12	14	16	18
m <sup>3</sup> /h	48	43	39	30	18	0

Voltage 230/400 V III	<b>01188</b>	1	50	0.137
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**Power 3 kW (4 HP)**

Connection DN 80-3" for glueing to Ø 90 mm pipe

m.w.h.	8	10	12	14	16	18
m <sup>3</sup> /h	56	50	45	40	33	0

Voltage 230/400 V III	<b>01189</b>	1	53	0.137
Voltage 400/690 V III	<b>01190</b>	1	53	0.137

**Power 4 kW (5,5 HP)**

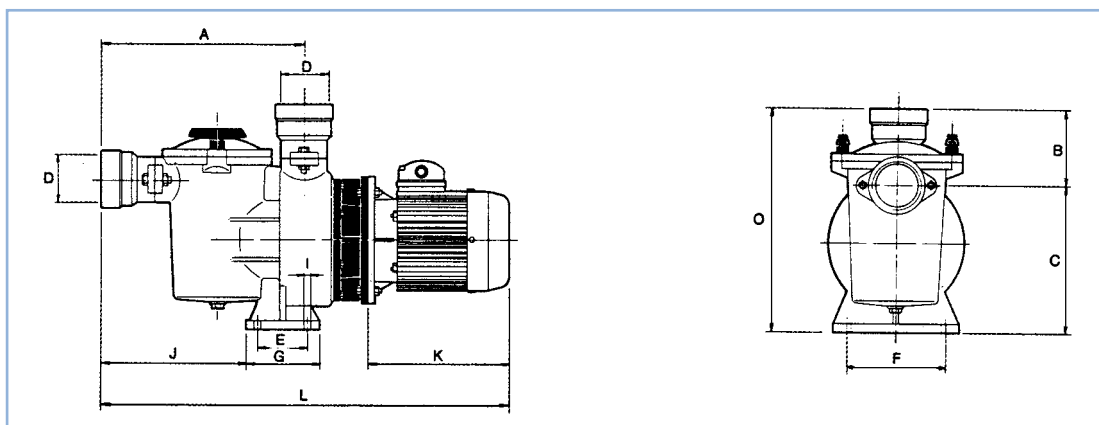
Connection DN 80-3" for glueing to Ø 90 mm pipe

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	65	60	55	48	41	0

Voltage 230/400 V III	<b>01191</b>	1	56	0.137
Voltage 400/690 V III	<b>01192</b>	1	56	0.137



230 V valid for voltages between 220 & 240 V  
 400 V valid for voltages between 380 & 420 V  
 690 V valid for voltages between 660 & 720 V



**Technical features**

Code	VOLTAGE V.	CURRENT IN AMP. (A)			POWER P2		CONNECTIONS		Dimensions (mm)										
		II 220 V	III 230 V	III 400 V	KW	HP	D	DN	A	B	C	E	F	G	I	J	K	L	O
<b>01186</b>	230	-	5.5	-	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>01187</b>	230/400	-	5.5	3.2	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>22645</b>	24/42	-	55	32	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>01188</b>	230/400	-	9.6	5.5	2.2	3	2 1/2"	65	360	101	283	90	139	140	13	263	286	743	461
<b>01189</b>	230/400	-	12	7	3	4	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01190</b>	400/690	-	-	7	3	4	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01191</b>	230/400	-	16	9.1	4	5,5	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01192</b>	400/690	-	-	9.1	4	5,5	3"	80	382	123	283	90	139	140	13	285	306	785	505

**SPECIAL SELF-PRIMING PUMPS FOR SEA WATER**



**Baikal SP-3000 pump**



Made in bronze. Stainless steel mechanical seal. IP-54 motor protection. Stainless steel AISI-316 shaft. 3.000 rpm.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
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**Power 1.5 kW (2 HP)**

Connection DN 50 - 2", for Ø 63 mm pipe

m.w.h.	6	8	10	12	14	15.2
m <sup>3</sup> /h	28	26	23.5	19	13	0

Voltage 230 V II	<b>01235</b>	1	38	0.050
Voltage 230/400 V III	<b>01236</b>	1	38	0.050
Voltage 24/42 V III	<b>22646</b>	1	38	0.050

**Power 2.20 kW (3 HP)**

Connection DN 65 - 2 1/2", for Ø 75 mm pipe

m.w.h.	8	10	12	14	16	18
m <sup>3</sup> /h	48	43	39	30	18	0

Voltage 230/400 V III	<b>01237</b>	1	50	0.137
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**Power 3 kW (4 HP)**

Connection DN 80 - 3", for Ø 90 mm pipe

m.w.h.	8	10	12	14	16	18
m <sup>3</sup> /h	56	50	45	40	33	0

Voltage 230/400 V III	<b>01238</b>	1	59	0.137
Voltage 400/690 V III	<b>01239</b>	1	59	0.137

**Power 4 kW (5.5 HP)**

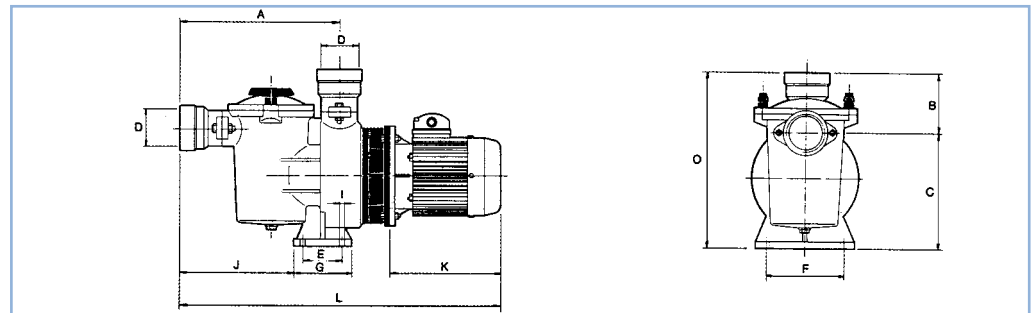
Connection DN 80 - 3", for Ø 90 mm pipe

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	65	60	55	48	41	0

Voltage 230/400 V III	<b>01240</b>	1	62	0.137
Voltage 400/690 V III	<b>01241</b>	1	62	0.137



230 V valid for voltages between 220 & 240 V  
 400 V valid for voltages between 380 & 420 V  
 690 V valid for voltages between 660 & 720 V



**Technical features**

Code	VOLTAGE V	Current in Amps			Power		Connect.		Dimensions (mm)										
		II 220 V	III 230 V	III 400 V	kW	HP	D	DN	A	B	C	E	F	G	I	J	K	L	O
<b>01235</b>	230	5.5	-	-	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>01236</b>	230/400	-	5.5	3,2	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>22646</b>	24/42	-	55	32	1.5	2	2"	50	330	132	222	68	114	120	13	239	286	723	354
<b>01237</b>	230/400	-	9.6	5.5	2.20	3	2 1/2"	65	360	101	283	90	139	140	13	263	286	743	461
<b>01238</b>	230/400	-	12	7	3	4	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01239</b>	400/690	-	-	7	3	4	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01240</b>	230/400	-	16	9.1	4	5.5	3"	80	382	123	283	90	139	140	13	285	306	785	505
<b>01241</b>	400/690	-	-	9.1	4	5.5	3"	80	382	123	283	90	139	140	13	285	306	785	505

**CENTRIFUGAL PUMPS**

**Maxim pump 2.860 rpm**


Pump body and support in heat resistant plastic, S.S. motor shaft of AISI-316 with double insulation and with IP-55 motor protection. 8 litre capacity strainer, with transparent lid.



	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>3" thread union connections</b>				
(3.5 HP) 230/400 V III	<b>08003</b>	1	32	0.184
(4.5 HP) 230/400 V III	<b>08004</b>	1	34	0.184
(5.5 HP) 230/400 V III	<b>08005</b>	1	37	0.184

	8	10	12	14	16	19.5
m.w.h.	8	10	12	14	16	19.5
m <sup>3</sup> /h	56	50	42	34	23	0

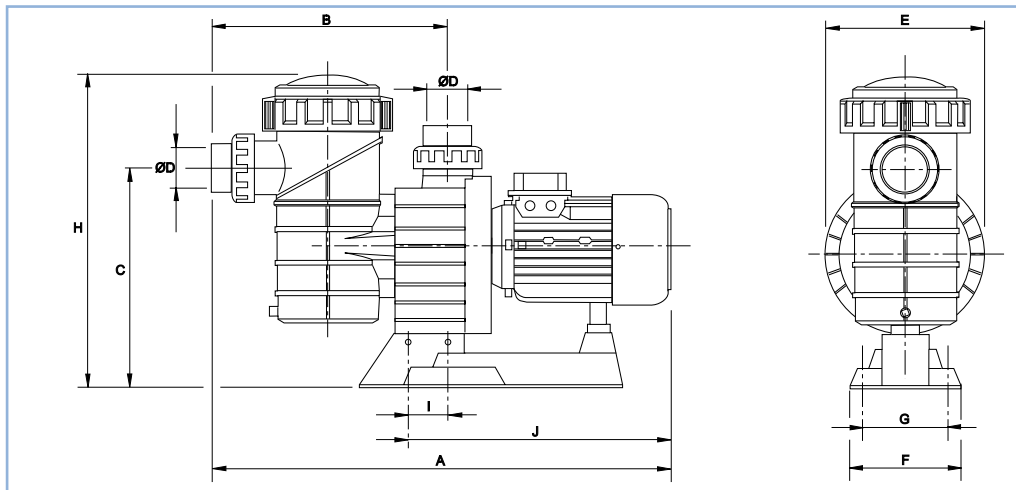
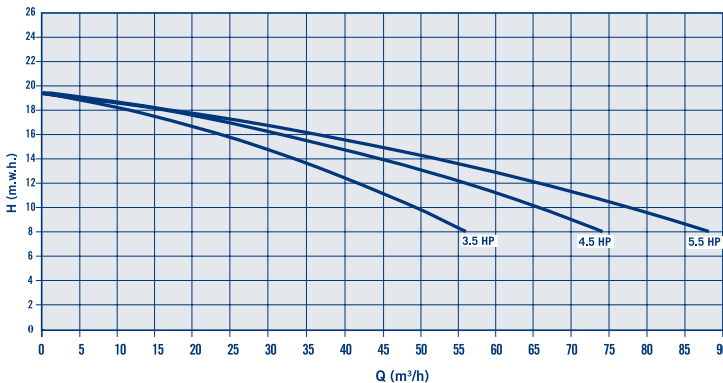
	8	10	12	14	16	19.5
m.w.h.	8	10	12	14	16	19.5
m <sup>3</sup> /h	74	66	57	46	30	0

	8	10	12	14	16	19.5
m.w.h.	8	10	12	14	16	19.5
m <sup>3</sup> /h	88	78	67	53	34	0



230 V valid for voltages between 220 & 240 V

**Dimensions**

**Performance curves**

**Technical features**







Model	Type	Volts	A mm	B mm	C mm	Ø D mm	E mm	F mm	G mm	H mm	I mm	J mm
<b>08003</b>	3.5	230/400	815	430	385	90	287	200	140	530	65	468
<b>08004</b>	4.5	230/400	815	430	385	90	287	200	140	530	65	468
<b>08005</b>	5.5	230/400	847	430	385	90	287	200	140	530	65	500

**CENTRIFUGAL PUMPS**

**Astramax pump Vertical discharge with strainer**

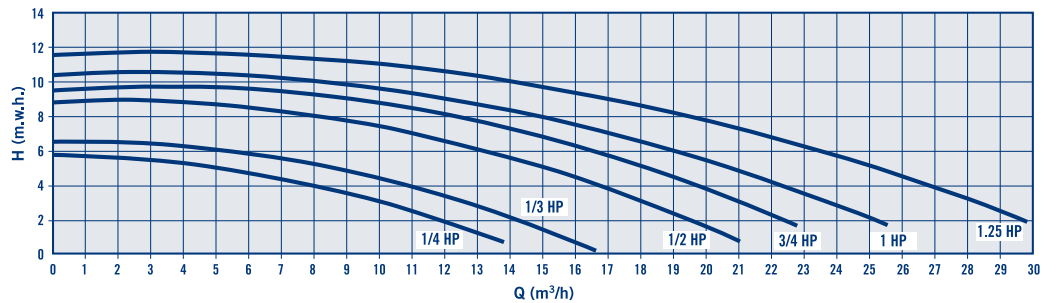


Made in ABS and fibreglass. Can work without strainer. Most suitable for above-ground pools. Versatile and light. Flow rate given at 4 m head for 1/4 HP & 1/3 HP and 8 m head for the rest of the range. 3,000 rpm.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
7,500 l/h 0.19 kW (1/4 HP) 230 V II	<b>16354</b> 	1	6.5	0.055
10,500 l/h 0.25 kW (1/3 HP) 230 V II	<b>16356</b> 	1	7.1	0.055
8,000 l/h 0.38 kW (1/2 HP) 230 V II	<b>16119</b> 	1	7.5	0.055
12,000 l/h 0.56 kW (3/4 HP) 230 V II	<b>15746</b> 	1	10.0	0.055
14,500 l/h 0.74 kW (1 HP) 230 V II	<b>15747</b> 	1	10.5	0.055
19,000 l/h 0.92 kW (1.25 HP) 230 V II	<b>15748</b> 	1	13.0	0.055




**Performance curves**



**Strainer Astramax pump**

Strainer for Astramax pump. Body in ABS and fibreglass. With transparent lid and anti-corrosive strainer basket. Suction 2 1/4" male thread. Connection to pump 2 3/4" female thread.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>16104</b> 	1	1.5	0.017

**CENTRIFUGAL PUMPS**



**Aral C-3000 pump**



Made in cast iron. Mechanical seal in stainless steel. IP-54 motor protection. Stainless steel AISI-316 shaft. With stainless steel AISI-304 strainer basket. 3000 rpm. Connections PN 16 according to DIN 2501.



	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Power 2.20 kW (3 HP)</b> Connection DN 80-3" for Ø 90 mm pipe				
Voltage 230/400 V III	<b>01193</b>	1	71	0.162

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	59	54	46	40	30	0

<b>Power 2.95 kW (4 HP)</b> Connection DN 80-3" for Ø 90 mm pipe						
Voltage 230/400 V III	<b>01194</b>	1	74	0.162		
Voltage 400/690 V III	<b>01195</b>	1	74	0.162		

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	67	61	55	48	40	0

<b>Power 4 kW (5.5 HP)</b> Connection DN 80-3" for Ø 90 mm pipe						
Voltage 230/400 V III	<b>01196</b>	1	80	0.162		
Voltage 400/690 V III	<b>01197</b>	1	80	0.162		

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	78	72	66	60	52	0

<b>Power 4 kW (5.5 HP)</b> Connection DN 100-4" for Ø 110 mm pipe						
Voltage 230/400 V III	<b>01198</b>	1	89	0.197		
Voltage 400/690 V III	<b>01199</b>	1	89	0.197		

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	100	89	70	60	48	0



230 V valid for voltages between 220 & 240 V  
 400 V valid for voltages between 380 & 420 V  
 690 V valid for voltages between 660 & 720 V

SEE TECHNICAL FEATURES IN PAGE 191



**CENTRIFUGAL PUMPS**



**Aral C-3000 pump**



Made in cast iron. 3,000 rpm.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
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**Power 5.5 kW (7.5 HP)**

Connection DN 100-4" for Ø 110 mm pipe

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	126	115	100	80	60	0

Voltage 230/400 V III

**01200**

1

113

0.197

Voltage 400/690 V III

**01201**

1

113

0.197



230 V valid for voltages between 220 & 240 V

400 V valid for voltages between 380 & 420 V

690 V valid for voltages between 660 & 720 V

**Power 7.5 kW (10 HP)**

Connection DN 100-4" for Ø 110 mm pipe

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	145	140	123	107	86	0

Voltage 230/400 V III

**01202**

1

115

0.197

Voltage 400/690 V III

**01203**

1

115

0.197

**Power 8.7 kW (12.5 HP) Connections**

Suction DN 125-5" for Ø 140 mm pipe

Discharge DN 100-4" for Ø 140 mm pipe

m.w.h.	8	10	12	14	16	21
m <sup>3</sup> /h	165	158	149	135	115	0

Voltage 230/400 V III

**01204**

1

115

0.197

Voltage 400/690 V III

**01205**

1

115

0.197

**Power 11,04 kW (15 HP) Connections**

Suction DN 125-5" for Ø 140 mm pipe

Discharge DN 125-5" for Ø 140 mm pipe

m.w.h.	8	10	12	14	16	22
m <sup>3</sup> /h	195	190	175	160	140	0

Voltage 230/400 V III

**01206**

1

121

0.197

Voltage 400/690 V III

**01207**

1

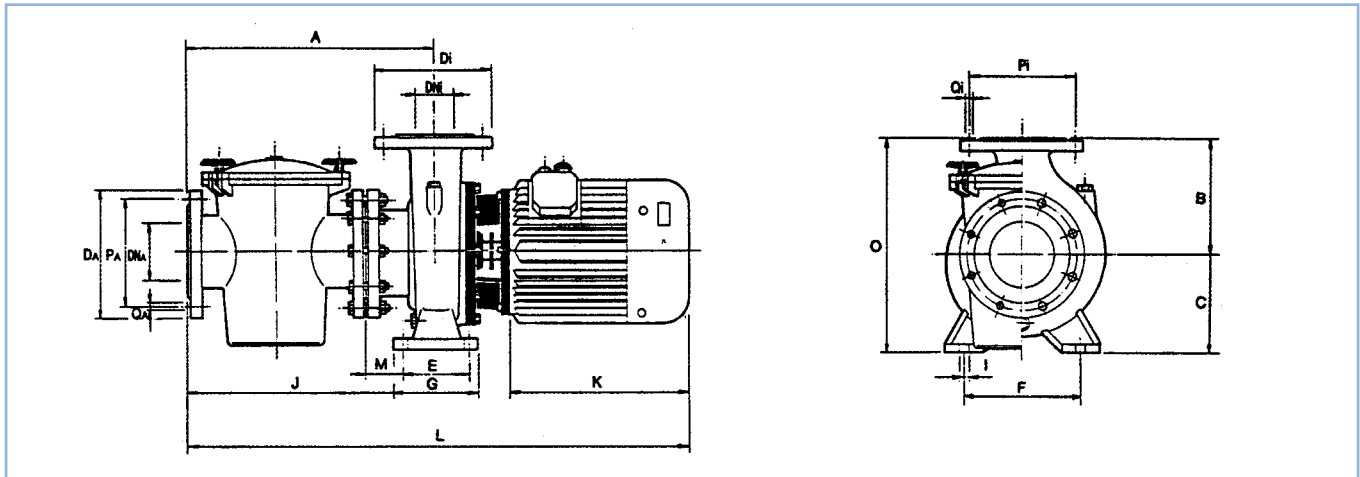
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0.197

SEE TECHNICAL FEATURES IN PAGE 191

**CENTRIFUGAL PUMPS**

Aral C-3000 pump, technical features



Code	VOLTAGE V	Current in Amps		Power		Suction Connections					Discharge Connection				
		III 230 V	III 400 V	kW	HP	D <sub>A</sub> (mm)	DN <sub>A</sub>	P <sub>A</sub> (mm)	Q <sub>A</sub>		D <sub>i</sub> (mm)	DN <sub>i</sub>	P <sub>i</sub> (mm)	Q <sub>i</sub>	
									N°	Ø (mm)				N°	Ø (mm)
01193	230/400	9	5.2	2.20	3	200	80-3"	160	8	18	200	80-3"	160	8	18
01194	230/400	12	7	2.95	4	200	80-3"	160	8	18	200	80-3"	160	8	18
01195	400/690	-	7												
01196	230/400	16	9.1	4	5.5	200	80-3"	160	8	18	200	80-3"	160	8	18
01197	400/690	-	9.1												
01198	230/400	16	9.1	4	5.5	220	100-4"	180	8	18	220	100-4"	180	8	18
01199	400/690	-	9.1												
01200	230/400	19	11	5.5	7.5	220	100-4"	180	8	18	220	100-4"	180	8	18
01201	400/690	-	11												
01202	230/400	26	15	7.5	10	220	100-4"	180	8	18	220	100-4"	180	8	18
01203	400/690	-	15												
01204	230/400	39	22	8.7	12.5	250	125-5"	210	8	18	220	100-4"	210	8	18
01205	400/690	-	22												
01206	230/400	39	22.5	11.04	15	250	125-5"	210	8	18	250	125-5"	210	8	18
01207	400/690	-	22.5												

Code	Power		Dimensions (mm)											
	kW	HP	A	B	C	E	F	G	I	J	K	L	M	O
01193	2.20	3	485	180	160	70	212	100	14	435	245	888	65	340
01194 01195	2.95	4	485	180	160	70	212	100	14	435	245	888	65	340
01196 01197	4	5.5	485	180	160	70	212	100	14	435	273	920	65	340
01198 01199	4	5.5	487	205	160	95	187	125	14	425	273	940	55	365
01200 01201	5.5	7.5	487	205	160	95	187	125	14	425	315	976	55	365
01202 01203	7.5	10	487	205	160	95	187	125	14	425	315	976	55	365
01204 01205	8.7	12.5	487	205	160	95	187	125	14	425	355	1016	55	365
01206 01207	11.04	15	517	233	181	95	187	125	14	455	355	1029	70	365

**CENTRIFUGAL PUMPS**



**Aral C-150 pump**



Made in cast iron. Mechanical seal in stainless steel. IP-54 motor protection. Stainless steel AISI- 316 shaft. With stainless steel AISI-304 strainer basket. Connections PN 16 according to DIN 2501. 1,450 rpm.

**Power 2.20 kW (3 HP) Connections**

Suction DN 65-2 1/2" for Ø 75 mm pipe  
Discharge DN 50-2" for Ø 63 mm pipe

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>		
m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	-	50	44	30	0	-
Voltage 230/400 V III	<b>01208</b>	1	107.0	0.195		

**Power 3 kW (4 HP) Connections**

Suction DN 80-3" for Ø 90 mm pipe  
Discharge DN 65-2 1/2" for Ø 75 mm pipe

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	-	68	60	45	0	-
Voltage 230/400 V III	<b>01209</b>	1	115.0	0.195		
Voltage 400/690 V III	<b>01210</b>	1	115.0	0.195		

**Power 4 kW (5.5 HP) Connections**

Suction DN 80-3" for Ø 90 mm pipe  
Discharge DN 65-2 1/2" for Ø 75 mm pipe

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	-	88	80	70	58	0
Voltage 230/400 V III	<b>01211</b>	1	142.0	0.195		
Voltage 400/690 V III	<b>01212</b>	1	142.0	0.195		

**Power 5.5 kW (7.5 HP) Connections**

Suction DN 80-3" for Ø 90 mm pipe  
Discharge DN 65-2 1/2" for Ø 75 mm pipe

m.w.h.	8	10	12	14	16	21
m <sup>3</sup> /h	-	108	98	88	77	0
Voltage 230/400 V III	<b>01213</b>	1	163.0	0.407		
Voltage 400/690 V III	<b>01214</b>	1	163.0	0.407		

**Power 5.5 kW (7.5 HP) Connections**

Suction DN 100-4" for Ø 110 mm pipe  
Discharge DN 80-3" for Ø 90 mm pipe

m.w.h.	8	10	12	14	16	18
m <sup>3</sup> /h	-	115	101	87	70	0
Voltage 230/400 V III	<b>01215</b>	1	170.0	0.407		
Voltage 400/690 V III	<b>01216</b>	1	170.0	0.407		

**Power 7.5 kW (10 HP) Connections**

Suction DN 100-4" for Ø 110 mm pipe  
Discharge DN 80-3" for Ø 90 mm pipe

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	-	150	140	125	115	0
Voltage 230/400 V III	<b>01217</b>	1	179.0	0.407		
Voltage 400/690 V III	<b>01218</b>	1	179.0	0.407		



230 V valid for voltages between 220 & 240 V  
400 V valid for voltages between 380 & 420 V  
690 V valid for voltages between 660 & 720 V

SEE TECHNICAL FEATURES IN PAGE 194

**CENTRIFUGAL PUMPS**



**Aral C-1500 pump**



Made in cast iron. 1,450 rpm.



**Power 9.20 kW (12.5 HP) Connections**

Suction DN 125-5" for Ø 140 mm pipe  
Discharge DN 100-4" for Ø 110 mm pipe

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	-	192	175	155	130	-

Voltage 230/400 V III	<b>01219</b>	1	215.0	0.407
Voltage 400/690 V III	<b>01220</b>	1	215.0	0.407

**Power 11 kW (15 HP) Connections**

Suction DN 125-5" for Ø 140 mm pipe  
Discharge DN 100-4" for Ø 110 mm pipe

m.w.h.	8	10	12	14	16	18	20	22
m <sup>3</sup> /h	-	200	185	165	145	125	95	0

Voltage 230/400 V III	<b>01221</b>	1	245.0	0.407
Voltage 400/690 V III	<b>01222</b>	1	245.0	0.407

**Power 15 kW (20 HP) Connections**

Suction DN 150-6" for Ø 160 mm pipe  
Discharge DN 125-5" for Ø 140 mm pipe

m.w.h.	10	12	14	16	18	19
m <sup>3</sup> /h	240	210	180	145	105	0

Voltage 230/400 V III	<b>01223</b>	1	255.0	0.407
Voltage 400/690 V III	<b>01224</b>	1	255.0	0.407

**Power 18.40 kW (25 HP) Connections**

Suction DN 150-6" for Ø 160 mm pipe  
Discharge DN 125-5" for Ø 140 mm pipe

m.w.h.	8	10	12	14	16	18	20	22
m <sup>3</sup> /h	-	275	258	234	202	169	120	0

Voltage 230/400 V III	<b>01225</b>	1	255.0	0.407
Voltage 400/690 V III	<b>01226</b>	1	255.0	0.407

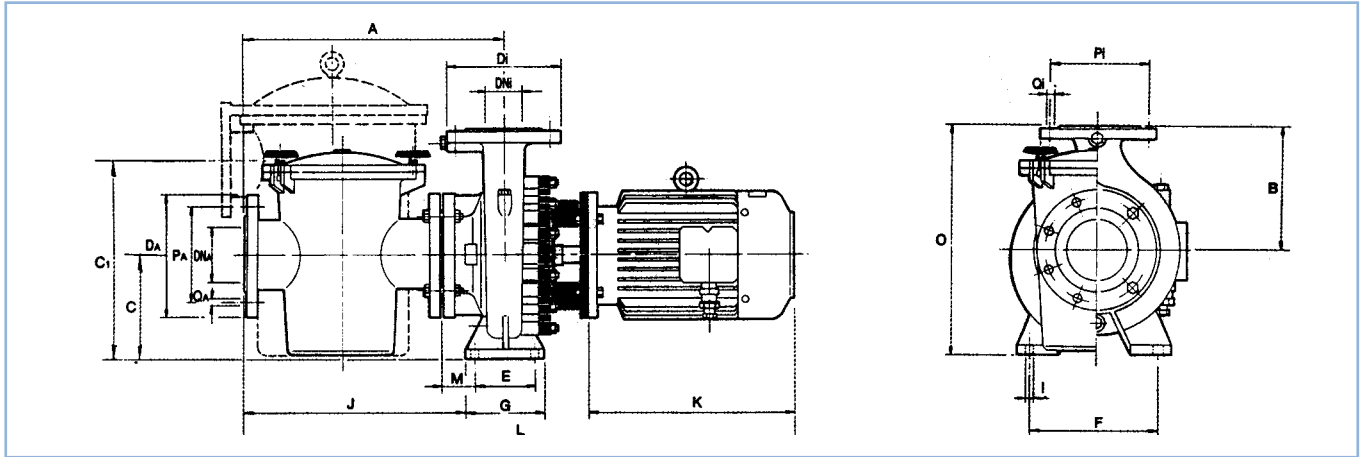


230 V valid for voltages between 220 & 240 V  
400 V valid for voltages between 380 & 420 V  
690 V valid for voltages between 660 & 720 V

**SEE TECHNICAL FEATURES IN PAGE 194**

**CENTRIFUGAL PUMPS**

**Aral C-1500 technical features**



Code	VOLTAGE V	Current in Amps		Power		Suction Connection					Discharge Connection				
		III 230 V	III 400 V	kW	HP	DA (mm)	DN <sub>A</sub>	PA (mm)	QA		Di (mm)	DN <sub>i</sub>	Pi (mm)	Qi	
									N°	Ø (mm)				N°	Ø (mm)
01208	230/400	9.8	5.7	2.20	3	185	65-2½"	145	8	18	165	50-2"	125	4	18
01209	230/400	12.1	7	3	4	200	80-3"	160	8	18	185	65-2½"	145	4	18
01210	400/690	-	7												
01211	230/400	17	9.7	4	5.5	200	80-3"	160	8	18	185	65-2½"	145	4	18
01212	400/690	-	9.7												
01213	230/400	21.3	12.3	5.5	7.5	200	80-3"	160	8	18	185	65-2½"	145	4	18
01214	400/690	-	12.3												
01215	230/400	21.3	12.3	5.5	7.5	220	100-4"	180	8	18	200	80-3"	160	8	18
01216	400/690	-	12.3												
01217	230/400	28.4	16.4	7.5	10	220	100-4"	180	8	18	200	80-3"	160	8	18
01218	400/690	-	16.4												
01219	230/400	32.9	19	9.20	12.5	250	125-5"	210	8	18	220	100-4"	180	8	18
01220	400/690	-	19												
01221	230/400	42	24	11	15	250	125-5"	210	8	18	220	100-4"	180	8	18
01222	400/690	-	24												
*01223	230/400	53.7	32	15	20	285	150-6"	240	8	22	250	125-5"	210	8	18
*01224	400/690	-	32												
*01225	230/400	67.5	39												
*01226	400/690	-	39	18.40	25	285	150-6"	240	8	22	250	125-5"	210	8	18

Code	Power		Dimensions (mm)												
	kW	HP	A	B	C	C1	E	F	G	I	J	K	L	M	O
01208	2.20	3	482	200	160	-	70	212	100	14	432	270	880	94	360
01209	2.95	4	482	225	180	-	95	250	125	14	419	310	880	50	405
01210															
01211	4	5.5	484	253	196	-	120	280	162	18	403	333	967	34	449
01212															
01213	7.5	7.5	484	253	196	-	120	280	162	18	403	410	1044	39	449
01214															
01215	7.5	7.5	514	282	193	-	120	315	162	18	433	410	1072	69	486
01216															
01217	7.5	10	514	282	193	-	120	315	162	18	433	450	1112	69	486
01218															
01219	9.20	12.5	522	280	224	-	120	315	162	18	441	450	1128	77	504
01220															
01221	11	15	522	280	224	-	120	315	162	18	441	490	1188	77	504
01222															
01223	*15	20	747	356	255	507	120	315	158	18	668	520	1438	87	611
01224															
01225	*18.40	25	747	356	255	507	120	315	158	18	668	555	1473	87	611
01226															

\* With strainer 37 I

**SPECIAL CENTRIFUGAL PUMPS FOR SEA WATER**



**Baikal C-3000 pump**



Made in bronze. Stainless steel mechanical seal. IP-54 motor protection. Stainless Steel AISI- AISI-316 shaft. In built. S.S. AISI-304 strainer basket. Connections s/DIN 2501 PN16. 3000 rpm.



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
------	--------------------	--------------------	--------------------------------

**Power 2.20 kW (3 HP)**

Connection DN 80 - 3", for Ø 90 mm

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	59	54	46	40	30	0

Voltage 230/400 V III **01242** 1 81 0.162

**Power 2.95 kW (4 HP)**

Connection DN 80 - 3", for Ø 90 mm

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	67	61	55	48	40	0

Voltage 230/400 V III **01243** 1 84 0.162

Voltage 400/690 V III **01244** 1 84 0.162

**Power 4 kW (5.5 HP)**

Connection DN 80 - 3", for Ø 90 mm

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	78	72	66	60	52	0

Voltage 230/400 V III **01245** 1 91 0.162

Voltage 400/690 V III **01246** 1 91 0.162

**Power 4 kW (5.5 HP)**

Connection DN 100 - 4", for Ø 110 mm

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	100	89	70	60	48	0

Voltage 230/400 V III **01247** 1 101 0.197

Voltage 400/690 V III **01248** 1 101 0.197



230 V valid for voltages between 220 & 240 V  
 400 V valid for voltages between 380 & 420 V  
 690 V valid for voltages between 660 & 720 V

SEE TECHNICAL FEATURES IN PAGE 197

**SPECIAL CENTRIFUGAL PUMPS FOR SEA WATER**



**Baikal C-3000 pump**



Made in bronze. 3,000 rpm.

**Power 5.5 kW (7.5 HP)**

Connection DN 100 - 4", for Ø 110 mm

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
------	--------------------	--------------------	--------------------------------

m.w.h.	8	10	12	14	16	19
m <sup>3</sup> /h	126	115	100	80	60	0

Voltage 230/400 V III

**01249**

1

128

0.197

Voltage 400/690 V III

**01250**

1

128

0.197

**Power 7.5 kW (10 HP)**

Connection DN 100-4" for Ø 110 mm

m.w.h.	8	10	12	14	16	20
m <sup>3</sup> /h	145	140	123	107	86	0

Voltage 230/400 V III

**01251**

1

131

0.197

Voltage 400/690 V III

**01252**

1

131

0.197

**Power 8.7 kW (12.5 HP) Connections**

Suction DN 125-5" for Ø 140 mm

Discharge DN 100-4" for Ø 140 mm

m.w.h.	8	10	12	14	16	21
m <sup>3</sup> /h	165	158	149	135	115	0

Voltage 230/400 V III

**01253**

1

131

0.197

Voltage 400/690 V III

**01254**

1

131

0.197

**Power 11.04 kW (15 HP) Connections**

Suction DN 125-5" for Ø 140 mm

Discharge DN 125-5" for Ø 140 mm

m.w.h.	8	10	12	14	16	22
m <sup>3</sup> /h	195	190	175	160	140	0

Voltage 230/400 V III

**01255**

1

137

0.197

Voltage 400/690 V III

**01256**

1

137

0.197

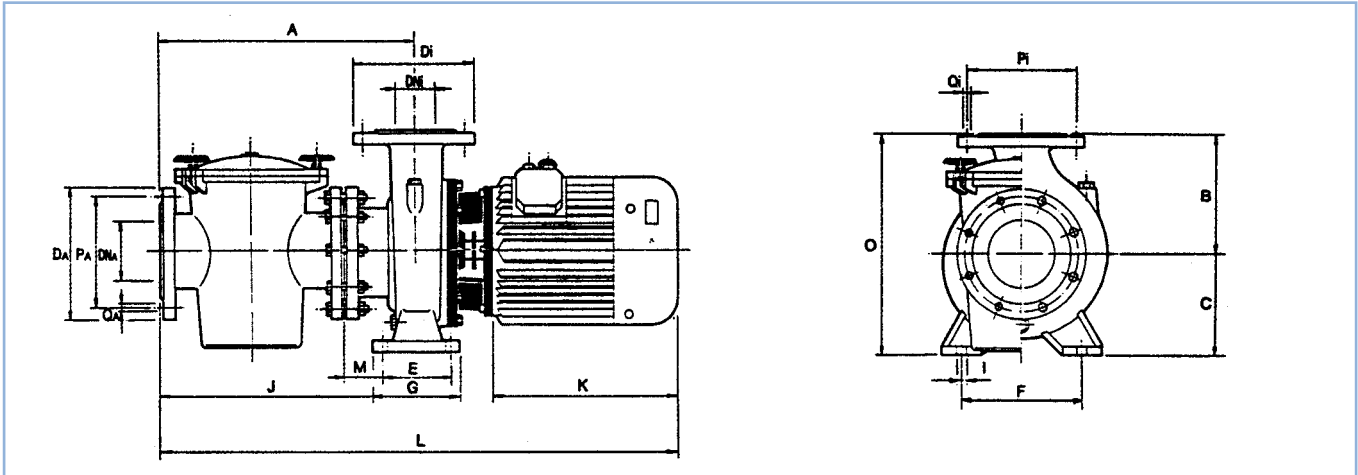


230 V valid for voltages between 220 & 240 V  
 400 V valid for voltages between 380 & 420 V  
 690 V valid for voltages between 660 & 720 V

SEE TECHNICAL FEATURES IN PAGE 197

**SPECIAL CENTRIFUGAL PUMPS FOR SEA WATER**

Baikal C-3000 pump technical features



Code	VOLTAGE V	Current in Amps		Power		Suction Connection					Discharge Connection				
		III 230 V	III 400 V	kW	HP	DA (mm)	DNA	PA (mm)	QA		Di (mm)	DNi	Pi (mm)	Qi	
									N°	Ø (mm)				N°	Ø (mm)
01242	230/400	9	5.2	2.20	3	200	80-3"	160	8	18	200	80-3"	160	4	18
01243	230/400	12	7	2.95	4	200	80-3"	160	8	18	200	80-3"	160	4	18
01244	400/690	-	7												
01245	230/400	16	9.1	4	5.5	200	80-3"	160	8	18	200	80-3"	160	4	18
01246	400/690	-	9.1												
01247	230/400	16	9.1	4	5.5	220	100-4"	180	8	18	220	100-4"	180	4	18
01248	400/690	-	9.1												
01249	230/400	19	11	5.5	7.5	220	100-4"	180	8	18	220	100-4"	180	8	18
01250	400/690	-	11												
01251	230/400	26	15	7.5	10	220	100-4"	180	8	18	220	100-4"	180	8	18
01252	400/690	-	15												
01253	230/400	39	22	8.7	12.5	250	125-5"	210	8	18	220	100-4"	210	8	18
01254	400/690	-	22												
01255	230/400	39	22.5	11.04	15	250	125-5"	210	8	18	250	125-5"	210	8	18
01256	400/690	-	22.5												

Code	Power		Dimensions (mm)											
	kW	HP	A	B	C	E	F	G	I	J	K	L	M	O
01242	2.20	3	485	180	160	70	212	100	14	435	245	888	65	340
01243 01244	2.95	4	485	180	160	70	212	100	14	435	245	888	65	340
01245 01246	4	5.5	485	180	160	70	212	100	14	435	273	920	65	340
01247 01248	4	5.5	487	205	160	95	187	125	14	425	273	940	55	365
01249 01250	5.5	7.5	487	205	160	95	187	125	14	425	315	976	55	365
01251 01252	7.5	10	487	205	160	95	187	125	14	425	315	976	55	365
01253 01254	8.7	12.5	487	205	160	95	187	125	14	425	355	1016	55	365
01255 01256	11.04	15	517	233	181	95	187	125	14	455	355	1029	70	365



**STRAINERS**



**Strainer in polypropylene and fibreglass**



Flanges drilled according to DIN-2501 Standard. Supplied with 3 piece coupling at the inlet. 8 litre capacity. Inlet size: Ø 90 mm and outlet Ø 110 mm.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
09879	1	8.4	0.098





**Strainer in polyester and fibreglass 33 l capacity**

Flanges drilled according to DIN-2501 Standard. Hoop type clamp. Drain plug. Maximum working pressure: 1.5 bar.

**33 l Capacity**

Connections Ø 90 mm. 37 m<sup>3</sup>/h  
 Connections Ø 110 mm. 55 m<sup>3</sup>/h  
 Connections Ø 125 mm. 72 m<sup>3</sup>/h  
 Connections Ø 140 mm. 90 m<sup>3</sup>/h  
 Strainer 3". 37 m<sup>3</sup>/h  
 Strainer 4". 55 m<sup>3</sup>/h

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04656	1	25	0.180
04657	1	25	0.180
04658	1	25	0.180
04659	1	25	0.180
09643 	1	25	0.180
09644 	1	25	0.180





**Strainer in polyester and fibreglass 60 l capacity**

Flanges drilled according to DIN-2501 Standard. Hoop type clamp. Drain plug. Maximum working pressure 1,5 bar.

**60 l Capacity**

Connections Ø 160 mm. 118 m<sup>3</sup>/h  
 Connections Ø 200 mm. 184 m<sup>3</sup>/h  
 Connections Ø 225 mm. 233 m<sup>3</sup>/h  
 Strainer 6". 118 m<sup>3</sup>/h  
 Strainer 8". 233 m<sup>3</sup>/h

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
10886	1	37	0.350
10887	1	37	0.350
10888	1	37	0.350
10929 	1	37	0.350
10930 	1	37	0.350





**Strainer in polyester and fibreglass with sight glass lid 33 l capacity**

Flanges drilled according to DIN-2501 Standard. Hoop type clamp. Drain plug. Maximum working pressure: 1.5 bar.

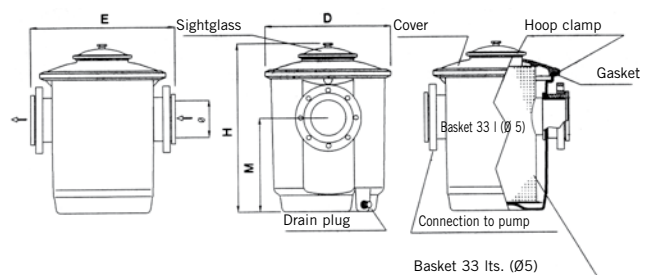
**33 l Capacity**

Connections Ø 90 mm. 37 m<sup>3</sup>/h  
 Connections Ø 110 mm. 55 m<sup>3</sup>/h  
 Connections Ø 125 mm. 72 m<sup>3</sup>/h  
 Connections Ø 140 mm. 90 m<sup>3</sup>/h  
 Strainer 3". 37 m<sup>3</sup>/h  
 Strainer 4". 55 m<sup>3</sup>/h

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
15644	1	25	0.180
15645	1	25	0.180
15646	1	25	0.180
15647	1	25	0.180
15648 	1	25	0.180
15649 	1	25	0.180

33 l POLYESTER STRAINERS

Code	15644	15645	15646	15647	15648	15649
H	635	635	635	635	635	635
D	475	475	475	475	475	475
M	353	353	353	353	353	353
Ø	90	110	125	140	3"	4"
E	500	516	532	546	500	516



**PREFILTROS**



**Strainer in polyester and fibreglass with sightglass lid 60 l capacity**

Flanges drilled according to DIN-2501 Standard. Hoop type clamp. Drain plug. Maximum working pressure: 1.5 bar.

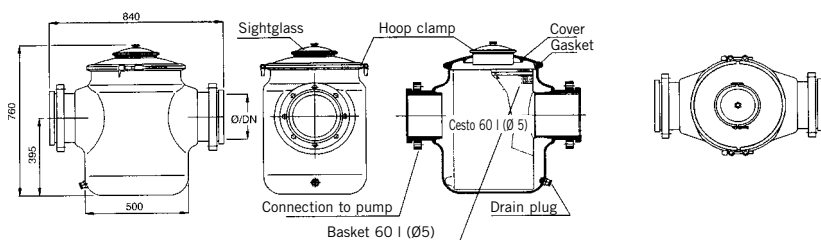
**60 l Capacity**

Connections Ø 160 mm. 118 m<sup>3</sup>/h  
 Connections Ø 200 mm. 174 m<sup>3</sup>/h  
 Connections Ø 225 mm. 233 m<sup>3</sup>/h  
 Strainer 6". 118 m<sup>3</sup>/h  
 Strainer 8". 233 m<sup>3</sup>/h

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>15650</b>	1	37	0.350
<b>15651</b>	1	37	0.350
<b>15652</b>	1	37	0.350
<b>15653</b>	1	37	0.350
<b>15654</b>	1	37	0.350



**60 l POLYESTER STRAINER.**



**Aral strainers**

Housing and cover in cast iron. AISI-304 Stainless Steel Strainer basket. Flange connection are manufactured in accordance with DIN-2501 Standard. Maximum working pressure 2.5 bar.

**11 l Capacity**

Flanges DN 65 (2½") DN 65 (2½")  
 \*Flanges DN 80 (3") DN 80 (3")  
 \*Flanges DN 80 (3") DN 80 (3") (Especial)  
 Flanges DN 100 (4") DN 100 (4")  
 Flanges DN 125 (5") DN 125 (5")  
 Flanges DN 80 (3") DN 65 (2½")  
 Flanges DN100 (4") DN 80 (3")  
 Flanges DN 125 (5") DN 100 (4")

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>20026</b>	1	35	0.051
<b>20027</b>	1	35	0.051
<b>20028</b> ▲	1	35	0.051
<b>20029</b>	1	35	0.051
<b>20030</b>	1	35	0.051
<b>20031</b> ▲	1	35	0.051
<b>20032</b>	1	35	0.051
<b>20033</b>	1	35	0.051



**Aral 11 l**

**37 l Capacity**

Flanges DN 125 (5") DN 125 (5")  
 Flanges DN 150 (6") DN 150 (6")  
 Flanges DN 150 (6") DN 125 (5")

<b>01267</b>	1	129	0.319
<b>01268</b>	1	129	0.319
<b>01272</b>	1	129	0.319



**Aral 37 l**

\* See differences in technical chart

## STRAINERS



### Baikal strainers



Bronze strainers. Flanges drilled according to DIN-2501 Standard. Stainless steel AISI-304 basket. Maximum working pressure 2.5 bar.

#### 11 l Capacity

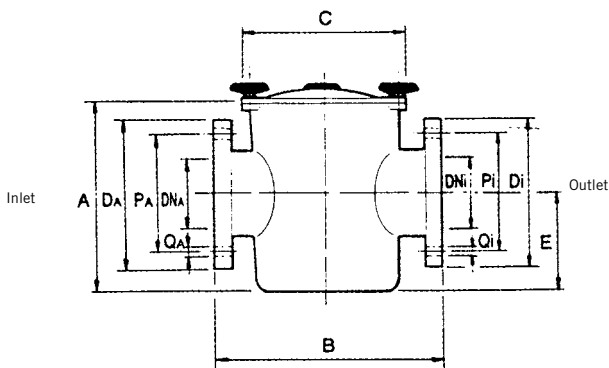
Flanges DN 65 (2½") DN 65 (2½")  
 Flanges DN 80 (3") DN 80 (3")  
 Flanges DN 100 (4") DN 100 (4")  
 Flanges DN 125 (5") DN 125 (5")  
 Flanges DN 80 (3") DN 65 (2½")  
 Flanges DN 100 (4") DN 80 (3")  
 Flanges DN 125 (5") DN 100 (4")

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
01273	1	44	0.051
01274	1	44	0.051
01275	1	44	0.051
01276	1	44	0.051
01277	1	44	0.051
01278	1	44	0.051
01279	1	44	0.051

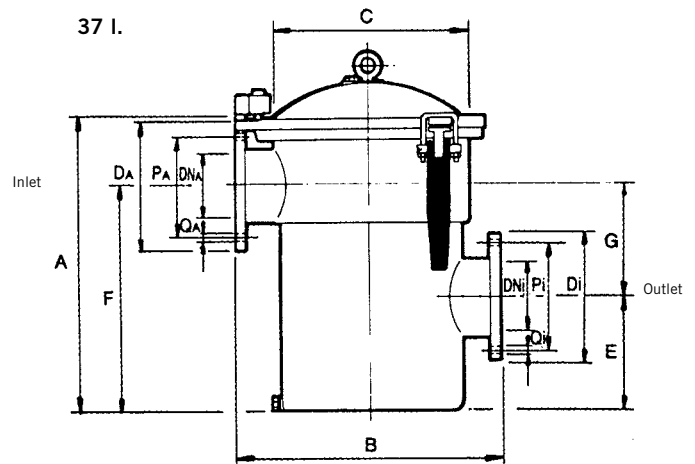
#### Technical features

Code		Capacity I	Inlet Connection					Outlet Connection					Dimensions (mm)					
Aral	Baikal		DA (mm)	DNA	PA (mm)	QA		Di (mm)	DNi	Pi (mm)	Qi		A	B	C	E	F	G
						N°	Ø (mm)				N°	Ø (mm)						
20026	01273	11	185	65-2½"	145	4	18	185	65-2½"	145	4	18	315	392	295	159	-	-
20027	01274	11	200	80-3"	160	8	18	200	80-3"	160	8	18	315	392	295	159	-	-
20028	-	11	200	80-3"	160	8	18	200	80-3"	160	4	18	315	392	295	159	-	-
20029	01275	11	220	100-4"	180	8	18	220	100-4"	180	8	18	315	392	295	159	-	-
20030	01276	11	250	125-5"	210	8	18	250	125-5"	210	8	18	315	392	295	159	-	-
20031	01277	11	200	80-3"	160	8	18	185	65-2½"	145	4	18	315	392	295	159	-	-
20032	01278	11	220	100-4"	180	8	18	200	80-3"	160	8	18	315	392	295	159	-	-
20033	01279	11	250	125-5"	210	8	18	220	100-4"	180	8	18	315	392	295	159	-	-
01267	-	37	250	125-5"	210	8	18	250	125-5"	210	8	18	649	600	542	250	507	257
01268	-	37	285	150-6"	240	8	22	285	150-6"	240	8	22	649	600	542	250	507	257
01272	-	37	285	150-6"	240	8	22	250	125-5"	210	8	18	649	600	542	250	507	257

11 l.



37 l.



**STRAINERS**

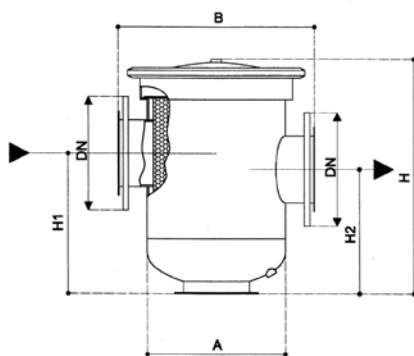


**Strainer in Stainless Steel**

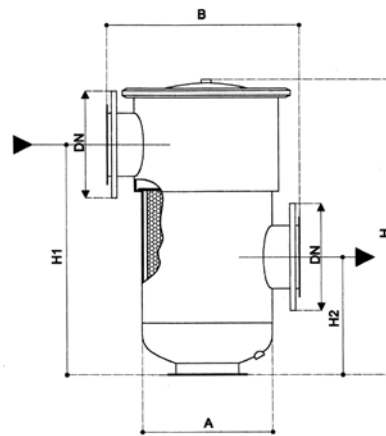
With removable basket. Housing in AISI-304 and strainer basket in AISI-316. Models come in varying diameters to suit pump suction (impeller protection). Rough straining for different installations.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
S.S. strainer DN 100 with PVC flange	<b>21461</b>	1	17.6	0.06
S.S. strainer DN 100 TF with PVC flange	<b>21462</b>	1	21.6	0.09
S.S. strainer DN 125 with PVC flange	<b>21463</b>	1	19.0	0.06
S.S. strainer DN 125 TF with PVC flange	<b>21464</b>	1	23.0	0.09
S.S. strainer DN 150 with PVC flange	<b>21465</b>	1	24.8	0.08
S.S. strainer DN 150 TF with PVC flange	<b>21466</b>	1	31.0	0.13
S.S. strainer DN 200 with PVC flange	<b>21467</b>	1	25.4	0.08
S.S. strainer DN 200 TF with PVC flange	<b>21468</b>	1	31.6	0.13

Code	Diameter		Pressure (bar)	External volume					Material	Interior basket			Weight (kg)
	Inlet Outlet	Purge		Dimensions (mm)						Dimensions (mm)			
				A	B	H	H1	H2		Ø	H	Perforation	
<b>21461</b>	DN 100	1/2"	3	292	410	520	294	254	AISI 316	270	350	6 mm	17.6
<b>21462</b>	DN 100	1/2"	3	292	425	735	593	308	AISI 316	270	415	6 mm	21.6
<b>21463</b>	DN 125	1/2"	3	292	410	520	294	254	AISI 316	270	350	6 mm	19.0
<b>21464</b>	DN 125	1/2"	3	292	425	735	593	308	AISI 316	270	415	6 mm	23.0
<b>21465</b>	DN 150	1/2"	3	350	450	520	294	254	AISI 316	320	350	6 mm	24.8
<b>21466</b>	DN 150	1/2"	3	350	470	775	595	295	AISI 316	320	415	6 mm	31.0
<b>21467</b>	DN 200	1/2"	3	350	450	520	294	254	AISI 316	320	350	6 mm	25.4
<b>21468</b>	DN 200	1/2"	3	350	470	775	595	295	AISI 316	320	415	6 mm	31.6



**MOD. STANDARD**



**MOD. TF**

## VALVES AND FLANGES



### Check valves



Nominal pressure 10 kg/cm<sup>2</sup>. Mounted between flanges. Available in PN 16 and PN 25 under special order.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Outlets Ø 50 mm	20239	1	-	-
Outlets Ø 65 mm	20240	1	-	-
Outlets Ø 80 mm	20241	1	-	-
Outlets Ø 100 mm	20242	1	-	-
Outlets Ø 125 mm	20243	1	-	-
Outlets Ø 150 mm	20244	1	-	-
Outlets Ø 200 mm	20245	1	-	-
Outlets Ø 250 mm	20246	1	-	-



### Vibration absorbent brushing



Flanges in galvanised steel. Elastic material: Polychloroprene. Maximum temperature: 95° C. Nominal pressure: 10 kg/cm<sup>2</sup> (PN/10). Available in PN 16 under special order.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Outlets Ø 50 mm	20231	1	-	-
Outlets Ø 65 mm	20232	1	-	-
Outlets Ø 80 mm	20233	1	-	-
Outlets Ø 100 mm	20234	1	-	-
Outlets Ø 125 mm	20235	1	-	-
Outlets Ø 150 mm	20236	1	-	-
Outlets Ø 200 mm	20237	1	-	-
Outlets Ø 250 mm	20238	1	-	-



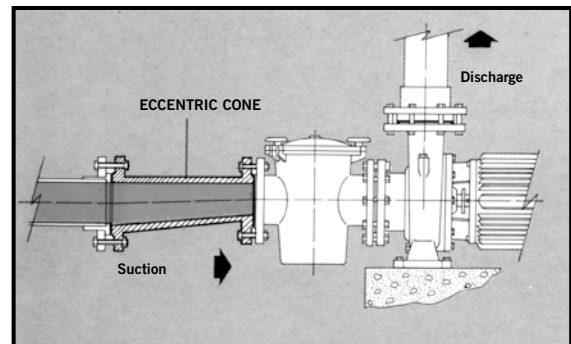
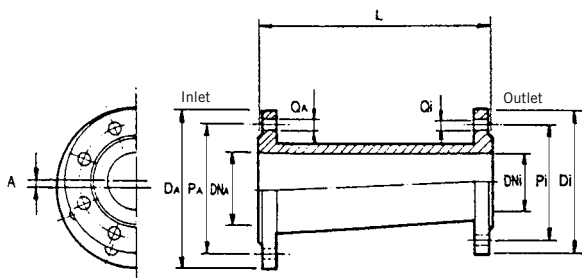
### Eccentric cones



In cast iron.

Flanges DN 100 (4") DN 80 (3")  
 Flanges DN 125 (5") DN 100 (4")  
 Flanges DN 150 (6") DN 125 (5")

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Flanges DN 100 (4") DN 80 (3")	01280	1	12	0.04
Flanges DN 125 (5") DN 100 (4")	01281	1	17	0.04
Flanges DN 150 (6") DN 125 (5")	01282	1	23	0.04



#### Technical features

Code	Inlet connection			Outlet Connection				Dimensions (mm)		
	DA (mm)	DNA	PA	QA	Di	DNi	Pi	Qi	A	L
01280	220	100-4"	180	8 18	200	80-3"	160	8 18	10	275
01281	250	125-5"	210	8 18	220	100-4"	180	8 1	12,5	325
01282	285	150-6"	240	8 22	250	125-5"	210	8 18	12,5	385

## ASTRALPOOL CONTROL BOXES

### Control box for pump control

IP-65 protection. Glass panel with lock and key. All units are compatible with:

- 220/240V 1-phase (P+N+T) 50Hz/60Hz
- 380/415V 3-phase (3P+N+T) 50Hz/60Hz
- 220/230V 3-phase (3P+T) 50Hz/60Hz

24h programming clock with hourly programming. Connection for remote control of pump (on/off,...) and for auxiliary equipment (cold detector, level control...). All products supplied with:

- Electrical diagram
- Connection diagram
- Instructions for installation
- CE conformity certificate
- Stuffing box at every cable entrance
- Screws and plugs (4) for fixing to wall

The control box model should be selected according to the nominal voltage of the pump:

Type	Current Range	Power Range 1-phase 230V	Power Range 3-phases 400V	Power Range 3-phases 230V
A	1.6A - 2.5A	1/4 HP	3/4 HP - 1 HP	1/2 HP
B	2.5A - 4A	1/2 HP	1.5 HP - 2 HP	3/4 HP - 1 HP
C	4A - 6.3A	3/4 HP - 1 HP	3 HP*	1.5 HP
D	6A - 10A	1.5 HP	4 HP**	2 HP - 3 HP

\* Also 3.5 HP 400V 3~ in plastic (Code 08003)

\*\* Also 4.5 and 5.5 HP 400 V 3~ in plastic (Codes 08004, 08005)



### Control box for pump overload protection

Plastic panel with contactor, thermal overload protection (1.6 to 10A), 24hr programming clock with 3 positions, Auto / 0 / manual.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	<b>25717</b>	1	1.5	-
Type B	<b>25718</b>	1	1.5	-
Type C	<b>25719</b>	1	1.5	-
Type D	<b>25720</b>	1	1.5	-



### Control box for pump overload protection and underwater light

Plastic panel with contactor, thermal overload protection (1.6 to 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 230V 16A protected and controlled output for lights.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	<b>25721</b>	1	1.6	-
Type B	<b>25722</b>	1	1.6	-
Type C	<b>25723</b>	1	1.6	-
Type D	<b>25724</b>	1	1.6	-



## ASTRALPOOL CONTROL BOXES

### Control box for pump overload protection and underwater light with differential protection



Plastic panel with contactor, thermal overload protection (1.6 to 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 230V 10A protected and controlled output for lights. Single-phase.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	25725	1	1.9	-
Type B	25726	1	1.9	-
Type C	25727	1	1.9	-
Type D	25728	1	1.9	-

### Control box for pump overload protection and underwater light with differential protection



Plastic panel with contactor, thermal overload protection (1.6 to 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 230V 10A protected and controlled output for lights. Three-phase.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	25729	1	1.9	-
Type B	25730	1	1.9	-
Type C	25731	1	1.9	-
Type D	25732	1	1.9	-

### Control box for pump overload protection and 1 underwater light



Plastic panel with contactor, thermal overload protection (1.6 to 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 12V 315VA. Protected output for 1 underwater light.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	25733	1	6	-
Type B	25734	1	6	-
Type C	25735	1	6	-
Type D	25736	1	6	-

### Control box for pump overload protection and 2 underwater lights



Plastic panel with contactor, thermal overload protection (1.6 to 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 12V 630VA. Protected output for 2 underwater lights.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	25737	1	8	-
Type B	25738	1	8	-
Type C	25739	1	8	-
Type D	25740	1	8	-



**ASTRALPOOL CONTROL BOXES**
**Control box with overload protection for 2 pumps and control for 1 underwater light**

Plastic panel with contactor, thermal overload protection (2 pumps: 1st pump 6 to 10A and 2nd pump 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 230V 10A protected output for lights. 12V 315VA protected output for 1 underwater light.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type C	<b>25741</b>	1	7.5	-
Type D	<b>25742</b>	1	7.5	-


**Control box with protection for 2 pumps and control for 2 underwater lights**

Plastic panel with contactor, thermal overload protection (2 pumps: 1st pump 6 to 10A and 2nd pump 10A) 24hr programming clock with 3 positions, Auto / 0 / manual. 230V 10A protected output for lights. **12V 630VA** protected output for 2 underwater light.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type C	<b>25743</b>	1	9.5	-
Type D	<b>25744</b>	1	9.5	-


**Control box with protection for 2 pumps and control for 3 underwater lights**

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Type A	<b>27088</b>	1	9.5	-
Type B	<b>27089</b>	1	9.5	-
Type C	<b>27090</b>	1	9.5	-
Type D	<b>27091</b>	1	9.5	-

**Encapsulated security transformer IP-65 for pool**

Manufactured according to the rules UNE-EN 61558 and directive CE.

-IP-657 housing protection degree.

-Transformer Class II. Total Protection against electric shock.

-Self-extinguishing housing IEC 695-2-1

-Frequency 50/60 Hz

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
130 VA to 220-240V to 12 V	<b>35807</b>	1	3,2	0,02
400 VA to 220-240V to 12-17 V	<b>35385</b>	1	6,8	0,04
800 VA to 220-240V to 24-29 V	<b>35386</b>	1	10,4	0,04





## SUBMERSIBLE PUMPS

### Submersible pumps



**POW 67803 model**  
**Code 32980-2450**

Range of submersible pumps for clean or dirty water. Available in plastic or stainless steel in accordance with the model.

#### Drainage pump for clean water

- Useful for small tanks, machinery rooms and above ground pools.
- Enables suction of up to 5 mm of water layer.
- Suctions particles of up to 5 mm in diameter.
- With 10 m of cable.
- Includes flotation switch.

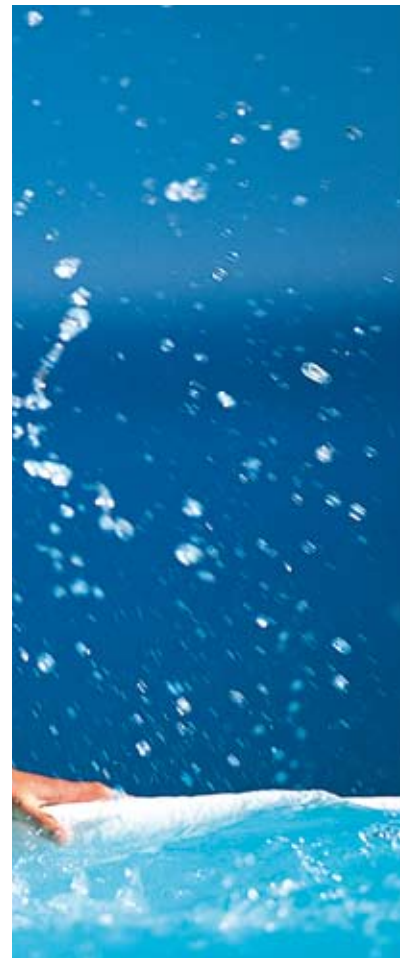
#### Drainage pump for dirty water

- Suctions particles of up to 35 mm in diameter.
- With 10 m of cable.
- Includes flotation switch.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Plastic body</b>				
Power Plus for clean water, POW 67850	<b>32979-2450</b>	1	3.83	0.008
Power Plus for clean water, POW 67803	<b>32980-2450</b>	1	4.62	0.011
Power Plus for dirty water, POW 67822	<b>32981-2450</b>	1	5.00	0.012
Power Plus for dirty water, POW 67826	<b>32982-2450</b>	1	5.75	0.013
<b>Stainless Steel body</b>				
Power Plus S.S. for clean water, POW 67817	<b>32983-2450</b>	1	5.00	0.011
Power Plus S.S. for dirty water, POW 67833	<b>32984-2450</b>	1	5.25	0.012
Power Plus S.S. for dirty water, POW 67837	<b>32985-2450</b>	1	6.50	0.014

## WATER TREATMENT

- 208 • pH regulators
- 209 • Chlorine disinfectants and non comburent chlorine
- 211 • Chlorine multi-action disinfectants
- 213 • Bromine Disinfection
- 214 • Disinfection with active Oxygen (free from Chlorine)
- 215 • Algicide
- 216 • Flocculants
- 217 • Cleaners
- 219 • Winter care products
- 220 • Complements
- 221 • Products for Salt Electrolysis
- 223 • Water test kits
- 226 • Pocket gauges
- 227 • Checkits & photometers
- 229 • Kit Spa Moment



## PH REGULATORS



### Solid pH Minor

Solid state pH reducer. For adjusting pH between 7.2 and 7.6.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1.5 kg	<b>11384</b>	12	20.5	0.032
8 kg	<b>11385</b>	4	34.1	0.053
16 kg	<b>16540</b>	2	34.1	0.050
40 kg	<b>11974</b>	1	41.2	0.040
“Special for liner pools” 1.5 kg	<b>24607</b>	12	20.5	0.032
“Special for liner pools” 8 kg	<b>24608</b>	4	34.1	0.053



### Solid pH Plus

pH enhancer in solid state. For adjusting pH between 7,2 and 7,6.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>16538</b>	12	20.5	0.032
6 kg	<b>11386</b>	4	26.1	0.053
12 kg	<b>16539</b>	2	26.2	0.050
35 kg	<b>15975</b>	1	36.3	0.047
“Special for liner pools” 1 kg	<b>24609</b>	12	20.5	0.032
“Special for liner pools” 6 kg	<b>24610</b>	4	34.1	0.053



### Liquid pH Minor

Liquid pH reducer. Ideal for pump dosage.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25 l	<b>16541</b>	1	33.7	0.028



### Liquid pH Plus

Liquid pH enhancer. Ideal for pump dosage.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25 l	<b>16542</b>	1	33.5	0.028

**PH REGULATORS**

**Alkalinity enhancer**

In powder form for increasing pool water alkalinity when it falls below 125 ppm.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
6 kg	<b>15976</b>	4	26.1	0.053
40 kg	<b>19933</b>	1	41.2	0.047


**CHLORINE DISINFECTANTS AND NON COMBURENT CHLORINE**

**Non comburent Chlorine.** Trichloroisocyanuric and multi-action tablets and blocks similar to the traditional ones but in NON COMBURENT version. According to the existing regulation, the non comburent products have a lower hazardous level than the comburent chlorinated products. For this reason, it does not have any storage limitations (379/2001 and Seveso II Standards) and less transport regulations apply.


**Granulate Dicloroisocyanuric Acid 55%**

Dichloroisocyanuric acid granules with 55% available Chlorine. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>11393</b>	12	14.5	0.032
5 kg	<b>11394</b>	4	22.1	0.053
10 kg	<b>16478</b>	2	22.2	0.042
30 kg	<b>11395</b>	1	31.4	0.047
50 kg	<b>11396</b>	1	52.7	0.060
“Special for liner pools”	1 kg	<b>24611</b>	14.5	0.032
“Special for liner pools”	5 kg	<b>24612</b>	22.1	0.053


**Trichloroisocyanuric acid powder**

Trichloroisocyanuric acid powder with 90% available Chlorine.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>11400</b>	12	14.5	0.032
5 kg	<b>11401</b>	4	22.1	0.053
12 kg	<b>19706</b>	2	26.2	0.050
30 kg	<b>11402</b>	1	31.4	0.047
50 kg	<b>11403</b>	1	52.7	0.068



## CHLORINE DISINFECTANTS AND NON COMBURENT CHLORINE



### Trichloroisocyanuric acid granules



Trichloroisocyanuric acid granules with 90% available Chlorine.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>11404</b>	12	14.5	0.032
5 kg	<b>11405</b>	4	22.1	0.053
12 kg	<b>16548</b>	2	26.2	0.050
30 kg	<b>11406</b>	1	31.4	0.047
50 kg	<b>11407</b>	1	52.7	0.068



### Fast action Chlorine tablets



20 g Trichloroisocyanuric acid tablets with 50% available Chlorine. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>11397</b>	12	14.5	0.032
5 kg	<b>11398</b>	4	22.1	0.053
10 kg	<b>16547</b>	2	22.2	0.042
25 kg	<b>11399</b>	1	26.4	0.047



### 200 gr Trichlor tablets

**Fina**



Trichloroisocyanuric acid compact slow dissolving 200 gr tablets with 90% available chlorine. "Packs" of 5 tablets. (NON COMBURENT).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>	
"Special for liner pools"	1 kg	<b>24613</b>	12	14.5	0.032
"Special for liner pools"	5 kg	<b>24614</b>	4	22.1	0.053
	1 kg	<b>25309</b>	12	14.5	0.032
	5 kg	<b>25310</b>	4	22.1	0.053
	12 kg	<b>25311</b>	2	26.2	0.050
	25 kg	<b>25312</b>	1	26.2	0.047
	50 kg	<b>25313</b>	1	52.7	0.068



### 250 gr Trichlorine tablets

new



A NON COMBURENT solid which dissolves slowly, highly stabilized for disinfection and maintenance of crystal-line and hygienically pure water.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 Kg	<b>34433</b>	12	-	360
5 Kg	<b>34434</b>	4	-	360
25 Kg	<b>34436</b>	1	-	450
50 Kg	<b>34437</b>	1	-	600

**CHLORINE DISINFECTANTS AND NON COMBURENT CHLORINE**
**Trichloroisocyanuric acid compact 500**

Trichloroisocyanuric acid compact, slow dissolving, 500 gr block, in individual package, having 90% of available chlorine. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	25315	12	6.9	0.010



**Trichloroisocyanuric acid compact 600**

Trichloroisocyanuric acid compact, slow dissolving, 600 gr block, in individual package, having 90% of available chlorine. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	25314	12	8.1	0.010


**Hypocal granules**

Calcium hypochlorite granules with 70% of available Chlorine.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	15980 	12	14.5	0.032
5 kg	15981	4	22.1	0.053
25 kg	15982	1	26.4	0.047


**CHLORINE MULTI-ACTION DISINFECTANTS**
**Action 10**

New 200 gr multi-functional tablets carrying out the following 10 functions: Disinfection, algicide, germicide, algistatic, virucide, fungicide, flocculant-coagulant, pH reduction, stabilizer and antiscaler. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 kg	25322	4	22.1	0.053
10 kg	25323	2	22.2	0.042


**Multi-action block**

Slow dissolving 500 gr block, having algicide, bactericide and flocculant effect. In individual film Packaging. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 kg	25316	4	22.1	0.053
25 kg	25355	1	26.4	0.047





## CHLORINE MULTI-ACTION DISINFECTANTS



### Duralong

An integral pool water treatment with triple action of bactericide, algicide and flocculant. Includes floating dispenser.

NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
2 kg	16563	6	13.4	0.049



### Granular Multi-action disinfectant

Granular product with bactericide, algicide and flocculent effect.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	15983	12	14.5	0.032
5 kg	15984	4	22.1	0.053
30 kg	15985	1	31.4	0.047



### Multi-action tablet 200

Slow dissolving 200 gr tablets, with bactericide, algicide and flocculent effect. NON COMBURENT.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	25319	12	14.5	0.032
5 kg	25320	4	22.1	0.053
25 kg	25321	1	26.2	0.040



### Multi-action DC 200 tablet (cartridge and DE filters)

This is a "multi-action" product especially formulated for the treatment of swimming pool water with cartridge or DE filters. It avoids the danger of filter clogging. 200 g tablets, contains bactericide, algicide and flocculant.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	28735	12	14.5	0.032
5 kg	28736	4	22.1	0.053
25 kg	28737	1	26.2	0.047



### Multi-purpose tablet for hard water

new

A solid compound in tablets which is specially formulated to eliminate bacteria, viruses and micro organisms in general from the pool water with a single application; prevents the development of algae; keeps water transparent and crystal clear and prevents lime incrustations.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	40935	12	12	0.027
5 kg	40936	4	20	0.048
10 kg	40937	2	20	0.058
25 kg	40938	1	25	0.052



**CHLORINE MULTI-ACTION DISINFECTANTS**

**250 gr Multi-action tablets**

A NON COMBURENT solid compound in tablets which is specially formulated to eliminate bacteria, viruses and micro organisms in general from the pool water with a single application; prevents the development of algae and keeps water transparent and crystal clear.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>34438</b>	12	-	360
5 kg	<b>34439</b>	4	-	360
25 kg	<b>34440</b>	1	-	450
50 kg	<b>34441</b>	1	-	600



**Cartridge Filter Tripex-20**

A solid compound in 20 gr. tablets which is specially formulated to eliminate bacteria, viruses and micro organisms in general from the pool water with a single application; prevents the development of algae and keeps the water transparent and crystal clear.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>41075</b>	12	-	360
5 kg	<b>41076</b>	4	-	360
10 kg	<b>41077</b>	2	-	240
25 kg	<b>41078</b>	1	-	45



**BROMINE DISINFECTION**



**Bromine tablets**



Slow dissolving 20 g Bromine tablets for pool and spa continuous disinfection without chlorine smell. High tolerance of pH value. Large disinfectant and oxidising capacity.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 kg	<b>16550</b>	5	27.1	0.076
20 kg	<b>28740</b>	1	24.0	0.027





## DISINFECTION WITH ACTIVE OXYGEN (free from Chlorine)



### Oxy-Active Liquid

A fully combined product based on Active Oxygen for disinfecting residential pools without the use of Chlorine maintaining it at the same time free from algae and cloudiness. Can be used manually or also automatically using a dosage pump.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 l	<b>18714</b>	4	24.1	0.033



### Oxy-Active tablets

100 gr Oxygen activated tablets for continuous disinfection of residential pools. Chlorine Free.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>15978</b>	12	14.5	0.032
6 kg	<b>15979</b>	4	26.1	0.053



### Microbid

Specially developed algicide for complementing Oxy-active tablet effect. Non-foam forming and micro-flocculent.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>15990</b>	12	15.2	0.023
5 l	<b>15991</b>	4	24.1	0.033



### Oximines

Non-Chlorine shock treatment granules for Chloramines elimination. Allows bathing after 15 minutes of the shock treatment.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>11432</b>	12	14.5	0.032
5 kg	<b>11433</b>	4	22.1	0.053
30 kg	<b>11434</b>	1	31.4	0.047

**ALGICIDE**



**Algicide**

Prevents algae forming in the pool.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>11416</b>	12	13.5	0.023
5 l	<b>11417</b>	4	21.6	0.033
25 l	<b>11418</b>	1	26.3	0.028



**Algicide with brightener**

Non-foaming and Microfloculant.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>11413</b>	12	13.6	0.023
5 l	<b>11414</b>	4	21.5	0.033
25 l	<b>11415</b>	1	26.5	0.028



**Concentrated algicide**

Prevents algae formation and growth.





	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>11419</b>	12	13.5	0.023
5 l	<b>11420</b>	4	21.6	0.033
25 l	<b>11421</b>	1	26.3	0.028



**Extra algicide**



Very effective non-foaming algicide with flocculent action incorporated.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>11422</b> 	12	13.6	0.023
5 l	<b>11423</b>	4	21.2	0.033
25 l	<b>11424</b> 	1	27.1	0.028
"Special for liner pools"	1 l <b>24615</b> 	12	13.6	0.023
"Special for liner pools"	5 l <b>24616</b> 	4	21.2	0.033



## ALGICIDE



new

### Indoor pool algicide

Non-foaming double-action liquid used to treat private and/or public indoor heated pool water. Formulated to prevent and eliminate algae, as well as reduce and eliminate bad odours caused by the chlorine when mixing with the nitrogenated organic material present in pool water. Chlorine or activated Oxygen act as “activating agents”, thus reducing the chloramines from the water and therefore, the “unpleasant chlorine” odour and eye irritation.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>41079</b>	12	13.6	0.023
5 l	<b>41080</b>	4	21.2	0.033
25 l	<b>41081</b>	1	27.1	0.028

## FLOCCULANTS



### Liquid flocculant

Fina

Clarifies the water eliminating colloidal particles causing water cloudiness.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>11387</b>	12	15.8	0.023
5 l	<b>11388</b>	4	25.4	0.033
25 l	<b>11389</b>	1	31.3	0.028
“Special for liner pools”	<b>24617</b>	12	15.8	0.023
“Special for liner pools”	<b>24618</b>	4	25.4	0.033



### Solid flocculant

Promotes continuous water clarity obtained by a permanent flocculent action.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg of product in 10 bags (sacks with 100 gr)	<b>11390</b>	14	19.4	0.044
1 kg of product in 10 100 gr cartridges (cartridges with three 33.3 gr tablets)	<b>18847</b>	14	19.4	0.044



### “Double effect” water clarifier, in cartridges

Intelligent product: Combines quick flocculation with continuous clarifying action. As a result, a better disinfection and crystalline water.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	<b>18725</b>	14	19.4	0.044

**FLOCCULANTS**
**Claritab**

New highly concentrated double action "coagulant" and "flocculant" tablets. They are specially designed for obtaining a more efficient sand filter effect. Its slow dissolving and controlled action eliminates thoroughly suspended particles in water (metallic iron, organic matter, etc.). Savings are obtained as disinfection chemicals are reduced.

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Blisters including 2 tubes of 5 tablets of 20 gr each	200 gr	<b>25324</b>	24	6	0.020


**Floculent**

Flocculant and coagulant. Floculent cartridges are wrapped in an opaque Polypropylene (PP) film, which is macro-perforated. They improve filtration, preventing direct contact with the chemical product by the user and boosting elimination of organic matter and helping to reduce disinfectant product consumption..

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Floculent 1 Kg (8 cartridges of 125 gr each)		<b>28731</b>	14	-	-


**CLEANERS**

**Extra descaler**

Extra strong cleaning agent. Acid.

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>18727</b>	12	14.3	0.023	
5 l	<b>11391</b>	4	23.2	0.033	
25 l	<b>11392</b>	1	29.2	0.028	


**Waterline border degreaser "Non foam forming"**

Special combined formula to eliminate grease and dirt from pool walls and water lines.

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	1 l	<b>11425</b>	12	14.3	0.023
	5 l	<b>11426</b>	4	22.8	0.033
	25 l	<b>11427</b>	1	28.1	0.028
"Special for liner pools"	1 l	<b>24620</b>	12	14.3	0.023
"Special for liner pools"	5 l	<b>24621</b>	4	22.8	0.033



## CLEANERS



### Special cleaner for polyester and fibreglass pools

Specially designed for eliminating lime scaling and grease without damaging the pool lining.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 l	16558	4	25.5	0.033



### Gelamin

Pool walls and floor de-scaling gel. Very efficient and easy application.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 l	15987	4	22.8	0.033
“Special for liner pools” 5 l	24619	4	22.8	0.033



new

### Lime scale remover gel specially made for the water line

Powerful liquid lime scale remover to clean the water line with degreasing ability.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	40931	12	-	-
5 l	40932	4	-	-
with brush 5 l	40933	4	-	-
25 l	40934	1	-	-



### Liquid Filnet

Liquid descaler designed specially for the inside cleaning of public pool sand filters.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 l	16498	4	24.4	0.025
25 l	16499	1	30.0	0.026



### Solid Filnet

Solid descaler for the inside cleaning of sand filters.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1.5 kg	15988	12	20.5	0.032
15 kg	15989	2	31.7	0.050

**CLEANERS**
**S.S. Polish-cleaner**

Stain remover and degreaser for cleaning all types of Stainless Steel surfaces.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>18713</b>	12	13.8	0.023
5 l	<b>16630</b>	2	22.0	0.034


**WINTER CARE PRODUCTS**

**Winterizing product**

Prevents intense proliferation of algae and bacteria in the pool water. Prevents water from putrefaction and calcareous formation. Facilitates spring cleaning and is non-foam forming.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>18723</b>	12	13.8	0.023
5 l	<b>11430</b>	4	24.4	0.033


**Winterizing product "without Copper"**

Prevents water putrefaction and algae and bacteria multiplication. Compatible with any water treatment system, including PHMB system.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	<b>16552</b>	12	13.8	0.023
5 l	<b>16553</b>	4	24.4	0.033


**Inverlong**

Complete winter treatment. Prevents water putrefaction and algae and bacteria multiplication. Maintains pool water clear and includes bactericide, algicide and flocculent action. Floating dispenser is supplied.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>16554</b>	6	13.4	0.049



## COMPLEMENTS

### Kit-Splash



Children's pool kit. Contains: 0.5 kg granulated Dichloroisocyanuric Acid & 0.5 l concentrated algicide.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
15986	14	17.5	0.044

### Liner repair kit



20 ml glue tube and 2 liner strips. Transparent (PVC).

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
24624	50	0.07	0.02



### Chlorine stabiliser

Prevents UV sun rays from destroying quickly excess of Chlorine.



	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 kg	16556	12	11	0.020
5 kg	16495	4	22.1	0.053
25 kg	19935	1	26.4	0.047



### Chlorine and Bromine neutraliser

Eliminates excess of free residual Chlorine and Bromine.






	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
6 kg	16578	4	26.1	0.053

**COMPLEMENTS**



**Super descaler**

Highly efficient descaler. Prevents lime scale and pipe lining.

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	1 l	<b>18730</b> 	12	13.8	0.023
	5 l	<b>16555</b>	4	28.5	0.033
"Special for liner pools"	1 l	<b>24622</b> 	12	13.8	0.023
"Special for liner pools"	5 l	<b>24623</b> 	4	28.5	0.033



**Descaler**

Prevents lime scaling.

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	5 l	<b>11431</b>	4	28.5	0.033



**PRODUCTS FOR SALT ELECTROLYSIS**

**Solid pH Minor for salt electrolysis**

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	1.5 Kg	<b>40918</b>	12	18	0.025
	8 Kg	<b>40919</b>	4	32	0.048
	16 Kg	<b>40920</b>	1	16	0.054

*new*



**Liquid pH Minor for salt electrolysis**

		Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	5 l	<b>40921</b>	4	20 l	0.025
	10 l	<b>40922</b>	1	10 l	0.013
	25 l	<b>40923</b>	1	25 l	0.026

*new*





## PRODUCTS FOR SALT ELECTROLYSIS



new

### 100 gr salt electrolysis cartridge flocculant

A coagulating and flocculant action product which eliminates suspended particles with a single application, thus improving the transparency of pool water. Its special formula also prevents the formation of calcareous deposits (lime); even preventing the calcification of filters and corrosion of metallic parts of the recirculation and filtration system.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 Kg	40924	-	14	0.036



new

### Salt electrolysis algicide and anti-calcareous

Non-foaming, quick action algicide compound for the prevention and removal of algae. Its special formula also prevents the formation of calcareous deposits (lime); even preventing the calcification of the filters and corrosion of the metal parts of the recirculation and filtration system.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	40925	12	12	0.025
5 l	40926	4	20	0.034
25 l	40927	1	25	0.027



new

### Brom Gen

Bromine Generator is a granulated inorganic compound that permits the transformation of the active chlorine generated by the electrolysis treatment of salt into Bromine to disinfect and keep the water clean and hygienically pure.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
5 Kg	40928	4	20	0.049



### Netcel. Electrolyte Chlorinator cell cleaner

Acid cleaner, ready to use. Eliminates calcium deposits, organic residue and sediment build-up on salt chlorinator cells, without causing them any damage. Risk-free due to the lack of concentrated acid products, thus avoiding potential accidents. This product is designed for both professionals and private pool owners..

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
1 l	28729	12	13.5	0.023
5 l	28730	4	21.6	0.033

**WATER TEST KITS**

**Testing strips**

Quick and easy testing for free Chlorine, pH and alkalinity. Contains 25 strips.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
18237	10	0.6	0.005



 **ECO comparison kit (in Blister) Total Chlorine/Bromine and pH**

Includes liquid Oto & Phenol.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25684	40	3.3	0.022



 **ECO comparison kit (in Blister) Chlorine/Bromine and pH**

With DPD Phenol & tablets.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
26156	40	3.3	0.022



**Oto & Phenol replacements**

15 cm<sup>3</sup> bottles of each.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
16610	50	3.5	0.020



 **Comparison kit Total Chlorine/Bromine and pH**

Modern and practical design. Presented in a blue plastic box with Oto and Phenol liquid.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25353	25	4.8	0.019



## WATER TEST KITS



### Comparison kit Residual Chlorine/Bromine and pH



Modern and practical design. Presented in a blue plastic box with Phenol liquid and DPD tablets.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25354	25	4.8	0.019



### Comparison kit Residual Chlorine/Bromine and pH



Modern and practical design. Presented in a blue plastic box with Phenol and DPD tablets.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
26155	25	4.8	0.019

### Oxy-Active Liquid analyser

For measuring residual Oxy-Active Liquid in water.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
26082	1	15.4	0.0265

### Spare reagents



Oto refill	15 cm <sup>3</sup>	<b>28050</b>	50	2.1	0.020
Phenol refill	15 cm <sup>3</sup>	<b>28051</b>	50	2.1	0.020
Oto refill	250 cm <sup>3</sup>	<b>16623</b>	20	5.5	0.010
Phenol refill	250 cm <sup>3</sup>	<b>16624</b>	20	5.5	0.010
Oto and Phenol refill	15 cm <sup>3</sup> of each	<b>16610</b>	50	3.5	0.020

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>28050</b>	50	2.1	0.020
<b>28051</b>	50	2.1	0.020
<b>16623</b>	20	5.5	0.010
<b>16624</b>	20	5.5	0.010
<b>16610</b>	50	3.5	0.020

### Reagent refill in blister

20 tablets of DPD and 15 cm<sup>3</sup> of liquid Red Phenol

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>28742</b>	50	3.5	0.020



### Pooltester for free Chlorine and pH



Chlorine range: 0.1- 3.0 mg/l  
pH range: 6.8 - 8.2

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>03253</b>	12	2.2	0.007

Chlorine range: 0.5- 6.0 mg/l  
pH escala: 6.8 - 8.2

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01419</b>	12	2.2	0.007

**WATER TEST KITS**




**Pooltester for oxygen and pH**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
03182	12	2.2	0.007




**Pooltester for Bromine and pH**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
16374 	12	2.2	0.007



**Copper testing Kit**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
03258 	1	0.2	0.004



**Refill in blister for Pooltester**


20 tablets of DPD1 & 20 tablets of red Phenol.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
18854	30	1.4	0.010



**Reagent tablets**

Phenol (pH) reagent tablets 250 units  
 DPD 1 reagent tablets 250 units  
 DPD 3 reagent tablets 250 units  
 MPS-OUT reagent tablets 250 units  
 (for determining the amount of Chlorine in the presence of Oximines)

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
01426	1	0.1	0.004
01424	1	0.1	0.004
01425	1	0.1	0.004
08677 	1	0.1	0.004



## POCKET GAUGES

### Pocket dissolved solids /Temp photometer



A small, practical and portable photometer for easy measurement of the quality of dissolved solids and temperature of swimming pool water. Especially suitable for measuring salt (NaCl (sodium chloride)) content in water in swimming pools fitted with a salt electrolysis unit.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28584	1	-	-

### Pocket Redox photometer



A small, practical and portable photometer for easy measurement of the potential Redox level of swimming pool water.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28583	1	-	-

### Pocket pH/Temp photometer



A small, practical and portable photometer for easy measurement of the pH level and water temperature of swimming pools.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28582	1	-	-

**CHECKITS & PHOTOMETERS**



**3 in 1 Photometer PC Checkit**

Chlorine range: 0,05 - 6.0 mg/l  
 pH range: 6.5 - 8.4  
 Cyanide acid range: 0 - 80.0 mg/l

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
17183	1	1.0	0.049



**5 in 1 Photometer PC Checkit**

Chlorine range: 0.05 - 6.0 mg/l  
 pH range: 6.5 - 8.4  
 Cyanide acid range: 0 - 80.0 mg/l  
 Alkalinity range: 5 - 200 mg/l  
 Calcium hardness range: 50 - 500 mg/l

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
22745	1	1.0	0.049



**Pool-Control-Direct**

Multi-parameter Photometer that permits executing a wide range of analysis covering all the water requirements. It replaces the photometer PC-12 (08675) by offering internal and external improvements, a wide graphic display and an interface RS232. It is aimed at professionals of the sewage, potable, industrial and pool water sectors.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28344	1	1.9	0.023



The reagents required for analysing the following parameters are available on request:

Cyanide acid		0 – 160 ppm Cys
Total-Alkalinity		0 – 200 ppm CaCO <sub>3</sub>
Aluminium		0 – 0.25 ppm Al
Ammonium		0 – 1 ppm N
Biguanidine (PHMB)		0 – 50 ppm PHMB
Bromine		0 – 13 ppm Br <sub>2</sub>
Calcium hardness		0 – 500 ppm CaCO <sub>3</sub>
Total hardness		0 – 50 ppm CaCO <sub>3</sub>
Chlorine	LR	0 – 2 ppm Cl <sub>2</sub>
Chlorine	MR	0 – 4 ppm Cl <sub>2</sub>
Chlorine	HR	0 – 6 ppm Cl <sub>2</sub>
Copper		0 – 5 ppm Cu
Chlorine Dioxide		0 – 11 ppm ClO <sub>2</sub>
Total hardness	LR	0 – 50 ppm CaCO <sub>3</sub>
Total hardness	HR	0 – 500 ppm CaCO <sub>3</sub>
Iron (II / III)		0 – 1 ppm Fe
Active oxygen		0 – 10 ppm O <sub>2</sub>
Ozone		0 – 1 ppm O <sub>3</sub>
Hydrogen peroxide		0 – 3 ppm H <sub>2</sub> O <sub>2</sub>
pH		6.5 – 8.4
Sulphate		0 – 100 ppm SO <sub>4</sub> 2-
Urea		0 – 3 ppm CH <sub>4</sub> N <sub>2</sub> O

## CHECKITS & PHOTOMETERS



### Multi-Direct PC

Multi-parameter Photometer that permits executing a wide range of analysis covering all the water requirements. It replaces the photometer PC-22 (07938) by offering internal and external improvements, a wide graphic display and an interface RS232 for connecting to a printer and a PC. It is aimed at professionals of the sewage, potable, industrial and pool water sectors, as well as to government and private laboratories and institutions and also to universities.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28667	1	1.9	0.023

The reagents required for analysing the following parameters are available on request:

Cyanide acid		0 – 160 ppm Cys	Phosphate	LR	0 – 4 ppm PO <sub>4</sub>
Alkalinity-m		0 – 200 ppm CaCO <sub>3</sub>	Phosphate	HR	0 – 100 ppm PO <sub>4</sub>
Alkalinity-p		0 – 500 ppm CaCO <sub>3</sub>	Iron (II / III)	LR	0 – 1 ppm Fe
Aluminium		0 – 0.3 ppm Al	Iron (II / III)	HR	0 – 10 ppm Fe
Ammonium		0 – 1 ppm N	Manganese		0 – 4 ppm Mn
Bromine		0 – 13 ppm Br <sub>2</sub>	Molybdenum		0 – 30 ppm MoO <sub>4</sub>
Calcium hardness		0 – 500 ppm CaCO <sub>3</sub>	Nitrate		0 – 14 ppm NO <sub>3</sub> -
Chlorine	LR	0 – 2 ppm Cl <sub>2</sub>	Nitrites		0 – 0.5 ppm NO <sub>2</sub> -
Chlorine	LR	0 – 4 ppm Cl <sub>2</sub>	Total nitrogen		0 – 14 ppm N
Chlorine	LR	0 – 6 ppm Cl <sub>2</sub>	Ozone	LR	0 – 0.5 ppm O <sub>3</sub>
Chlorine	HR	0 – 200 ppm Cl <sub>2</sub>	Ozone	HR	0 – 1 ppm O <sub>3</sub>
Chloride	LR	0 – 25 ppm Cl-	Hydrogen peroxide	LR	0 – 3 ppm H <sub>2</sub> O <sub>2</sub>
Chloride	HR	0 – 250 ppm Cl-	Hydrogen peroxide	HR	0 – 30 ppm H <sub>2</sub> O <sub>2</sub>
COD	LR	0 – 150 ppm O <sub>2</sub>	pH		6.5 – 8.4
COD	MR	0 – 1500 ppm O <sub>2</sub>	Potassium		0 – 12 ppm K+
COD	HR	0 – 15000 ppm O <sub>2</sub>	Silica		0 – 4 ppm SiO <sub>2</sub>
Copper		0 – 5 ppm Cu	Sulphate		0 – 200 ppm SO <sub>4</sub> 2-
Chlorine Dioxide		0 – 11 ppm ClO <sub>2</sub>	Sulphide		0 – 0.5 ppm S 2-
DEHA		0 – 0.5 ppm DEHA	Sulphites		0 – 10 ppm SO <sub>3</sub> -
Total hardness	LR	0 – 50 ppm CaCO <sub>3</sub>	Urea	LR	0 – 3 ppm CH <sub>4</sub> N <sub>2</sub> O
Total hardness	HR	0 – 500 ppm CaCO <sub>3</sub>	Urea	HR	0 – 6 ppm CH <sub>4</sub> N <sub>2</sub> O
Flouride		0 – 2 ppm F-	Zinc		0 – 1 ppm Zn



### Photometer reagent



Code 03009

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>	
Phenol (pH) reagent tablets	250 units	03019	1	0.1	0.004
DPD 1 reagent tablets	250 units	03009	1	0.1	0.004
DPD 3 reagent tablets	250 units	03014	1	0.1	0.004
MPS-OUT reagent tablets	250 units	08679	1	0.1	0.004
(for determining the amount of Chlorine in the presence of Oximines)					
Isocyanuric acid reagent tablets	250 units	08345	1	0.1	0.004
Other reagents		Enquire			

**KIT SPA MOMENT**

**Kit Spa Moment**

A spa requires regular maintenance so that the water stays crystalline and hygienically pure. In this way, not only is the bathing pleasure greater, but the installation is also protected from possible deterioration. AstralPool proposes a new kind of kit for your spa maintenance, the Spa Moment Kit, which not only cares for the water, but also for your senses and skin.

**The Spa Moment Kit includes the following elements:**

**Ph Adjustment:** The ph factor is very important with regards to the disinfectant working properly as well as avoiding corrosion of the metal parts, or incrustations on the installation.

**Water disinfection:** Spa water must be kept disinfected as the high water temperatures as well as the organic residue encourage the growth of bacteria and algae. Bromine is the appropriate disinfectant for spa water as it doesn't lose its effectiveness, even at high temperatures.

**Anti-foaming-spa:** This makes it possible to eliminate the foam due to the water agitation and the oils present in the water.

**The exfoliant:** Spa Regen is a natural papaya-based exfoliant for the skin, an enzyme which is extracted from the papaya fruit. It removes dead surface cells from the skin, and accelerates the growth of new skin cells.

**Spa Aromatherapy – Wellma Delight:** Wellma offers you 6 aromas for 3 different states of being: aromas with an anti-stress effect, a sensual effect and a revitalizing effect.



Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
40883	1	-	-





# DOSAGE, MEASUREMENT, REGULATION AND AUTOMATION

- 230 • Dosing equipment
- 233 • Salt electrolysis & pH control
- 237 • UV automatic disinfection
- 243 • Automatic Ozone disinfection
- 249 • Continuous flocculation system
- 250 • Dosing pumps
- 255 • Automatic regulation and control equipment
- 260 • Electrode cleaning and adjustment
- 261 • Anti-suction safety system
- 262 • Water meters
- 263 • Control panel
- 263 • Control systems
- 266 • Domoticpool
- 267 • Thermometers



## DOSING EQUIPMENT

### Shark floating dispenser

new



Allows easy dosage of pool chemicals. Made of high impact polystyrene. It has a capacity for 5 tablets of 200 grs.



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
36620	1	-	-

### Floating dispenser

new



Original floating dispenser ideal for residential and above ground pools. Adjustable chlorine supply. It also allows easy control of chemical product remaining in the dispenser, thanks to an original floating signal system. For a quantity of 1 kg in tablets.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
33813	1	-	-

### MINI floating-dispenser for 20 g tablets



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
11733	1	-	-

### Dossi-5 in-line and Dossi-10 in-line Bromine feeders

Bromine dispenser. Manufactured from unalterable plastic materials (ABS). With regulation valve, manual purge, Venturi automatic depression purge, and opening key. For pools up to 45 m<sup>3</sup> with the Dossi-5 dispenser and up to 90 m<sup>3</sup> Dossi-10 dispenser. Connections 1 1/2". Ø 200 mm.



**Dossi-5 in-line.** Height 486 mm.  
Approximate capacity: 5 kg of tablets  
**Dossi-10 in-line.** Height 725 mm.  
Approximate capacity: 10 kg of tablets

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
21438	1	3.7	0.031
21439	1	4.8	0.049

## DOSING EQUIPMENT

### Chlorine and Bromine Feeder 5 kg Dossi-5 off-line

Bromine and Chlorine feeder. Manufactured from unalterable plastic materials (ABS). Approximate capacity: 5 kg of tablets. Supplied with two valves in order to stop the water flow. For pools up to 100 m<sup>3</sup> with Chlorine and up to 45 m<sup>3</sup> with Bromine. Height 486 mm and Ø 200 mm. Connections Ø 20 mm.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Dossi-5 off-line	01413	1	3.7	0.031



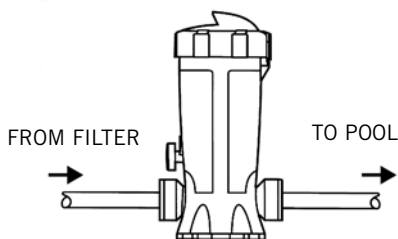
### Chlorine and Bromine Feeder 3.5 kg Dossi-3

Chlorine and Bromine feeder. Manufactured from unalterable plastic materials (ABS). Approximate capacity: 3.5 kg of tablets. Lid closing with double safety system. Easy to operate regulation valves. For pools up to 60 m<sup>3</sup> with Chlorine and up to 30 m<sup>3</sup> with Bromine. Height: 405 mm.

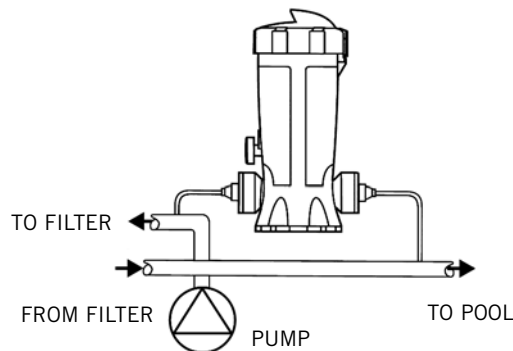
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Dossi-3, in-line For direct connection to pipework With 1½" connectors	24429	1	1.81	0.03
Dossi-3 off-line For by-pass connection with flexible tube	24430	1	1.90	0.031



Code 24429 IN-LINE

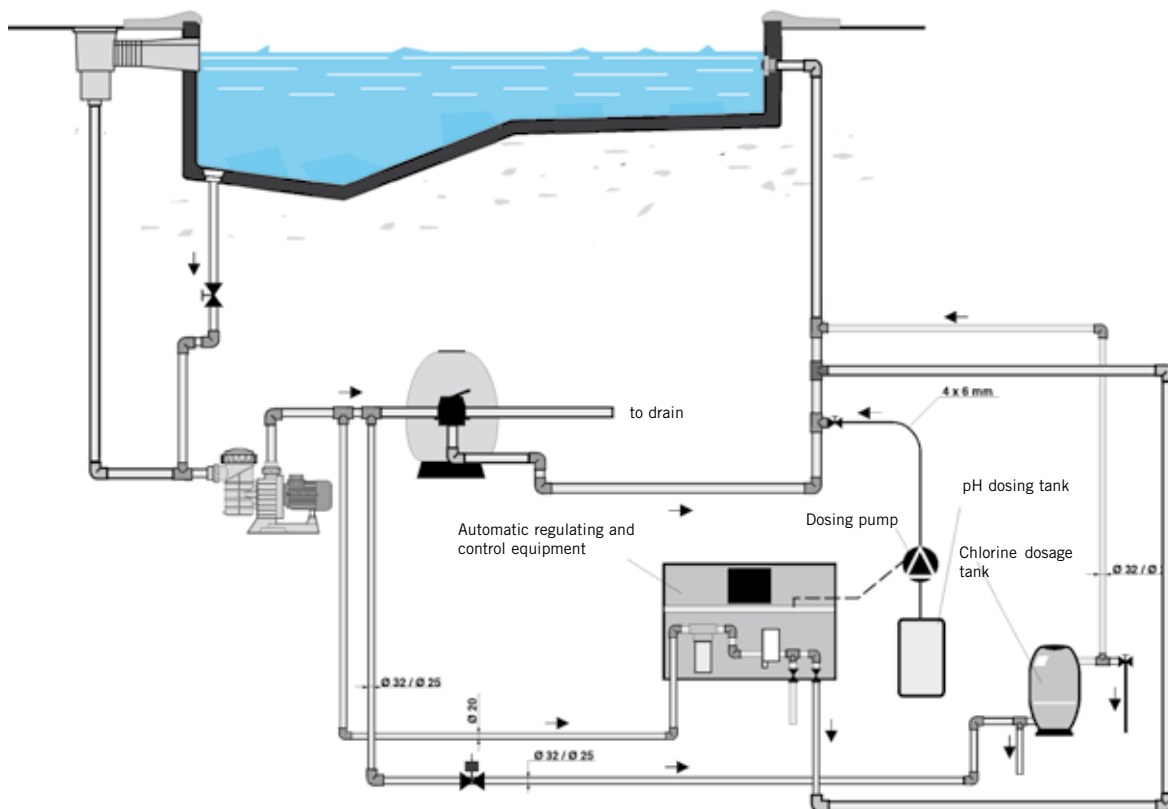


Code 24430 OFF-LINE



## DOSING EQUIPMENT

### INSTALLATION DIAGRAM OF CHLORINE/BROMINE DOSING UNITS AND AUTOMATIC REGULATING AND CONTROL EQUIPMENT



#### Compact dosage tank

Trichlor and Bromine tablet dosage unit with automatic safety valve. Made out of fibreglass and polyester.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Compact dosage tank 40 l</b> Trichlor (for pools from 200 to 500 m <sup>3</sup> ) Bromine (for pools from 150 to 300 m <sup>3</sup> )	16631	1	14.0	0.128
<b>Compact dosage tank 60 l</b> Trichlor (for pools from 500 to 1000 m <sup>3</sup> ) Bromine (for pools from 300 to 450 m <sup>3</sup> )	16632	1	18.0	0.185



#### Safety valve kit

PVC safety valve, with a spring and metallic pull ring. Opening pressure 2.5 - 3 bar (Kg/cm<sup>2</sup>).



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For 40 l dosage tank	16633	1	0.4	0.002
For 60 l dosage tank	16634	1	0.4	0.002

## DOSING EQUIPMENT



### Flowmeter kit

Plastic made flow meter for 100 to 1,000 l/h flow for 40 l dosing tank, and a 250 to 2,500 l/h flow for 60 l dosing tank both installed on a PE panel. Strainer, non-return valve and PVC ball valve included. Used to help regulation for 40 l and 60 l feeders.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For 40 l tank from 100 to 1000 l/h	<b>16635</b>	1	3.0	0.046
For 60 l tank from 250 to 2500 l/h	<b>16636</b>	1	3.3	0.050



## SALT ELECTROLYSIS & pH CONTROL

### VX Salt Chlorinator

New VX reverse polarity self cleaning salt chlorinators. 63 mm water conn. on cell housing, sophisticated electronic control over reversing times extends cell life. Large LCD user interface, Spa mode output, low salt 4000 ppm. Optional: Timeclock or non clock models.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Chlorine Output</b>				
<b>Up to 96 m<sup>3</sup></b> 25 g/h				
VX 7S – no time clock	<b>41346</b>	1	8.33	0.027
VX 7T – time clock	<b>41347</b>	1	8.35	0.027
<b>Up to 120 m<sup>3</sup></b> 30 g/h				
VX 9S – no time clock	<b>41348</b>	1	8.97	0.027
VX 9T – time clock	<b>41349</b>	1	8.99	0.027
VX 7TL T/C & Light Transformer	<b>41354</b>	1	-	0.027
<b>Up to 160 m<sup>3</sup></b> 42 g/h				
VX 11S – no time clock	<b>41350</b>	1	9.00	0.027
VX 11T – time clock	<b>41351</b>	1	9.11	0.027
<b>Up to 200 m<sup>3</sup></b> 50 g/h				
VX 13S – no time clock	<b>41352</b>	1	9.90	0.027
VX 13T – time clock	<b>41353</b>	1	9.96	0.027
VX 9TL T/C & Light Transformer	<b>41355</b>	1	-	0.027



### Astral Sel Basic

Reverse polarity self cleaning chlorinator. Easy installation and use. Meant for pools up to 75 m<sup>3</sup>. Provides a good quality/price ratio. Optional flow switch. (available on request). Assembly on panel NOT included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Chlorine production</b>				
Up to 25 m <sup>3</sup> 6.2 g/h	<b>27889</b>	1	6	0.055
Up to 50 m <sup>3</sup> 12.5 g/h	<b>27890</b>	1	6	0.055
Up to 75 m <sup>3</sup> 17.8 g/h	<b>27891</b>	1	6	0.055



## SALT ELECTROLYSIS & pH CONTROL



### Astral Sel

Reverse polarity self cleaning chlorinator. Salt concentration: 5 g/l. Includes: Flow switch, Pool Terre and salt analysis strips. Assembly on panel NOT included.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>Chlorine production</b>				
Up to 40 m <sup>3</sup>	11.3 g/h	34624	1	12.4	0.001
Up to 60 m <sup>3</sup>	16 g/h	34625	1	12.4	0.001
Up to 100 m <sup>3</sup>	24 g/h	34626	1	12.6	0.001
Up to 160 m <sup>3</sup>	30 g/h	34627	1	12.6	0.001



### Astral pH

pH automatic control system. Includes: proportional dosing pump; 1 electrode; 1 reagent kit; 1 installation Kit . Automatic calibration. Assembly on panel NOT included.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Up to 200 m <sup>3</sup>		34628	1	4.2	0.001



### Combi Astral Sel - pH

Salt electrolysis and pH regulation. Flowmeter included. Astral Sel and Astral pH provided, not installed onto panel.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Up to 40 m <sup>3</sup>		34629	1	15.0	0.122
Up to 60 m <sup>3</sup>		34630	1	15.0	0.122
Up to 100 m <sup>3</sup>		34631	1	15.2	0.122
Up to 160 m <sup>3</sup>		34632	1	15.2	0.122
Salinity analysis Kit		07937	1	0.8	0.001



new



### Control Basic

Small in size, it was designed to prevent siphoning. The product requires little maintenance and is easy to install and protected from the spraying of chemical products. The device automatically measures and checks pH/Redox. Use with Astral Sel and Astral Sel Basic is recommended. **Supplied without sensors or calibration solutions. Installation kit included.**

- Plastic container with IP-55 protection
- Backlit LCD display
- Self-calibration of electrodes
- Quality control of electrodes
- Dosing pause during alarms and notification by a blinking LED
- Proportional dosing
- Adjustable set point

Flow rate: 1.5 l/h or 5 l/h

Back pressure: 1.5 bar

pH measurement interval: 0.00...14,00pH

Redox measurement interval: -999...+999 mV

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Control Basic 1.5 l/h		36002	1	2.2	0.01
Control Basic 5.0 l/h		36003	1	2.2	0.01
pH electrode with calibration solutions		36004	1	0.4	0.001
Redox electrode with calibration solutions		36005	1	0.3	0.001



## SALT ELECTROLYSIS & pH CONTROL



### Redox Basic EV

Measuring and automatic control device of Redox levels in the pool and therefore of free Chlorine. Recommended to use with "Astral Sel" and "Astral Sel Basic" salt chlorinators for controlling generated Chlorine. The solenoid valve opens and closes the dosing units according to the readings.

**Supplied with sensors and calibration solutions. Installation kit included**


Redox measurement interval: -999...+999 mV

*new*



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Redox Basic EV	<b>36006</b>	1	2.1	0.01
Redox electrode with calibration solutions	<b>36005</b>	1	0.3	0.001

Installation kit	
Control Basic	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Redox Basic EV	<input type="checkbox"/> <input type="checkbox"/>

Sensors	
pH sensor with calibration solutions (Code: 36004)	<input type="checkbox"/> <input type="checkbox"/>
Redox sensor with calibration solutions (Code: 36005)	<input type="checkbox"/> <input type="checkbox"/>



### Salt Electrolysis for public pools

Salt water chlorinator for commercial pools are becoming popular because they are efficient, practical, safe and well priced. Our wide range of industrial electrolysis systems covers self-cleaning equipment of up to 500 grams/hour of Chlorine generation, which makes it possible to use saline electrolysis to treat the water at any public use facility.

Our **Basic range** incorporates EX electrodes which provide the highest durability in self-cleaning systems.

The **Plus range** incorporates a Chlorine and pH value control and regulation system which allows for better management of the equipment and provides an excellent water quality at all times. Peristaltic pump not included.

**Main advantages:**

**Safety:** There is no need to store, handle or dose any chemical products and therefore it is a much safer system. The raw material stored is common salt.

**Savings:** The introduction of saline electrolysis systems can bring net savings in operating costs of around 50-60%, with respect to traditional systems.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Basic equipment:</b>				
A-40EX production 40 g/h Self-cleaning	<b>35252</b>	1	30	0.026
A-65EX production 65 g/h Self-cleaning	<b>35253</b>	1	40	0.131
A-100EX production 100 g/h Self-cleaning	<b>35254</b>	1	55	0.131
A-150EX production 150 g/h Self-cleaning	<b>35255</b>	1	70	0.131
A-250EX production 250 g/h Self-cleaning	<b>35256</b>	1	85	0.131
A-500EX production 500 g/h Self-cleaning	<b>35257</b>	1	120	0.178
<b>Plus equipment:</b>				
A-40+ production 40 g/h Self-cleaning	<b>35258</b>	1	30	0.026
A-65+ production 65 g/h Self-cleaning	<b>35259</b>	1	40	0.088
A-100+ production 100 g/h Self-cleaning	<b>35260</b>	1	55	0.088
A-150+ production 150 g/h Self-cleaning	<b>35261</b>	1	70	0.088
A-250+ production 250 g/h Self-cleaning	<b>35262</b>	1	85	0.088
A-500+ production 500 g/h Self-cleaning	<b>35263</b>	1	120	0.178

*new*





## SALT ELECTROLYSIS & pH CONTROL

### Peristaltic pump

new

Peristaltic pump with variable flow of 0.6 - 4.0 l/h. 220 VAC power supply. 1.5 bar maximum pressure. Tubing: Santoprene. Includes the following accessories: suction filter, 3/8" injection connector, 4x6 mm PVC suction tube 2 m in length and a 4x6 mm PE impulse tube 2 m in length.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
40834	1	1.5	0.001

### Pool Terre

Accessories for earth connections.



For hose Ø 50 mm  
For hose Ø 63 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
25894	1	0,6	0,001
25895	1	0,6	0,001

Other sizes upon special order.



## UV AUTOMATIC DISINFECTION

A fully automatic ultraviolet light (UV-C) system that provides double water disinfection via a significant reduction in chloramines (combined Chlorine) and the elimination of bacteria, viruses and other micro-organisms that are present in pool water by preventing their production.

The end result is excellent water quality, without unpleasant odours or eye irritation, less chemical expense, and savings on water recycling. A residual level of disinfection is still necessary, although the cost of chemical products is significantly lower.

Easy installation via by-pass in the pool return line and minimal maintenance: only the lamp may need replacement.



### Clair-UV "MP" ultraviolet system for commercial pool

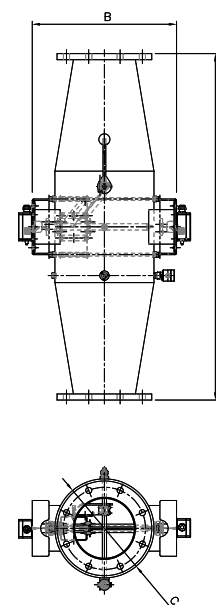


#### Medium pressure.

Efficient reduction in chloramines present in water and elimination of micro-organisms even those that are normally resistant even to Chlorine. Complete with cable and connectors. **Body in S.S. AISI-316L - Medium pressure lamp. Dosage 60 mJ. Maximum pressure: 10 bar. Electrical control box: IP-54 protection.**

Code	Model Clair-UV MP	Flow rate Q (m³/h)	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
36831	MP30	30	1	600W	90	80 or 100	450	273
36832	MP30	50	1	1kW	150	80 or 100	450	273
32679	MP100	80	1	1kW	150	125	1175	273
32680	MP125	140	1	2.5kW	375	150	1168	273
32681	MP140	300	1	4kW	600	200	1244	355.6
32682	MP240	450	2	4kW	1200	250	1020	355.6
32683	MP340	675	3	4kW	1800	300	1016	355.6
32684	MP440	900	4	4kW	2400	300	824	355.6

Code	Standard Packing	Standard Weight kg	Standard Volume m³
36831	1	20	0.020
36832	1	20	0.020
32679	1	49	0.049
32680	1	46	0.046
32681	1	90	0.090
32682	1	88	0.088
32683	1	80	0.080
32684	1	92	0.092



#### Equipment covered on the inside in CHEMCOAT for sea water applications

Code	Model Clair-UV MP	Flow rate Q (m³/h)	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
36833	MP30	18	1	600W	90	80 or 100	450	273
36834	MP30	20	1	1kW	150	80 or 100	450	273
35994	MP100	30	1	1kW	150	125	1175	273
35995	MP125	75	1	2.5kW	375	150	1168	273
35996	MP140	125	1	4kW	600	200	1244	355.6
35997	MP240	250	2	4kW	1200	250	1020	355.6
35998	MP340	380	3	4kW	1800	300	1016	355.6
35999	MP440	500	4	4kW	2400	300	824	355.6

Code	Standard Packing	Standard Weight kg	Standard Volume m³
36833	1	20	0.020
36834	1	20	0.020
35994	1	49	0.049
35995	1	46	0.046
35996	1	90	0.090
35997	1	88	0.088
35998	1	80	0.080
35999	1	92	0.092

## UV AUTOMATIC DISINFECTION



### Clair-UV "LP" ultraviolet system for commercial pools

Body in S.S. AISI 316L - Amalgame Lamps at low pressure. Dosage 30 mJ. Maximum temperature 60°C. maximum pressure 10 bar. Electrical control box: IP-54 protection.

Code	Model Clair-UV LP	Flow rate Q (m³/h)	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height (mm)	Ø of reactor
35968	IAM1090/120	12,5	1	120	40	65	973	90
35969	IAM1150/120	23	1	120	40	80	945	150
35970	IAM2205/120	56	2	120	80	100	977	205
35971	IAM3273/120	115	3	120	120	150	985	273
35972	IAM4273/120	155	4	120	160	200	985	273
35973	IAM5273/120	185	5	120	200	200	985	273
35974	IAM1150/300	44	1	300	100	80	1120	150
35975	IAM2273/300	158	2	300	200	150	1165	273
35976	IAM3273/300	237	3	300	300	150	1165	273
35977	IAM4273/300	305	4	300	400	200	1165	273
35978	IAM5273/300	365	5	300	500	200	1162	273
35979	IAM6355/300	420	6	300	600	200	1162	355
35980	IAM7355/300	470	7	300	700	250	1172	355
35981	IAM8355/300	515	8	300	800	250	1172	355

Code	Standard Packing	Standard Weight kg	Standard Volume m³
35968	1	5.0	0.005
35969	1	14.5	0.0145
35970	1	26.0	0.026
35971	1	46.0	0.046
35972	1	46.0	0.046
35973	1	46.0	0.046
35974	1	18.0	0.018
35975	1	56.5	0.0565
35976	1	56.5	0.0565
35977	1	56.5	0.0565
35978	1	56.5	0.0565
35979	1	56.5	0.0565
35980	1	-	-
35981	1	-	-



### Clair-UV "LP" ultraviolet system for private pools - 3 bar

Body in S.S. AISI 316L - Ho Lamps at low pressure. Dosage 30 mJ. Maximum water temperature 40°C. Maximum pressure 3 bar. Electrical control box: IP-54 protection.

Code	Model Clair-UV LP 3 bar	Flow rate Q (m³/h)	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
32685	Clair-UV 10	7	1	38	13	1½"	423,5	150
32686	Clair-UV 20	14	1	59	20	1½"	693,5	150
32687	Clair-UV 30	20	1	75	25	2"	939,5	150
32688	Clair-UV 40	25	1	102	34	2½"	1193,54	150

Code	Standard Packing	Standard Weight kg	Standard Volume m³
32685	1	7	0.007
32686	1	12	0.012
32687	1	17	0.017
32688	1	22	0.022

## UV AUTOMATIC DISINFECTION

### Clair-UV "LP" ultraviolet system for residential pools - 6 bar

Body in S.S. AISI 316L - Ho Lamps at low pressure. Dosage 30 mJ. Maximum water temperature 40°C. Maximum pressure 6 bar. Electrical control box: IP-54 protection.

Code	Model Clair-UV LP 6 bar	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
35963	Clair-UV3205HO	45	3	75	75	2 1/2"	984	205
35964	Clair-UV4205HO	65	4	75	100	2 1/2"	984	205
35965	Clair-UV5205HO	85	5	75	125	2 1/2"	984	205
35966	Clair-UV6205HO	95	6	75	150	2 1/2"	984	205
35967	Clair-UV100HO	120	8	75	200	DN125	960	420



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
35963	1	26	0.026
35964	1	26	0.026
35965	1	26	0.026
35966	1	26	0.026
35967	1	114	0.114

### "LP" Elektra range E ultraviolet system for residential pools

The Elektra E range has a plastic chamber made of PVC, non-corrosive with inhibition of UV. **Body in plastic PVC.** It works with High power and low pressure lamps (8,000 hours). Dosage 30 mJ. Maximum water temperature 40°C.

Code	Model LP Elektra E	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
36839	E-5	7	1	30	-	63	450	20.3
36840	E-10	13	1	58	-	63	629	20.3
36841	E-20	18	1	80	-	63	987	20.3
36842	E-40	25	1	90	-	63	1168	20.3



Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
36839	1	7.4	0.0074
36840	1	13.0	0.0130
36841	1	24.0	0.0240
36842	1	30.0	0.0300

## UV AUTOMATIC DISINFECTION

### "LP" Elektra range ES ultraviolet system for residential pools



The Elektra ES range has a Stainless steel interior reflector in order to increase the reflective and purifying power inside the chamber, it also has a beautiful polished stainless steel external body. **It works with High power and low pressure lamps (8,000 hours). PVC/Stainless Steel Private Pools. Dosage: 30 mJ. Max. water temperature 40°C**

Code	Model LP Elektra ES	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
36843	ES-5	7	1	30	-	63	450	20.3
36844	ES-10	13	1	58	-	63	629	20.3
36845	ES-20	18	1	80	-	63	987	20.3
36846	ES-40	25	1	90	-	63	1168	20.3

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
36843	1	7.4	0.0074
36844	1	13.0	0.013
36845	1	24.0	0.024
36846	1	30.0	0.030

### "LP" Elektra range EA4H ultraviolet system



The Elektra EA range is used in Spas, Small pools and fish ponds. Exclusive design with a stainless steel chamber, perfect union assembly of chambers, which makes cleaning of Quarz tubes easier. The rotation of 360° of the inlet and outlet position of this range, makes an easy installation. **HO Lamps at Low Pressure. Dosage: 30 mJ. Maximum water temperature 40°C.**

Code	Model LP Elektra EA4H	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
36835	EA-4H-5	3.6	1	30	-	63	450	10.16
36836	EA-4H-10	7	1	58	-	63	630	10.16
36837	EA-4H-20	9.6	1	80	-	63	990	10.16
36838	EA-4H-40	10.8	1	90	-	63	1170	10.16

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
36835	1	2.6	0.0026
36836	1	4.0	0.0040
36837	1	7.0	0.0070
36838	1	8.5	0.0085

## UV AUTOMATIC DISINFECTION

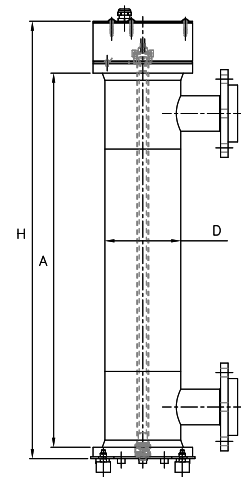
### Clair-UV "PE" ultraviolet system (aquaculture applications) - special sea water model

Clair UV PE range – special sea water model (aquaculture applications). Low pressure.

Irradiation chamber manufactured in Polyethylene (PE), a plastic material unaffected by salt water. Complete with cable and connectors for connection to pool control cabinet. **HO Lamps at low pressure. Dosage 35 mJ. Maximum water temperature 40°C. Maximum pressure: 6 bar. Electrical control box: IP-66 protection. Includes 30mA limit switch.**

Code	Modelo Clair-UV PE	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
32691	PE1160HO	5	1	75	25	D75=DN65	978	160
32692	PE2160HO	10	2	75	50	D75=DN65	978	160
32693	PE3160HO	20	3	75	75	D75=DN65	978	160
32694	PE4250HO	30	4	75	100	D140=DN125	978	250
32695	PE5250HO	40	5	75	125	D140=DN125	978	250
32696	PE6250HO	50	6	75	150	D140=DN125	978	250

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
32691	1	10.5	0.105
32692	1	10.5	0.105
32693	1	10.5	0.105
32694	1	23.5	0.235
32695	1	23.5	0.235
32696	1	23.5	0.235



## UV AUTOMATIC DISINFECTION

### Clair-UV "PE" ultraviolet system - Amalgame Lamps

Body in POLYETHYLENE. Amalgame Lamps. Dosage 35 mJ. Max. water temperature 60°C. Maximum pressure: 6 bar. Electrical control box: IP-66 protection. Includes 30mA limit switch.



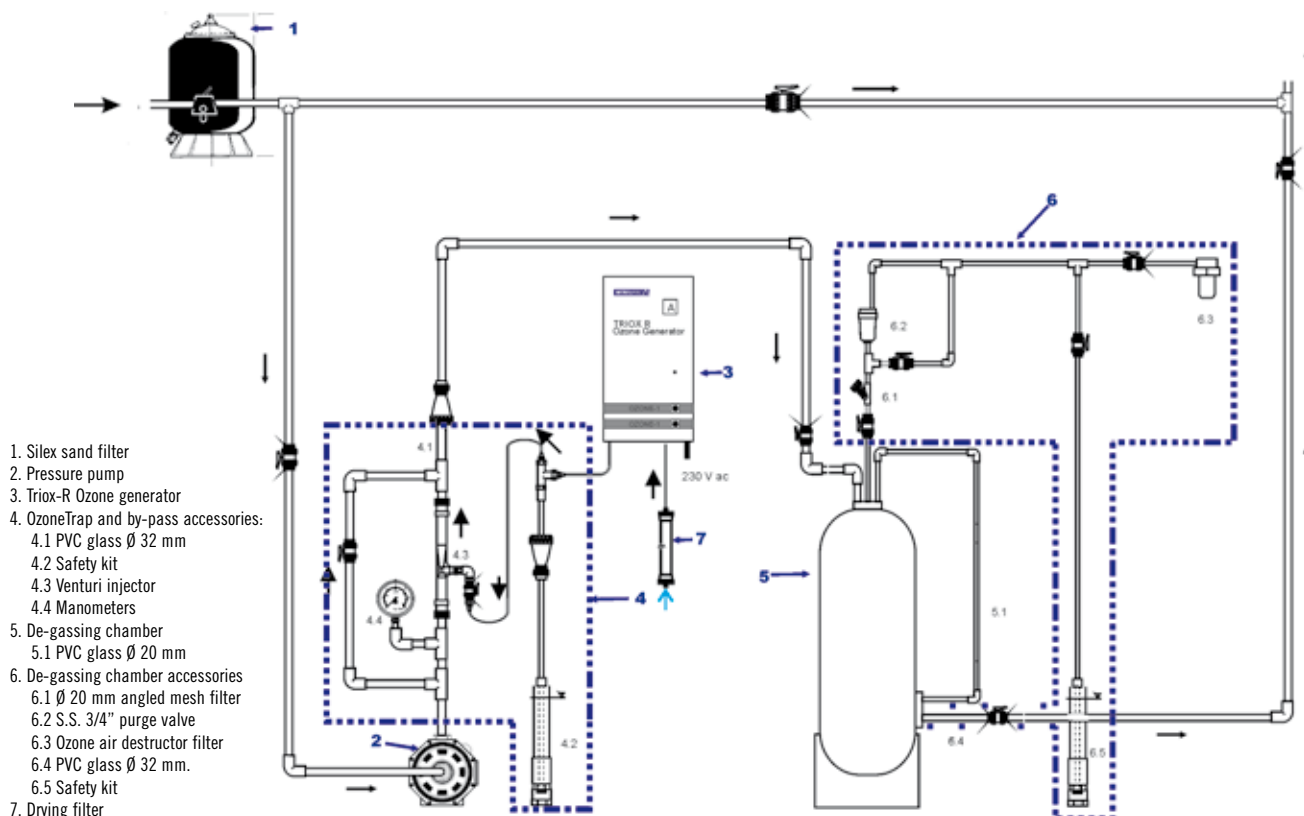
Code	Model Clair-UV PE	Flow rate Q m <sup>3</sup> /h	N° Lamps	Consumpt. lamps	Total lamp power UV-C (W)	DN flange inlet/outlet	Total Height A (mm)	Ø C of reactor
35982	PE2160/120AM	17.57	2	120	80	D75=DN65	983	160
35983	PE3160/120AM	26.14	3	120	120	D75=DN65	983	160
35984	PE4250/120AM	50.57	4	120	160	D140=DN125	983	250
35985	PE5250/120AM	62.57	5	120	200	D140=DN125	983	250
35986	PE6250/120AM	74.57	6	120	240	D140=DN125	983	250
35987	PE3250/300AM	74.57	3	300	300	D200=DN200	983	250
35988	PE4250/300AM	96.00	4	300	400	D200=DN200	983	250
35989	PE5250/300AM	114.00	5	300	500	D200=DN200	983	250
35990	PE5315/300AM	147.43	5	300	500	D200=DN200	1205	315
35991	PE6315/300AM	173.14	6	300	600	D200=DN200	1171	315
35992	PE7315/300AM	201.43	7	300	700	D200=DN200	1171	315
35993	PE8315/300AM	222.86	8	300	800	D200=DN200	1171	315

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
35982	1	10.5	0.0105
35983	1	10.5	0.0105
35984	1	23.5	0.0235
35985	1	23.5	0.0235
35986	1	23.5	0.0235
35987	1	28.0	0.0280
35988	1	28.0	0.0280
35989	1	28.0	0.0280
35990	1	51.0	0.0510
35991	1	51.0	0.0510
35992	1	51.0	0.0510
35993	1	51.0	0.0510

## AUTOMATIC OZONE DISINFECTION SYSTEM FOR RESIDENTIAL POOLS

**ATTENTION:** The design and application of ozone for public swimming pools should be undertaken by qualified personnel.

### INSTALLATION DIAGRAM FOR TRIOX-R OZONE GENERATOR





- 1. Silix sand filter
- 2. Pressure pump
- 3. Triox-R Ozone generator
- 4. OzoneTrap and by-pass accessories:
  - 4.1 PVC glass Ø 32 mm
  - 4.2 Safety kit
  - 4.3 Venturi injector
  - 4.4 Manometers
- 5. De-gassing chamber
  - 5.1 PVC glass Ø 20 mm
- 6. De-gassing chamber accessories
  - 6.1 Ø 20 mm angled mesh filter
  - 6.2 S.S. 3/4" purge valve
  - 6.3 Ozone air destructor filter
  - 6.4 PVC glass Ø 32 mm.
  - 6.5 Safety kit
- 7. Drying filter

### TRIOX-R Residential Ozone Generator

Ozone is the most powerful oxidising agent known, and is currently used in desinfecting processes for pool water. It can be used on its own or in combination with other disinfectants such as Chlorine and Bromine. TRIOX-R ozone generating systems are designed to be used in spas and residential pools with a capacity up to 200 m<sup>3</sup>. These are extremely compact units allowing easy access to their components thus making installation, maintenance and repair much easier. **All TRIOX-R must have the 33511 code no. added to them when ordering.**



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>TRIOX-R SPAS</b> For spas up to 5 m <sup>3</sup> capacity	33556	1	23.0	0.12
<b>TRIOX-R 1</b> For residential pools up to 75 m <sup>3</sup> and public pools up to 50 m <sup>3</sup>	33557	1	24.0	0.12
<b>TRIOX-R 2</b> For residential pools up to 150 m <sup>3</sup> and public pools up to 100 m <sup>3</sup>	33558	1	25.0	0.14
<b>TRIOX-R 3</b> For residential pools up to 200 m <sup>3</sup> and public pools up to 150 m <sup>3</sup>	33559 	1	47.0	0.19
<b>TRIOX-R 4</b> For public pools up to 200 m <sup>3</sup>	33560 	1	48.0	0.19

Ozone trap and by-pass accessories, include venturi, PVC glass Ø 32 mm and manometer.

33511	1	2.0	0.05
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## AUTOMATIC OZONE DISINFECTION SYSTEM FOR RESIDENTIAL POOLS

### Booster pumps



Centrifugal multi-cellular horizontal pump. All parts in contact with the fluid are made of stainless steel. Integrated thermal protection in single-phase motors. Resistant to corrosion.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Model 70/5 - 0.75 kW for TRIOX-R1	07946	1	-	-
Model 70/7 - 0.90 kW for TRIOX-R2	07947	1	-	-
Model 120/7 - 1.10 kW for TRIOX-R3/4	07948	1	-	-

Seawater or tri-phase 400V versions available on request

### Drying filter



Manufactured in PVC, they are filled with drying silicon gel with colour indicator to indicate drying gel state. Inlet and outlet with PVDF 1/4" connector to Ø 8 mm tube. Optional, recommended for public pools.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
07950	1	2.0	0.036

### De-gassing chamber (optional)

These are fibreglass and Polyester resin chambers. **All chambers must have the code no. 33561 added**, which are de-gassing chamber accessories.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>	
Model Bovin 70 L for TRIOX-R1	33530	1	11.0	0.120
Model Bovin 92 L for TRIOX-R2	33531	1	13.0	0.140
Model Bovin 140 L for TRIOX-R3/4	33532	1	21.0	0.190

### De-gassing chamber accessories

De-gassing chamber accessories, includes ozone air destructor, 1/2" purge valve in AISI-316 stainless steel, prefilter, PVC glass tube Ø 32 mm for de-gassed water outlet.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
33561	1	2	0.5



### INSTALLATION COMPONENTS SELECTION TABLE

Volume m <sup>3</sup>	Ozone Generator	Booster pump	De-gassing chamber	Drying filter
Residential:				
Up to 75	TRIOX-R 1 (33557) + accessories (33511)	70/5 (07946)	Bovin 70 L (33530) + accessories (33561)	07950
Up to 150	TRIOX-R 2 (33558) + accessories (33511)	70/7 (07947)	Bovin 92 L (33531) + accessories (33561)	07950
Up to 200	TRIOX-R 3 (33559) + accessories (33511)	120/7 (07948)	Bovin 140 L (33532) + accessories (33561)	07950
Commercial:				
Up to 50	TRIOX-R 1 (33557) + accessories (33511)	70/5 (07946)	Bovin 70 L (33530) + accessories (33561)	07950
Up to 100	TRIOX-R 2 (33558) + accessories (33511)	70/7 (07947)	Bovin 92 L (33531) + accessories (33561)	07950
Up to 150	TRIOX-R 3 (33559) + accessories (33511)	120/7 (07948)	Bovin 140 L (33532) + accessories (33561)	07950
Up to 200	TRIOX-R 4 (33560) + accessories (33511)	120/7 (07948)	Bovin 140 L (33532) + accessories (33561)	07950

## AUTOMATIC OZONE DISINFECTION SYSTEM FOR COMMERCIAL POOLS



### TRIOX-P industrial Ozone Generator



Designed to simplify traditional ozone generators weak points, each unit consists of a reactor and a transformer. Directly connected without any high voltage cable. Includes safety control systems. High energy efficiency thanks to its proportional/discontinuous regulation system. The whole system is controlled by an electronic system that is perfectly compatible with any industrial control network (Profibus, ModBus, Ethernet etc.). Remote maintenance and breakdown supervision may be carried out via a telephone line.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
TRIOX P-20 Ozone Generator	<b>33745</b>	1	151	0.594
TRIOX P-40 Ozone Generator	<b>33746</b>	1	198	0.594
TRIOX P-60 Ozone Generator	<b>33747</b>	1	262	0.792
TRIOX P-80 Ozone Generator	<b>33748</b>	1	311	0.864
TRIOX P-100 Ozone Generator	<b>33749</b>	1	450	0.960
TRIOX P-120 Ozone Generator	<b>33750</b>	1	490	0.960
TRIOX P-140 Ozone Generator	<b>33751</b>	1	535	0.960
TRIOX P-160 Ozone Generator	<b>33752</b>	1	525	1.420
TRIOX P-180 Ozone Generator	<b>33753</b>	1	540	1.420
TRIOX P-200 Ozone Generator	<b>33754</b>	1	565	1.420
TRIOX P-260 Ozone Generator	<b>33755</b>	1	670	1.584
TRIOX P-300 Ozone Generator	<b>33756</b>	1	735	1.782
TRIOX P-500 Ozone Generator	<b>33758</b>	1	945	2.376



### SELECTION OF OZONE GENERATOR SYSTEMS TABLE

Code	Description	Production gO <sub>3</sub> /h	Pool volume (m <sup>3</sup> ) (turnover 4 h)	
			Ozonation 100%	Ozonation 30%
<b>33745</b>	TRIOX P-20	20	80	250
<b>33746</b>	TRIOX P-40	40	160	480
<b>33747</b>	TRIOX P-60	60	240	720
<b>33748</b>	TRIOX P-80	80	320	960
<b>33749</b>	TRIOX P-100	100	400	1200
<b>33750</b>	TRIOX P-120	120	480	1440
<b>33751</b>	TRIOX P-140	140	560	1680
<b>33752</b>	TRIOX P-160	160	640	1920
<b>33753</b>	TRIOX P-180	180	720	2160
<b>33754</b>	TRIOX P-200	200	800	2400
<b>33755</b>	TRIOX P-260	260	1040	3120
<b>33756</b>	TRIOX P-300	300	1200	3600
<b>33758</b>	TRIOX P-500	500	2000	6000

NOTE: For other ozone production data and for systems fed with oxygen, please enquire.



## AUTOMATIC OZONE DISINFECTION SYSTEM FOR COMMERCIAL POOLS



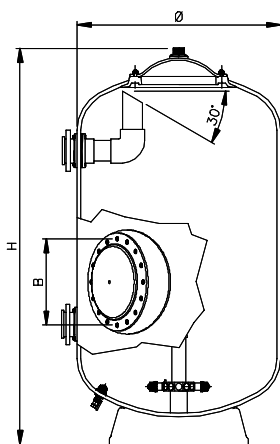
### Mixing ozone with water: Contact chambers

Contact chambers manufactured in fibreglass and polyester resin with internal parts made of 100% non-corrosive PVC. With an internal gel coat that can support maximum ozone concentrations of 0.5 ppm. Working pressure of 2.5 Kg/cm<sup>2</sup> and test pressure of 3.75 kg/m<sup>2</sup> equipped with lateral manhole, lateral sight-glass, 3/4" water purge and air relief to be connected to an automatic purge for ozone. Thanks to its internal design, optimum mixing of ozone and air / water is assured.

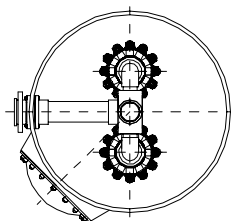
	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Laminated fibreglass contact chamber</b>				
Ø 800 mm connection Ø 63 mm Volume: 992 l	<b>11615</b>	1	140	2.0
<b>Bobbin wound fibreglass contact chamber</b>				
Ø 1050 mm connection Ø 110 mm Vol: 1500 l	<b>09993</b>	1	207	2.47
Ø 1200 mm connection Ø 140 mm Vol: 1870 l	<b>09994</b> ▲	1	234	3.16
Ø 1400 mm connection Ø 140 mm Vol: 2691 l	<b>09995</b> ▲	1	274	4.66
Ø 1600 mm connection Ø 160 mm Vol: 3622 l	<b>09996</b>	1	360	6.22
Ø 1800 mm connection Ø 200 mm Vol: 4731 l	<b>09997</b> ▲	1	416	8.48
Ø 2000 mm connection Ø 225 mm Vol: 5802 l	<b>09998</b> ▲	1	483	10.32

### SELECTION OF OZONE / CONTACT CHAMBERS

Ozone Generator	Contact Chamber 2 minutes			Relief Valve	
	Diameter (mm)	Code	Units	Code	Units
TRIOX P-20	800	<b>11615</b>	1	<b>15740</b>	1
TRIOX P-40	1050	<b>09993</b>	1	<b>15740</b>	2
TRIOX P-60	1200	<b>09994</b>	1	<b>15740</b>	2
TRIOX P-80	1400	<b>09995</b>	1	<b>15740</b>	2
TRIOX P-100	1600	<b>09996</b>	1	<b>15741</b>	1
TRIOX P-120 / P-140	1800	<b>09997</b>	1	<b>15741</b>	1
TRIOX P-160 / P-180	2000	<b>09998</b>	1	<b>15741</b>	2
TRIOX P-200	2350	<b>09999</b>	1	<b>15741</b>	2
TRIOX P-260	1800	<b>09997</b>	2	<b>15741</b>	4
TRIOX P-300	2000	<b>09998</b>	2	<b>15741</b>	8
TRIOX P-500	2000	<b>09998</b>	3	<b>15741</b>	12



FRONT



PLAN-VIEW

Code	Ø (mm)	H (mm)	B (mm)
<b>11615</b>	800	2080	300x400
<b>09993</b>	1050	2070	400
<b>09994</b>	1200	2080	400
<b>09995</b>	1400	2175	400
<b>09996</b>	1600	2310	400
<b>09997</b>	1800	2320	400
<b>09998</b>	2000	2460	400

## AUTOMATIC OZONE DISINFECTION SYSTEM FOR COMMERCIAL POOLS



### Destruction of ozone in water: Ozone destruction filter and purge valve

Oslo filter, high performance, vertical bobbin wound filter. See technical features in page 137.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Ozone destruction filter Ø 1050 mm	<b>04612</b>	1	207	2.5
Ozone destruction filter Ø 1200 mm	<b>04650</b>	1	234	3.2
Ozone destruction filter Ø 1400 mm	<b>04616</b>	1	294	4.7
Ozone destruction filter Ø 1600 mm	<b>04651</b>	1	360	6.2
Ozone destruction filter Ø 1800 mm	<b>04624</b>	1	416	8.5
Ozone destruction filter Ø 2000 mm	<b>04652</b>	1	483	10.3
Ozone destruction filter Ø 2350 mm	<b>08694</b>	1	651	15.8
Ozone destruction filter Ø 2500 mm	<b>08706</b>	1	820	20.8
Relief valve G 3/4" F x 1/2" M	<b>15740</b>	1	0,8	0,01
Relief valve G 1" F x 3/4" M	<b>15741</b>	1	2,6	0,01

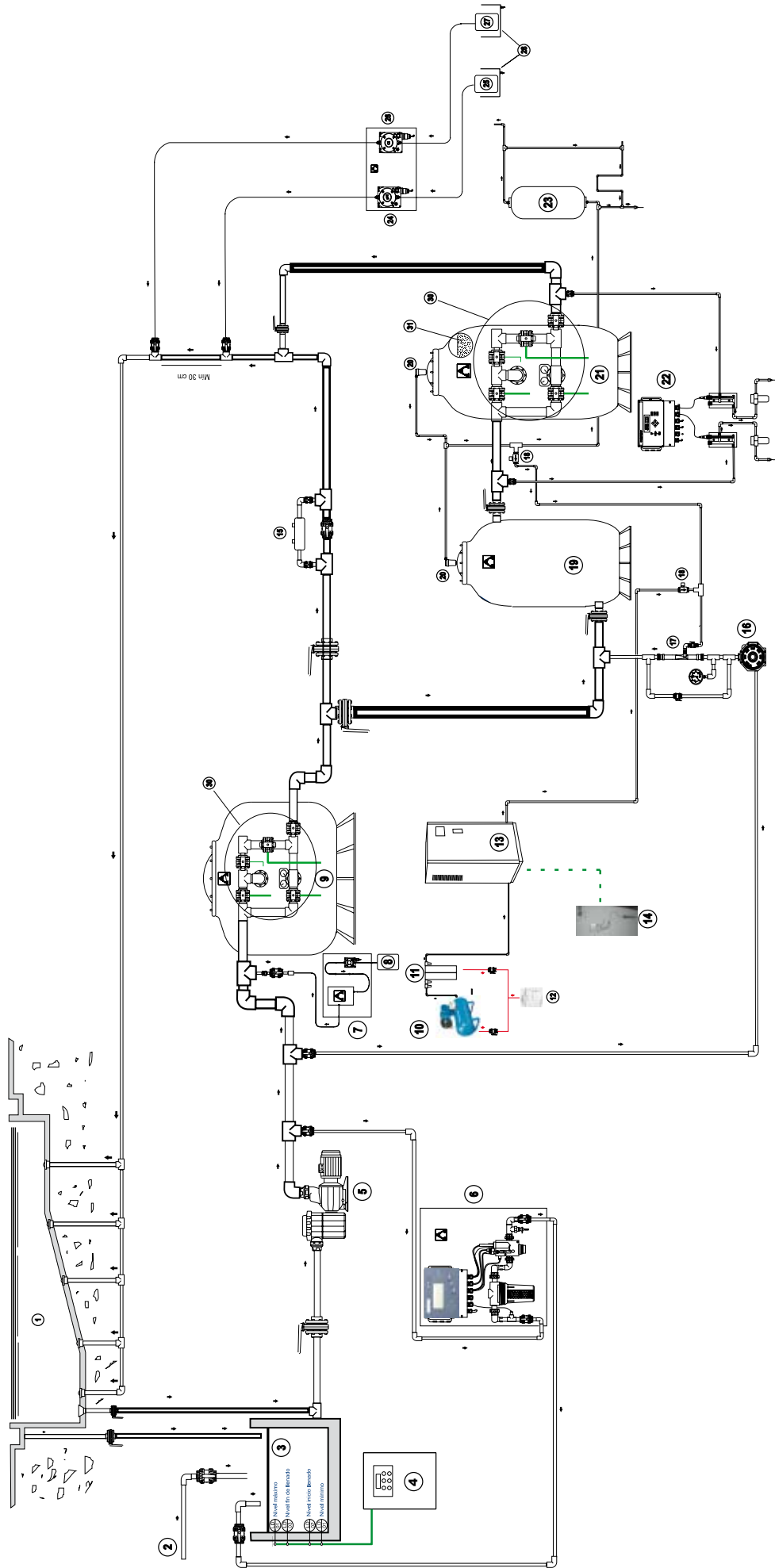
A valve manifold is required



## SELECTION TABLE OF OZONE DESTRUCTION SYSTEMS

Ozone Generator	Ozone destroyer filter			Relief Valve		Activated Carbon		Destroyer ozonated air	
	Ø (mm)	Code	UniT	Code	UniT	Code	UniT (25 kg)	Code	Unit
TRIOX P-20	1050	<b>04612</b>	1	<b>15740</b>	1	<b>QC02399100</b>	18	<b>33507</b>	2
TRIOX P-40	1200	<b>04650</b>	1	<b>15740</b>	2	<b>QC02399100</b>	23	<b>33508</b>	2
TRIOX P-60	1400	<b>04616</b>	1	<b>15740</b>	2	<b>QC02399100</b>	31	<b>33508</b>	2
TRIOX P-80	1600	<b>04651</b>	1	<b>15740</b>	2	<b>QC02399100</b>	41	<b>33509</b>	2
TRIOX P-100	1800	<b>04624</b>	1	<b>15741</b>	1	<b>QC02399100</b>	51	<b>33510</b>	1
TRIOX P-120	2000	<b>04652</b>	1	<b>15741</b>	1	<b>QC02399100</b>	63	<b>33510</b>	1
TRIOX P-140	2350	<b>08694</b>	1	<b>15741</b>	2	<b>QC02399100</b>	74	<b>33510</b>	1
TRIOX P-160	2350	<b>08694</b>	1	<b>15741</b>	2	<b>QC02399100</b>	74	<b>33510</b>	1
TRIOX P-180	2500	<b>08706</b>	1	<b>15741</b>	2	<b>QC02399100</b>	79	<b>33510</b>	1
TRIOX P-200	2500	<b>08706</b>	1	<b>15741</b>	2	<b>QC02399100</b>	79	<b>33510</b>	1
TRIOX P-260	2350	<b>08694</b>	2	<b>15741</b>	2	<b>QC02399100</b>	148	<b>33510</b>	1
TRIOX P-300	2350	<b>08694</b>	2	<b>15741</b>	2	<b>QC02399100</b>	148	<b>33510</b>	1
TRIOX P-500	2350	<b>08694</b>	3	<b>15741</b>	3	<b>QC02399100</b>	222	<b>33510</b>	1

INSTALLATION DIAGRAM FOR THE OZONATION OF A COMMERCIAL POOL



**AUTOMATIC OZONE DISINFECTION SYSTEM FOR COMMERCIAL POOLS**

**INSTALLATION DIAGRAM FOR THE OZONATION OF A COMMERCIAL POOL**

- 1 Pool shell
- 2 Main water supply inlet
- 3 Balance tank
- 4 Level control for balance tank
- 5 Filtration pump
- 6 Poolwatch mV/pH/ppm/°C control and regulation system
- 7 Continuous Autoflok flocculation system
- 8 Flocculant tank
- 9 Sand filter
- 10 Air compressor
- 11 Adsorption Air dryer
- 12 Oil / water separator
- 13 Ozone generator
- 14 Ozone leakage detector
- 15 Heat exchanger
- 16 Pressure pump
- 17 Venturi injector
- 18 Re-flow electrovalve
- 19 Contact chamber
- 20 Automatic ozone air relief
- 21 Ozone water destruction filter
- 22 Poolwatch Rx/Rx
- 23 Ozonized air destroyer
- 24 pH corrector dosifying pump
- 25 Storage tank for pH corrector
- 26 Disinfectant liquid dosifying pump
- 27 Storage tank for disinfectant liquid
- 28 Storage tanks for chemical spillage
- 29 Valve manifold for sand filter
- 30 Valve manifold for ozonized water destruction filter
- 31 Granular activated carbon

**CONTINUOUS FLOCCULATION SYSTEM**



**Autofloc continuous flocculation system**

**Fina**

Autofloc is an automatic continuous flocculant dosing unit for pool water. Includes 1 litre per hour dosing pump and injector nozzle.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
19936	1	5.6	0.033



## DOSING PUMPS



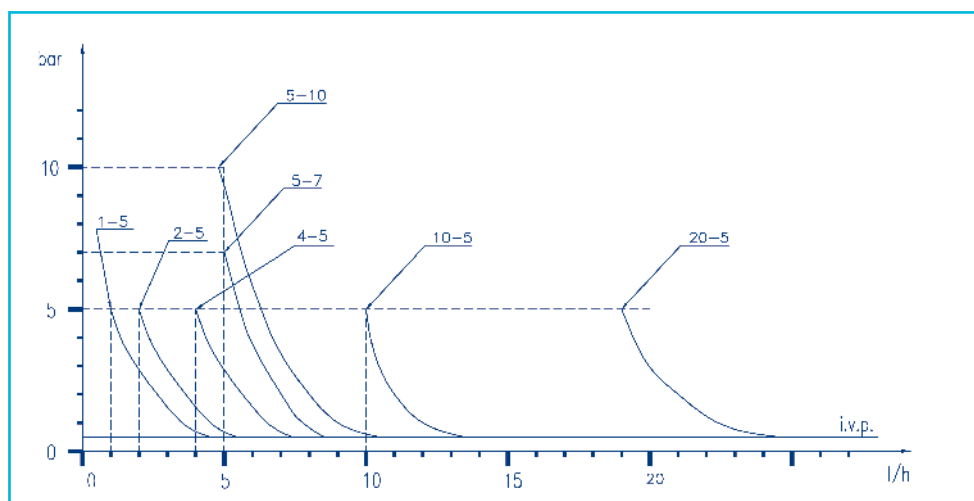
### Exactus membrane dosing pumps

Electronic dosing pump for wall mounting or horizontal base. 6 models available:

- Analogical manual
- Microprocessor manual
- Proportional processor via mA external signal
- With incorporated pH instrument
- With incorporated Redox instrument.
- Volumetric (enquire Aquastral)

All systems comply with EC regulations. IP-65 protection. Electrical connection: 220/240 V 50/60 Hz. Materials in contact with the liquid: Polypropylene, Viton, Teflon and PVC. Other valve models in different materials available on request. Includes anti-acid plastic housing. Touch sensitive moisture resistant indicator. Drainage valve included. Lubrication-free, minimal maintenance. On request, the unit can be supplied with outlet, level probe or other operating voltages.

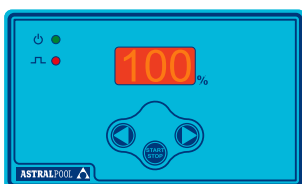
### EXACTUS PUMP PERFORMANCE CURVES



### Exactus Manual model

Electronic dosing pump for wall mounting or horizontal base. Manually regulated flow rate. Regulation range: 0-100% and 0-20%. Acid resistant plastic housing.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Manual	2 l/h - 5 bar	<b>33837</b>	1	4	0.20
Manual	2 l/h - 10 bar	<b>33838</b>	1	4	0.20
Manual	5 l/h - 7 bar	<b>33839</b>	1	4	0.20
Manual	5 l/h - 10 bar	<b>33840</b>	1	4	0.20
Manual	10 l/h - 5 bar	<b>33841</b>	1	4	0.20
Manual	20 l/h - 5 bar	<b>33842</b>	1	4	0.20



### Exactus Manual Microprocessor model

Electronic dosing pump for wall mounting or horizontal base. Manually regulated flow rate with digital control for injection frequency. Regulation range: 0-100% and 0-20%. Product ready to incorporate level probe (not included). Acid resistant plastic housing.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Manual	2 l/h - 10 bar	<b>32365</b>	1	4	0.20
Manual	5 l/h - 7 bar	<b>32366</b>	1	4	0.20
Manual	5 l/h - 10 bar	<b>32367</b>	1	4	0.20
Manual	10 l/h - 5 bar	<b>32368</b>	1	4	0.20
Manual	20 l/h - 5 bar	<b>32369</b>	1	4	0.20



## DOSING PUMPS

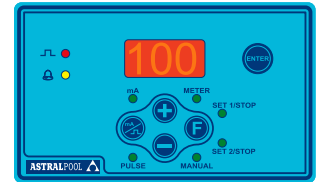


### Exactus Proportional model



Electronic dosing pump for wall mounting or horizontal base. Microprocessed proportional regulation via mA external signal 4 – 20 mA.

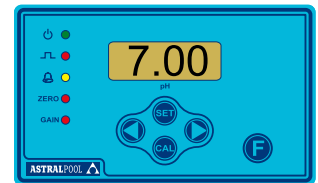
		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Proportional (4-20mA)	5 l/h- 7 bar	<b>25361</b>	1	4	0.20
Proportional (4-20mA)	5 l/h- 10 bar	<b>25363</b>	1	4	0.20
Proportional (4-20mA)	10 l/h- 5 bar	<b>25365</b>	1	4	0.20
Proportional (4-20mA)	20 l/h- 5 bar	<b>25367</b>	1	4	0.20



### Exactus pH Proportional model

Electronic dosing pump for wall mounting or horizontal base. pH regulation via proportional control. Regulation range: 0% - 100%. pH electrode not included.

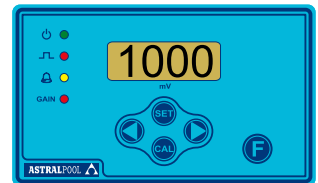
		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
pH model	5 l/h - 10 bar	<b>25368</b>	1	4	0.20
pH model	10 l/h - 5 bar	<b>25369</b>	1	4	0.20



### Exactus RX Proportional model

Electronic dosing pump for wall mounting or horizontal base. Redox regulation via proportional control. Regulation range: 0% - 100%. Redox electrode not included.

		Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Model RX	5 l/h - 10 bar	<b>25370</b>	1	4	0.20
Model RX	10 l/h - 5 bar	<b>25371</b>	1	4	0.20



### pH electrode

For pH model Exactus pump.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01303</b>	1	0.2	0.001



### RX electrode

For RX model Exactus pump.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01304</b>	1	0.3	0.001



### Electrode holder

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01305</b>	1	0.3	0.001



### Electrode holder (pressure)

For working with pressure.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01306</b>	1	0.3	0.001





## DOSING PUMPS

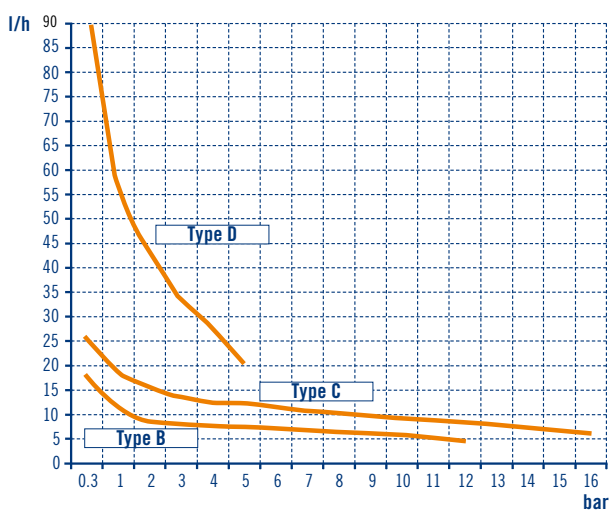


### Optima dosing pumps

The OPTIMA dosing pump represents the development of more than 30 years of experience in the automatic dosing field. This new series reduces the number of pumps required to meet the various dosing needs. The OPTIMA dosing pump series, with its new power supply technology from 90, VCA to 265 VCA and at 50-60 Hz, ensures a precision and reliability never seen before.

Integration of many functions due to its simple programming, an alphanumeric display, the possibility of multilingual programming of the menu and a new technology which permit controlled flow rate and back pressure. Allows to use the same model for various applications providing a great versatility.

Systems produced according to EC standards, IP65 protection, 90-265 VCA 50/60 Hz electrical power supply. Materials in contact with the chemical product are made of polypropylene, Viton, Teflon and PCV (other materials possible upon request). Anti-acid plastic container. Moisture-resistant membrane buttons. Built-in relief valve. No lubrication necessary, minimum maintenance. Peristaltic pump also available (see page 234).



### OPTIMA constant flow rate analog dosing pump

The flow rate can be set as a percentage using the potentiometer under the front panel, which modifies the pump's operation frequency. Disposes of a level sensor inlet.

**Double scale adjustment:** OPTIMA analog dosing pumps can divide the maximum dosing frequency by 5. This double scale allows the user to have two pumps with a single model.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Type B</b> Optima Manual Adjustable Pump 5-10 bar and 2-5 l/h	36007	1	3.5	0.01
<b>Type C</b> Optima Manual Adjustable Pump 5 bar and 10 l/h	36008	1	4.5	0.01
<b>Type D</b> Optima Manual Adjustable Pump 5 bar and 20 l/h	36009	1	4.5	0.01

## DOSING PUMPS



### OPTIMA proportional and volumetric digital dosing pump

new



OPTIMA pumps provide all the functions of proportional dosing in a single model.

**Features:**

- Proportional with analog signals 0/4...20mA
- Proportional with digital signals and the possibility of:
  - Multiplying the input impulses (1:n)
  - Dividing the input impulses (n:1)
  - Function in ppm
  - The pump has a memory function for processing input impulses dosing
- Level alarm with pump disconnection.
- Maximum dosing flow rate to prevent overdosing.
- Password for protecting programmed data
- Possibility of alarm connection.
- 90-265 VAC 50/60 Hz power supply.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Type B</b> Model 7-10 bar and 5 liters	<b>36010</b>	1	3.5	0.01
<b>Type C</b> Model 5 bar and 10 liters	<b>36011</b>	1	4.5	0.01
<b>Type D</b> Model 5 bar and 20 liters	<b>36012</b>	1	4.5	0.01



### OPTIMA dosing pump with pH / Redox analyzer

new




OPTIMA dosing pump with built-in pH/Redox control. pH/Redox instrument. Automatic calibration: Calibration by simply pressing a button, with the possibility of controlling the level of probe efficiency

**Features:**

- 90-265 VAC 50/60 Hz power supply
- Manual compensation of temperature for pH or automatic compensation with PT100.
- 4...20mA output for printed register or transmission of the reading.
- Level alarm with pump disconnection.
- Set point deviation alarm, programmable for the entire measurement range.
- O.F.A. time (Over Feed Alarm) to prevent dosing if any probe malfunctions.
- Maximum dosing flow rate to prevent overdosing.
- Password for protecting programmed data.
- Possibility of alarm connection..

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Type C</b> Optima Redox/pH control dosing pump (10 bar and 5 l/h and 5 bar and 10 l/h)	<b>36013</b>	1	4.5	0.01

Sensors				
pH sensor with calibration solutions (Code: 36004)				
Redox sensor with calibration solutions (Code: 36005)	•			•

## DOSING PUMPS



### Automatic relief valve



Gas inside the dosing pump head may compromise proper operation of the pump. The relief valve automatically eliminates gas produced inside the pump's head. The relief valve must be installed directly on the dosing unit's delivery valve.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Automatic relief valve	36829	1	0.1	0.001



### Bracket for mounting above tank



Optional support for mounting the OPTIMA series and pH Basic horizontally; for example, above chemical solution tanks.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Support bracket above tanks	36830	1	0.1	0.002

### Peristaltic dosing pump



Maximum flow 3 l/h at 96 r.p.m. Power supply 220/240 V 50/60 Hz. Regulation from 10% to 100%. The materials in contact with the liquid are Silicone and PP.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With housing	07822	1	6.5	0.076



### Polyethylene cylindrical tanks



To hold chemicals for dosage pumps.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Capacity: 100 l	34316	1	4.5	0.120
Capacity: 250 l	01315	1	10.0	0.390
Capacity: 350 l	01316	1	14.0	0.510
Capacity: 500 l	01317	1	21.5	0.760
Capacity: 750 l	28830	1	-	-
Capacity: 1000 l	28831	1	-	-



### Manual stirrer



For Polyethylene tanks.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Length 60 cm	01318	1	0.5	0.010
Length 90 cm	01319	1	1.2	0.020

## AUTOMATIC REGULATION AND CONTROL EQUIPMENT

**Definition:**

1. **Organic Chlorine (stabilised Chlorine):** This term is used to indicate pools treated with trichlor tablets, granular Dichor etc. – in other words, pools that use an Isocyanuric acid organic compound.
2. **Inorganic Chlorine (un-stabilised Chlorine):** This term is used to indicate pools treated with either Sodium or Calcium Hypochlorite.
3. **Organic Bromine:** This term is used to indicate pools treated with Dimethylhydantoin Bromine (in tablets).

### Easywatch control and regulation system for residential pools

Chemical product dosage control and regulation system for residential pools. It is easy to operate with minimal maintenance, user-friendly design. It consists of a central unit which controls dosage, pH and Redox potential electrodes which measure water quality, mounted on an analysis chamber.

Includes electrodes. The unit features 5 operational modes with different symbols for each mode:

- OFF: Switched off.
- ECO: This is the appropriate level for water which does not need a high degree of disinfection as the water is already of high quality and therefore does not require much disinfection. For example, would be the case in pools with few swimmers or relatively low temperatures or water volumes small.
- NORMAL 1: This is to be used when disinfectant needs are within normal limits due to the number of pool users, water temperature or volume, or the type of chemical being regulated.
- NORMAL 2: To be used when a greater level of disinfection is required, for whatever reason, including increased number of swimmers, a higher than normal concentration of contaminants is expected or for other reasons.
- SUPER: This level is to be employed when the demand for disinfectants is extremely high, for example after a storm or should the water require a small hyper-chlorination treatment.

Each operational mode automatically adjusts the dosage of pH corrector and disinfectant.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
32460	1	12	0.08



### SmartWatch colorimetric control and regulation system

Smartwatch is a control and automatic dosing equipment for pH and residual level of free Chlorine in water. The advantage of this equipment consists in that it gets the free Chlorine reading through colorimetrics (DPD). This system is used in photometers and it is backed up with many years of experience high reliability.

The new equipment SMARTWATCH also measures REDOX and water temperature. It can incorporate the measurement of Total Chlorine, DPD-3 conductivity, turbidity and flow. Using a special software it is possible to control the equipment from a PC remotely through internet, mobile phone or local control. The system allows access to the information in real time or to all the installation history.

**Includes:** Readings of Chlorine (DPD-1), pH (includes sensor), Redox (includes sensor), temperature (includes sensor) and software for local connection (not internet).

The internet communication equipment code 35073. Includes: Modem, antenna, Software license maximum 5 controllers.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Basic Equipment for dosing and Control	34198	1	1.4	0.140
Reagent Set for colorimetrics Controler				
DPD1 Free Chlorine (4 complete kits)	34210	1	1.4	0.270
Total Chlorine DPD-3 Upgrade kit	35069	1	0.5	0.002
Reagent for Chlorimetric Controler				
DPD3 total Chlorine (1 kit)	35415	1	0.5	0.002
Internet communication equipment	35073	1	1.5	0.006
4-20 mA module (6x4-2) 6 x digital	35080	1	1.0	0.009



## AUTOMATIC REGULATION AND CONTROL EQUIPMENT



### Poolwatch Basic control and regulation system for commercial pools



33512



16649

A range of units based on the control and regulation of chemicals, designed for use in public pools. 2 parameter control range. Control and regulation is achieved by taking two readings of either pH and RedOx potential in mV, or pH and Chlorine concentration (ppm), or pH and hydrogen peroxide concentration. PH and RedOx measurements are potentiometric, whilst those measuring Chlorine and hydrogen peroxide concentrations are amperometric, in ppm. 2 analogical 4-20 mA outlets are included for registration or modulation, as well as an RS-485 outlet for communications.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Control and regulation system Poolwatch Basic, pH / Rx	33512	1	12	0.08
Control and regulation system Poolwatch Basic, pH / ppm Redox	33513	1	12	0.08
Control and regulation system Poolwatch Basic, pH / ppm Cl inorg	16647	1	12	0.08
Control and regulation system Poolwatch Basic, pH / ppm Cl org	16649	1	12	0.08
Control and regulation system Poolwatch Basic, pH / ppm Cl inorg ECO	28472	1	12	0.08

NOTE: Please inquire for parametrical variations (conductivity, pH/pH etc.).



### Poolwatch Top control and regulation system for commercial pools



22718

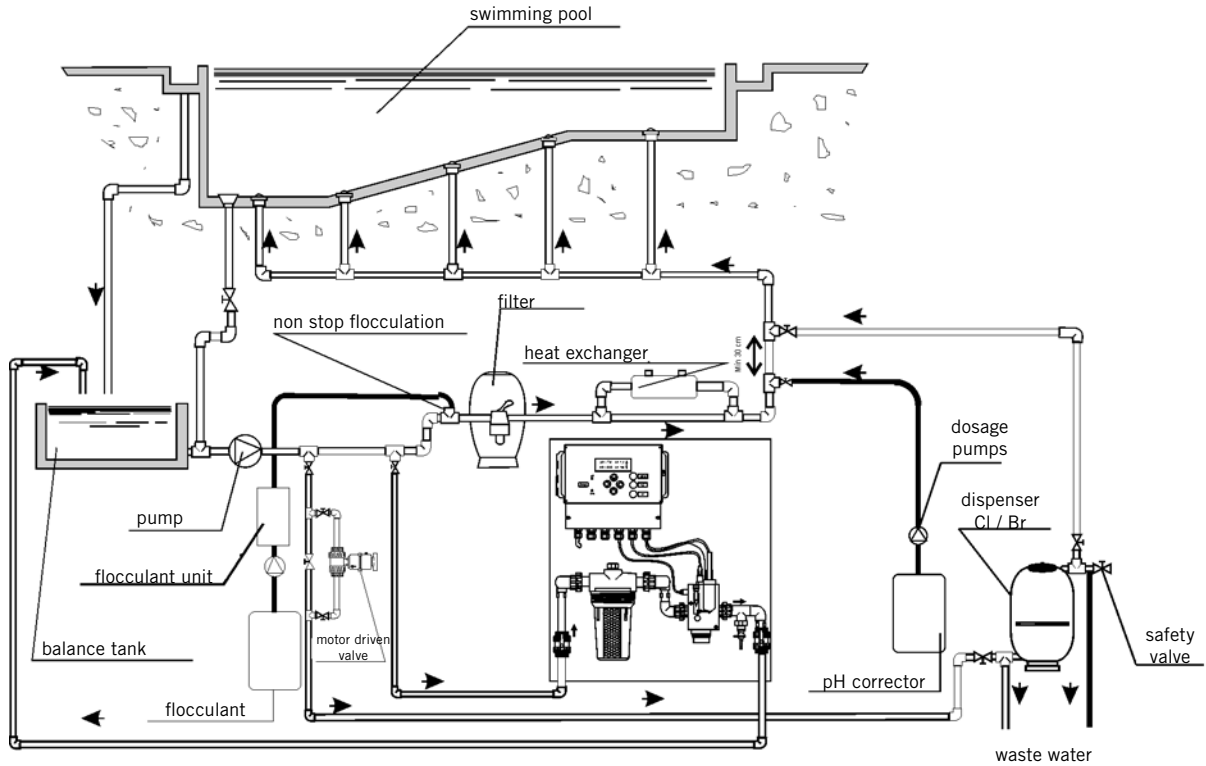
A range of systems based on the control and regulation of chemical products, designed for use in public pools. 3 parameter control range plus temperature. Control and regulation is achieved via 4 readings, pH concentration, ppm Chlorine or Bromine concentration, mV RedOx potential and temperature. pH and RedOx readings are potentiometric, whilst those measuring Chlorine and Bromine concentrations are amperometric, in ppm. 4 analogical 4-20 mA outlets are included for registration or modulation, as well as an RS-485 outlet for communications.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Poolwatch Top, pH / Rx / ppm inorganic Cl / Temperature	22718	1	12	0.08
Poolwatch Top, pH / Rx / ppm organic Cl / Temperature	22719	1	12	0.08
Poolwatch Top, ECO, pH / Rx / ppm inorganic Cl / Temperature	29485	1	12	0.08
Poolwatch Top, pH / Rx / ppm Bromine / Temperature	28473	1	12	0.08

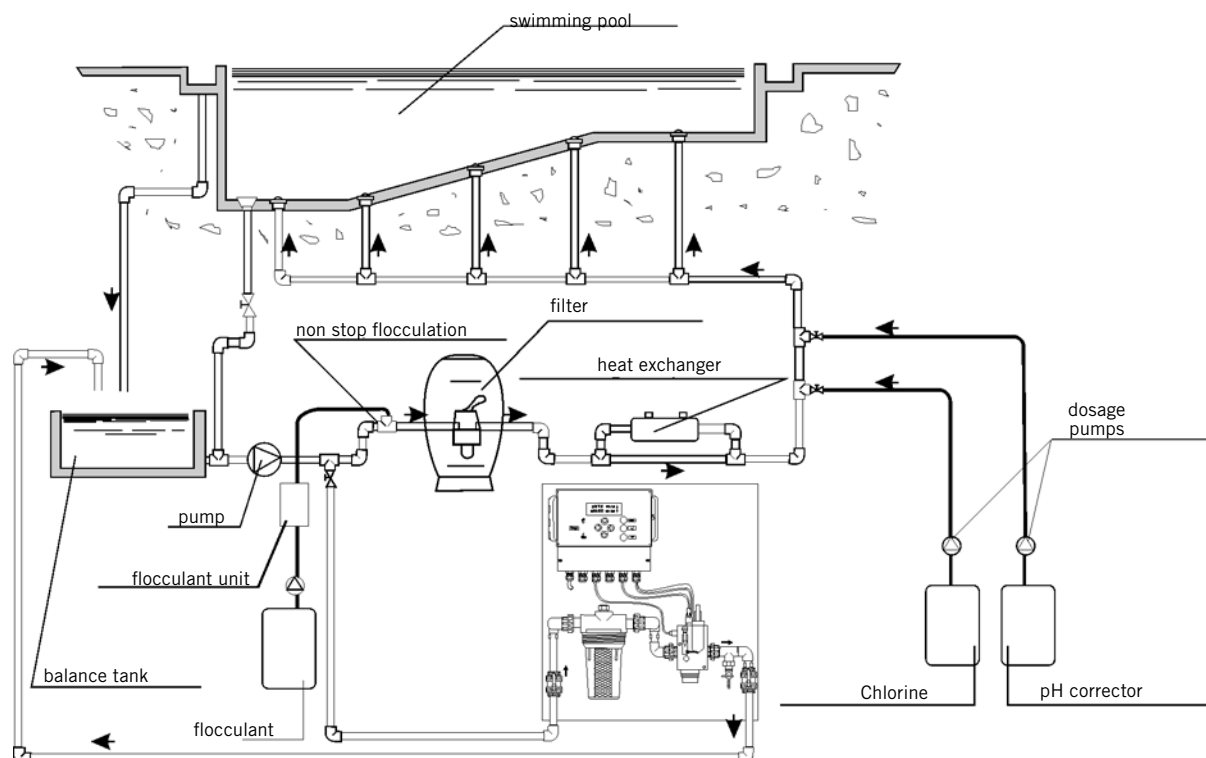
NOTE: Please inquire for parametric variations (conductivity, perox etc.).

## AUTOMATIC REGULATION AND CONTROL EQUIPMENT

### Installation diagram for organic Chlorine or Bromine



### Installation diagram for Inorganic Chlorine





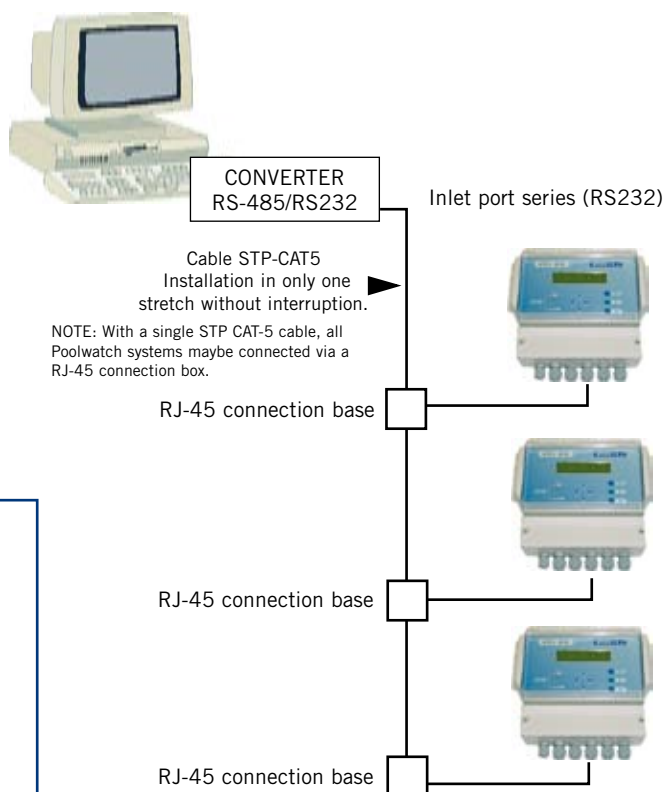
## AUTOMATIC REGULATION AND CONTROL EQUIPMENT



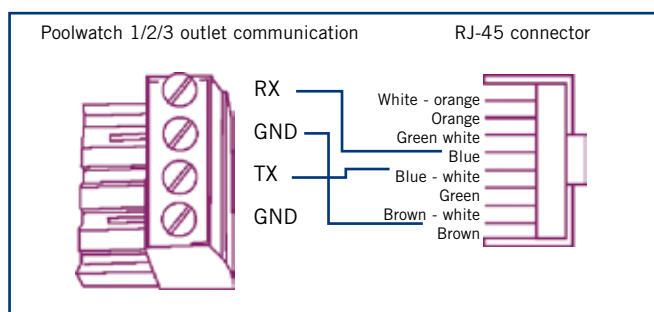
### Connection of Poolwatch Basic and Top systems to a PC

PC software accessories for Poolwatch regulation systems. The connection of a Poolwatch system to a PC is possible with a set of accessories code no. 30885, whilst the connection of various systems requires codes. 30885 + 30886 for each Poolwatch system requiring connection.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
PC software accessory set 1 Poolwatch system	30885	1	-	-
PC software accessory set 1 Poolwatch supplementary system	30886	1	-	-



### POOLWATCH SYSTEM OUTLET CONNECTION TO RJ-45 CONNECTOR



## AUTOMATIC REGULATION AND CONTROL EQUIPMENT



### Controller

Automatic pH, Redox and free Chlorine regulation equipment.

#### CONTROLLER MINOR/1 - ((organic or inorganic Cl))

- pH & Redox self-calibration.
- Manual or automatic temperature compensation (with optional sensor PT 100).
- Regulating flow valve.
- Emptying faucet for maintenance and taking of samples.
- Recommended for residential swimming pools.

Includes:

- pH/Redox electrodes.
- Buffer solutions kit.
- Sensor holder.
- Control panel.
- Flow detector with alarm signal.

Does not include dosing pump nor electric valve for tablets dosage.

#### CONTROLLER/3 pH-Redox - (Organic or Inorganic Cl)

- pH & Redox self-calibration.
- Manual or automatic temperature compensation (with optional PT 100 sensor).
- Galvanic separation.
- 4-20 mA outlet for external registration.

Includes :

- pH/Redox electrodes.
- Buffer solutions kit.
- Control panel.

Does not include dosing pump nor electric valve for tablets dosage.

#### CONTROLLER/3 pH-Cl free - (Organic or Inorganic Cl)

- pH & Chlorine self-calibration.
- Automatic temperature compensation
- Galvanic separation.
- 4-20 mA outlet for external registration.

Includes :

- pH/Chlorine/sensor electrodes.
- Buffer solutions kit.
- Control panel.

Does not include dosing pump nor electric valve for tablets dosage.

#### CONTROLLER/4 pH-Cl free/Redox - (Organic or Inorganic Cl)

- pH, Chlorine and Redox self-calibration.
- Automatic temperature compensation
- Galvanic separation.
- 4-20 mA outlet for exterior register.

Includes :

- pH/Chlorine/Redox electrodes.
- Buffer solutions kit.
- Control panel.

Does not include dosing pump nor electric valve for tablets dosage.



	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Controller Minor/1	<b>27355</b>	1	10	0.08
Controller/3 pH-Redox	<b>27356</b>	1	17	0.20
Controller/3 pH-Cl free	<b>27357</b>	1	20	0.20
Controller/4 pH-Cl free-Redox	<b>27358</b>	1	20	0.20



## ELECTRODE CLEANING AND ADJUSTMENT



### Cleaning kit n° 1

Contains:  
 Buffer solution pH 4,  
 Buffer solution pH 7,  
 Redox solution 460 mV &  
 Cleaning solution.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
16652	1	1.1	0.002



### Cleaning kit n° 2

Contains:  
 Buffer solution pH 7,  
 Buffer solution pH 9,  
 Redox solution 460 mV &  
 Cleaning solution.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
16653	1	1.1	0.002



### Solutions

Buffer solution pH 4  
 Buffer solution pH 7  
 Buffer solution pH 9  
 Redox solution 460 mV  
 Cleaning solution  
 Solution for storing pH electrodes

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
16654	4	5.5	0.010
16655	4	5.5	0.010
16656	4	5.5	0.010
16657	4	5.5	0.010
16658	4	5.5	0.010
24767	4	5.5	0.010

## ANTI-SUCTION SAFETY SYSTEM



### Warner Anti-suction safety system

Electronic equipment for automatically switching ON and OFF the water pumping system, with utmost safety. Installed at the suction points to be protected, it detects pressure variations and assures the pump shutdown, thus preventing the swimmers from any harm. It complies with the CE low tension electronic regulations. IP-55 control panel protection. Easily installed, and readings with the help of five warning lights.

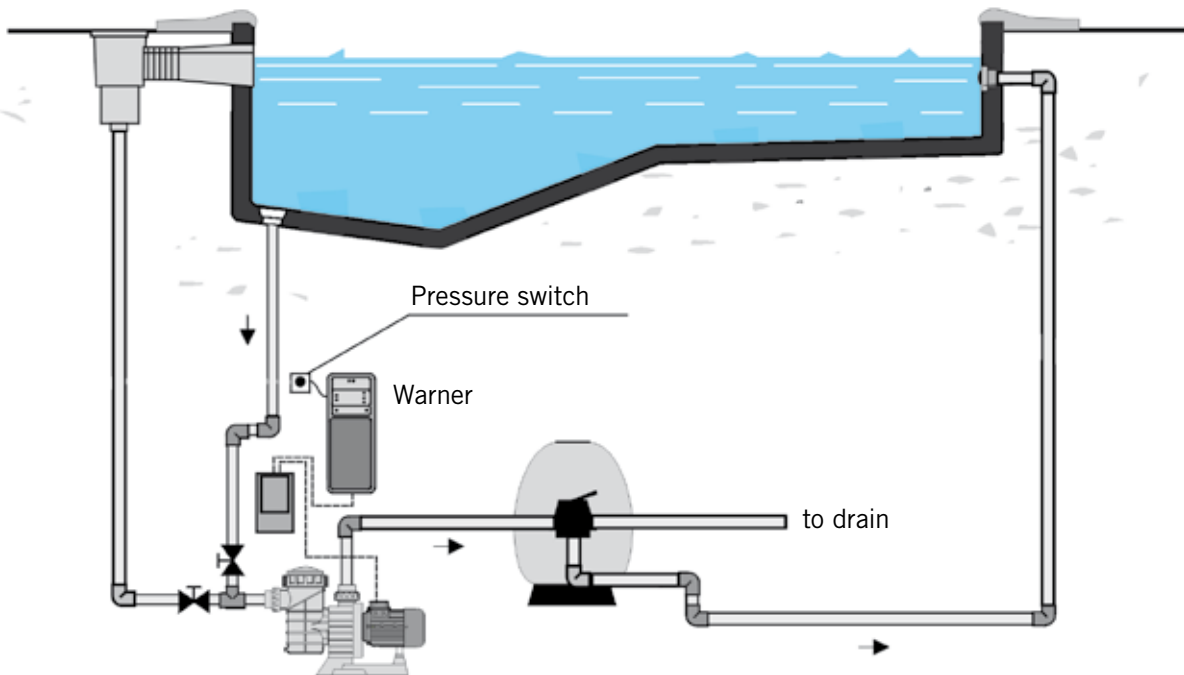
- Red: Pump start test
- Green: In process
- Red intermittent: Out of process
- Yellow: Pump shut down
- Blue: Pressure switch contact open

It further permits connection to supplementary lighting or acoustic signalling. Power supply: 220V II + earthing.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
16244	1	4.0	0.021



### “WARNER” INSTALLATION DIAGRAM

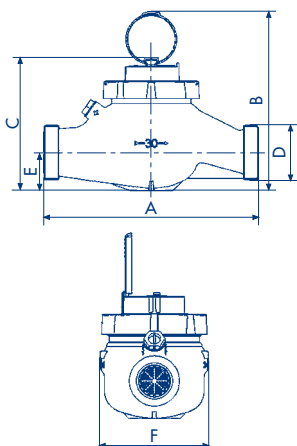


## WATER METERS



### Residential water meters

Dry operation. Models 1/2" - 3/4" single jet. Models 1" - 1 1/4" - 1 1/2" multiple jets. Adjustable totalizer 360°. For cold water up to 30°. Direct reading by means of numbered drums. From 1" prefitted with cycle emitter of impulses and EEC 75/33 certified. Fittings included.



#### ATTENTION:

The water meter metrology, indicated below, follows CEE/ISO class A regulations.

Calibre	Lectura máxima m³	A	F	C	B	Code	Standard Packing	Standard Weight kg	Standard Volume m³	
Racor	mm									
*1/2"	15	99.999	115	72	59.5	59.5	01134	1	0.5	-
*3/4"	20	99.999	115	72	59.5	59.5	01135	1	0.6	-
1"	25	99.999	260	103	124	190	01136	1	2.1	-
1 1/4"	30	99.999	260	103	124	190	01137	1	2.2	-
1 1/2"	40	999.999	300	128	155	222	01138	1	4.5	-

\* Primitive verification included

#### Metrology Features

Nominal Diameter	DN	mm	15	20	25	30	40	
		inches	1/2"	3/4"	1"	1 1/4"	1 1/2"	
Metrology features	Starting flow	l/h	7	12	25	25	70	
	Minimum reading step	l	0.05	0.05	0.05	0.05	0.5	
	Max. total reading	m³	99.999	99.999	99.999	99.999	999.999	
	Maxi head loss at max Q	bar	-	-	0.42	0.85	0.7	
	Maxi admissible temperature	°C	30	30	30	30	30	
	Maxi admissible pressure	bar	16	16	16	16	16	
Approved CEE values	Max Q	m³/h	3	5	7	10	20	
	Qn	m³/h	1.5	2.5	3.5	5	10	
	Qt	m³/h	0.12	0.20	0.28	0.4	0.8	
	Min Q	m³/h	0.03	0.05	0.07	0.1	0.2	
	Head loss at max Q	bar	0.9	0.9	0.6	1	1	
	Approval certificate CEE/ISO		F99.00.382.0008.0					



### Industrial water meters

Dry dial meter with numerical readout, for water till 50° C. Removable measuring mechanism, except that of 2" gauge. Maximum reading capacity: 10,000,000 m³.



	Code	Standard Packing	Standard Weight kg	Standard Volume m³
*2" gauge - 50 mm	01139	1	9.0	0.006
2 1/2" gauge - 65 mm	01140	1	13.0	0.008
3" gauge - 80 mm	01141	1	15.0	0.030
4" gauge - 100 mm	01142	1	17.0	0.030
6" gauge - 150 mm	01144	1	28.0	0.060
8" gauge - 200 mm	01145	1	48.0	0.060

\*Measuring mechanism not removable.



### Woltman type turbine meters

Woltman type axial turbine water meter, with numerical counter readout, and numbered drums. Dry dial with magnetic transmission. Easily removable gearwork and turbine. Pre-set for pulse emission. IP-68 protection level. CYBLE type pulse emission.



	Code	Standard Packing	Standard Weight kg	Standard Volume m³
2" gauge - 50 mm	20430	1	12,0	0,004
2 1/2" gauge - 65 mm	20431	1	13,6	0,004
3" gauge - 80 mm	20432	1	14,6	0,004
4" gauge - 100 mm	20433	1	20,0	0,006
5" gauge - 125 mm	20434	1	30,0	-
6" gauge - 150 mm	20435	1	36,0	0,009
8" gauge - 200 mm	20436	1	55,0	0,012
CYBLE type emitter K= 1 l/pulse	23235	1	-	-
CYBLE type emitter K= 10 l/pulse	23235-0010	1	-	-
CYBLE type emitter K= 100 l/pulse	23235-0100	1	-	-

## CONTROL PANEL



### Control panels for valve manifold

For electric motor driven or pneumatic valves for obtaining automatically filtration, backwashing, rinsing and shut down operations with 4-5 valve manifold. Fitted with pre-set automatons permitting the carrying out of all the required functions. On request, the program can be personalised to suit one's needs. Easy and quick installation by way of complete numbered terminal grid. Voltage 220 V 1 single-phase. Valves not included.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
For 4 valve manifold	16222	1	-	-
For 5 valve manifold	16223	1	-	-

The automaton comes factory programmed as follows:

	Actuator type	
	Electric	Pneumatic
<b>For 4 valves</b>	2 valves without block 2 valves with block	2 double acting valves 2 spring return valves
<b>For 5 valves</b>	2 valves without block 3 valves with block PN10	2 double acting valves 3 spring return valves



## CONTROL SYSTEMS



### Anti-water ram check valve

Non-return gasket with PN 16 valves of 1/2", with 2 ledge, elastic gaskets. Operating in any position.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
DN 65 model	25874	▲	1	-
DN 80 model	25875	▲	1	-
DN 100 model	25876	▲	1	-
DN 125 model	25877	▲	1	-
DN 150 model	25878	▲	1	-
DN 200 model	25879	▲	1	-



### "NF" Hydraulic disconnecting unit

Bronze housing, S.S. spring with gasket, PN 10, Maximum temperature: 65°C.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With 3/4" fittings	25869	▲	1.8	-
With 1" fittings	25870	▲	3.7	-
With 1 1/4" fittings	25871	▲	5.0	-
With 1 1/2" fittings	25872	▲	7.0	-
With 2" fittings	25873	▲	9.8	-



\* Other diameters up to 10", on demand.

## CONTROL SYSTEMS



### Electrically driven plastic valves - Nylon

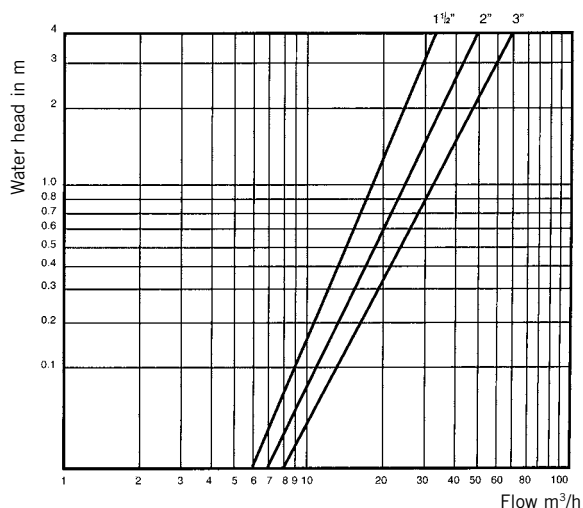


Threaded connection. Manually operated ON position Flow regulator. Stainless Steel AISI-302 spring. Maximum working pressure = 10 atm.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1½" connections	09392	1	0.5	-
2" connections	06935	1	0.7	-
3" connections	06936	1	1.1	-

MODELS	09392	06935	06936
Connection	1½"	2"	3"
Minimum pressure kg/cm <sup>2</sup>	1	1	1
Maximum pressure kg/cm <sup>2</sup>	10	10	10
Maximum flow m <sup>3</sup> /h	30	40	60

## PRESSURE AND FLOW DIAGRAMS



### 24 Volt. solenoids

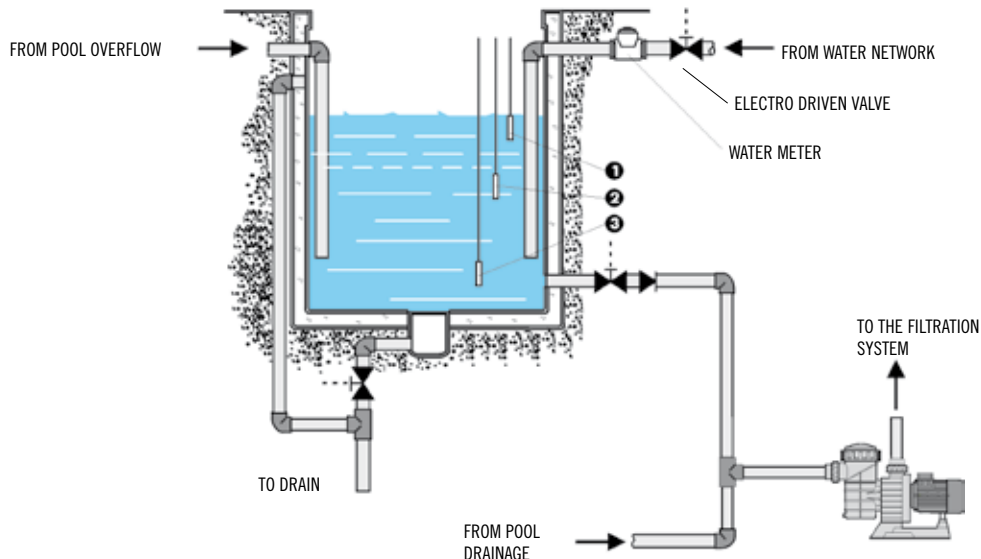


To install in electric valves with code 09392, 06935 and 06936.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
09393	1	-	-

## CONTROL SYSTEMS

### BALANCE TANK INSTALLING DIAGRAM



- ❶ Maximum water level signal in BALANCE TANK for starting the pumping system and electrodriven water inlet valve shut down.
- ❷ Minimum water level signal in BALANCE TANK for opening the electrically operated valve for make up water.
- ❸ Minimum level signal in BALANCE TANK for shutting down the pumping system.



### Electronic operating panel for overflow pool balance tank

For overflow pool. Water level sensor with 2 m cable.

#### For 2 water levels control panel:

\* Minimum safety level for pump operation: The pump stops working if water level doesn't have the minimum set level.

\* Water make up level: Gives the solenoid valve the opening signal to keep correct water level in balance tank. Solenoid valve signal in 220 V II & 24 V II.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
12061	1	-	-

#### 3 water level control panel:

\* Minimum safety level for pump operation: The pump stops working if water level reaches the minimum set level.

\* Water make up level: Gives the solenoid water inlet valve, the opening signal to keep correct water level in balance tank. Solenoid valve signal in 220 V II & 24 V II.





\* Pump start level: The pump starts operation when water level in balance tank reaches the overflow level (pipe burst or check valve failure).

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
12062	1	-	-



### Buoys

Plastic float.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
26 x 34 - 1"	20259		1	-
33 x 42 - 1 1/4"	20260		1	-
40 x 49 - 1 1/2"	20261		1	-
50 x 60 - 2"	20262		1	-

Code	A (mm)	Float Ø (mm)
20259	386	180
20260	591	220
20261	596	220
20262	699	300

## DOMOTICPOOL

### Domoticpool



Control Unit with Finger touch screen



Easily understandable Icon and menu presentation



Communication Module

With the centralized Domoticpool electronic panel, monitoring and controlling the poolside equipment (lighting, filtration, garden watering, pool cleaning, etc. ) is achieved installed inside of the residence without laying out any wires. For obtaining this, a Control Unit located in the house communicates with the Communication Module situated in the Plant Room. This is achieved using the conventional electric network of the house as order transmitter.

It consist of:

- Two way communication using the power lines.
- Graphic display with finger touch screen.
- True time clock permitting programmed temporising cycles.
- Personalized communication protocol.
- Two way transmission.

Easy installation and cost reduction has to be highlighted as it eliminates cable laying, thus enabling its control from anywhere, where we have access to electric network. Electric terminals can be easily added both in existing pools as well as in new ones. Communication module has 3 relays with inlets/outlets and 2 temperature sensors inlets.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Centralized electric control	<b>27815</b>	1	0.92	0.002
Communication module for control	<b>27816</b>	1	0.36	0.001
Temperature sensor	<b>30888</b>	1	-	-





## THERMOMETERS

### Thermometers Shark series

Both models feature a float at the top of the thermometers, allowing for accurate pool water temperature measurement. Readings are easy to get, without the need to remove the thermometer from the water. Digital model: shows temperatures in both °C and °F through a LCD display. Runs on solar power. Analogical model: measures water temperature in both °C and °F.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Digital model	36621	1	-	-
Analógical model	36622	1	-	-



### Floating cylindric thermometer

Celsius & Fahrenheit scale.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
20594	20	2.1	0.032



### Submersible cylindric thermometer

Celsius & Fahrenheit scale.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
20593	20	1.2	0.006



### Floating thermometer

Celsius scale.

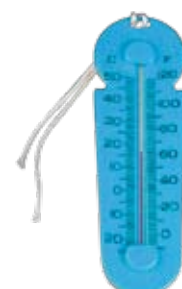
Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01410	6	0.7	0.010



### Submersible thermometer

Celsius & Fahrenheit scale.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01411	1	0.1	0.001







## POOL CLEANING EQUIPMENT

- 272 • Net'N'Clean integrated cleaning system
- 274 • Automatic suction cleaners
- 277 • Pool cleaners pumps
- 279 • Manual suction cleaners
- 281 • Handles
- 283 • Suction hoses
- 285 • Leaf skimmers
- 286 • Brushes
- 288 • Cleaning kits
- 289 • Hydrocleaners



## NET'N'CLEAN INTEGRATED CLEANING SYSTEM

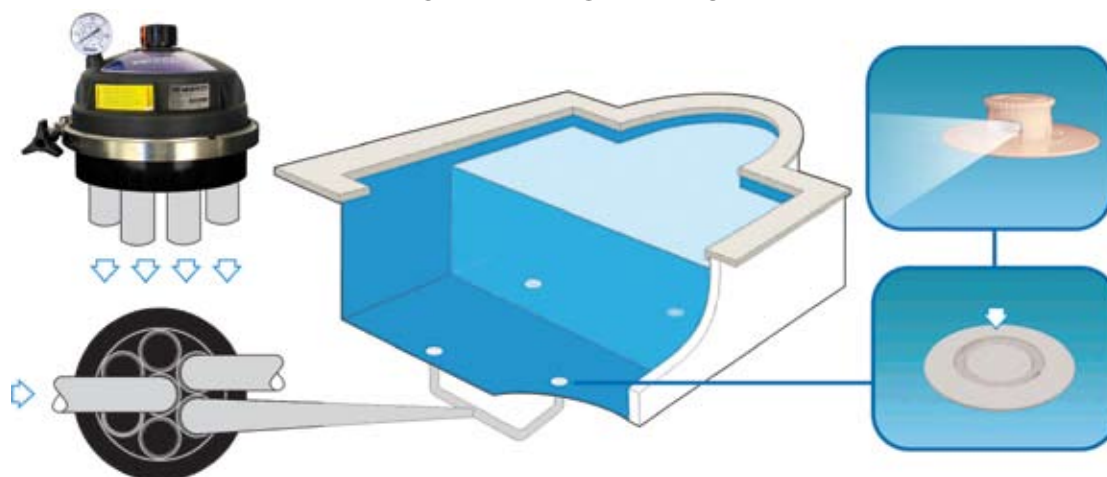
### NET'N'CLEAN

#### Integrated cleaning system

The NET'N'CLEAN is an efficient cleaning system, consisting of a six outlet distributor valve that receives clean water from the filter and distributes it sequentially to a series of nozzles installed on the pool floor.

As pressurised water exits the nozzles, it lifts dirt from the bottom into suspension to be collected by the skimmer and the drain. The Net 'n' Clean offers a more efficient and cost effective alternative to other cleaning systems as it provides a more uniform distribution of the pool temperature and chemicals.

### INSTALLATION DIAGRAM



#### Net'n'Clean distributor valve Ø 50 mm



Six way distribution valve. This valve is part of the Net'n'Clean cleaning system which is integrated in the pool floor. It distributes water sequentially through its various branches. Made of plastic and titanium it has high resistance to salt water. Maximum working pressure: 1.4 bars. Maximum flow: 15 m<sup>3</sup>/h. Connections: 7 x Ø 50 mm. 2 pop-up nozzles for branch recommended.

Net'n'Clean distributor valve:  
European model

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
21257	1	1.7	0.015



new

#### Net'N'Clean distributor valve Ø 63 mm



Distributor valve optimized for greater hydraulic performance. Maximum working pressure of 1.8 bars. Maximum flow of 24 m<sup>3</sup>/h. Connections: 7 x Ø 63 mm or 7 x Ø 75 mm. From 2 to 4 nozzles per branch.

Net'N'Clean distributor valve Ø 63 mm

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
35079	1	5.6	0.031



#### Net'N'Clean reducing wall conduit for nozzles



Reducing conduit to install concrete Net'N'Clean nozzles (26985). Made in white PVC. Ø 50 mm inside & Ø 63 mm outside connections.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
21248	12	7.3	0.032

**NET'N'CLEAN INTEGRATED CLEANING SYSTEM**



**Net'N'Clean nozzle**



Net'N'Clean nozzle range with 4 different hole configurations. We recommend S4 for the floor and S1 and S2 for the steps. Designed for concrete, liner and fibreglass pools.

The flow rates and radius of action according to the outlet chosen on the nozzle are:

Outlet	Combination	Flow x nozzle m <sup>3</sup> /h	Cleaning length in metres	Outlet surface in mm <sup>2</sup>
S1	B+D	2.5	0.60	50
S2	A+D	4	1.25	100
S3	B+C	5	1.80	150
<b>S4</b>	<b>A+C</b>	<b>5</b>	<b>1.80</b>	<b>200</b>

In bold type, the configuration supplied from factory..

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>For concrete pools:</b>				
With swivel joint	<b>26985</b>	12	4.14	0.02
Fixed	<b>26986</b>	12	3.78	0.02
<b>For liner pools:</b>				
Fixed self threaded PN10	<b>28499</b>	12	5.05	0.034
With metallic insert PN10	<b>28500</b>	12	5.05	0.034
<b>For Fibreglass pools:</b>				
Fixed	<b>21209</b>	12	5.05	0.034

On demand can be supplied with the following colours: Sky blue, Navy blue, Grey metal flake, Grey metal and Black.



Concrete



Concrete



Fibreglass

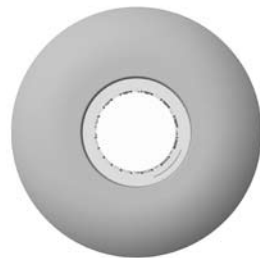
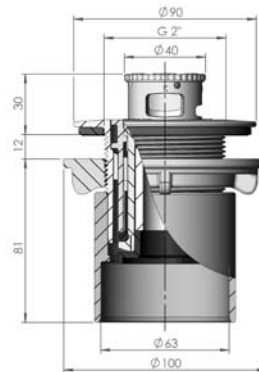
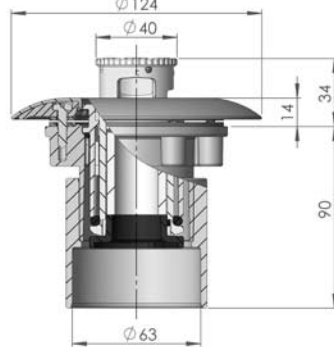
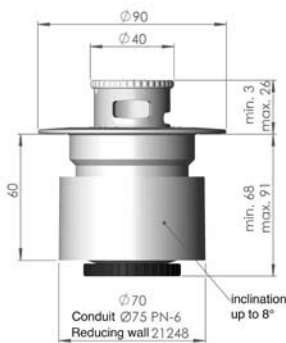


Liner

Concrete

Liner

Fibreglass



We will not be held responsible for any malfunction or other problems deriving from an incorrect installation. To avoid any such problems, please follow the instructions outlined in the installation manual.

## NET'N'CLEAN INTEGRATED CLEANING SYSTEM

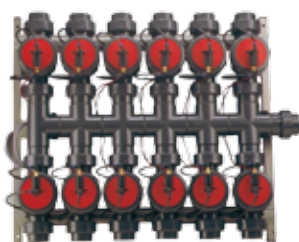


### Net'N'Clean electronic integrated cleaning system



The Net'N'Clean electronic recommended for public or large private pools is equipped with an electronic panel that automatically controls a series of solenoid valves used to open or close water flow to each nozzle branch. Computer controlled. Controls up to 12 electrovalves. Maximum flow rate: 18 m<sup>3</sup>/h for each valve.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
4 valve system	<b>32388</b>	1	16.55	0.260
6 valve system	<b>22512</b>	1	24.83	0.260
8 valve system	<b>22514</b>	1	31.10	0.029
10 valve system	<b>22516</b>	1	35.40	0.029
12 valve system	<b>22518</b>	1	39.70	0.029



## AUTOMATIC SUCTION CLEANERS

### Aspid

new

Automatic suction cleaner for using in any pool. Made of plastic parts and lead counter weights. Mat made of TPU for better flexibility. Oscillation achieved by a ball and a piston closing the two inlets alternatively. A wheel is easily fitted to the hose permitting a quick change of the position.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>41365</b>	1	-	-



### Mamba

new

Mamba can be installed in minutes without any tools and requires no alteration to your pool. It can be adopted to flat-bottomed or sloped pools and can be used in above ground pools. It is connected directly to the skimmer or the suction line. It works by suction with no need of electricity using the existing filtration system (4m<sup>3</sup>/h minimum). It is supplied with a 10 m special hose for greater efficiency. It is a cleaner and also a mobile main drain. It is supplied with a pressure regulator to ensure constant flow.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>38467</b>	1	8.1	0.061



**AUTOMATIC SUCTION CLEANERS**
**Dolphin Easykleen**

Basic automatic pool cleaner equipped with scanning logic system to clean the entire pool. Filter bag of 70 microns. Cleans the floor and the bottom of the walls. Cleaning cycle time 3 hours. Easy maintenance. For maximum 12 m x 12 m pools.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
34203	1	27	0.195


**Dolphin Superkleen**

Automatic pool cleaner with self programming to guarantee an ideal cleaning of the pool. Clean the walls and the water-line. Air sensor for each entry pools. Two cleaning cycles, 1 hour and 3 hours. 20 meters of cable. Caddy for easy carrying and storage. For maximum 12 m x 12 m pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With PVC brush	34204	1	7.61	0.11
With Wonder brush	34204-0100	1	7.61	0.11
With Combined brush	34204-0110	1	7.61	0.11


**Dolphin Ultrakleen**

Functional design and offers several new technological features. Scanning system with shorter cycle time. New power supply with a pilot light to indicate that the filter strainer is full. 20 m cable. Includes remote control and swivel system to provide smooth uninterrupted current and signal to the robot. Cycle time 2/3/4 hours (standard 3 hours). For maximum 12 m x 12 m pools.

	Código	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With PVC brush	34205	1	21.6	0.15
With Wonder brush	34205-0100	1	21.6	0.15
With Combine brush	34205-0110	1	21.6	0.15


**Dolphin Ultrakleen Battery**

The new cable-free Dolphin Ultrakleen Battery is the first cordless pool cleaner that runs on a rechargeable battery. Designed specifically for the residential pool market in a short cycle of 90 minutes, it filters and cleans the pool. Equipped with a remote control that can be used for programming or for manual steering. It also features a filter bag warning light. Automatic cooling system. The model has four cleaning programmes. For maximum 12 m x 12 m pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With PVC brush	34206	1	28	0.139
With Wonder brush	34206-0100	1	28	0.139
With Combined brush	34206-0110	1	28	0.139





## AUTOMATIC SUCTION CLEANERS



### Dolphin Dynamic Prox

Ideal for all types of pools. Many cleaning programmes available. Pool surface scanning. Extra cleaning. Frequency of pool wall climbing. Included remote control and swivel system. For maximum 25 m x 12 m pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With Combined brush	<b>30882</b>	1	20	0.15
With Wonder brush	<b>30882-0100</b>	1	20	0.15



### Dolphin Dynamic Prox Battery

new

Cordless pool cleaner with rechargeable battery. With the same characteristics as those of the Dolphin Dynamic Prox. Ideal for pool with an island in it. For maximum 25 m x 12.5 m pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With Combined Brush	<b>35317</b>	1	27.5	0.15
With Wonder Brush	<b>35317-0100</b>	1	27.5	0.15



### Dolphin Wave

new

Professional pool cleaners for Olympic-size and public pools. Equipped with an intelligent navigation system that ensures complete cleaning of any type of pool. Active brush system made up of rotating brushes. State-of-the-art interactive digital control panel. Intelligent manoeuvring device that allows you to get it in and out of the pool easily. For maximum 25 m x 60 m pools.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>38914</b>	1	25	-



### Dolphin 2 x 2

Not requiring installation. Does not require connection to any external filters or pumps. Operates only on 24 V (operates with a built-in power supply). Handles more than 37.850 l/h. Fitted with two drive motors. Algae can be removed. Fitted with remote control. Infra-red system to avoid obstacles. **For up to 25 x 60 m pools. 40 meters cable.**

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Dolphin 2 x 2 with PVC brush	<b>21585-0100</b>	1	37	0.209
Dolphin 2 x 2 with Wonder brush	<b>21585-0110</b>	1	37	0.209
Dolphin 2 x 2 with Combined brush	<b>21585-0120</b>	1	37	0.209
Caddy Dolphin 2 x 2	<b>21585R5014</b>	1	13	0.123

### Robokleen



For above ground and constant depth in-ground pools, uses a micro-filter system to meticulously clean and vacuum the pool floor, allowing savings of up to 30% on chemical costs. Recommended for use in circular pools of up to 9 m diameter and rectangular or oval pools measuring 5 m x 10 m or less. No installation or hose is necessary. The cleaner is equipped with a built in 3 hour automatic shut-off. It uses reusable filter bags and is supplied with 15 meters of cable.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>33053</b>	1	9	0.105

**POOL CLEANERS PUMPS**

**BP Pump**

Multi-cellular pump, 1 HP single phase, 220-240 V / 50 Hz, 5.3 A. and 2800 r.p.m. Protection IP-55.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
BP Pump with kit	33587	1	-	-



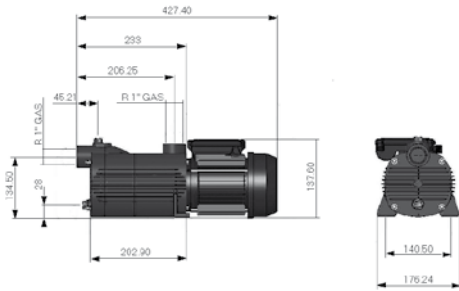
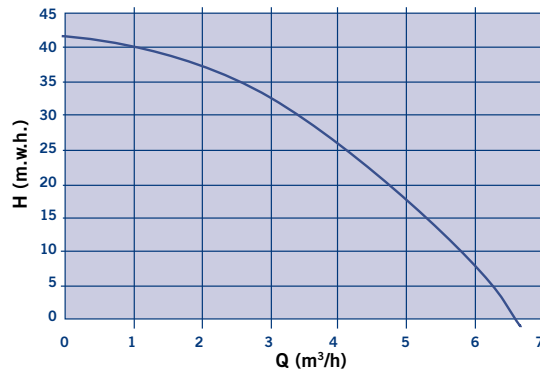
**Multi-cellular pump for use with automatic cleaners**

1 HP single phase multi-cellular pump. Pump body in noryl with fibreglass. Shafts and screws in Stainless Steel AISI-316. Mechanical seal in S.S. and Graphite. Motor: protection IP-55, isolation class F, non-stop operation, 2850 r.p.m.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	25452	1	-	-



Performance curves



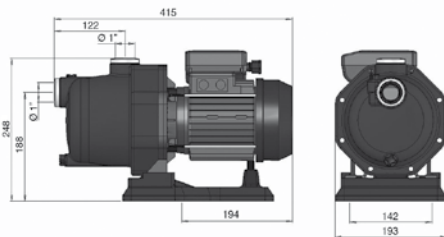
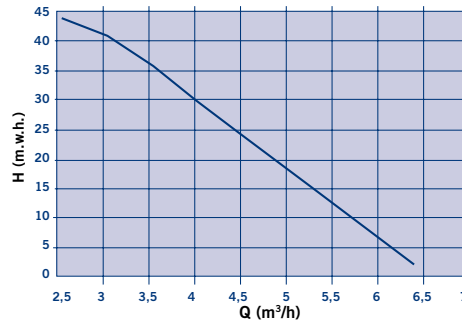
**Ontario pump**

The new multicellular pump has been especially designed for use with pool cleaning equipment, but it is also suitable for domestic irrigation and domestic pressure applications. This small pump is manufactured in plastic, and the metal parts coming into contact with water are made of AISI-316 Stainless Steel. It is fitted with a high pressure, highly resistant pure graphite mechanical seal, making it ideal to withstand extreme working conditions.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
1½" HP Ontario Pump	34396	1	7.8	0.049



Performance curves



**Pool cleaner pump trolley**

In anodized Aluminium pipe and plastic platform 460 mm x 370 mm. Accessories in S.S. AISI-304.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
	04648	1	8.06	0.12







**Exclusivity and reliability guaranteed for your pool maintenance needs.**

Introducing the **Shark** Series, a new generation of pool maintenance accessories.

Featuring exclusive, cutting edge designs, the **Shark** Series range of accessories stand out thanks to their strength and effectiveness in carrying out basic pool maintenance.



**MANUAL SUCTION CLEANERS**

**Oval model Shark**

Manufactured in ABS with a brush made from polypropylene. This model features a hose connection with a choice of two diameters (Ø 32-38 mm). With wing -nut or wishbone fixing.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	40997	1	-	-



**Oval model**

With safety valve to limit suction.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wishbone fixing	25788	1	-	-



**Flexible model Shark**

The perfect item for cleaning small particles or sand from the pool bottom. Manufactured in hard-wearing polyethylene (EVA), this model features a hose connection with a choice of two diameters (Ø 32-38). Weight is injected (without caps) which, together with its great flexibility, ensures perfect pool floor cleaning.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36618	1	-	-



**Triangular model Shark**

Triangular pool cleaner manufactured in ABS with a brush made from polypropylene. This model features a hose connection with a choice of two diameters (Ø 32-38 mm). With wing -nut or wishbone fixing.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36619	1	-	-



**Articulated model**

For concrete pools. Ideally designed for walls and corners. Brushes made of Polypropylene. 1 1/2" connection. Made of unalterable plastic.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut fixing	01349	1	1.0	0.007
With wishbone fixing	01350	1	1.0	0.007



## MANUAL SUCTION CLEANERS

### Anodised aluminium vac-head



#### For wing-nut fixing:

350 mm for 1½" hose  
450 mm for 2" hose  
450 mm for 1½" hose

#### For wishbone fixing:

350 mm for 1½" hose  
450 mm for 2" hose

Code	Standard Packing	Standard Weight kg	Standard Volume m³
01353	4	11.8	0.04
01354	4	15.5	0.06
08661	4	15.5	0.06
01355	4	11.8	0.04
01356	4	15.5	0.06



### Double length metal vac-head



In polished anodized aluminium and chromed brass. 2" connection, length 800 mm. Telescopic handle and cable models (cable not included). The float line cable 00210 can be used.

Trailed via cable  
Touse with handle with wing-nut fixing

Code	Standard Packing	Standard Weight kg	Standard Volume m³
01357	1	13.0	0.03
16601	1	13.0	0.03



### Anodised aluminium and chromed brass vac-head



Inner connection for 1½" hose and outer for 2" hose. S.S. connecting fork. Wing-nut fixing. Lenght 442 mm.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
01358	4	23.2	0.05

### Balai Spawand



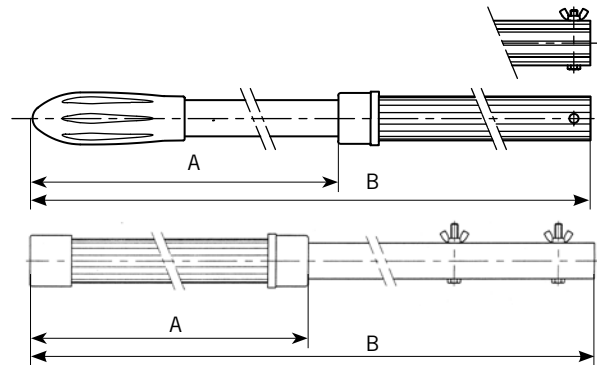
Manual vacuum cleaner for small surfaces. Especially designed for those quick touch up cleanings around the pool and spa. The suction is manual without hydraulic and electric connection. Supplied with two nozzle attachments for underwater and surface debris.

Code	Standard Packing	Standard Weight kg	Standard Volume m³
01409	6	9.0	0.123
28741	1	2.0	0.009

Blue plastic  
Yellow fibreglass  
(ideal for professionals)

**HANDLES**

System connection	C.A.	C.A. - Wishbone					C.A. Wing-nut						
Code	01365	38422	38423	38424	38425	01359	01360	01361	01362	01363	01364	15838	
<b>A</b>		1.8	2.4	2	2.5	2	2.5	2.5	5	6.5		3.75	
<b>B</b>	2.5	3.6	4.8	4	5	4	5	5	10	13	2.5	7.5	
Telesc.	Normal		•	•	•	•	•						
	Reinforced							•	•	•		•	
<b>FIXED</b>	•										•		



**For wing-nut fixing**

Aluminium fixed length 2.5 m.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01364</b>	20	11.4	0.06



**For wishbone fixing**

Aluminium fixed length 2.5 m.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01365</b>	12	10.2	0.06



**Telescopic poles for wing-nut fixing**

Aluminium, telescopic 2 - 4 m  
Aluminium, telescopic 2.5 - 5 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>01359</b>	12	13.4	0.05
<b>01360</b>	12	16.2	0.06



**Telescopic poles for wing-nut or wishbone fixing Shark series**

From 1.8 m up to 4.8 m.

Aluminium, telescopic 1.8 - 3.6 m  
Aluminium, telescopic 2.4 - 4.8 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>38422</b>	10	11.7	0.05
<b>38423</b>	10	14.4	0.06

*new*



**Telescopic poles for wing-nut or wishbone fixing Shark series**

From 2 m up to 5 m.

Aluminium, telescopic 2 - 4 m  
Aluminium, telescopic 2.5 - 5 m

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>38424</b>	12	13.6	0.05
<b>38425</b>	12	16.4	0.06

*new*



## HANDLES



For wing-nut connection - reinforced, telescopic



Reinforced, telescopic 5 m in aluminium  
 Reinforced, telescopic 7.5 m in aluminium  
 Reinforced, telescopic 10 m in aluminium  
 Reinforced, telescopic 13 m in aluminium

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01361	5	16.0	0.04
15838	1	6.0	0.01
01362	1	6.5	0.02
01363	1	8.4	0.02

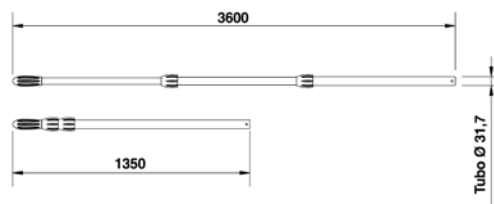
## Telescopic poles 3 pieces for wing-nut or wishbone fixing Shark series

new



From 1.35 m up to 3.60 m.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
38426	30	38.5	0.07



## Handle adapter



For converting wing-nut fixing system to wishbone fixing system.

Adapts the wishbone connection handle to wing nut  
 Adapts the wing nut connection handle to wishbone  
 Adapts the reinforced wing nut connection handle to wishbone

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
14592	48	3.36	0.01
08465	-	-	-
17937	-	-	-

**SUCTION HOSES**

**Floating suction hose**

Transparent blue Polyethylene hose.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Ø 38 mm (1½")	<b>01372</b>	30 m	8.0	0.108
Ø 50 mm (2")	<b>01373</b>	30 m	14.0	0.192


**Floating suction hose**

Blue plastic. Includes connecting cuffs., except in the 30 m hose (01374, 01379).

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Ø 38 mm (1½")</b>				
30 m	<b>01374</b>	1	12.0	0.192
15 m	<b>01375</b>	1	5.6	0.192
12 m	<b>01376</b>	1	4.5	0.192
10 m	<b>01377</b>	1	3.0	0.192
8 m	<b>01378</b>	1	3.0	0.192
<b>Ø 50 mm (2")</b>				
30 m	<b>01379</b>	1	15.0	0.240


**Hose cuffs**

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Made in blue PVC</b>				
For Ø 38 mm (01372) hose	<b>07958</b> ▲	12	2.0	0.003
Only for vac inlets 24415	<b>01385</b>	12	2.0	0.003
For Ø 38 mm hose (01372)	<b>01386</b>	12	3.0	0.010
For Ø 50 mm hose (01373)				
<b>Made in flexible white PVC</b>				
For Ø 38 mm hose (01374-01375 01376-01377-01378)	<b>01387</b>	12	2.0	0.030
For Ø 50 mm hose (01379)	<b>01388</b> ▲	12	3.0	0.010



## SUCTION HOSES



### Hose connectors

Ø 38 mm for connections to inlets 16328, 16329, 16330, in white ABS  
 Ø 50 mm connections to inlets 00315, grey PP

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
05684	12	1.0	0.003
01392	12	1.0	0.006



### Hose fitting

White ABS plastic.

For Ø 38 mm hose, male thread 1½"

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01393	12	1.0	0.006

**LEAF SKIMMERS**

**Water surface model with 1.3 m handle**

Including white Polypropylene frame and Polyester net. Push fit aluminium handle.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Shallow net Surface model	01400	12	8.0	0.150



**Deep water leaf skimmers Shark series**

Manufactured in blue polypropylene. The polyester net is welded to the skimmer frame, ensuring greater strength. Its long design maximises collection along the float line.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36614	1	-	-



**Water surface leaf skimmer Shark series**



Manufactured in blue polypropylene. The polyester net is welded to the skimmer frame.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36613	1	-	-



**Aluminium leaf net model**

With white Aluminium frame and Polyester white net. With wishbone fixing.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
Water surface model	23360 	14	8.4	0.103
Deep water model	23361 	14	8.5	0.103





## BRUSHES



### Straight Brush 180 mm

With handle.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
09456	14	6.1	0.177



### Straight brush 165 mm

Stainless Steel bristles with Aluminium support.

With wishbone fixing

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
01407	20	9.0	0.018



### Hand held brush

White Polypropylene support and black bristles. Ideal for water line cleaning.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
11789	20	3.5	0.027



new

### Pool bottom brush Shark series

Ideal for cleaning the pool floor, due to its large size and special design.

With wing-nut or wishbone fixing

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
36615	1	-	-



**BRUSHES**



**Wall brush Shark series**

*new*

The angle between the bristles and the handle has been reduced in order to make a brush which adapts to the pool wall, allowing effort-free cleaning.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36616	1	-	-



**Pool corner suction brush Shark series**

*new*

Especially designed for pool corners, this brush features a practical connection to a suction hose.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wing-nut or wishbone fixing	36617	1	-	-




**Curved brush with 450 mm Aluminium support**

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wishbone fixing	01402	20	12.5	0.095



**SPOT-EX water-line eraser**

Especially designed to erase scum line stains. With telescopic handle adaptor.

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
With wishbone fixing	16391 	1	0.4	0.005



## CLEANING KITS

### Cleaning kit n° 1



Kit n° 1

Includes:

- 1 Deep water net (01397)
- 1 Brush (18"), with wishbone fixing (11035)
- 1 Analyser Kit (15196)
- 1 Flexible manual cleaner, with wishbone fixing (07429)
- 1 Dolphin Thermometer (08318)

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
28516	5	13.7	0.15

### Cleaning kit n° 2



Kit n° 2

Includes:

- 1 Deep water net (01397)
- 1 Brush (18"), with wishbone fixing (11035)
- 1 Analyser Kit (15196)
- 1 Dolphin Thermometer (08318)
- 1 Triangular manual cleaner, with wishbone fixing (07430)

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
28834	4	9.4	0.15

### Cleaning kit n° 3



Kit n° 3

Includes:

- 1 Deep water net (01397)
- Brush (18"), with wishbone fixing (11035)
- 1 Analyser Kit (15196)
- 1 Dolphin Thermometer (08318)
- 1 Oval manual cleaner with wishbone fixing (07084)

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
28835	4	10.2	0.15

**HYDROCLEANERS**
**Water Hydrocleaners up to 40° - PO W 622X**

150 EW Bar portable hydrocleaner. Portable for garden cleaning jobs and maintenance of the pool area. 5 m pressure hose. Detergent dispensing bottle. 2 interchangeable jets. Maximum water temperature 40°C.


**Technical features:**

Q l/h	Ø	W	Voltaje
390	150	1600	230-50

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
POW 622X	32986	1	9	0.04

**Water Hydrocleaners up to 40° - PO W 624**

160 EW Bar portable hydrocleaner. For garden cleaning jobs and maintenance of the pool area. 6 m pressure hose. Detergent injection system. Rack to hang accessories. 2 interchangeable jets. 1 rotating brush. "Start-Stop" switch on the pistol. Maximum water temperature 40°C.

*new*

**Technical features:**

Q l/h	Ø	W	Voltaje
360	160	1700	230-50

	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
POW 624	32987	1	13	0.06



## POOL LIGHTING & ORNAMENTAL FEATURES

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## LED LIGHTING

The LED lighting system provides the colour ambience which you desire at each moment for your pool. Made up of the LED light, the remote control, a reception terminal and a transformer which is supplied separately. The LED light incorporates LEDs of maximum luminosity (1 W) in red, blue, green and white colours. The combination of these basic colours gives place to 12 different colours, all amazingly bright and vivid. With the colours of your choice you can programme any of the 9 available automatic colour-change sequences.

For new-build pools, either concrete or prefabricated, you can choose between the Standard model, with the niche included, or the Flat model, which does not need a niche for installation.

For an existing installation it is not necessary to change the transformer nor the wiring, the current niche can be reused by changing the conventional lamp for the LED light, in both concrete and prefabricated pools.

The LEDs have a lifespan of 100,000 h compared to the 1,000 h of conventional lamps, and each light consumes 45 W. Up to 15 LED lights can be installed; you will need a reception terminal and a 300 W transformer. Remote control is optional.

The new LumiPlus range offers the highest lighting intensity; white and coloured lighting in order to create spectacular colour sequences. It provides peace of mind of a long life span with no maintenance; low power consumption and infinite possibilities to recreate different environments in the swimming pool.



new

### LumiPlus PAR56

LumiPlus PAR 56 is the new range of LEDs, with the same features as the Standard range but using the well known PAR 56 lamp format. The lamp can be easily supplied with replaced. High luminosity LED lights, 27x1W Luxeon LEDs. Compatible with all PAR 56 lights on the market. 2.5 metres of 2\*1.5 mm<sup>2</sup> Par-56 cable. Each light consumes 60 W.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>LumiPlus PAR 56 Multicolour - RGB</b>				
High intensity RGB Par-56 lamp	<b>35604</b>	6	7.50	0.015
Par-56 LED light w/o niche with ABS faceplate	<b>37159</b>	4	10.60	0.069
Par-56 LED light w/o niche with S.S. faceplate	<b>37160</b>	4	12.20	0.069
<b>For concrete pools:</b>				
Par-56 LED light with niche with ABS faceplate	<b>37161</b>	4	12.20	0.069
Par-56 LED light with niche with S.S. faceplate	<b>37162</b>	4	13.80	0.069
<b>For prefabricated pools:</b>				
Par-56 LED light with niche with ABS faceplate	<b>37163</b>	4	13.60	0.069
Par-56 LED light with niche with S.S. faceplate	<b>37164</b>	4	15.20	0.069
Par 56 LED light with niche with ABS faceplate with self-tappers	<b>37165</b>	4	13.60	0.069
Par 56 LED light with niche with S.S. faceplate with self-tappers	<b>37166</b>	4	15.20	0.069
<b>LumiPlus PAR 56 - White light</b>				
High intensity RGB Par-56 lamp	<b>35605</b>	6	7.50	0.015
Par-56 LED light w/o niche with ABS faceplate	<b>37167</b>	4	10.60	0.069
Par-56 LED light w/o niche with S.S. faceplate	<b>37168</b>	4	12.20	0.069
<b>For concrete pools:</b>				
Par-56 LED light with niche with ABS faceplate	<b>37169</b>	4	12.20	0.069
Par-56 LED light with niche with S.S. faceplate	<b>37170</b>	4	13.80	0.069
<b>For prefabricated pools:</b>				
Par-56 LED light with niche with ABS faceplate	<b>37171</b>	4	13.60	0.069
Par-56 LED light with niche with S.S. faceplate	<b>37172</b>	4	15.20	0.069
Par 56 LED light with niche with ABS faceplate with self-tappers	<b>37173</b>	4	13.60	0.069
Par 56 LED light with niche with S.S. faceplate with self-tappers	<b>37174</b>	4	15.20	0.069
<b>LumiPlus PAR 56 - Niches</b>				
Concrete niche for Par-56 LED light	<b>37175</b>	6	5.60	0.069
Pre-fab. niche with inserts for Par-56 LED light	<b>37176</b>	6	7.25	0.069
Pre-fab. niche w/o inserts for Par-56 LED light	<b>37177</b>	6	7.25	0.069
Panel niche with inserts for Par-56 LED light	<b>37178</b>	6	14.25	0.069
Panel niche w/o inserts for Par-56 LED light	<b>37179</b>	6	14.25	0.069

**LED LIGHTING**

**Flat LumiPlus**

High luminosity LED lighting, 27x1W luxeon LEDs. To be installed without niche. Supplied with: 2.5 metres of 2\*1,5mm<sup>2</sup> Standard cable. Each light consumes 60 W.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>LumiPlus Flat Multicolor - RGB</b>				
Flat LED light with ABS faceplate for concrete p.	<b>27819</b>	5	11.40	0.047
Flat LED light with S.S. faceplate for concrete p.	<b>35952</b>	5	11.40	0.047
Flat LED light with ABS. faceplate for prefab. p.	<b>27967</b>	5	11.50	0.047
Flat LED light with S.S. faceplate for prefab. p.	<b>35953</b>	5	11.50	0.027
<b>new LumiPlus Flat - White light</b>				
Flat LED light with ABS faceplate for concrete p.	<b>35954</b>	5	11.40	0.047
Flat LED light with S.S. faceplate for concrete p.	<b>35956</b>	5	11.40	0.047
Flat LED light with ABS. faceplate for prefab. p.	<b>35955</b>	5	11.50	0.047
Flat LED light with S.S. faceplate for prefab. p.	<b>35957</b>	5	11.50	0.047



**LumiPlus Standard**

High luminosity LED lighting, 27x1W luxeon LEDs. Can be adapted to all AstralPool Standard niches. Supplied with: 2.5 metres of 2\*6mm<sup>2</sup> Standard cable. Each light consumes 60 W.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>LumiPlus Standard Multicolour - RGB Light</b>				
LED light without niche with ABS faceplate	<b>27900</b>	1	3.02	0.027
LED light without niche with S.S. faceplate	<b>27901</b>	1	3.40	0.027
<b>For concrete pools:</b>				
Std LED light with niche with ABS faceplate	<b>27820</b>	1	3.60	0.027
Std LED light with niche with S.S. faceplate	<b>27959</b>	1	4.00	0.027
<b>For prefabricated pools:</b>				
Std LED light with niche with ABS faceplate	<b>27960</b>	1	3.95	0.027
Std LED light with niche with S.S. faceplate	<b>27961</b>	1	4.30	0.027
Std LED light with niche with ABS faceplate with self-tappers	<b>27966</b>	1	3.85	0.027
Std LED light with niche with S.S. faceplate with self-tappers	<b>35949</b>	1	4.25	0.027
<b>For panel pools:</b>				
LED light with niche with ABS faceplate with self-tappers	<b>35950</b>	1	3.85	0.027
LED light with niche with S.S. faceplate with self-tappers	<b>35951</b>	1	4.25	0.027
LED light with niche with ABS faceplate	<b>37287</b>	1	3.95	0.027
LED light with niche with S.S. faceplate	<b>37288</b>	1	4.35	0.027
<b>new LumiPlus Standard - White light</b>				
LED light without niche with ABS faceplate	<b>35937</b>	1	3.02	0.027
LED light without niche with S.S. faceplate	<b>35938</b>	1	3.40	0.027
<b>For concrete pools:</b>				
Std LED light with niche with ABS faceplate	<b>35939</b>	1	3.60	0.027
Std LED light with niche with S.S. faceplate	<b>35940</b>	1	4.00	0.027
<b>For prefabricated pools:</b>				
Std LED light with niche with ABS faceplate	<b>35941</b>	1	3.95	0.027
Std LED light with niche with S.S. faceplate	<b>35942</b>	1	4.30	0.027
Std LED light with niche with ABS faceplate with self-tappers	<b>35943</b>	1	3.85	0.027
Std LED light with niche with S.S. faceplate with self-tappers	<b>35944</b>	1	4.25	0.027
<b>For panel pools:</b>				
Std LED light with niche with ABS faceplate with self-tappers	<b>35945</b>	1	3.85	0.027
Std LED light with niche with S.S. faceplate with self-tappers	<b>35946</b>	1	4.25	0.027
Std LED light with niche with ABS faceplate	<b>35947</b>	1	3.95	0.027
Std LED light with niche with S.S. faceplate	<b>35948</b>	1	4.35	0.027





## LED LIGHTING

### LumiPlus Mini



High luminosity LED lighting, 2 x luxeon LEDs of 3W and 1 of 1W. Accessory included: 2.5 metres of 2\*1.5mm<sup>2</sup> Standard cable for White models and 4\*1.5 mm<sup>2</sup> for RGB models. Each light consumes 11W. Every four light Mini should be installed along with a power supply (code 32640).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>LumiPlus Mini Multicolour - RGB</b>				
Mini LED light with quick connection for Ø 63 mm wall conduit (ABS)	32380	4	6.08	0.009
Mini LED light with quick connection for Ø 63 mm wall conduit (S.S.)	36651	4	6.08	0.009
<b>For spas and Prefab. pools:</b>				
Mini LED light w/o niche (ABS)	32381	4	5.20	0.009
Mini LED light with niche with S.S. faceplate	36653	4	5.20	0.009
<b>For concrete pools:</b>				
Mini LED light with niche (ABS)	32382	4	8.55	0.022
Mini LED light with niche (S.S.)	36655	4	8.55	0.022
<b>For prefabricated pools:</b>				
Mini LED light with niche (ABS)	32383	4	8.55	0.022
Mini LED light with niche (S.S.)	36657	4	8.55	0.022
<b>For panel pools:</b>				
Mini LED light with niche (ABS)	34185	4	8.55	0.022
Mini LED light for panel pools with niche (S.S.)	36659	4	8.55	0.022
<b>new LumiPlus Mini - White light</b>				
Mini LED light with quick connection for Ø 63 mm wall conduit (ABS)	35931	4	6.08	0.009
Mini LED light with quick connection for Ø 63 mm wall conduit (S.S.)	36652	4	6.08	0.009
<b>For spas and Prefab. pools:</b>				
Mini LED light (ABS)	35932	4	5.20	0.009
Mini LED light (S.S.)	36654	4	5.20	0.009
<b>For concrete pools:</b>				
Mini LED light without niche	35933	4	8.55	0.022
Mini LED light with niche S.S.	36656	4	8.55	0.022
<b>For prefabricated pools:</b>				
Mini LED light with niche (ABS)	35934	4	8.55	0.022
Mini LED light for prefab. pools with niche S.S.	36658	4	8.55	0.022
<b>For panel pools:</b>				
Mini LED light for panel pools with niche ABS	35935	4	8.55	0.022
Mini LED light for panel pools with niche S.S.	36660	4	8.55	0.022

### LumiPlus Micro



Available with RGB (colours) or White. Quick connections for pools and spas. Each light consumes 11W. Every four lights should be installed along with one power supply (code 32640)

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
RGB – quick connection / with face plate ABS	38815	4	4.7	0.009
RGB – for spas / with face plate ABS	35275	4	4.7	0.009
White - quick connection / with face plate ABS	38814	4	4.7	0.009
White - for spas / with face plate ABS	40765	4	4.7	0.00

### LumiPlus Standard for Fountains



27 Led RGB or White light (colours or white light). Available in ABS plastic. They must always be installed fully submerged in water. Can be adjusted to face any direction. Each light consumes 60W.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
RGB colour-changing light	35450	4	11.79	0.086
WHITE light	35451	4	11.79	0.086

## LED LIGHTING

### Push-button control for LED and Irys lights

The control button is normally off (NC) and the maximum contact intensity is 3 A at 240 V. It allows you to control up to 12 underwater lights: colour and sequence changes. 7 colours + 7 sequences. Supplied in a totally sealed case and connection cables.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>32458</b>	1	0.54	0.002



### Receiver-modulator

These allow full control of up to 15 underwater lights: turn on, shut off, colour and sequence changes, time-delay shut off. 12 colours + 9 sequences.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>27818</b>	12	5.50	0.029



### Remote Control

Optional and always in conjunction with the receiver-modulator.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>27817</b>	24	4.80	0.029



### Power supply for LumiPlus MINI

Includes transformer. Controls up to 4 lights. It is necessary for Mini and Micro models.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>32640</b>	10	3.46	0.021



### Underwater connection kit

The kit has all the necessary components to carry out any watertight connection. Due to the properties of the product, the resin seals all gaps. Maximum safety, easy installation, in 2 hours it is ready to be submerged.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>32803</b>	1	0.3	0.002
<b>35661</b>	1	0.3	0.002

Kit for Ø 13 to 15 mm cables.  
Kit for Ø 8 to 12 mm cables



## COLOUR-CHANGING DICHROIC LIGHTS

### Irys multicolor light



The Irys light uses 3 dichroic lamps in red, green and blue as a light source, which when combined permit obtaining 7 different colours.

It can be used in new-built pools and adapted to existing pools without the need of changing the existing niche. It uses 3 aluminised 12 V - 71 W MR16 dichroic lamps with a lifespan of 3,000 hours, 3 times more than a conventional lamp, and with a maximum power demand of 175 W.

The colour-change and sequence control is performed with a push-button control. The control method of all of the spotlight electronics is by means of a microprocessor integrated into the electronic control panel itself. The light back is made of Stainless Steel for improved heat dissipation in its interior. The electronics have an excess temperature protection system, preventing it from being connected out of the water.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
32457	4	14.00	0.069

## UNDERWATER LIGHTS FOR CONCRETE POOLS

### Standard concrete lights - Underwater lights



Supplied with niche for embedding into the pool wall. Manufactured in PS plastic. PAR 56 300 W-12 V halogen lamp. The niche allows the option of a cable to pass through the side or the back, with M-25 threads. The standard light is supplied without a transformer.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
07838	4	8.60	0.072
07837	4	10.06	0.072
07844	4	12.60	0.069
07843	4	13.60	0.069

#### Without cable

With white ABS faceplate

07838 4 8.60 0.072

With S.S. faceplate

07837 4 10.06 0.072

#### With 2.5 m cable of 2x6 mm<sup>2</sup>

With white ABS faceplate

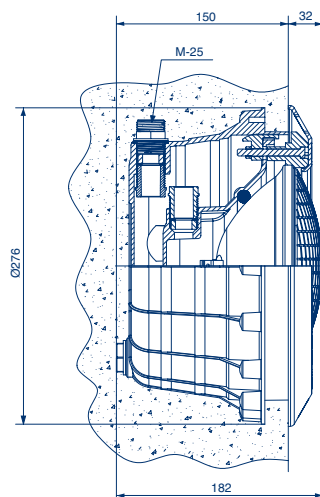
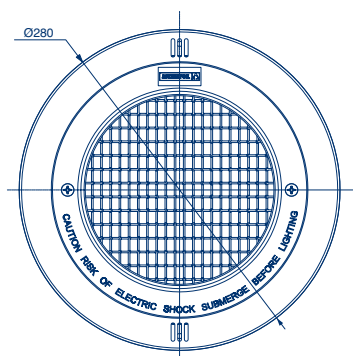
07844 4 12.60 0.069

With S.S. faceplate

07843 4 13.60 0.069



07837



### Niche for standard concrete lights



For embedding into the pool wall. Manufactured in PS plastic. Allows the option of a cable to pass through the side or the back with M-25 threads. Niches for the Standard lights (codes 07837, 07838, 07843 and 07844). These niches are provided without cable.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00349	6	4.66	0.068

**UNDERWATER LIGHTS FOR CONCRETE POOLS**

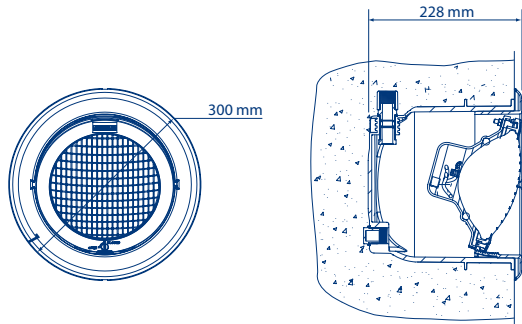
**Adjustable Light**

The lens may be angled up to 15° in any direction. White ABS faceplate. PAR 56 300W-12V halogen lamp, IP-68 Protection and H07 RN-F 2.5 metre long cable.

*new*



Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
33033	1	3.7	0.029




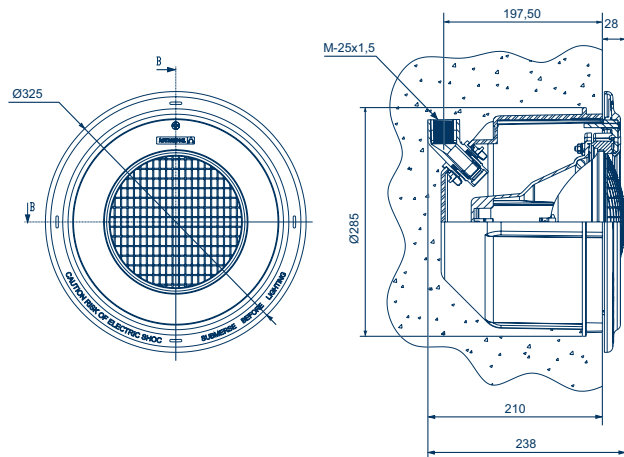
**"UL" light - EUR**

European version. Made of high resistant PS plastic. Complies with United States UL standards. Supplied with niche. White colour. Can be fitted horizontally or angled 4° downwards to avoid dazzling. Large diameter rim. Lamp 300 W & 12 V.



Without cable  
With cable


Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
10895 	1	3.7	0.035
16003	1	4.8	0.035



**Niche for "UL" lights**

European version. Made of PS plastic. Rear ring and niche independent. Large holding capacity for extra cable. Rotational hub, which allows installation of the cable conduit in any position using 1", 3/4" & 1/2" adaptors. These niches are supplied without cable.



Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
17857 	4	8.1	0.120

## UNDERWATER LIGHTS FOR CONCRETE POOLS

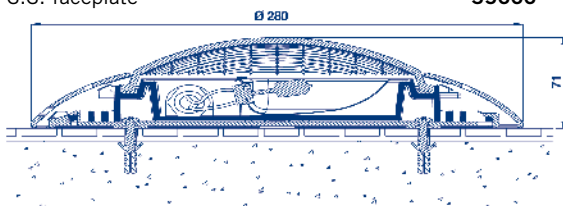
### Extra flat lights



Built of stable, heat-resistant plastic materials. White. Niche not required for installation. ABS or S.S. faceplate fixed to the wall by means of a reinforced plastic cross, plugs and screws. Supplied with 2.5 m cable of 2 x 1.5 mm<sup>2</sup> 100 W - 12 V halogen lamp. Supplied without transformer.



	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>21626</b>	6	8.70	0.055
S.S. faceplate	<b>35666</b>	6	8.70	0.055



### PS lights



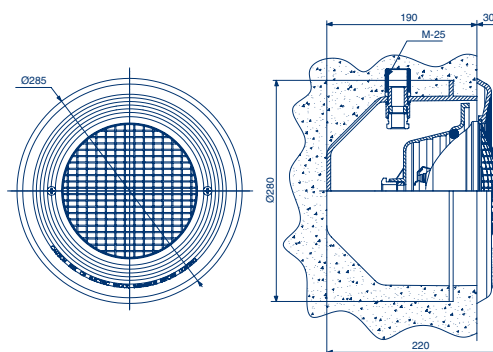
**07833**

Supplied with niche to be embedded in the pool wall. Manufactured in PS plastic. PAR56 300 W-12 V halogen lamp. The niche has a single cable outlet on one side. The stuffing boxes are made of brass with M-25 threads. The PS model lights are supplied without transformer.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>Without cable</b>				
With white ABS faceplate	<b>07833</b>	4	11.20	0.090
With S.S. faceplate	<b>07831</b>	4	12.25	0.090
<b>With 2.5 m cable of 2x6 mm<sup>2</sup></b>				
With white ABS faceplate	<b>07846</b>	4	16.00	0.090
With S.S. faceplate	<b>07845</b>	4	16.00	0.090



**07831**



### PS lights niche



To be embedded in the pool wall. Manufactured in PS. The niche has a single cable outlet on one side. Niche for PS light models (07831, 07833, 07845 and 07846). These niches are supplied without cable.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00355</b>	6	7	0.068

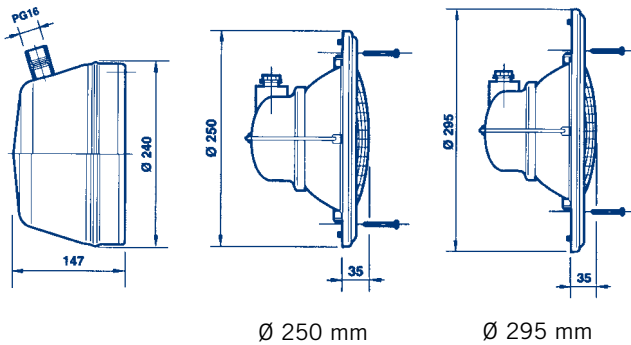
**UNDERWATER LIGHTS FOR CONCRETE POOLS**

**Stainless Steel light**

Totally in S.S. AISI-316 and supplied with niche, 2.5 m cable & 300 W, 12 V bulb. PG16 threaded gland connection with PG16 to M25 converter. Rim screwed directly to niche with screws. (An accessory 00368) is available for mounting it on liner and prefabricated pools.



	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Ø 250 mm faceplate	<b>00358</b>	1	3.7	0.02
Ø 295 mm faceplate	<b>00359</b>	1	3.9	0.02

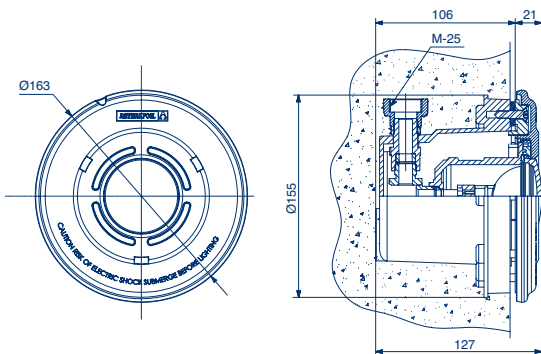


**Plastic MINI light with niche**

Manufactured in PA and ABS plastic materials. Supplied with niche for embedding in the pool wall and with 2.5 m cable of 2 x 1.5 mm<sup>2</sup>. Without screws, bayonet system on both the faceplate and the housing. Easy to remove using the faceplate as a tool to replace the lamp. Aluminised 50 W-12 V halogen lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m. Possibility of attaching colour lenses to the faceplate. Light supplied without transformer. Available in white ABS faceplate or S.S.



	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33710</b>	4	5.53	0.022
S.S. faceplate	<b>36648</b>	4	5.53	0.022





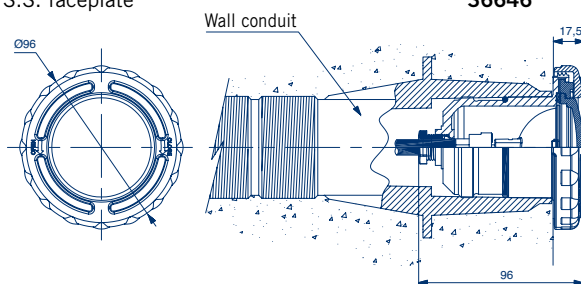
## UNDERWATER LIGHTS FOR CONCRETE POOLS

### Plastic MINI light, fast assembly



Manufactured in PA and ABS plastic materials. Without screws, bayonet system on both the faceplate and the housing. Easy to remove using the faceplate front as a key to replace the lamp. 50 W-12 V aluminised halogen lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m. Light easy to install in a wall conduit with a solvent weld connection (code 15661). Possibility of attaching colour lenses to the faceplate. Light supplied without transformer. Available in white ABS faceplate or S.S.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33708</b>	4	2.90	0.010
S.S. faceplate	<b>36646</b>	4	2.90	0.010

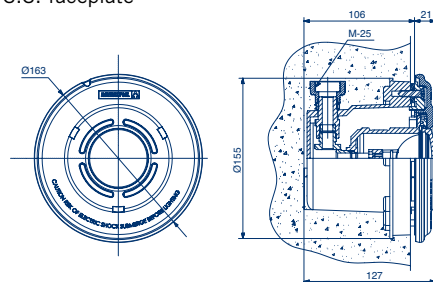


### Metal MINI light with niche



Light with chromed brass housing and ABS plastic parts. Supplied with niche for embedding in the pool wall and with 2.5 m cable of 2 x 1.5 mm<sup>2</sup>. Without screws, bayonet system on both the faceplate and the casing. Easy to remove using the faceplate as a key to replace the lamp. 50 W-12 V aluminised halogen lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m. Possibility of attaching colour lenses to the outside of the faceplate. Light supplied without transformer.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33686</b>	4	7.22	0.022
S.S. faceplate	<b>36643</b>	4	7.22	0.022

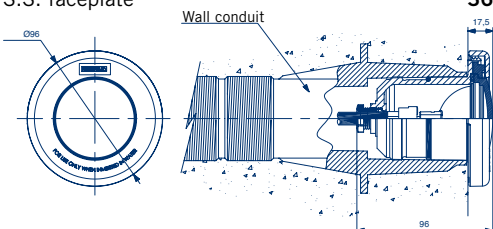


### Metal MINI light, quick assembly



Light with chromed brass housing and ABS plastic parts. Without screws, bayonet system on both the faceplate and the casing. Easy to remove using the faceplate as a tool to replace the lamp. Supplied with 2.5 m cable of 2 x 1.5 mm<sup>2</sup>. 50 W-12 V aluminised halogen lamp of and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m. diameter. Easy to install in a wall conduit with a plain inner solvent weld connection (code 15661). Light supplied without transformer.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33684</b>	4	4.70	0.022
S.S. faceplate	<b>36641</b>	4	4.70	0.022



**UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS**

**Standard light**

Supplied with niche, adhesive gaskets, ABS flange and screws. Housing made of Polypropylene + fibreglass. 300 W, 12 V bulb. On special order S.S. flanges can be supplied.

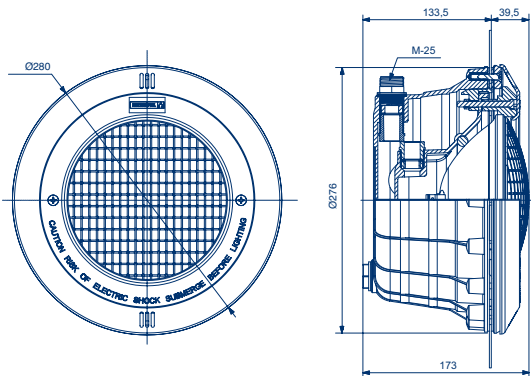
**Without cable**

- With white ABS faceplate **07852**
- With S.S. faceplate **07851**
- Parker model, with self-tapping screws **21079**

**With 2.5 m cable of 2 x 6 mm<sup>2</sup>**

- With white ABS faceplate **07856**
- With S.S. faceplate **07855**
- Parker model, with self-tapping screws **21080**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>07852</b>	4	10.32	0.069
<b>07851</b>	4	11.28	0.069
<b>21079</b>	4	10.00	0.070
<b>07856</b>	4	13.80	0.069
<b>07855</b>	4	14.50	0.069
<b>21080</b>	4	13.50	0.070



**Niche for standard lights**

With flange, adhesive gaskets and screws. ABS flange. Supplied with M-25 gland packing. On special order S.S. flanges can be supplied.

- ABS housing with metallic inserts **00364**
- Body PS Parker model with self-tapping screws **28887**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>00364</b>	6	6.24	0.069
<b>28887</b>	6	6.40	0.069

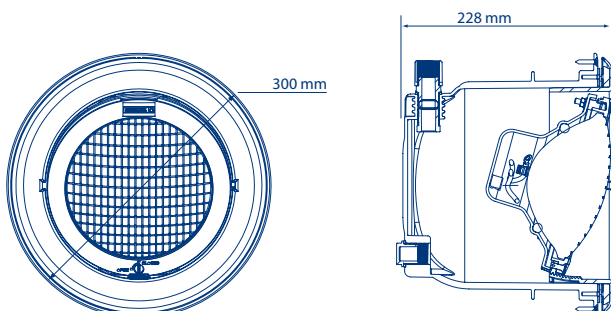


**Adjustable light**

The lens may be angled up to 15° in any direction. Niche for prefabricated and panel pools. White ABS faceplate. PAR 56 300W-12V halogen lamp, IP-68 Protection and H07RN-F 2.5 metre long cable.

- Parker Model **33034**
- For Parker model panel pools **33035**
- Niche with inserts **33067**
- For panel pools, niche with inserts **33068**

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>33034</b>	1	3.7	0.029
<b>33035</b>	1	3.7	0.029
<b>33067</b>	1	3.7	0.029
<b>33068</b>	1	3.7	0.029





## UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS

### PS lights



Light supplied with niche, flange, adhesive gaskets and screws. Lamp PAR 56 300 W - 12 V. Without transformer.

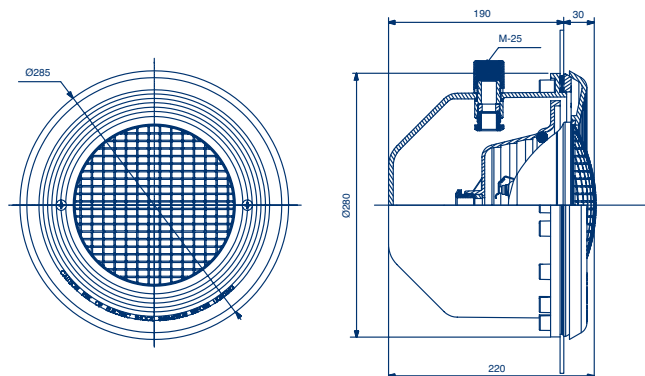
#### Without cable

With white ABS faceplate  
Parker model, with self-tapping screws  
With S.S. faceplate

#### With 2.5 m cable of 2 x 6 mm<sup>2</sup>

With white ABS faceplate

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
07847	4	15.0	0.072
21078 ▲	4	8.8	0.090
07850 ▲	4	13.4	0.080
07857	4	16.0	0.090



### Niche for PS light



With flanges in ABS, adhesive gaskets and screws for AstralPool lights. Made of ABS and gland packing included.

ABS with metallic inserts

PS housing Parker model  
with self-tapping screws

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00367 ▲	6	8.38	0.09
28888 ▲	6	8.54	0.09

### Stainless Steel light adaptor kit





Kit for prefabricated and liner pool lights 00358 and 00359 (see page 299). Comprising AISI-316 S.S. flange, 2 elastic gaskets and fixing screws (light not included in the kit).

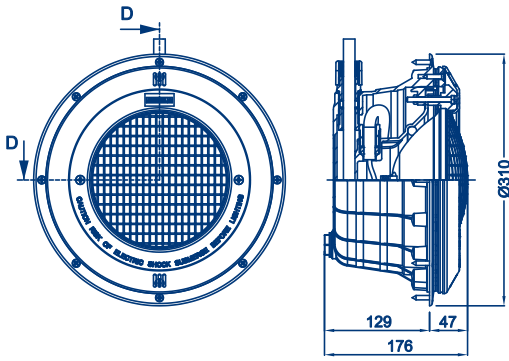
Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00368	1	0.62	0.003

**UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS**

**Panel Protect lights for panel pool**

Special for panel pools. Its special assembly system avoids the panel from coming into contact with water. 300 W - 12 V lamp. M-25 thread. 2.5 m cable H07RNF of 2 x 6 mm<sup>2</sup>. Supplied with one adhesive gasket, double injected niche, flange and screws.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Panel Protect niche kit. Standard Parker model	<b>23670</b> 	1	2.22	0.024
Panel Protect niche kit. Standard with inserts	<b>23671</b>	1	2.22	0.024
Panel Protect light. Standard mod. Parker	<b>31112</b> 	1	2.22	0.024
Panel Protect light. Standard with inserts	<b>31113</b>	1	2.22	0.024



## UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS

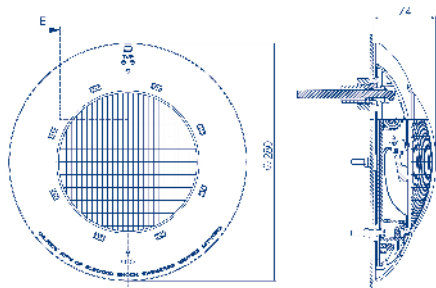
### Extra flat lights



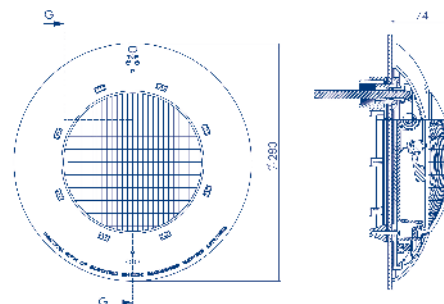
100 W, 12 V underwater light. (Does not require niche). Made of heat-resistant plastic. Cross shaped reinforced plastic fixing using plugs, screws and gaskets. Supplied with 2.5 m cable. 100 W, 12 V halogen bulb. Supplied without transformer. Available with plastic ABS or S.S. faceplate.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Wall fixing with gaskets, bolts and nuts.	<b>21627</b>	6	13.7	0.055
Wall fixing with gaskets, bolts and nuts S.S. faceplate.	<b>35667</b>	6	13.7	0.055
New fixing system that allows installation of liner and lights after the pool is totally finished	<b>24765</b>	5	8.8	0.055
New fixing system that allows installation of liner and lights after the pool is totally finished S.S. faceplate.	<b>35668</b>	5	8.8	0.055

Extra flat light  
Code 21627



Extra flat light  
Code 24765

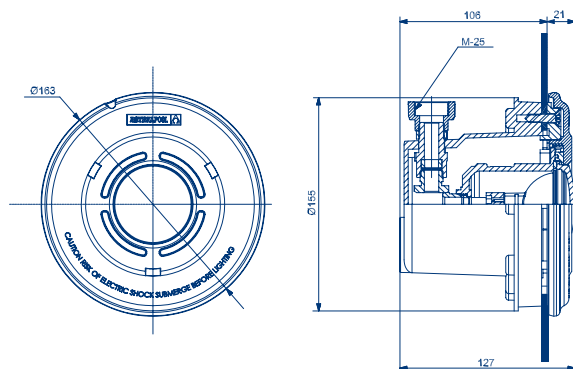


### Plastic MINI light for liner pools



Supplied with flange, adhesive gaskets and screws. With niche. Manufactured completely in ABS plastic material. Bayonet system on both faceplate and casing. Earthing not required. Easy to remove, using the faceplate as a key to replace the lamp. 50 W - 12 V lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated area of 2.5 m. With 2.5 m cable of 2 x 1.5 mm<sup>2</sup>. Available on white ABS faceplate or S.S.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33711</b>	4	5.70	0.022
S.S. faceplate	<b>36649</b>	4	5.70	0.022

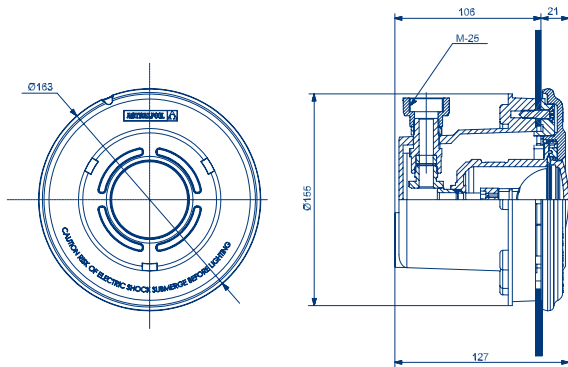


**UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS**

**Metal MINI light for liner pools**

Manufactured in patterned and chromed brass, niche in white ABS. 50 W - 12 V lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m. Supplied with flange, adhesive gaskets and screws. With 2.5 m cable of 3 x 1 mm. Available in white ABS faceplate or S.S.

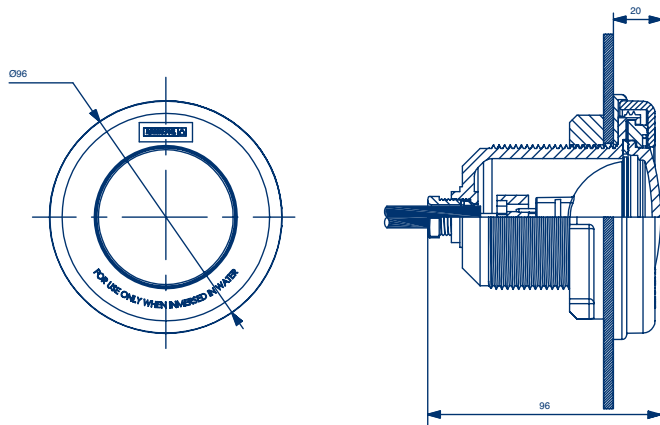
	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33687</b>	4	7.70	0.022
S.S. faceplate	<b>36644</b>	4	7.70	0.022



**Metal MINI light for prefabricated pools**

For prefabricated pool. Of small dimensions (Ø 96 mm). With 2" outer thread for fixing. Chromed housing and brass nut, ABS faceplate. 50 W - 12 V aluminised halogen lamp. Without niche. Supplied with 2.5 m cable of 2 x 1.5 mm<sup>2</sup> with earthing. Available in plastic ABS faceplate or S.S.

	Código	Emb. Standard	Peso Kg Standard	Volumen m <sup>3</sup> Standard
White ABS faceplate	<b>33685</b>	4	5.60	0.010
S.S. faceplate	<b>36642</b>	4	5.60	0.010



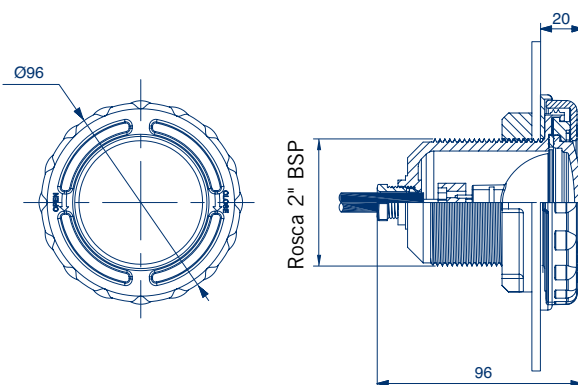
## UNDERWATER LIGHTS FOR LINER AND PREFABRICATED POOLS

### Plastic MINI light, outer thread, quick assembly



Manufactured totally in ABS plastic material, without screw, bayonet system on both faceplate and casing. Borosilicate lens. Earthing not required, easy to dismantle, using the faceplate as a key to replace the lamp. Possibility of attaching outer lens of polycarbonate available in 4 colours: red, green, yellow and blue. 50 W - 12 V lamp and 38° opening of 95 lux light beam at 4 m distance with an illuminated circle of 2.5 m for threading in 2" earthing (Code 15658). Without niche. Available on white ABS faceplate or S.S.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
White ABS faceplate	<b>33709</b>	4	2.80	0.010
S.S. base faceplate	<b>36647</b>	4	2.80	0.010



new

### Mini Panel Protect Projector



Specially designed for panel pools. Due to its special assembly, it protects the panel, preventing it from coming into contact with the water. Available with ABS plastic or Stainless Steel faceplate. 50 W, 12 V Lamp. With 2.5 m long cable measuring 2 x 1.5 mm<sup>2</sup>.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Metal Projector. ABS white faceplate	<b>34183</b>	4	6.50	0.22
ABS Projector. ABS white faceplate	<b>34184</b>	4	6.50	0.22
Metal Projector. Stainless Steel faceplate	<b>36645</b>	4	6.50	0.22
ABS Projector. Stainless Steel faceplate	<b>36650</b>	4	6.50	0.22



**UNDERWATER LIGHTS FOR FOUNTAINS AND PONDS**

**Underwater lights**

Manufactured in stable plastic materials. Rotational bracket allowing light beam to be directed in any direction. Lamp PAR 56 or PAR 38. It can be fixed to the floor with plugs and screws. Possibility of adapting colour lenses.

**Without cable**

With PAR 56, 300 W-12 V lamp

With PAR 38, 120 W-24 V lamp

**With 2.5 m cable of 2 x 6 mm<sup>2</sup>**

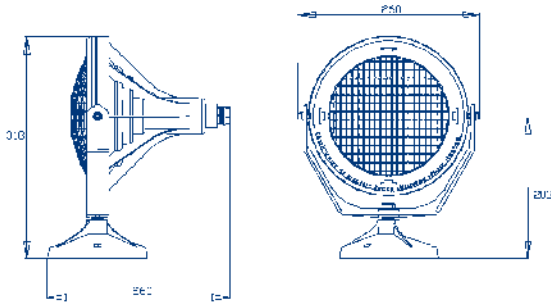
With PAR 56, 300 W-12 V lamp

With PAR 38, 120 W-24 V lamp

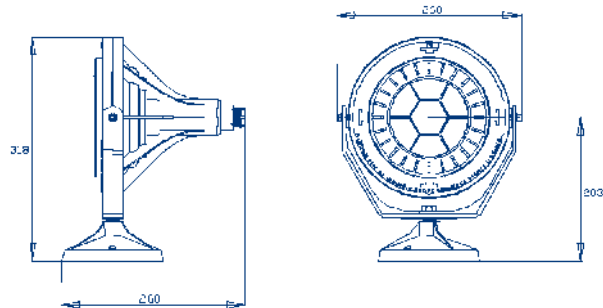
Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>08930</b>	4	8.2	0.080
<b>08931</b>	4	8.0	0.080
<b>22397</b>	4	9.0	0.086
<b>23046</b>	4	9.0	0.086



**Lamp PAR 56**



**Lamp PAR 38**



**Base for Mini lights for fountains**

Base made of stainless steel in order to mount any Mini light without niche. Ideal for placing lights in fountains or water installations. The light must always be submerged.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
<b>35716</b>	1	0.3	0.003

*new*



## LAMPS AND LENSES

### Colour lenses



For "Extra Flat" lights (codes 21626, 21627, 24765, 00346 and 00361).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Transparent	<b>00373</b>	1	0.2	0.002
Red	<b>00374</b>	1	0.2	0.002
Yellow	<b>00375</b>	1	0.2	0.002
Green	<b>00376</b>	1	0.2	0.002
Blue	<b>00377</b>	1	0.2	0.002

### Colour lenses



For Standard underwater lights (Codes 07837, 07838, 07843 and 07844).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Green	<b>08558</b>	1	0.2	0.002
Yellow	<b>08559</b>	1	0.2	0.002
Red	<b>08560</b>	1	0.2	0.002
Blue	<b>08561</b>	1	0.2	0.002

### Colour lenses



For fountain lights (Codes 08930, 08931, 22397 and 23046).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Red	<b>09414</b>	1	0.2	0.002
Yellow	<b>09415</b>	1	0.2	0.002
Green	<b>09416</b>	1	0.2	0.002
Blue	<b>09417</b>	1	0.2	0.002

### Colour lenses



For plastic MINI lights without niche (Codes 17883 and 17884).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Red	<b>18881</b>	1	0.2	0.002
Yellow	<b>18882</b>	1	0.2	0.002
Green	<b>18883</b>	1	0.2	0.002
Blue	<b>18884</b>	1	0.2	0.002

### Colour lenses



For MINI lights with niche (Codes 08556, 08557, 17885 and 17886).

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Red	<b>20081</b>	1	0.2	0.001
Yellow	<b>20082</b>	1	0.2	0.001
Blue	<b>20083</b>	1	0.2	0.001
Color verde	<b>20084</b>	1	0.2	0.001

## LAMPS AND LENSES

### PAR 56 halogen lamp 300 W 12 V

For lights with niche.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00370	1	0.7	0.003



### Halogen lamp 100 W 12 V

For flat and extra-flat lights.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00371	1	0.2	0.001



### Dichroic bulb 50 W 12 V

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00372	1	0.055	0.001



### Aluminized halogen lamp 50 W 12 V

For mini lights.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19334	1	0.1	0.001



### PAR lamp 38 E-27 120 W 24 V

For fountain and pond lights.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
09309	1	0.5	0.002





## TRANSFORMERS



### Transformers

Made according to EN 60742 Standard.

**130 VA from 220 V to 12 V**  
for lights 21626, 21627 and 24765

**300 VA from 220 V to 12 V**  
up to 35 m cable length

**600 VA from 220 V to 12 V**  
up to 25 m cable length

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00383	6	15.0	0.011
00384	4	21.0	0.012
00385	2	19.0	0.012

Please enquire for alternative range of transformers



new

### Sealed security transformer IP-65 for pools

Manufactured according to the UNE-EN 61558 standard and EU rules.

- IP-657 housing protection degree.
- Transformer Class II. Total Protection against electric shock.
- Self-extinguishing housing IEC 695-2-1
- Frequency 50/60 Hz

130 VA from 220-240V to 12 V  
400 VA from 220-240V to 12-17 V  
800 VA from 220-240V to 24-29 V

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
35807	1	3.2	0.02
35385	1	6.8	0.04
35386	1	10.4	0.04



### Transformer protection boxes

Made of zinc plated steel plate, painted finish.

For transformer 00383  
For transformer 00384  
For transformer 00385

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00386	1	1.15	0.01
00387	1	1.57	0.01
00388	1	3.00	0.01

## CONNECTION BOXES

### Connection box with security cover

Manufactured in ABS, made up of three 3/4" inlets/outlets M-25 and 3/4" thread connections.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
30825	12	4.65	0.030



### Connection box

In Stainless Steel AISI-316. Two side outlets, thread PG16 with PG-16-M25 converter. 3/4" BSP threaded bottom connection.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00393	1	0.21	0.002



## ACCESSORIES

### Flexible conduit hose

For connection from light to connection box, length 1 m hose.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Threaded ends 3/4" & M25	28138	-	-	-
M-25 socket joint	10892-0404 	-	-	-
Threaded ends 3/4" and M26 150 cm	28138-150	-	-	-



### 100 m cable roll HO7RN-F 2 x 6 mm<sup>2</sup>

The roll contains 100 m of cable HO7RN-F, with 2x6 mm<sup>2</sup> section. Ideal for all lights with PAR 56, 300 W-12V lamps. Meets all the Standards of illumination and voltage for all types of pools. It is recommended for Standard, PS, Panel Protect, and UL-EUR series and fountain lights.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
100m cable roll	15264	1	187.5	-



## FIBRE OPTICS LIGHTING

### Fibre optics product range

The fibre optics range consists on generators, cables, lights, glow rods flexible fibre wands, illuminating waterfalls, tracks and perimetral fibre fixers, tools and accessories.

#### Fibre Optic Generators

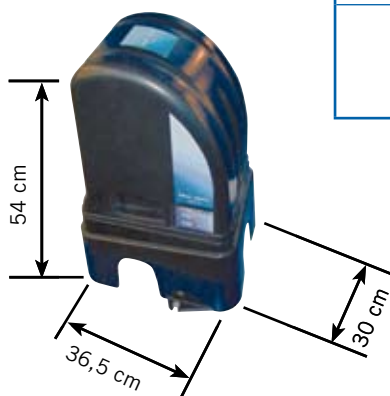
The generators are light sources equipped with special lamps that provide optimal light intensity for fibre optic equipment. The new Series 100 and 300 generators offer higher performance at a lower cost.

#### Main features:

- Self or automatic synchronization of generators (no need for master and slave light sources).
- The remote control has been included as standard.
- Capacity of 600 strands for generator. This means a smaller number of generators are needed for the same installation.
- A choice of 8 different colours are included: white, dark green, cyan, pink, blue, lime green, yellow and navy blue.
- Colour changing control mode.
- Automatic shut-off timer.
- Sequential colour changes with varying times for each colour.
- In a public pool where the generators are close to the swimmers, there is the possibility of invalidating the buttons control to avoid tampering.



Fibre optic generator



Remote control



Code	Description
22348: CE	Series 100 eight-colour generator with 250 W halogen lamp. Complete with long distance remote control. 600-strand fibre capacity. Self-synchronizing for systems equipped with more than one generator. Continuous or sequential colour changes with programmable times. Automatic shut-off timer.
22347: CE	Series 300 eight-colour generator with 150 W, 6000- hour operating life discharge lamp. Complete with long distance remote control. 600-strand fibre capacity. Self-synchronizing for systems equipped with more than one generator. Continuous or sequential colour changes with programmable times. Automatic shut-off timer.



## FIBRE OPTICS LIGHTING

### Fibre optics product range

#### FIBRE OPTIC CABLE

All fibre optic cables are clearly identified with the number of strands. Astral has newly introduced single-strand cables to create starry sky effects and other applications requiring only one 0.75 mm strand.



#### End emitting stranded cable

Code	Description
23585	0.75 mm PMMA single-strand cable. Minimum order of 2,700 metres.
27723	12 fibres, per metre
27724	12 fibres, 50 m roll
27725	12 fibres, 100 m roll
27727	25 fibres, per metre
27728	25 fibres, 50 m roll
27729	25 fibres, 100 m roll
27731	50 fibres, per metre
27732	50 fibres, 50 m roll
27733	50 fibres, 100 m roll
27735	75 fibres, per metre
27736	75 fibres, 50 m roll
27737	75 fibres, 100 m roll
27738	100 fibres, per metre
27739	100 fibres, 50 m roll
27740	100 fibres, 100 m roll
27742	150 fibres, per metre
27743	150 fibres, 50 m roll
27744	150 fibres, 100 m roll

#### Perimetral (side emission) cable

To simplify handling and improve the overall aesthetics of perimeter installations, the fibre is now completely rounded, and the protective covering is now totally transparent for an even more spectacular look. There are 2 types of perimetrical fibres, the stranded and the lineal. The main difference between both is that the first one gives more luminosity and the second is more economical.

Supplied by the meter or in rolls of 50, 100, 200 and 300 metres.

Code	Description
27750	42 fibres stranded cable. Per meter
27751	42 fibres stranded cable. 50 meter roll
27752	42 fibres stranded cable. 100 meter roll
27753	42 fibres stranded cable. 200 meter roll
27754	42 fibres stranded cable. 300 meter roll
27765	42 fibres lineal cable. Per meter
27766	42 fibres lineal cable. 50 meter roll
27767	42 fibres lineal cable. 100 meter roll
27768	42 fibres lineal cable. 200 meter roll
27769	42 fibres lineal cable. 300 meter roll

## FIBRE OPTICS LIGHTING

### Fibre optic product range

#### FIBRE OPTIC POOL LIGHTS

The whole range of lights are manufactured in white ABS and are all easily installed with wall conduits or direct glueing. They are supplied with two lenses, the concave lens with a wider opening of the illumination angle, and the flat lens, more common in spas and small pools. With the lenses a superior finish is obtained, and installation is simplified. Furthermore, the lights incorporate an Astralpool white or chrome faceplate, and have standard connections.

There are different light models available according to the type of pool, whether concrete, fibreglass, acrylic and liner.

**Code** \_\_\_\_\_ **Description**

Lenses for concrete pools	
<b>25389</b>	Lights 2" male thread, inside diameter 50 mm. Can be installed with wall conduit. Ref: 15658-15659. Manufactured in white ABS. Supplied with flat lens and concave lens.
<b>25390</b>	Lights for glueing to PN6 63 mm tube or 50 mm diameter tube. Can be installed with wall conduit Ref: 15660-15661. Manufactured in white ABS. Supplied with flat lens and concave lens.
<b>32395</b>	2" male thread, inside diameter 50 mm. Can be installed with wall conduit ref.: 15658-15659. Manufactured in white ABS. Supplied with flat lens and concave lens. Chromed faceplate.
<b>32396</b>	For glueing to PN6 63 mm or 50 mm diameter tube. Can be installed with wall conduit ref.: 15660-15661. Manufactured in white ABS. Supplied with flat lens and concave lens. Chromed faceplate.
Underwater lights	
<b>25391</b>	Light for liner. For glueing to 50 mm diameter tube. Manufactured in white ABS. Includes gasket and screws. Supplied with flat lens and concave lens.
<b>32397</b>	For glueing to 50 mm diameter tube. Manufactured in white ABS. Includes gaskets and screws. Supplied with flat lens and concave lens. Chromed faceplate.
Projectors for prefabricated pools in fibreglass and acrylic	
<b>25392</b>	Light for prefabricated pools in fibreglass and acrylic. For glueing to 50 mm diameter tube. Manufactured in white ABS. Includes gaskets and fixing nut. Supplied with flat lens and concave lens.
<b>32398</b>	For glueing to 50 mm diameter tube. Manufactured in white ABS. Includes gaskets and fixing nut. Supplied with flat lens and concave lens. Chromed faceplate.
Accessories	
<b>24559</b>	Mini Spot. Capacity for holding up to 12 fibres. Fixing with silicon or similar.
<b>24560</b>	Mini Lens. Capacity for holding up to 12 fibres. Includes fixing nut and sleeve for the fibres.



Lights are supplied with both flat and concave lenses



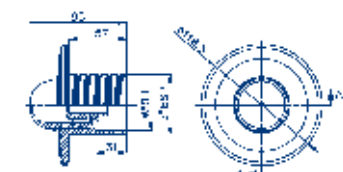
Mini Spot



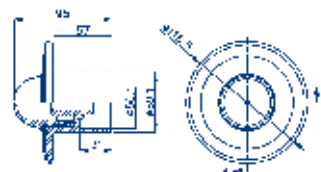
Mini Lens



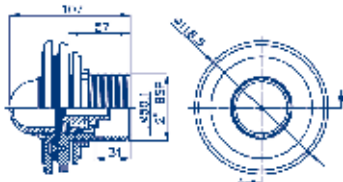
Chromed optic fibre projector



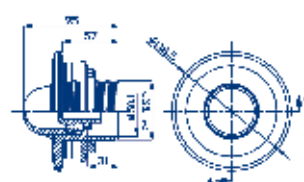
25389-32395



25390-32396



25391-32397



25392-32398

**FIBRE OPTICS LIGHTING**

**Glow rods**

Glow rods are supplied with 12-strand fibres in lengths of 5 m, 10 m and 15 m.

	<b>Code</b>	<b>Standard Packing</b>	<b>Standard Weight kg</b>	<b>Standard Volume m<sup>3</sup></b>
Glow rod	<b>27780</b>	1	0.48	0.010
Glow rod with 5 m cable	<b>27781</b>	1	0.61	0.010
Glow rod with 10 m cable	<b>27782</b>	1	0.74	0.010
Glow rod with 15 m cable	<b>27783</b>	1	0.87	0.010



**Flexible fibre wands**

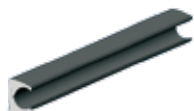
Flexible fibre wands come ready to install and are available with 25, 50 and 75-strand fibres in cable lengths of 5 m, 10 m and 15 m.

	<b>Code</b>	<b>Standard Packing</b>	<b>Standard Weight kg</b>	<b>Standard Volume m<sup>3</sup></b>
Flexible fibre wand	<b>18404</b>	1	0.16	0.010
Flexible fibre wand 25 fibres cable 5 m	<b>27784</b>	1	0.63	0.010
Flexible fibre wand 25 fibres cable 10 m	<b>27785</b>	1	0.87	0.010
Flexible fibre wand 25 fibres cable 15 m	<b>27786</b>	1	1.07	0.010
Flexible fibre wand 50 fibres cable 5 m	<b>27787</b>	1	0.79	0.010
Flexible fibre wand 50 fibres cable 10 m	<b>27788</b>	1	1.14	0.010
Flexible fibre wand 50 fibres cable 15 m	<b>27789</b>	1	1.49	0.010
Flexible fibre wand 75 fibres cable 5 m	<b>27790</b>	1	0.99	0.010
Flexible fibre wand 75 fibres cable 10 m	<b>27791</b>	1	1.35	0.010
Flexible fibre wand 75 fibres cable 15 m	<b>27792</b>	1	1.79	0.010



## FIBRE OPTICS LIGHTING

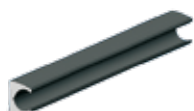
### 15 m Flexible track



In clear plastic. Screw attachment. Model for pools already built.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
27796	1	2.20	0.010

### 15 m Flexible track



In clear plastic. Screw attachment below coping stone. Model for new pools.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
27797	1	4.2	0.027

### 15 m Guide track for vinyl liners



In clear transparent plastic. Specially designed for fixing directly to liner holding profile. Fixed directly without any need of screws, tape or silicone.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
27798	1	2.6	0.027

### Silicone and double-sided adhesive tape

Silicone tube 304 ml  
 Box of 24 tubes of 304 ml  
 50 m double-sided adhesive tape

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
18399	12	5.54	0.010
18400	24	11.08	0.027
18398	1	0.30	0.001

### Stainless steel lens key



For quick, easy and accurate adjustments of lenses. In S.S.

Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
18413	1	0.1	0.001

## FIBRE OPTICS LIGHTING

### Complete centering device

For connecting fibre optics to any AstralPool lens.

	Code	Standard Packing	Standard Weight kg	Standard <sup>3</sup> Volume m
For 12-75 fibres	<b>25393</b>	1	0.1	0.001
For 75-300 fibres	<b>25394</b>	1	0.1	0.001



### Replacement bulbs and spares

	Code	Standard Packing	Standard Weight kg	Standard Volume m
Halogen bulb for generator 100 series	<b>18415</b>	1	0.1	0.001
Metallic halogen lamp for generator 300 series	<b>22347R0201</b>	1	-	-



**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.



## WATER GAMES AND ORNAMENTAL WATER FEATURES



### Cobra Curtain

Height: 1.2 m. Width 600 mm. Stainless Steel AISI-316.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Matt finish	19972	1	23.2	0.630
Painted in white	19973	1	23.2	0.630



### Boa Curtain

Height: 1.2 m. Width 340 mm. Stainless Steel AISI-316.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Bright polished	19974	1	11.2	0.278



### Deluxe Curtain

Height: 0.9 m. Stainless Steel AISI-316.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Bright polished	19975	1	60.0	0.547

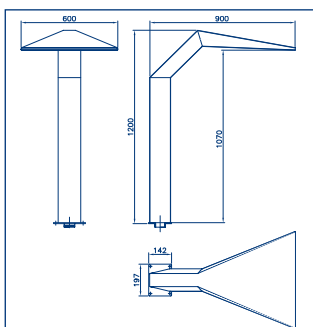


### Arched Curtain

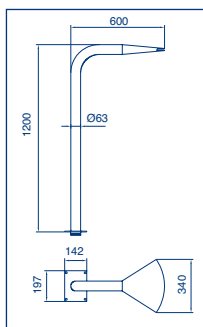
Stainless Steel AISI-316 matt finish.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Width 600 mm, Height 800 mm	20129	1	34.1	0.247
Width 600 mm, Height 1000 mm	20130	1	62.0	0.547
Width 1000 mm, Height 1000 mm	20131	1	106.5	1.044

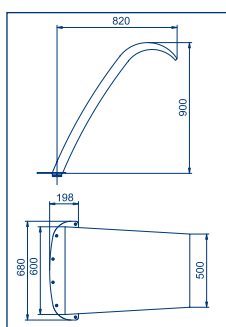
19972-19973



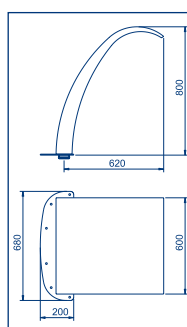
19974



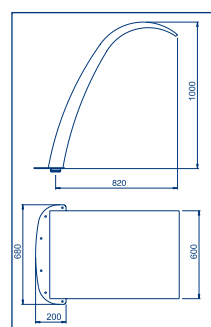
19975



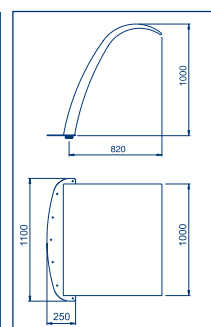
20129



20130



20131



Water feature code	Base cover	Anchoring		Suction		Pump	Control Box		
		Concrete	Liner	Concrete	Liner		Manual Switch	Pneumatic press button	
								Concrete	Liner
19972	19981	19983	15833	19987	20091	38780	19990	07537	07867
19973	19982	19983	15833	19987	20091	38780	19990	07537	07867
19974	19977	19983	15833	19987	20091	38776	19989	17154	17155
19975	-	19985	-	19987	20091	38780	19990	07537	07867
20129	-	19985	-	19987	20091	38780	19990	07537	07867
20130	-	19985	-	19987	20091	38780	19990	07537	07867
20131	-	20135	-	19987	20091	38780	19990	07537	07867

Note: The pneumatic switch includes: control box, wall conduits and switch.

## WATER GAMES AND ORNAMENTAL WATER FEATURES

**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.

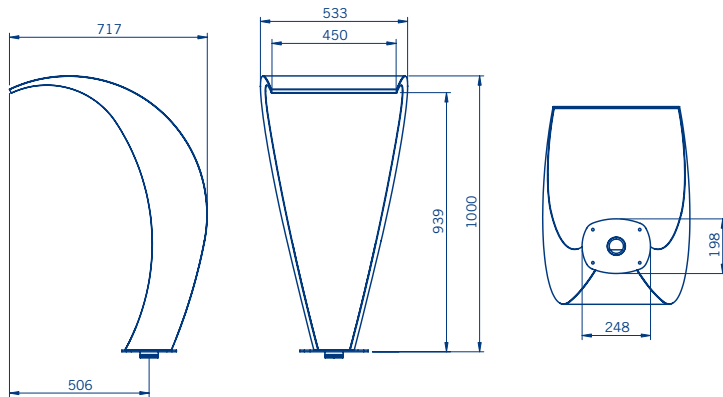


### Swan Curtain 450

Stainless Steel AISI-316.

Matt finish  
Painted in Blue Ral 5002  
Painted in Orange Ral 2003

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
34387	1	27.7	0.356
34388	1	27.7	0.356
34389	1	27.7	0.356

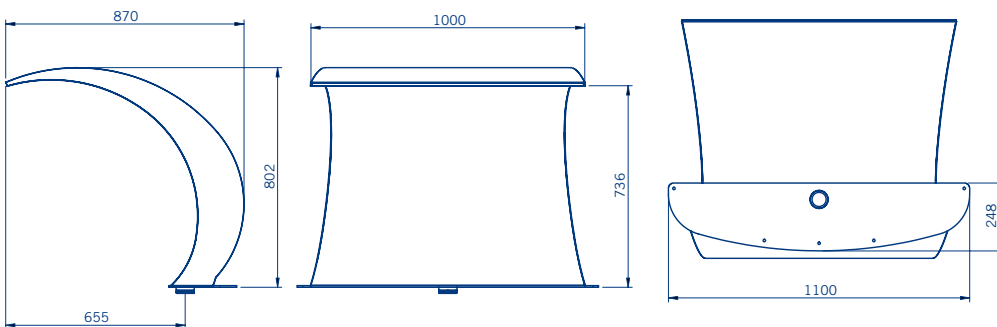


### Swan Curtain 1000

Stainless Steel AISI-316.

Matt finish  
Painted in Blue Ral 5002  
Painted in Orange Ral 2003

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
34390	1	38.2	0.872
34391	1	38.2	0.872
34392	1	38.2	0.872



Water feature code	Anchoring		Suction		Pump	Control Box		
	Concrete	Liner	Concrete	Liner		Manual switch	Pneumatic press button	
							Concrete	Liner
34387	19983	15833	19987	20091	38776	19989	17154	17155
34388								
34389								
34390								
34391								
34392	38780	19990	07537	07867				

Note: The pneumatic switch includes: control box, wall conduits and switch.

**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.

## WATER GAMES AND ORNAMENTAL WATER FEATURES



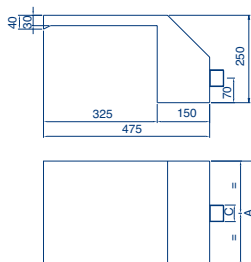
### Waterfalls



Stainless Steel AISI-316.

Width 300 mm. connection 1 1/2"  
Width 600 mm. connection 2"

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
05577	1	6.9	0.06
05578	1	11.9	0.09



Feature code	Base cover	Anchoring		Suction		Pump	Control Box		
		Concrete	Liner	Concrete	Liner		Manual switch	Pneumatic press button	
								Concrete	Liner
05577	-	-	-	19987	20091	38770	19988	07669	07868
05578	-	-	-	19987	20091	38776	19989	17154	17155

**Note:** The pneumatic switch includes: control box, wall conduits and switch.



**PowerFall**



**FiberFall**



**MiniJet**



### Polaris waterfalls

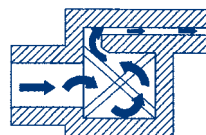
The first ever ABS waterfall fountain made to resist pool water corrosion. Operates with the pool filtration return circuit. Recommended maximum installation height of 1.20 m above pool water level.

With Polaris Powerfall you can create a beautiful waterfall for your pool.

The Mini-jet adds a touch of distinction giving your pool a visual and audible effect upgrading the surrounding pool beauty. The number of Mini-jets to be connected will depend on the pump capacity.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25785	1	3.0	0.011
25783	1	4.5	0.015
25786	1	7.0	0.023
28836	36	14.5	0.110

46 cm Powerfall waterfall  
61 cm Powerfall waterfall  
91 cm Powerfall waterfall  
MiniJet



## WATER GAMES AND ORNAMENTAL WATER FEATURES

**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.



### Cannons

In AISI-316 Stainless Steel. (pipe only, without nozzles). Pipe: Ø 50 mm. Height 1.2 m.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19968	1	7.2	0.193





### Interchangeable nozzles

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
 Nozzle No 1	05572	1	0.66	0.003
 Nozzle No 2	05573	1	0.46	0.003
 Nozzle No 3	05574	1	0.56	0.003
 Nozzle No 4	05575	1	0.81	0.003



### Vertical

In polished AISI-316 Stainless Steel. Pipe: Ø 84 mm. Height 1.5 m.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Single	19969		10	0.080
Triple	20134		37	0.220





**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.



## WATER GAMES AND ORNAMENTAL WATER FEATURES



### Bell

In Stainless Steel AISI-316. Pipe: Ø 63 mm. Height 1.2 m.

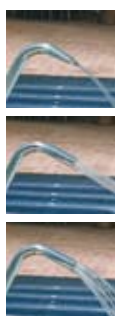
Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19971	1	9.2	0.274



### Deluxe Cannon

Stainless Steel polished AISI-316. Pipe: Ø 63 mm. Height: 0.8 mm.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
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**Flat**

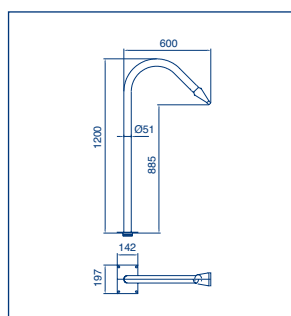
19970	1	8.2	0.211
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**Circular**

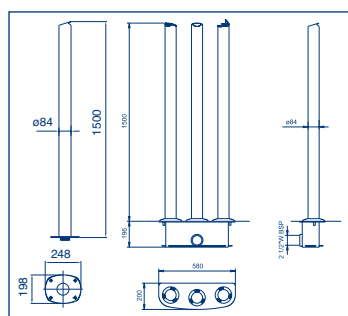
20132	1	9.4	0.209
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**6 outlets**

20133	1	8.6	0.213
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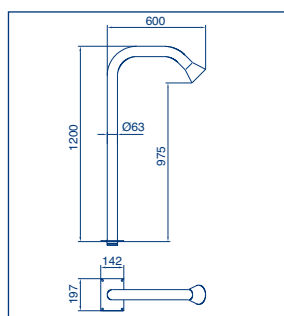


19968

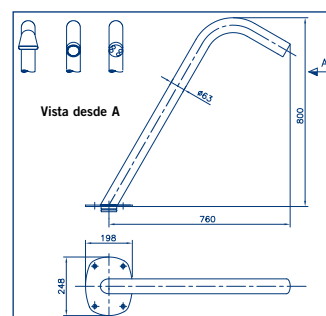


19969

20134



19971



19970-20132-20133

Water feature code	Base cover	Anchoring		Suction		Pump	Control Box		
		Cement	Liner	Cement	Liner		Manual switch	Pneumatic press button	
								Cement	Liner
19968	19976	19983	15833	19987	20091	38770	19988	07669	07868
19969	19978	19983	15833	19987	20091	38770	19988	07669	07868
19970	-	19983	15833	19987	20091	38770	19988	07669	07868
19971	19977	19983	15833	19987	20091	38776	19989	17154	17155
20132	-	19983	15833	19987	20091	38770	19988	07669	07868
20133	-	19983	15833	19987	20091	38770	19988	07669	07868
20134	-	-	-	19987	20091	38780	19990	07537	07867

Note: The pneumatic switch includes: control box, wall conduits and switch.

## WATER GAMES AND ORNAMENTAL WATER FEATURES

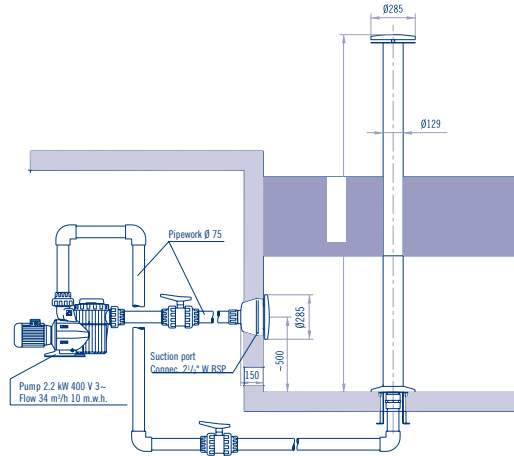
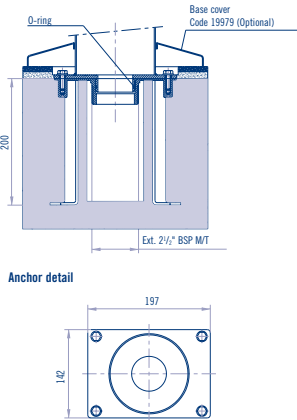
**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.



### Mushrooms

In AISI-316 Stainless Steel polished Column Ø 129 mm. Height 2.3 m.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Mushroom Ø 285 mm	19966	1	24.8	0.273



Feature code	Base cover	Anchoring		Suction		Pump	Control Box		
		Concrete	Liner	Concrete	Liner		Manual switch	Pneumatic press button	
								Concrete	Liner
19966	19979	19983	15833	19987	20091	38780	19990	07537	07867

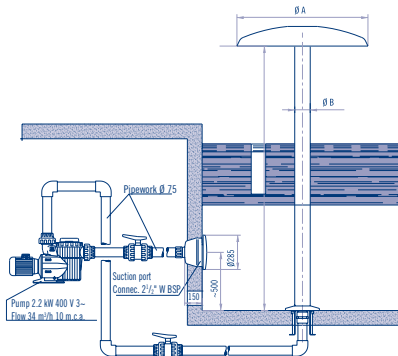
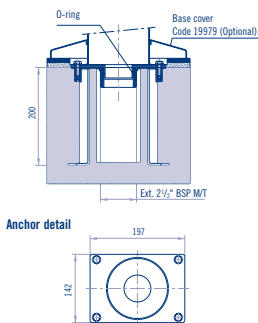
**Note:** The pneumatic press button includes: control box, wall conduits and press button.



### Umbrellas

In AISI-316 Stainless Steel polished column. Umbrella in fiberglass.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Umbrella, Ø 1100 mm	22750	1	30.0	0.450
Umbrella, Ø 1500 mm	22751	1	85.0	1.900
Umbrella, Ø 2000 mm	22752	1	110.0	2.400
Umbrella, Ø 2500 mm	22753	1	130.0	3.500
Column Ø 129 mm	22754	1	23.4	0.274
Column Ø 254 mm	22755	1	55.8	0.507



**Note:** The pneumatic press button includes: control box, wall conduit and press button.

Umbrella Ø	Top	Column	Base cover	Anchoring		Suction		Pump	Control Box		
				Concrete	Liner	Concrete	Liner		Manual switch	Pneumatic press button	
										Concrete	Liner
1100	22750	22754	19979	19983	15833	19987	20091	38780	19990	07537	07867
1500	22751	22755	19980	19984	19986	19987	20091	08003	19991	–	–
2000	22752	22755	19980	19984	19986	19987	20091	08003	19991	–	–
2500	22753	22755	19980	19984	19986	19987	20091	08004	19992	–	–

**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.



## WATER GAMES AND ORNAMENTAL WATER FEATURES



### Water Mushroom Ø 250 mm

Made of AISI-316. It has been designed for installing in prefab. and concrete pools. Column Ø 104 mm. Height 385 mm

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Matt finish	<b>34378</b>	1	5.4	0.34
Painted Blue Ral 5002	<b>34379</b>	1	5.4	0.34
Painted Orange Ral 2003	<b>34380</b>	1	5.4	0.34



### Water Mushroom Ø 400 mm

Made of AISI-316. It has been designed for installing in prefab. and concrete pools. Column Ø 129 mm. Height 460 mm.

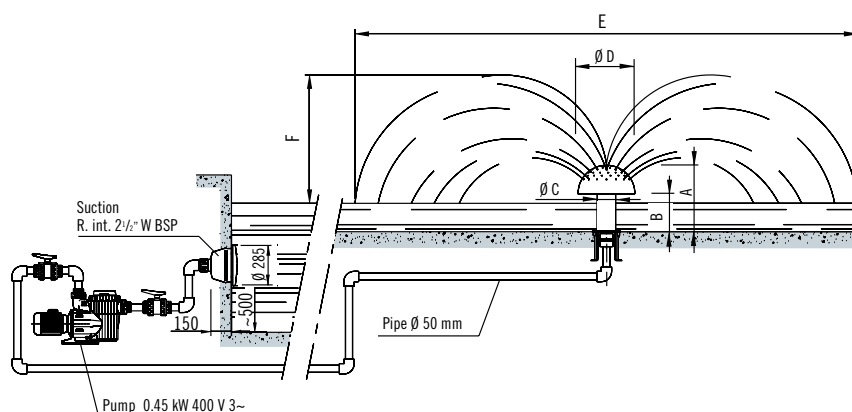
	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Matt finish	<b>34381</b>	1	9.6	0.124
Painted Blue Ral 5002	<b>34382</b>	1	9.6	0.124
Painted Orange Ral 2003	<b>34383</b>	1	9.6	0.124



### Water Mushroom Ø 670 mm

Made of AISI-316. It has been designed for installing in prefab. and concrete pools. Column Ø 168 mm. Height 600 mm.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Matt finish	<b>34384</b>	1	24.5	0.377
Painted Blue Ral 5002	<b>34385</b>	1	24.5	0.377
Painted Orange Ral 2003	<b>34386</b>	1	24.5	0.377



Dimensions in mm						Feature Code	Anchoring		Suction		Pump	Control Box		
Ø D Mushroom	A	B	Ø C	E	F		Concrete	Liner	Concrete	Liner		Manual switch	Pneumatic press button	Concrete
250	385		104	5000	1500	<b>34378</b>								
						<b>34379</b>								
						<b>34380</b>								
400	460	270	129	6600	1700	<b>34381</b>	19983	15833	19987	20091	38770	19988	07669	07868
						<b>34382</b>								
						<b>34383</b>								
670	600		168	7000	1800	<b>34384</b>								
						<b>34385</b>								
						<b>34386</b>								

**Note:** The pneumatic press button includes: control box, wall conduits and press button.

## WATER GAMES AND ORNAMENTAL WATER FEATURES

**NOTE:** The water features do not include anchoring, pump, control panel nor suction system.

### Polaris fountain

Transform your pool into a beautiful fountain. To choose from a floating model or WF model which is fixed to the pool wall. Connected to the pool return.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Polaris fountain (360°)	<b>25781</b>	1	3.50	0.066
Polaris WF fountain (180°)	<b>25782</b>	1	0.75	0.066





## WATER GAMES AND ORNAMENTAL WATER FEATURES



### Concrete pool wall suction point



In AISI-316 Stainless Steel.  $\varnothing = 285$  mm. Suction point for water features. Connection  $1\frac{1}{2}$ ". Max. recommended flow:  $13 \text{ m}^3/\text{h}$ .

Concrete pool

Code	Standard Packaging	Standard Weight kg	Standard Volume $\text{m}^3$
19987	1	2.9	0.018



### Prefabricated and liner pool wall suction point



In AISI-316 Stainless Steel.  $\varnothing = 285$  mm. Suction point for water features. Connection  $2\frac{1}{2}$ ". Max. recommended flow:  $13 \text{ m}^3/\text{h}$ .

Prefabricated and liner pool

Code	Standard Packaging	Standard Weight kg	Standard Volume $\text{m}^3$
20091	1	2.9	0.018



### Anchoring for concrete pools



In AISI-316 Stainless Steel. Includes base for embedding, screws, washers and earth connection. Connection  $2\frac{1}{2}$ " BSP.

Rectangular anchoring  
 $\varnothing 254$  mm anchoring  
 600 mm wide anchoring  
 1000 mm wide anchoring

Code	Standard Packaging	Standard Weight kg	Standard Volume $\text{m}^3$
19983	1	2.1	0.012
19984	1	9.8	0.113
19985	1	6.4	0.039
20135	1	10.8	0.076



### Anchoring for liner pools



15833

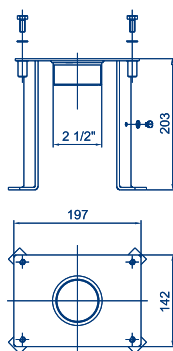
In AISI-316 Stainless Steel. Includes base for embedding, fixing plate, 3 gaskets and earth connection. Connection  $2\frac{1}{2}$ ".

Rectangular anchoring  
 $\varnothing 254$  mm anchoring

Code	Standard Packaging	Standard Weight kg	Standard Volume $\text{m}^3$
15833	1	2.5	0.007
19986	1	11.0	0.400



19986




**WATER GAMES AND ORNAMENTAL WATER FEATURES**



**Base cover**

In polished AISI-316 Stainless Steel Ø 51 mm.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
For cannon	19976 	1	1.0	0.008



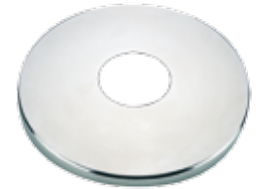
**Base cover**

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Polished, Ø 63 mm	19977	1	1.0	0.008



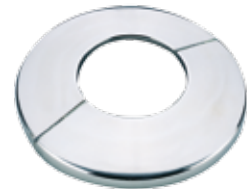
**Base cover**

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Polished, Ø 84 mm	19978 	1	0.9	0.006



**Base covers**

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Polished, Ø 129 mm	19979	1	0.9	0.005



**Base cover**

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
Polished, Ø 254 mm	19980	1	0.9	0.006



## WATER GAMES AND ORNAMENTAL WATER FEATURES



### Base cover



For 600 mm curtain. Matt finish

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19981	1	1.22	0.008



### Base cover



For 600 mm curtain. Painted

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19982	1	1.28	0.008



### Manual - control panel



#### Manual - control box

0.45 kW (0.5 CV) 400 V III	19988	1	0.7	0.005
1.1 kW (1.5 CV) 400 V III	19989	1	0.7	0.005
2.2 kW (3.0 CV) 400 V III	19990	1	0.7	0.005
2.65 kW (3.5 CV) 400 V III	19991	1	0.7	0.005
3.3 kW (4.5 CV) 400 V III	19992	1	0.7	0.005

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
19988	1	0.7	0.005
19989	1	0.7	0.005
19990	1	0.7	0.005
19991	1	0.7	0.005
19992	1	0.7	0.005



### Control box with pneumatic switch for water games



Allows bathers to control water features from inside the pool. Includes wall conduit, air tube and pneumatic press button.

#### For concrete pool

2.2 kW (3.0 CV) 400 V III	07537	1	3.1	0.02
0.45 kW (0.5 CV) 400 V III	07669	1	3.1	0.02
1.1 kW (1.5 CV) 400 V III	17154	1	3.1	0.02

#### For prefabricated pool

2.2 kW (3.0 CV) 400 V III	07867	1	3.2	0.02
0.45 kW (0.5 CV) 400 V III	07868	1	3.2	0.02
1.1 kW (1.5 CV) 400 V III	17155	1	3.2	0.02

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
07537	1	3.1	0.02
07669	1	3.1	0.02
17154	1	3.1	0.02
07867	1	3.2	0.02
07868	1	3.2	0.02
17155	1	3.2	0.02

## MARLIN COUNTERCURRENT SWIMMING EQUIPMENT - QUICK SELECTION GUIDE

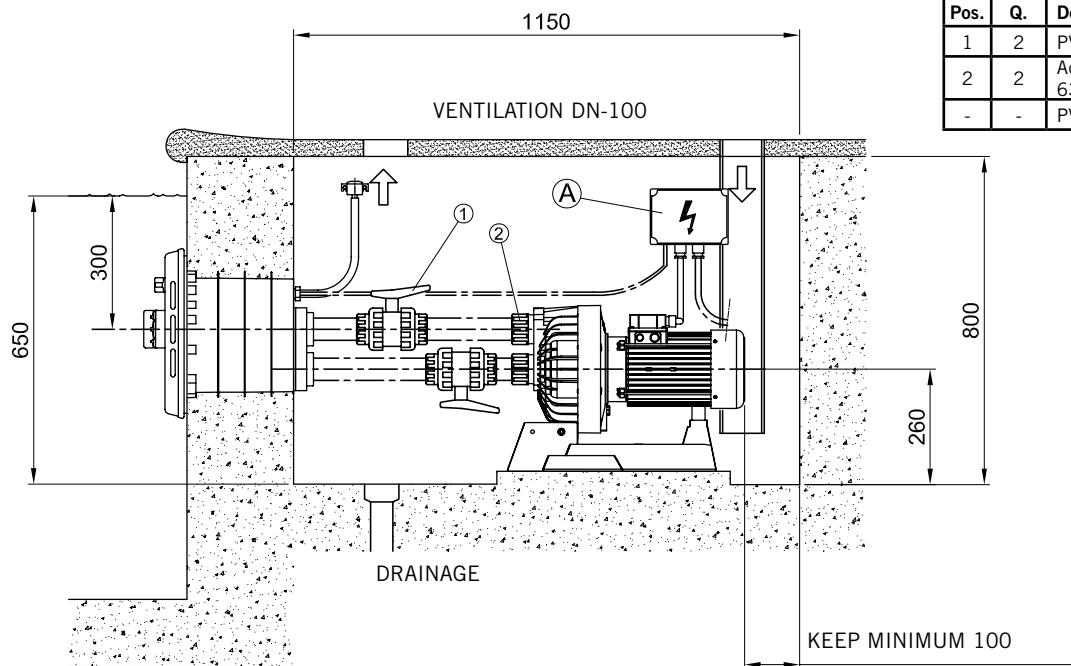


## COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN

### Pump assembly with horizontal discharge

Accessories recommended for the assembly (not included in the kit)

Pos.	Q.	Denomination	Code
1	2	PVC Valve Ø63 mm	02458
2	2	Adapter nipple 63 mm x 2" male thread	02107
-	-	PVC pipe Ø 63 mm PN-6	02692



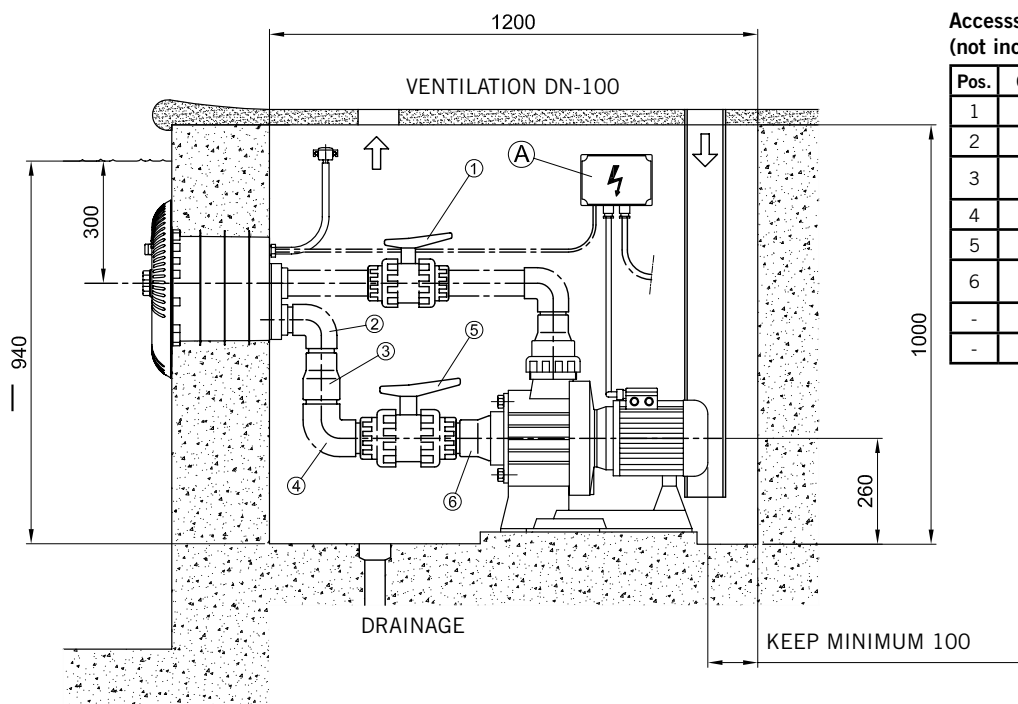
(A) ELECTRIC CONNEXION BOX: must be installed in a dry area

Dimensions in mm  
Minimum pit dimensions: 1150 x 800 x 700 mm

### Pump assembly with vertical discharge

Accessories recommended for the assembly (not included in the kit)

Pos.	Q.	Denomination	Code
1	1	PVC Valve Ø63 mm	02458
2	2	PVC elbow 90° Ø 63 mm	01717
3	2	Conical reduction Ø90-75x63 mm	01993
4	1	PVC elbow 90° Ø 75 mm	01718
5	1	PVC Valve Ø75 mm	02459
6	1	Conical reduction Ø110-90x75 mm	01997
-	-	PVC Pipe Ø63 mm PN-6	02692
-	-	PVC Pipe Ø75 mm PN-6	02693



(A) ELECTRIC CONNEXION BOX: must be installed in a dry area

Dimensions in mm  
Minimum pit dimensions: 1200 x 1000 x 700 mm

**COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN**



**Nozzle with polished S.S. AISI-316 rectangular faceplate**

Composed of: Faceplate, nozzle, On/OFF switch and air regulation knob. Components in AISI-316 Stainless Steel.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
With housing in S.S.	<b>11499</b>	1	4.7	0.039
With housing in plastic	<b>11014</b>	1	4.1	0.039



**Nozzle with white plastic round faceplate**

Composed of: Faceplate, nozzle, On/OFF switch and air regulation knob. Components in AISI-316 Stainless Steel.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
With housing in S.S.	<b>11500</b>	1	5.0	0.045
With housing in plastic	<b>11016</b>	1	4.4	0.056



**Nozzle with white plastic rectangular faceplate**

Composed of: Faceplate, nozzle, On/OFF switch and air regulation knob. Components in AISI-316 Stainless Steel.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
With nozzle face plate in S.S.	<b>11501</b>	1	5.0	0.045
With nozzle face plate in plastic	<b>11015</b>	1	3.9	0.039



**With white plastic rectangular faceplate and built-in hand grip**

Composed of: Faceplate, nozzle, On/OFF switch and air regulation knob. Components in AISI-316 Stainless Steel.

	Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
	<b>11013</b>	1	4.2	0.039



## COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN



### Rectangular hand grips in painted AISI-316 S.S.

Specially designed for 11015 & 11501 nozzles. Nevertheless can be mounted on any of the other nozzle sets except for the 11013.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
09447	1	1.4	0.013



### Rectangular hand grips in polished AISI-316 S.S.

Specially designed for 11014 and 11499 nozzles. Nevertheless can be mounted on any of the other nozzle sets except for the 11013.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00246	1	1.48	0.01



### Round Hand grips in painted AISI-316 S.S.

Specially designed for 11016 & 11500 nozzles. Nevertheless can be mounted on any of the other nozzle sets except for the 11013.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
07536	1	1.6	0.02



### new Semi circular grab rail in polished AISI-316 S.S.

AISI-316 polished stainless steel. Specially indicated for Marlin counter current swimming kit models; Marlin 30 II, Marlin 30 III and Marlin 45 III, although it may be mounted on any of the inlet sets, except for model 11013.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
37214	1	1.62	0.018



### S.S. Housing

In Stainless Steel AISI-316. 240 mm in depth. Suitable for both, concrete and prefabricated pools. Supplied with sealing elements and 3 m cable conduit.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00243	1	7.79	0.04





**COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN**



**Accessories for mounting in fiberglass and liner pools**

In AISI-316 Stainless Steel. With gaskets and screws.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00248	1	0.85	0.002



**Housing**

Made in unalterable plastic. Supplied with sealing elements and two conduits of 3 m each.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11502	1	5.0	0.036



**Accessory for fitting in liner and fiberglass pools**

In plastic. With gaskets and screws.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11503	1	0.6	0.003



**Massage hose**

To be fitted on to the discharge nozzle. Length: 1.5 m.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00247	1	1.22	0.01





## COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN

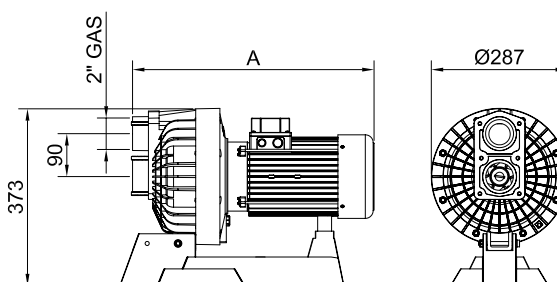
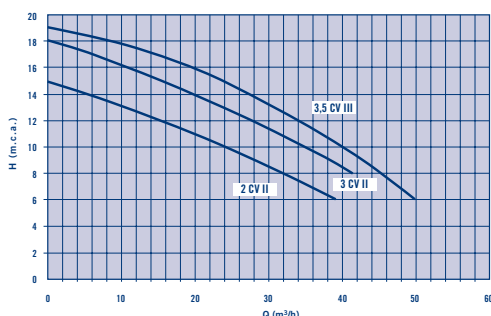


### Pumps

Made of plastic. Double insulation motor shaft. IP-54 motor protection.

- 1.5 kW power (P1: 2 HP)  
Single-phase 230 V 50 Hz
- 2.2 kW power (P1: 3 HP)  
Single-phase 230 V 50 Hz
- 2.60 kW power (P1: 3.5 HP)  
Three-phase 230/400 V 50 Hz

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11505	1	27	0.098
25415	1	29	0.098
11504	1	30.5	0.098



Code	HP	A
11505	2 II	474
25415	3 II	475
11504	3,5 III	516

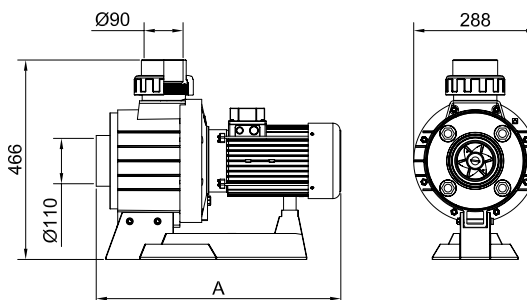
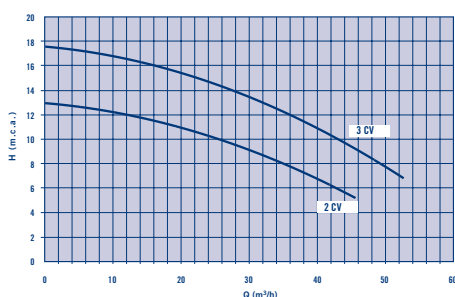


### Vertical discharge pump counter-current equipment

Specially designed for counter-current equipment with high performance output with larger diameter of discharge and suction. It is important not to add any special features to the installation as they may limit the performance significantly. All the pumps metal components in contact with water are manufactured in AISI-316 Stainless Steel, highly resistant to corrosion.

- Power 1.5 Kw 2 CV Monoph., 230 V 50 Hz
- Power 2.2 Kw 3 CV Monoph., 230 v 50 Hz
- Power 2.2 Kw 3 CV Triph., 230/400 V 50 Hz

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
28566	1	21.0	0.095
28568	1	22.6	0.095
30774	1	22.5	0.095



Code	HP	A
28566	2 II	496
28568	3 II	538
30774	3 III	538



### Control boxes

Electro-pneumatic box. Pumps are operated through the nozzle faceplate buttons.

- For 230 V II 1.5 kW (2 HP) pumps
- For 230 V II 2.2 kW (3 HP) pumps
- For 400 V III 2.2 Kw (3 HP) pumps
- For 230/400 V III 2.6 kW (3.5 HP) pumps

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11507	1	1.2	0.004
25456	1	1.2	0.004
32151	1	1.2	0.004
11506	1	1.2	0.004

**COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN TWIN MODEL**



**With white plastic rectangular faceplate and nozzles**

Composed of: Faceplate, nozzle, On/OFF switch and air regulation knob. Components in AISI-316 Stainless Steel.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11508	1	7.0	0.065



**Hand grip**

In AISI-316 Stainless Steel. (2 units).

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
05557	1	1.9	0.01



**Twin Housing**

In AISI-316 Stainless Steel. 240 mm in depth. Suitable for both, concrete and prefabricated pools. Supplied with sealing elements and two 3 m cable conduits.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
05555	1	11.4	0.06



**Accessory for mounting in prefabricated and liner pools**

In AISI-316 Stainless Steel. With gaskets and screws.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
05558	1	1.35	0.01



**Massage hose**

To be fitted on to the discharge nozzle. Length: 1.5 m.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
00247	1	0.7	0.008



## COUNTERCURRENT SWIMING EQUIPMENT: MARLIN TWIN MODEL

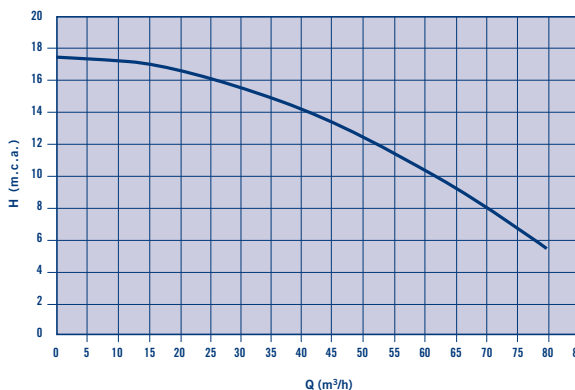
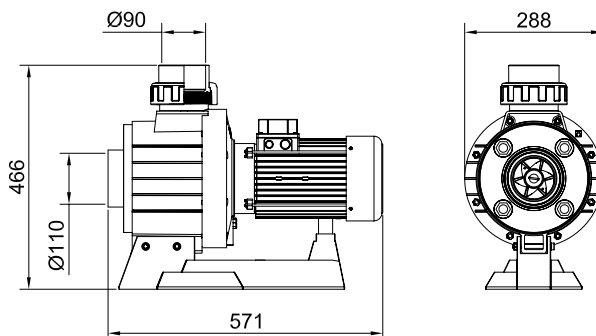


### Pumps

Made of plastic. Double insulation motor shaft. IP-54 motor protection.

3.3 kW power (4.5 HP)  
230/400 V 50 Hz three-phase

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11509	1	32.5	0.098



### Control box

Electro-pneumatic box. Pumps are operated through the nozzle faceplate buttons.

For pump 400 V III 3.3 Kw (4.5 HP)

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
11510	1	1.2	0.004

**COUNTERCURRENT SWIMMING EQUIPMENT: MARLIN**

New Countercurrent Swimming Equipment. The innovative design and concept supplied as a kit (including face plate, housing, control box and pump) makes it an element which will add significant value to your pool. A highly competitive product thanks to its high performance hydraulic features, the Marlin Countercurrent System is available in 3 models, the Marlin 30 II, the Marlin 30 III and the Marlin 45 III. Possibility of attaching grab rails and hydromassage hose.

**Marlin 30 II (single-phase)**

Consists of: Nozzle faceplate, plastic housing, control box and pump 2.2 kW (3 HP) 230 V II 50 Hz.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
35375	1	37.4	0.260



**Marlin 30 III (three-phase)**

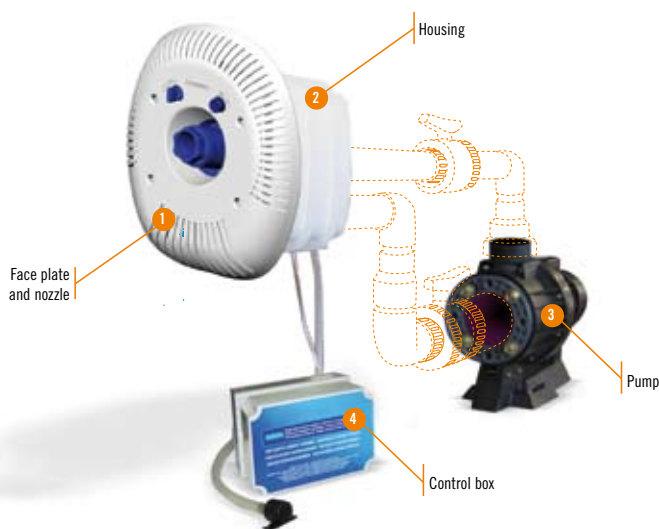
Consists of: Nozzle faceplate, plastic housing, control box and pump 2H2 kW (3 HP) 400 V III 50 Hz.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
35376	1	37.4	0.260

**Marlin 45 III (three-phase)**

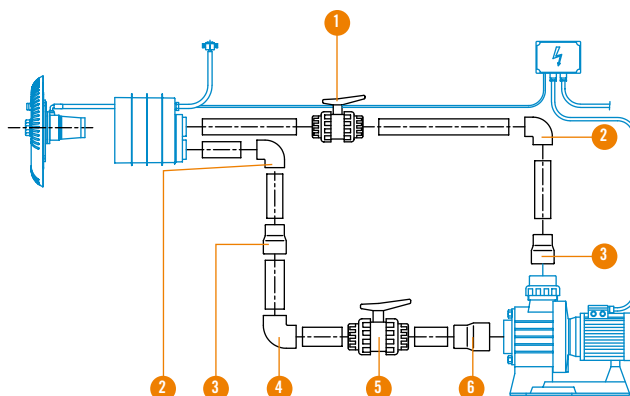
Consists of: Nozzle faceplate, plastic housing, control box and pump 3.3 kW (4.5 HP) 400 V III 50 Hz.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
35377	1	42.2	0.260



**Accessories (not included in the kit)**

Pos	Q	Denomination	Code
1	1	PVC Ball valve Ø63 mm	02458
2	2	PVC elbow 90° Ø63 mm	01717
3	2	Conical reduction Ø90-75x63 mm	01993
4	1	PVC elbow 90° Ø75 mm	01718
5	1	PVC Ball valve Ø75 mm	02459
6	1	Conical reduction Ø110-90x75 mm	01997
-	-	PVP pipe Ø63 mm PN-6	02692
-	-	PVP pipe Ø75 mm PN-6	02693



## "AQUARMONY" UNDERWATER MUSICAL SYSTEM



### Aquarmony Loudspeaker



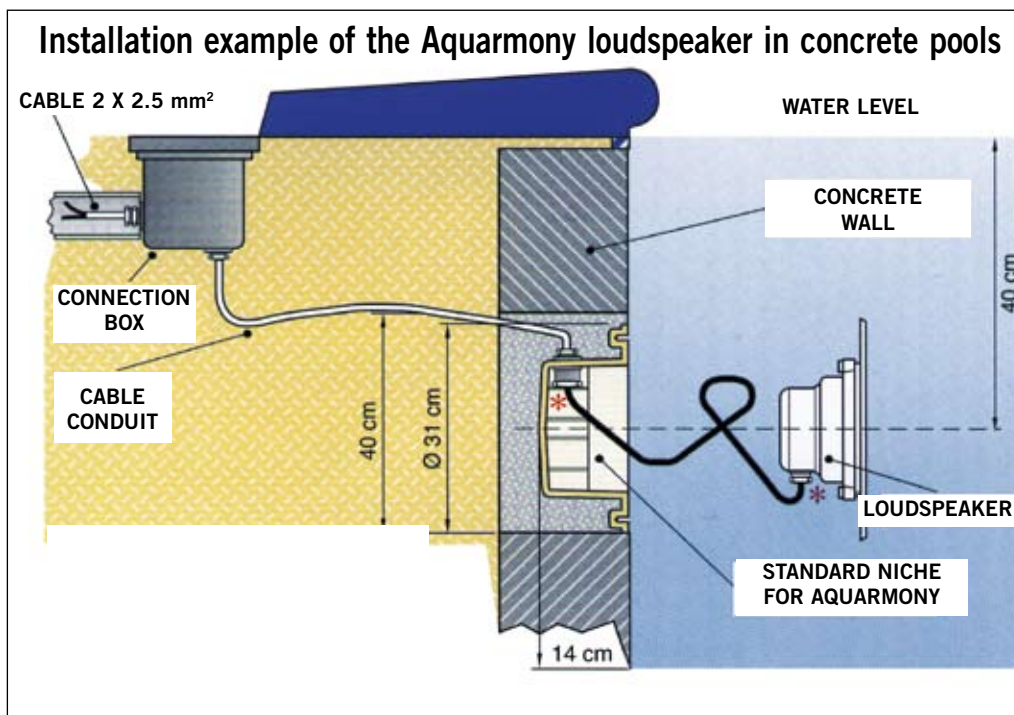
With frontal installation. To listen to music and voice underwater creating a magical and different atmosphere. Aquarmony is a sealed waterproof loudspeaker designed for your pool. It is made of high quality components, innovative technology and with an assembly system assuring a correct operation in salt water or with a high Chlorine content. Easy installation.



Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25680	-	-	-

#### Technical characteristics

Maximum power	60 W
Impedance	4 ohm
Frequency	200-12,000 Hz
Maximum area per loudspeaker	80 m <sup>2</sup>
Maximum installation depth	40 cm
Weight	5 Kg
Cable lenght supplied	5 m



### Niche for concrete pool

Includes gland and 1.5 m special cable conduit for Arquarmony.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
26158	-	-	-



### Niche for liner pool

Includes gland and 1.5 m special cable conduit for Arquarmony.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
26159	-	-	-

**"AQUARMONY" UNDERWATER MUSICAL SYSTEM**



**Outdoor rock shaped 2 loudspeaker kit**

2 x 100 W power amplifier. 2 rock shaped outdoor loudspeakers. Accessories and terminal connecting strip. Extra high quality components for spreading the sound to areas surrounding the pool. The loudspeaker has a 5 year warranty in any atmospheric conditions.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25681	-	-	-



**Outdoor rock shaped 4 loudspeaker kit**

2 x 250 W power amplifier. 4 rock shaped outdoor loudspeakers. Accessories and terminal connecting strip. Extra high quality components for spreading the sound to areas surrounding the pool. The loudspeaker has a 5 year warranty in any atmospheric conditions.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25682	-	-	-



**Amplifier and loudspeakers - RK 120 System**

Amplifier system for one or two Aquarmony loudspeakers. Assembled and fitted into a "Rack 12U" rack. The rack has space available for installing an additional amplifier. It is made up of:

- CD reader
- 4 in line inlet mixer + 2 microphone inlets for separate line controls.
- 120 W power amplifier with isolation transformer
- One complete "Rack 12U" rack.

CCode	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25678	1	-	-



**Amplifier and loudspeakers - RK 250 System**

Amplifier system for 4 Aquarmony loudspeakers. Assembled and fitted into a "Rack 12U" rack. The rack has space available for installing an additional amplifier. It is made up of:

- CD reader
- 4 in line inlet mixer + 2 microphone inlets for separate line controls.
- 120 W power amplifier with isolation transformer
- One complete "Rack 12U" rack.

Code	Standard Packaging	Standard Weight kg	Standard Volume m <sup>3</sup>
25679	1	-	-

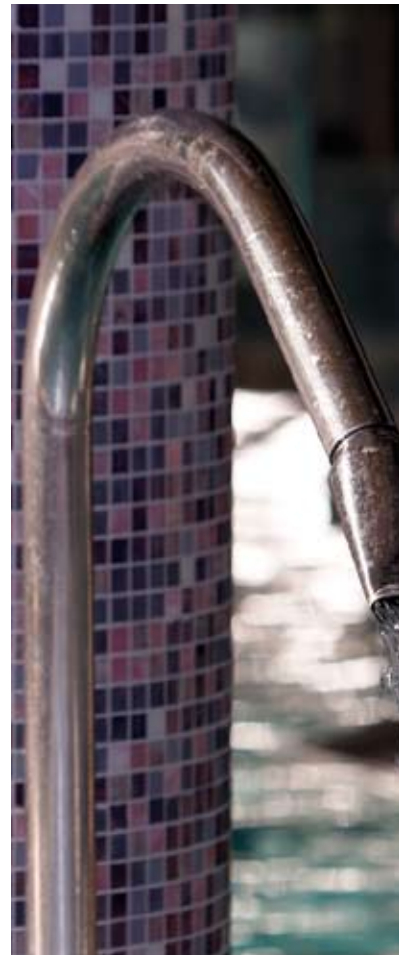






## POOL LINING MATERIAL

- 340 • Vitreous lining
- 347 • Plastic rigid resin tiles “Plakit”
- 348 • Liner 75/100°
- 357 • PVC reinforced 150/100° liner
- 359 • Liners: Others qualities
- 361 • Liner accessories
- 364 • Steps units

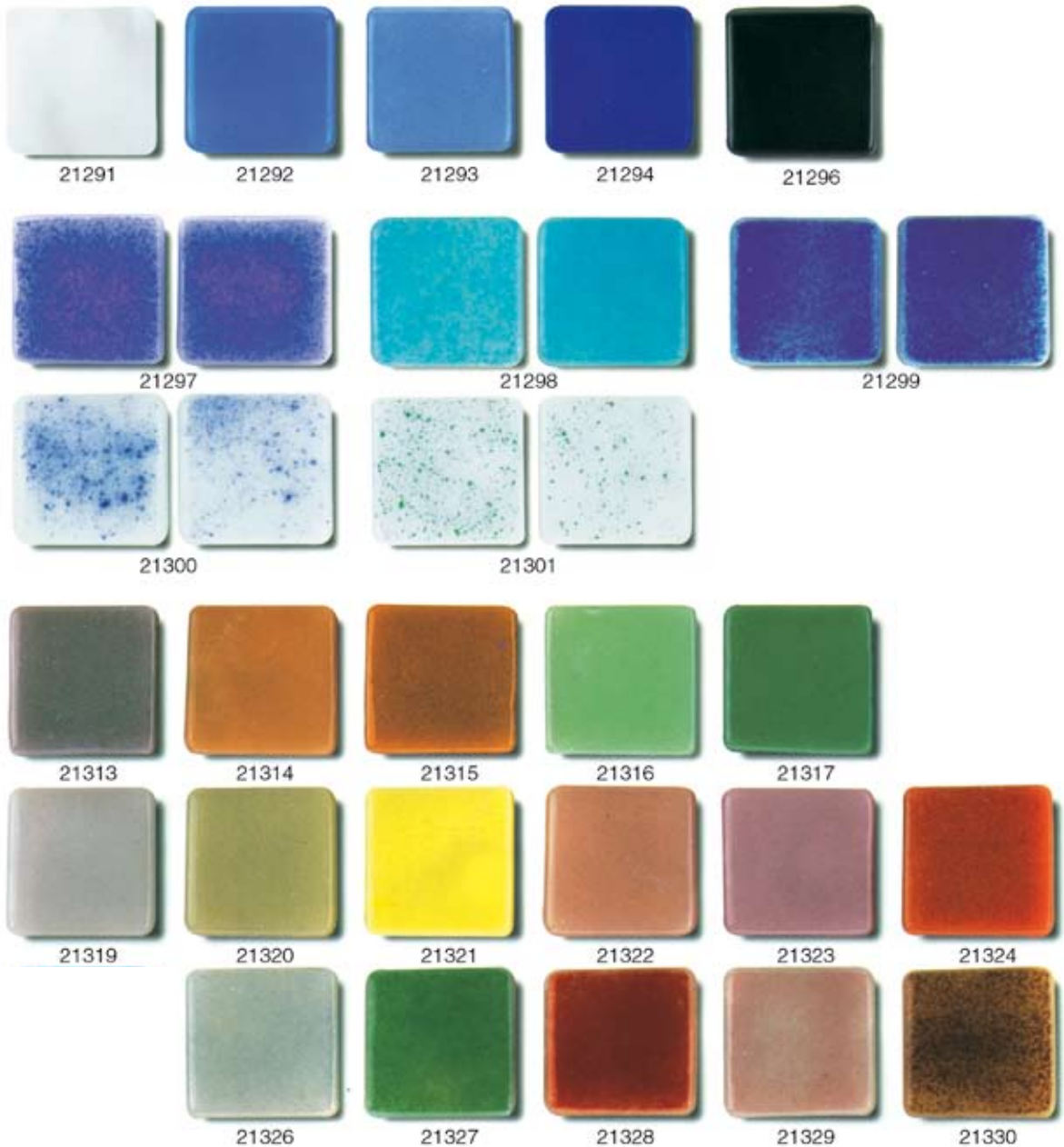




## VITREOUS LINING

### The colour range of the vitreous tiling

A wide variety of colours gives free rein to artists' imagination enabling them to create the most original and attractive designs. The tiles are sold as a sheet stuck on a glued paper. These are ideal for decorative pool, façades, pillar, interiors, bath room, etc. lining due to their inalterability, cleanliness and easy setting.











COLOURS IN THE CATALOGUE ARE APPROXIMATE

25 x 25 mm.  
1" x 1"

## VITREOUS LINING

### The colour range of the vitreous tiling

Colours	Code	Standard Packaging	Weight Stand. Kg.	Volume Stand. m <sup>3</sup>
<b>POOL RANGE</b>				
WHITE	21291 	2 m <sup>2</sup> /box	19	0.010
SKY BLUE	21292 	2 m <sup>2</sup> /box	19	0.010
LIGHT SKY BLUE	21293 	2 m <sup>2</sup> /box	19	0.010
NAVY BLUE	21294 	2 m <sup>2</sup> /box	19	0.010
BLACK	21296 	2 m <sup>2</sup> /box	19	0.010
FOGGY SKY BLUE	21297 	2 m <sup>2</sup> /box	19	0.010
FOGGY TURQUOISE BLUE	21298 	2 m <sup>2</sup> /box	19	0.010
FOGGY NAVY BLUE	21299 	2 m <sup>2</sup> /box	19	0.010
FLECKED BLUE	21300 	2 m <sup>2</sup> /box	19	0.010
FLECKED GREEN	21301 	2 m <sup>2</sup> /box	19	0.010
<b>MIXTURES</b>				
WHITE/SKY BLUE	21307 	2 m <sup>2</sup> /box	19	0.010
SKY BLUE/LIGHT SKY BLUE	21308 	2 m <sup>2</sup> /box	19	0.010
<b>DECORATION RANGE</b>				
GREY	21313	2 m <sup>2</sup> /box	19	0.010
CARAMEL	21314 	2 m <sup>2</sup> /box	19	0.010
BROWN	21315 	2 m <sup>2</sup> /box	19	0.010
LIGHT GREEN	21316 	2 m <sup>2</sup> /box	19	0.010
DARK GREEN	21317 	2 m <sup>2</sup> /box	19	0.010
LIGHT BEIGE	21319 	2 m <sup>2</sup> /box	19	0.010
IVORY	21320	2 m <sup>2</sup> /box	19	0.010
YELLOW	21321 	2 m <sup>2</sup> /box	19	0.010
LIGHT PINK	21322 	2 m <sup>2</sup> /box	19	0.010
PINK	21323 	2 m <sup>2</sup> /box	19	0.010
ORANGE	21324 	2 m <sup>2</sup> /box	19	0.010
FOGGY GREY	21326 	2 m <sup>2</sup> /box	19	0.010
FOGGY GREEN	21327	2 m <sup>2</sup> /box	19	0.010
FOGGY RED	21328 	2 m <sup>2</sup> /box	19	0.010
FOGGY PINK	21329 	2 m <sup>2</sup> /box	19	0.010
FOGGY BROWN	21330	2 m <sup>2</sup> /box	19	0.010

## VITREOUS LINING: STANDARD MOSAIC DESIGNS

The colour of the pool floor must be specified when choosing the design.

### Dolphin

(1680 x 980 mm)  
Code 25955 ▲



### Oasis

(1270 x 1900 mm) 2.41 m<sup>2</sup>  
Code 16046 ▲



### Compass Rose

(1300 x 1300 mm) 0.30 m<sup>2</sup>  
Code 25954 ▲



### Sea horse

(317 x 950 mm) 0.30 m<sup>2</sup>  
Code 16041 ▲



### Anchor

(634 x 950 mm) 0.60 m<sup>2</sup>  
Code 16042 ▲



### Dolphin

(3170 x 1270 mm) 4.02 m<sup>2</sup>  
Code 16043



### Seal

(1900 x 2220 mm) 4.21 m<sup>2</sup>  
Code 16045



For more designs and bands,  
see specific Gastral catalogue.

### Dolphin

(2850 x 1270 mm) 3.61 m<sup>2</sup>  
Code 21968








**VITREOUS LINING: STANDARD MOSAIC DESIGNS**

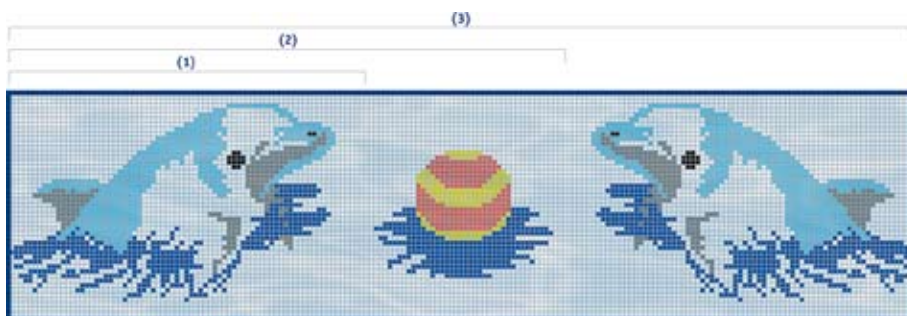
**Star**

(1590 x 1590 mm) 2.52 m<sup>2</sup>  
Code 22133



**Playing dolphins**

Code 22111  (1) (1900 x 1270 mm) 2.41 m<sup>2</sup>  
Code 22112  (2) (3170 x 1270 mm) 4.02 m<sup>2</sup>  
Code 22113  (3) (5070 x 1270 mm) 6.43 m<sup>2</sup>



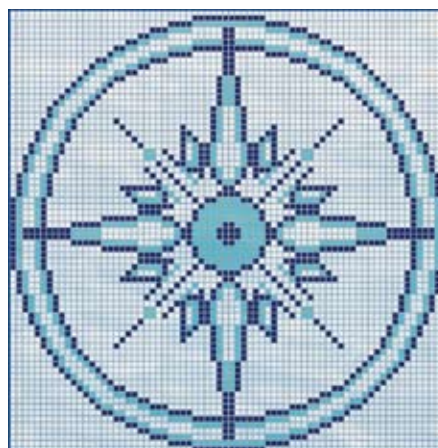
**Dolphins in circle**

(2540 x 2540 mm) 6.45 m<sup>2</sup>  
Code 22117




**Star**

(1900 x 1900 mm) 3.61 m<sup>2</sup>  
Code 22134




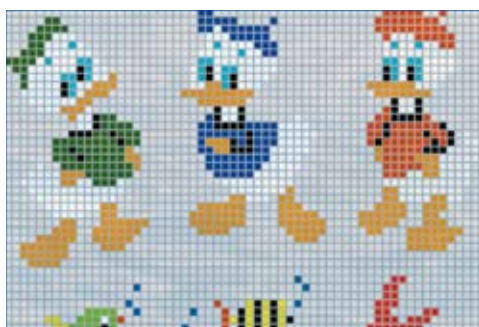
**Clown**

(1900 x 2540 mm) 4.82 m<sup>2</sup>  
Code 22102 



**Donald**

(1590 x 1270 mm) 2.01 m<sup>2</sup>  
Code 22103 





## VITREOUS LINING: STANDARD MOSAIC DESIGNS

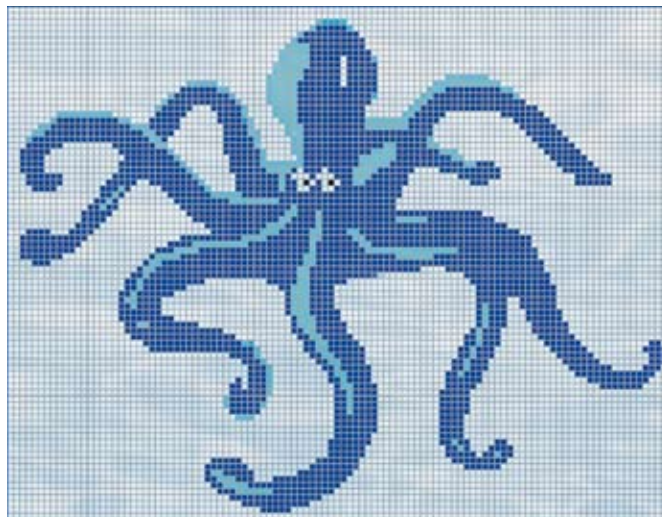
### Mermaid

(1590 x 3170 mm) 5.04 m<sup>2</sup>  
Code 22128



### Octopus

(2850 x 2220 mm) 6.32 m<sup>2</sup>  
Code 22119



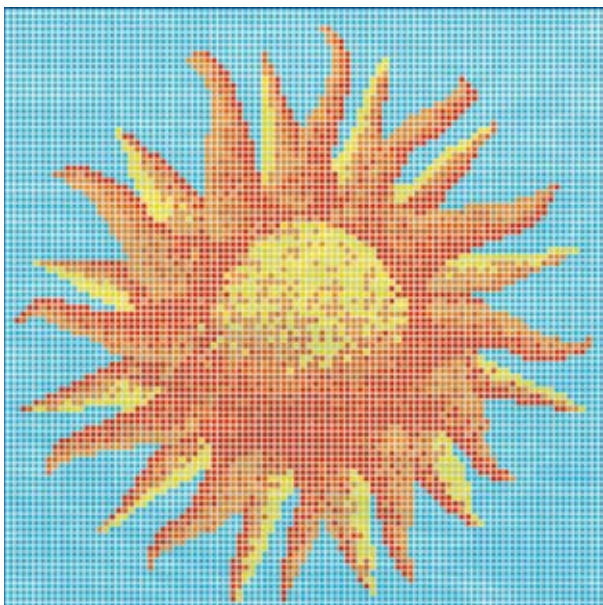
### Penguins

(1900 x 1590 mm) 3.02 m<sup>2</sup>  
Code 22125



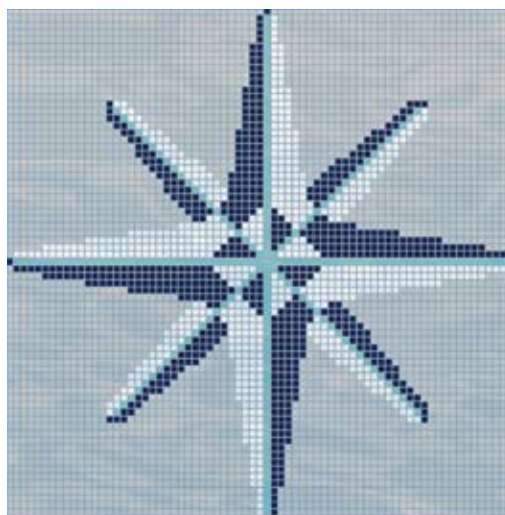
### Sun

(2540 x 2540 mm) 6.45 m<sup>2</sup>  
Code 22137



### Star

(1900 x 1900 mm) 3.61 m<sup>2</sup>  
Code 16044






**VITREOUS LINING - PATTERNED BORDERS**




Code 16036



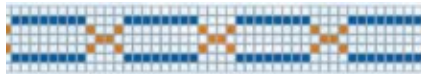
Code 22163 




Code 22155 




Code 22164



Code 16037 




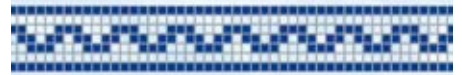
Code 22156 



Code 16040



Code 22165 




Code 16038



Code 22149




Code 22166 




Code 22158




Code 22150 




Code 22167 




Code 22159 




Code 22151 




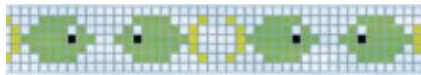
Code 22168 




Code 22160 




Code 22152 




Code 22169 



Code 22153 



Code 22170 




Code 22161



Code 22154

New designs can be made on order



Code 22162 

## VITREOUS LINING: MESH BACKED TILES

### Mesh Back tiles



Vitreous lining has great advantages with respect to other types of linings. It is made up of glass tiles baked at high temperatures conferring them high stability and duration and making them eco friendly. It is the ideal lining for decorating pools, façades, pillars, interiors, bath rooms and others.

They are supplied as tile sheets glued on a transparent mesh. Mesh backed tiles are much faster to install because unlike the paper backed tiles there is no need to dampen and clean the paper from the tiles.

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
<b>Vitreous lining colours glued on mesh:</b>				
Foggy sky blue	28004	2 m <sup>2</sup> /box	19	0.010
Foggy navy blue	28006	2 m <sup>2</sup> /box	19	0.010
Foggy turquoise blue	28007	2 m <sup>2</sup> /box	19	0.010
Foggy sky blue	28008	2 m <sup>2</sup> /box	19	0.010
Navy blue	28009	2 m <sup>2</sup> /box	19	0.010
Light sky blue	28010	2 m <sup>2</sup> /box	19	0.010
Sky blue	28011	2 m <sup>2</sup> /box	19	0.010
Pool white	28012	2 m <sup>2</sup> /box	19	0.010
Blue white/blue	28005	2 m <sup>2</sup> /box	19	0.010

### Prisma collection vitreous lining

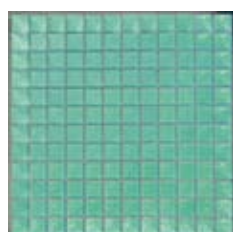
new

With the best technology, we have developed the Prisma colour collection, revolutionizing the world of mosaics, creating a lining material which is indispensable for your projects.

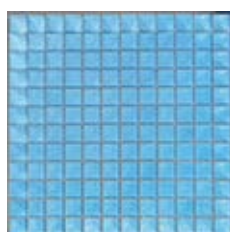
Our glass mosaic tiles are not affected by essential time erosion, and are easy to clean. They are ideal for outdoor or indoor pools, spas, wellness areas, fountains, bathtubs, etc.

This 25 x 25 x 5 mm mosaic is always supported by a mesh on the back of the tile so that it is easier to install.

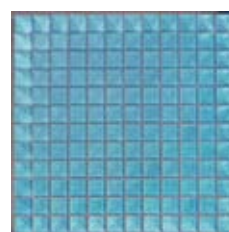
	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Prisma PC1004 light green	40818	1	11.5	33x33x7 cm
Prisma PC1005 light sky blue	40819	1	11.5	33x33x7 cm
Prisma PC1010 sky blue	40820	1	11.5	33x33x7 cm
Prisma PC1015 navy blue	40821	1	11.5	33x33x7 cm
Prisma PCMIX2011 light green mix	40822	1	11.5	33x33x7 cm
Prisma PCMIX2012 light blue mix	40823	1	11.5	33x33x7 cm
Prisma PCMIX2013 blue mix	40824	1	11.5	33x33x7 cm



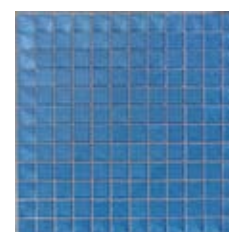
PC1004



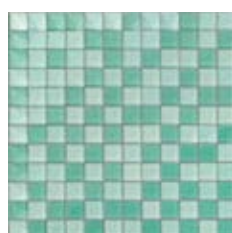
PC1005



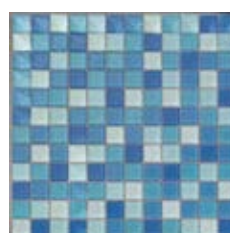
PC1010



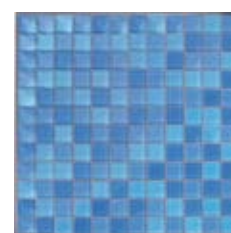
PC1015



PC2011



PC2012

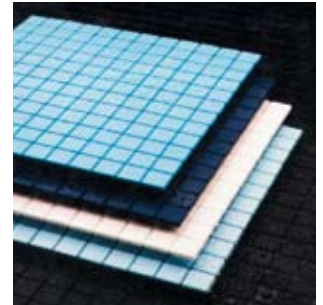


PC2013

**PLASTIC RIGID RESIN TILES “PLAKIT”**

**Plastic pool tiles**

Plastic resin tiles, supplied in 330 mm x 330 mm sheets. Lightweight for transport. Highly flexible for easy application on curved surfaces. Easy to apply with time saving during the cladding process. The tile sheets are pushed with the hands into the water proof cement (white glue cement of 450 or 350 kp), and the excess is simply wiped off. Colour stabilised, resistant to UV light & frost. Also available in a range of patterns & tile bands. 90 sheets are required to cover 10 m<sup>2</sup> surface. Fast installation and very light for handling.

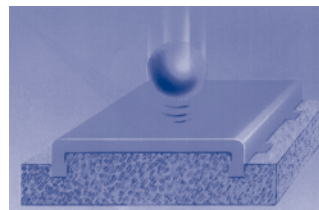
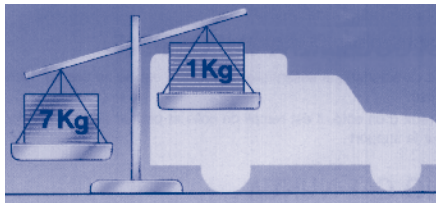
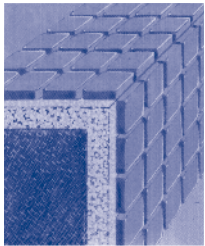


	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Colours:				
Porcelain White RAL 9003	01427	90	16.5	0.055
Light sky blue PANT 297-C	01428	90	16.5	0.055
Dark sky blue PANT 298-C	01429	90	16.5	0.055
Navy blue RAL 5033	01430	90	16.5	0.055
Black RAL 9005	01431	90	16.5	0.055

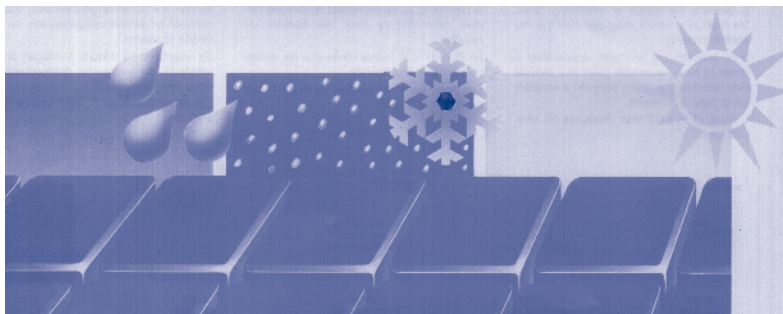
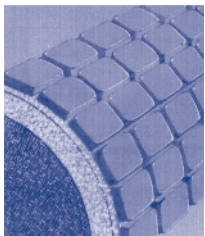
**QUICK AND EASILY INSTALLED**

**LIGHT WEIGHT**

**SAFER**



**STABLE**



**Dune patterned border**

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
04942	-	-	-



**Wave patterned border**

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
04943	-	-	-



**Star**

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
04945	-	-	-

1.33 m x 1.33 m





## LINER 75/100°

### Pool liner 75/100°

Ideal for residential pools. Manufactured in reinforced PVC-P, this material is the most used for lining pools thanks to enhanced malleability, resistance to tearing, ease of welding, resistance to discoloration by UV rays and with a wide range of available colours. Made-to-measure liners are put together by high frequency welding machines at our facilities. Perfectly adaptable to any pool design or shape, with excellent watertight features, so you can forget about annoying leaks.

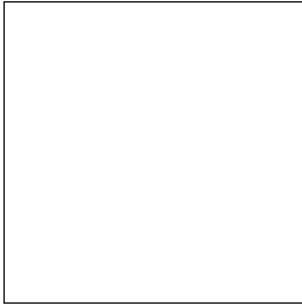
#### Liner characteristics:

- Manufactured in PVC. We use a fully recyclable polymer made from petroleum and sodium chloride.
- Chemical and mechanical properties are provided by additives that comply with international standards and the Manufacturer's Letter of Commitment. The use of cadmium compounds is currently forbidden and, in 2010, lead-based compounds will be forbidden.
- PVC does not release dioxins into the atmosphere and can be recycled by means of Lindell type degasification. Pool liner is normally reused for technical floor construction
- Resistant and watertight. AstralPool liner is manufactured from highly resistant PVC (0.75 mm thick) that ensures total watertightness for your pool.
- Smooth and pleasant to touch, it is easy to maintain and durable.
- Highly flexible and adaptable.
- Highly resistant to impacts and tearing.

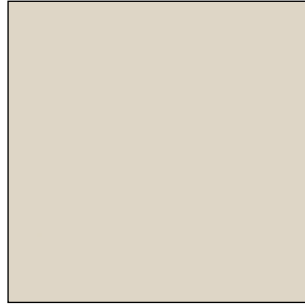
**LINER 75/100°**

Note: Colours in the catalogue are approximate.

**Plain colours for liner 75/100°**



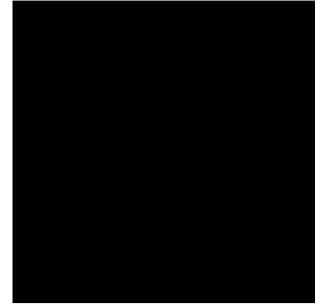
**White**



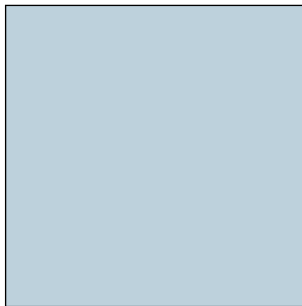
**Sand**



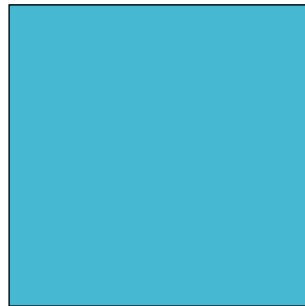
**Grey**



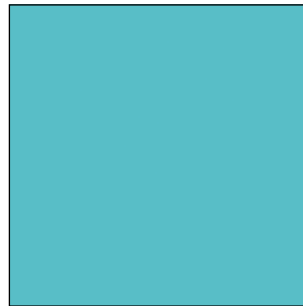
**Black**



**Light blue**

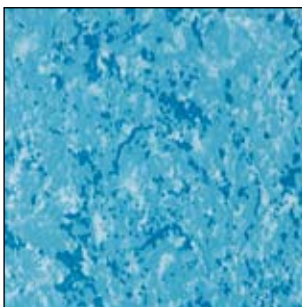


**Navy Blue**

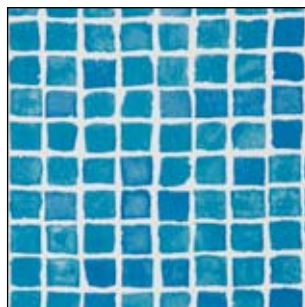


**Caribbean Green**

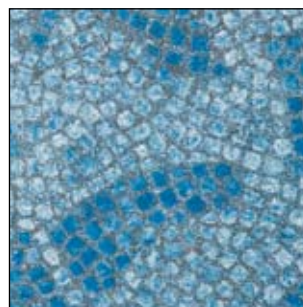
**Printed colours for liner 75/100°**



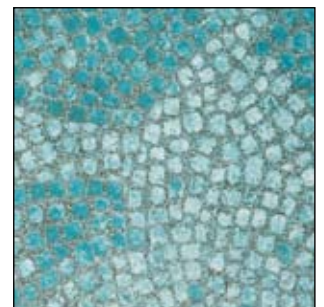
**Servanne**



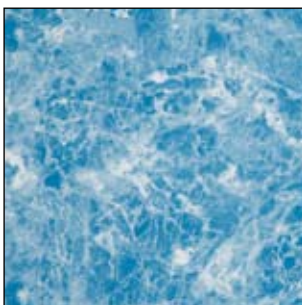
**Mosaic**



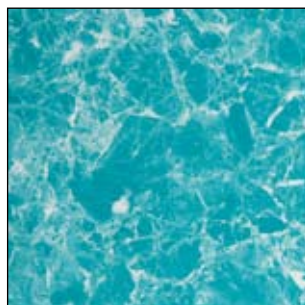
**Byzantium blue**



**Byzantium Green**



**Blue Marble**



**Green Marble**



**Sand Marble**

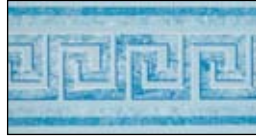
## LINER 75/100°

Note: Colours in the catalogue are approximate.

### Patterned borders 75/100° - Height 24 cm



Pompeii blue



Mykonos blue



Olympia blue



Pompeii green



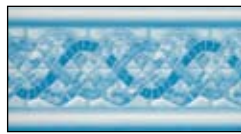
Mykonos green



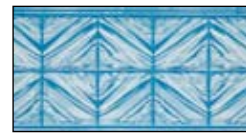
Olympia green



Cologne blue



Castile blue



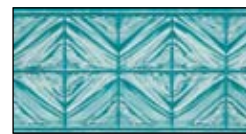
Allegro blue



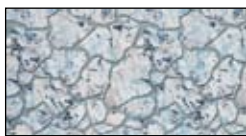
Cologne green



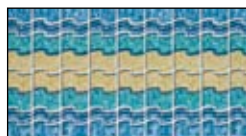
Castile green



Allegro green



Rocks



Boreal



Navalon blue



Florentine



Sebastian



Carthage blue



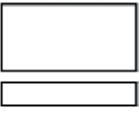
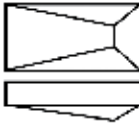

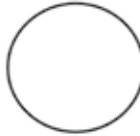


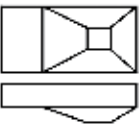
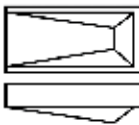
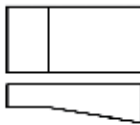



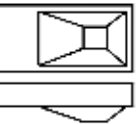
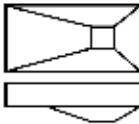

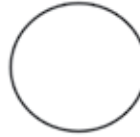


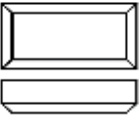
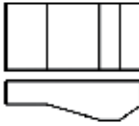
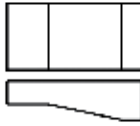



Carthage ocre




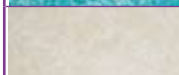

Carthage green

**LINER CLASSIFICATION ACCORDING TO POOL**

**Standard pool liners**

RECTANGULAR			ROUND	OVAL	OVOID SHAPED
					
					
					
					

Solid colour models		Code
	Light blue	<b>09278</b>
	France blue	<b>09277</b>
	Caribbean green	<b>09281</b> ▲
	White	<b>09279</b> ▲
	Sand	<b>16131</b> ▲
	Black	<b>085300</b>
	Grey	<b>085302</b>

Printed colour models		Code
	Servanne	<b>26668</b>
	Mosaic	<b>09280</b>
	Blue Marble	<b>16132</b>
	Green Marble	<b>16132V</b>
	Sand Marble	<b>16132A</b>
	Byzantium blue	<b>26669</b>
	Byzantium green	<b>26670</b>

**Decoration with patterned borders**

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
09282 ▲	-	-	-

For standard shapes

## LINER CLASSIFICATION ACCORDING TO POOL

### Non-standard pool liners

KIDNEY	LAZY	POLYGONAL	PARALLELOGRAM	TRAPEZIUM

Solid colour models		Code
	Light blue	05810
	France blue	05809
	Caribbean Green	05813
	White	05811
	Sand	16137
	Black	089075
	Grey	089076

Printed colour models		Code
	Servanne	26686
	Mosaic	05812
	Blue Marble	16138
	Green Marble	16138V
	Sand Marble	16138A
	Byzantium blue	26678
	Byzantium green	26679

### Decoration with patterned borders

Code	Emb. Standard	Peso Kg Standard	Volumen m <sup>3</sup> Standard
05814	-	-	-

For non-standard shapes



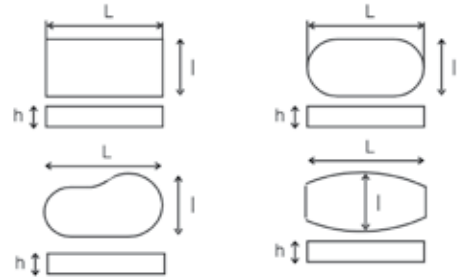
**STANDARD LINER CALCULATION METHOD**

**RECTANGULAR SHAPE, FLAT FLOOR**

Floor surface = length (L) x width (l)  
 Wall surface = (L + L + l + l) x wall height (h)  
 Total area = Floor surface + Wall surface

**EXAMPLE:**

10 x 5 m pool, with a vertical wall height = 1.5 m  
 Floor area = 10 x 5 = 50 m<sup>2</sup>  
 Wall area = (10 + 10 + 5 + 5) x 1.50 = 45 m<sup>2</sup>  
 Total area = 50 + 45 = 95 m<sup>2</sup>

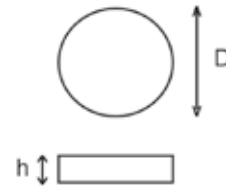


**ROUND LINER POOL WITH FLAT FLOOR**

Floor area =  $\Pi \times D^2/4$  ( $\Pi = 3.14$ )  
 Wall area = diameter (D) x 3.14 x wall height (h)  
 Total area = Floor surface + Wall surface

**EXAMPLE:**

Diameter 6 m round with a wall height of 1.2 m  
 Floor area =  $\Pi \times 6^2/4 = 28.3$  m<sup>2</sup>  
 Wall area = (6 x 3.14) x 1.20 = 22.60 m<sup>2</sup>  
 Total area = 28.3 + 22.60 = approx. 50.9 m<sup>2</sup>



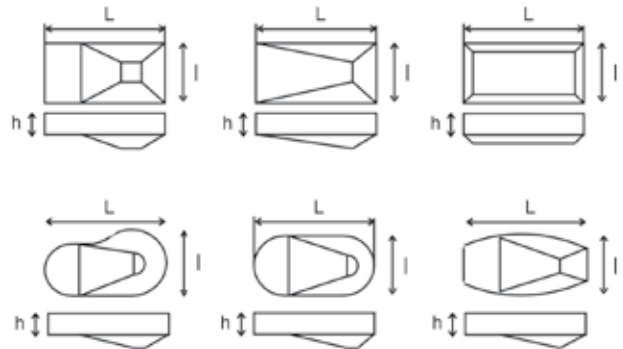
For round pools with conic floor you can calculate as flan floors and applicate 1.30 coefficient.

**RECTANGULAR SHAPE, PYRMIDAL FRUSTUM FLOOR**

Floor area = length (L) x width (l) x 1.30  
 Wall area = (L + L + l + l) x height of the vertical wall. (h)  
 Total area = Floor surface + Wall surface

**EXAMPLE:**

10 x 5 m pool with a vertical wall height of 1.2 m  
 Floor area = 10 x 5 x 1.30 = 65 m<sup>2</sup>  
 Wall area = (10 + 10 + 5 + 5) x 1.20 = 36 m<sup>2</sup>  
 Total area = 65 + 36 = 101 m<sup>2</sup>

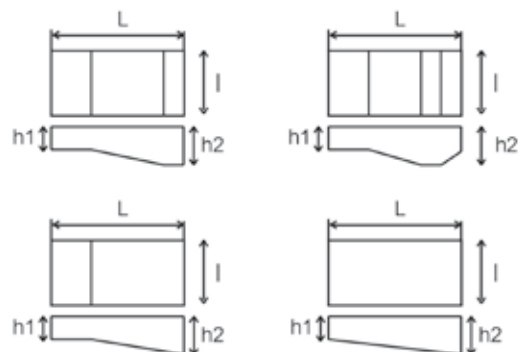


**RECTANGULAR SHAPE, COMPOUND INCLINATION OR CONTINUOUS INCLINATION**

Floor surface = length (L) x width (l)  
 Wall surface = (L + L + l + l) x average height (h1 + h2):2  
 Total area = Floor surface + wall surface

**EXAMPLE:**

10 x 5 m pool, with a depth of 1.8 m at its deepest part  
 Floor area = 10 x 5 = 50 m<sup>2</sup>  
 Wall area = (10 + 10 + 5 + 5) x ((1.10 + 1.80):2) = 43.50 m<sup>2</sup>  
 Total area = 50 + 43.5 = approx. 94 m<sup>2</sup>



## STANDARD LINER CALCULATION METHOD

### LAZY SHAPE

Floor area = Length  $(L1 + L2)$  x longer width  $(l1)$  x 1.30

(Do not multiply by 1.30 if the pool floor does not have a pyramid shape)

Wall shape =  $((L1 + L2 + L3 + L4) + (l1 + l2))$  x wall height  $(h)$

(If the pool floor is inclined, multiply by the average height)

Total area = Floor area + wall shape

#### EXAMPLE:

Lazy pool with a pyramidal floor:

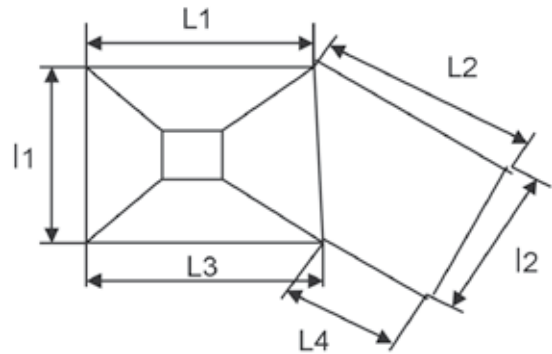
$L1 = 5$  m,  $L2 = 4$  m,  $L3 = 4$  m,  $L4 = 3$  m

$l1$  and  $l2 = 4$  m,  $h = 1.20$  m,

Floor area =  $(5 + 4) \times 4 \times 1.30 = 46.80$  m<sup>2</sup>

Wall shape =  $((5 + 4 + 4 + 3) + (4 + 4)) \times 1.20 = 28.80$  m<sup>2</sup>

Total area =  $46.80 + 28.80 = \text{aprox. } 76$  m<sup>2</sup>



### POLYGONAL SHAPE

Floor area = (length  $(L)$  x width  $(l)$  x 1.30) +  $(A \times B)$

(Do not multiply by 1.30 if the pool floor does not have a pyramid shape)

Wall shape =  $(L + L + l + l + B + A)$  x wall height  $(h)$

(If the pool floor is inclined, multiply by the average height)

Total area = Floor surface + wall surface

#### EXAMPLE:

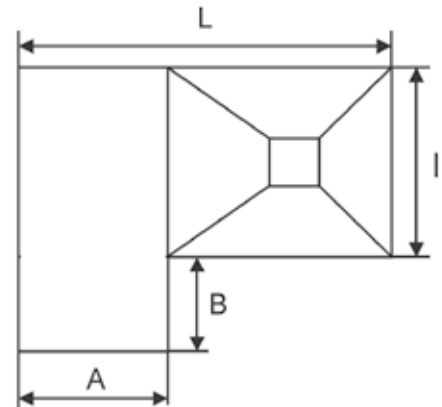
Polygonal shaped pool with a pyramidal floor:

Length = 10 m, width = 5 m,  $A = 3$  m,  $B = 1.5$  m, wall height = 1.10 m

Pool floor area =  $(10 \times 5 \times 1.30) + (3 \times 1.50) = 69.50$  m<sup>2</sup>

Superficie de pared =  $(10 + 10 + 5 + 5 + 1.50 + 1.50) \times 1.10 = 36.30$  m<sup>2</sup>

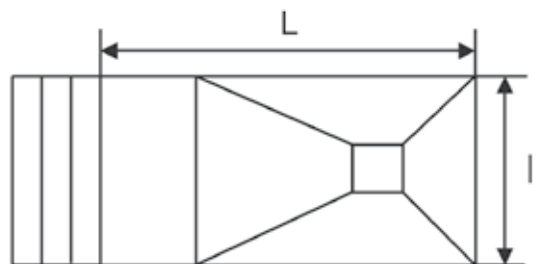
Total area =  $69.50 + 36.30 = \text{aprox. } 106$  m<sup>2</sup>



### STAIRS ALONG THE ENTIRE POOL WIDTH

The stairs should not be taken into account for calculating the liner m<sup>2</sup>











Add the steps depth for the entire pool side. (see sketch)



**LINER CLASSIFICATION ACCORDING TO POOL**

**Liners free form pools**

Liner models for all kinds of pool shapes requiring triangulation for size calculation.

Solid colours models		Code
	Light blue	16147 
	France blue	16148 
	Caribbean green	16149 
	White	16150 
	Sand	16151 
	Black	089094 
	Grey	089090 

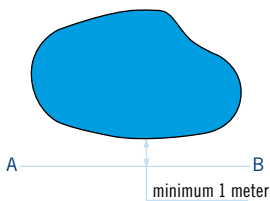
Printed colours models		Code
	Servanne	26688 
	Mosaic	16155 
	Blue Marble	16152 
	Green Marble	16152V 
	Sand Marble	16152A 
	Byzantium blue	26689 
	Byzantium green	26690 

**Decoration with patterned borders**

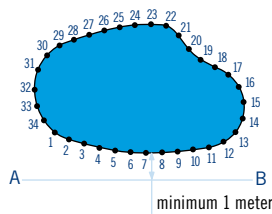
	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
For free shape	16162	-	-	-

**Pool triangulation**

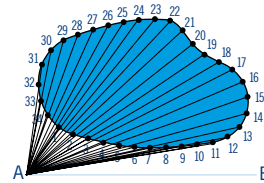
Triangulation is the only reliable way to calculate pool dimensions, regardless of shape. Below we explain the steps to follow in order to obtain exact measurements and pool shape.



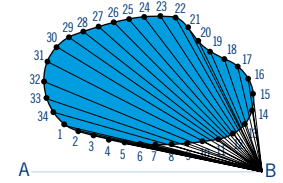
Imagine a straight line alongside the pool. Mark the ends point A and point B. The straight line must be at least one meter from the pool.



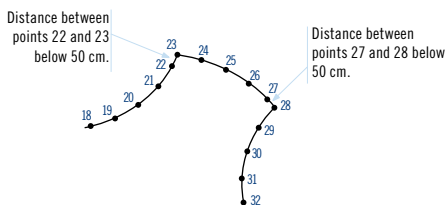
Space the distance indicators every 50 cm and number them as follows: 1, 2, 3, etc. until the entire edge of the pool has been covered.



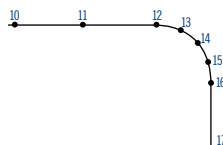
Starting at point A, measure the distance in a straight line from each point marked by a number (e.g. distance from A to 1, from A to 2 and so on).



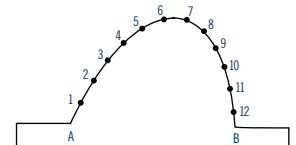
Do as before from point B.



If the pool is not completely round and forms right angles, it is essential you add a point (See example drawing).



When the curves are small, the distance between the points must be reduced so that a minimum of 3 points per arc of circle is obtained.



To measure non-geometric steps, place A and B at the base of the steps and proceed as for the triangulation of a free form pool.

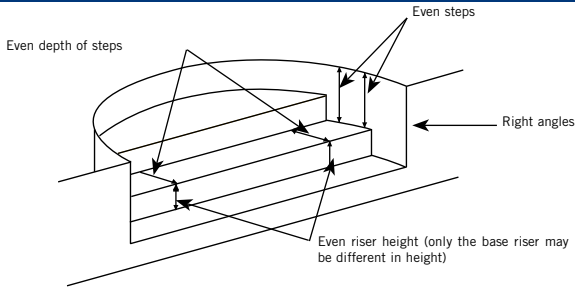


## LINERS FOR STEPS

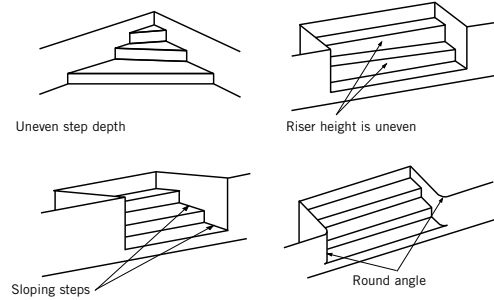
For steps that do not fit the Standard models shown here, request quote.

Below we provide you with the details of the shapes and models you can choose from plain or printed liners to ensure you select the correct liner for your pool steps. Steps that are fitted along the breadth of the basin are invoiced in accordance with the standard model RECTA, as long as the width does not exceed 4 meters. **Attention:** the size of the basin should not include the depth of the steps.

### Standard steps



### Non Standard steps



Steps		Plain Liner	Plain Liner + Bands	Diagram
Shape	Widths	Code	Code	
Straight	0 to 2 meters	<b>05789</b>	<b>05789B</b>	
	2 to 3 meters	<b>05790</b>	<b>05790B</b>	
	3 to 4 meters	<b>05791</b>	<b>05791B</b>	
Roman	0 to 2 meters	<b>16163</b>	<b>16163B</b>	
	2 to 3 meters	<b>25868</b>	<b>25868B</b>	
	3 to 4 meters	<b>05800</b>	<b>05800B</b>	
Right angle	0 to 2 meters	<b>05803</b>	<b>05803B</b>	
	2 to 3 meters	<b>05804</b>	<b>05804B</b>	
1/4 Circle	0 to 2 meters	<b>16167</b>	<b>16167B</b>	
	2 to 3 meters	<b>089443</b>	<b>089443B</b>	

Steps		Printed Liner	Printed Liner + Bands	Diagram
Shape	Widths	Code	Code	
Straight	0 to 2 meters	<b>05794</b>	<b>05794B</b>	
	2 to 3 meters	<b>05795</b>	<b>05795B</b>	
	3 to 4 meters	<b>05796</b>	<b>05796B</b>	
Roman	0 to 2 meters	<b>16169</b>	<b>16169B</b>	
	2 to 3 meters	<b>05801</b>	<b>05801B</b>	
	3 to 4 meters	<b>05802</b>	<b>05802B</b>	
Right angle	0 to 2 meters	<b>05806</b>	<b>05806B</b>	
	2 to 3 meters	<b>05807</b>	<b>05807B</b>	
1/4 Circle	0 to 2 meters	<b>16173</b>	<b>16173B</b>	
	2 to 3 meters	<b>089446</b>	<b>089446B</b>	

**PVC REINFORCED 150/100° LINER**

Note: Colours in the catalogue are approximate.

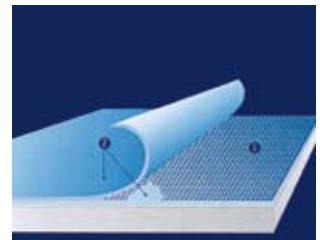
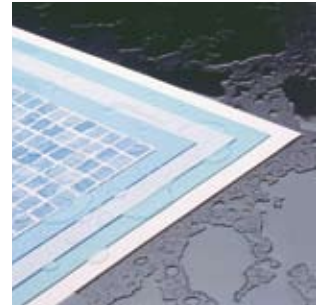
**Liner 150/100°**

Liner 150/100 (1.5 mm thick) is made of two PVC films laminated together and reinforced with fibreglass. This makes it particularly suited for public pools or other commercial applications.

In the case of liner 150/100, it is not supplied welded ready for installation in the pool. It comes in 1.65 m wide x 25.2 m rolls and must be welded on site by a skilled technician.

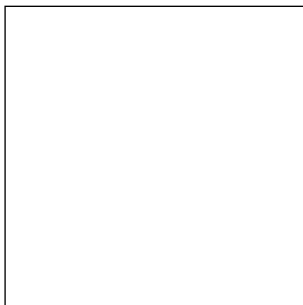
**Liner specifications:**

- Ideal for replacing pool lining because of easy installation and low cost in comparison with replacing tiles or standard cladding.
- Ensures total watertightness in odd shaped pools or pools with numerous steps.
- Compatible with concrete, prefabricated or steel panel pools. Can also be installed in pools with overflow.

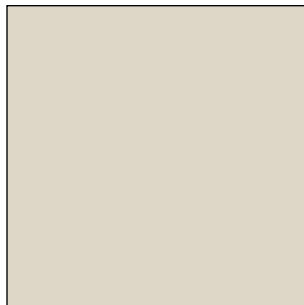


1.-Inner frame of polyester weft  
2.- Highly resistant PVC

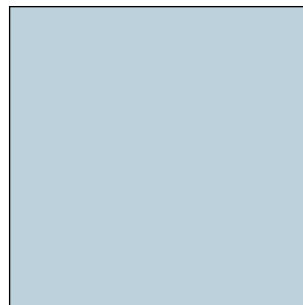
**Range of colours for liner 150/100°**



White



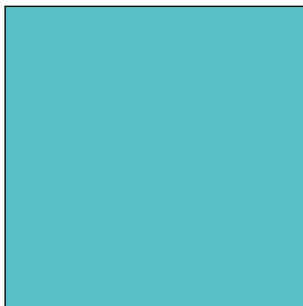
Sand



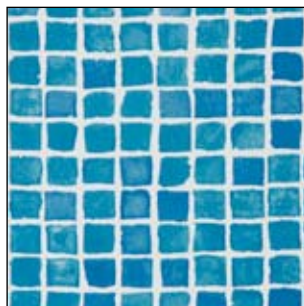
Light blue



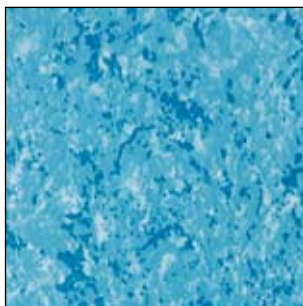
Navy blue



Caribbean green



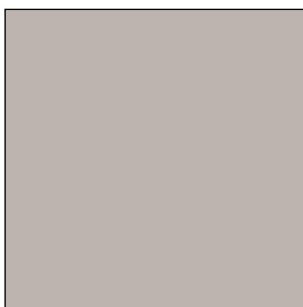
Mosaic



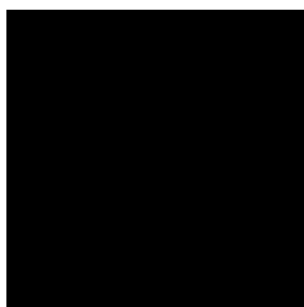
Servanne



Marble



Pearl grey

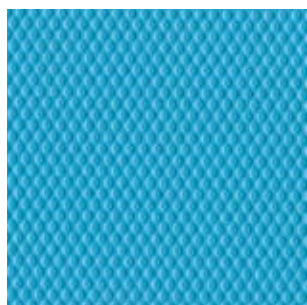


Black

## PVC REINFORCED 150/100° LINER

### Liner 150/100°

Model	Measure		
	1.40 x 25,2 m	1.65 x 25.2 m	2.05 x 25.2 m
Navy blue	12163	12168	17019
Light blue	12162	12161	17020
White	-	12144	-
Caribbean green	12141	12140	-
Sand	-	19062	-
Mosaic	-	12165	-
Pearl Grey	-	23596	-
Marble	-	23598	-
Black	-	12231	-



Non-slip vinyl liner

### Non-slip finish

Model	Measure	Code
Navy blue	1.65 x 25.2 m	12175
Light blue		12178
White		23599
Caribbean green		12176
Sand		19726
Pearl Grey		23597

### PVC liquid

1 litre container.

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Pearl grey colour	23600	1	1	0.001
Sand colour	19727	1	1	0.001
White colour	15254	1	1	0.001
Navy blue colour	12284	1	1	0.001
Light blue colour	12287	1	1	0.001
Green colour	12285	1	1	0.001
Neutral colour	23601	1	1	0.001



## PVC REINFORCED 150/100° LINER

### Technical features of reinforced liner 150/100°

**Description:** Flexible PVC reinforced with fibreglass liner. 1.5 mm thick.

TEST	Standards	STANDARD VALUE	SPECIFICATIONS
Thickness (mm)	UNE 53.221	1.5	1.5 ± 10%
Width (mm)	UNE 53.221	NOM ± 1%	NOM±1%
Tensile strength (MPa)	UNE 53.165	L. = 18, T = 16	L. T 15
Breaking elongation (%)	UNE 53.165	350	L. T 200
Tear resistance (N)	UNE 53.358	L = 90 T = 80	L 60 T 50
Adhesion between surfaces (N/50 mm)	UNE 53.358	L, T = 100	L, T 80
Performance to heat (%)	UNE 53.358	L. = -1.5, T = +0.5	3
Bending at low temperatures	UNE 53.358	Without cracks	Without cracks
Mechanical resist to percussion (mm)	UNE 53.358	600	500
Thermic ageing (%)	UNE 53.358	By weight = 1.2 By elongation = 10	By weight 2 By elongation 30
Plastic migration (%)	UNE 53.095	1.3	5
Water transmission resistance coefficient	UNE 57.114	13,000	30,000
Fire resistance	UNE 53.127	Self extinguishable	Self extinguishable

## LINERS: OTHERS QUALITIES

### Black liner - Thickness 100/100°

**Water tank: Non-potable quality.**

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Black liner. Dimensions: 100 m x 2 m	25750	△	-	-
Black liner, made to measure	26339	△	-	-

### Grey liner - Thicknes 120/100°

**Potable quality.**

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Grey liner. Dimensions: 20 m x 2 m	25751	-	-	-

Supplied in rolls.

## LINER INSTALLATION AND FIXING

### Liner installation

Before laying the liner in the pool, we must bear in mind certain basic factors to ensure good and long lasting life. The floor or surface where the liner is to be laid:

- Must be permeable to ensure removal of condensed water.
- Must be completely smooth to prevent deterioration.
- Must also be free from any material that is incompatible with the membrane: for flexible PVC, avoid using rubber, paint, inks, tar or adhesive materials.
- Must be clean and dry.
- If a separating layer has been used, it must be rot-proof (protection filter).
- Only use bonding products recommended by AstralPool.
- PVC liners have an expansion coefficient of around 0.2% per 10°C. You are recommended to lay the liner at temperatures between 10°C and 25°C.

### Fastening system

#### HUNG TYPE FASTENING



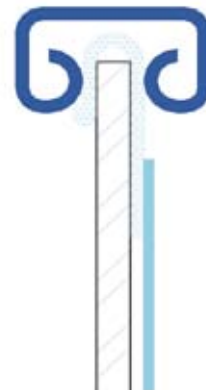
The fastening system varies depending on whether the liner is to be laid in a pool already built or one yet to be built.

In both cases the fastening is compatible for liners of **75/100** and **150/100**.

#### OVERLAP TYPE FASTENING



#### V TYPE FASTENING



These are the simplest fastening systems and they have basically been designed for above ground pools steel sheet for home use, requiring a **75/100 liner**. Quick and easy to install, these systems are ideal for liner installation in pools.

### LINER FIXING MODIFICATION

If the standard Hung system is substituted by the Overlap or "V" type, neither the calculations nor the price of the liner m<sup>2</sup> will vary with respect to the standard calculations.

**LINER ACCESSORIES**

**Fastening accessories for liners 75/100° for pools under construction**

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Horizontal Hung PVC 1.5 m x 50 mm (free form)	<b>40844</b>	-	-	-
Horizontal hung PVC 2 m x 50 mm	<b>05815</b>	-	-	-
Horizontal hung PVC 2 m x 38 mm	<b>09492</b>	-	-	-
Angle PVC radius of 15 cm x 50 mm	<b>05819</b>	-	-	-
Angle PVC radius of 15 cm x 38 mm	<b>09493</b>	-	-	-
<b>In Aluminium</b>				
Horizontal hung ALU 2 m x 50 mm	<b>05816</b>	-	-	-
ALU angle 50 mm (radius of 15 cm)	<b>05818</b>	-	-	-
Fastening rivets (Box of 250 units)	<b>05820</b>	-	-	-
Flexible fastening strip. Lineal metre	<b>05825</b>	-	-	-

**Fastening accessories for liners 75/100° for pool renovation**

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Vertical hung PVC 2 m	<b>05817</b>	-	-	-
Angle for vertical fastening (radius 15 cm)	<b>16194</b>	-	-	-
<b>In Aluminium</b>				
Vertical hung ALU 2 m	<b>16175</b>	-	-	-
Fastening rivets (Box of 250 units)	<b>05820</b>	-	-	-
Flexible fastening strip. Lineal metre	<b>05825</b>	-	-	-



## LINER ACCESSORIES

### Accessories for liners 150/100°

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Galvanized plate band (2 x 0.05 m)	32324	-	-	-
Applicator bottle (unit)	05780	-	-	-
Band (8 mm)	05781	-	-	-
Solvent THF (1 litre)	05778	-	-	-
Solvent THF (5 litres)	05779	-	-	-
Neoprene glue for PVC (5 Kg)	05784	-	-	-

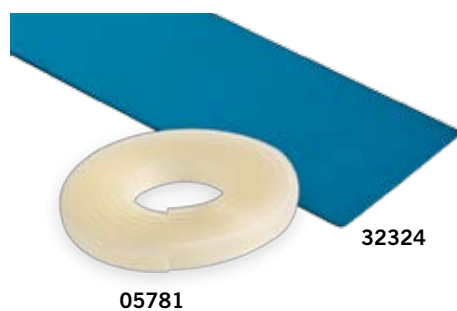
**Note:** In the event of assembling a liner 150/100° by hung type fastening with an 8 mm strip, the accessories are the same as for liners 75/100° (see previous page).

### Adhesives for all types of liners

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Adhesive for antibacterial protection (Tin 5 Kg)	05822	-	-	-
Komerling adhesive 1220 (Tube 125 ml)	06655	-	-	-
Komerling adhesive 1220 (Tin 750 ml)	06656	-	-	-

### Liner protection for 75/100° and 150/100°

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Protection 300 gr/m <sup>2</sup> AB blue (roll 100 m <sup>2</sup> )	16176	-	-	-



**LINER ACCESSORIES**
**Rivets**

Aluminum rivets.

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
Short 15.5 - 4.5 mm	<b>12264</b>	4	8.85	0.01
Long 25.5 - 4.5 mm	<b>12265</b>	3	8.0	0.01


**Double PVC hem**

Welded to the edge of the liner, allows the liner to attach to the pool shell, by using the corresponding profile.

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
	<b>12184</b>	250 m	9.0	0.036


**Dissolvent**

Dissolvent for welding the lining in cold.

	Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
	<b>12249</b>	1	1.0	0.01





## STEPS UNITS

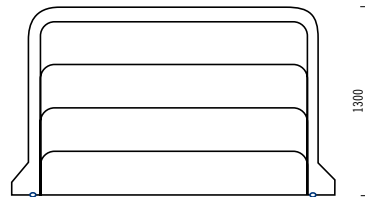
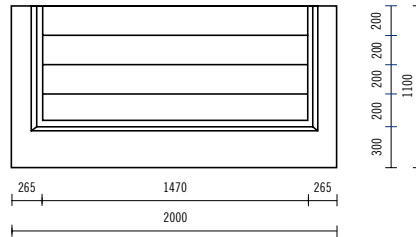
### Straight 2 m model



Standard light blue, in material that resists ageing, UV rays and Chlorine agressions.

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
25866	1	-	-

Code 25866



### Straight 2.44 m model

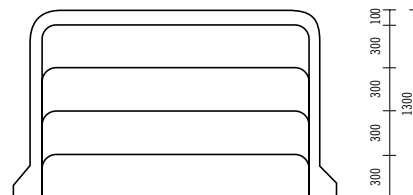
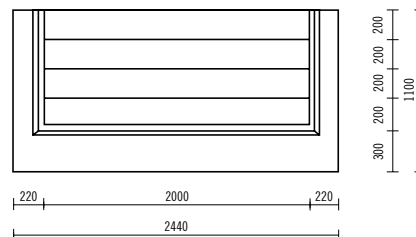


Standard light blue, in Polymer.

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
05701	1	-	-

Other models, on request.

Code 05701



**ROMAN STEPS**

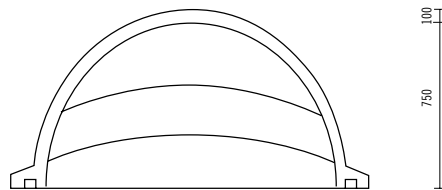
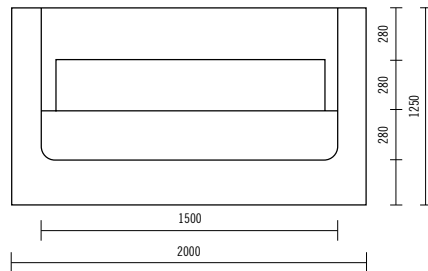
**Roman end 2.00 m**

Standard light blue, in Polymer.

2.00 x 0.85 x 1.25 m

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
<b>28327</b>	1	-	-

**Code 28327**




**Roman end 2.44 m**

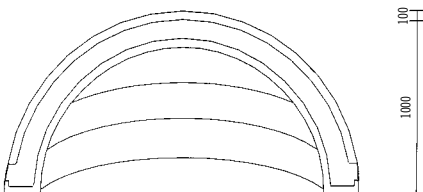
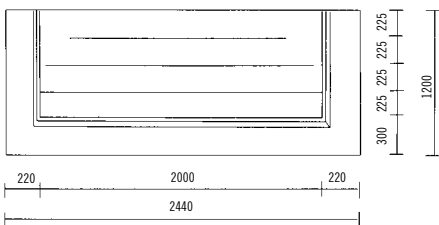
Standard light blue, in Polymer.

2.44 x 1.25 x 1.20 m

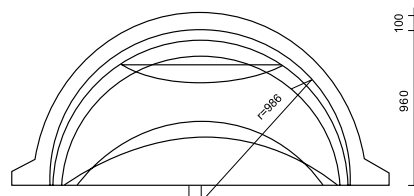
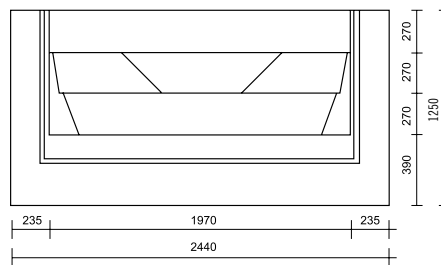
2.44 x 0.96 x 1.20 m

Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
<b>05700</b> 	1	-	-
<b>27126</b>	1	-	-

**Code 05700**



**Code 27126**



## ROMAN STEPS



### Roman end 3.00 m

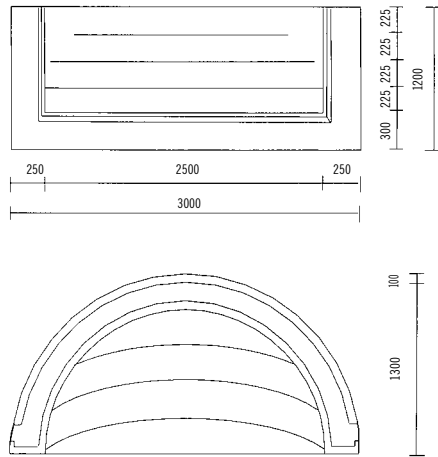
Standard light blue, in Polymer.

3.00 x 1.50 x 1.20 m  
3.00 x 1.32 x 1.35 m

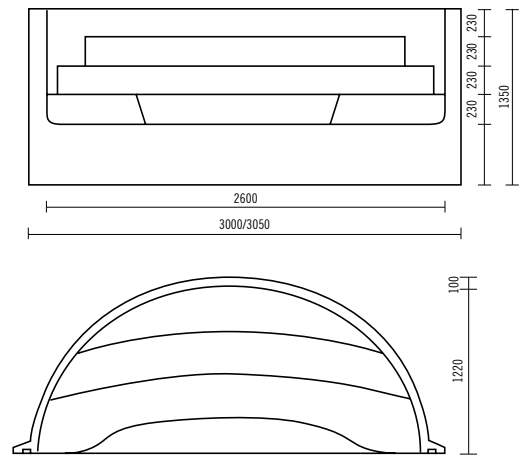
Code	Standard Packing	Standard Weight kg.	Standard Volume m <sup>3</sup>
05799	1	-	-
27127	1	-	-

Other models and colours, on request

Code 05799



Code 27127



## CONDITIONS FOR ACCEPTING AN ORDER

### Order:

All orders or enquiries for modifying orders must be made in writing. For avoiding any delay, the client, at his own risk, must forward the supplier all the necessary liner measurements for executing the work. In case the information supplied by the client is insufficient, he will have to supply the missing information ahead of the manufacturing time.

### Implicit data:

In cases certain information is not supplied in time, we shall consider the below mentioned data for the liner manufacture:

- \* Vertical radii: 15 cm
- \* Horizontal radii: max. 5 cm (only in pool basin). Holdingsystem, Hung system.
- \* Horizontal measurements taken on the basin floor.
- \* The depth measurement taken from under the coping stone till the wall touching the floor.
- \* The diagonals will be measured from the corner angles and not along the curves.

To avoid certain misunderstandings, we suggest you taking the following precautions:

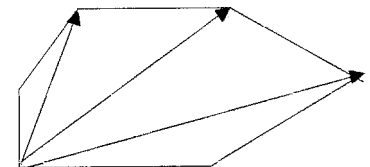
- |                        |   |
|------------------------|---|
| For holding the liner: | * Specify the type (Hung, Overlap or in V); We leave 15 cm of extra liner length in height for the Overlap holding system.  |
| For steps:             | <ul style="list-style-type: none"> <li>* Check whether the angles between the step tread and rise (flat and vertical step surfaces) are really found in a straight line.</li> <li>* Installation of a discharge nozzle in the middle of the first step is highly recommended for holding the liner in place.</li> <li>* At least 30 cm of water should be left in the pool for maintaining the first step.</li> <li>* Avoid designing staircases having more than 5 steps.</li> <li>* For confirming dimensions, give the lengths of each step.</li> <li>* Check the verticality of pool walls. In case of deficient plumbness, enquire about the order viability.</li> <li>* Compound inclination safety ledges should be avoided on the liner.</li> </ul> |

### Taking measurements:

- \* Give the total length and width.
- \* Pool depths.
- \* Safety ledge width on each side.
- \* Specify the peripheral size on each side.
- \* Measurements of each corner, edge and inclination.
- \* All dimensions should be indicated with horizontal and/or vertical measurements.

### If angles are not straight:

- \* Measure all the diagonals from one point.
- \* Diagonals (hypotenuse) of right angles are not necessary, only the irregular angles other than the 90°.

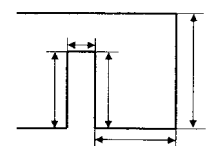


### Definition of arcs of circles:

- \* Arcs of circles are defined by their radii.
- \* If a radius cannot be defined, a radius gauge should be supplied or a triangulation to define it.
- \* Ellipses are defined by gauges (or grid drawing with approximate 1 meter intervals)

### Sectional views:

- \* Three view plans should be submitted: top view, front view and lateral view.

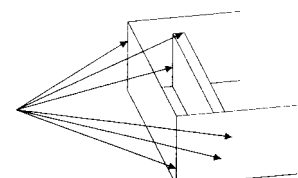


### Full size pattern:

- \* Define the pattern, one side sky and the other side water (or a plan).
- \* The patterns are for the pool basin dimensions or for the covers.

### Shuttering:

- \* Specify shuttering dimensions according to the drawings.
- \* Check that inside shuttering angles are in a straight line.
- \* Check that vertical pool basin angles shuttering are in a straight line.
- \* Check that the horizontal angle of the wall and shuttering are in a straight line.





## POOL COVERS AND ROLLERS

- 372 • Thermal covers for summer
- 373 • Premium thermal covers
- 374 • Thermal covers - foam
- 375 • Protection covers for winter
- 378 • PVC protection covers with rods
- 379 • Accessories for covers
- 382 • Storage rollers for covers
- 385 • Automatic covers
- 407 • Telescopic covers



## THERMAL COVERS FOR SUMMER



BUBBLE

### Bubble model 400 µm - blue

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Without eyelets	<b>Pool Type</b>				
	Standard	09296	-	-	-
DeLuxe Model	Freeform	06214	-	-	-
	Standard	09295	-	-	-
	Freeform	03975	-	-	-

### Bubble model 400 µm - blue/black

		Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
DeLuxe Model	<b>Pool Type</b>				
	Standard	16185	-	-	-
	Freeform	11483	-	-	-



BLUE/BLACK BUBBLE

### Steps and accessories bubble models

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs fixed price	06215	▲	-	-
Roman stairs fixed price	06217	▲	-	-
Other stairs fixed price	06218	▲	-	-
Special cut pieces for stairs	03976	▲	-	-
Additional nickel-plated brass eyelet	04001	▲	-	-

The accessories list is found in page 379.

### TECHNICAL FEATURES Floating Isothermal "Bubble" Covers

Composition	Polyethylene based
Joints	Ultrasonic welding
Borders	Stitched Polyethylene strips
NB Model	Only cut, without eyelets
Eco Model	Eyelets, lengthwise on both the sides
DeLuxe Model	Perimetral eyelets
Fixing	Eyelets on both ends of one long side.
	Eyelets at approx. every 65 cm on the opposite side
Composition	Nickel plated brass eyelets
Standard Packaging	Supplied in cardboard box in a protection bag and with instructions leaflet

**PREMIUM THERMAL COVERS**
**Ultra-Thermal model 500 µm - Blue/Gold**

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Without eyelets	Pool type				
	Standard	<b>40836</b>	-	-	-
DeLuxe model	Free form	<b>40838</b>	-	-	-
	Standard	<b>40837</b>	-	-	-
	Free form	<b>40839</b>	-	-	-


**High resistance model 500 µm – Reinforced Blue**

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Without eyelets	Pool type				
	Standard	<b>40840</b>	-	-	-
DeLuxe model	Free form	<b>40842</b>	-	-	-
	Standard	<b>40841</b>	-	-	-
	Free form	<b>40843</b>	-	-	-


**Steps and accessories for premium models**

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs fixed price	<b>41149</b>	-	-	-
Roman stairs fixed price	<b>41150</b>	-	-	-
Other stairs fixed price	<b>41151</b>	-	-	-
Special cut pieces for stairs	<b>41152</b>	-	-	-



## THERMAL COVERS - FOAM



FOAM

### 5 mm Foam Cover

		Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
Eco Model	Pool Type				
	Standard	09297	-	-	-
	Non-Standard	03983	-	-	-
DeLuxe Model	Freeform	03992	-	-	-
	Standard	09298	-	-	-
	Non-Standard	03991	-	-	-
	Freeform	03984	-	-	-
Floating reinforcement		06216	▲	-	-

### Steps and foam models

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs fixed price	06215M	-	-	-
Roman stairs fixed price	06217M	-	-	-
Other stairs fixed price	06218M	-	-	-
Special cut pieces for stairs	03993	▲	-	-
Additional nickel-plated brass eyelet	04001	▲	-	-

**Attention:** Unless specified in the order, the stair cover is supplied welded to the pool cover, applying the corresponding surcharge.

The cover classification into Standard, non-standard and freeform covers are based on the different shapes indicated in the catalogue.

The accessories list is found in page 379.

- The "eco" models are provided with eyelets along side both short sides.
- The "Deluxe" models are provided with perimetral eyelets.





TECHNICAL FEATURES Foam Covers	
Composition	Reticulate type Polyethylene based foam
Joints	Thermal welding using double sided Polyethylene ribbons
Borders	Stitched PVC strips
Eco Model	Eyelets, lengthwise on short the sides
DeLuxe Model	Perimetral eyelets
Fixing	Eyelets on both ends of one short side. Eyelets at approx. every 65 cm on the opposite side
Composition	Nickel plated brass eyelets
Option	Lengthwise floating Polyethylene foam reinforcement
Standard Packaging	Supplied rolled duly protected with a cover SLEEVE.

**PROTECTION COVERS FOR WINTER**

**Gauze type - Blue model**

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Eco Model	Pool Type				
	Standard	<b>09285</b>	-	-	-
DeLuxe Model	Free form	<b>03868</b>	-	-	-
	Standard	<b>09286</b>	-	-	-
	Free form	<b>03877</b>	-	-	-

**Gauze type - Green model**

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Eco Model	Pool Type				
	Standard	<b>09283</b> 	-	-	-
DeLuxe Model	Free form	<b>05744</b> 	-	-	-
	Standard	<b>09284</b> 	-	-	-
	Free form	<b>05753</b> 	-	-	-

**Steps and accessories gauze models**

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs-fixed price	<b>05755</b>	-	-	-
Roman stairs-fixed price	<b>05756</b>	-	-	-
Other stairs-fixed price	<b>06219</b>	-	-	-
Special cut pieces for stairs	<b>03869</b>	-	-	-

**Classification:** The cover classification into Standard, non-standard and freeform shaped covers are based on the different shapes indicated in the catalogue.

The accessories list is found in page 379.

**TECHNICAL FEATURES**  
Gauze Models

Composition	Wetted Poliethylene fabric 230 g/m <sup>2</sup>
Joints	English seam
Borders	Stitched PVC strips (Eco Model) Perimetral eyelets and triangular reinforcement on the corners (for Deluxe Model)
Eco fixing	With eyelets + Double pressed rubber tensor + S.S. anchoring fixture Distance between rubber tensors = 70 cm
DeLuxe fixing	Distance between eyelets = approx. 20 cm With straps + dynamometric spring + S.S. anchoring fixture Distance between straps = Approx. 1 m. Overlapping = 50 cm
Standard Packaging	Supplied in cardboard box in a protected bag and with instructions leaflet



BLUE



GREEN



BLUE DELUXE MODEL



GREEN DELUXE MODEL

## PROTECTION COVERS FOR WINTER



### PVC Intersup opaque model - blue/ivory

		Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
Eco Model	Pool Type				
	Standard	09338	-	-	-
DeLuxe Model	Free form	06198	-	-	-
	Standard	09339	-	-	-
	Free form	06208	-	-	-

### PVC Intersup opaque model - green/ivory

		Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
Eco Model	Pool Type				
	Standard	09526	-	-	-
DeLuxe Model	Free form	09528	-	-	-
	Standard	09529	-	-	-
	Free form	09531	-	-	-

BLUE ECO INTERSUP



BLUE LUXE INTERSUP

### Steps and others for Intersup models

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs-fixed price	05755	-	-	-
Roman stairs-fixed price	05756	-	-	-
Other stairs-fixed price	06219	-	-	-
Special cut pieces for stairs	03869	-	-	-
Additional nickel-plated brass eyelet	04001	-	-	-

### Fixpool opaque model blue/beige

		Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Blue/beige	Standard	09291	-	-	-
	Non-Standard	09292	-	-	-
	Freeform	09293	-	-	-



BLUE FIXPOOL INTERSUP

**Classification:** The cover classification into Standard, non-standard and freeform covers is based on the different shapes indicated in the catalogue.

The accessories list is found in page 379.

**PROTECTION COVERS FOR WINTER**

**Technical Features**

TECHNICAL FEATURES Intersup Eco Covers	
Composition	PVC fabric, reinforced double side 550 g/m <sup>2</sup>
Joints	High frequency welding
Borders	Perimetral hem, joined by high Frequency welding
Fixing	nickel plated brass eyelets + Double pressed tensor rubber + S.S. anchoring fixture Distance between rubber tensors = 70 cm Distance between eyelets = approx. 20 cm.
Grid screen	Centrally located drainage grid screen in pre-shrunk PVC fabric joined by high frequency welding
Standard Packaging	Supplied in cardboard box with instructions leaflet

TECHNICAL FEATURES DeLuxe Intersup Covers	
Composition	PVC fabric, reinforced double side 550 g/m <sup>2</sup>
Joints	High frequency welding
Borders	Perimetral hem, bound together by high frequency welding
Fixing	With straps + Dynamometric tensor + S.S. anchoring fixture Distance between straps=approx.1m Overlapping = 50 cm.
Grid screen	Centrally located grid screen in preshrunk PVC fabric bound together by high fre- quency welding.
Standard Packaging	Supplied in cardboard box in a protec- ted bag and with instructions leaflet

TECHNICAL FEATURES Fixpool Covers	
Composition	PVC fabric, reinforced double side 550 g/m <sup>2</sup>
Joints	High frequency welding
Borders	Perimetral hem, joined by high frequency welding. Rigid PE cable inside the hem
Fixing	By way of Fixkit + S.S. anchoring fixture Distance between them = approx. 80 cm
Grid screen	Centrally located drainage grid screen in pre-shrunk PVC fabric stitched to the cover.
Standard Packaging	Supplied in cardboard box in a protected fbag and with instructions leaflet

## PVC PROTECTION COVERS WITH RODS

Safety cover that prevents children under 5 from accessing the pool. Meets NFP 90-308 Standard. For underground pools of a maximum of 11 x 5 metres (+ stairs). Add a minimum of 30 cm on each side to the pool measurements (Ex: 10 x 5 Pool, 10.60 x 5.60 m cover). It can be used all year long as it protects it from dirt in summer as well as in winter and reduces the proliferation of bacteria and algae. The two cover models differ only in the way they are rolled



new

### Tramuntana Cover

**ROLLING SYSTEM:** It is done only with the help of 1 or 2 geared down cranks (2 for more than 9 x 4 m). The cover is rolled around the bars, supporting itself on the coping. For a pool that is smaller than 9 x 4 m, only use one 1/3 crank.

COLOUR	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Blue/beige	40939	-	-	-
Green/beige	40940	-	-	-
Almond/beige	40941	-	-	-
Beige/beige	40942	-	-	-



new

### Sardana cover

**ROLLING SYSTEM:** The cover can be rolled with one person. Only for pools with lengths higher than 9 m, it is best to request 2 geared down wheel systems.

COLOUR	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Blue/beige	40943	-	-	-
Green/beige	40944	-	-	-
Almond/beige	40945	-	-	-
Beige/beige	40946	-	-	-

new

### Steps and accessories





	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Straight stairs-fixed price	40947	-	-	-
Cut pieces for stairs	40948	-	-	-
Profile for steps	40949	-	-	-

TECHNICAL FEATURES Tramuntana Cover	
Composition	550 g/m <sup>2</sup> PVC cloth reinforced with aluminium bars, each approx. 1.50 m.
Joints	High frequency welding
Hems	6 cm double welded all along with anti-lifting bands on the inside
Reinforcements	Non-corrosive PVC slippers on each bar at the coping level
Mounting	bands and S.S. hooks steel/Aluminium cylindrical spikes
Drainage	Holes for draining rainwater all along the width between each bar
Rolling	1 or 2 ordinary geared cranks according to the cover size
Standard Packaging	Cardboard box and instructions booklet

TECHNICAL FEATURES Sardana Cover	
Composition	550 g/m <sup>2</sup> PVC cloth reinforced with aluminium bars, each approx. 1.50 m.
Joints	High frequency welding
Hems	6 cm double welded all along with anti-lifting bands on the inside
Reinforcements	Non-corrosive PVC slippers on each bar at the coping level
Mounting	bands and S.S. hooks steel/Aluminium cylindrical spikes
Drainage	Holes for draining rainwater all along the width between each bar
Rolling	: Movement system made up of 2 wheels: the first free, the other with a reinforced geared rolling system
Standard Packaging	Cardboard box and instructions booklet

**ACCESSORIES FOR COVERS**

**Accessories**

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
S.S. Spike	Per unit <b>03994</b>	-	-	-
S.S. Spike for lawn.	Per unit <b>05732</b>	-	-	-
Retractable cylindrical spike	Per unit <b>40950</b>	-	-	-
Retractable anchoring, with spring	Per unit <b>03995</b>	-	-	-
Dynamometric spring	Per unit <b>03996</b>	-	-	-
1.50 m black strap for roller	Per unit <b>25980</b>	-	-	-
8 mm rubber tensor	m <sup>2</sup> <b>03998</b>	-	-	-
8 mm x 60 cm Cabiclic rubber tensor	Per unit <b>03999</b>	-	-	-
8 mm x 25 cm Cabiclic rubber tensor	Per unit <b>05736</b>	-	-	-
1,20 m rubber tensor with hooks	Per unit <b>05734</b> 	-	-	-
Ø 10 x 80 mm S.S. pipe	Per unit <b>06659</b> 	-	-	-
Hole cover plug (2 parts)	Per unit <b>09544</b> 	-	-	-
Fixkit clip with rubber tensor	Per unit <b>09439</b> 	-	-	-

8 mm rubber tensor - 03998



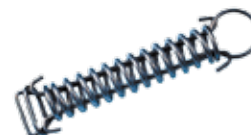
S.S. Spike - 03994



Retractable spike - 40950



Dynamometric spring- 03996



S.S. Spike for lawn - 05732



Concealable anchoring, with spring - 03995



Roller 1.50 m black strap - 25980



60 cm Cabiclic rubber tensor - 03999



25 cm Cabiclic rubber tensor - 05736



Rubber tensor with hooks - 05734



Ø 10 x 80 mm S.S. pipe - 06659



Hole cover plug (2 parts) - 09544



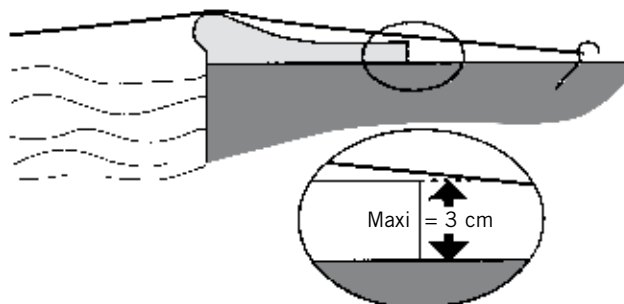
Fixkit clip with rubber tensor - 09439



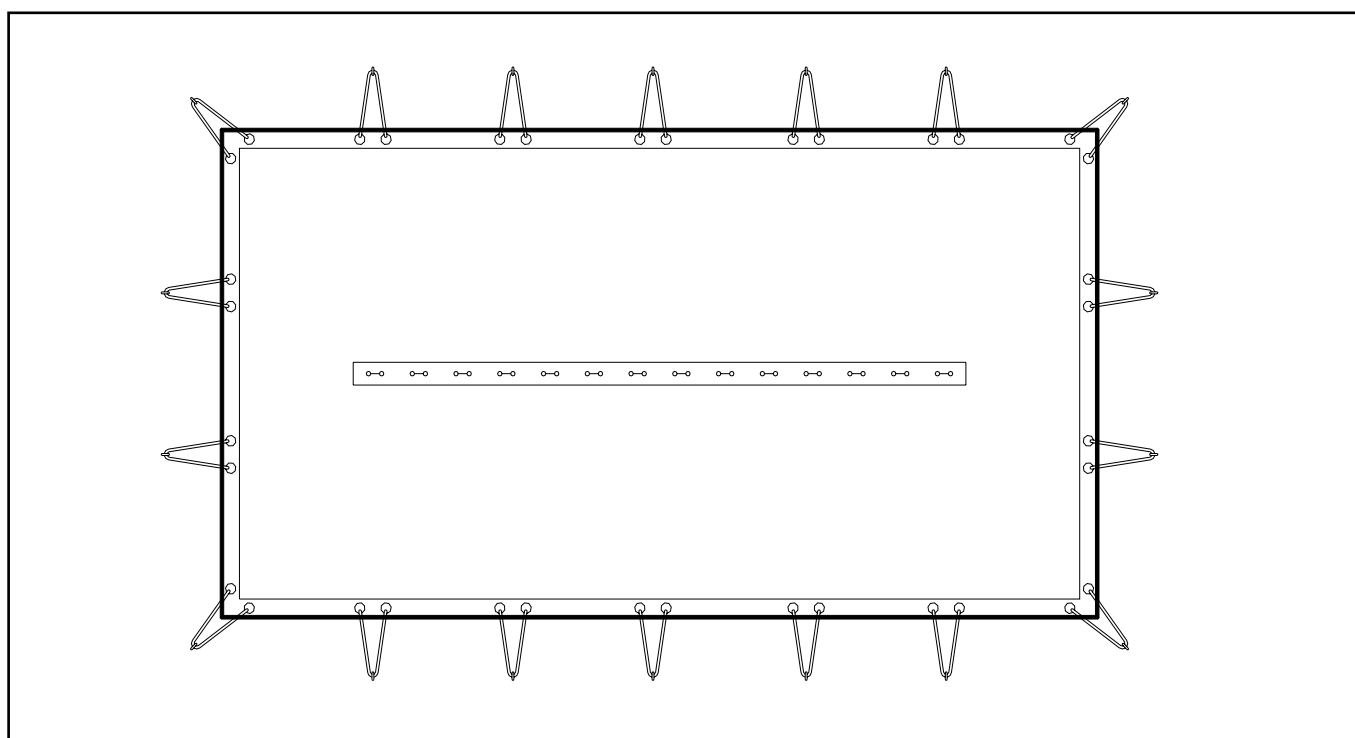
## WINTER COVER INSTALLATION

### IMPORTANT

- Each cover is individually designed according to its shape, material and fastening.
- To avoid a premature cover wear and tear rubbing
- Against coping material, the following precautions should be observed when installing it:
- The coping material should not be more than 3 cm thick.
- The cover warranty will not be applicable in case of faulty installation, deficient maintenance or wearing
- Caused by coping elements.



## USING CLIPS OR RUBBER TENSORS

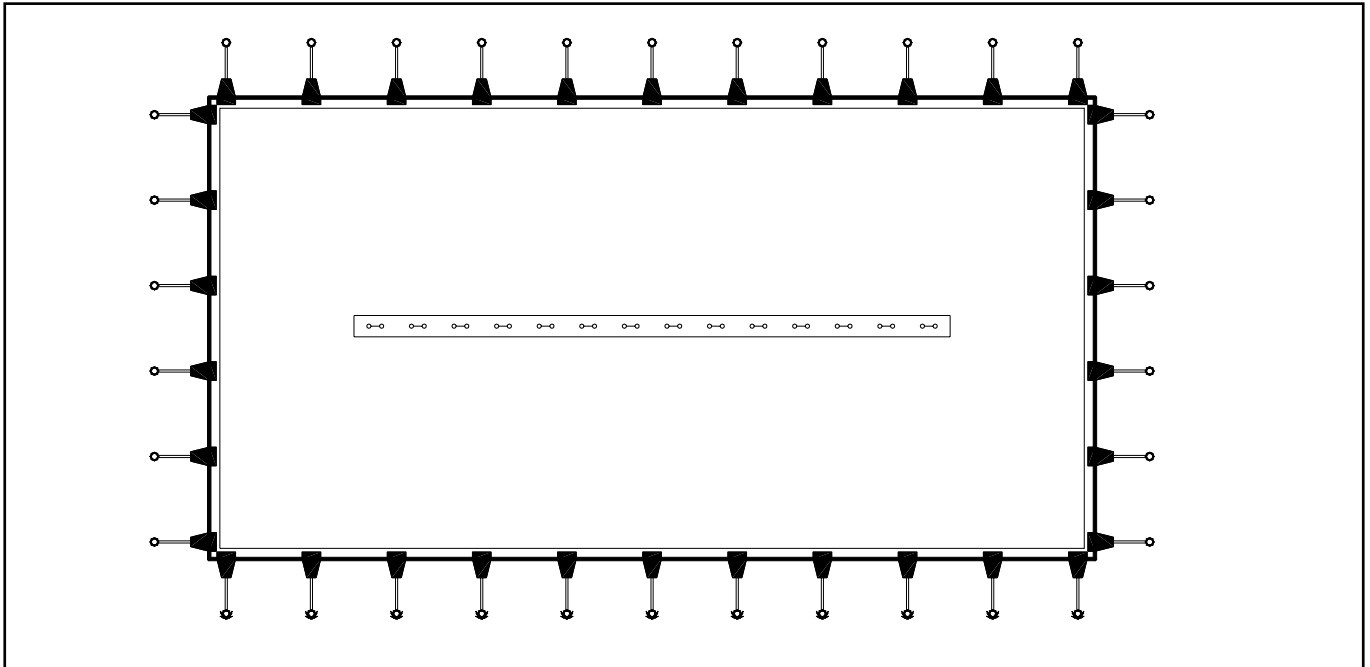


- 1) Make holes in the corners at 40 cm from the coping stone edge.
- 2) Fix the cover at the 4 corners.
- 3) Parallel to each eyelet, drill the other holes at 40 cm from the coping stone edge.
- 4) Tension the cover, leaving a certain allowance to the rubber tensors.

**N.B.:** In very windy regions, we suggest installing double water drains on the side which is most exposed to the wind.

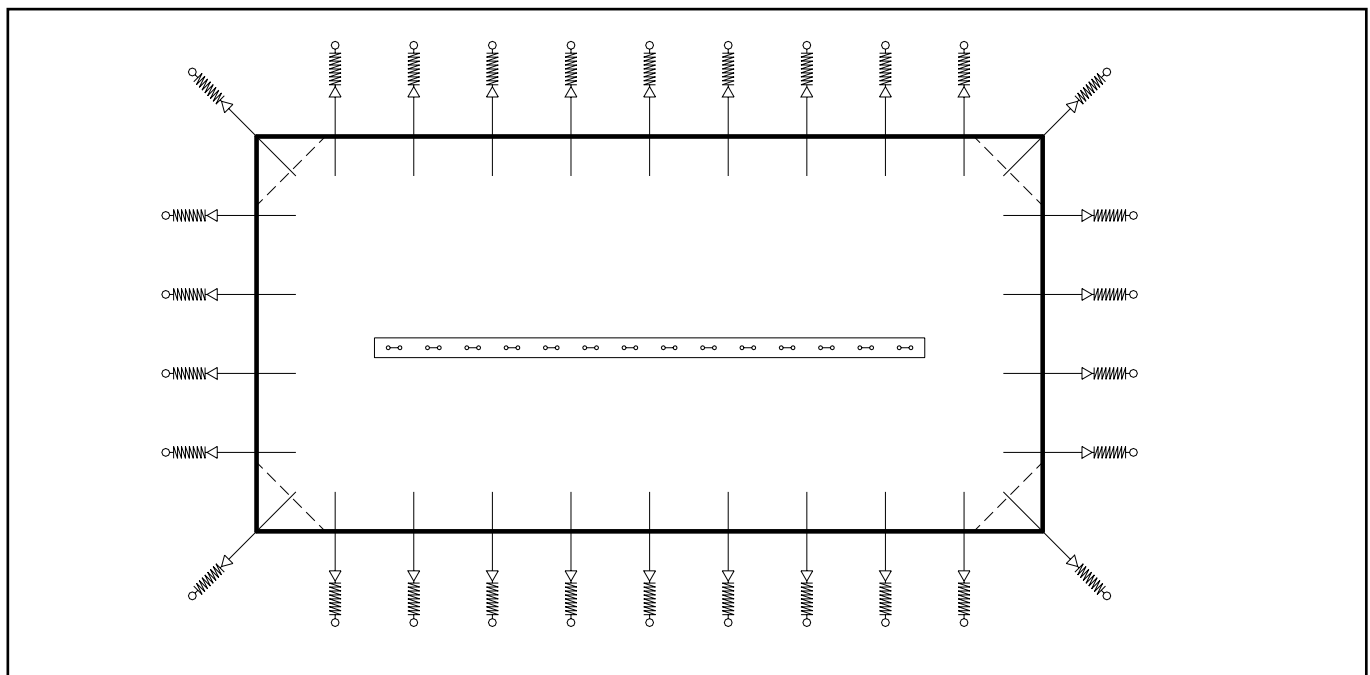
**WINTER COVER INSTALLATION**

**WITH FIX KIT**



- 1) Drill at the 4 corners at 40 cm from the coping stone edge.
- 2) Fix the cover at the 4 corners.
- 3) Parallel to each eyelet, drill the other holes at 40 cm from the coping stone edge.
- 4) Tense the cover, leaving a certain allowance in the elastic belt tension

**WITH STRAPS**



- 1) Drill at the 4 corners at 40 cm from the coping stone edge.
- 2) Fix the cover at the 4 corners.
- 3) Parallel to each eyelet, drill the other holes at 40 cm from the coping stone edge.
- 4) Tense the cover, leaving a certain allowance in the rubber bands..

**N.B.:** In very windy regions, we suggest installing double water drains on the side which is most exposed to the wind.



## STORAGE ROLLERS FOR COVERS

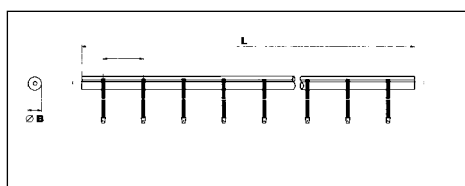
### Central pipe in anodised aluminium Ø 100 mm



Fixed pipe, length 4.5 m  
 Fixed pipe, length 5.5 m  
 Fixed pipe, length 6.6 m  
 Telescopic pipe, length 4 - 5.5 m  
 Telescopic pipe, length 4 - 6.6 m  
 Other lengths, available on request

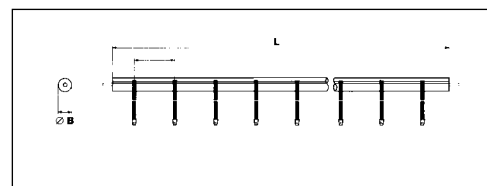
Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
07622	1	12.0	0.059
07623	1	14.3	0.071
07624	1	17.4	0.084
07625	1	12.8	0.054
07626	1	15.5	0.067

#### Fixed pipe



Pipe code	L (m)	Ø B (mm)	N° straps
07622	4.5	100	8
07623	5.5	100	8
07624	6.6	100	10

#### Telescopic pipe



Pipe code	L (m)	Ø B (mm)	N° straps
07625	4.0 - 5.5	95/100	8
07626	5.0 - 6.6	95/100	8



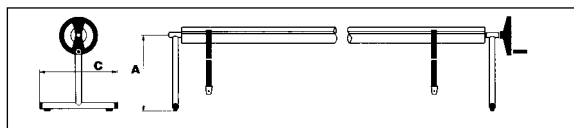
### Stainless Steel fixed end supports

Set of 2 brackets in "T" shape. Includes steering wheel operation with 8 straps for fixing the cover.

A set of 2 "T" supports in AISI-304

The pipe is not included in the price

Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
07631	1	4.8	0.035



Pipe code	A (mm)	C (mm)
07631	500	514

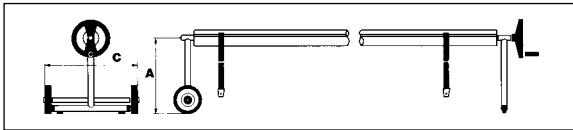
**STORAGE ROLLERS FOR COVERS**

**Stainless Steel mobile support**

A set of 2 supports, one "T" end fixed support and the other end support with wheels. Includes 8 straps to tie the cover.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Supports in AISI-304	<b>07628</b>	1	7.2	0.035

The pipe is not included in the price.



Code	A (mm)	C (mm)
<b>07628</b>	500	650

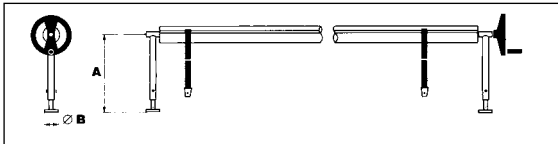


**Fixed support for roller**

Two flange fixing supports with adjustable height from 500-800 mm in AISI-304. Fixed to the floor with flanges. Includes 8 straps for fixing the cover.

Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
<b>07629</b>	1	7.2	0.029

The pipe is not included in the price.



Code	A (mm)	B (mm)
<b>07629</b>	500 to 800	100

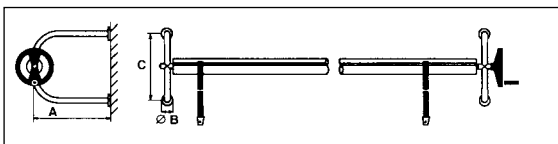


**Wall support for roller**

Pair of wall fixing supports. In S.S. AISI-304. Includes 8 straps for fixing the cover.

Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
<b>07630</b>	1	6.6	0.087

The pipe is not included in the price.



Code	A (mm)	B (mm)	C (mm)
<b>07630</b>	500	100	500



## STORAGE ROLLERS FOR COVERS

### Plastic supports for roller

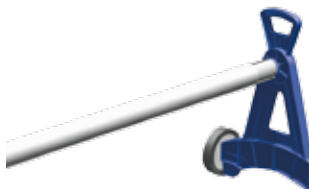


Set of 2 plastic supports with hand grips for easy handling. One support comes with 2 wheels and the other is fixed. Suitable for all roller range in this catalogue.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
A set of 2 plastic supports	22489	1	4	0.055

The pipe is not included in the price.

### Ø 80 mm telescopic pipe for storage roller



3 piece telescopic. Ø 80 mm. Aluminium pipe Can be mounted with the whole range of roller supports offered in this catalogue.

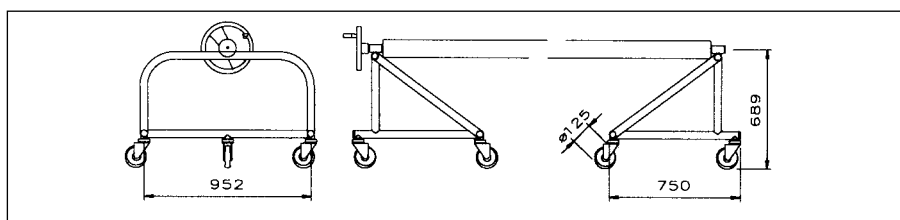
	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Telescopic pipe 4 - 5.5 m	24762	1	12.8	0.035
Telescopic pipe 5 - 6.6 m	30806	1	15.5	0.043

### Roller supports (for larger pools)

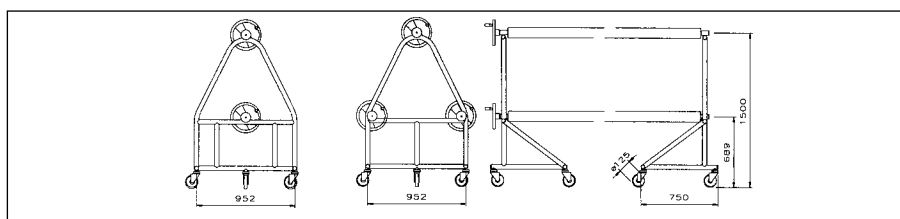


Suitable for fixed roller pipes 07622, 07623 and 07624 or telescopic pipes 07625 and 07626, with 1, 2 or 3 rollers and steering wheels and rotating bar wheel for handling covers. Contains of 2 Stainless Steel AISI-304 structures with wheels (1 set with brakes) to move the roller . Includes 8 straps per roller.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
2 mobile supports with 1 roller pipe	15836	1	36.4	0.937
2 mobile supports with 2 roller pipes	15835	1	27.4	1.46
2 mobile supports with 3 roller pipes	15834	1	28.4	1.46



Mobile supports with 1 pipe.



Mobile supports with 2 and 3 roller pipes.

## AUTOMATIC COVERS

### The AstralPool automatic cover

AstralPool is continually incorporating the latest innovations to its products in matters of safety. As such the automatic pool covers have been developed to meet the demands of the French standard NF P90 308, which guarantees maximum user safety.

The AstralPool automatic covers cover the whole pool and are easily rolled up or spread thanks to their in built motorized roller. The turning of a key is all that is needed to get it working.

Manufactured with rigid slats available in various colours, their design and composition provide a floating cover which covers the whole of the water surface and which is very effective as a thermal insulator. To meet the requirements of both existing and new-built swimming pools there are seven models available, the submerged models Roussillon, Conflent and Ceret, the above-ground models Carlit and Vallespir, and the above-ground models with protective casing Capcir and Narbonne.

The submerged automatic cover models Roussillon, Conflent and Ceret allow the cover to be completely integrated into the swimming pool. The mechanical installation is located in a pit annexed to the pool, which is separated by a small concrete or PVC partition.

The above-ground models (Carlit and Vallespir) are the most suitable models for installing in existing pools as the roller is located on the outside of the pool, anchored to the pool surround.

The above-ground models with protective casing (Capcir and Narbonne) are the basic above-ground models which can be complemented with a bench that covers the mechanical installation, giving it a high-quality finish. For installation in existing swimming pools.

### Main advantages

- Increased safety in the swimming pool to protect people and pets from falling accidentally into it. The floating slats cover the entire water surface.\*
- Very convenient to use, the swimming pool is covered and uncovered in silence by simply turning a key.
- Represents a considerable saving:
  - It acts as a thermal barrier preventing heat losses and extending the pool use season.
  - It is a basic complement for pool heating conditioning.
  - It prevents evaporation, therefore it saves water.
  - It reduces algae formation, which results in an important saving in chemical products.
- In indoor pools no condensation is produced in the enclosed hall, thus avoiding deterioration of building materials.
- Lower maintenance costs: reduction of suspended particles.
- The automatic cover enables greater customisation of the swimming pool, increasing its value.

### AstralPool service

- The wide AstralPool commercial network offers immediate service.
- We offer our clients pre- and post-sales technical assessment.
- The manufacturing technical sheet will be used to make a cover which is perfectly adapted to your needs.
- All AstralPool covers undergo strict quality control based on the most demanding regulations.
- Assembly and Civil Engineering Manuals are available to allow building the swimming pool with the ideal requirements for subsequent installation of the submerged cover.

(\*) Our automatic covers comply with the requirements of the French standard NF P90-308 which demands the use of standardized safety mechanisms to prevent the risk of drowning by accidental falls into the pool.

## AUTOMATIC POOL COVERS

### Advice for use and winterizing

**We recommend to follow these basic indications to obtain the optimum performance from the automatic cover:**

- Before operating the cover you must ensure that nobody is in the swimming pool and that there are no objects that could become obstacles to its normal operation.
- Maintaining the correct water level is also important, as a level which is too high or too low can cause blockages at the tie beam, partition or the steps.
- During the retrieving and expanding operations the cover should not be blocked, as this action could be dangerous as well as harmful to the operating mechanism.
- If an automatic pool floor cleaner is used make sure that when the cover is extended neither the hose nor the power supply cable is caught up.
- Regular cleaning of the cover with a pressure cleaning device or with a PVC descaling liquid is recommended. This will also prevent leaves from settling on the cover which could otherwise stain the slats..
- In the case of a hail storm we recommend that you retrieve the cover.
- In the Roussillon submerged model we recommend that you always keep the motor housing dry to prevent the geared motor from getting wet.

**For good winterization, and in order to find the pool in the best conditions in the spring, we recommend to take the following indications:**

- Leave the cover extended over the water surface.
- Keep the water level constant. An excess should be drained through the main drain or the skimmer box.
- It is advisable to clean the trapdoor and the motor housing with a high pressure cleaner before the pool is winterized.
- Place a number of anti-freeze floats in the trapdoor casing, behind the cover. The skimmers should also be protected in the same way.
- We recommend the installation of a plastic type cover to prevent leaves and other substances from obstructing the trapdoor, which should be cleaned regularly.
- In the case of freezing, avoid forcing or pressing down hard on the slats as they could be damaged.
- If the motor is in risk of flooding it is advisable to cut off the power supply and remove the motor.

**AUTOMATIC COVERS: THE SLATS**

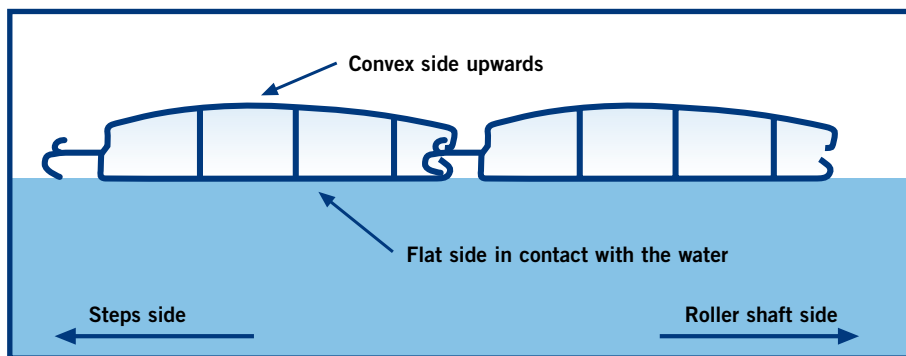
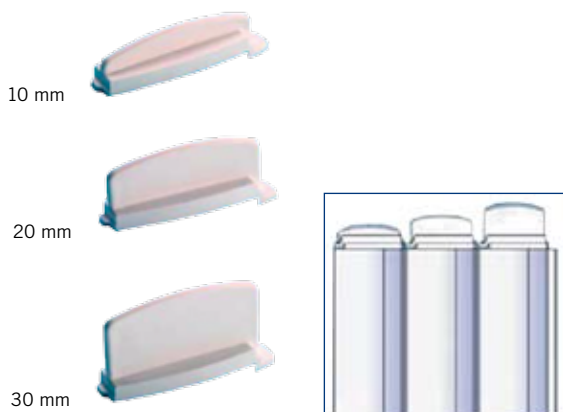
**The slats**

The AstralPool automatic cover uses hollow extrusion PVC watertight slats. The end-caps welded at both ends ensure their floatability. The 20 mm wide cap flaps can assure the total length of the slats. These flaps can also be of 10 or 30 mm, thus altering the total width of the pool cover.

The slats are 71.4 mm wide and 17 mm thick, guaranteeing their floatability. In order to avoid stains, specially organic ones, the slats are coated with calcium-zinc.

In order to best integrate the cover into the environment, you can choose from the different slat models: White, Sand, Opaque Blue, Grey, Translucent Blue\* and solar captor\*. The slats in translucent blue and solar captor can only be used in Northern Europe or in areas where there is less solar radiation.

Pool length	Spool for an aluminium Ø 146 mm shaft (shaft used for pools up to 6 m wide)
1 m	220 mm
2 m	290 mm
3 m	320 mm
4 m	360 mm
5 m	390 mm
6 m	430 mm
7 m	460 mm
8 m	470 mm
9 m	490 mm
10 m	530 mm
11 m	540 mm
12 m	560 mm



WHITE		SAND		BLUE		GREY		BLUE TRANSLUCID*		SOLAR*	
Maximum width.	Code	Maximum width.	Code	Maximum width.	Code	Maximum width.	Code	Maximum width.	Code	Maximum width.	Code
3.5 ml	34755	3.5 ml	34761	3.5 ml	34758	3.5 ml	40998	3.5 ml	34764	3.5 ml	37101
4 ml	31168	4 ml	31169	4 ml	31170	4 ml	41000	4 ml	31171	4 ml	37102
4.5 ml	34756	4.5 ml	34762	4.5 ml	34759	4.5 ml	41001	4.5 ml	34765	4.5 ml	37103
5 ml	31172	5 ml	31173	5 ml	31174	5 ml	40761	5 ml	31175	5 ml	37104
5.5 ml	34757	5.5 ml	34763	5.5 ml	34760	5.5 ml	41002	5.5 ml	34766	5.5 ml	37105
6 ml	31176	6 ml	31177	6 ml	31178	6 ml	41003	6 ml	31179	6 ml	37106
7 ml	31900	7 ml	31901	7 ml	31902	7 ml	40762	7 ml	31903	7 ml	37107
8 ml	31905	8 ml	31906	8 ml	31907	8 ml	41004	8 ml	31908	8 ml	37108
9 ml	35132	9 ml	35134	9 ml	35137	-	-	-	-	-	-
10 ml	35133	10 ml	35135	10 ml	35138	-	-	-	-	-	-
11 ml	33112	11 ml	35136	11 ml	33343	-	-	-	-	-	-

\* For use only in Northern Europe. Not recommended for use below 45° latitude. For bigger widths, please enquire. ml = meter length.

## AUTOMATIC COVERS: SLATS

### Step slats

In order to adapt to any swimming pool shape, 3 different geometric shapes are offered, thus ensuring a perfect fit to the outline of the swimming pool and maximum safety.

The available shapes are Roman steps, Straight steps and Trapezoidal steps.

### METHOD TO CALCULATE OF STEPS SLATS

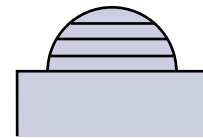
#### ROMAN STEPS

**Location:**

It must be located on the side opposite to the cover motor.

**Step price:**

Roman step pricelist.



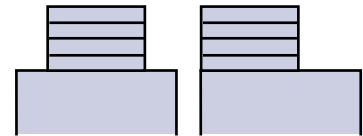
#### STRAIGHT STEPS

**Location:**

a) Located in front of the cover motor.

**Step price:**

Straight step price.



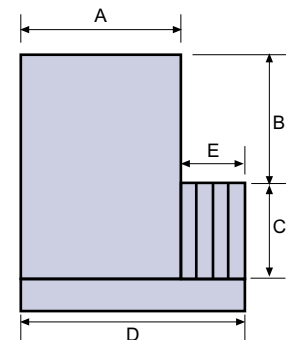
**Location:**

b) Located next to the cover.

**Step price:**

Slat pricelist per metre length  $D \times (C + 1 \text{ m})$ .

- The length of side D includes the width of the pool  $A + E$  (width of steps).



**NOTE FOR SIDE STEPS:**

Calculation of the total slat price:

Steps price + slat price  $(A \times B)$

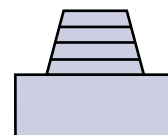
#### ISOSCELES TRAPEZOIDAL STEPS

**Location:**

Located in front of the cover.

**Step price:**

Trapezoidal step pricelist.



**AUTOMATIC COVERS: SLATS**

**Step slats**

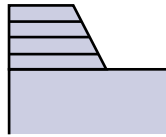
**RECTANGULAR TRAPEZOIDAL SLATS**

**Location:**

a) Located in front of the cover

**Step price:**

Trapezoidal step price.



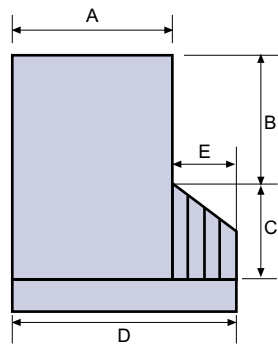
**Location:**

b) Located next to the cover

**Step price:**

Slat price per metre length  
 $D \times (C + 1 \text{ m}) + \text{slat cutting surcharge}$   
 for custom cutting per metre length.

- The length of rollers includes the width of the pool A + the depth of the steps E.



**NOTE FOR LATERAL STEPS:**

Calculation of total slat price: Step price + slat price (A x B)

Description	White	Sand	Opaque Blue	Grey	Blue traslucid*	Solar*
<b>Square-cut Roman ladder</b>						
Ø 3 m	31182	31183	31184	41043	31185	37092
Ø 4 m	31186	31187	31188	41044	31189	37093
<b>Shape-cut Roman ladder</b>						
Ø 3 m	37094	37188	37190	41045	37192	37194
Ø 4 m	37095	37189	37191	41046	37193	37195
<b>Straight steps</b>						
2 x 1.5 m	31190	31191	31192	41047	31193	37090
2.5 x 2 m	31194	31195	31196	41048	31197	37091
<b>Square-cut Trapezoidal ladder</b>						
3 m base	31198	31199	31200	41049	31201	37096
4 m base	31202	31203	31204	41050	31205	37097
<b>Shape-cut Trapezoidal ladder</b>						
3 m base	37098	37196	37198	41051	37200	37202
4 m base	37099	37197	37199	41052	37201	37203

Two finishing options: Square-cut and Shape cut

\*For use only in Northern Europe. Not recommended for use below 45° latitude. For larger widths, please ask. ml = lineal metres

Code	Step Accessories
<b>31206</b>	Clamp to block steps
<b>31180</b>	Special square cnt for free form
<b>38735</b>	Special free form cnt



## AUTOMATIC COVERS: ACCESSORIES

### Cover accessories

We offer a list of accessories for both the use and the maintenance of the automatic cover.



Holding and lifting straps  
Lift-prevention bracket



ABS fixture for wall fixing

Accessories	Code
Lift-prevention bracket, new-built pool with strap fastener. (This model is the one served under express order of another code)	31181
Lift-prevention bracket in ABS for wall fixing + belts	34754
ABS bracket + S.S. support to install under the coping stone + belt	35131
Bracket slat plug - overflow pool	31943
Sky for above-ground cover model	31944



ABS bracket for fixing under  
the coping stone.



Cover strap fastener



Bracket slat plug



Above-ground cover Sky

In compliance with the French standard NF P90-308 for swimming pool covers the following straps will be supplied according to depending on the kind of cover and the swimming pool:

Submerged models and above-ground models with protective casing:

- Cover with steps: 3 units
- Cover without steps: 2 units

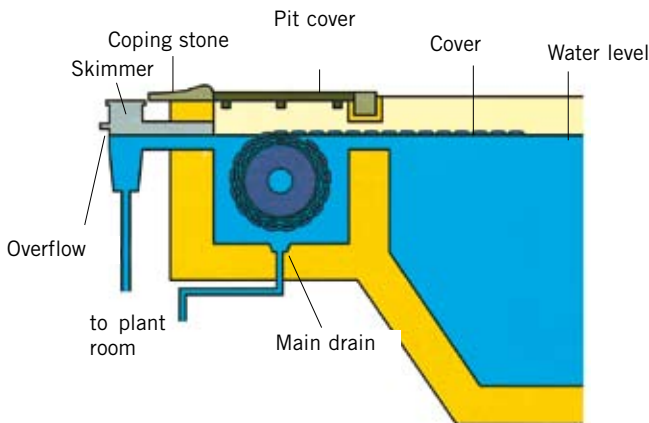
Above-ground models:

- Cover with steps: 5 units (2 on the motor side and 3 on the steps side)
- Cover without steps: 4 units (2 on the motor side and 2 on the opposite side)

**AUTOMATIC COVERS: SUBMERGED MODELS**

**Roussillon submerged model**

The Roussillon automatic cover is the submerged model which incorporates the motor in a separate pit, and both the roller shaft as well as the cover are housed at one end inside the pool itself. The submerged pit containing the roller shaft from the main pool should be separated from the main pool by a small concrete partition at the time of construction or with a PVC partition later on. The basic elements for assembling the cover are the slats, the step slats, the mechanical kit, the embedding kit, the aluminium tie beam and the pit cover.



**MECHANICAL KIT**

Includes the following elements:

- Ø 146 mm extruded aluminium roller shaft, 5 mm thick and Ø 30 mm connecting shaft.
- Motor supporting bracket.
- Watertight gaskets on the wall conduit side.
- Watertight gaskets on bearing support side.
- 24 V geared motor with stainless steel support bracket.
- 220/24V standard switchboard.
- On-off key switch.

Should be installed in full view of the pool. It operates with the key in the continuous contact position.



Geared motor  
24 V



On-off key switch



220/24V operation  
switchboard



Extruded aluminium shaft

Maximum pool dimensions	Extruded shaft	Reducer motor Nm	Code
4x12 m	5 mm thick Aluminium shaft Ø 146	120 Nm	<b>31144</b>
5x12 m	5 mm thick Aluminium shaft Ø 146	120 Nm	<b>31145</b>
6x12 m	5 mm thick Aluminium shaft Ø 146	250 Nm	<b>31146</b>
7x15 m	3 mm thick Aluminium shaft Ø 168,3	250 Nm	<b>31904</b>
8x15 m	3 mm thick Aluminium shaft Ø 168,3	250 Nm	<b>31909</b>
8x16 m	3 mm thick Aluminium shaft Ø 168,3	600 Nm	<b>31909-006</b>
9x22 m	2 mm thick Aluminium shaft Ø 300	600 Nm	<b>34767</b>
10x22 m	2 mm thick Aluminium shaft Ø 300	600 Nm	<b>34768</b>
11x22 m	2 mm thick Aluminium shaft Ø 300	600 Nm	<b>34769</b>

## AUTOMATIC COVERS: SUBMERGED MODELS



### Roussillon submerged model

#### COMPLETE ELECTRICAL SWITCHBOARD (optional)

The 220/24V (120 & 250 Nm) standard electrical switchboard is included in the mechanical kit. Also available is a complete electrical switchboard which includes two spare contactors. One is for stopping salt electrolysis pool treatment when the cover is extended. The second contactor is meant for adapting a pressure cleaning system to the cover.

Electrical switchboard with options	Code
Switchboard operation with two spare contactors	31147

**Note: If a salt chlorinator is used an earthing connection should be installed.**

#### EMBEDDING KIT

Includes the following elements:

- Wall conduit .
- Bearing support bracket for embedding.
- Embedding parts (2) for tie beam support bracket.
- Watertight gaskets for wall conduits



310 mm wall conduit



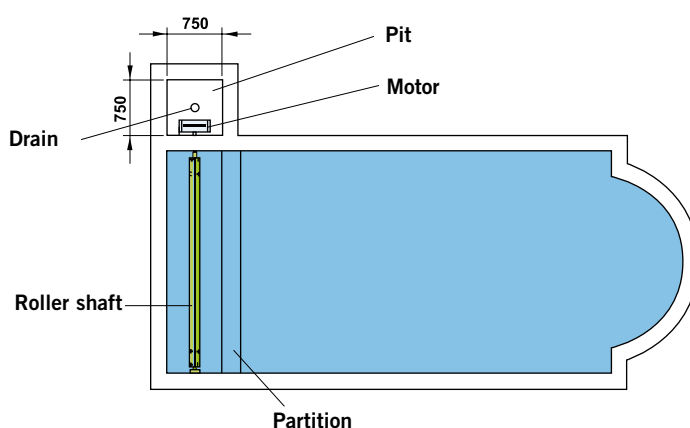
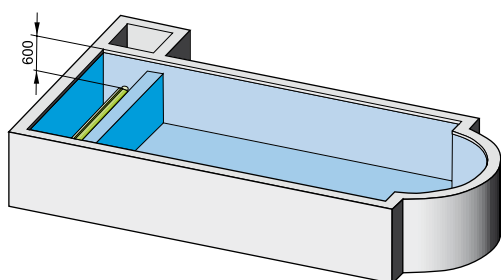
Bearing housing for embedding



Tie beam stand embedding piece

Embedding Kit	Code
Embedding kit with 210 mm conduit	31143
Embedding kit with 310 mm conduit	33074
Embedding kit with 110 mm conduit (special liner and panel pools)	33075

## ROUSSILLON MODEL ASSEMBLY DRAWING



**AUTOMATIC COVERS: SUBMERGED MODELS**

**Submerged model Conflent**

The motor is integrated into the interior of the roller shaft and can be installed in existing pools of up to 6 meters wide.

As in the Roussillon model the submerged part containing the roller shaft should be separated by a small concrete partition at the time of construction or later with a PVC partition. The slat colours available for both models are white, beige and opaque blue.

Maxi. pool dimensions	Motor (Nm)	Code
<b>Conflent</b>		
Pool 4 x 12 m	120 (shaft without limit switch)	<b>33069</b>
Pool 4 x 12 m	250 (shaft with limit switch)	<b>33070</b>
Pool 5 x 12 m	120 (shaft without limit switch)	<b>33071</b>
Pool 5 x 12 m	250 (shaft with limit switch)	<b>33072</b>
Pool 6 x 12 m	250 (shaft with limit switch)	<b>33073</b>
Pool 7 x 14 m	250 (shaft with limit switch)	<b>33906</b>

**Submerged model Ceret**

The submerged automatic cover Ceret is specially designed for new-built or existing pools of up to 6 metres in width. The motor, placed at water level, is integrated into the roller shaft.

The submerged zone containing the roller shaft can be separated by a small concrete partition at the time of construction or with a PVC partition later on.

The basic elements for cover assembly are the slats, the step slats, the mechanical kit, the embedding kit, the aluminium tie beam and the pit cover.

It has the same technical features as the Roussillon model: easy to install in both existing and new-built pools. It blends in perfect harmony with the pool's surroundings. It is also easy to maintain thanks to the motor location, situated at water level.

The mechanics are made up of:

- 150 Nm motor equipped with a limit switch system.
- 2 stainless steel brackets: bearing part and motor part with only the gear transmission.
- A 220 V/24 V power supply unit with a remote key switch.

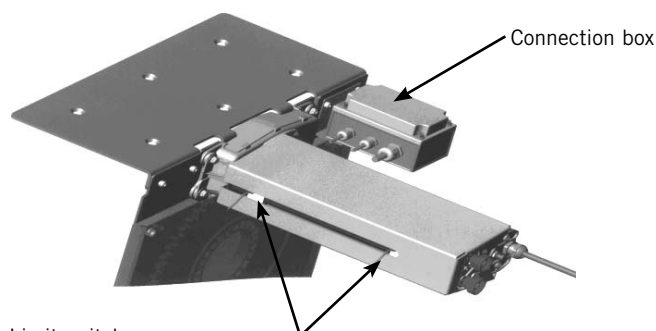


Max. pool dimensions	Motor	Code
<b>Ceret</b>		
Pool 4 x 12 m	shaft with limit switch	<b>33759</b>
Pool 5 x 12 m	shaft with limit switch	<b>33760</b>
Pool 6 x 12 m	shaft with limit switch	<b>33761</b>

WATER LEVEL NEEDED: 120 mm from the pool border.



Stainless Steel bracket



Limit switch sensors

## AUTOMATIC COVERS: SUBMERGED MODELS

### Submerged models: Price calculation

#### CALCULATING THE PRICE

- A.- Calculate the required length of the cover adding 1 metre to the useful length of the pool. Determine the price of the slats according to the price per lineal metre corresponding to the maximum width of the pool.
- B.- To calculate the total price add up the following:
  - Price of the slats.\*
  - Price of the step slats.\*
  - Price of the embedding kit, (only Roussillon model).
  - Price of the mechanical fixture kit (bearing in mind the maximum width of the pool).
  - Price of the tie beam (bearing in mind the required length).
  - Price of pit covers (bearing in mind the material and the size of the pit).
  - Cover strap fasteners, plus lift-prevention brackets.
- C.- Available options to be added to the above total cost:
  - Complete electrical switchboard.
  - Te beams and slats accessories.
  - PVC partition.
- Spare parts for the embedding kit and the tie beam.

\*For pools with straight or lateral trapezoidal steps see pages 387 and 389.



Lacquered Aluminium tie beam

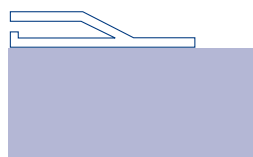
### Submerged models: Accessories

#### THE TIE BEAM

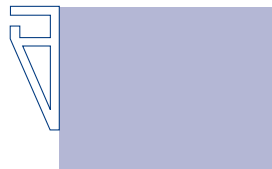
Its function is to provide support to the pit cover. Manufactured in white coated aluminium, it measures 100 x 110 mm and weighs 9 kg/ml. This tie beam is delivered with coated stainless steel support bracket and stainless steel nuts and bolt

**Note:** The anti-flex support bracket is essential for more than 6 m.

#### Tie beam stand for liner horizontal profile



#### Tie beam stand for liner vertical profile



**AUTOMATIC COVERS: SUBMERGED MODELS**
**Submerged models: Accessories**
**THE TIE BEAM**

Beam length	Code
<b>White beam + Standard bracket</b>	
UP TO 4 meters	<b>31148</b>
From 4 m to 5 m	<b>31149</b>
From 5 m to 6 m	<b>31150</b>
From 6 m to 7 m	<b>31911</b>
From 7 m to 8 m	<b>31912</b>
<b>Sand beam + Standard bracket</b>	
UP TO 4 meters	<b>38529</b>
From 4 m to 5 m	<b>38530</b>
From 5 m to 6 m	<b>38531</b>
From 6 m to 7 m	<b>38532</b>
From 7 m to 8 m	<b>38533</b>
<b>White beam + Stand for liner holding vertical profiler</b>	
UP TO 4 meters	<b>33870</b>
From 4 m to 5 m	<b>33871</b>
From 5 m to 6 m	<b>33872</b>
From 6 m to 7 m	<b>33873</b>
From 7 m to 8 m	<b>33886</b>
<b>Sand beam + Stand for liner holding vertical profile</b>	
UP TO 4 meters	<b>38534</b>
From 4 m to 5 m	<b>38535</b>
From 5 m to 6 m	<b>38536</b>
From 6 m to 7 m	<b>38537</b>
From 7 m to 8 m	<b>38538</b>
<b>White beam + Support bracket for fastening to the pool wall</b>	
UP TO 4 meters	<b>33874</b>
From 4 m to 5 m	<b>33875</b>
From 5 m to 6 m	<b>33876</b>
<b>Sand beam + Support bracket for fastening to the pool wall</b>	
UP TO 4 meters	<b>38534</b>
From 4 m to 5 m	<b>38535</b>
From 5 m to 6 m	<b>38536</b>
<b>White beam + Adjustable bracket</b>	
UP TO 4 meters	<b>35717</b>
From 4 m to 5 m	<b>35718</b>
From 5 m to 6 m	<b>35719</b>
From 6 m to 7 m	<b>35720</b>
From 7 m to 8 m	<b>35721</b>
<b>Sand beam + Adjustable bracket</b>	
UP TO 4 meters	<b>38539</b>
From 4 m to 5 m	<b>38540</b>
From 5 m to 6 m	<b>38541</b>
From 6 m to 7 m	<b>38542</b>
From 7 m to 8 m	<b>38543</b>



The beam standard bracket



The beam stand for liner holding vertical profile



The beam support bracket for fastening to the pool wall



The beam adjustable bracket

**TIE BEAM ACCESSORIES**

Tie beam accessories	Code
Anti-flex stand for 700 mm pit covers and beams of more than 6 m	<b>31920</b>
Anti-flex stand for 950 mm pit covers and beams of more than 6 m	<b>31913</b>



Anti-flex stand

## AUTOMATIC COVERS: SUBMERGED MODELS

### Submerged models: Accessories

#### THE PIT COVER

The pit cover protects the automatic cover operating unit and conveys an aesthetic improvement to the surroundings. It is available in IPE wood, or in white aluminium. For pools with a partition wall the cover will be 950 mm wide, while for pools with a PVC partition the 700 mm lid will be used.

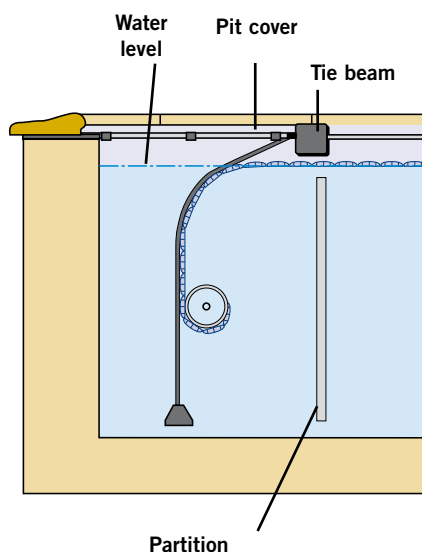


Pit cover of IPE wood



Pit cover of white aluminium

The pit cover	Code
IPE wood 1.00 x 0.70 m	<b>31152</b>
IPE wood 1.00 x 0.95 m	<b>31153</b>
IPE wood made to measure, m <sup>2</sup>	<b>31154</b>
White aluminium 1.00 x 0.70 m	<b>33679</b>
White aluminium 1.00 x 0.95 m	<b>33680</b>
White aluminium made to measure, m <sup>2</sup>	<b>33681</b>
Sand aluminium 1.00 x 0.70 m	<b>38512</b>
Sand aluminium de 1.00 x 0.950 m	<b>38513</b>
Sand aluminiummade to measure, m <sup>2</sup>	<b>38514</b>



#### PVC PARTITION

The partition can be made of concrete or PVC. It is designed to improve safety by preventing bathers from coming into contact with the roller shaft. It also prevents the pool-floor cleaning hose from being rolled up into the slats.

The partition is made up of 300 mm high PVC panels, internally reinforced with stainless steel. It is fastened with two white coated stainless steel U clamps, which are fastened to the tie beam support bracket.

Will be fastened to vertical walls

For pools of more than 6 m width ask your AstralPool branch.

**AUTOMATIC COVERS: SUBMERGED MODELS**
**Submerged models: Accessories**

Partitions	Code
PVC partition + Stainless Steel 900 mm x 4 m	31158 ▲
PVC partition + Stainless Steel 900 mm x 5 m	31159 ▲
PVC partition + Stainless Steel 900 mm x 6 m	31160 ▲
PVC partition + Stainless Steel 1200 mm x 4 m	31161 ▲
PVC partition + Stainless Steel 1200 mm x 5 m	31162 ▲
PVC partition + Stainless Steel 1200 mm x 6 m	31163 ▲
PVC partition + Stainless Steel 1500 mm x 4 m	33077 ▲
PVC partition + Stainless Steel 1500 mm x 5 m	33078 ▲
PVC partition + Stainless Steel 1500 mm x 6 m	33079 ▲
Partition Sand colour + Stainless Steel 900 mm x 4 m	38515
Partition Sand colour + Stainless Steel 900 mm x 5 m	38516
Partition Sand colour + Stainless Steel 900 mm x 6 m	38517
Partition Sand colour + Stainless Steel 1200 mm x 4 m	38518
Partition Sand colour + Stainless Steel 1200 mm x 5 m	38519
Partition Sand colour + Stainless Steel 1200 mm x 6 m	38520
Partition Sand colour + Stainless Steel 1500 mm x 4 m	38521
Partition Sand colour + Stainless Steel 1500 mm x 5 m	38522
Partition Sand colour + Stainless Steel 1500 mm x 6 m	38523
Stainless Steel U clamps H=900 mm on beam bracket	31164 ▲
Stainless Steel U clamps H 900 mm for fastening on the wall	33083 ▲
Stainless Steel U clamps H 1200 mm for fastening on the wall	31165 ▲
Stainless Steel U clamps H 1500 mm for fastening on the wall	33084 ▲
S.S. U clamps colour Sand H 900 mm for fastening on the wall	38736
S.S. U clamps colour Sand H 1200 mm for fastening on the wall	38737
S.S. U clamps colour Sand H 1500 mm for fastening on the wall	38738
S.S. U clamps colour White H 1200 mm on beam bracket	38549
S.S. U clamps colour White H 1500 mm on beam bracket	38550
S.S. U clamps colour Sand H 900 mm on beam bracket	38551
S.S. U clamps colour Sand H 1200 mm on beam bracket	38552
S.S. U clamps colour Sand H 1500 mm on beam bracket	38553



Partition panel with stainless steel reinforcement



900 mm high U clamp



1200/1500 mm high U clamp

Tie beam and embedding kit spare parts	Code
210 mm wall conduit	31207
310 mm wall conduit	33076
110 mm wall conduit for liner pool	31211
Pre-embeddings (2) tie beam support bracket	31208
Bearing support for embedding	31209
2x tie beam brackets	31910
2x tie beam stands liner vertical profile	31210
2x tie beam stands for fastening to pool wall with wall plugs	32645



## AUTOMATIC COVERS: ABOVE-GROUND MODELS



### Carlit above ground model

The automatic cover model Carlit is ideal for installation in existing swimming pools whose dimensions do not exceed 6 x 12 m. It is an above-ground cover, which means that the roller shaft is located out of the pool, anchored near the pool edge.

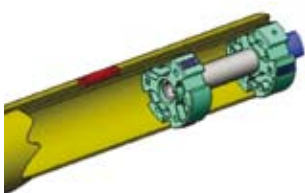
The electrical connections have been simplified to the maximum. These consist of a two-wire cable between the roller and the electrical switchboard (4 mm<sup>2</sup> up to 15 m and 6 mm<sup>2</sup> up to 30 m).

The elements making up the Carlit cover are the slats together with the mechanical kit

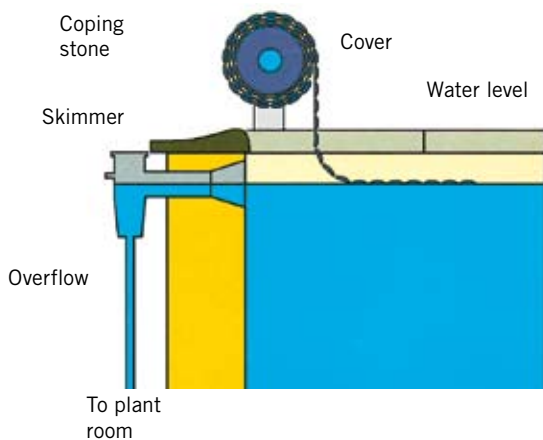
#### MECHANICAL KIT:

Consists of:

- Two white or sand colour coated stainless steel stands
- Ø 146 mm anodised aluminium roller shaft.
- 24V tubular motor with limit switch adjustment, or 12 volts depending on the pool width.
- Key switch with self return to 0 point
- Switchboard with 220/24V transformer.



Mechanical kit	Code	
	White coloured stands	Sand coloured stands
Mechanical kit up to 4 m (up to 4 x 12 m)	<b>31166</b>	<b>41053</b>
Mechanical kit up to 5 m (up to 5 x 12 m)	<b>31167</b>	<b>41054</b>
Mechanical kit up to 6 m (up to 6 x 12 m)	<b>35808</b>	<b>41055</b>



### Above-ground: Price calculation

#### CALCULATING THE PRICE

**A.-** Calculate the total length of slats according to the water surface length of the pool. Calculate the price of the slats according to the price per m and the pool's maximum width.

**B.-** To calculate the total price add up the following aspects:

- Price of the slats.\*
- Price of the step slats.\*
- Price of the mechanical kit (taking into consideration the pool's maximum width).
- Cover strap fasteners.

**C.-** Available options to be added to the above total cost:

- Slat accessories

\*For pools with straight or lateral trapezoidal steps check pages 387 and 389.

**AUTOMATIC COVERS: ABOVE-GROUND MODELS**

**Carlit Solar Pool cover**

The automatic solar pool cover Carlit runs on solar energy, making it a very environmentally-friendly product. It reduces water evaporation and heat loss in your pool. The cover also minimises premature evaporation of pool chemicals. Certified by the French standard NF 90-308, the Carlit solar pool cover guarantees higher quality, reducing possible accidents arising from children, animals, or objects falling into the water.

**Precautions for installation:** THE SUN MUST DIRECTLY COME INTO CONTACT WITH THE PHOTOVOLTAIC PLATE. DO NOT INSTALL UNDER A TREE OR FACING NORTH.

**Main advantages:**

- Easy to install, no cabling required (solar powered).
- 40-cycle independence: once the battery is fully charged, in the absence of further light the cover can be extended and retracted 40 times.
- Easy to use cover with low maintenance costs.

**General features:**

- It allows pools up to 6 x 12 m with step area to be fully covered
- Geared motor powered by solar energy. One of the supports features a photovoltaic cell.
- Tubular 150 Nm 12 v. geared motor. Anodised aluminium pipe.
- Limit switch memory system.
- 3 different slat and end piece colours are available: white, sand and blue.
- Two 12 volt battery.



Mechanical pool cover coding	Code
Mechanical kit up to 4 m (up to 4 x 12 m)	<b>35917</b>
Mechanical kit up to 5 m (up to 5 x 12 m)	<b>35918</b>
Mechanical kit up to 6 m (up to 6 x 12 m)	<b>35919</b>



**Above-ground: Vallespir model**

Motor located at the foot of the roller shaft. Ideal for existing pools of up to 7.5 metres in width. It is composed of:

- Two white coated aluminium stands, RAL 9016, with fixing plates prepared for fastening to the coping stone, equipped with two white polyester covers.
- Roller shaft in anodised aluminium for pools of up to 5 m and 24 V 120 Nm geared motor with limit switch.
- 168 mm diameter stainless steel roller shaft for pools of more than 6 m in width, 24 V 120 Nm geared motor with limit switch.
- 220/24 V Electrical power control cabinet.
- Remote control switch, in full view of the pool, with 3 fixed positions according to the French standard NF P90-308.



Maxi. pool dimensions	Motor (Nm)	Code
<b>Vallespir</b>		
Pool 4 x 12 m	120	<b>33087</b>
Pool 5 x 12 m	120	<b>33088</b>
Pool 6 x 12 m	250	<b>33089</b>
Pool 7.5 x 15 m	250	<b>33090</b>



## AUTOMATIC COVERS: ABOVE-GROUND MODELS WITH PROTECTIVE CASING



### Above-ground models with protective casing: Capcir and Narbonne

Easy to install and to start operating, ideal for installing in existing pools. They incorporate protective casing for the cover's operating mechanical unit, providing greater safety and improving the design. It is ideal for pools of up to 6 metres in width.

On the **Capcir** model the motor is located in one side of the roller shaft, integrating perfectly with the cover casing. It ensures easy handling of the motor in the case of breakdowns or servicing. The panel-protected casing is available in white PVC or IPE wood. **CAUTION: DO NOT SIT ON IT NOR USE IT TO DIVE.**

Its main elements are a Ø 146 mm anodised aluminium roller shaft, a geared motor of 120 Nm or 250 Nmotor, an electric cabinet and a 3-position key switch in accordance with the French standard NF P90-308.

In the **Narbonne** model the motor is located inside the roller pipe itself in such a way that it is completely blended into the pool surroundings. The casing is protected by wood PVC or IPE timber.

Its main elements are a 12V, 150 Nm tubular motor with limit switch, a key switch with automatic return incorporated in the Istand cover and a switchboard with a transformer.

Maxi. pool dimensions	Motor (Nm)	Code		Code		Code		Code
		White PVC casing		Sand PVC casing		PVC wood colour casing		
Protective casing		non-dismountable	dismountable	non-dismountable	dismountable	non-dismountable	dismountable	
<b>Capcir</b>								
Pool 4 x 12 m	120	<b>31947</b>	-	-	-	-	-	<b>31951</b>
Pool 5 x 12 m	120	<b>31948</b>	-	-	-	-	-	<b>31952</b>
Pool 6 x 14 m	250	<b>31949</b>	-	-	-	-	-	<b>31953</b>
<b>Narbonne</b>								
Pool 4 x 12 m	150	<b>33432</b>	<b>41061</b>	<b>41056</b>	<b>41059</b>	<b>37139</b>	<b>41063</b>	<b>37109</b>
Pool 5 x 12 m	150	<b>33433</b>	<b>41062</b>	<b>41057</b>	<b>41060</b>	<b>37140</b>	<b>41064</b>	<b>37110</b>
Pool 6 x 12 m	150	<b>37112</b>	-	<b>41058</b>	-	<b>37141</b>	-	<b>37111</b>

### Above-ground models with protective casing: Solar Narbonne



The automatic solar cover works with solar energy and stands out as it is highly environmental. Keeps water from evaporating and reduces the loss of heat in the pool. On the other hand, it minimizes early evaporation of chemical products. Certified by the French NF 90-308 standard, the solar cover guarantees higher quality, reducing possible accidents due to children, animals, other objects falling into the pool... **PRECAUTIONS FOR USE: DO NOT SIT DOWN ON IT OR USE IT TO DIVE. Precautions for installation: THE SUN MUST DIRECTLY COME INTO CONTACT WITH THE PHOTOVOLTAIC PLATE. DO NOT INSTALL UNDER A TREE OR FACING NORTH.**

#### Main advantages:

- Easy to install, no cabling required (solar powered).
- 40-cycle independence: once the battery is fully charged, in the absence of further light the cover can be extended and retracted 40 times.
- Easy to use cover with low maintenance costs.

#### General features:

- Covers pools of up to 6 x 12 with stairs
- Roller powered by solar energy
- Two 12 volt batteries
- Limit switch memory system
- 3 types of casings possible: PVC, wood coloured PVC and timber Access to the motor through the base of the casing
- 150 Nm 12 volt motor.
- Possibility to ask for a dismountable casing to have access to slats
- Access to the motor without touching the slat casing.
- The casing is protected with PVC, wood coloured PVC or IPE timber sheets.

Maxi. pool dimensions	Motor (Nm)	Code		Code		Code		Code
		White PVC casing		Sand PVC casing		PVC wood casing		
Protective casing		non-dismountable	dismountable	non-dismountable	dismountable	non-dismountable	dismountable	
<b>Narbonne Solar</b>								
Pool 4 x 9 m	150	<b>37561</b>	<b>41068</b>	<b>41065</b>	<b>41070</b>	<b>37564</b>	<b>41072</b>	<b>37567</b>
Pool 5 x 12 m	150	<b>37562</b>	<b>41069</b>	<b>41066</b>	<b>41071</b>	<b>37565</b>	<b>41073</b>	<b>37568</b>
Pool 6 x 12 m	150	<b>37563</b>	-	<b>41067</b>	-	<b>37566</b>	-	<b>37569</b>

**AUTOMATIC COVERS: ABOVE-GROUND**

**Commercial roller model Borna**

*new*

This shaft is aimed to install on commercial indoor or outdoor swimming pools of 12.5 x 25 meters maximum. It can be used for bubble or reinforced polyethylene foam covers. The distance between the roller shaft and the pool edges must be reduced as much as possible to prevent abnormal wear and tear due to the friction on the coping.

**Technical features:**

- 24 V 250 Nm motor
- 300 mm stainless steel shaft
- Thermoplastic bearings fitted with stainless steel bearing
- Motor protection cover in thermoformed ABS.
- Remote control + key

Mechanical kit Code	Code
Mechanical kit up to 12,5 m (max. 12.5 x 25 m)	<b>38734</b>



**Above-ground models with protective casing: price calculation**

**CALCULATING THE PRICE**

- A.-** Calculate the total length of slats required according to the water surface length of the pool. Determine the price of the slats according to the price per m as per the maximum width of the pool.
- B.-** To calculate the total price add up the following aspects:
- Price of the slats.\*
  - Price of the step slats.\*
  - Price of the mechanical kit (bearing in mind the maximum pool width).
  - Cover strap fasteners plus lift-prevention brackets..
- C.-** Available options to be added to the above total cost:
- Slat accessories.

\*For pools with straight or lateral trapezoidal steps consult pages 387 and 389.

## AUTOMATIC COVERS: DISPLAY MODELS

### Carlit display model (without motor)

Width: 1.5 metres with blue, white and sand colour slats..

Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
33764	1	-	-



### Carlit Solar display model ( without motor )

Width: 1.5 m. With blue, white and sand colour slats.

Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
38740	1	-	-



### Capcir display model (without motor)

Width: 1.5 m. Casing half IPE timber and half PVC.

Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
33765	1	-	-



### Narbonne Solar display model (without motor)

Width: 1.5 m. timber + PVC slats.

Code	Standard Packaging	Standard Weight kg.	Standard <sup>d</sup> Volume m <sup>3</sup>
38821	1	-	-



**AUTOMATIC COVERS: ACCESSORIES**
**Spare parts**

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Stainless Steel. Motor shaft length 490 mm. (standard).	31212	▲	-	-
Stainless Steel. Motor shaft length 600 mm.	31213	▲	-	-
Stainless steel bearings 62 x 30 x 16 316L.	31214	▲	-	-
Watertight cyclam mechanical seal.	31215	▲	-	-
Ceramic flange for wall conduit	31216	▲	-	-
2 conduit flange gaskets	31217	▲	-	-
2 bearing gaskets	31218	▲	-	-
Wall conduit flange	31219	▲	-	-
Bearing stopper	31220	▲	-	-
Bearing	31221	▲	-	-
250 Nm 24V geared motor.	31222		-	-
120 Nm 24V geared motor.	31223		-	-
120 Nm 24V Tubular motor.	31224	▲	-	-
220V/24V electrical switchboard.	31225	▲	-	-
220V/24V tubular motor electrical switchboard.	31226	▲	-	-
3-position key switch with self return.	31227	▲	-	-
Stainless steel motor support bracket.	31228	▲	-	-
Zamac counterweight.	31229	▲	-	-





## AUTOMATIC COVERS: ACCESSORIES

### Spare parts

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
 31230	31230	▲	-	-
 31236-31237	31231	▲	-	-
 31246	31232	▲	-	-
 31249-31250	31233	▲	-	-
 31251	31234	▲	-	-
 31251	31235	▲	-	-
 37212	31236	▲	-	-
 31251	31237	▲	-	-
 37212	31238	▲	-	-
 38557-38558	31239	▲	-	-
 8555-38556	31240	▲	-	-
 38559	31241	▲	-	-
 37210	31242	▲	-	-
 37210	31243	▲	-	-
 38510-38511	31244	▲	-	-
 38899	31245	▲	-	-
 34777	31246	▲	-	-
 38821	31247	▲	-	-
 35151	31248	▲	-	-
 35151	31249	▲	-	-
35151	31250	▲	-	-
35151	31251	▲	-	-
35151	31252	▲	-	-
35151	31253	▲	-	-
35151	37212	▲	-	-
35151	38555	▲	-	-
35151	38556	▲	-	-
35151	38557	▲	-	-
35151	38558	▲	-	-
35151	38559	▲	-	-
35151	37210	▲	-	-
35151	38739	▲	-	-
35151	38510	▲	-	-
35151	38511	▲	-	-
35151	38899	▲	-	-
35151	34777	▲	-	-
35151	38821	▲	-	-
35151	35151	▲	-	-
35151	37142	-	-	-

## Manufacturing specifications

### SUBMERGED MODEL

COMPANY ADDRESS	
<b>Client name:</b>	_____
<b>Address:</b>	_____
<b>TEL:</b>	<b>FAX:</b>

DELIVERY ADDRESS	
<b>Address:</b>	_____
<b>Contact person:</b>	_____
<b>Acces 38T:</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> 19 T
<b>TEL:</b>	<b>FAX:</b>

<input type="checkbox"/> <b>ORDER</b>	<input type="checkbox"/> <b>QUOTATION</b>	<b>DATE</b>	<b>CUSTOMER REFERENCE:</b>
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**TYPE OF COVER:**

<input type="checkbox"/> ROUSSILLON Motor in dry pit	<input type="checkbox"/> CERET Motor at water level
<input type="checkbox"/> CONFLENT Motor without limit switch	<input type="checkbox"/> CONFLENT Motor with limit switch

**TYPE OF POOL:**

<input type="checkbox"/> LINER	<input type="checkbox"/> TILES	<input type="checkbox"/> CONCRETE	<input type="checkbox"/> FIBREGLASS	<input type="checkbox"/> PANELS	<input type="checkbox"/> OVERFLOW
WALL CONDUIT ALREADY INSTALL. <input type="checkbox"/> YES <input type="checkbox"/> No		If already installed, what type?		Embedded bearing already installed <input type="checkbox"/> YES <input type="checkbox"/> No	
Wall thickness between cover roller pit and motor dry pit		cm		Tie beam support brackets already installed <input type="checkbox"/> YES <input type="checkbox"/> No	

**TYPES OF SLATS AND STAIRS:**

<input type="checkbox"/> WHITE	<input type="checkbox"/> BLUE	<input type="checkbox"/> SAND	<input type="checkbox"/> GREY	<input type="checkbox"/> CLEAR BLUE	<input type="checkbox"/> SOLAR COLLECTORS
<input type="checkbox"/> SQUARE CUT ROMAN STAIRS	<input type="checkbox"/> FREE FORM ROMAN STAIRS	<input type="checkbox"/> STRAIGHT STAIRS			
<input type="checkbox"/> SQUARE CUT TRAPEZOIDAL STAIRS	<input type="checkbox"/> FREE FORM TRAPEZOIDAL STAIRS	<input type="checkbox"/> Others			

**TIE BEAM, PARTITION WALL AND PIT COVER**

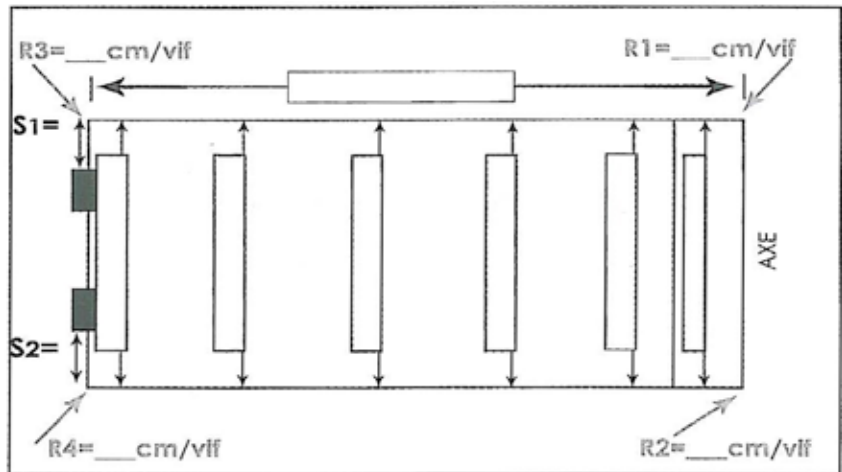
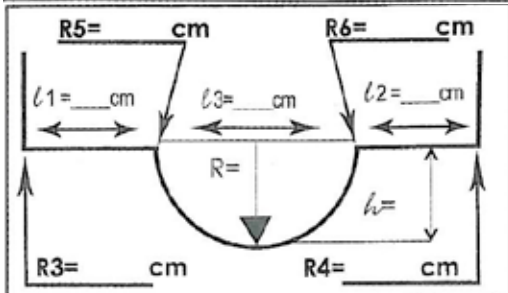
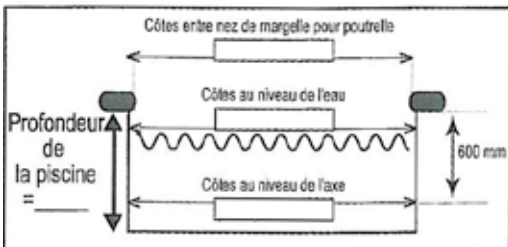
<b>TIE BEAM COLOUR/ SUPPORT BRACKET/ WALL BRACKET:</b>		<input type="checkbox"/> WHITE	<input type="checkbox"/> SAND
<input type="checkbox"/> TIE BEAM + BRACKET: Pool under construction	<input type="checkbox"/> TIE BEAM + BRACKET: Pool renovation		
<input type="checkbox"/> TIE BEAM + ADJUSTABLE BRACKET	<input type="checkbox"/> TIE BEAM + WALL BRACKET		
<input type="checkbox"/> WALL H 900	<input type="checkbox"/> PARTITION WALL BRACKET 900 mm for fixing on vertical wall	<input type="checkbox"/> PARTITION WALL BRACKET 900 mm for fixing below the tie beam bracket	
<input type="checkbox"/> WALL H 1200	<input type="checkbox"/> PARTITION WALL BRACKET 1200 mm for fixing on vertical wall	<input type="checkbox"/> PARTITION WALL BRACKET 1200 mm for fixing below the tie beam bracket	
<input type="checkbox"/> WALL H 1500	<input type="checkbox"/> PARTITION WALL BRACKET 1500 mm for fixing on vertical wall	<input type="checkbox"/> PARTITION WALL BRACKET 1500 mm for fixing below the tie beam bracket	
<input type="checkbox"/> PIT COVER IPE 700mm	<input type="checkbox"/> PIT COVER IPE 950mm	<input type="checkbox"/> PIT COVER IPE customised..... mm	
<input type="checkbox"/> PIT COVER ALU 700mm	<input type="checkbox"/> PIT COVER ALU 950mm	<input type="checkbox"/> PIT COVER ALU customised..... mm	

**SAFETY SYSTEM:**

<input type="checkbox"/> ABS BRACKET FOR FIXING ON THE WALL + STRAPS	<input type="checkbox"/> ABS BRACKET + S.S. BRACKET FOR FIXING UNDER THE COPING STONE + STRAPS
--	--

**SKIMMER LOCATION**

<input type="checkbox"/> ON 1 SIDE	<input type="checkbox"/> ON 2 SIDES	<input type="checkbox"/> PROJECTION OF ..... CM	<input type="checkbox"/> VERTICAL TO THE PAVING	<input type="checkbox"/> ON THE WIDTH SIDE
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**CHECK POOL WIDTH EVERY METER**  
Place the skimmers

**ATTENTION: IN CASE OF NON CIRCULAR STAIRS OR OF AN IRREGULAR RADIUS, PLEASE SEND A DIMENSIONED DESIGN**



## Manufacturing specifications

### ABOVE GROUND MODEL

<p style="text-align: center;"><b>COMPANY ADDRESS</b></p> <p><b>Client name:</b> _____</p> <p><b>Address:</b> _____</p> <p>_____</p> <p><b>TEL:</b> _____ <b>FAX:</b> _____</p> <p><b>E-MAIL:</b> _____</p>	<p style="text-align: center;"><b>DELIVERY ADDRESS</b></p> <p><b>Address</b> _____</p> <p>_____</p> <p>_____</p> <p><b>Contact person:</b> _____ <b>TEL:</b> _____</p> <p><b>Acces 38T:</b> <input type="checkbox"/> Yes <input type="checkbox"/> No <b>FAX:</b> _____</p> <p><input type="checkbox"/> 19 T</p>
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<input type="checkbox"/> <b>ORDER</b>	<input type="checkbox"/> <b>QUOTATION</b>	<b>DATE:</b> _____	<b>CUSTOMER REFERENCE:</b> _____
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**TYPE OF COVER**

**COLOURS:**  WHITE  SAND  WOOD

CARLIT  NARBONNE PVC

CARLIT SOLAR  NARBONNE PVC with removable cover  CAPCIR PVC

VALLESPIR  NARBONNE WOOD  CAPCIR WOOD  COMMERCIAL COVER Borne type

**TYPE OF POOL:**

LINER  TILES  CONCRETE  FIBREGLASS  PANELS  OVERFLOW

**TYPE OF SLATS AND STAIRS:**

WHITE  BLUE  SAND  GREY  CLEAR BLUE  SOLAR COLLECTORS

SQUARE CUT ROMAN STAIRS  FREE FORM ROMAN STAIRS  STRAIGHT STAIRS

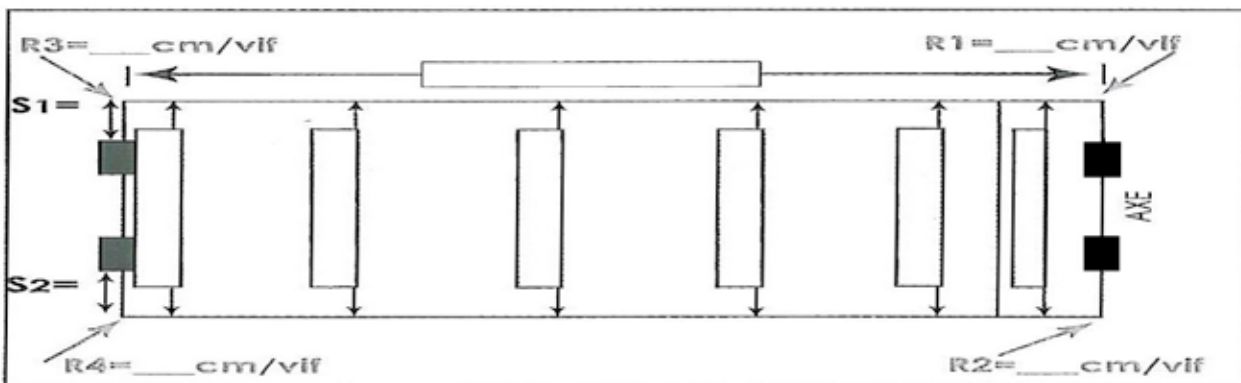
SQUARE CUT TRAPEZOIDAL STAIRS  FREE FORM TRAPEZOIDAL STAIRS  Others

**SAFETY SYSTEM:**

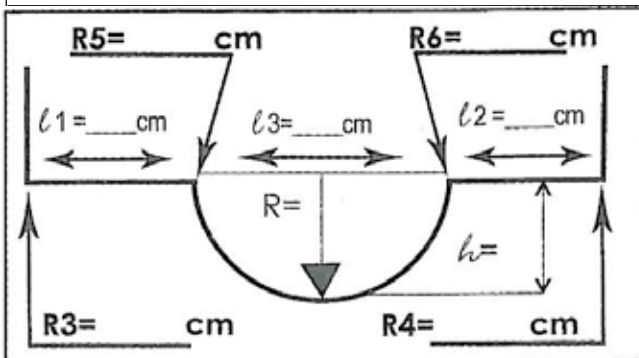
ABS BRACKET FOR FIXING ON THE WALL + STRAPS  ABS BRACKET + S.S. BRACKET FOR FIXING UNDER THE COPING STONE + STRAPS

**SKIMMER LOCATION**

ON 1 SIDE  ON 2 SIDES  PROJECTION OF ..... CM  VERTICAL TO THE PAVING  ON THE WIDTH SIDE



**CHECK POOL WIDTH EVERY METER / Place the skimmers / Place power connection panel for CAPCIR models**



**ATTENTION: IN CASE OF NON CIRCULAR STAIRS OR OF AN IRREGULAR RADIUS, PLEASE SEND A DRAWING**

## TELESCOPIC COVERS

Telescopic cover system for KIT pools. Very easy assembly, even for the end user. The tools necessary for the complete assembly are included with each cover. Structure and guide surface finish, paint or elox. Structure manufactured with high quality AlMgSi aluminium. Meets NF P 90-309 standard:

- Resistant to 100 to 120 km/h winds
- Resists more than 80 kg of weight per m<sup>2</sup>

### Klasik

Telescopic cover klasik model with structure and guide surface elox finish. Three support profiles per module. Movable front walls made of polycarbonate. Hinged door. Distance of the guides between shafts 70 mm. 35 x 50 mm profiles. Single celled, limp, cellular 8 mm polycarbonate with UV protection. Heat transmission coefficient ( K= 3.1 Kw m<sup>2</sup> on the ceiling and K= 5.4 Kw m<sup>2</sup> on the walls) no DROP treatment.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
A Klasik model – Elox colour	<b>36822</b>	1	-	-
B Klasik model – Elox colour	<b>36823</b>	1	-	-
C Klasik model – Elox colour	<b>36824</b>	1	-	-

Model	Max. pool dimensions	Outside width	Lenght	Height
<b>A</b>	315 x 633 cm	360 cm	641 cm	105 cm
<b>B</b>	411 x 844 cm	470 cm	852 cm	155 cm
<b>C</b>	497 x 1055 cm	570 cm	1063 cm	185 cm



### Casablanca

Structure and guide surface finish in white or pine colour. 73.5 x 50 mm profiles. Elox guides. Door on the rear wall. Fixed front door. Side door 2 on the larger module, child security lock with key. Transparent glass walls and sides. Single celled, limp, cellular 8 mm polycarbonate with UV protection. Heat transmission coefficient (K=3.3 kW/3) no DROP treatment.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
A Casablanca model – white colour	<b>36825BL</b>	1	-	-
B Casablanca model – white colour	<b>36826BL</b>	1	-	-
C Casablanca model – white colour	<b>36827BL</b>	1	-	-
A Casablanca model – wood colour	<b>36825PI</b>	1	-	-
B Casablanca model – wood colour	<b>36826PI</b>	1	-	-
C Casablanca model – wood colour	<b>36827PI</b>	1	-	-

Model	Max. pool dimensions	Outside width	Lenght	Height
<b>A</b>	517 x 948 cm	578 cm	970 cm	263 cm
<b>B</b>	595 x 1264 cm	678 cm	1286 cm	283 cm
<b>C</b>	595 x 1580 cm	700 cm	1603 cm	294 cm



### Klasik No-Line

Compact dimensions. Lateral, front and rear doors in PLEXI GLASS with 5.5 Kw m<sup>2</sup> heat transmission. One of the major advantages incorporated in these models is the non-rail movement. 60 x 60 mm profiles. White coated structure surface finish. Roof manufactured in single celled, limp, cellular 8 mm polycarbonate with UV protection. Heat transmission coefficient (K=3.3 kW/m<sup>2</sup>) no DROP treatment.

	Code	Standard Packaging	Standard Weight kg.	Standard Volume m <sup>3</sup>
Klasik No-Line A white coated	<b>38732</b>	1	-	-
Klasik No-Line B white coated	<b>38733</b>	1	-	-

Model	Max. pool dimensions	Outside width	Lenght	Height
<b>A</b>	540 x 1038 cm	590 cm	1046 cm	130 cm
<b>B</b>	665 x 1246 cm	715 cm	1254 cm	150 cm





## ABOVE GROUND POOLS

- 408 • Above ground pool ladders
- 411 • Monoblocs with d.e. and cartridge filters
- 413 • Skimfilters
- 414 • Skimmers
- 415 • Underwater lights
- 415 • Garden showers



## ABOVE GROUND POOL LADDERS

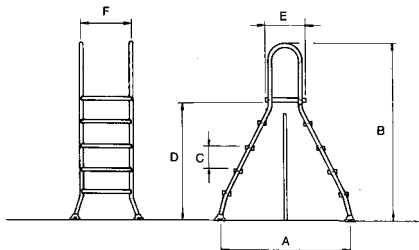
### Above ground pool Stainless Steel ladder + platform



Handrails  $\varnothing$  43 in polished AISI-304 Stainless Steel with platform and steps in plastic steps.

- Pool height 1 m**  
2 x 3 steps + 1 platform
- Pool height 1.20 m**  
2 x 4 steps + 1 platform
- Pool height 1.50 m**  
2 x 5 steps + 1 platform

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
05520	1	18.2	0.07
05521	1	21.4	0.09
05522	1	24.5	0.11



Code	A	B	C	D	E	F
05520	1150	1680	240	1030	375	500
05521	1360	1920	240	1270	375	500
05522	1625	2250	240	1600	375	500

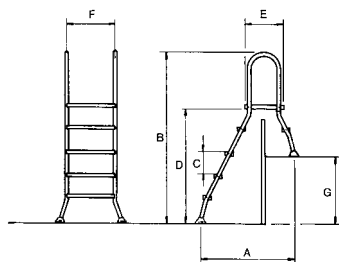
### Partially in-ground S.S. ladder + platform



Handrails  $\varnothing$  43 in polished AISI-304 Stainless Steel with platform and steps in plastic steps.

- Pool height 1 m**  
1 x 3 steps + 1 step + 1 platform
- Pool height 1.20 m**  
1 x 4 steps + 1 step + 1 platform
- Pool height 1.50 m**  
1 x 5 steps + 1 step + 1 platform

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
05523	1	18.0	0.07
05524	1	18.2	0.09
05525	1	19.2	0.11



Code	A	B	C	D	E	F	G
05523	920	1680	240	1030	375	500	480
05524	1025	1920	240	1270	375	500	720
05525	1130	2250	240	1600	375	500	960

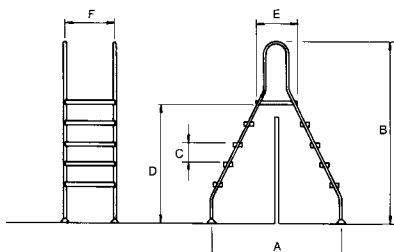
### Above ground aluminium ladder + platform



Handrails  $\varnothing$  28 mm in white painted aluminium with platform and steps in plastic steps.

- Pool height 1 m**  
2 x 3 steps + 1 platform
- Pool height 1.20 m**  
2 x 4 steps + 1 platform
- Pool height 1.50 m**  
2 x 5 steps + 1 platform

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00031	1	10.9	0.067
00032	1	12.7	0.076
00033	1	14.5	0.100





Code	A	B	C	D	E	F
00031	1120	1680	240	1050	375	500
00032	1330	1920	240	1290	375	500
00033	1540	2160	240	1530	375	500

**ABOVE GROUND POOL LADDERS**

**ECO open ladder**


Galvanized railing painted in white epoxy Ø 25 mm.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>Pool height 0.90 m</b> 2 x 3 steps	<b>05526</b> 	1	7.8	0.035
<b>Pool height 1.20 m</b> 2 x 4 steps	<b>05527</b> 	1	10.6	0.045



**Range of ladders for above ground pools**

The new range of ladders for above ground pools (27286, 27287, 27288, 27289) has been designed giving them a new, ergonomic and attractive design and following the AFNOR NF P 90-302 standard. This item replaces the previous ladder range offered so far for above ground pools (09914, 19915, 09919). The plastic steps have an ergonomic design and are treated against UV rays. The steps also have in-built bushings, not visible externally. The pipe used is of 25 mm galvanized steel and is painted in white. In ladders having platforms, this has a large surface area, and for ladders with a security system, the front base is designed in plastic for easy assembly and use.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
2 x 3 steps. Pool height 0.90 m	<b>27286</b> 	1	8.20	0.028
2 x 4 steps. Pool height 1.20 m	<b>27287</b>	1	10.06	0.036
2 x 3 with platform. Pool height 0.90 m	<b>27288</b>	1	10.89	0.047
2 x 4 with platform. Pool height 1.20 m	<b>27289</b>	1	12.54	0.056
2 x 4 with platform and security system. Pool height 1.20 m	<b>27290</b>	1	15.61	0.056



## SAND FILTER MONOBLOCS

### Compact monobloc Ø 300 mm



Fully fitted with a 1/4 HP pump and G.S.certified. Flow rate 3.5 m<sup>3</sup>/h. Includes 4 way multiport valve and connection accessories (Ø 38 mm).

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
09688	1	17	0.12

### Compact monobloc Ø 380 mm



Fully fitted with a 1/3 HP Sena pump. Flow rate 5.5 m<sup>3</sup>/h. Includes 6 way multiport valve (1 1/2") and connection accessories (Ø 38 mm). 50 kg of Silex.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
25449	1	17	0.12

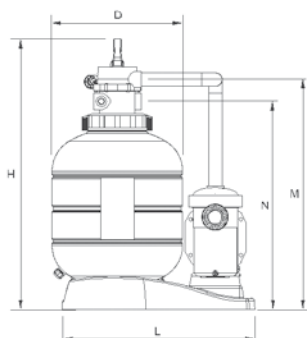
### Millennium monoblocs



Top mounted valve with Sena pump. Includes 6 way multiport valve, pressure gauge, air relief and water purge valves. Threaded filter cover.

- Ø 380 mm
- Ø 430 mm
- Ø 480 mm
- Ø 560 mm

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
27805	1	26.0	0.33
23342	1	12.5	0.27
23343	1	14.5	0.36
23344	1	17.5	0.45



Code	27805	23342	23343	23344
D	380	430	480	560
H	905	955	975	1055
M	735	815	835	915
N	670	735	755	815
L	710	715	835	835
Connections	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Flow rate m <sup>3</sup> /h	5.5	7	9	12
Filtration surface m <sup>2</sup>	0.113	0.145	0.18	0.246
Sand kg	40	60	85	135
Max. working pressure kg/cm <sup>2</sup>	2.5	2.5	2.5	2.5
Sena pump	1/3 CV	1/3 CV	1/2 CV	3/4 CV



**MONOBLOCS WITH D.E. AND CARTRIDGE FILTERS**
**Cel monoblocs with diatomaceous earth filters**

Consists of one Cel model diatomaceous earth filter, Astramax pump and a polypropylene base. To see the amount of diatomaceous earth, needed please see Cel series filter.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Cel 30. Flow rate 6.8 m <sup>3</sup> /h	<b>18557</b>	1	-	-
Cel 40. Flow rate 9 m <sup>3</sup> /h	<b>18558</b>	1	-	-
Cel 50. Flow rate 11.4 m <sup>3</sup> /h	<b>18559</b>	1	-	-
Cel 70. Flow rate 15.9 m <sup>3</sup> /h	<b>18560</b>	1	-	-


**Cartridge**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
For Cel 30 filter	<b>19789</b>	1	2.5	0.016
For Cel 40 filter	<b>19790</b>	1	3.4	0.024
For Cel 50 filter	<b>19791</b>	1	4.2	0.031
For Cel 70 filter	<b>19792</b>	1	4.9	0.039


**Diatomaceous earth powder**

Special packing in 4.5 Kg boxes.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
	<b>19784</b>	1	4.7	0.016

**Terra monobloc with cartridge filter**

Made of PP and fibreglass. Filted with a pressure geuge and an air relief value. High filtration capacity and easy maintenance. 2" outlet (supplied with a reduction to 1½"). Filtration velocity of 1.8 m<sup>3</sup>/h x m<sup>2</sup>. Maximum working pressure: 2.5 kg/cm<sup>2</sup>.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Terra 50. Flow rate 8.4 m <sup>3</sup> /h	<b>18549</b>	1	18.3	0.22
Terra 75. Flow rate 12.5 m <sup>3</sup> /h	<b>18550</b>	1	19.4	0.22
Terra 100. Flow rate 16.5 m <sup>3</sup> /h	<b>18551</b>	1	20.5	0.25
Terra 150. Flow rate 25 m <sup>3</sup> /h	<b>18552</b>	1	-	-


**Cartridge**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
For Terra 50 filter	<b>19785</b>	1	1.7	0.016
For Terra 75 filter	<b>19786</b>	1	2.0	0.024
For Terra 100 filter	<b>19787</b>	1	2.5	0.031
For Terra 150 filter	<b>19788</b>	1	3.1	0.03





## CARTRIDGE FILTERS

### Cylindrical cartridge filter



Made of unalterable plastics, transparent polycarbonate lid. One polyester fabric filtration cartridge. Connections 1½". Filtration surface 4.6 m². Flow rate 10 m³/h.

	Code	Standard Packing	Standard Weight	Standard Volume m³
Spare cartridge	00648	1	4.03	0.031
	00652	1	0.66	0.008

### Cylindrical double cartridge filter



Made of unalterable plastics, transparent polycarbonate lid. One polyester fabric filtration cartridge. Connections 1½". Filtration surface 4.6 m². Flow rate 10 m³/h.

	Code	Standard Packing	Standard Weight	Standard Volume m³
Spare cartridge	00649	1	5.54	0.048
	04720	1	1.16	0.005

### 2000 litre compact cartridge filter



Extended range of cartridge filters with 2000 model for above ground pools. The filter housing is made of Polypropylene. The upper lid is sealed by bayonet. The cartridge used is made of cellulose for easy cleaning, with a flow of 2000 litres per hour. It is compact, with a suction inlet of Ø 32 mm and a pool return of Ø 25 mm.

Code	Standard Packing	Standard Weight	Standard Volume m³
19932	1	-	0.048

### Cylindrical cartridge filter with in-built pump



Flow rate 5 m³/h at 4.5 m. head 220 V. Made of unalterable plastics with transparent Polycarbonate lid. Cartridge in Polyester fabric. With inlet and outlet hoses. Filtration surface 2.3 m².


	Code	Standard Packing	Standard Weight	Standard Volume m³
Spare cartridge	00650	1	12.48	0.090
	00652	1	0.66	0.008



On request, these cartridge filters can be assembled as compact monobloc units on a single base or trolley.


**SKIMFILTERS**
**Internal skimfilter for self-supporting pools**

Ø 160 mm. Motor 12 V (50 Hz). Transformer 230-12V-50 Hz. GS certified. Includes cartridge. With a white PP hook for hanging on the above ground pool. Spare cartridge: 09037R0200/1.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Skimfilter, flow rate 4 m <sup>3</sup> /h	<b>30943</b>	1	5.12	0.025
Skimfilter, flow rate 2 m <sup>3</sup> /h	<b>27587</b> 	1	4.74	0.025


**Internal skimfilter for panel pools**

Ø 160 mm. Motor 12 V (50 Hz). Transformer 230-12V-50 Hz. GS certified. Includes cartridge and a plastic hook for metallic panel pools. Spare cartridge: 09037R0200/1.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Skimfilter, flow rate 4 m <sup>3</sup> /h	<b>30899</b>	1	5.12	0.025
Skimfilter, flow rate 2 m <sup>3</sup> /h	<b>27586</b> 	1	4.50	0.025


**Skimfilter pack**

Flow rate 3.8 m<sup>3</sup>/h. Mini-skimmer mouth, 2" inlet connection. Motor 12 V (50 Hz). Transformer 230-12V 50Hz. CE-GS certified. Includes cartridge. For fixing to pool outer wall. Spare cartridge: 09037R0200/1.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>30889</b>	1	6.45	0.038



## SKIMMERS



### Floating skimmer

Ø 160 mm. Maximum flow rate 5 m<sup>3</sup>/h. Outer connections Ø 32 mm and Ø 38 mm. With narrow plastic hook designed for panel pools.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
16573	1	1.3	0.024



### Mini-skimmer with inlet

Skimmer connections Ø 32 mm and Ø 38 mm.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
20889	1	2.2	0.019




### Mini-skimmer with wide mouth with inlet for panel pools

Skimmer connections Ø 32 mm and Ø 38 mm.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
33350	1	3.5	0.03


**UNDERWATER LIGHTS**
**Underwater light with bracket for hanging in above ground pools**

230 V connection, transformer 230/12V, 75 W 12V lamp. Protection class III IP-68.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>For pannel pool:</b>				
Square	21397	1	3.4	0.009
Round	21579 	1	3.4	0.009
<b>For above ground pool:</b>				
Square	38930	1	3.4	0.009
Round	38931	1	3.4	0.009


**GARDEN SHOWERS**
**Garden shower**

Adjustable to 2 heights (1.50 and 2.25 m). Quick connection to garden hose 13, 15 or 19 mm.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
18142 	1	1.2	0.007


**LINER REPAIRING KIT**
**Liner repairing kit**

1 tube of 20 ml adhesive for liner and 2 liner strips. (PVC) transparent.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
24624	50	0.07	0.02



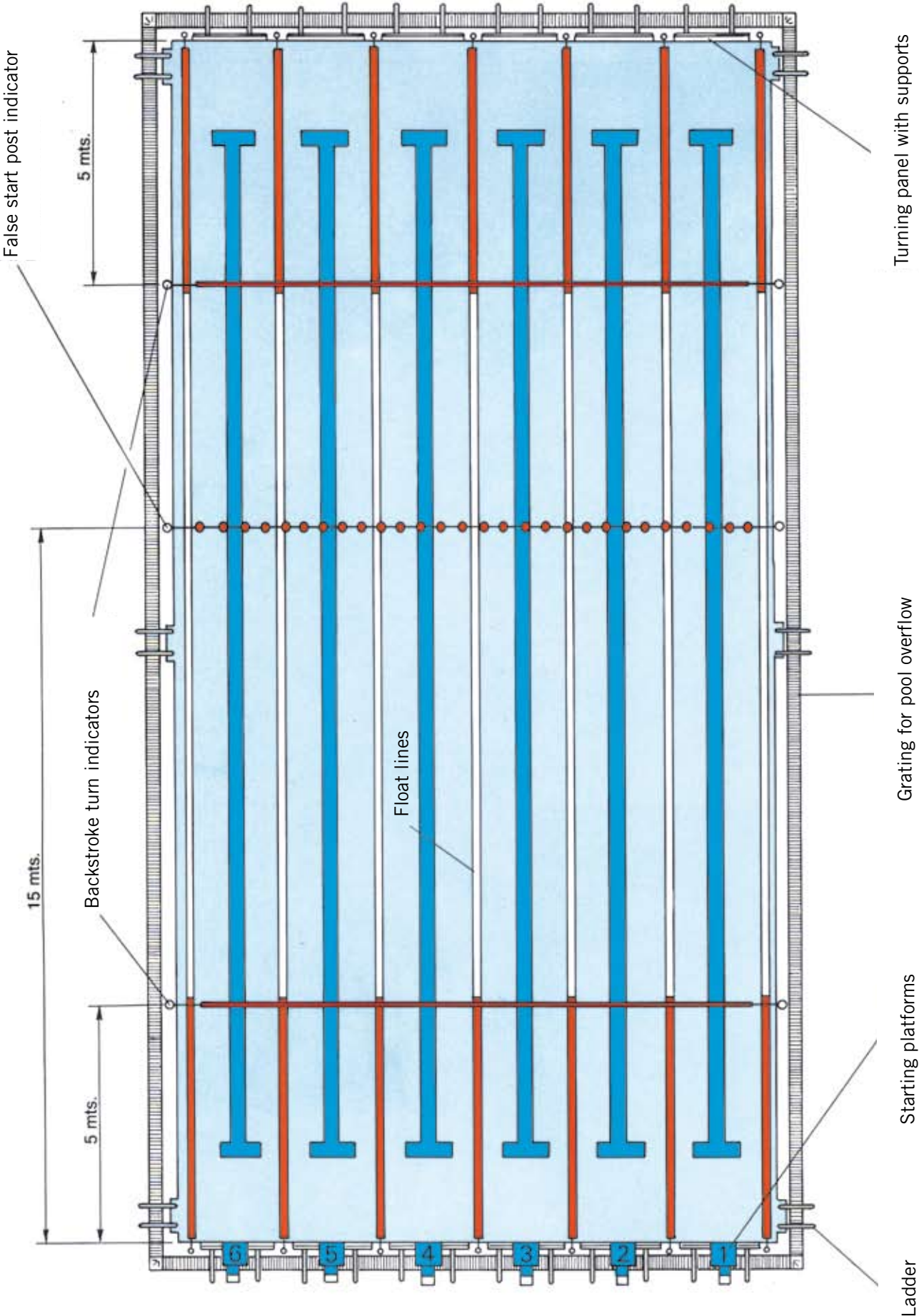


## COMPETITION POOL EQUIPMENT

- 421 • Starting blocks for competition pools
- 424 • Lane ropes
- 428 • Floats
- 430 • Lane rope storage equipment
- 431 • Lane rope accessories
- 433 • Indicators
- 434 • Turning panels
- 435 • Anchoring sockets
- 436 • Movable wall



LOCATION OF THE VARIOUS EQUIPMENT USED IN COMPETITION POOLS





**STARTING BLOCKS FOR COMPETITION POOLS**



**BCN03 Starting blocks**



The BCN03 Starting block, developed and patented by AstralPool for the FINA Swimming World Championships held in Barcelona in 2003, introduces two innovations:

- allows the swimmer to adjust the angle of the block\* manually. They can choose the angle most suitable from the available 0°, 3°, 6° and 10°.

\* The regulations of the International Swimming Federation (FINA) (FR2.7) allow an angle between 0 and 10° on the starting block. So far, all the starting blocks available in the market have consisted of a fixed unadjustable platform.

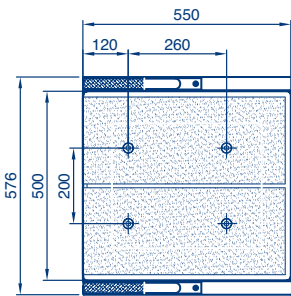
- side grip bars.

The starting block is manufactured using AISI-316 Stainless Steel. The standard starting platform can be dismantled to enable assembly of the Omega electronic timing system. It can also be adapted to other timing systems under request. The platform is 550 mm long x 500 mm wide, with a polished finish, and 437 mm high. Ideal for installation in a swimming pool with side walls. Anchoring system for concrete is also included.

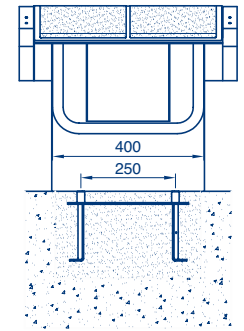
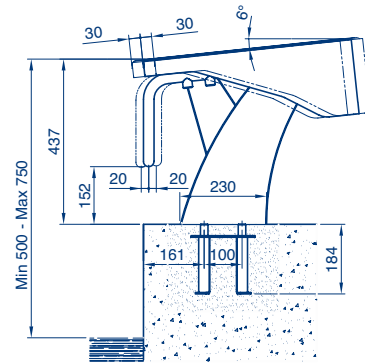
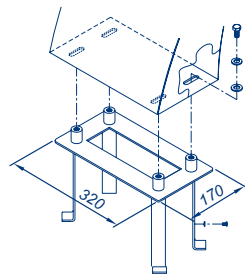


	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
BCN03 Block manual adjustment and fixed side handles	<b>28761</b>	1	48.8	0.237
Fixed BCN03 Eco podium without side handles	<b>28760</b>	1	40.4	0.237
Fixed BCN03 Eco podium with side handles	<b>32700</b>	1	-	0.237

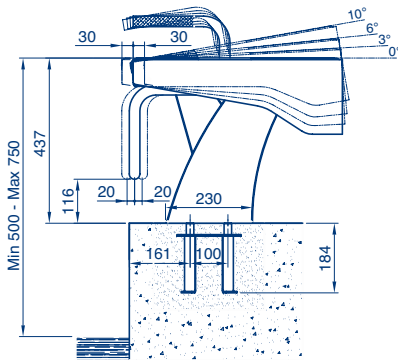
**Note:** Eco versions are fixed at 6°



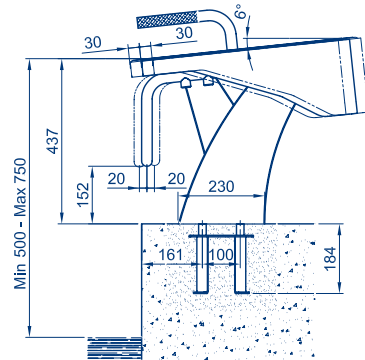
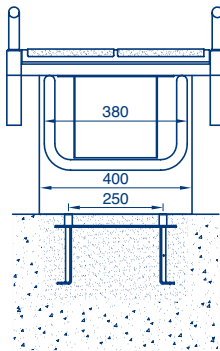
PLANT VIEW  
(Codes 28761, 28760 and 32700)



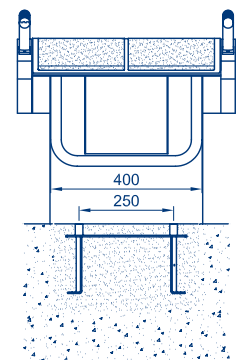
**28760**



**28761**



**32700**





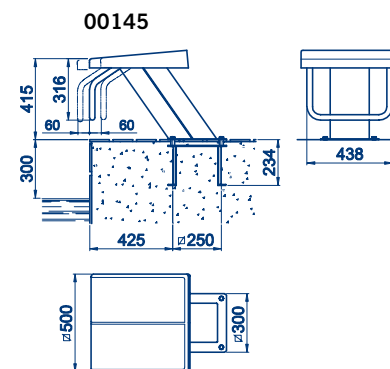
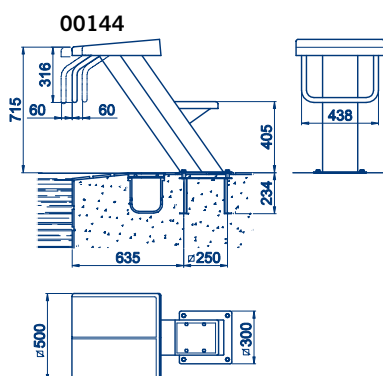
## STARTING BLOCKS FOR COMPETITION POOLS



### Starting blocks

Base in S.S. AISI-316. Adjustable platform in polyester & fibreglass with non-slip finish 500 mm x 500 mm. Number sequence not included. Anchoring fixtures included in the supply.

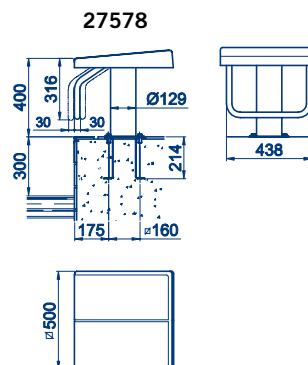
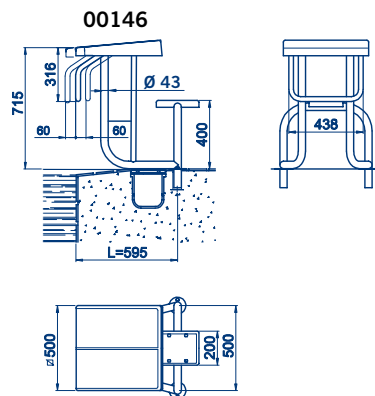
	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
POLISHED FINISH: Height 700 mm	00144	1	32.0	0.36
Height 400 mm	00145	1	25.3	0.18
IN WHITE EPOXY PAINT: Height 400 mm	19957	1	25.3	0.18



### Starting blocks

Made in S.S. AISI-304. Platform in Polyester and fibreglass with non-slip finish 500 mm x 500 mm. Number sequence not included.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
POLISHED FINISH: Height 700 mm	00146	1	25.0	0.48
Height 400 mm	27578	1	18.0	0.11
IN WHITE EPOXY PAINT: Height 700 mm	19958	1	25.0	0.48
Height 400 mm	27836	1	18.0	0.30



Note: The 00146 platform can be manufactured, made to order, for adapting it to overflow level. In this case the distance L must be provided.

Codes 00146 and 19958: For fixing with anchoring fixtures 00143, not included in the supply.  
Codes 27578 and 27836: Embedding fixtures included in the supply.

**HEADWALLS FOR COMPETITION POOLS**

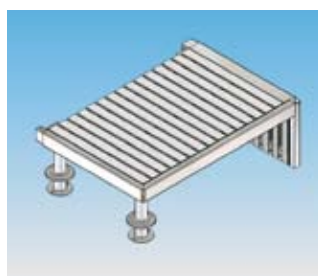
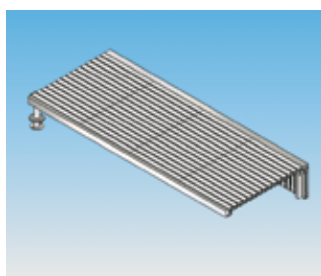
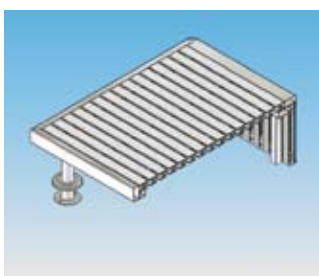


**Headwall for podiums**

AstralPool has created a headwall that allows starting blocks to be attached. This addition extends our range of products for competition. The item consists of an AISI-304 Stainless Steel structure and plastic grating. The platform can also be used as a turning panel and includes anchors for float lines.



	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Headwall, lane width 2 m	<b>34213</b>	1	-	-
Headwall, lane width 2.5 m	<b>34214</b>	1	-	-
Headwall, right corner	<b>34215</b>	1	-	-
Headwall, left corner	<b>34216</b>	1	-	-

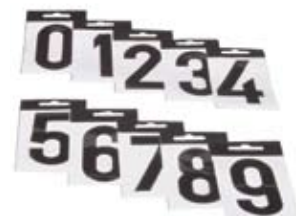


**Starting blocks numbers**



4 units of each supplied.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
For starting blocks BCN03 from 1 to 6	<b>34200</b>	1	0.1	0.001
For starting blocks BCN03 from 1 to 10	<b>34201</b>	1	0.1	0.001



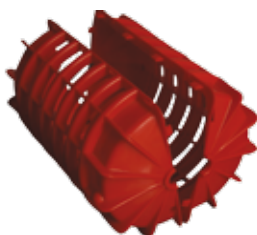
## LANE ROPES



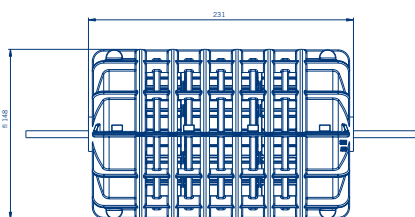
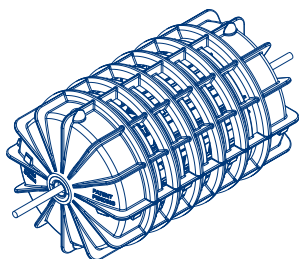
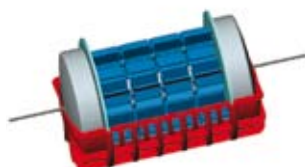
### BCN03 Lane rope



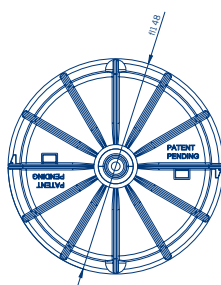
Model Competición



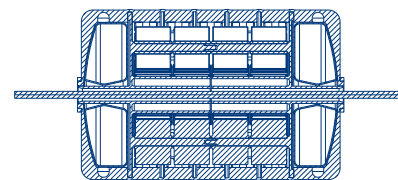
Model Eco



Side view



Front view



Section

Developed and patented by AstralPool for the 2003 Swimming World Championships, the BCN03 Lane rope model is a significant technological breakthrough in competition swimming pools as it obtains maximum absorption of the waves created by swimmers, helping the water surface to be as flat as possible.

**Biomechanical tests results carried out by the Applied Hydrodynamics Institute (INHA) in July 2003:**

- the BCN03 lane ropes reduce waves inside the lanes by 80%. As a result, the wave caused by a swimmer when swimming is practically absorbed, without causing noticeable reflection effects.
- the new floats absorb up to 50% more waves than the conventional ones. Each lane of the swimming pool is least affected by the adjacent lane.

**Operation:**

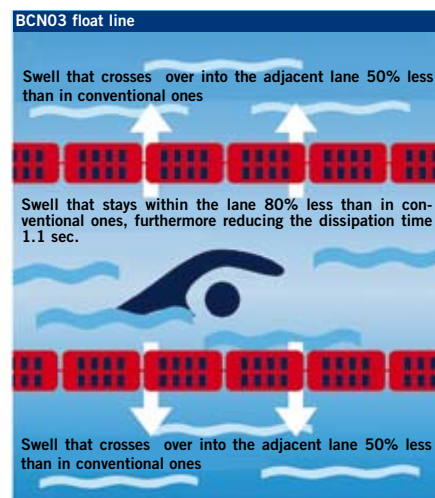
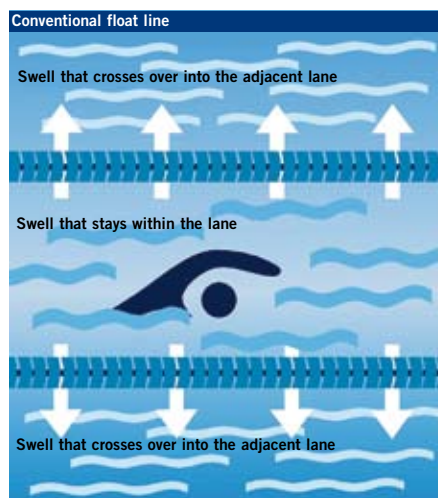
Each float has an interior mechanism consisting of 24 turbines distributed on six shafts. The wave of water makes the turbines turn, converting the kinetic energy into mechanical energy, which is then dissipated by friction, thus preventing it from continuing into the next lane. Each turbine can turn freely on its axis and the entire float unit can also rotate around the cable.

**Technical features:**

The outer shell is manufactured in two technical plastic parts, built to prevent swimmers hurting themselves on colliding with it. The inner parts are made of polythene and polypropylene. Colours available: white, blue, red and green.

The same float unit is available in an Eco version, which has the same shell appearance and the same colours but without the inner turbine mechanism.

The lane ropes are supplied with float units and Stainless Steel 6 mm cable (code 28808) and hook (code 00208).



**LANE ROPES**



**BCN03 Competition lane rope model**



The lane ropes are supplied with float units, Stainless Steel 6 mm cable (28808) and hook (00207). Floats with inner turbine mechanism.

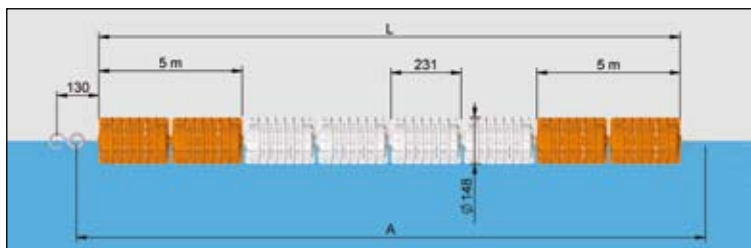
	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
25 m length	<b>28802</b>	1	-	-
50 m length	<b>28804</b>	1	-	-



**BCN03 Eco lane rope model**

The lane ropes are supplied with float units, Stainless Steel 6 mm cable (28808) and hook (00207). Floats without inner turbine mechanism.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
25 m length	<b>28803</b>	1	-	-
50 m length	<b>28805</b>	1	-	-



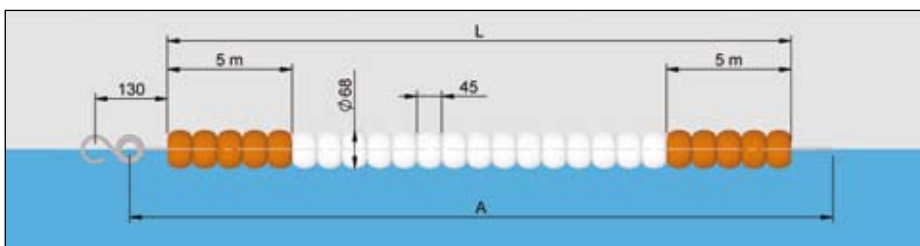
Code	L (m)	A (m) cable	Nr. of blue BCN03 floats	Nr. of red BCN03 floats
<b>28802</b>	25	30	44	64
<b>28804</b>	50	60	44	172
<b>28803</b>	25	30	44	64
<b>28805</b>	50	60	44	172

Other colours available on request



**Rome model**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
25 m length	<b>00181</b>	1	9.0	0.200
50 m length	<b>00183</b>	1	16.0	0.620



Code	L (m)	A (m) cable	Nr. of orange Rome floats	Nr. of white Rome floats
<b>00181</b>	25	27	232	318
<b>00183</b>	50	52	232	868

The lane ropes are supplied with floats, polyester cord (00210) and hook (00207).



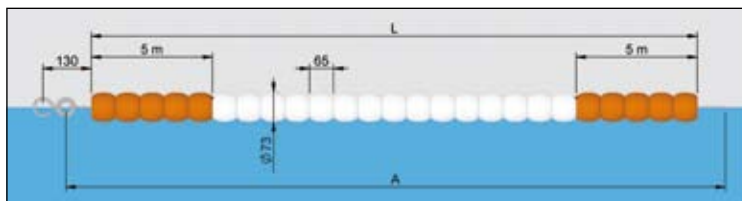
## LANE ROPES



### 92 model

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00184	1	9.0	0.200
00186	1	16.0	0.620



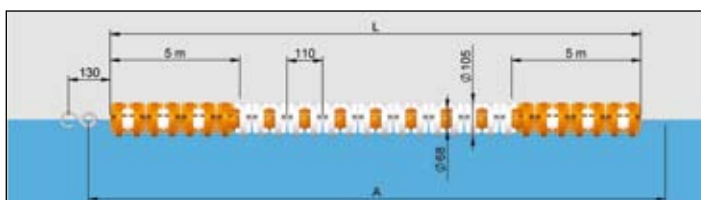
Code	L (m)	A (m) cable	Nr. of orange 92 floats	Nr. of white 92 floats
00184	25	27	152	229
00186	50	52	152	612



### Moscow model

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00190	1	9.0	0.200
00192	1	16.0	0.620



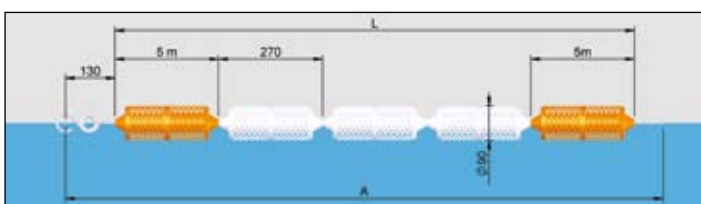
Code	L (m)	A (m) cuerda	Nr. of orange Moscow floats	Nr. of orange Rome floats	Nr. of white Moscow floats	Nr. of white Rome floats
00190	25	27	192	96	286	143
00192	50	52	192	96	756	378



### Montreal model

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00193	1	19.0	0.340
00195	1	39.0	0.680



Code	L (m)	A (m) cable	Nr. of orange Montreal floats	Nr. of white Montreal floats
00193	25	27	38	55
00195	50	52	38	149

**NOTE:** It is possible to supply any length, colour combination and rope material under request.



**LANE ROPES**

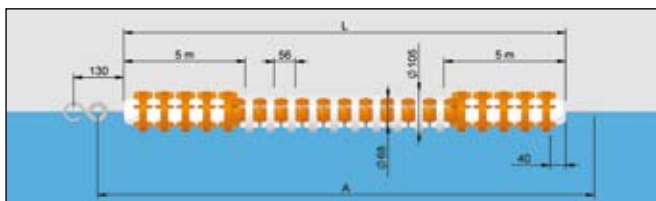
The lane ropes are supplied with floats, polyester cord (00210) and hook (00207).



**Seoul model**

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00196</b>	1	28.0	0.340
<b>00198</b>	1	50.0	0.620



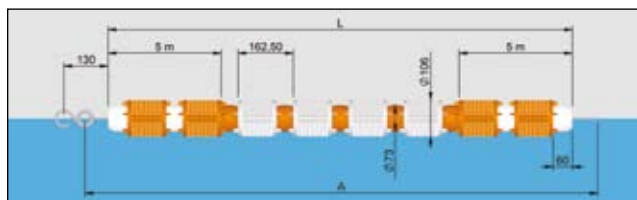
Code	L (m)	A (m) cable	Nr. of orange Seoul floats	Nr. of white Rome floats	Nr. of white Seoul floats	Nr. of orange Rome floats
<b>00196</b>	25	27	178	178	268	269
<b>00198</b>	50	52	178	178	714	715



**Barcelona model**

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00199</b>	1	40.0	0.340
<b>00201</b>	1	78.0	0.680



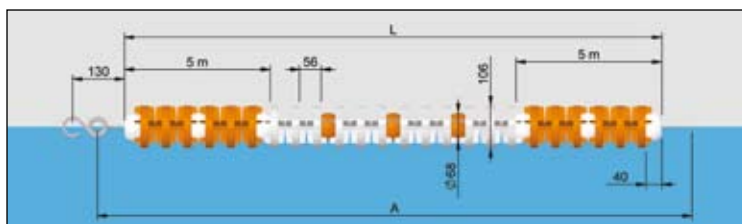
Code	L (m)	A (m) cable	Nr. of orange Barcelona floats	Nr. of white 92 floats	Nr. of white Barcelona floats	Nr. of orange 92 floats
<b>00199</b>	25	27	60	62	91	90
<b>00201</b>	50	52	60	62	242	241



**France model**

25 m length  
50 m length

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00202</b>	1	40.0	0.340
<b>00204</b>	1	78.0	0.680



Code	L (m)	A (m) cable	Nr. of orange France floats	Nr. of white Moscow floats	Nr. of orange Rome floats	Nr. of white France floats	Nr. of orange Moscow floats	Nr. of white Rome floats
<b>00202</b>	25	27	62	182	91	92	120	60
<b>00204</b>	50	52	62	486	243	243	120	60



**NOTE:** It is possible to supply any length, colour combination and rope material under request.

## FLOATS



### BCN03 model



Supplied with inner turbine mechanism.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	28204	-	-	-
green	28425	-	-	-
blue	28423	-	-	-
red	28424	-	-	-



### BCN03 Eco model

Supplied without inner turbine mechanism.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	28798	-	-	-
green	28801	-	-	-
blue	28799	-	-	-
red	28800	-	-	-



### Rome model

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00149	500	7.0	0.110
orange	00150	500	7.0	0.110
blue	00151	500	7.0	0.110
red	00152	500	7.0	0.110



### 92 model

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00153	140	3.0	0.070
orange	00154	140	3.0	0.070
blue	00155	140	3.0	0.070
red	00156	140	3.0	0.070



### Moscow model

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00161	150	7.0	0.070
orange	00162	150	7.0	0.070
blue	00163	150	7.0	0.070
red	00164	150	7.0	0.070

**FLOATS**

**Montreal model**

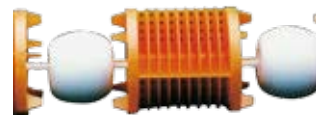
	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00165	28	7.0	0.070
orange	00166	28	7.0	0.070
blue	00167	28	7.0	0.070
red	00168	28	7.0	0.070


**Seoul model**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00169	200	8.0	0.070
orange	00170	200	8.0	0.070
blue	00171	200	8.0	0.070
red	00172	200	8.0	0.070


**Barcelona model**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00173	45	10.0	0.070
orange	00174	45	10.0	0.070
blue	00175	45	10.0	0.070
red	00176	45	10.0	0.070


**France model**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Colour white	00177	100	5.5	0.070
orange	00178	100	5.5	0.070
blue	00179	100	5.5	0.070
red	00180	100	5.5	0.070





## LANE ROPE STORAGE EQUIPMENT

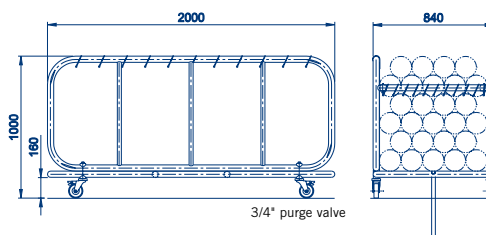


### BCN03 Lane rope storage basket



A new trolley designed to transport and store the BCN03 Lane ropes after use in the swimming pool. The BCN03 lane rope storage basket is manufactured of AISI-316 Stainless Steel and includes a PVC bag for collecting excess water from the float lines. Due to the bag's bottom outlets, it is emptied in a controlled manner with no water spillage. The trolley has four castor wheels for maximum mobility. Two of these fitted with brakes. It can store a lane rope up to 50 m long (or 2 of 25) and can be used for all lane rope models.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
28623	1	55.0	0.389



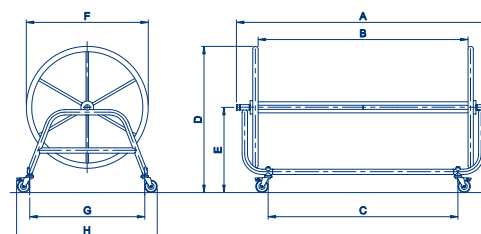
### Lane rope roller



Made in Stainless Steel AISI-304, fitted with a large wheel for operation. It is mounted on 4 castor wheels for easy handling. Two of these are fitted with brakes.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
27481	1	36.8	0.50
20762	1	46.3	0.54

Width 1.2 m  
Width 1.8 m



#### NUMBER OF LANE ROPE COLLECTED

Model	1.2 m			1.8 m		
	25 m	33 m	50 m	25 m	33 m	50 m
ROME	8	6	4	12	9	6
92	8	6	4	12	9	6
MOSCOW	4	2	2	6	3	3
MONTREAL	4	4	2	6	6	3
SEOUL	4	2	2	6	3	3
BARCELONA	4	4	2	6	6	3
FRANCE	4	4	2	6	6	3

Code	A	B	C	D	E	F	G	H
27481	1484	1135	974	1175	685	980	924	1130
20762	2036	1687	1526					

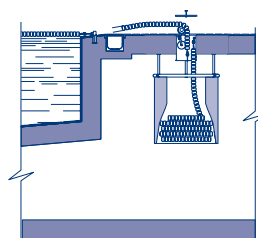
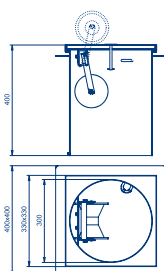


### Under deck lane rope storage system



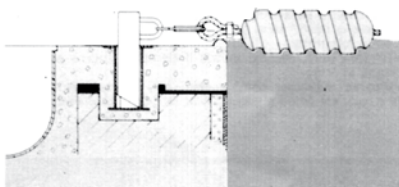
Made of AISI-316, allows the storage of the float lines beneath the deck. The float line box is embedded in the pool surround and holds the retractable reel over which the float line slides into the hole. This unit can be complemented with a lane rope collecting bag if required.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
15842	1	12.8	0.08



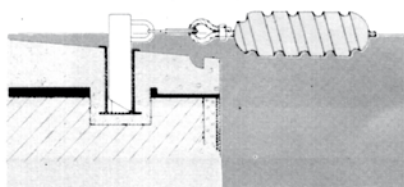
**LANE ROPE ACCESSORIES**

Zurich/Wiesbaden installation diagram



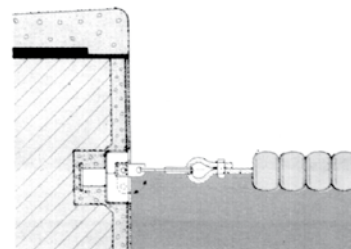
Anchor code 00141  
Lane rope support code 00140

Finnish type installation diagram



Anchor code 00142  
Lane rope support code 00140

Standard installation diagram



Anchoring cup code 09206  
code 09207  
code 00205  
code 00206



**Lane rope anchor**

Made in Stainless Steel AISI-316. To use with anchoring fixture 00141 and 00142.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00140	2	0.63	0.003



**Concrete anchoring cup with central rod**

Made in Stainless Steel AISI-316.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
09206	1	0.4	0.001

For concrete pool



**Anchoring cup with central rod**

Made in Stainless Steel AISI-316.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
09207	1	0.5	0.001

For pre-fabricated pools with flange, gasket and screws



**Retractable anchoring cup**

Made in Stainless Steel AISI-316.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00205	1	0.46	0.001

For concrete pool



## LANE ROPE ACCESSORIES



### Retractable anchoring cup



Made in Stainless Steel AISI-316.

For prefabricated pools with flange, gaskets and screws

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00206	1	0.6	0.001



### Lane rope ratchet



Chrome plated brass.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00208	1	0.97	0.002



### Lane rope ratchet



Made in Stainless Steel AISI-316.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00209	1	0.2	0.001



### Lane rope spring



Made in Stainless Steel AISI-304 with plate to attach cable.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
01468	1	0.62	0.002



### Lane rope hook



Made in Stainless Steel AISI-304.

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00207	100	5	0.01

**LANE ROPE ACCESSORIES**



**Cords and cables**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
Polyester Ø 7 mm	<b>00210</b>	110 m	2.0	0.090
Stainless Steel AISI-316 Ø 4 x 6 mm with plastic coating DIN 3055	<b>00211</b>	-	0.1	0.001
BCN03 cable Stainless Steel Ø 6 mm without plastic coating	<b>28808</b>	-	-	-



**INDICATORS**




**False start indicators**

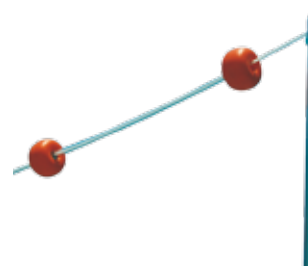
Comprises 2 posts in S.S. AISI-316 (one with pulley and quick release cord). Height 1.8 m. Anchoring socket not included.

**False start posts:**

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
- Pool width up to 21 m Ø 43 mm pipe for use with anchoring sockets 00141 and 00142	<b>19950</b>	1	5.6	0.01
- Pool width over 21 m Ø 48 mm pipe for use with anchoring sockets 19960 and 19961	<b>19951</b>	1	9.4	0.01

**False start floats:**

Polyester cord and floats Please indicate pool width when placing your order.	<b>19954</b> 	1	-	-
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**Backstroke turn indicators**

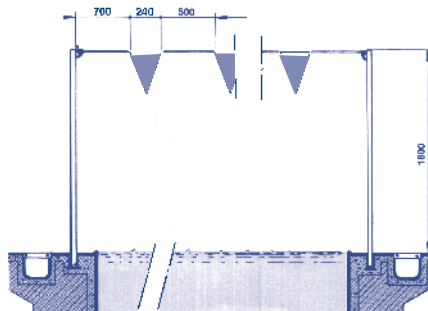
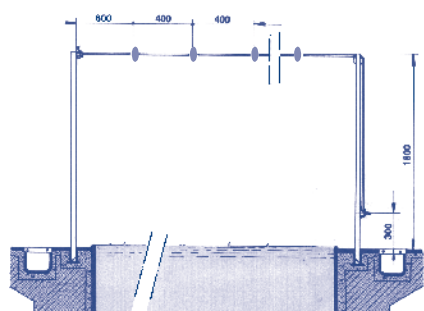


Comprises 4 posts in Stainless Steel AISI-316. Height 1.8 m. Anchoring sockets not included.

	Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>Backstroke turn indicator posts</b> - Pool width up to 21 m Ø 43 mm pipe for use with anchoring sockets 00141 and 00142	<b>19952</b>	1	11.2	0.03
- Pool width over 21 m Ø 48 mm pipe for use with anchoring sockets 19960 and 19961	<b>19953</b>	1	20.0	0.03

**Backstroke turn indicator bunting**

2 Polyester cord and bunting Please indicate pool width when placing your order.	<b>19955</b>	1	-	-
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## TURNING PANELS



### Turning panels

In Stainless Steel AISI-316 with plastic lattice screen. Height 300 mm. Fixing support (00139) is not included.

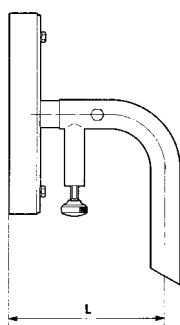
Lane width 2 m  
Lane width 2.5 m

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00137	1	13.6	0.040
00138	1	16.5	0.051

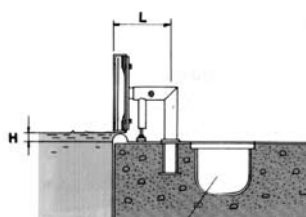


### Fixing support for turning panels

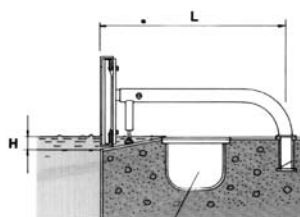
In Stainless Steel AISI-316 for use with anchoring sockets 00141 and 00142. Please indicate dimension "H", "L" and type of overflow when ordering.



Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
00139	1	4.0	0.054

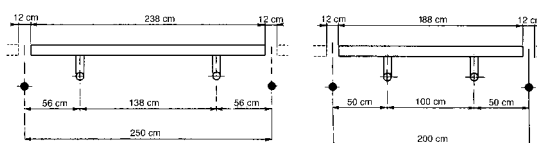


ZURICH-WIESBADEN

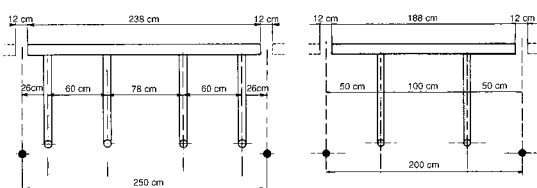


FINNISH

#### ANCHORING DETAILS WHEN MEASUREMENT «L» IS LESS THAN 500 mm.



#### ANCHORING DETAILS WHEN MEASUREMENT «L» IS OVER 500 mm.



**ANCHORING SOCKETS**



**Horizontal flange anchoring sockets**

Zurich-Wiesbaden. In S.S. AISI-316.

For pipe Ø 43 mm  
For pipe Ø 48 mm

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00141</b>	2	1.17	0.002
<b>19960</b>	2	1.3	0.002



**Angled flange anchoring socket**

Finnish. In S.S. AISI-316.

For pipe Ø 43 mm  
For pipe Ø 48 mm

Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00142</b>	2	1.13	0.002
<b>19961</b>	2	1.26	0.002

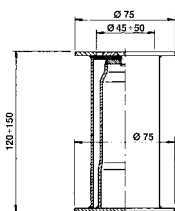


**Anchoring socket with locking bolts**

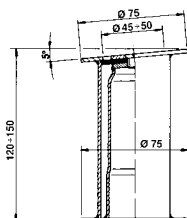
With bolts. In S.S. AISI-316.

For pipe Ø 43 mm  
For pipe Ø 48 mm

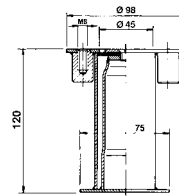
Code	Standard Packing	Standard Weight	Standard Volume m <sup>3</sup>
<b>00143</b>	2	1.47	0.003



**Code 00141**  
**Code 19960**



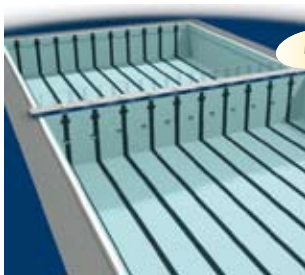
**Code 00142**  
**Code 19961**



**Code 00143**



## MOVABLE WALL



new



### Movable wall

AstralPool has made available the technology that allows a single pool to be divided into two different pools for different uses. With this system, pool space and versatility, and therefore profitability is optimised, resulting in lower installation costs. The AstralPool system is easily adaptable and can be used in both new and existing pools. Recommended for Olympic swimming pools 25x50x2 metres.

AstralPool has developed a patented movable wall system, based around a modular design which offers one significant advantage above all others; versatility. The partial removal of these modular panels allows the full length of the pool to be used, should that be required.

Made in Stainless Steel AISI-304 and covered with white coloured non-slip sheets.

#### Technical features:

NET WEIGHT	8000 kg (Pool width 25 m)
MAXIMUM LOAD	200 kg / m <sup>2</sup>
MOVEMENT	By S.S. rails embedded on pool sides.
TRACTION	By cables from both pool walls.
OPERATION	By a drum with double wound cable option: Manual operation.
POWER	¾ HP
STRUCTURE	Module of beams and lattice work of S.S. AISI-304.

Manufactured on order. Please, enquire.

Installations pictures: Movable wall in Ashgabat ( Turkmenistan )



## PVC ACCESSORIES FOR POOLS

- 436 • Pressure fluid handling PVC PN-16 fittings
- 438 • Pressure fluid handling PVC pipes and valves
- 439 • Pressure fluid handling PVC accessories
- 440 • Filter ring manifold for 3/4" laterals
- 440 • Filter ring manifold for 1" laterals
- 441 • Filter diffuser
- 441 • Collector pipe for valve manifold





## PRESSURE FLUID HANDLING PVC PN-16 FITTINGS

### PVC 90° elbow solvent socket



Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32588	70	8.67	0.0408
32589	36	7.86	0.0408

### PVC 45° elbow solvent socket



Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32590	40	3.72	0.0204
32591	20	3.56	0.0204

### PVC-Tee 90° solvent socket



Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32592	48	8.95	0.0408
32593	30	9.73	0.0408

### PVC union solvent socket



Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32594	60	4.48	0.0204
32595	35	3.98	0.0204

**PRESSURE FLUID HANDLING PVC PN-16 FITTINGS**
**PVC reducing bush solvent socket**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 63 mm x 50 mm	<b>32596</b>	48	3.08	0.0102


**PVC adaptor nipple: solvent socket & BSP male thread**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 50 mm x 40 mm x 1 1/2"	<b>32597</b>	24	2.48	0.0102
Ø 63 mm x 50 mm x 2"	<b>32598</b>	38	5.84	0.0204


**PVC adaptor nipple: female solvent socket & BSP male thread**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 50 mm x 1 1/2"	<b>32599</b>	48	3.27	0.0102
Ø 63 mm x 2"	<b>32600</b>	50	5.60	0.0204


**PVC 3 piece union solvent socket**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 50 mm	<b>32601</b>	30	5.80	0.0204
Ø 63 mm	<b>32602</b>	12	4.44	0.0204



## PRESSURE FLUID HANDLING PVC PN-16 FITTINGS

### PVC 3 piece union: female solvent socket & BSP male thread



Ø 50 mm x 1 1/2"  
Ø 63 mm x 2"

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32603	30	6.70	0.0204
32604	12	5.24	0.0204

## PRESSURE FLUID HANDLING PVC PIPES AND VALVES

### PVC ball valve PN-10



HDPE (polythene) ball seat. EPDM O-rings. "Antiblock" system.

Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
32605	10	7.61	0.0204
32606	9	11.80	0.0408

### PVC pipe PN-10



Ø 50 mm  
Ø 63 mm

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
02709	100 m	45.0	1.14
02710	100 m	72.0	1.40

### Semi-rigid hose



Made of PVC to glue to pressure fittings using PVC adhesive grey colour.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Ø 16 mm	34587	25 m	3.2	0.030
Ø 16 mm	34586	50 m	6.2	0.040
Ø 20 mm	30754	25 m	4.0	0.040
Ø 20 mm	28570	50 m	9.1	0.060
Ø 25 mm	30755	25 m	6.0	0.050
Ø 25 mm	28571	50 m	11.0	0.042
Ø 32 mm	30756	25 m	9.6	0.070
Ø 32 mm	28572	50 m	16.7	0.065
Ø 40 mm	30757	25 m	12.3	0.110
Ø 40 mm	28573	50 m	23.0	0.109
Ø 50 mm	30758	25 m	18.4	0.150
Ø 50 mm	28574	50 m	37.0	0.178
Ø 63 mm	28575	25 m	49.5	1.140
Ø 75 mm	34588	25 m	33.3	0.300

**PRESSURE FLUID HANDLING PVC ACCESSORIES**
**Cleaner PVC**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
0.5 l	02432	15	8.1	0.026
1 l	02431	12	11.0	0.036


**Solvent cement PVC**

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
0.25 l	02429	30	10.0	0.024
0.50 l	02427	15	8.0	0.026
1 l	02426	12	13.0	0.036

**PVC Cleaner**

Liquid cleaner specially adequate for cleaning and degreasing pipes, coupling sockets and other PVC rigid fittings before gluing them together, and for removing excess glue.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Cleaner 500 ml	28827	-	-	-
Cleaner 1000 ml	28828	-	-	-


**PVC-Gel - Special for PVC pipe**

For large diameter pressure pipes. Slow setting time, the allowing correct positioning of the fittings and perfect cementation. Supplied with brush.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
250 ml	26198	36	11.18	0.02
500 ml	26199	24	13.50	0.02
1000 ml	26200	12	12.90	0.02
Gel 125 gr	28829	-	-	-


**Blue Adhesive, extra quick drying for flexible and rigid PVC pipes**

Special for pools. For use in pool installations. Its high Gel composition and covering capacity gives perfect cementation. Supplied with brush.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
250 ml	26201	36	11.20	0.02
500 ml	26202	24	13.50	0.02
1000 ml	26203	12	12.90	0.02



## FILTER RING MANIFOLD FOR 3/4" LATERALS



### 8 lateral ring manifold

Made of PVC, inner  $\varnothing$  50 mm and outer  $\varnothing$  63 mm.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00624	12	4.0	0.017

### 12 lateral ring manifold

Made of PVC, inner  $\varnothing$  63 mm and outer  $\varnothing$  75 mm.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00625	6	3.0	0.310

### 3/4" Laterals



0.3 mm slots.

Length 225 mm  
 Length 160 mm  
 Length 110 mm  
 Length 100 mm (for prolonging)

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00626	50	2.0	0.017
00627	50	2.0	0.017
00628	50	2.0	0.008
00629	50	2.0	0.008

### Bush coupling



For laterals. In PVC.

Inside threading 3/4"

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00630	50	2.0	0.003

## FILTER RING MANIFOLD FOR 1" LATERALS



### 8 laterals ring manifold

Made of PVC, inner:  $\varnothing$  50 mm and outer:  $\varnothing$  63 mm.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
06433	12	4.0	0.017

### 12 lateral ring manifold

Made of PVC, inner:  $\varnothing$  63 mm and outer:  $\varnothing$  75 mm.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
06434	6	3.0	0.310

**FILTER RING MANIFOLD FOR 1" LATERALS**
**1" laterals**

0.3 mm slots.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Length 225 mm	06435	50	2.0	0.017
Length 160 mm	06436	50	2.0	0.017
Length 110 mm	06437	50	2.0	0.008
Length 100 mm (extensions)	06438	50	2.0	0.008


**Bush coupling**

For laterals. In PVC.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Inner threading 1"	06439	-	-	-


**FILTER DIFFUSER**
**For Ø 50 mm Pipe**

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00645	6	1.0	0.009


**For Ø 63 mm Pipe**

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
00646	6	2.0	0.023

**COLLECTOR PIPE FOR VALVE MANIFOLD**
**Collector pipe for valve manifold**

Made of PVC. Inlet connections, inner Ø 50 mm and 63 mm. Outlet connections Ø 50 and 63 mm.

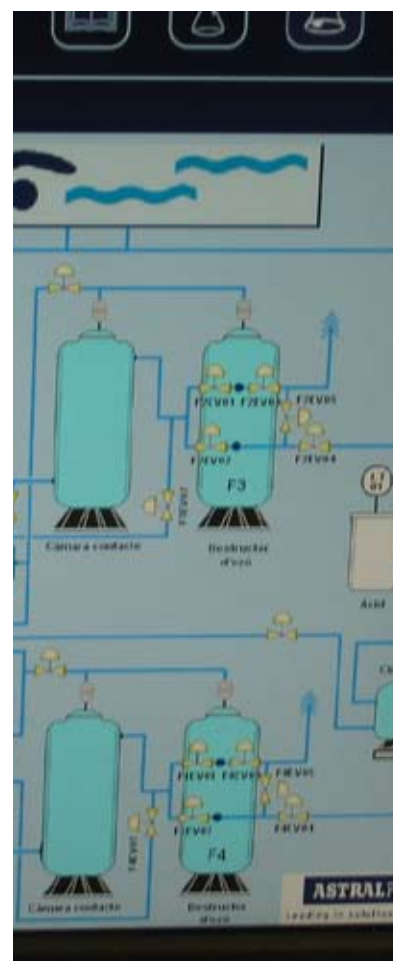
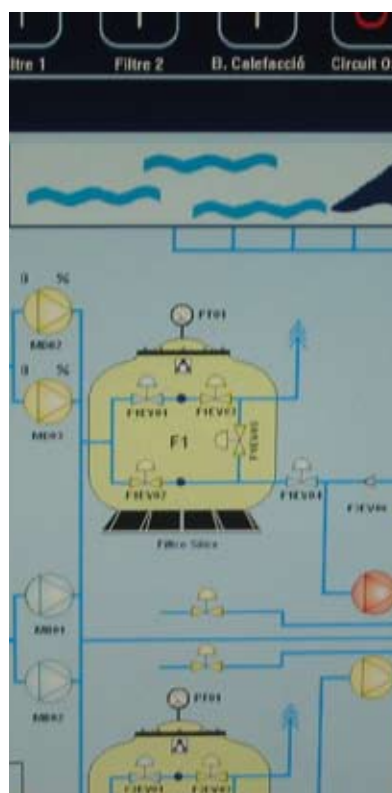
	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Connections Ø 50 mm	31877	1	-	-
Connections Ø 63 mm	34407	1	-	-





# SOFTWARE

- 444 • AstralPool price list cd
- 445 • Project Pool
- 448 • MCS
- 449 • Climat





## ASTRALPOOL PRICE LIST CD

AstralPool offers you, the pool professional, a series of specialized computer applications including the Project Pool and Climat programmes and the MCS management and control software which will make your pool planning, installation and maintenance work much easier.

On the other hand, each year AstralPool provides you with the AstralPool price list CD which includes the consultation programme with information of our products, and the free Astral Pro and Astral Q applications.

AstralPool wishes to increase your productivity and give you a competitive advantage, since this software will help you to speed up and improve the quality when submitting projects and quotations.

Operating system Windows 95, 98, 2000, XP and Vista.  
Minimum requirements: Pentium 3 at 500 MHz, with CD Rom and 128 MB RAM.

### AstralPool price list, Astral Pro and Astral Q programmes



The AstralPool price list CD, which is updated yearly, makes consulting the updated information on all the products included in the current general catalogue much easier by adding useful management tools. You may also install the Astral Pro and Astral Q programmes from the same CD.

#### AstralPool price list software:

- Search for articles and browse by sections and sub-sections.
- Look up commercial data associated with the article (price, discounts, packaging, replacement parts, etc.).
- Possibility of searching by lists or images.
- Search the product catalogue, exploded view and the prices of replacement parts associated with a product.
- Print lists of products instantly by full rates or the desired selection.
- Automatically determine the purchase prices according to specific negotiated agreements.
- Customize the sales prices based on the purchase prices.
- Create instant estimates or orders.
- Send orders automatically by e-mail to your local AstralPool sales office, or send them to be printed.

#### Astral Pro software:

Astral Pro will assist the pool construction professional calculate the filtration system on a basic level and is suitable for standardized small and medium-size pools.

- Choose pools shapes from a shape sampler.
- Calculate the appropriate filtration system.
- Possibility of repositioning the basin elements in the desired position.
- Print out the plan and a summary of the calculation, on a basic level.
- Use AstralPool filtration equipment as you are able to pre-select the desired ranges.
- Available in Spanish, English, French and Italian

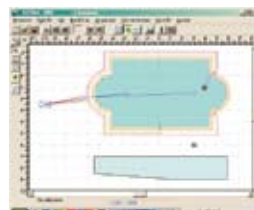
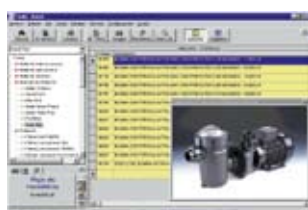
#### Astral Q Programme pool:

Astral Q assists the maintenance to calculate and draw up an estimate of the pool water chemical treatment based on water analysis.

- Establishes the treatment based on the physio-chemical parameters of the water and regulations.
- Generates a water diagnosis based on the water condition.
- Establishes a treatment, a dosage table and a chemical product estimate.
- Use of AstralPool chemical products, as you are able to pre-select the desired references.
- Available in Spanish and English.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>AstralPool price list cd*</b>	20977	1	-	-

\* Ask your local AstralPool dealer for this product



**PROJECT POOL**

**Project Pool Professional**

Project Pool Professional is the most complete programme for pool construction projects. A typical way to use Project Pool Professional is to show your customers their pool project and adapt it instantly according to their wishes.

But you can also use it to completely develop your projects in minutes, including technical and commercial plans, complete filtration equipment reports and estimates for the entire installation, which includes construction materials and all the options that are required.



**1. DESIGN YOUR POOL PROJECTS IN MINUTES**

**Shape library** Design complicated shapes in seconds by using configurable shapes. More than 25 shapes to choose from and then all you have to do is fill in your dimensions.

**Free-form shapes** If your pool is not in the libraries, you can easily draw it by using the high-precision tools. You may add this new form to your user library.

**Ladders** Easily integrate built-in ladders of any kind or for any pool size.

**Coping** Automatically generate a crown or grill of any size, colour or texture. You can even create partial grills or edges.

**Pool surroundings** Complete an attractive design by means of the library of surroundings and garden objects, or with any external images you would like. Or design any object you would like and add it to your user library.

**Technical drawing** Insert text or measurements (elevations) in the design. You can show the radius and other measurements automatically.

**Perimeter, surface, areas, volumes** Automatically obtain all the geometric values of the pool, including the wall and bottom surface area.

**Attractive commercial drawing** Use colour and texture degrading based on images to give the water, grass and rocks a realistic aspect.

**Drawing print out** Print both types of drawings to scale, from the same project by using the layer-based system. Or export them to image files.

**2. CALCULATE THE FILTRATION SYSTEM**

**Filtration equipment** Automatically calculate the complete filtration equipment and distribute it yourself around the pool. You only need to choose the commercial product lines and establish the options that the system requires.

**Piping accessories and diagrams** Generate a Microsoft Word document with lists of all the piping accessories needed for the installation and the connection diagrams for all the hydraulic circuit elements with pipe diameters.

**3. AUTOMATE YOUR QUOTATIONS**

**Draw up a quotation of all the materials** Use the geometric values (perimeter, surface areas, volume, etc.) to calculate the cost of all the materials involved in the project, using internal spreadsheets connected to the design. You can export the estimates to Microsoft Excel.

**Generate customized estimates** Obtain global Microsoft Word documents of the overall quotation, separated into sections. Each section may contain text (plain or in Word format) and a list of the calculated materials.

**Use any commercial product** The AstralPool filtration materials are included in the programme data base, with updated prices. Moreover, you can add any commercial product to use it in your calculations.

Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
20974	1	-	-

## PROJECT POOL



### Project Pool Professional update

If you are already have Project Pool Professional or its previous version, now Project Pool Master can update it to the most recent version which is prepared for the new Windows operating systems and all the new design, calculation and estimate functionalities.

Each Update is delivered with a single programme License and requires a new security key (Hasp). If you wish to use the Update on other PCs in your office, you must acquire an update for each one of the licenses (Hasp keys) you own.

**New for the 2007 version:**

**New configurable forms** Several new configurable forms to make your plan designs in just a few seconds.

**Automatic readings** Automatically generate the readings in the design with the configurable forms.

**Use the pool libraries easier** Choose the form, type of bottom and apply the correct dimensions. Now it also admits pyramidal bottoms.

**Automatic integration of ladders** Add straight or Roman ladders to any pool. Drag the ladders, set your dimensions and move it around the perimeter. The shape will automatically change.

**Automatic estimates** Several new options so you can configure it just once and then automatically generate your estimates, launch them into Microsoft Word or PDF, separated into all the sections you need. Each section admits text and a list of materials which you can configure by means of formulas associated to the dimensions or type of pool in order to calculate all the materials associated with the pool and accessories. Easy to obtain complete estimates in just a few seconds.

**More tools in the product administrator** Move products to other lines or groups. Sales prices can be automatically calculated by modifying the purchase prices.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
Project Pool Professional update*	34656	1	-	-

\*Only from Project Pool Master 2001 or higher



### Additional Project Pool Professional license

**Licenses for separate PCs:**

Each license comes with a security key (Hasp) which must be connected to the USB port on the computer on which it is installed. An additional license (Hasp) is necessary for each PC or laptop you would like to use to run the programme.

Project Pool Professional is delivered with one PC license. Therefore, if you need to use the programme on other PCs or laptops at the same office, you can acquire as many Additional Licenses as necessary.

**Use on a server:**

Project Pool Professional can share projects, data and libraries between users by installing it on a server or on a normal PC which is used as the main computer. This way of working optimizes the resources by sharing projects, products, pool libraries and objects and estimates between users.

It must be later installed on all PC's where it is used, thus you need an Additional License (Hasp key) for each user PC, and configure the data Server Route on the computers so that it points to the main server.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
	34655	1	-	-

**PROJECT POOL**

**Project Pool Design**

If you just need to quickly and accurately design pool drawings, Project Pool Design is the answer. This application will enable you to design technical and commercial presentation drawings of the pool and its surroundings quickly and accurately, even in front of the customer if you'd like. Project Pool Design incorporates all the design functions of Project Pool Professional, at a lower cost. It does not include filtration calculation and quotation functions.

**Project Pool Design licenses:**

Project Pool Professional is delivered with use license for a single PC. The license comes with a security key (Hasp) which must be connected to the USB port on the computer on which it is installed.

Project Pool Design does not have an Additional License policy and, therefore, you must acquire as many Project Pool Design applications as work stations or laptops at your office needing to use the programme.

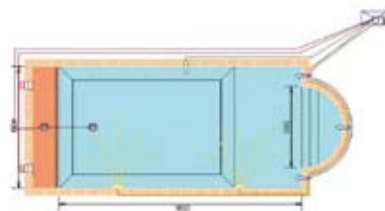


Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
34654	1	-	-

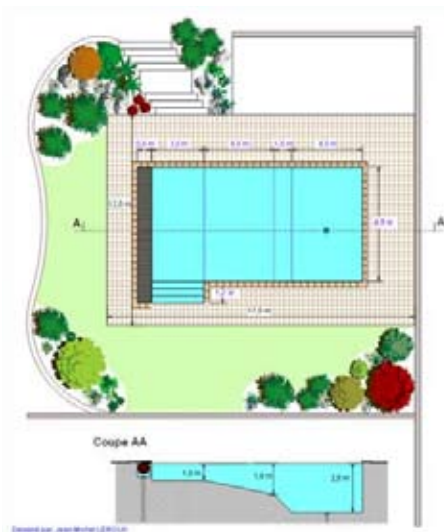
**Example technical plans made with Project Pool**



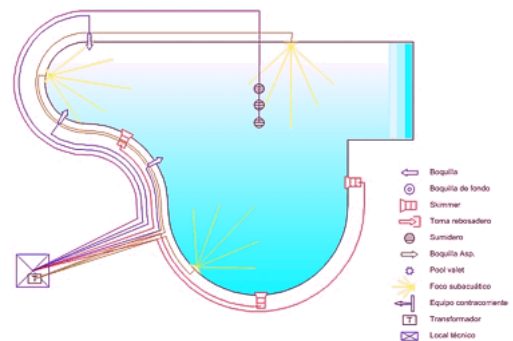
**Professional o Design**



**Professional**



**Professional o Design**



**Professional**

## MCS



### Control and management software MCS



MCS control and administration software effectively solves all your control needs in your installation, allowing automatic operation.

The possibility for remote monitoring and checking of installations leads to improvement in the quality of maintenance operations and a reduction in costs.

The MCS system is especially designed for supervising filtration and chemical treatment equipment in one or several swimming pools and can adapt to installations of any size.

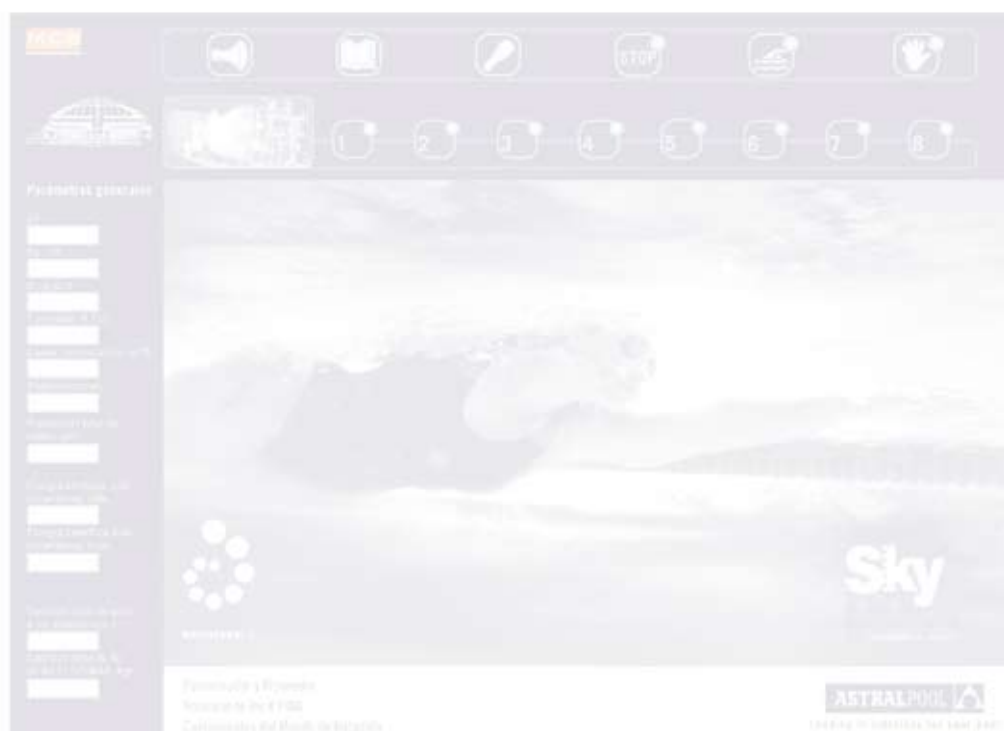
Traceability: all problems arising in the environment controlled by MCS are registered in a record file.

Alarm register: it has an alarm register which provides regular information on any problem arising in installations.

#### Options availables

- Transmission of alarm signals by mobile or fixed line, e-mail and SMS.
- Measuring and control of balance tank levels.
- Control of chemical product levels.
- Control and automatic regulation of the swimming pool's chemical parameters.
- Administration of swimming pool Parameter Reports.

	Code	Standard Packing	Standard Weight Kg	Standard Volume m <sup>3</sup>
MCS Basic	28809	1	-	-
<b>Options availables</b>				
Transmission of alarm signals by mobile or fixed line, e-mail and SMS	28810	1	-	-
Measuring and control of balance tank levels	28811	1	-	-
Control of chemical product levels	28812	1	-	-
Control and automatic regulation of the swimming pool's chemical parameters	28813	1	-	-
Administration of swimming pool Parameter Reports	28814	1	-	-









## SPAS AND SAUNAS

- 457 • Residential spas in wood cabinet
- 466 • Rotomoulded spas
- 469 • In-ground residential spas
- 474 • Portable residential spas
- 475 • In-ground overflow commercial spas
- 482 • Compact filtration unit for commercial spas
- 483 • Spa Covers
- 484 • Air blowers
- 485 • Accessories
- 491 • Accessories - Jets for concrete **pools**
- 493 • Accessories Mini-Spas
- 497 • Saunas
- 498 • Sauna accessories





We have a wide range of finished units for all kinds of applications; whether to be added to a private home or public facilities such as gyms, hotels or spas.

## RESIDENTIAL SPAS IN WOOD CABINET

Spas for PRIVATE USE equipped with massage pumps, a water heater and a control panel. Enables filtration through a cartridge filter and automatic water heating.

With a synthetic or natural wood cabinet, or a metal structure.

## RESIDENTIAL SPAS WITHOUT WOOD CABINET

Spas for PRIVATE USE, designed to be embedded. Equipped with all the necessary accessories for hydro massage and an adjustable bracket for easy installation. Each model includes a compact filtration unit that adapts to the needs and specifications of the product.

## ROTOMOULDED SPAS

Polyethylene rotomoulded spas. They are compact units designed exclusively for PRIVATE USE, which do not require pre-installation and can be directly connected to a power source. They include the pump, control panel and heat exchanger.

## PUBLIC SPAS WITH OVERFLOW CHANNEL AND COMPACT UNITS

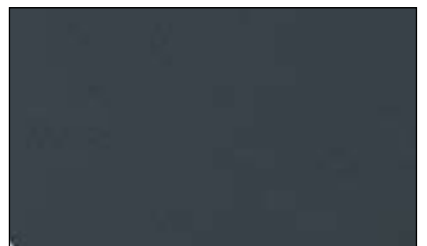
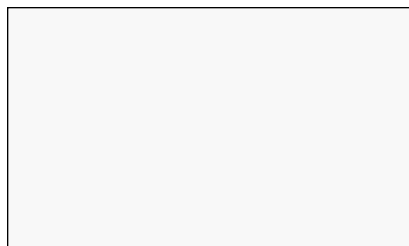
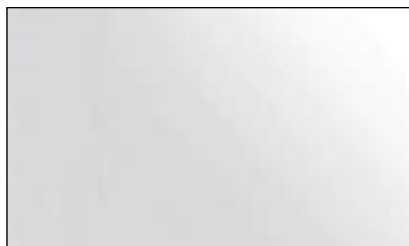
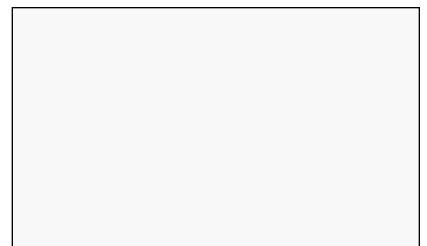
These Spas are designed for COMMERCIAL USE and are made to be embedded. Equipped with overflow channel and also all the necessary accessories for hydro massage.

Each Spa includes a compact filtration unit that adapts to the specifications of each model.

## SPA&FUN

AstralPool presents Spa&Fun in this section – a new kind of residential spa that allows you to enjoy every air bubble. It is a very special zone as well as a source of both health and well-being. We have filled the Spa with sensations: the soft delicacy of the warm water, the magic of bubbles, along with the quality of efficient-jet massage, making our Spas areas of fun for the entire family.



**COLOUR CHART FOR SPAS****N° 47 GREEN MARBLE****N° 52 NAVY MARBLE****N° 46 BLUE MARBLE****N° 64 PEARL SHADOW****N° 61 SAPPHIRE****N° 66 GRAPHIT****N° 44 WHITE****N° 65 PEARL****N° 68 DESERT HORIZON****N° 56 GRANITE BLUE****N° 58 GRANITE SAW****N° 67 ONIX****IMPORTANT:**

When placing orders, kindly indicate after the code number the numbers for the shell colour.

**Ex: 38848S1200 CL XX**

## RANGES

### Residential spas with wood cabinet coding

The coding structure for the wood cabinet spas is made up of 10 digits. The first 5 digits refer to the Spa model and the following ones indicate the range, coating and the colour of the accessories as it is also necessary to specify the colour. This coding system will be structured in the following way:

X X X X X	X	X	X	XX	CL	XX
Spa model	Range	Cabinet versions	Accessories colour	Complements	Variation	Colour

Position from 1 to 5: 5 numbers of standard codification		
Position 6: Product range definition		
	S	Standard
	L	Luxe
Position 7: Cabinet version		
	0	Cedar
	1	Grey
	4	Metallic structure
Position 8: Accessories colour definition		
	2	Grey
	3	Chrome-plated
Position from 9 to 10: Options configuration definition		
	00	Standard
	01	Bouquet + Chrome
	02	CD
	03	CD+ Bouquet + Chrome
	04	Isolation
	05	Bouquet + Chrome + Isolation
	06	CD + Isolation
	07	CD+ Bouquet + Chrome + Isolation

#### Coating types:

##### Cedar:



##### Coastal Grey



**RESIDENTIAL SPAS IN WOOD CABINET**

new Pacific 30 - Code 38848



TECHNICAL FEATURES	Std
Size	216 x 198 x 91 cm (± 1cm)
Jets + nozzles	31
Drainage	1
Positions (Seats / Loungers)	6 (5 / 1)
Total bathers weight	300 Kg
Water capacity	980 l
Spa weight (empty)	290 Kg
Max. power required	3415 W / 5915 W
Massage pump	1 x 1.9 HP
Electric heater	3 kW
Blower	900 W
Voltage	230 V.
Headrests	3
Cover	Yes
Ozone generator	Yes
LED light	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
Waterfall	1
Aromatherapy	Yes
CONFIGURATION OPTIONS	
Cedar coating	Optional
Metallic structure	Optional
Spa cabinet thermal insulation	Optional
Musictherapy	Optional

PACIFIC 30

RESIDENTIAL SPAS IN WOOD CABINET



new Pacific 20 - Code 38847

PACIFIC 20



TECHNICAL FEATURES	Std
Size	216 x 198 x 91 cm (± 1cm)
Jets + nozzles	21
Drainage	1
Positions (Seats / Loungers)	6 (5 / 1)
Total bathers weight	300 Kg
Water capacity	980 l
Spa weight (empty)	290 Kg
Max. power required	3415 W / 4015 W
Massage pump	1 x 1.9 HP
Electric heater	3 kW
Voltage	230 V.
Headrests	3
Cover	Yes
Ozone generator	Yes
LED light	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
Waterfall	1
CONFIGURATION OPTIONS	
Cedar coating	Optional
Metallic structure	Optional
Spa cabinet thermal insulation	Optional
Musictherapy	Optional

**RESIDENTIAL SPAS IN WOOD CABINET**

new **Antartic - Code 38849**



TECHNICAL FEATURES	Std
Size	210 x 196 x 92 cm (± 1cm)
Jets + nozzles	30
Drainage	1
Positions (Seats / Loungers)	6 (5 / 1)
Total bathers' weight	240 Kg
Water capacity	1108 l
Spa weight (empty)	240 Kg
Max. power required	3365 W / 5815 W
Massage pump	2 x 1.4 HP
Electric heater	3 kW
Voltage	230 V.
Headrests	2
Cover	Yes
Ozone generator	Yes
LED light	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
Waterfall	1
CONFIGURATION OPTIONS	
Cedar coating	Optional
Metallic structure	Optional
Spa cabinet thermal insulation	Optional

**Antartic**

## RESIDENTIAL SPAS IN WOOD CABINET



new Atlantida - Code 38850

# ATLANTIDA



TECHNICAL FEATURES	Std
Size	216 x 198 x 85 cm (± 1cm)
Jets + nozzles	21
Drainage	1
Positions (Seats / Loungers)	4 (2 / 2)
Total bathers' weight	240 Kg
Water capacity	800 l
Spa weight (empty)	240 Kg
Max. power required	3415 W / 4015 W
Massage pump	1.9 HP
Electric heater	3 kW
Voltage	230 V.
Headrests	2
Cover	Yes
Ozone generator	Yes
LED light	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
CONFIGURATION OPTIONS	
Cedar coating	Optional
Metallic structure	Optional
Spa cabinet thermal insulation	Optional



**RESIDENTIAL SPAS IN WOOD CABINET**



new Ocean - Code 38851



Ocean



TECHNICAL FEATURES	Std
Size	197 x 171 x 84 cm (± 1cm)
Jets + nozzles	22
Drainage	1
Positions (Seats / Loungers)	3 (2 / 1)
Total bathers' weight	180 Kg
Water capacity	600 l
Spa weight (empty)	240 Kg
Max. configurable power required	3.415 W / 4.015 W
Massage pump	1 x 1,9 HP
Electric heater	3 kW
Voltage	230 V.
Headrests	2
Cover	Yes
Ozone generator	Yes
LED light	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
Waterfall	1
CONFIGURATION OPTIONS	
Cedar coating	Optional
Metallic structure	Optional
Spa cabinet thermal insulation	Optional



## RESIDENTIAL SPAS IN WOOD CABINET

Evolution - Code 32474

evolution



PEARL SHADOW COLOUR

TECHNICAL FEATURES	Std	Luxe
Size	233 x 233 x 91 cm (± 1cm)	
Jets + nozzles	54	74
Drainage	1	
Positions (Seats / Loungers)	6 (4 / 2)	
Total bathers' weight	300 Kg	
Water capacity	1600 l	
Spa weight (empty)	400 Kg	
Max. power required	230 V (4915 W / 7915 W)	230 V (7118 W / 10118 W) (+120 W CD)
Massage pump	2 x 2 HP	3 x 2 HP
Filtration pump	200 W	
Blower	900 W	1200 W
Electric heater	3 kW	
Voltage	220 V.	
Headrests	3	
Cover	Yes	
Ozone generator	Yes	
Aromatherapy + Chromotherapy	Yes	
Coating	Cedar	
Jet nozzle Colour	Grey	Chromed
CONFIGURATION OPTIONS		
Coating - Metallic structure	Optional	Optional
Spa cabinet thermal insulation	-	Optional
Musictherapy	-	Optional

**RESIDENTIAL SPAS IN WOOD CABINET**

Galia - Code 07817



SAW COLOUR

**Galia** | A  
GALIA

TECHNICAL FEATURES	Std
Size	199 x 199 x 84 (± 1cm)
Jets + nozzles	25
Drainage	1
Positions (Seats / Loungers)	5 (4 / 1)
Total bathers' weight	300 Kg
Water capacity	1050 l
Spa weight (empty)	250 Kg
Max. power required	3165 W / 5565 W
Massage pump	1.5 kW
Filtration pump	150 W
Blower	900 W
Electric heater	3 kW
Voltage	220 V.
Headrests	1
Cover	Yes
Ozone generator	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
CONFIGURATION OPTIONS	
Coating Metallic structure	Optional
Aromatherapy + Chromotherapy	Optional

## RESIDENTIAL SPAS IN WOOD CABINET

Iris - Code 07816

# Iris



NAVY MARMOL COLOUR

TECHNICAL FEATURES	Std
Size	199 x 148 x 84 (± 1cm)
Jets + nozzles	26
Drainage	1
Positions (Seats / Loungers)	3 (2 / 1)
Total bathers' weight	180 Kg
Water capacity	680 l
Spa weight (empty)	230 Kg
Max. power required	3165 W / 5565 W
Massage pump	1.5 kW
Filtration pump	150 W
Blower	900 W
Electric heater	3 kW
Voltage	220 V.
Headrests	1
Cover	Yes
Ozone generator	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
CONFIGURATION OPTIONS	
Coating Metallic structure	Optional
Aromatherapy + Chromotherapy	Optional

**RESIDENTIAL SPAS IN WOOD CABINET**

Geminis - Code 16006



GEMINIS



NAVY MARBLE COLOUR

TECHNICAL FEATURES	Std
Size	220 x 103 x 76 (± 1cm)
Jets + nozzles	18
Drainage	1
Positions (Seats / Loungers)	2 (- / 2)
Total bathers' weight	120 Kg
Water capacity	440 l
Spa weight (empty)	225 Kg
Max. power required	3165 W / 5565 W
Massage pump	1.5 kW
Filtration pump	150 W
Blower	900 W
Electric heater	3 kW
Voltage	220 V.
Headrests	1
Cover	Yes
Ozone generator	Yes
Jet nozzle Colour	Grey
Coating	Synthetic Grey
CONFIGURATION OPTIONS	
Coating Metallic structure	Optional
Aromatherapy + Chromotherapy	Optional

## ROTOMOULDED SPAS

Daydream - Code 32473

DAYDREAM



Polyethylene rotomoulded Spa.  
Available colours: CL 80 (blue) or  
CL 81 (grey)

TECHNICAL FEATURES	Std
Size	190 x 170 x 73 (± 2cm)
Jets + nozzles	12
Drainage	1
Positions (Seats / Loungers)	3 (2 / 1)
Total bathers' weight	180 Kg
Water capacity	925 l
Spa weight (empty)	100 Kg
Max. power required	3215 W / 4615 W
Massage pump	1x1.4 kW
Filtration pump	200 W
Electric heater	3 kW
Voltage	220 V.
Light	Yes

CONFIGURATION OPTIONS	Cover
32473RT000	
32473RT002	X

**ROTOMOULDED SPAS**

new Daydream Luxe - Code 40673



Polyethylene rotomoulded Spa.  
Available colours: CL 80 (blue) or  
CL 81 (grey)

TECHNICAL FEATURES	Std
Size	190 x 170 x 73 (± 2cm)
Jets + nozzles	12
Drainage	1
Positions (Seats / Loungers)	3 (2 / 1)
Total bathers' weight	180 Kg
Water capacity	925 l
Spa weight (empty)	100 Kg
Max. power required	3215 W / 4615 W
Massage pump	1 x 1.4 kW
Filtration pump	200 W
Electric heater	3 kW
Voltage	220 V.
Light	Yes

CONFIGURATION OPTIONS	Cover
40673RT000	
40673RT002	X

DAYDREAM LUXE

## ROTOMOULDED SPAS

new 4Dream - Code 34394

# 4Dream



Polyethylene rotomoulded Spa.  
Available colours: CL 80 (blue) or  
CL 81 (grey)

TECHNICAL FEATURES	Std
Size	193 x 191 x 76 (± 2cm)
Jets + nozzles	21
Drainage	1
Positions (Seats / Loungers)	4 (2 / 2)
Total bathers' weight	240 Kg
Water capacity	1007 l
Spa weight (empty)	190 Kg
Max. power required	3353 W / 4403 W
Massage pump doble velocidad	1 x 1.4 kW
Electric heater	3 kW
Voltage	220 V.
Headrests	2
Light	Yes

CONFIGURATION OPTIONS	Cover
34394RT000	
34394RT002	X



**IN-GROUND RESIDENTIAL SPAS**

new Thalassa - Code 40768

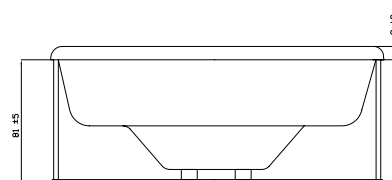
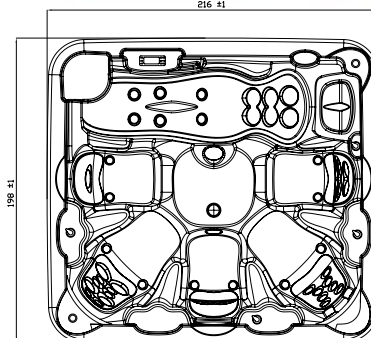


TECHNICAL FEATURES	Std
Size	216 x 198 x 91 cm (± 1cm)
Jets + nozzles	31
Drainage	1
Pneumatic push button	2
Positions (Seats / Loungers)	6 (5 / 1)
Total bathers' weight	300 Kg
Water capacity	980 l
Spa weight (empty)	260 Kg
Headrests	3
Cover	Yes
Light + transformer	Yes
Jet nozzle Colour	Grey
Waterfall	1

CONFIGURATION OPTIONS	Light Kit	Remote cont.	Cover
40768SE001	X		
40768SE003			X
40768SE004	X	X	
40768SE006	X		X
40768SE008	X	X	X

The Digital Remote option means that the Spa is supplied with private compact kit with digital option.

# THALASSA



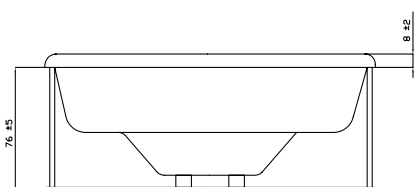
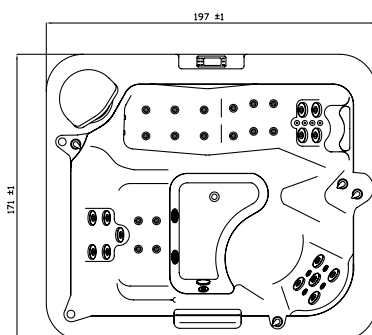


## IN GROUND RESIDENTIAL SPAS



new **Baltic - Code 40767**

# Baltic



TECHNICAL FEATURES	Std
Size	197 x 171 x 84 cm (± 1cm)
Jets + nozzles	22
Drainage	1
Pneumatic push button	2
Positions (Seats / Loungers)	3 (2 / 1)
Total bathers' weight	180 Kg
Water capacity	600 l
Spa weight (empty)	210 Kg
Headrests	2
Cover	Yes
Light + transformer	Yes
Jet nozzle Colour	Grey
Waterfall	1

CONFIGURATION OPTIONS	Light Kit	Remote cont.	Cover
40767SE001	X		
40767SE003			X
40767SE004	X	X	
40767SE006	X		X
40767SE008	X	X	X

The Digital Remote option means that the Spa is supplied with private compact kit with digital option.

**IN GROUND RESIDENTIAL SPAS**

Fully fitted with pipework, skimmer, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and two Venturi inlets. Supplied with adjustable bracket for easy installation.

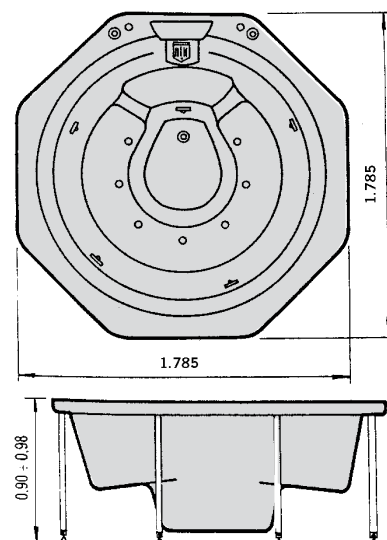
**Coral - Code 04003**



**CORAL**



WHITE COLOUR



TECHNICAL FEATURES	Std
Size	178 x 178
Jets + nozzles	11
Drainage	1
Pneumatic push button	2
Adjustable air inlets	2
Positions (Seats / Loungers)	4 (4 / 0)
Total bathers' weight	320 Kg
Water capacity	908 l
Spa weight (empty)	190 Kg
Light + transformer	50 W

CONFIGURATION OPTIONS	Light Kit	Remote cont.	Cover
04003SE000			
04003SE001	X		
04003SE003			X
04003SE004	X	X	
04003SE006	X		X
04003SE008	X	X	X

The Digital Remote option means that the Spa is supplied with private compact kit with digital option.

We reserve the right to change, wholly or partially, the features of our products and the contents of this document, without prior notice.

Fully fitted with pipework, skimmer, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and two Venturi inlets. Supplied with adjustable bracket for easy installation.

## IN GROUND RESIDENTIAL SPAS

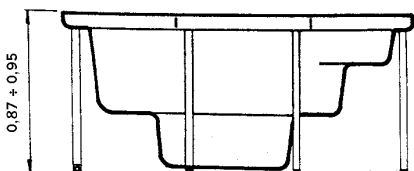
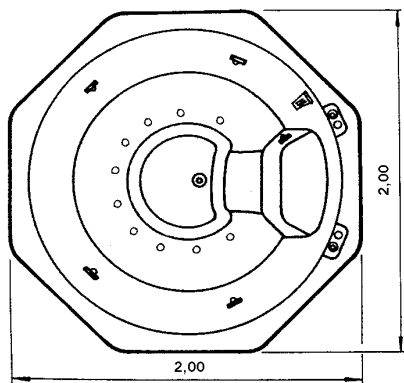
Inca - Code 04005

# INCA



BLUE MARBLE COLOUR

TECHNICAL FEATURES	Std
Size	200 x 200
Jets + nozzles	14
Drainage	1
Pneumatic push button	2
Adjustable air inlets	2
Positions (Seats / Loungers)	6 (6 / 0)
Total bathers' weight	480 Kg
Water capacity	1135 l
Spa weight (empty)	210 Kg
Light + transformer	50 W



CONFIGURATION OPTIONS	Light Kit	Remote cont.	Cover
04005SE000			
04005SE001	X		
04005SE003			X
04005SE004	X	X	
04005SE006	X		X
04005SE008	X	X	X

The Digital Remote option means that the Spa is supplied with private compact kit with digital option.

We reserve the right to change, wholly or partially, the features of our products and the contents of this document, without prior notice.

**RESIDENTIAL COMPACT UNIT**

**Compact Cronos Kit**



Compact kit filtration is supplied with Cantabric (Ø 500 mm) filter, filtration pump, massage pump, air blower, electric heater and monophase control electric box including main switch and circuit controls for operating heating, filtration and massage, pneumatic control and programming clock.

CODE	Ozone generator	Digital operating panel	3 jets kit	Compact unit weight	Packaging volume	Maximum Spa Volume	Massage pump
25414CE000				33 kg	1.53 m <sup>3</sup>	1550 l	0.9 kW 15000 l/h
25414CE001	•						
25414CE002*		•					
25414CE003*	•	•		33 kg	1.53 m <sup>3</sup>	1500 l	1.5 kW 26000 l/h
25414CE004			•				
25414CE005	•		•				
25414CE006*		•	•				
25414CE007*	•	•	•				

\* The Digital Control option implies that the Spa must be delivered with a residential compact kit with the digital option.

Filter	Filtration pump	Blower	Electric heater	Voltage	Total power requirements	Length x Width x Height
500 mm	0.186 kw 6000 l/h	0.90 kw 54 m <sup>3</sup> /h	3 kW	230 V	5.68 kw	900 x 680 x 940 mm

We reserve the right to change, wholly or partially, the features of our products and the contents of this document, without prior notice.

COMPACTS

PORTABLE RESIDENTIAL SPAS

Available till end of stock

Ready<sub>2</sub>Enjoy - Code 32472

Ready<sub>2</sub>Enjoy  
READY<sub>2</sub>ENJOY



TECHNICAL FEATURES	
Water capacity	946 l
Packaging volume	0.161 m <sup>3</sup>
Spa weight (empty)	60 kg
Height	71.12 cm
External diameter (cm)	208.28
Internal diameter (cm)	147.32
Air microjets	127
Digital control	Yes
Cartridge filters	1
Massage pump	1.3 HP
Electric heater	1 kW
Voltage	230 V.
Cover	Yes



**IN-GROUND OVERFLOW COMMERCIAL SPAS**

Fully fitted with overflow grating, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

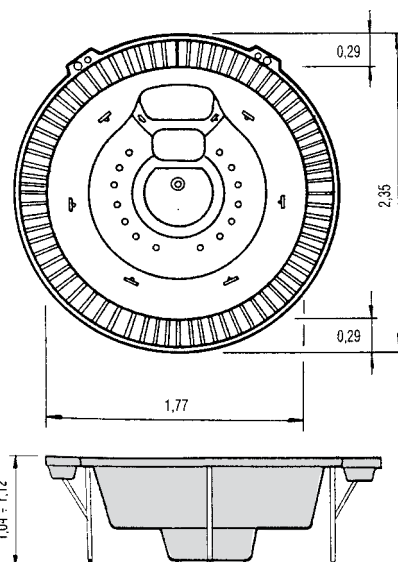
**Odisea - Code 05133**



**Odisea**



GREEN MARBLE COLOUR



TECHNICAL FEATURES	
Positions (Seats / Loungers)	6 (6 / 0)
Water capacity	1600 l
Spa weight (empty)	250 Kg
Packaging volume	7.23 m <sup>3</sup>
Light + transformer	50 W
Air switches	2
Air blower nozzles	14 (280)
Main drains	2
Return inlet	2

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
05133SE000			6	2
05133SE001	X		6	2
05133SE003		X	6	2
05133SE006	X	X	6	2

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l

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Fully fitted with overflow grating, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

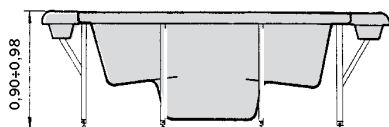
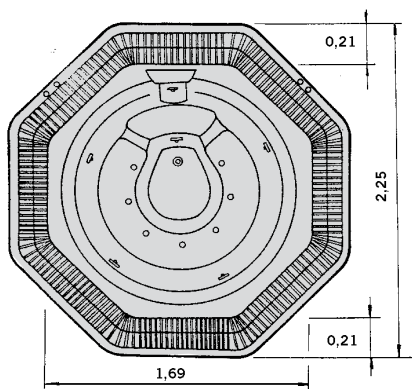
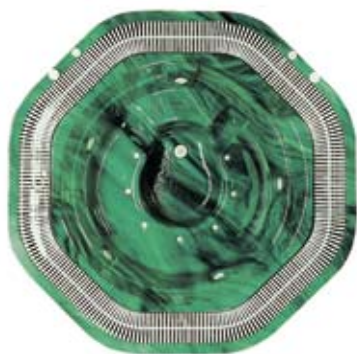
## IN-GROUND OVERFLOW COMMERCIAL SPAS

Casiopea - Code 04007

# Casiopea



GREEN MARBLE COLOUR



TECHNICAL FEATURES	
Positions (Seats / Loungers)	4 (4 / 0)
Water capacity	1216 l
Spa weight (empty)	210 Kg
Packaging volume	6.38 m <sup>3</sup>
Light + transformer	50 W
Air switches	2
Air blower nozzles	7 (140)
Main drains	1
Return inlet	1

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
04007SE000			4	2
04007SE001	X		4	2
04007SE003		X	4	2
04007SE006	X	X	4	2

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l

**IN-GROUND OVERFLOW COMMERCIAL SPAS**

Fully fitted with overflow grating, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

**Formentera - Code 16413**



**Formentera**  
FORMENTERA

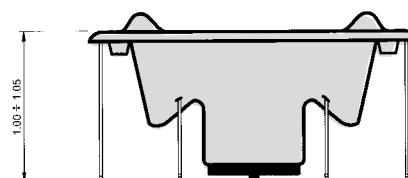
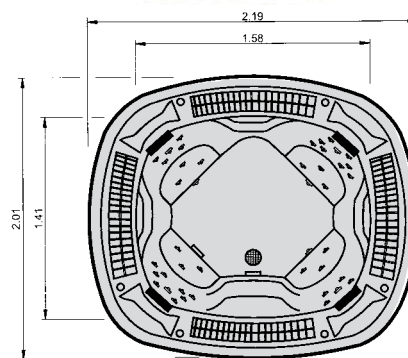


GRANITE BLUE COLOUR

TECHNICAL FEATURES	
Positions (Seats / Loungers)	4 (4 / 0)
Water capacity	1370 l
Spa weight (empty)	280 Kg
Packaging volume	7.40 m <sup>3</sup>
Light + transformer	50 W
Air switches	4
Air blower nozzles	28 (560)
Main drains	3
Return inlet	3

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
16413SE000			12	2
16413SE001	X		12	2
16413SE003		X	12	2
16413SE006	X	X	12	2

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l





Fully fitted with overflow grating, main drain and switches filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

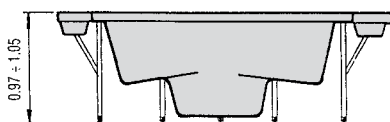
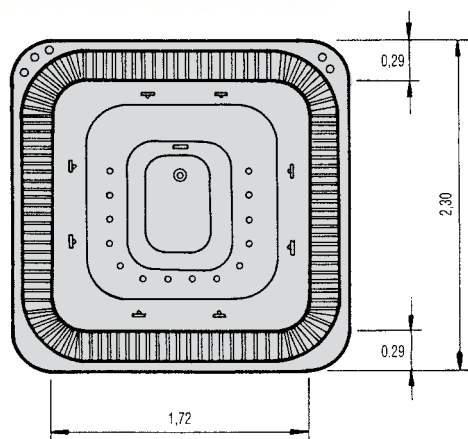
## IN-GROUND OVERFLOW COMMERCIAL SPAS

Venecia - Code 05134

# Venecia



NAVY MARBLE COLOUR



TECHNICAL FEATURES	
Positions (Seats / Loungers)	7 (7 / 0)
Water capacity	1800 l
Spa weight (empty)	300 Kg
Packaging volume	7.23 m <sup>3</sup>
Light + transformer	50 W
Air switches	3
Air blower nozzles	14 (280)
Main drains	2
Return inlet	2

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
05134SE000			6	2
05134SE001	X		6	2
05134SE003		X	6	2
05134SE006	X	X	6	2

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l

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**IN-GROUND OVERFLOW COMMERCIAL SPAS**

Fully fitted with overflow grating, main drain and switches filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

new Bahia - Code 40769



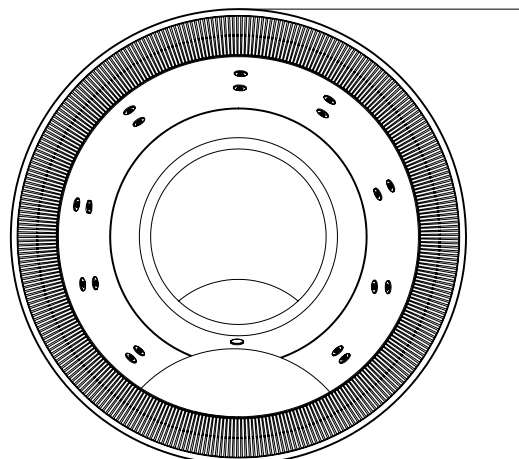
Bahia



TECHNICAL FEATURES	Std
Positions (Seats / Loungers)	9 (9 / -)
Water capacity	600 l
Spa weight (empty)	240 Kg
Packaging volume	18.24 m <sup>3</sup>
Light + transformer	50 W
Air switches	-
Air blower nozzles	-
Main drains	6
Return inlet	1

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
40769SE001	X		18	-
40769SE003		X	18	-
40769SE004	X		18	-
40769SE006	X	X	18	-

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l



Fully fitted with overflow grating, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

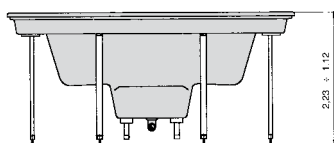
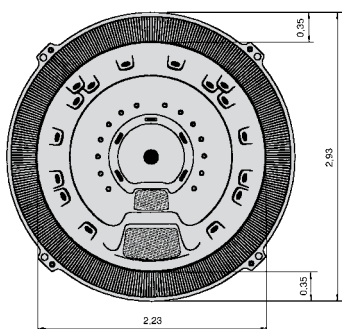
## IN-GROUND OVERFLOW COMMERCIAL SPAS

Coliseum - Code 20141

# COLISEUM



NAVY MARBLE COLOUR



TECHNICAL FEATURES	
Positions (Seats / Loungers)	10 (10 / 0)
Water capacity	2000 l
Spa weight (empty)	385 Kg
Packaging volume	18.24 m <sup>3</sup>
Light + transformer	50 W
Air controls switches	4
Air blower nozzles	18 (360)
Main drains	5
Return inlet	1

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
20141SE000			16	2

Code	Balance tank (not included in the SPA code)
11372	Polyester balance tank 1000 l
17144	Balance tank 1000 l
27865	Balance tank 2000 l

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**IN-GROUND OVERFLOW COMMERCIAL SPAS**

Fully fitted with overflow grating, main drain and with filtration, hydro massage and air blower nozzles. Hydro massage or digital control press buttons and Venturi inlets. Balance tank is not supplied.

**Olympia - Code 26440**



Olympia

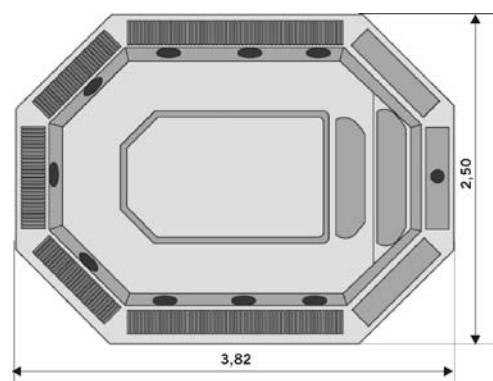


This spa is available in colours 44 and 46

TECHNICAL FEATURES	
Positions (Seats / Loungers)	12 (12 / 0)
Water capacity	3380 l
Spa weight (empty)	700 Kg
Packaging volume	18.12 m <sup>3</sup>
Light + transformer	50 W
Air switches	2
Air blower nozzles	20 (400)
Main drains	7
Return inlet	4

CONFIGURATION OPTIONS	Light Kit	Cover	Jets	Pneumatic controls
26440SE000			16	2
26440SE001	X		16	2

Code	Balance tank (not included in the SPA code)
27865	Polyester balance tank 2000 l



## COMPACT FILTRATION UNIT FOR COMMERCIAL SPAS

Compact filtration unit for commercial spas

Compacts



Preassembled unit for filtration, heating and massage.

CODE	Description	Ozone generator	Spa models	Compact unit weight	Packaging volume.
04015CE000	Compact unit kit 50		Casiopea, Odisea, Venecia	45 Kg	0.89 m <sup>3</sup>
04015CE001	Compact unit kit 50 + ozone	●			
05135CE000	Compact unit kit 75		Casiopea, Odisea, Venecia	60 Kg	1.20 m <sup>3</sup>
05135CE001	Compact unit kit 75 + ozone	●			
16412CE000	Compact unit kit 75 2 M		Formentera, Coliseum, Bahia	60 Kg	1.20 m <sup>3</sup>
16412CE001	Compact unit kit 75 2 M + ozone	●			
26325CE000	Compact unit kit 80	●	Olympia	116 kg	3.34 m <sup>3</sup>
26325CE001	Compact unit kit 80 + ozone	●			

CODE	Filter	Filtration pump	Massage pump	Air Blower	Electric heater	Voltage	Total power consumption	Length x Width x Height
04015CE000	Ø 450	0.45 kW	1 x 0.78 kW	1.10 kW	6 kW	380 V III	8.33 kW	1000 X 800 X 760 mm
04015CE001		7400 l/h	14200 l/h	85000 l/h				
05135CE000	Ø 650	0.55 kW	1 x 1.17 kW	1.10 kW	6 kW	380 V III	8.82 kW	1120 X 1020 X 1500 mm
05135CE001		10500 l/h	17200 l/h	85000 l/h				
16412CE000	Ø 650	0.55 kW	2 x 1.47 kW	1.10 kW	6 kW	380 V III	10.29 kW	1120 X 1020 X 1500 mm
16412CE001		10500 l/h	52000 l/h	85000 l/h				
26325CE000	Ø 800	0.55 kW	2 x 1.47 kW	1.10 kW	6 kW	380 V III	10.29 kW	1140 X 1100 X 1770 mm
26325CE001		10500 l/h	52000 l/h	85000 l/h				



**SPA COVERS**



**COVERS**

**Portable Spa covers**

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Spa EVOLUTION 6 cover	32690	1	17	0.50
Spa PACIFIC 20 cover	17139	1	17	0.40
Spa ANTARTIC cover	20292	1	15	0.26
Spa ATLÁNTIDA cover	17139	1	17	0.40
Spa OCEAN cover	15619	1	16	0.36
Spa GALIA cover	15620	1	15	0.29
Spa IRIS cover	15618	1	15	0.28
Spa DAYDREAM cover	32689	1	17	0.50
Spa 4DAYDREAM cover	35286	1	15	0.29

**Embedded Spas covers**

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Spa THALASSA cover	17139	1	17	0.40
Spa BALTIC cover	15619	1	16	0.36
Spa CORAL cover	23191	1	15	0.27
Spa INCA cover	23193	1	17	0.40
Spa ODISEA cover	23197	1	17	0.43
Spa CASIOPEA cover	23195	1	15	0.25
Spa FORMENTERA cover	28297	1	17	0.58
Spa VENECIA cover	23198	1	16	0.32
Spa BAHÍA cover	28298	1	18	0.86
Spa COLISEUM cover	28298	1	18	0.86

**Support for covers**

Metallic support. Makes cover maneuvring easier.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
28462	1	10	0.118



## AIR BLOWERS

### Continuous operation lateral turbo blower pump



Air blowers designed to churn the filtration bed during the backwashing process or to supply low air flow whenever required.

The blower housing and the impeller are made of Aluminium alloy, whereas the shaft is made of S.S. on which the impeller is mounted and dynamically balanced.

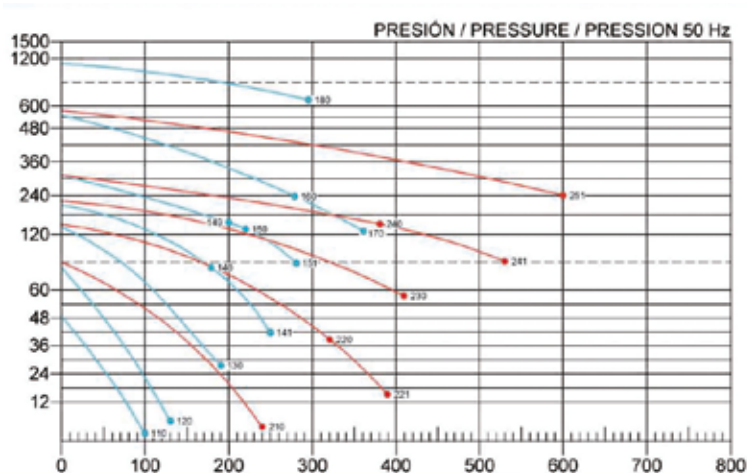
The 100-120/200-240 V single phase and the 200-240/280-440 V three phase motors at 50/60 Hz for non-stop operation, are manufactured according to the IEC Standards and come with an IP 54 protection and an F Class insulation.

The pumps can be installed both horizontally as well as vertically, and as there is no contact between the static and movable blower parts, it does not require any lubrication nor maintenance, neither is there any wear and tear.

Power	Curve
0.4 KW Triph. pump	120
0.75 KW Monoph. pump	130
0.75 KW Triph. pump	130
1.1 KW Monoph. pump	140
1.1 KW Triph. pump	140
1.5 KW Monoph. pump	141
1.75 KW Triph. pump	141
1.75 KW Triph. 2V pump	221
2.2 KW Triph. pump	150
3 KW Triph. 2V pump	230
3 KW Triph. pump	151
4 KW Triph. 2V pump	240
5.5 KW Triph. pump	160
5.5 KW Triph. 2V pump	241
7.5 KW Triph. 2V pump	170
11 KW Triph. 2V pump	251
13 KW Triph. pump	251

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33970	1	12	0.032
35387	1	-	-
35388	1	-	-
31090	1	29	0.061
31091	1	26	0.064
33971	1	30	0.071
31092	1	27	0.071
35389	1	-	-
31093	1	37	0.078
31094	1	47	0.096
31095	1	39	0.106
31096	1	59	0.217
31097	1	82	0.269
33972	1	78	0.217
31098	1	86	0.269
33973	1	150	0.388
33974	1	150	0.512



### COMPRESOR / 50 Hz. TRI PHAES MOTOR SELECTION DIAGRAM



Code	Maxi Pressure (mbar)	Maxi Flow m <sup>3</sup> /h	Power kW	Curve
33970	130	84	0.4	120
35387	190	144	0.75	130
35388	190	144	0.75	130
31090	180	216	1.1	140
31091	180	216	1.3	140
33971	200	216	1.5	141
31092	250	216	1.75	141
35389	156	320	1.75	221
31093	220	312	2.2	150
31094	410	410	3.4	230
31095	280	312	3.4	151
31096	380	312	4	240
31097	280	552	5.5	160
33972	530	312	5.5	241
31098	360	552	7.5	170
33973	600	552	11	251
33974	295	1134	13	-

**AIR BLOWERS**

**Intermittent operation air blower**

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
0.74 kW Flow 65 m <sup>3</sup> /h at 1 m water head	04089 	1	3.5	0.028
1.10 kW Flow 133 m <sup>3</sup> /h at 1 m water head	04028 	1	3.5	0.028



**Intermittent operation air blower, 900 W**

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
0.90 kW Flow 54 m <sup>3</sup> /h at 1.5 m water head	19289	1	3.5	0.028



**ACCESSORIES**

**Massage pump**

Body in ABS and 75% fibreglass. 0.37 kW (0.5 HP) motor. Electric protection IP-55 220 V 1~50Hz. 2" male suction connection. 1½" male return connection.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04091	1	6.0	0.016



**TECHNICAL FEATURES**

m.h.w.	m <sup>3</sup> /h
2	16.5
4	14.8
6	12.6
8	10
10	7

**Light 15 W**

With cable. Without transformer.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33779 	1	1	0.028





## ACCESSORIES

### Control box Standard model



Fitted with overload protection for each function. (filtration, heating and massage). Programmable digital thermostat for heating and automatic timer. Control system for air massage and hydro-massage pumps, differential, as well as protections for all motors and working elements.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>Standard</b> (400V III + Neutral~)	<b>04018</b> ▲	1	6.0	0.024
<b>Standard + industrial blower</b> (400V III + Neutral~)	<b>04020</b>	1	6.5	0.024
<b>Standard + industrial blower + timer</b> (400V III + Neutral~)	<b>04022</b>	1	6.5	0.024
<b>Single phase standard</b> (230V 1~)	<b>08663</b> ▲	1	6.5	0.024
<b>Standard for Compact-75</b> (400V III + Neutral~)	<b>08664</b> ▲	1	6.5	0.024

### Control box for residential Spas

With programmable digital thermostat for heating, automatic timer and control system for air massage and hydro-massage pumps, differential switch and operating elements.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
<b>For residential spas</b> (400V III + Neutral~)	<b>04024</b> ▲	1	6.0	0.024

### Programmable digital thermostat



To operate ON/OFF contactor.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
	<b>11288</b>	20	0.5	0.003

### Thermostat sensor TPC



TPC type, senses pipe outer temperature and operates start/stop thermostat switch.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
	<b>11289</b> ▲	20	0.5	0.003

### 2 1/2" adjustable jet



Regulates proportion of air/water outlet. 50 mm diameter water inlet and 32 mm diameter air inlet. Flow: 2.2 m<sup>3</sup>/hour. Pressure of 0.8 atm.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
	<b>32641</b>	12	7.625	0.028

**ACCESSORIES**

**2" threaded jet**

50 mm diameter water inlet and 32 mm diameter air inlet. Flow 2.2 m<sup>3</sup>/hour. Pressure of 0.8 atm.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33586	12	7.625	0.028



**2" Skimmer**

With elbow for glueing to a Ø 50 mm pipe.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04039	8	3.5	0.028



**Skimmer screen**


Made in ABS plastic.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04040 	12	3.5	0.028



**Skimmer fitting**

For fixing skimmer to an inlet body of 2".

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04041 	12	1.5	0.028



**2" drain for spas**

With elbow for glueing to Ø 50 mm pipe.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04042	15	4.8	0.028



## ACCESSORIES

### 90° elbow Ø 50 mm - 2"



Made in PVC. For skimmer and drain.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04043	25	5.5	0.028

### Drain fitting



Made in ABS. For 2" inlet assembly.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04044	20	5.6	0.028

### Adjustable air inlet



1" for air regulation. Controls air to Venturi system.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04045	25	6.0	0.028

### Adjustable silent air inlet



Silent venturi for jet air flow control. Air intake is through embedded part. Attaches to air distributor code 33937.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33938	25	8.5	0.028

### Threaded blower nozzle



For air distribution into the SPA from of the blowers.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
27602	80	1.6	0.03

**ACCESSORIES**
**Blower nozzle for glueing**

For air distribution into the SPA by means of the blowers.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
28460	80	1.6	0.03


**2" return unit**

For return line and massage.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04034	25	5.0	0.028


**2" inlet unit**

For skimmer and drain.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04035	50	4.5	0.028

**Nozzle unit**

For fixing 2" adjustable jet.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04038	50	4.5	0.028

**Pneumatic pressbutton**

To operate air blowers, jets and massage jets.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
For maximum 15 m	04047	20	0.5	0.028
For maximum 7 m single	04048	40	1.6	0.028
For maximum 7 m single, thread	09667	20	0.5	0.028


**Pneumatic switch**

Convert pneumatic signals into electric ones.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
For maximum 15 m	04050	25	1.0	0.028



## ACCESSORIES

### Electric press button



230 V 50 Hz.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33387	1	1.5	0.003

### Spa access steps



2 steps - steps for easy access to the Spa.

Itauba wooden steps (58x60x34 cm)

Piceas wooden steps (74x57x55 cm)

Available in grey (CL54) and wooden colour (CL92)

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
26497	1	10	0.23
41136	1	10	0.23

### Spa exit handrail



Manufactured in S.S. (AISI-304) Ø 43 mm. pipe, hand polished finish.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04026	1	5.6	0.10

### Polyester balance tank



Used for collecting water volume displaced in overflow channel of commercial spas.

1000 litres capacity (162x122x83 cm)

2000 litres capacity (204x160x75 cm)

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
11372	1	10.0	1.750
27865	1	15.0	3.081

### PE balance tank



1000 litres capacity. Used for collecting water volume displaced in overflow channel of commercial spas.

158x92x95 cm

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
17144	1	10.0	1.750

**ACCESSORIES**

**Gazebo**

Inside measurements: 2.54 x 2.56 m. Outer measurements: 2.59 x 2.59 m. Height: 2.76 m.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33778	1	243	2.95



**ACCESSORIES - JETS FOR CONCRETE POOLS**

**Rotating jet**

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
20297	25	3.33	0.028



**Twin rotating jet**

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
20296	25	3.83	0.028



**Mini Jet spa for acrylic assembly**

Designed to be mounted in acrylic spas to attach to pipes with a 20 and 10 mm inside diameter. The body is included.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
40804	25	3.30	0.028

*new*



**Rotating jet housing**

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
20299	15	3.33	0.028



## ACCESSORIES - JETS FOR CONCRETE POOL

### Movable tube jet nozzle, in substitution of a fixed one

Compatible with code 20295 and 20299.



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
20298	1	0.8	0.001

### 2 1/2" wall conduit for rotating jet

Made up of: The jet body, 20 cm wall conduit, niche, threaded filtering, front body. Jet not included.



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
20295	4	4	0.018

## ACCESSORIES

### Plastic hose

Flexible PVC pressure hose. For solvent connection to Ø 32 mm and Ø 50 mm.



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04055	50	2.5	0.100
04056	50	2.5	0.257

Hose Ø 32 mm

Hose Ø 50 mm

### Electropneumatic equipment

With two switches. Up to 1.47 kW (2 HP).



Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04053	2	4.0	0.028

### Plastic tube

For pneumatic signal from pressbutton to switch. Inner Ø 3.5 mm.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04054	50	3.33	0.006

**ACCESSORIES**
**Chromotherapy kit**

Contains: 15 W light. Colour sequence: Blue, Orange, Green, Yellow and Red. With connection cable, without transformer.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33690	1	1	0.028


**Aromatherapy spare parts**

Aroma refills for Spas with Aromatherapy Kit.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Kiwi	32467	4	0.5	0.028
Floral	32468	4	0.5	0.028
Ocean Brise	32469	4	0.5	0.028
Red Apple	32470	4	0.5	0.028


**ACCESSORIES MINI-SPAS**
**1 1/2" drain**

With elbow to connect to Ø 50 mm pipe.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chrome-plated bronze front piece	04104	3	7.5	0.028
White plastic front piece (2")	04042	15	4.8	0.028


**Drain fitting**

To connect to 1 1/2" inlet body. Made in chrome-plated bronze or in white ABS.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chrome-plated bronze front piece	04106	70	14.0	0.028
White plastic front piece (2")	04044	20	5.6	0.028

**Adjustable air inlet**

3/4", controls air inlet for Venturi system for jets.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chrome-plated bronze front panel	04108	10	9.0	0.028
White plastic front panel	04110	10	3.0	0.028





## ACCESSORIES MINI-SPAS

### Pneumatic press button switch



For massage and hydro-massage ON/OFF functions.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chrome-plated bronze front panel	<b>04111</b>	10	6.0	0.028
White plastic front panel	<b>04113</b>	12	6.0	0.028

### Pneumatic switch



For the starting and stopping of air massage and hydromassage functions.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Pneumatic switch	<b>04050</b>	25	1.0	0.028
Double pneumatic switch	<b>11290</b>	6	0.5	0.028
Pneumatic presostat	<b>11291</b>	12	1.0	0.028

### Blower inlet



For air distribution in the MINI-SPA by using the air blower. 1/2" thread. Lateral air outlet, adjustable and non-return system.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chrome-plated bronze front panel	<b>04114</b>	20	7.5	0.028

### 1 1/4" jet with adaptor to water return



Jet with adaptor to return water to pipe. Also adaptor to connect to water return and air circulation pipe, solvent for inner Ø 32 mm. Directional.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chromed-plated bronze front panel (inlet 04100)	<b>04095</b>	8	12.0	0.028
White plastic front panel (inlet 04103)	<b>04097</b>	12	12.0	0.028

### Jet 1 1/4"




With adaptor to connect to return water pipe and Venturi to glue to Ø 32 mm pipe. Directional.

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Chromed-plated bronze front panel (inlet 04100)	<b>04092</b>	8	10.0	0.028
White plastic front panel (inlet 04103)	<b>04094</b>	24	5.0	0.028


**ACCESSORIES MINI-SPAS**
**Jet body with adapter for return water**

With device for water return to pipe. For connecting 1 $\frac{1}{4}$ " nozzle and 32 mm inner diameter.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04099 	8	4.0	0.028



**Jet body**

To connect 1 $\frac{1}{4}$ " nozzle and Ø 32 mm pipe.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04098 	8	3.6	0.028


**1 $\frac{1}{4}$ " return inlet**

To connect to jet body, with adaptor to return water retained in its interior to pipe. Made of white ABS.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04103 	12	3.5	0.028


**1 $\frac{1}{4}$ " return inlet**

Made in chrome-plated.

Chromed plated

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
04100	4	15.0	0.028


**4 water outlet manifold**

Manifold for gluing to 50 mm pipe, 4 outlets for clamping a hosepipe of 20 mm inner diameter.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33934	25	8.5	0.028



## ACCESSORIES MINI-SPAS

### 8 water outlet manifold



Manifold for glueing to 50 mm pipe, 8 outlets for clamping a hosepipe 20 mm inner diameter.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33935	25	8.5	0.028

### Air distributor for venturi



5 air outlet manifold for glueing to venturi with code 33938. Outlets for clamping a flexible 10 mm inner diameter hosepipe.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33937	25	8.5	0.028

### 6 outlet air distributor

new



6 outlet air distributor to attach to pipes with a 10 mm inside diameter and glue to 15 mm pipes.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
33936	25	8.5	0.028

### 10 outlet air distributor

new



10 outlet air distributor to attach to pipes with a 10 mm inside diameter and glue to 50 mm pipes.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
35346	25	8.5	0.028

### Manual spa floor cleaner



Manual floor cleaner.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
27903	1	2	0.017

**SAUNAS**

**Saunas**

Sauna cabin assembled from prefabricated modular panel elements made of Finnish spruce. Door with bronze coloured window set with handle and lock. Benches and head rest made of Abachi. Sauna light with shade of Abachi. Ventilation and air renovation holes. Heater protection fence. Exterior digital control installed, controlling light, temperature, time of operation and delayed start time. Protection IP-34.



Code	Type	Width	Length	Height	Heater kW	N° Benches	N° people	
		Inside dimensions in mm					Seating	Laying
33999	1.5 x 1.5 x 2.1	136	136	203	4.5	2	3	2
34000	2 x 1.5 x 2.1	186	136	203	6	2	4	2
34001	2 x 2 x 2.1	186	186	203	6	3	5	3
34002	2.5 x 2 x 2.1	236	186	203	8	3	6	3
34003	1.5 x 1.5 x 2.1 corner	136	136	203	4.5	2	3	2
34004	2 x 1.5 x 2.1 corner	186	136	203	6	2	4	2
34005	2 x 2 x 2.1 corner	186	186	203	6	3	5	3
34006	2.5 x 2 x 2.1 corner	236	186	203	8	3	6	3



**Infrared saunas**

Prefabricated modular cabin in Hemlock Fir of Birch colour. Door with tempered glass window, set with handles and lock. Benches and head rest of fir, Birch colour. High quality ceramic heaters. Light inside and also outside for corner saunas. Radio CD player with 2 speakers. Back rest made of wood. Two control panels, one inside the cabin and another one outside:

- Temperature control
- Operation time control
- Light control

	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
90 x 90 x 190 h	37236	1	-	-
120 x 105 x 190 h	37237	1	-	-
155 x 110 x 190 h	37238	1	-	-
155 x 60 x 120 x 190 h corner	37239	1	-	-
175 x 120 x 190 h	37240	1	-	-
210 x 115 x 190 h	37241	1	-	-



Code	Type	Width	Length	Height	Heater kW	N° Benches	N° people	
		Inside dimensions in mm					Seating	Laying
37236	90 x 90 x 190 h	840	778	1740	1.05	1	1	0
37237	120 X 105 x 190 h	1130	910	1740	1.80	1	2	0
37238	155 x 110 x 190 h	1482	978	1740	2.00	1	3	0
37239	155 x 60 x 120 x 190 h corner	1400	1155	1715	2.00	2	4	0
37240	175 x 120 x 190 h	1615	1120	1715	2.20	2	4	0
37241	210 x 115 x 190 h	2020	1010	1740	2.40	1	5	1

## SAUNA ACCESSORIES



### Sauna accessories

Code	Type accessory
34007	Timber door with bronze coloured glass window
34008	Full bronze coloured glass door
34009	Sauna kit composed of: timber bucket with ladle, sand clock, thermometer, hydrometer, sauna fragrance 50 ml (2 units)
34010	Timber ventilation grille
34011	Timber head rest wood
34065	Fragrance bottles 50 ml: pine, eucalyptus, birch, lemon, spruce, peppermint
34066	Fragrance bottles 250 ml: pine, eucalyptus, birch, peppermint

### Sauna heater



	Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
Power 4.5 kW - Sauna volume 3-6 m <sup>3</sup>	34012	1	-	-
Power 6 kW - Sauna volume 5-9 m <sup>3</sup>	34013	1	-	-
Power 8 kW - Sauna volume 7-12 m <sup>3</sup>	34014	1	-	-
Power 9 kW - Sauna volume 8-13 m <sup>3</sup>	34015	1	-	-

### Digital control

Light control, temperature control, operation time control, delayed start time and protection IP-34.

Code	Standard Packaging	Standard Weight Kg	Standard Volume m <sup>3</sup>
34016	1	-	-

## POOL HEATING

- 500 • Introduction
- 502 • Pool Heat pumps
- 512 • Pool Chillers
- 514 • Heat exchangers
- 523 • Gas boilers
- 524 • Solar heat collectors
- 525 • Dehumidifiers





## INTRODUCTION

When we decide to build a pool, certain questions and doubts may arise about their use and enjoyment by users.

**How many months will I be able to enjoy my pool?**



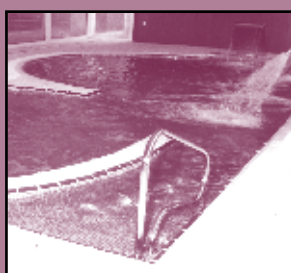
**Will the water temperature be pleasant in May and June?**

**Or even in September and October?**

**Can I swim early in the morning or late at night?**

**These and other similar questions have just one answer: it depends. It depends on the weather conditions in your area.**

But if you don't wish to depend exclusively on external factors and wish to have a longer swimming season with a water temperature to suit you, then you need to heat your pool. New questions then arise:



**How long can we extend the swimming season?**

**What options exist for heating the water?**

**What is the best solution?**

**Is it very expensive?**



Once you have reached to this point, the next step is to get advice from AstralPool professionals. Our experience of over 30 years in the pool and pool equipment sector enables us to offer the best solutions to individual needs and always with the guarantee of a market leader.

# Introduction

**INTRODUCTION**

With the expert advice from AstralPool Technical and Commercial departments, you will be in a position to enjoy the best heating conditions adapted to your personal needs.

ASTRALPOOL participates at every stage - from the design of the project to choosing the right equipment, its commissioning and subsequent maintenance.

**We would like to offer you some practical advice when building your pool.**

**Location of the pool:**

- Choose areas which are sheltered from the wind
- Ensure that neighbouring buildings, trees and other elements do not overhang the pool
- Build the pool so that it is facing south (in the Northern Hemisphere) and therefore receives more hours of sun

**Selecting the heating/cooling equipment:**

- Select the right equipment for your real needs: neither too much nor too little
- Follow this rule: power supplied = power dissipated

**Protection of the pool:**

- Use a thermal cover to prevent water evaporation
- Choose proper sealings (windows, walls, insulators, etc.)

**Water temperature**

Adjust water temperature to the recommended minimums according to its use and type of pool. Consult our technical department to find out the ideal temperature for your pool

**Room temperature**

- Keep the room temperature 2° C above the water temperature up to a maximum of 30°C - 32°C
- When not in use, reduce the room temperature 2° C below the water temperature

**Stop / Start**

In periods of inactivity of more than 5 or 6 days disconnect your heating/cooling system

**Maintenance**

Empty the heating system's water circuit during the winter period outside the swimming season to avoid the possibility of freezing.



**A**dvise



## AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION - AMERICAN MODEL



### Air Energy

It provides the highest COP (the ratio between energy consumption and heat output) due to the large surface area of the evaporator coil.

All models use a titanium exchanger with a 15-year warranty, the only material which guarantees resistance to chemicals and electrolytes.

#### General Features:

- Auto Heat: An Air Energy patented system which automatically maintains the pool and/or spa at the desired temperature, controlling the filtration system.
- Phase Monitor: Protects the compressor in the event of phase loss or inversion.
- Air defrost: By activating the ventilator, the unit defrosts the evaporator. Allows the heater to operate at low temperatures.
- Blockable cover: Provides safety and guarantees controlled use.
- PVC housing: Offers full anti-corrosion and UV ray protection.
- Scroll Compressor: Ensures silent, efficient operation.
- Automation Ready: Allows easy connections to computers and/or automatic valve systems.
- Two thermostats: Allows you to control pool and spa independently.
- Optimum performance, without freezing, up to 5°C.

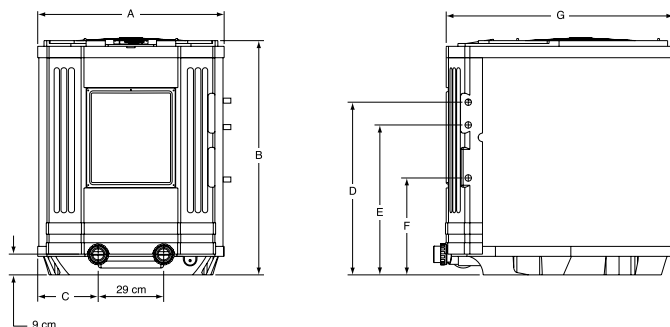
#### Optional Equipment

- Remote Control: Total control over heat pump operations from any location via remote control panels.
- Automatic valves: Synchronise your heat pump and filtration system. By simply pressing a button, the heat pump will automatically change valve direction, switch on the filtration pump and change the required temperature of the pool or spa.
- Reversibility: May also be used to cool the water (chiller option). Available only as chiller, or with both functions: heater and chiller.
- Gas Defrosting: Allows the unit to work at temperatures below 0°C, defrosting the evaporator coil whenever necessary. Simple operation via the reversibility option.

#### Models available and technical features

Model	200TI-251	300TI-251	300TI-353	400TI-251	400TI-353	500TI-251	500TI-353
Basic code	35824	35825	35826	35827	35828	35831	35832
Reversible code	-	-	-	35829	35830	35833	35834
Electrical supply	208-230/50/1	208-230/50/1	380-420/3/50	208-230/50/1	380-420/3/50	208-230/50/1	380-420/50/3
Required fuse	20A	30A	10A	40A	20A	50A	20A
Heat exchanger	Titanium						
Compressor	24K Scroll	37K Scroll		45K Scroll		68K Scroll	
Cabinet	ABS						
Refrigerant	1.36kg R407C	1.59kg R407C		2.44kg R407C		2.95kg R407C	
Low water flow alarm	6 m³/h						
Optimal water flow	12 m³/h						
Minimum water flow	6 m³/h						
Maximum water flow	28 m³/h						
Air flow	3500 m³/h			7000 m³/h			
Water temperature differential	Adjustable between 1°C to 5°C						
Union Size (Delta T)	Ø 50 mm adapter (2" union)						
27°C	Consumption kW	1.7	2.8	2.8	3.3	3.3	5.3
	BTU's	37000	54000	54000	71000	71000	111000
	Output kW	11	16	16	21	21	32.5
	COP	6.47	5.7	5.7	6.36	6.36	6.13
15°C	Consumption kW	1.6	2.66	2.66	2.96	2.96	4.57
	BTU's	28000	41000	41000	52000	52000	76000
	Output kW	8	12	12	15	15	22
	COP	5.0	4.5	4.5	5.1	5.1	4.8
5°C	Consumption kW	1.5	2.5	2.5	2.8	2.8	4.4
	BTU's	22000	33000	33000	38000	38000	55000
	Output kW	6.5	9.5	9.5	11.2	11.2	16.11
	COP	4.33	3.8	3.8	4.0	4.0	3.7

Calculations based on ambient temperature 27°C at 60% RH - 15°C at 60% RH - 5°C at 60 RH Water flow rate of 12 m³/h. Water at 24°C.



Model	A	B	C	D	E	F	G
200TI	66 cm	79 cm	18.5 cm	62 cm	55 cm	33 cm	89 cm
300TI	66 cm	79 cm	18.5 cm	62 cm	55 cm	33 cm	89 cm
400TI	84 cm	91.5 cm	27 cm	66 cm	58.5 cm	35.5 cm	104 cm
500TI	84 cm	107 cm	27 cm	76 cm	68.5 cm	46 cm	104 cm

**AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION – AMERICAN STYLE MODEL**

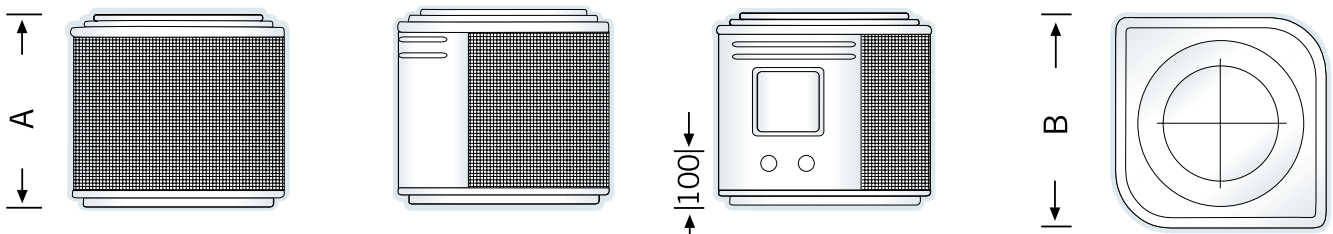
**Cancun**



- Strong but light weight design in heat moulded ABS resistant to solar radiation. The colour will not fade.
- High performance evaporator coil (gas/air heat exchanger) made of copper corrugated tube in the inside and coated aluminium fins, special for corrosive and coastal environments.
- Axial ventilator with direct coupling motor.
- Scroll compressor with internal protection.
- Titanium condensers with PVC shells and in titanium G2 coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Filled with refrigerant gas R-407-C with low ecological impact.
- Refrigeration circuit of dehydrated, nitrogenated and deoxidised copper.
- Low and High Pressure (LP/HP) pressure switches with automatic reset.
- Expansion via thermostatic valve with external balancing unit.
- Dehydrating filter.
- Hydraulic circuit with flow switch at the water inlet made in PVC tubing, good elasticity and significant resistance to cracks under pressure, a key characteristic for the transport of hot pressurised liquids.
- Fully fitted control panel with digital high-sensitivity regulation.

MODELS	CANCUN 10	CANCUN 14M	CANCUN 14T	CANCUN 19M	CANCUN 19T	CANCUN 25	CANCUN 30	
Electrical supply	220-240/1/50	220-240/1/50	380-420/3/50	220-240/1/50	380-420/3/50	380-420/3/50	380-420/3/50	
Heat exchanger	Titanium							
Compressor	Scroll							
Cabinet	ABS							
Optimal Water Flow	12 m <sup>3</sup> /h							
Minimum Water Flow	6 m <sup>3</sup> /h							
Air flow	6,200 m <sup>3</sup> /h			10,000 m <sup>3</sup> /h				
Hydraulic Connex.	1 1/2"							
27°C	Consumption Kw	2.6	2.9	2.9	3.9	3.9	5.2	5.5
	Output Kw	11	15	15	20	20	26	32
	COP	4.2	5.1	5.1	5.12	5.12	5	5.8
15°C	Consumption Kw	2.4	2.6	2.6	4.3	4.3	4.9	4.8
	Output Kw	8.5	10.9	10.9	15.7	15.7	22	25
	COP	3.5	4.2	4.2	3.6	3.6	4.4	5
5°C	Consumption Kw	2	2.5	2.5	3.52	3.52	4.8	5
	Output Kw	5.5	7.1	7.1	10.3	10.3	15	17
	COP	2.75	2.8	2.8	2.5	2.5	3.12	3.4

Calculations based on ambient temperature 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH. Water flow rate of 12 m<sup>3</sup>/h. Water at 24°C.



Code	Model	Dimensions (mm)		Total Weight
		A	B	(Kg)
27822	CANCUN 10	850	940	95
27823M	CANCUN 14M	850	940	100
27823T	CANCUN 14T	850	940	100
27824M	CANCUN 19M	910	940	115
27824T	CANCUN 19T	910	940	115
27825	CANCUN 25	910	940	125
27826	CANCUN 30	1000	995	145

## AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION - WALL MODEL

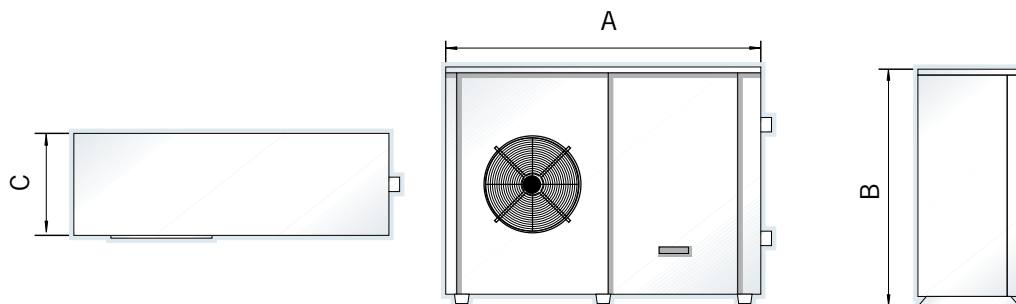
### Maldivas



- Compact design for outdoor installation.
- Made of galvanized, painted and coated steel, or in non-corrosive magnesium coated aluminium.
- High performance evaporator coil (gas/air heat exchanger) made of copper corrugated tube in the interior and coated aluminium fins, special for corrosive and coastal environments.
- One or two axial ventilators with direct coupling motor, according to model.
- Scroll compressor with internal protection.
- Titanium condensers with PVC shells and in G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Filled with gas Freon R-407-C with low ecological impact.
- Refrigeration circuit of dehydrated, nitrogenated and deoxidised copper.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset
- Expansion by thermostatic valve with external balancing unit.
- Dehydrating filter.
- Hydraulic circuit with flow switch at the water inlet, connections in PVC.
- Defrosting by forced ventilation.
- Control panel fitted with digital high-sensitivity regulation.

Model	Exterior Circuit (air)		Internal Circuit (water)		Cal. Pow. (W)	Cons. pow (W)	Absorbed int. (A)		Lacquered steel Code	Aluminium magnesium Code
	Flow (m <sup>3</sup> /h)	Num of Vents	Flow (l/h)	Hydraul. Conn.			II/220/50	III/380/50		
MALDIVAS-7	2000	1	6000	50	7000	1850	9.9	-	32475	32481
MALDIVAS-12	2000	1	6000	50	12000	3000	16.1	-	32476	32482
MALDIVAS-13	2000	1	6000	50	13000	3500	18.6	-	32477	32483
MALDIVAS-15	2500	1	8000	50	15000	3500	-	7.9	32478	32484
MALDIVAS-23	5000	2	10000	50	23000	4800	-	12.9	32479	32485
MALDIVAS-25	6000	2	10000	50	25000	6700	-	16	32480	32486

Calculations based on ambient temperature 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH. Water flow rate of 12 m<sup>3</sup>/h. Water at 24°C.



Lacquered steel Code	Aluminium magnesium Code	Model	Dimensions (mm)			Total weight (Kg)
			A	B	C	
32475	32481	MALDIVAS-7	1210	740	450	95
32476	32482	MALDIVAS-12	1210	740	450	100
32477	32483	MALDIVAS-13	1210	740	450	110
32478	32484	MALDIVAS-15	1210	740	450	115
32479	32485	MALDIVAS-23	1400	1040	450	125
32480	32486	MALDIVAS-25	1400	1040	450	145

**AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION- WALL MODEL**

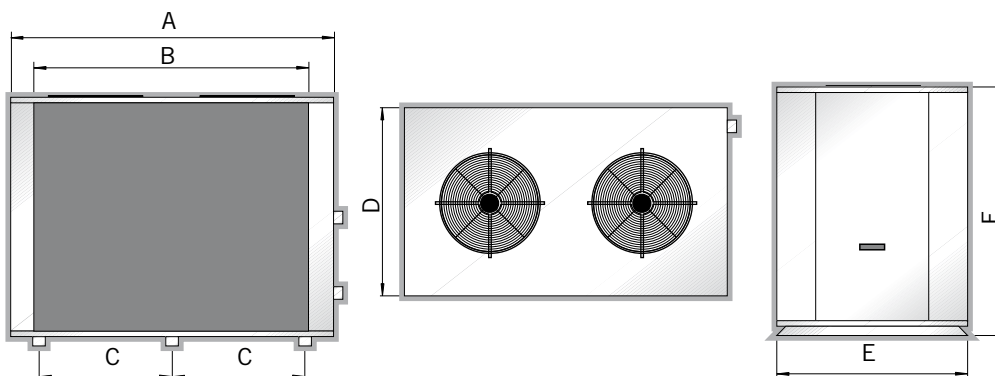
**Bahia**

- Compact design for outdoor installation.
- Made of galvanized steel, painted and coated steel, or in non-corrosive magnesium coated aluminium (this option is supplied under special order).
- Interior thermoacoustic insulation.
- High performance evaporator coil (gas/air heat exchanger) made of copper corrugated tube in the interior and coated aluminium fins, special for corrosive and coastal environments.
- Axial ventilators with direct coupling motor.
- Condensation collector tray.
- Sealed compressor with internal protection.
- Titanium condensers with PVC shells and in G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Filled with refrigerant gas R-407-C with low ecological impact.
- One or two refrigeration circuits of dehydrated, nitrogenated and deoxidised copper.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset.
- Expansion via thermostatic valve with external balancing unit.
- Dehydrating filter.
- Hydraulic circuit with flow switch at the water inlet, connections in PVC.
- Defrosting by forced ventilation.
- Fully fitted control panel with digital high-sensitivity regulation.



Model	Exterior Circuit (air)		Internal Circuit (water)		Cal. Pow.	Cons. Pow	Absorbed int. (A)	Lacquered steel	Aluminium magnesium
	Flow (m³/h)	Num of Vents	Flow (l/h)	Hydraul. conn.	(W)	(W)	III/380/50	Code	Code
BAHIA -30	8000	2	10000	2"	30000	6300	14.6	<b>32487</b>	<b>32493</b>
BAHIA-45	12000	2	15000	2"	45000	8700	22.2	<b>32488</b>	<b>32494</b>
BAHIA-51	12000	2	17000	2"	51000	9700	27.6	<b>32489</b>	<b>32495</b>
BAHIA-60	18000	4	20000	2"	60000	11000	28.5	<b>32490</b>	<b>32496</b>
BAHIA-102	22000	6	34000	2 1/2"	102000	17500	54	<b>32491</b>	<b>32497</b>
BAHIA-130	30000	6	43000	2 1/2"	130000	19000	60	<b>32492</b>	<b>32498</b>

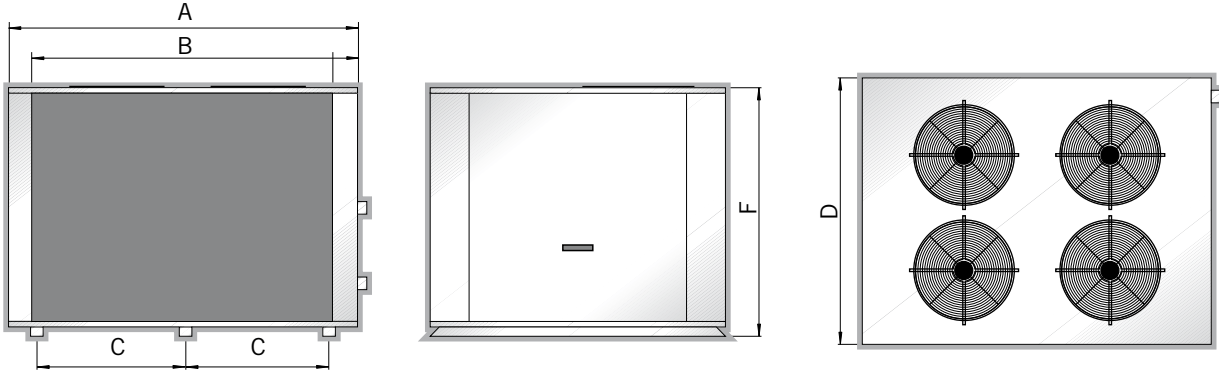
Calculations based on ambient temperature 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH. Water flow rate of 12 m³/h. Water at 24°C.



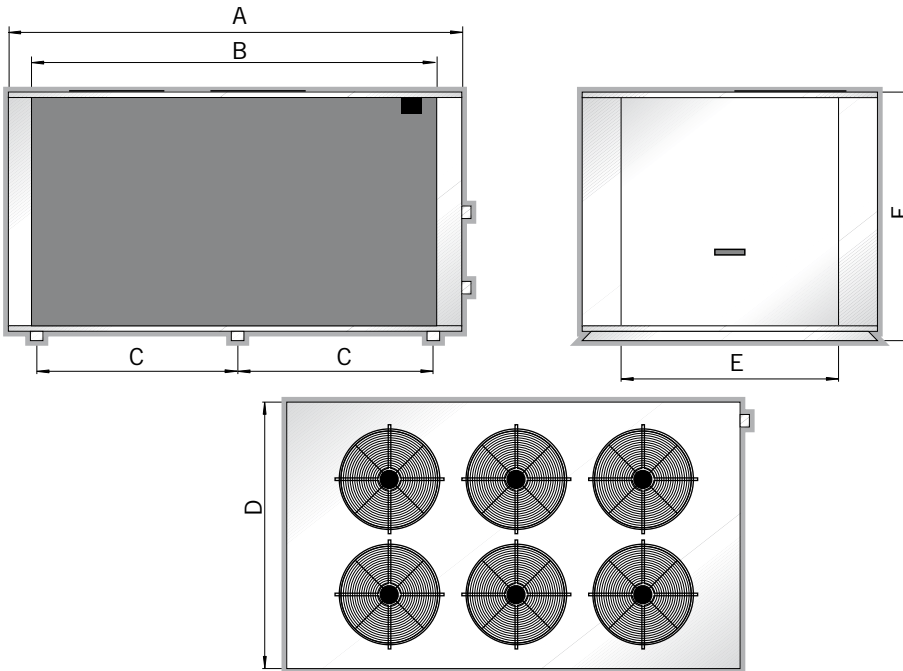
Lacquered steel Code	Aluminium magnesium Code	Model	Dimensions (mm)						Total weight (Kg)
			A	B	C	D	E	F	
<b>32487</b>	<b>34493</b>	BAHIA -30	1700	1450	700	1000	1000	1300	195
<b>32488</b>	<b>34494</b>	BAHIA-45	1700	1450	700	1000	1000	1300	290
<b>32489</b>	<b>34495</b>	BAHIA-51	1700	1450	700	1000	1000	1300	310

## AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION- WALL MODEL

### Bahia



Coated steel Code	Aluminium magnesium Code	Model	Dimensions (mm)						Total weight (Kg)
			A	B	C	D	E	F	
32490	34496	BAHIA -60	2200	1900	925	1500	-	1300	355



Coated steel Code	Aluminium magnesium Code	Model	Dimensions (mm)						Total weight (Kg)
			A	B	C	D	E	F	
32491	34497	BAHIA -102	2200	1900	925	1500	1100	1300	425
32492	34498	BAHIA-130	2300	2000	975	1500	1100	1300	445

**AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION - WALL MODEL**
**Powerpac**

- A heat pump that is ideal for heating residential outdoor pools <math> < 50 \text{ m}^3 </math> (above-ground or in-ground).
- Air/water heat pump that works when the outside air temperature is  $+5^\circ\text{C}$ .
- Equipped with Titanium condenser (exchanger) which is guaranteed for life against corrosion.
- With digital regulation, R410A refrigerant fluid (in accordance with legislation on refrigerant fluids)
- CE approved.



	Code	Standard Packing	Standard Weight kg	Standard Volume $\text{m}^3$
POWERPAC 1 single-phase	<b>38458</b>	1	45	0.275
POWERPAC 2 single-phase	<b>38459</b>	1	46	0.275

Model	Exterior Circuit (air)		Internal Circuit (water)		Cal. Pow. (kw)	Cons. Pow (kw)	Absorbed Int. (A) II/220/50	Coated steel Code
	Flow ( $\text{m}^3/\text{h}$ )	Num of Vents	Flow (l/h)	Hydraul. Conn.				
POWERPAC 1	1020	1	3000	1½"	6.6	1.42	6.28	<b>38458</b>
POWERPAC 2	1360	1	4000	1½"	7.8	1.64	7.34	<b>38459</b>

Code	Model	Dimensions (mm)										Total weight (Kg)
		A	B	C	D	E	F	G	H	J	M	
<b>38458</b>	POWERPAC 1	538	307	146	305	338	95	630	1080	328	85	79
<b>38459</b>	POWERPAC 2	538	307	146	305	338	95	630	1080	328	85	79

## AIR/WATER HEAT PUMPS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION – WALL MODEL

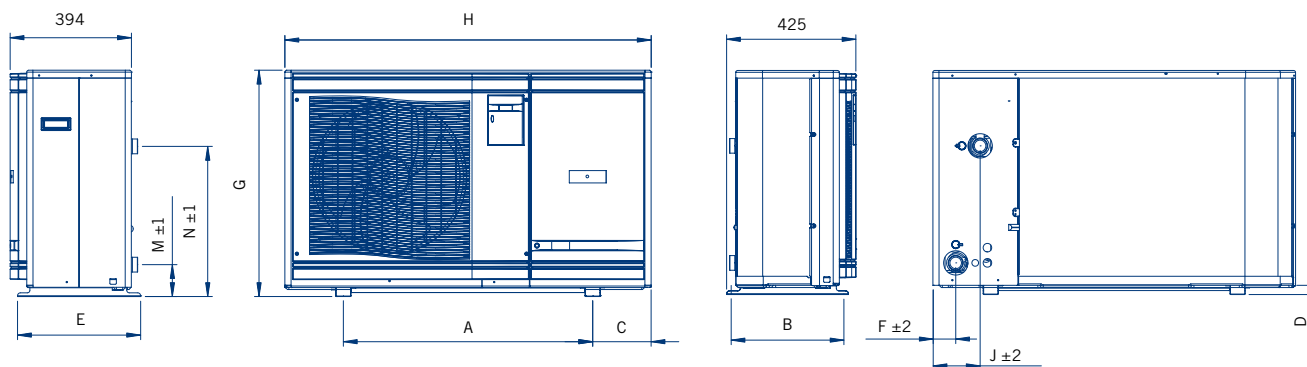
### Edenpac



- Blends in with its surroundings.
- To heat outdoor pools from 50 to 160 m<sup>3</sup>.
- Includes digital thermostat which allows the pool temperature to be selected.
- High performance Scroll compressor.
- Fitted with a flow control, it starts and stops automatically at the same time as filtration.
- Titanium water condenser, lifetime guaranteed against corrosion.
- Complies with CE standards.
- Refrigerant gas R410A (follows the refrigeration fluid legislation), achieves efficiency coefficients of 5. Does not damage the ozone layer and has lower power consumption.
- Silent due to the reduction in ventilation speed and better air circulation in the evaporator coil.
- High tech appearance due to its matt and metallic-grey finish. Housing made of steel and PP.

Model	Exterior Circuit (air)	Internal Circuit (water)		Cal. Pow.	Cons. Pow.	Absorbed int. (A)		Coated steel
	Num of Vents	Flow (l/h)	Hydraul. Conn.	(W)	(W)	II/220/50	III/400/50	Code
EDENPAC-2M	1	5000	1½"	10000	2000	9.8	-	33955
EDENPAC-3M	1	5000	1½"	12000	2400	13	-	33956
EDENPAC-3T	1	5000	1½"	12000	2400	-	5	33957
EDENPAC-4M	1	6500	1½"	15000	3200	20	-	33958
EDENPAC-5T	1	6500	1½"	16000	3200	-	6	33959
EDENPAC-6T	2	7500	1½"	21000	4000	-	7	33960

The heating power is calculated at an exterior air temperature of 15°C at incoming water temperature of 24°C.



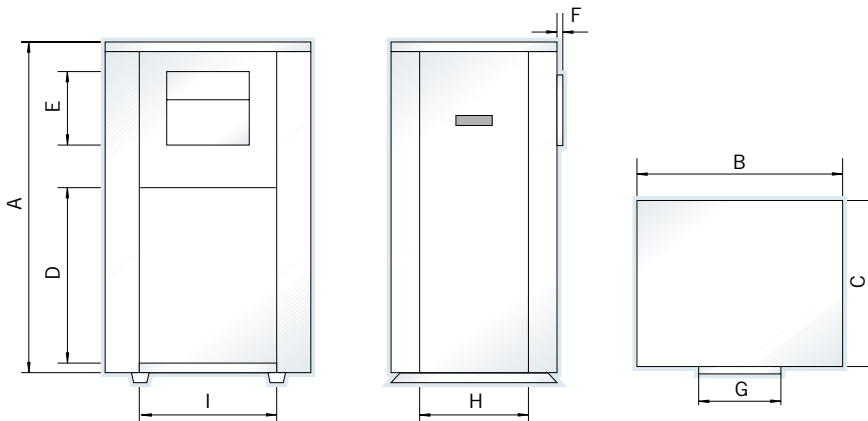
Code	Model	Dimensions (mm)												Total weight (Kg)
		A	B	C	D	E	F	G	H	I	J	M	N	
33955	EDENPAC-2M	810	370	190	30	400	74	735	1190	208	154	104	488	87
33956	EDENPAC-3M	810	370	190	30	400	74	735	1190	208	154	104	488	90
33957	EDENPAC-3T	810	370	190	30	400	74	735	1190	208	154	104	488	90
33958	EDENPAC-4M	810	370	190	30	400	74	735	1190	208	154	104	488	99
33959	EDENPAC-5T	810	370	190	30	400	74	735	1190	208	154	104	488	99
33960	EDENPAC-6T	810	370	190	30	400	74	1235	1190	208	154	104	425	130



**AIR/WATER HEAT PUMPS WITH CENTRIFUGAL VENTILATOR, FOR INDOOR INSTALLATION**

**Vallarta / Reversible Vallarta**

- Compact design for installation in a pump room.
- Made of galvanized steel, painted and coated, or in non-corrosive magnesium coated aluminium (this option is supplied under special order).
- High performance evaporator (gas-air heat exchanger) made of corrugated copper pipe in the interior and coated aluminium fins, special for corrosive and sea-side environments.
- Centrifugal ventilator with direct transmission.
- Sealed scroll compressor with internal protection.
- Titanium condensers with PVC shells and G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Filled with refrigerant gas R-407-C with low ecological impact.
- Refrigeration circuit of dehydrated, nitrogenated and deoxidised copper.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset.
- Expansion via thermostatic valve with external balancing unit.
- Dehydrating filter.
- Hydraulic circuit with flow switch at the water inlet, connections in PVC.
- Defrosting by forced ventilation.
- There is a reversibility option (reversible pump codes) which allows the unit to defrost the evaporator using hot gas. These units can also operate as chillers.
- Fully fitted control panel with digital high-sensitivity regulation.



Model	Dimensions (mm)									Total weight (Kg)
	A	B	C	D	E	F	G	H	I	
VALLARTA-7	1200	750	600	650	265	30	299	395	510	295
VALLARTA-12	1200	750	600	650	260	30	299	395	510	400
VALLARTA-15	1200	750	600	650	291	30	299	395	510	410
VALLARTA-25	1600	950	700	-	345	30	315	700	690	415



## AIR/WATER HEAT PUMPS WITH CENTRIFUGAL VENTILATOR, FOR INDOOR INSTALLATION

### Vallarta / Reversible Vallarta

FEATURES	Model							
	VALLARTA-7	VALLARTA-7	VALLARTA-12	VALLARTA-12	VALLARTA-15	VALLARTA-15	VALLARTA-25	VALLARTA-25
Models	Coated steel	Magnesium aluminium	Coated steel	Magnesium aluminium	Coated steel	Magnesium aluminium	Coated steel	Magnesium aluminium
Basic Code	32499	32503	32504	32500	32505	32501	32506	32502
Reversible Code	33895	33899	33896	33900	33897	33901	33898	33902
Caloric power w	7000	7000	12000	12000	15000	15000	25000	25000
Refrigerator power	5150	5150	9000	9000	11500	11500	18300	18300
Absorbed power w	1850	1850	3000	3000	3500	3500	6700	6700
Energy performance COP	3.78	3.78	4	4	4.29	4.29	3.73	3.73
<b>Compressor</b>								
Units	1	1	1	1	1	1	1	1
Type	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
<b>Ventilator</b>								
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Units	1	1	1	1	1	1	1	1
Flow (m <sup>3</sup> /h)	2000	2000	2000	2000	2500	2500	6000	6000
Available pressure (m.w.h.)	5	5	5	5	5	5	5	5
<b>Hydraulic circuit</b>								
Heat exchanger	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium
Units	1	1	1	1	1	1	1	1
Flow (m <sup>3</sup> /h)	6	6	6	6	8	8	10	10
Head loss m.w.h.	2	2	2.2	2.2	2.2	2.2	2.3	2.3
Hydraulic connections	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Refrigerant gas	R-407	R-407	R-407	R-407	R-407	R-407	R-407	R-407
Unit weight (Kg)	295	295	400	400	410	410	415	415
<b>Electrical data</b>								
Voltage	220	220	220	220	380	380	380	380
Frequency	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	51 HZ	51 HZ
Intensity (Amp)	9.9	9.9	16.1	16.1	7.9	7.9	16	16

Calculations based on an air temperature of 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH 12 m<sup>3</sup>/h Flow rate. Water at 24°C.

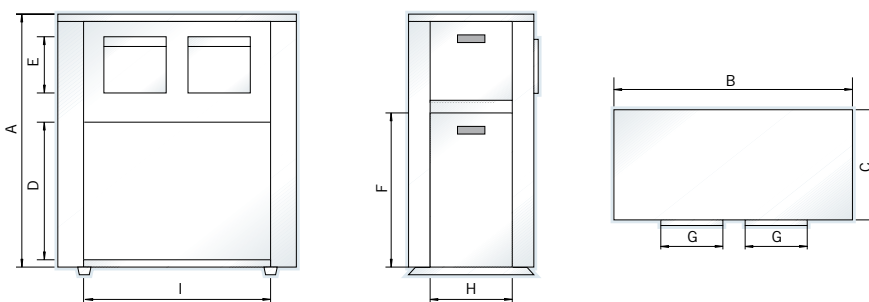
**AIR/WATER HEAT PUMPS WITH CENTRIFUGAL VENTILATOR, FOR INDOOR INSTALLATION**
**Maya**

- Compact design for installation in a pump room.
- Made of galvanized steel, painted and coated, or in non-corrosive magnesium coated aluminium (this option is supplied on special orders).
- High performance evaporator (gas-air heat exchanger) made of copper corrugated pipe on the inside and coated aluminium fins, special for corrosive and sea-side environments.
- Centrifugal ventilator with transmission with belts and pulleys.
- Sealed scroll compressor with internal protection.
- Titanium condensers with PVC shells and in G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Filled with refrigerant gas R-407-C with low ecological impact.
- One or two refrigeration circuits of dehydrated, nitrogenated and deoxidised copper, according to models.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset.
- Expansion by thermostatic valve with external balancing unit.
- Dehydrating filter.
- Hydraulic circuit with flow switch in the water inlet, connections in PVC.
- Defrosting by forced ventilation,
- Fully fitted control panel with digital high-sensitivity regulation.



Model	Exterior Circuit (air)		Internal Circuit (water)		Cal. Pow.	Cons. Pow	Absorbed Int. (A)	Coated steel	Magnesium aluminium
	Flow (m <sup>3</sup> /h)	Num of Vents	Flow (l/h)	Hydraul. Conn.	(W)	(W)	III/380/50	Code	Code
MAYA-30	8000	1	9000	2"	30000	6300	14.6	<b>32507</b>	<b>32512</b>
MAYA-45	12000	1	14000	2"	45000	8700	22.2	<b>32508</b>	<b>32513</b>
MAYA-51	12000	1	15000	2"	51000	9700	27.6	<b>32509</b>	<b>32514</b>
MAYA-60	18000	1	19000	2"	60000	12000	28.5	<b>32510</b>	<b>32515</b>
MAYA-102	22000	1	30000	2 1/2"	102000	17200	54	<b>32511</b>	<b>32516</b>

Calculations based on an air temperature of 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH  
12 m<sup>3</sup>/h Flow rate. Water at 24°C.



Coated steel	Magnesium aluminium	Model	Dimensions (mm)									Total weight (Kg)
			A	B	C	D	E	F	G	H	I	
<b>32507</b>	<b>32512</b>	MAYA-30	2000	1700	1000	1200	341	1250	309	795	1450	450
<b>32508</b>	<b>32513</b>	MAYA-45	2000	1700	1000	1200	341	1250	286	795	1450	475
<b>32509</b>	<b>32514</b>	MAYA-51	2000	1700	1000	1200	341	1250	386	795	1450	580
<b>32510</b>	<b>32515</b>	MAYA-60	2000	2200	1000	1200	402	1250	467	795	1900	650
<b>32511</b>	<b>32516</b>	MAYA-102	2150	2200	1000	1200	480	1250	566	795	1900	1150

## AIR/WATER CHILLERS WITH AXIAL VENTILATOR, FOR OUTDOOR INSTALLATION

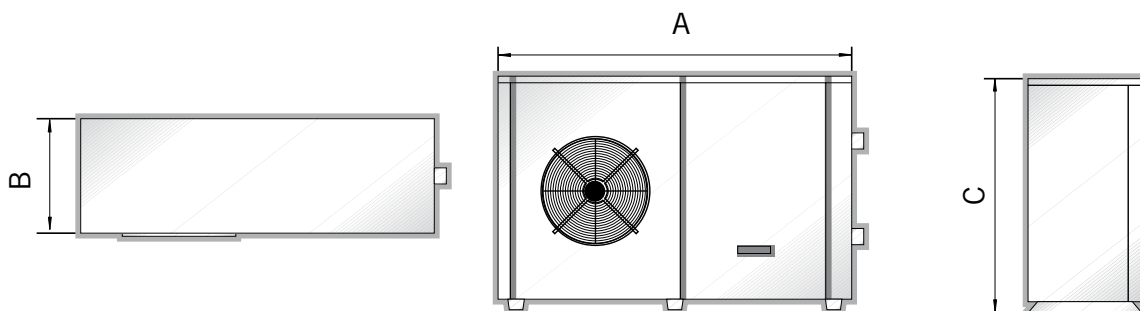
### Alaska



- Compact design, for outdoor installation.
- Made of non-corrosive magnesium coated aluminium.
- Titanium evaporators with PVC shells and in G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Condenser made of copper pipe with coated aluminium fins (special for corrosive environments).
- Sealed scroll compressor.
- Refrigeration circuit of dehydrated, nitrogenated and deoxidised copper.
- Helicoidal ventilators with direct coupling motor.
- Refrigerant expansion via thermostatic expansion valve.
- Anti-acid dehydrating filter.
- Hydraulic connections in PVC.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset.
- Defrosting thermostat in evaporator.
- Earth connection.
- Filled with gas Freon R407C with low ecological impact.
- Full adjustment of all the items included.

Model	External Circuit (air)		Internal Circuit (water)		Cal. Pow. (W)	Cons. Pow. (W)	Absorbed int. (A)		Code
	Flow (m³/h)	Num. of Vents	Flow (l/h)	Hydraul. Conn.			II/220/50	III/380/50	
ALASKA-4	3500	1	761	1½"	5531	1900	10.47	-	<b>32535</b>
ALASKA-6	3800	1	1088	1½"	8307	2500	11.06	-	<b>32536</b>
ALASKA-8	5400	1	1531	1½"	11594	3400	-	6.39	<b>32537</b>
ALASKA-10	8500	2	1945	1½"	15445	4400	-	8	<b>32538</b>
ALASKA-12	8500	2	2227	1½"	17358	5000	-	9	<b>32539</b>
ALASKA-15	10500	2	2774	2"	21024	6100	-	11	<b>32540</b>
ALASKA-17	10500	2	3116	2"	29756	6700	-	12	<b>32541</b>

Calculations based on an air temperature of 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH 12 m³/h Flow rate. Water at 24°C.



Code	Model	Dimensions (mm)			Total weight (Kg)
		A	B	C	
<b>32535</b>	ALASKA-4	1200	450	740	80
<b>32536</b>	ALASKA-6	1200	450	740	84
<b>32537</b>	ALASKA-8	1500	450	840	96
<b>32538</b>	ALASKA-10	1650	650	890	98
<b>32539</b>	ALASKA-12	1650	650	890	110
<b>32540</b>	ALASKA-15	2000	700	840	115
<b>32541</b>	ALASKA-17	2000	700	840	120

**AIR/WATER CHILLERS WITH CENTRIFUGAL VENTILATOR, FOR INDOOR INSTALLATION**

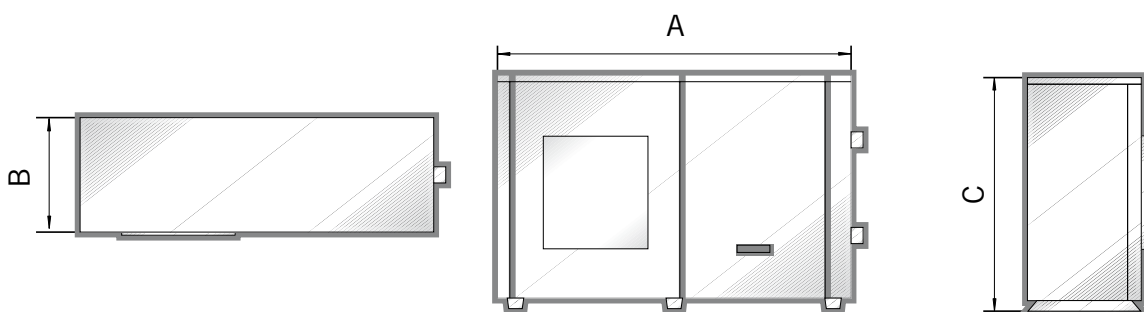
**Siberia**

- Compact design, for installation in a pump room.
- Made of non-corrosive magnesium coated aluminium.
- Titanium evaporators with PVC shells and in G2 titanium coil according to ASTM B 338.99 standard. Guaranteed against corrosion.
- Condenser made of copper tube with coated aluminium fins (special for corrosive environments).
- Sealed scroll compressor.
- Refrigeration circuit of dehydrated, nitrogenated and deanodised copper.
- Centrifugal direct transmission ventilator.
- Refrigeration expansion via thermostatic expansion valve.
- Anti-acid dehydrating filter.
- Hydraulic connections in PVC.
- Low and High Pressure (LP/HP) mini-pressure switches with automatic reset.
- Defrosting thermostat in evaporator.
- Earth connection.
- Filled with gas Freon R407C with low ecological impact.
- Full adjustment of all the items included.



Model	External Circuit (air)		Internal Circuit (water)		Cal. Pow. (W)	Cons. Pow. (W)	Absorbed int. (A)		Code
	Flow (m³/h)	Num of Vents	Flow (l/h)	Hydraul. Conn.			II/220/50	III/380/50	
SIBERIA-4	3500	1	760.50	1½"	5531	1900	10.47	-	<b>33301</b>
SIBERIA-6	3800	1	1088	1½"	8307	2500	11.06	-	<b>33302</b>
SIBERIA-8	5400	1	1531	1½"	11594	3400	-	6.39	<b>33303</b>
SIBERIA-10	8500	2	1945	1½"	15445	4400	-	8	<b>33304</b>
SIBERIA-12	8500	2	2227	1½"	17358	5000	-	9	<b>33305</b>
SIBERIA-15	10500	2	2774	2"	21024	6100	-	11	<b>33306</b>
SIBERIA-17	10500	2	3116	2"	29756	6700	-	12	<b>33307</b>

Calculations based on an air temperature of 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH 12 m³/h Flow rate. Water at 24°C.



Code	Model	Dimensions (mm)			Total weight (Kg)
		A	B	C	
<b>33301</b>	SIBERIA-4	1200	550	740	80
<b>33302</b>	SIBERIA-6	1200	550	740	84
<b>33303</b>	SIBERIA-8	1500	550	840	96
<b>33304</b>	SIBERIA-10	1650	850	890	98
<b>33305</b>	SIBERIA-12	1650	850	890	110
<b>33306</b>	SIBERIA-15	2000	900	840	115
<b>33307</b>	SIBERIA-17	2000	900	840	120

## HEAT EXCHANGERS

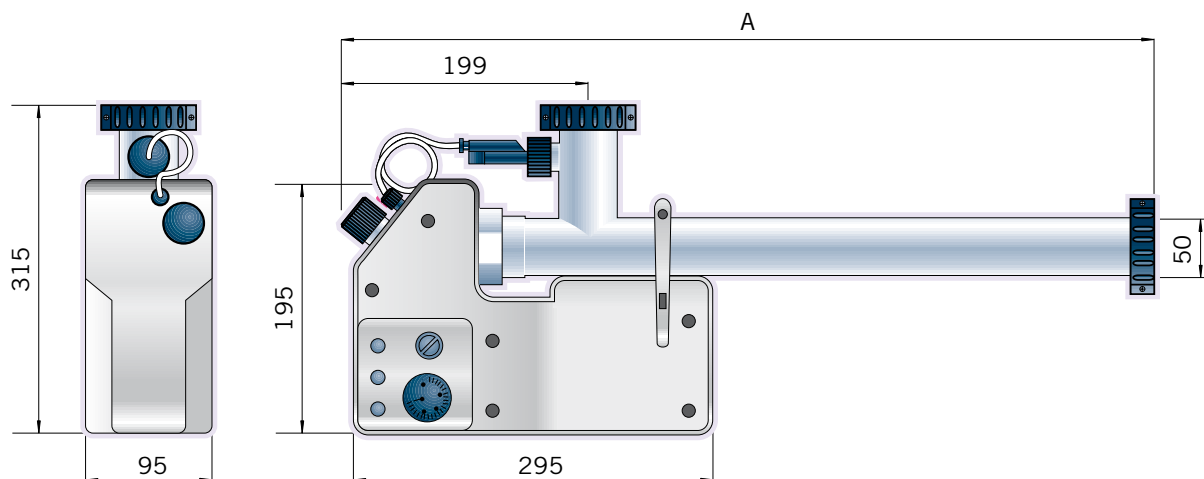
### Compact



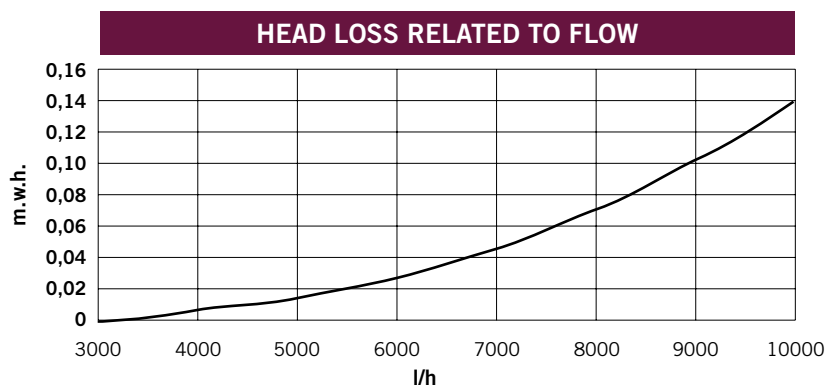
- Body made of Stainless Steel AISI-316.
- Sealed resistances in INCOLOY 825.
- Housing in fireproof plastic.
- Connections included.
- Fixing brackets included.
- High temperature safety switch (60°C).
- Manual reset system.
- Temperature regulation thermostat from 0 to 45 °C.
- Control buttons.
- Terminal for electrical connection.

Model	Hydraulic circuit			Pressure (bar)		Cal. Pow. kW	Maxi. Absorbed Intensity (A)			Code
	Min.Flow (l/h)	Maxi.Flow (l/h)	Hydr. Conn.	Serv.	Maxi.		I/220/50	III/220/50	III/380/50	
COMPACT 3 KW	1200	10000	1½"	2	3	3	14	-	4*	<b>08756</b>
COMPACT 6 KW	1200	10000	1½"	2	3	6	28	-	9*	<b>08757</b>
COMPACT 9 KW	1200	10000	1½"	2	3	9	41	-	13*	<b>08758</b>
COMPACT 12 KW	1200	10000	1½"	2	3	12	-	-	17*	<b>08759</b>
COMPACT 18 KW	1200	10000	1½"	2	3	18	-	-	26*	<b>08760</b>

\* Standard voltage



Code	Model	Dimensions (mm) A
<b>08756</b>	COMPACT 3	477
<b>08757</b>	COMPACT 6	552
<b>08758</b>	COMPACT 9	552
<b>08759</b>	COMPACT 12	647
<b>08760</b>	COMPACT 18	837



**HEAT EXCHANGERS**

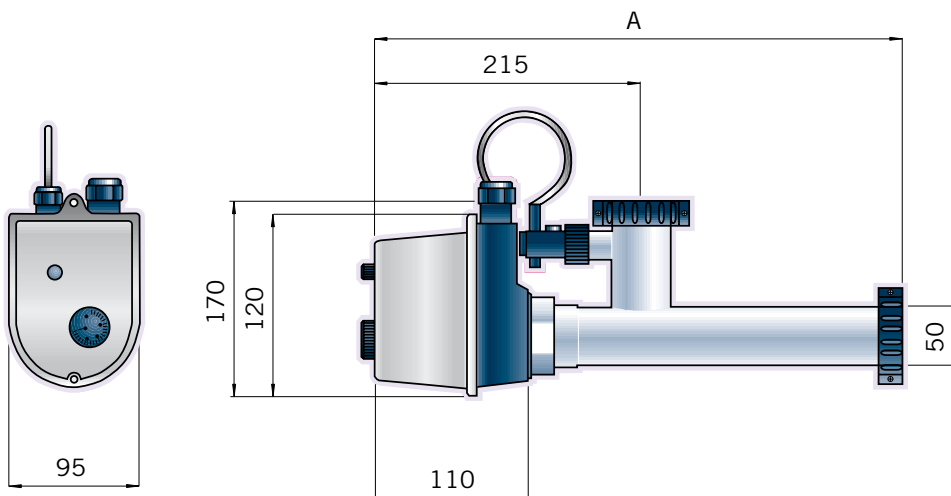
**Eco**

- Body made of stainless steel AISI-316.
- Electrical resistances with protection against corrosion.
- Connections included.
- Fixing brackets included.
- Protection against lack of water with a water flow switch.
- There are two thermostats: one for regulation and the other for safety with manual reset which prevents the temperature from exceeding 65°C.

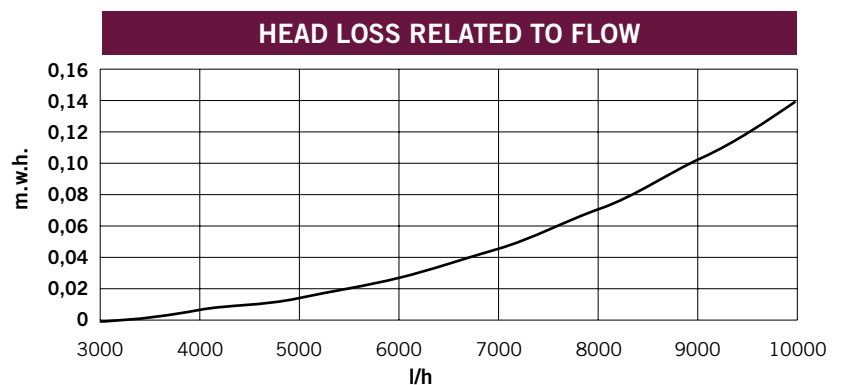


Model	Hydraulic circuit			Pressure (bar)		Cal. Pow. kW	Maxi absorbed intensity (A)			Code
	Min. Flow (l/h)	Maxi Flow (l/h)	Hydraul. Conn.	Serv.	Maxi.		I/220/50	III/220/50	III/380/50	
ECO 3 KW	1200	10000	1½"	2	3	3	14	-	4*	<b>27831</b>
ECO 6 KW	1200	10000	1½"	2	3	6	28	-	9*	<b>27832</b>
ECO 9 KW	1200	10000	1½"	2	3	9	41	-	13*	<b>27833</b>
ECO 12 KW	1200	10000	1½"	2	3	12	-	-	17*	<b>27834</b>
ECO 18 KW	1200	10000	1½"	2	3	18	-	-	26*	<b>27835</b>

\* Standard Voltage



Code	Model	Dimensions (mm) A
<b>27831</b>	ECO 3	450
<b>27832</b>	ECO 6	528
<b>27833</b>	ECO 9	528
<b>27834</b>	ECO 12	620
<b>27835</b>	ECO 18	810



## HEAT EXCHANGERS

### Red Line and Re/U



Model RED LINE



Model RE/U

- Body made of polyamide
- Resistance in titanium.
- Box in thermo-moulded PVC.
- Connections in PVC with reducer included.
- Possibility of changing direction of water circulation.
- Electrical resistances (1 stage) for RED LINE, and (2 stages) for RE/U.

#### Control panel:

- Digital temperature regulation thermostat, sensitivity 0.5°C (range from 16 to 40°C).
- Control buttons.
- Terminal for electrical connection.

#### Safety and protection features:

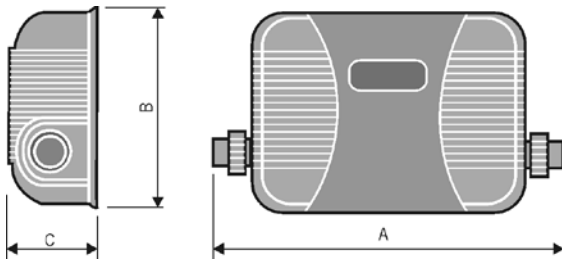
- High temperature safety switch (65°C).
- Flow switch.
- Power connector.

Model	Hydraulic circuit			Pressure (bar)	Cal. Pow. kW	Maxi absorbed intensity (A)			Code
	Min Flow (l/h)	Maxi Flow (l/h)	Hydraul. Conn.	Serv.		I/220/50	III/220/50	III/380/50	
<b>RED LINE</b>									
RE/DC 3 TI	5000	30000	2 1/2"	2	3	14	NO	5*	09327
RE/DC 6 TI	5000	30000	2 1/2"	2	6	27	NO	9*	09328
RE/DC 9 TI	5000	30000	2 1/2"	2	9	40	-	13*	09329
RE/DC 12 TI	5000	30000	2 1/2"	2	12	-	-	18*	18151
<b>RE/U</b>									
RE/U 9 TI	5000	22000	2 1/2"	2	3+6	40	-	13*	09332
RE/U 12 TI	5000	22000	2 1/2"	2	6+6	53	-	18*	09333
RE/U 15 TI	5000	22000	2 1/2"	2	6+9	66	-	22*	09334
RE/U 18 TI	5000	22000	2 1/2"	2	9+9	79	-	26*	09335
RE/U 21 TI	5000	22000	2 1/2"	2	9+12	-	-	31*	09336
RE/U 24 TI	5000	22000	2 1/2"	2	12+12	-	-	35*	09337

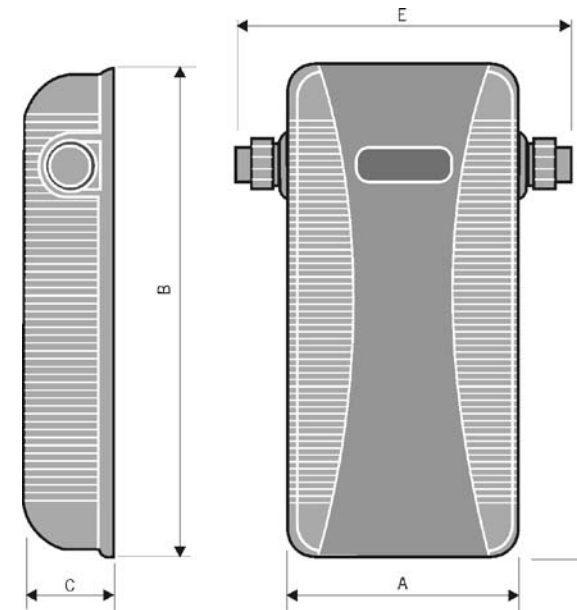
\* Standard voltage (please ask about other voltages).

**HEAT EXCHANGERS**

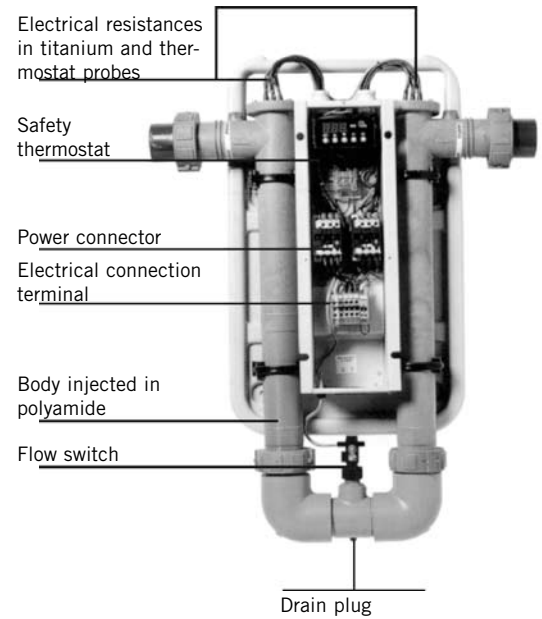
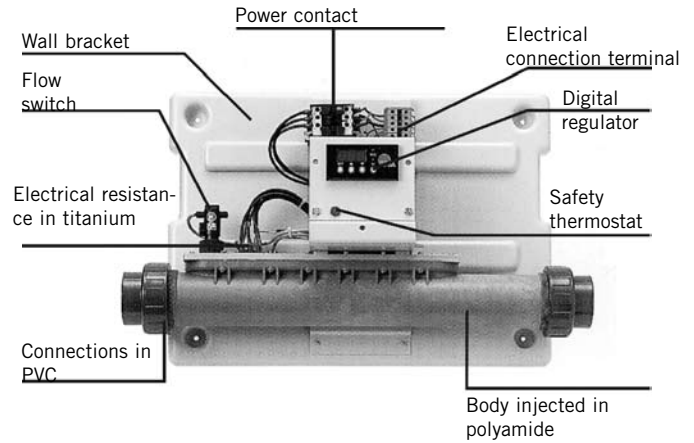
**Red Line and Re/U**



**RED LINE model**



**RE/U model**



Code	Dimensions (mm)					Weight (Kg)
	A	B	C	D	E	
<b>RED LINE</b>						
09327	560	405	180	-	-	10
09328	560	405	180	-	-	10
09329	560	405	180	-	-	10
18151	560	405	180	-	-	10
<b>RE/U</b>						
09332	393	800	143	642	560	12
09333	393	800	143	642	560	12
09334	393	800	143	642	560	12
09335	393	800	143	642	560	12
09336	393	800	143	642	560	12
09337	393	800	143	642	560	12



## MULTITUBULAR WATER/WATER HEAT EXCHANGER

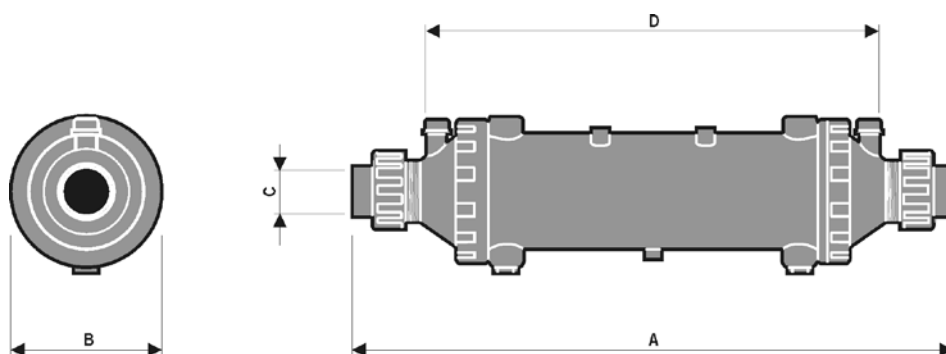
### Heat Line



- High capacity multitubular heat exchanger with AISI 316 stainless steel or titanium tubes.
- Body in injected polyamide.
- Primary circuit connection (heating): Copper connections with male thread.
- Secondary circuit connection (pool): PVC threaded connections with reducer included for glueing.
- Plug for purge or drain according to high or low position.
- Ready for the addition of a thermostatic probe and flowmeter.

Model	Primary Circuit (heating water)				Secondary Circuit (pool water)			Heat Pow. (W)	Service Pressure (bar)	Code
	Flow (m <sup>3</sup> /h)	Temp c°	Head loss (mwh)	Hydraul. Conn.	Flow (m <sup>3</sup> /h)	Heat loss (mwh)	Hydraul. Conn.			
<b>AISI-316</b>										
HEAT LINE 20	0.9	90-70	0.15	1"	10	0.5	2 <sup>1</sup> / <sub>2</sub> "	20000	2	<b>18054</b>
HEAT LINE 40	1.7	90-70	0.20	1"	15	0.8	2 <sup>1</sup> / <sub>2</sub> "	40000	2	<b>18055</b>
HEAT LINE 70	3.0	90-70	0.30	1"	20	1.0	2 <sup>1</sup> / <sub>2</sub> "	70000	2	<b>18056</b>
<b>TITANIUM</b>										
HEAT LINE 20	0.9	90-70	0.15	1"	10	0.5	2 <sup>1</sup> / <sub>2</sub> "	20000	2	<b>18057</b>
HEAT LINE 40	1.7	90-70	0.20	1"	15	0.8	2 <sup>1</sup> / <sub>2</sub> "	40000	2	<b>18058</b>
HEAT LINE 70	3.0	90-70	0.30	1"	20	1.0	2 <sup>1</sup> / <sub>2</sub> "	70000	2	<b>18059</b>
HEAT LINE 20+	0.9	90-70	0.15	1"	10	0.5	2 <sup>1</sup> / <sub>2</sub> "	20000	2	<b>17064</b>
HEAT LINE 40+	1.7	90-70	0.20	1"	15	0.8	2 <sup>1</sup> / <sub>2</sub> "	40000	2	<b>17065</b>
HEAT LINE 70+	3.0	90-70	0.30	1"	20	1.0	2 <sup>1</sup> / <sub>2</sub> "	70000	2	<b>17066</b>

NOTE: The heat power is calculated at an entry water temperature of 26 °C from the pool water circuit.



Code	Dimensions (mm)				Weight (Kg)
	A	B	C	D	
<b>18054</b>	535	155	64	198	4
<b>18055</b>	535	155	64	198	5
<b>18056</b>	665	155	64	328	7
<b>18057</b>	535	155	64	198	4
<b>18058</b>	535	155	64	198	5
<b>18059</b>	665	155	64	328	7
<b>17064</b>	535	155	64	198	8
<b>17065</b>	535	155	64	198	8
<b>17066</b>	665	155	64	328	9

**TITANIUM WATER/WATER PLATE HEAT EXCHANGER**

**Teide**

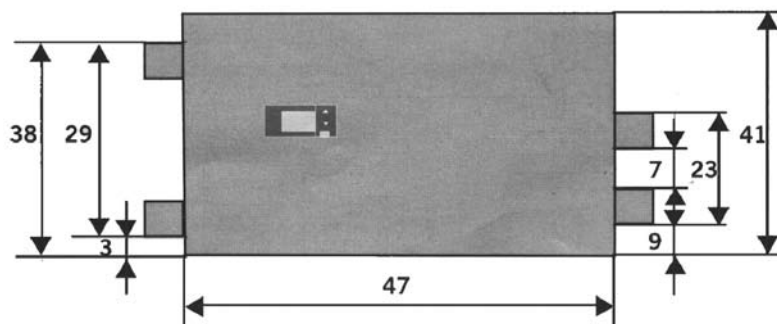
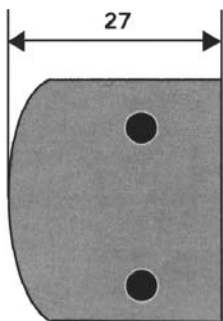
- Compact construction, totally assembled and with electrical wiring.
- Corrugated titanium plates.
- Plate gaskets in EPDM as standard.
- Open / Close valve.
- Stainless steel pipes.
- Circulating pump always in the primary circuit (boiler).
- Wall mounting unit, with metallic casing.



**CONTROL PANEL**

- Digital thermostat on the housing.
- Electrical wiring connectors.
- Temperature immersion probe.

Model	Heat Pow.	Primary Circuit (Heating water)		Secondary Circuit (pool water)		Code
	(Kw)	Flow (m <sup>3</sup> /h)	Conexión hidrául.	Flow (m/h)	Hydraul. Conn.	
TEIDE 10TI EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	10	0.44	1"	0.61	1"	33892
TEIDE 20TI EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	20	0.88	1"	1.23	1"	33893
TEIDE 30TI EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	30	1.32	1"	1.85	1"	33894



## WATER/WATER PLATE HEAT EXCHANGER

### Etna

- Corrugated plates in AISI-316 or Titanium.
- EPDM gaskets.
- Housing in epoxy painted carbon steel.
- In "unequipped" heat exchangers, stainless steel connections AISI-316 or polypropylene in ISO G2 direct thread.
- In "equipped" heat exchangers, primary connections in copper, and secondary in PVC.
- In "equipped" heat exchangers, full regulation, with control of the filtering pump. Double display (setpoint and current reading).
- Recirculating pump in the primary circuit is optional.



Basic model



Equipped model

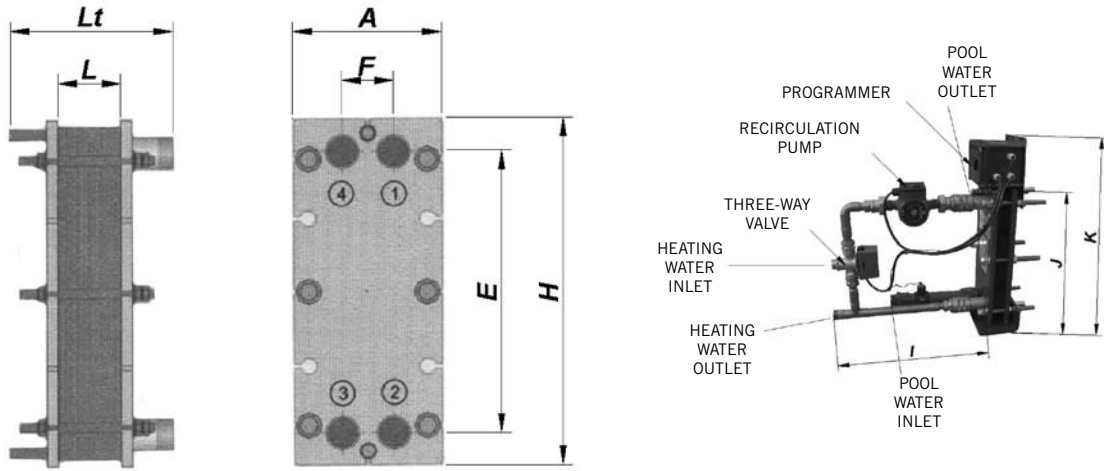


Equipped model +  
recirculating pump

Model	Power kcal/h.	N° Plates	Primary Circuit			Secondary Circuit			Consumption (A)
			m <sup>3</sup> /h	Head loss m.w.h.	Connections	m <sup>3</sup> /h	Head loss	Connections	
ETNA-15 HEAT EXCHANGER	15000	5	0.8	3	3/4"	1.1	3	3/4"	0.30
ETNA-35 HEAT EXCHANGER	35000	9	1.8	3	3/4"	1.76	3	3/4"	0.40
ETNA-50 HEAT EXCHANGER	50000	13	2.6	3	1"	2.51	3	1"	0.40
ETNA-60 HEAT EXCHANGER	60000	15	3.1	3	1"	3.01	3	1"	0.85
ETNA-90 HEAT EXCHANGER	90300	21	4.6	3	1 1/4"	4.3	3	1 1/4"	1.4
ETNA-120 HEAT EXCHANGER	120000	25	6.2	3	1 1/2"	6.02	3	1 1/2"	1.45
ETNA-150 HEAT EXCHANGER	150000	27	7.7	3	1 1/2"	7.53	3	1 1/2"	1.45
ETNA-160 HEAT EXCHANGER	160000	29	8.2	3	1 1/2"	8.02	3	1 1/2"	1.45
ETNA-180 HEAT EXCHANGER	180600	31	9.3	3	2"	9.03	3	2"	1.45
ETNA-200 HEAT EXCHANGER	200000	33	10.3	3	2"	10.04	3	2"	1.5
ETNA-250 HEAT EXCHANGER	250000	39	12.9	3	2"	12.54	3	2"	1.6
ETNA-270 HEAT EXCHANGER	270000	47	13.9	3	2"	13.55	3	2"	1.6
ETNA-300 HEAT EXCHANGER	300000	15	15.4	3	2"	15.05	3	2"	1.7
ETNA-350 HEAT EXCHANGER	350000	17	18	3	2 1/2"	17.56	3	2 1/2"	1.7
ETNA-400 HEAT EXCHANGER	399900	18	20.5	3	2 1/2"	20.09	3	2 1/2"	1.7
ETNA-460 HEAT EXCHANGER	460100	19	23.6	3	2 1/2"	23.2	3	2 1/2"	2.45
ETNA-500 HEAT EXCHANGER	500000	21	25.6	3	2 1/2"	24.8	3	2 1/2"	2.45
ETNA-580 HEAT EXCHANGER	580500	25	29.7	3	3"	28.6	3	3"	2.45

**WATER/WATER PLATE HEAT EXCHANGER**

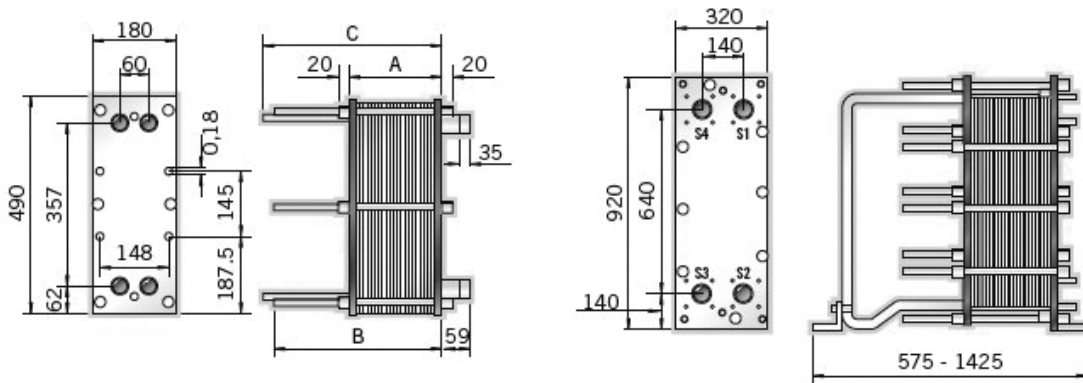
**Etna**



Model	Dimensions (mm)									
	H	A	E	F	Lt	L	I	J	K	
<b>Basic model</b>										
15-270	460	200	357	60	220 370	N° PLATES X 2.9 + 3	-	-	-	
300-580	745	310	603	124	630	N° PLATES X 3.42 + 3.5	-	-	-	

**Models from INT-35 to INT-270**

**Models from INT-300 to INT-580**



Model	Dimensions (mm)									
	H	A	E	F	Lt	L	I	J	K	
<b>Equipped model / Equipped model with recirculating pump</b>										
15-270	460	200	357	60	220 370	N° PLATES X 2.9 + 3	540	H+10	620	
300-580	745	310	603	124	630	N° PLATES X 3.42 + 3.5	540	H+10	905	

## WATER/WATER PLATE HEAT EXCHANGER

### Etna

Code AISI-316	Description Plate heat exchanger	Code Titanium
<b>Basic model</b>		
33112	INT-15 WATER/WATER PLATE HEAT EXCHANGER	33127
32542	INT-35 WATER/WATER PLATE HEAT EXCHANGER	33128
32543	INT-50 WATER/WATER PLATE HEAT EXCHANGER	33129
32544	INT-60 WATER/WATER PLATE HEAT EXCHANGER	33130
33113	INT-90 WATER/WATER PLATE HEAT EXCHANGER	33131
32545	INT-120 WATER/WATER PLATE HEAT EXCHANGER	33132
32546	INT-150 WATER/WATER PLATE HEAT EXCHANGER	33133
32547	INT-160 WATER/WATER PLATE HEAT EXCHANGER	33134
32548	INT-180 WATER/WATER PLATE HEAT EXCHANGER	33135
32549	INT-200 WATER/WATER PLATE HEAT EXCHANGER	33136
32550	INT-250 WATER/WATER PLATE HEAT EXCHANGER	33137
32551	INT-270 WATER/WATER PLATE HEAT EXCHANGER	33138
32552	INT-300 WATER/WATER PLATE HEAT EXCHANGER	33139
32553	INT-350 WATER/WATER PLATE HEAT EXCHANGER	33140
33114	INT-400 WATER/WATER PLATE HEAT EXCHANGER	33141
33115	INT-460 WATER/WATER PLATE HEAT EXCHANGER	33142
32554	INT-500 WATER/WATER PLATE HEAT EXCHANGER	33143
33116	INT-580 WATER/WATER PLATE HEAT EXCHANGER	33144
<b>Equipped model</b>		
33117	INT-15 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33145
32555	INT-35 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33146
32556	INT-50 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33147
32557	INT-60 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33148
33118	INT-90 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33149
32558	INT-120 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33150
32559	INT-150 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33151
32560	INT-160 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33152
32561	INT-180 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33153
32562	INT-200 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33154
32563	INT-250 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33155
32564	INT-270 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33156
32565	INT-300 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33157
32566	INT-350 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33158
33119	INT-400 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33159
33120	INT-460 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33160
32567	INT-500 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33161
33121	INT-580 EQUIPPED WATER/WATER PLATE HEAT EXCHANGER	33162
<b>Equipped model + Recirculation pump</b>		
33122	INT EQUIPPED+RECIR-15 WATER/WATER PLATE HEAT EXCHANGER	33163
32568	INT EQUIPPED+RECIR-35 WATER/WATER PLATE HEAT EXCHANGER	33164
32569	INT EQUIPPED+RECIR-50 WATER/WATER PLATE HEAT EXCHANGER	33165
32570	INT EQUIPPED+RECIR-60 WATER/WATER PLATE HEAT EXCHANGER	33166
33123	INT EQUIPPED+RECIR-90 WATER/WATER PLATE HEAT EXCHANGER	33167
32571	INT EQUIPPED+RECIR-120 WATER/WATER PLATE HEAT EXCHANGER	33168
32572	INT EQUIPPED+RECIR-150 WATER/WATER PLATE HEAT EXCHANGER	33169
32573	INT EQUIPPED+RECIR-160 WATER/WATER PLATE HEAT EXCHANGER	33170
32574	INT EQUIPPED+RECIR-180 WATER/WATER PLATE HEAT EXCHANGER	33171
32575	INT EQUIPPED+RECIR-200 WATER/WATER PLATE HEAT EXCHANGER	33172
32576	INT EQUIPPED+RECIR-250 WATER/WATER PLATE HEAT EXCHANGER	33173
32577	INT EQUIPPED+RECIR-270 WATER/WATER PLATE HEAT EXCHANGER	33174
32578	INT EQUIPPED+RECIR-300 WATER/WATER PLATE HEAT EXCHANGER	33175
32579	INT EQUIPPED+RECIR-350 WATER/WATER PLATE HEAT EXCHANGER	33176
33124	INT EQUIPPED+RECIR-400 WATER/WATER PLATE HEAT EXCHANGER	33177
33125	INT EQUIPPED+RECIR-460 WATER/WATER PLATE HEAT EXCHANGER	33178
33580	INT EQUIPPED+RECIR-500 WATER/WATER PLATE HEAT EXCHANGER	33179
33126	INT EQUIPPED+RECIR-580 WATER/WATER PLATE HEAT EXCHANGER	33180

**POOL & SPA GAS HEATERS**

**MX and HX Electronic Gas Heaters**

Electronic Ignition - 220V-240V input, 24 Transformer, LCD temperature display, pool & spa separate set points, corrosion resistant copper nickel heat exchanger, glass reinforced nylon headers, glue in plastic connections, outdoor weatherproof, marine grade powder coated inside and out.

Ordering: For indoor installation, order Draught Diverter, specify plumbing connection size (EUR or USA), specify Gas Type.

Please inquire with your nearest branch for other options available:

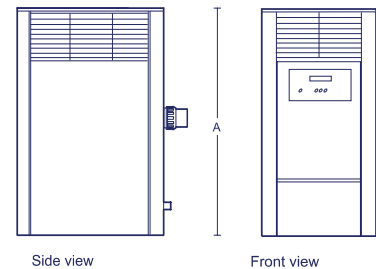
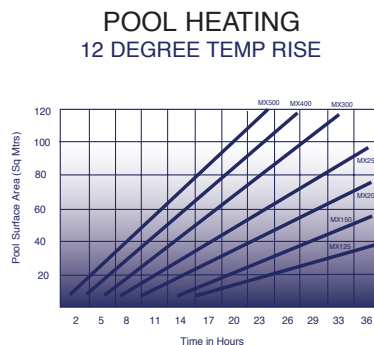
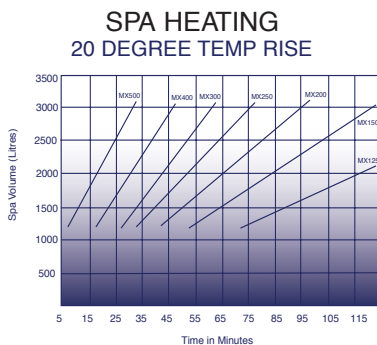
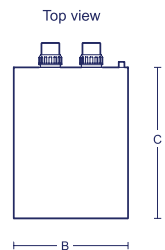
- MX Millivolt Standing Pilot Gas Heaters with mechanical thermostat
- MX Commercial Grade Gas Heaters with bronze headers
- MX Heaters suitable for LPG
- Draught Diverter for Indoor Installation of MX Gas Heaters



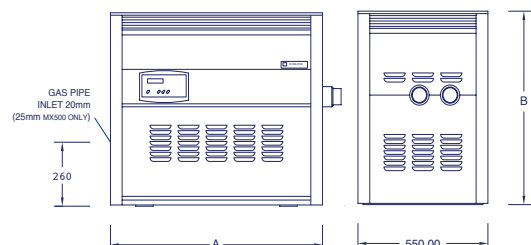
	kW Input	kW Output	Code	Standard Packing	Standard Weight kg	Standard Volume m <sup>3</sup>
HX 70 Cupro Nickel	20	-	<b>41356</b>	1	25	0.174
HX 120 Cupro Nickel	32	-	<b>41357</b>	1	35	0.266
MX 125 Cupro Nickel	35	25	<b>41358</b>	1	54	0.310
MX 150 Cupro Nickel	44	35	<b>41359</b>	1	61	0.361
MX 200 Cupro Nickel	54	43	<b>41360</b>	1	75	0.460
MX 250 Cupro Nickel	67	55	<b>41361</b>	1	85	0.507
MX 300 Cupro Nickel	82	70	<b>41362</b>	1	89	0.542
MX 400 Cupro Nickel	106	85	<b>41363</b>	1	95	0.624
MX 500 Cupro Nickel	133	114	<b>41364</b>	1	125	0.818

Model	Dimensions (mm)			Gas (mm)	Weight (Kg)
	A	B	C		
HX 70/WX75	720	320	415	15	21
HX 120/WX120	820	390	515	15	25
MX 125	370	790	-	20	42
MX 150	460	790	-	20	50
MX 200	640	790	-	20	58
MX 250	710	790	-	20	66
MX 300	775	790	-	20	74
MX 400	910	790	-	20	90
MX 500	1100	930	-	25	110

**HX HEATERS**



**MX HEATERS**



## SOLAR HEAT COLLECTORS



### Polypropylene solar collectors

Solar heating system which operates with polypropylene (PP) solar collectors, a material very resistant to corrosion. It is very easy to install and can be placed anywhere, always facing the sun for optimum performance. It does not need any additional hydraulic installation to work as it can be used with the same filtration pump. The water is heated as it circulates through the solar collectors tubes and returns to the pool. A system with a suitable installation size will increase the temperature between 6 and 8°C. The necessary collector surface is the equivalent of 50% of the water surface.



Model	Code
SOLAR INGROUND POOL HEATING: BOX WITH TWO 0.61 X 6.10 M PANELS	<b>32870</b>
SOLAR INGROUND POOL HEATING: CONNECTION KIT FOR EVERY 4 PANELS (2 BOXES)	<b>32871</b>
SOLAR ABOVEGROUND POOL HEATING: BOX WITH ONE 0.61 X 6.10 M PANEL	<b>32872</b>

**DEHUMIDIFIERS**

**CDP Dehumidifier**

- Compact evaporator and condenser made in copper tube with coated aluminium fins (special for corrosive environments).
- Sealed compressor with internal protection.
- Refrigeration circuit of dehydrated, nitrogenated and deoxidised copper.
- Centrifugal ventilator with different flows.
- Filled with refrigerant gas R407C with low environmental impact.
- Removeable and cleanable air filter, with 83% to 90% gravimetric efficiency.
- Condensation collection tray made in ABS.
- Fluid expansion via expansion-valve.
- User has control of humidity and viewing of the parameters at all times.
- Mini-pressure switches with automatic reset.
- Defrosting system by air.
- Easy and rapid post assembly and access for maintenance.
- Comprehensive control panel with digital high precision regulation.



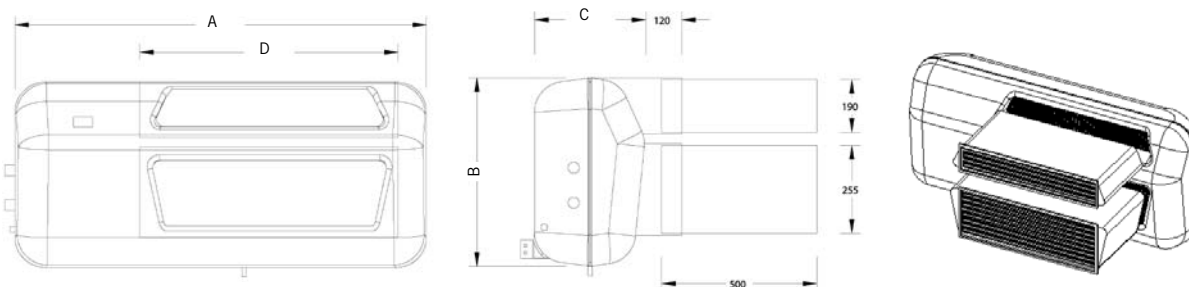
Model	Characteristics		Compressor						Ventilator				Consumption nominal	Refrig. Gas	
	Dehumidif. capacity (l/h)	Calorific Power W	unit	Type	Voltage	Frequen.	Cons. (amp)	Nominal Power (CV)	Unit	Type	Flow m³/h	cons. (Amp)			Voltaje
CDP 2	2.1	4277	1	hermet.	220V II	50 Hz	6.01	1 F	1	Centrif.	700	1.1	220 V	7.1 Amp	R 407 C
CDP 3	3.1	5313	1	hermet.	220V II	50 Hz	7.04	1 1/4 F	1	Centrif.	800	1.1	220 V	8.02 Amp	R 407 C
CDP 4	4.2	7068	1	hermet.	220V II	50 Hz	9.91	1 5/8 F	1	Centrif.	1000	1.1	220 V	11.01 Amp	R 407 C
CDP 5	5.1	8473	1	hermet.	220V II	50 Hz	9.4	2F	1	Centrif.	1200	1.1	220 V	10.05 Amp	R 407 C

Model	GENERAL POWER SUPPLY		
	Voltage (v)	Section mm²	Num. of wires
CDP-2	220 II	4	2P+Earth
CDP-3	220 II	4	2P+Earth
CDP-4	220 II	6	2P+Earth
CDP-5	220 II	6	2P+Earth

The section of wiring indicated in the tables is for illustration only. The length of the cable connections should always be supervised by a technician. The power calculation has been made at an air temperature of 28°C and 75% relative humidity. Limits of working conditions: Minimum air temperature in the installation 18°C.

Model	ABSORBED INTENSITY (E)			
	Compressor	Ventilator	Total	Total
CDP-2+E	6.01 Amp	1.1 Amp	13.6 Amp	21 Amp
CDP-3+E	7.04 Amp	1.1 Amp	13.6 Amp	22 Amp
CDP-4+E	9.91 Amp	1.1 Amp	18.1 Amp	30 Amp
CDP-5+E	9.40 Amp	1.1 Amp	18.1 Amp	30 Amp

Model	ABSORBED INTENSITY (A)		
	Compressor	Ventilator	Total
CDP-2+A	6.01 Amp	1.1 Amp	7.2 Amp
CDP-3+A	7.04 Amp	1.1 Amp	8.2 Amp
CDP-4+A	9.91 Amp	1.1 Amp	11 Amp
CDP-5+A	9.40 Amp	1.1 Amp	10.5 Amp



Model	Dimensions (mm)				Weight (Kg) with electrical Bat.	Weight (Kg) with H.W. Bat.
	A (mm)	B (mm)	C (mm)	D (mm)		
CDP-2	1350	610	360	785	46	50
CDP-3	1350	610	360	785	49	54
CDP-4	1670	610	360	1310	64	69
CDP-5	1670	610	360	1310	66	72



**DEHUMIDIFIERS**

**CDP dehumidifier**

Code	Description
21202	CDP-2 E DEHUMIDIFIER + LEGS + ELECTRICAL BAT.
21203	CDP-3 E DEHUMIDIFIER + LEGS + ELECTRICAL BAT.
21204	CDP-4 E DEHUMIDIFIER + LEGS + ELECTRICAL BAT.
21205	CDP-5 E DEHUMIDIFIER + LEGS + ELECTRICAL BAT.
21402	CDP-2 E DEHUMIDIFIER + WHEELS + ELECTRICAL BAT.
21403	CDP-3 E DEHUMIDIFIER + WHEELS + ELECTRICAL BAT.
21404	CDP-4 E DEHUMIDIFIER + WHEELS + ELECTRICAL BAT.
21405	CDP-5 E DEHUMIDIFIER + WHEELS + ELECTRICAL BAT.
21406	CDP-2 E WALL DEHUMIDIFIER + ELECTRICAL BAT.
21407	CDP-3 E WALL DEHUMIDIFIER + ELECTRICAL BAT.
21408	CDP-4 E WALL DEHUMIDIFIER + ELECTRICAL BAT.
21409	CDP-5 E WALL DEHUMIDIFIER + ELECTRICAL BAT.
24771	CDP-2 A DEHUMIDIFIER + LEGS + HOT WATER BAT.
24772	CDP-3 A DEHUMIDIFIER + LEGS + HOT WATER BAT.
24773	CDP-4 A DEHUMIDIFIER + LEGS + HOT WATER BAT.
24774	CDP-5 A DEHUMIDIFIER + LEGS + HOT WATER BAT.
24779	CDP-2 A WALL DEHUMIDIFIER + HOT WATER BAT.
24780	CDP-3 E WALL DEHUMIDIFIER + HOT WATER BAT.
24781	CDP-4 E WALL DEHUMIDIFIER + HOT WATER BAT.
24782	CDP-5 E WALL DEHUMIDIFIER + HOT WATER BAT.
33939	CDP - 2A PLUS DEHUMIDIFIER
33940	CDP - 3A PLUS DEHUMIDIFIER
33941	CDP - 4A PLUS DEHUMIDIFIER
33942	CDP - 5A PLUS DEHUMIDIFIER
33943	CDP - 2E BUILT-IN DEHUMIDIFIER
33944	CDP - 3E BUILT-IN DEHUMIDIFIER
33945	CDP - 4E BUILT-IN DEHUMIDIFIER
33946	CDP - 5E BUILT-IN DEHUMIDIFIER
33947	CDP - 2A BUILT-IN DEHUMIDIFIER
33948	CDP - 3A BUILT-IN DEHUMIDIFIER
33949	CDP - 4A BUILT-IN DEHUMIDIFIER
33950	CDP - 5A BUILT-IN DEHUMIDIFIER
33951	CDP - 2A PLUS BUILT-IN DEHUMIDIFIER
33952	CDP - 3A PLUS BUILT-IN DEHUMIDIFIER
33953	CDP - 4A PLUS BUILT-IN DEHUMIDIFIER
33954	CDP - 5A PLUS BUILT-IN DEHUMIDIFIER
33775	CDP WHEELS KIT
33776	CDP LEGS KIT
33777	CDP WALL KIT

**DEHUMIDIFIERS**

**DT dehumidifier**

- Fixed console for installation inside the pool hall.
- Motor-ventilator with centrifugal turbine (silent).
- Hermetic compressor with internal thermal protection.
- Filled with Freon R-22 gas.
- Evaporator and condenser, made in copper tube and aluminium fins.
- Heat moulded non-corrosive housing.
- Washable air filter.
- Pipe to drain condensation, diameter 13 mm.

**Control panel:**

- Regulation by built-in hygrometer.
- 3-speed selector.

**Security and protection elements:**

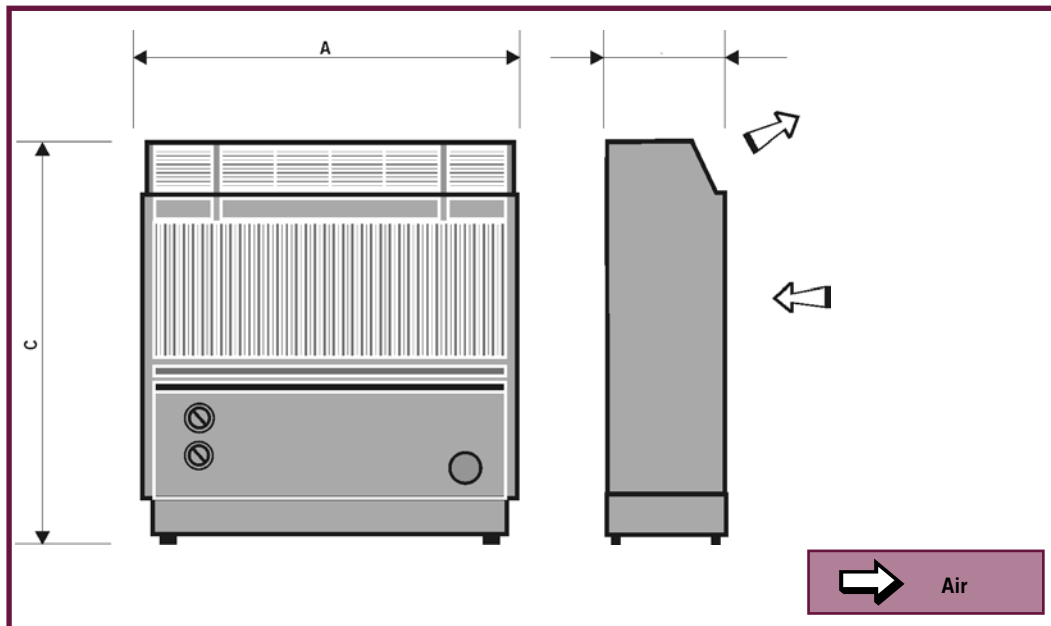
- Automatic defrosting with forced ventilation.



**DT850 Model**

**(\*) STANDARD VOLTAGE**

Model	Dehumidification capacity (l/h)	Minimum Temp. (°C)	Maximum Temp. (°C)	Air flow (m³/h)	Cal. Pow. (kW)	Pow Cons. (kW)	Maxi absorbed intensity (A)			Code
							I/220/50	III/220/50	III380/50	
DT 850	1.8	5	35	500	2.3	1.2	5.5*	-	-	05449



Code	Model	Dimensions (mm)			Weight (kg)
		A	B	C	
05449	DT 850	680	280	690	40

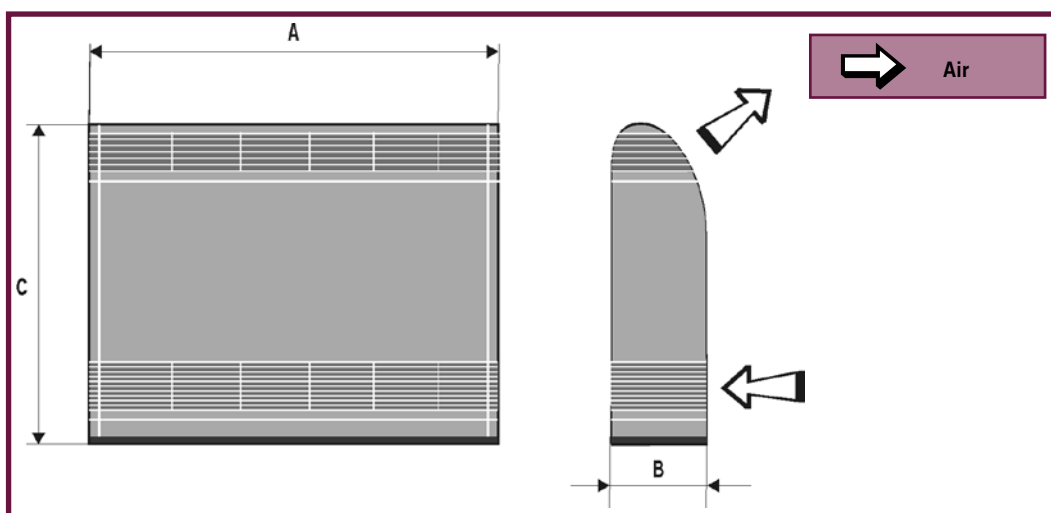
## DEHUMIDIFIERS

### Sirocco dehumidifier console



- Compact design to be placed inside the pool hall.
  - Casing in ABS and plasticized steel sheet.
  - Rotating (mod. 55) and scroll (mod. 80 and 110) compressors.
  - Post-heating air battery, electrically powered with 2.3 and 4.5 kW (depending on model).
  - Washable air filter.
- Control panel:**
- Full regulation of temperature and humidity using:
    - Built-in hygro-thermostat.
    - Humidity and temperature probes.

Model	Dehum. cap. (l/h)	Air Flow (m <sup>3</sup> /h)	Cal. Pow. (kW)	Pow. Cons. (kW)	Elec. Bat. (kW)	Absorbed Int. (Amp) I/220/50	Code
SIROCCO 55	2.3	600	2.08	0.99	2.0	4.45	22519
SIROCCO 80	2.4	800	2.31	1.10	3.0	4.05	22520
SIROCCO 100	4.6	1000	2.81	1.34	4.5	6.35	22521



Model	Dimensions (mm)			Weight (Kg)
	A	B	C	
SIROCCO 55	1050	275	807	70
SIROCCO 80	1240	275	807	80
SIROCCO 100	1430	275	807	125

### Vertical dehumidifier console



new

- Compact design to be placed inside the pool hall.
- Casing in ABS and plasticized steel sheet.
- Voltage 230v - 50Hz
- Air Flow 500m<sup>3</sup>/h
- Absorbed Power 850W
- Returned power 2100W

Model	Code	Dimensions (mm)			Weight (Kg)
		Length	Height	Width	
Vertical dehumidifier DT 850	40835	660	720	295	45

**DEHUMIDIFIERS**

**Compisa BDP dehumidifying unit**

The COMPISA BDP heat pump is used for the dehumidification of indoor pools, using the latent heat of evaporation and the performance of the system itself to heat the pool water and the room air, and to control the three parameters which define comfort in a swimming pool: water, air and relative humidity. The energy savings achieved with these systems compared to traditional climatization systems mean that they are virtually essential when you wish to heat an indoor pool. The wide range of models covers all requirements of the market.

- Monoblock design.
- Construction with dismountable panels of galvanized steel, plastified on their outer surface (PVC plastic film) and with non-corrosive protection (5µ primer paint, with thermosetting Epoxy resin base and oven-dried), and thermoacoustic protection (sound-absorbing panel in expanded polyurethane) on their inner walls joined with profiles of coated aluminium.
- Removable and cleanable air filter, with 83% to 90% gravimetric efficiency.
- Stainless steel condensation collection tray with drain pipe of 13, 16 and 23 mm according to model.
- Titanium water condenser.
- Evaporator, condenser, and hot water unit, made of copper tube with coated aluminium fins (special for corrosive environments).
- Hermetic compressor.
- One or two refrigeration circuits of nitrogenated, dehydrated and deoxidised copper, according to models.
- Centrifugal motor-fans, with direct transmission or by belts, pulleys and electric motor mounted on adjustable tensioner, with the possibility of varying flows and standard available pressures (this option on order).
- Free-cooling made up of three gates and recovery ventilator. This option must be ordered.
- Filled with refrigerant gas R407C with low environmental impact.
- Expansion valve with pressure balancing unit.
- Possibility of condensing 100% water or 100% as an option which must be ordered especially.
- Possibility of including water-water plate heat exchangers in series with water condensers to back-up the heating of the pool (this option must be ordered; contact the Sales Department).
- Possibility of adding external condenser to expel excess heat from the installation. (This option must be ordered especially).
- Full regulation of all elements of the unit.
- Three-way valves and a hot water unit and a water-water heat exchanger are built-in.
- Hydraulic connections in PVC.



## DEHUMIDIFIERS

### Compisa BDP dehumidifying unit

Characteristics	Model						
Model	BDP-6	BDP-8	BDP-10	BDP-12	BDP-16	BDP-21	BDP-25
Dehumidification capacity	5.9 l/h	8.3 l/h	11 l/h	12.5 l/h	17.35 l/h	21.95 l/h	26.2 l/h
Calorific power (w) (Water condenser)	6360	8940	11700	13381	22259	22259	26700
Calorific power (w) (Air condenser)	4239	5960	7800	8921	14838	14838	17800
<b>CONDENSER</b>							
Num. of condensers (Water)	1	1	1	1	1	1	1
Flow (l/h)	4000	4000	6000	6000	8000	8000	10000
Head loss (m.w.h.)	2.5	2.5	3.6	3.6	3.5	3.6	3.5
Num. of condensers (Air)	1	1	1	1	1	1	1
Num. of circuits	1	1	1	1	1	1	1
<b>COMPRESSOR</b>							
Units	1	1	1	1	1	1	1
Type	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic	Hermetic
Voltage	220 V II	380 V III	380 V III	380 V III	380 V III	380 V II	380 V II
Frequency	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ
Consumption (Amp)	12	6.5	8	9	11.45	15.9	20.79
Nominal Power (kw)	2.39	3.45	4.12	4.52	5.3	7.78	9.39
<b>VENTILATOR</b>							
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Units	1	1	1	1	1	1	1
Flow rate (m <sup>3</sup> /h)	1800	2800	3800	4300	5500	5500	7000
Available pressure m.w.h.	20	1.1	1.1	1.1	1.1	1.1	1.1
Absorbed power (Kw)	0.25	0.55	1.1	1.1	1.1	1.1	2.2
Voltage	220/2/50 Hz	220/2/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz
<b>EVAPORATOR</b>							
Type	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)
Units	1	1	1	1	1	1	1
Front surface (m <sup>2</sup> )	0.3	0.3	0.5	0.5	1	1	1
<b>OTHER DATA</b>							
Calorific Power (w)	10599	14900	19500	22302	37037	37097	44500
Refrigerant gas	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C
Weight (Kg)	234	240	350	450	700	1.100	720
Pool water connections	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
<b>OPTIONAL</b>							
Hot Water coil w	17433	23244	32541	37190	55785	55785	69732
Primary Flow rate l/h	750	1000	1400	1600	2400	2400	3000
Water Pressure drop m.w.h.	3.8	1.5	0.9	1.1	1.9	1.9	1.9
Collector diameter inches	1"	1"	1"	1"	1"	1"	1"

## DEHUMIDIFIERS

### Compisa BDP dehumidifying unit

Characteristics	Model								
	BDP-30+F	BDP-35+F	BDP-44+F	BDP-50+F	BDP-60+F	BDP-82+F	BDP-110+F	BDP-140+F	BDP-160+F
Dehumidification capacity (l/h)	37.3	36.6	43.7	53.3	65.6	87.7	112.7	140	163.4
Calorific power (W) (water condenser)	3198	36421	53582	53582	67201	87597	108001	143997	167999
Calorific power (W) (air condenser)	20798	24280	35721	35721	44800	58398	72000	95997	111998
<b>CONDENSADOR</b>									
Num. of condensers (Water)	1	1	2	2	2	2	2	2	2
Flow (l/h)	5000	6000	10200	10200	10400	10400	20000	26000	26000
Head loss (m.w.h.)	3.6	3.4	3.4	3.4	3.6	3.6	4.4	5.5	5.5
Num. of condensers (Air)	1	1	2	2	2	2	1	1	1
Num. of circuits	1	1	2	2	2	2	1	1	1
<b>COMPRESSOR</b>									
Units	1	1	1	1	1	1	2	2	2
Type	Hermetic	Hermetic	Hermetic	Hermetic	Semi-Hermetic	Semi-Hermetic	Semi-Hermetic	Semi-Hermetic	Semi-Hermetic
Voltage	380 V III	380 V III	380 V III	380 V III	380 V III	380 V II	380 V II	380 V II	380 V II
Frequency	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ	50 HZ
Nominal power (kw)	10.77	13.3	2X7.78	2X9.39	2X10.82	2X15.54	2x15.90	2x23.62	2x29.20
<b>VENTILATOR</b>									
Type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Units	2	2	2	2	2	2	2	2	2
Flow rate (m³/h)	7000	7000	12000	12000	18000	22000	22000	30000	35000
Available pressure m.w.h.	20	20	20	20	20	20	20	20	20
Absorbed power (Kw)	2.2/1.1	2.2/1.1	3/1.5	3/1.5	5.5/3	7.5/4	5.5/4	9.2/7.5	11/7.5
Voltage	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz	380/3/50 Hz
<b>EVAPORATOR</b>									
Type	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)	Cu-Al (lacqu.)
Units	1	1	2	2	2	2	2	2	2
Front surface (m²)	1	1	2	2	2	2.4	2.8	3.8	3.8
<b>OTHER DATA</b>									
Calorific power (w)	51996	60701	89303	89303	112001	145995	180000	239994	279997
Refrigerant gas	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C	R-407C
Weight (Kg)	1270	1290	2600	2650	2720	3150	3450	3700	3900
Pool water connections	2"	2"	2"	2"	2"	2 1/2"	2 1/2"	2 1/2"	2 1/2"
<b>OPTIONAL</b>									
Hot Water battery w	BDP-30+F	BDP-35+F	BDP-44+F	BDP-50+F	BDP-60+F	BDP-82+F	BDP-110+F	BDP-140+F	BDP-160+F
Primary Flow rate l/h	69732	69732	116220	116220	150993	180141	234996	237928	349996
Water pressure drop m.w.h.	3000	3000	5000	5000	6500	7750	10110	12000	15060
Collector Diameter inches	1.3	1.3	2.8	2.8	3.9	1.4	1.5	1.5	3.4
	1"	1"	1 1/4"	1 1/2"	1 1/2"	2"	2"	2"	2"

Calculations based on an air temperature of 27°C at 60% RH - 15°C at 60% RH - 5°C at 60% RH 12 m³/h Flow rate. Water at 24°C.

## DEHUMIDIFIERS



### Compisa BDP dehumidifying unit

Steel sheet model	Steel Sheet
	Code
COMPISA BDP-06 DEHUMIDIFYING HEAT PUMP	26498
COMPISA BDP-08 DEHUMIDIFYING HEAT PUMP	26499
COMPISA BDP-10 DEHUMIDIFYING HEAT PUMP	26500
COMPISA BDP-12 DEHUMIDIFYING HEAT PUMP	26501
COMPISA BDP-16 DEHUMIDIFYING HEAT PUMP	26502
COMPISA BDP-21 DEHUMIDIFYING HEAT PUMP	26503
COMPISA BDP-25 DEHUMIDIFYING HEAT PUMP	26504
COMPISA BDP-30 DEHUMIDIFYING HEAT PUMP	26505
COMPISA BDP-35 DEHUMIDIFYING HEAT PUMP	26506
COMPISA BDP-44 DEHUMIDIFYING HEAT PUMP	26507
COMPISA BDP-50 DEHUMIDIFYING HEAT PUMP	26508
COMPISA BDP-60 DEHUMIDIFYING HEAT PUMP	26509
COMPISA BDP-82 DEHUMIDIFYING HEAT PUMP	26510
BDP-06 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28311
BDP-08 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28312
BDP-10 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28313
BDP-12 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28314
BDP-16 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28315
BDP-21 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28316
BDP-25 DEHUMIDIFIER + WATER CONDENSER +FREE COOLING	28317
BDP-30 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28318
BDP-35 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28319
BDP-44 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28320
BDP-50 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28321
BDP-60 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28322
BDP-82 DEHUMIDIFIER + WATER CONDENSER + FREE COOLING	28323
COMPISA BDP-110 DEHUMIDIFYING HEAT PUMP + FREE COOLING	26511
COMPISA BDP-140 DEHUMIDIFYING HEAT PUMP + FREE COOLING	26512
COMPISA BDP-160 DEHUMIDIFYING HEAT PUMP + FREE COOLING	26513
ELECTRIC POST-HEATING+REGULATION Pow. 5 KW	26514
ELECTRIC POST-HEATING+REGULATION Pow. 6 KW	26515
ELECTRIC POST-HEATING+REGULATION Pow. 9 KW	26516
ELECTRIC POST-HEATING+REGULATION Pow. 12 KW	26517
ELECTRIC POST-HEATING+REGULATION Pow. 15 KW	26518
ELECTRIC POST-HEATING+REGULATION Pow. 20 KW	26519
POST-HEATING (WATER BOILER) + 3 WAY V. BDP - 06	26520

**DEHUMIDIFIERS**
**Compisa BDP dehumidifying unit**

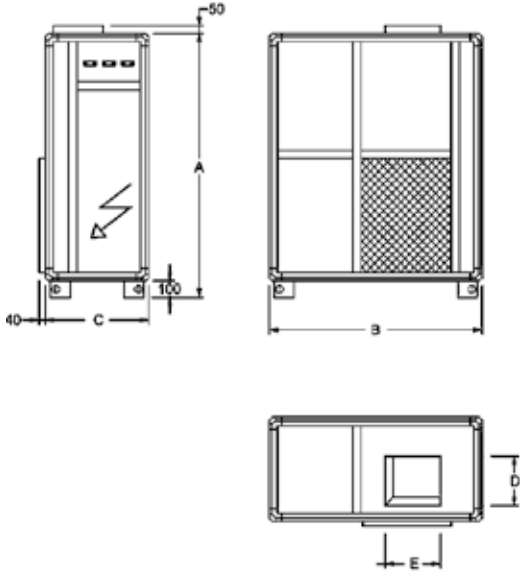
Steel sheet model	Steel sheet
	Code
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 20000KH FOR BDP-08	<b>26521</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 28000KH FOR BDP-10	<b>26522</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 32000KH FOR BDP-12	<b>26523</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 48000KH FOR BDP-16	<b>26524</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 48000KH FOR BDP-21	<b>26525</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 60000KH FOR BDP-25	<b>26526</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 60000KH FOR BDP-30 / BDP-35	<b>26527</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 100000KH FOR BDP-44 / BDP-50	<b>26528</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 130000KH FOR BDP-60	<b>26539</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 155000KH FOR BDP-82	<b>26530</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 200000KH FOR BDP-110	<b>26531</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 240000KH FOR BDP-140	<b>26532</b>
AFTER-HEATING BATTERY (WATER BOILER) + 3 WAY V. 300000KH FOR BDP-160	<b>26533</b>
COMPISA BDP 06-08 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26534</b>
COMPISA BDP 10-12 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26535</b>
COMPISA BDP 16-21 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26536</b>
COMPISA BDP 25-30-35 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26537</b>
COMPISA BDP 44-50 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26538</b>
COMPISA BDP 82 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26539</b>
COMPISA BDP 61 PLENUM 1 AIR DISCHARGE GRID + 2 RETURN GRIDS	<b>26540</b>
SUPPLEMENT: PROPORTIONAL REGULATION. FOR FREE COOLING	<b>26627</b>
WATER/WATER HEAT EXCHANGER + 3 WAY 35000 Kcal./h	<b>26550</b>
WATER/WATER HEAT EXCHANGER + 3 WAY 60000 Kcal./h	<b>26551</b>
WATER/WATER HEAT EXCHANGER + 3 WAY 120000 Kcal./h	<b>26552</b>
WATER/WATER HEAT EXCHANGER + 3 WAY 200000 Kcal./h	<b>26553</b>





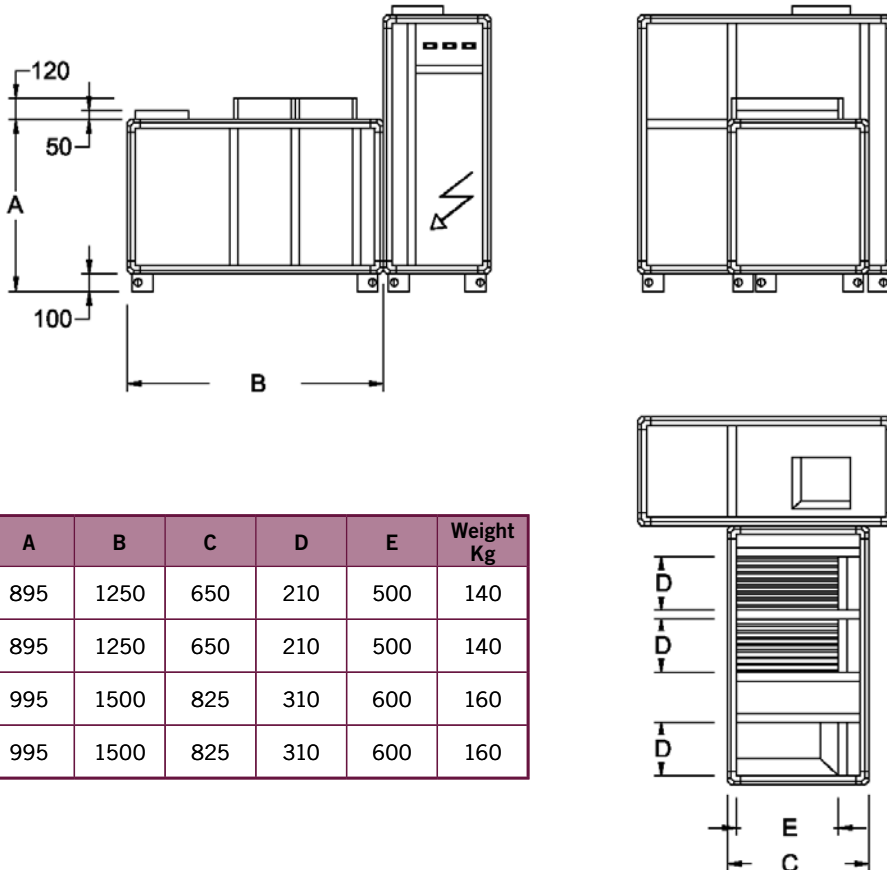
## DEHUMIDIFIERS

### BDP-06 - BDP-08 - BDP-10 - BDP-12 Compisa BDP dehumidifying units



Model	A	B	C	D	E	Weight Kg
<b>BDP-06</b>	1.600	1300	630	340	310	234
<b>BDP-08</b>	1.600	1300	630	340	310	240
<b>BDP-10</b>	1.600	1500	630	320	350	350
<b>BDP-12</b>	1.600	1500	630	410	350	450

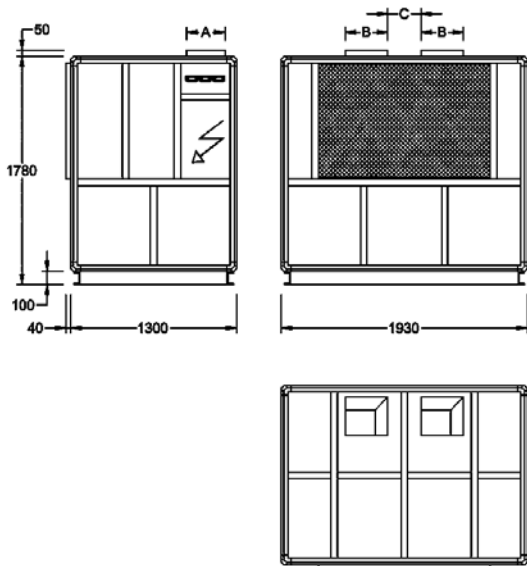
### BDP-06 - BDP-08 - BDP-10 - BDP-12 Compisa BDP dehumidifying units with FREECOOLING



Model	A	B	C	D	E	Weight Kg
<b>FREECOOLING BDP-06</b>	895	1250	650	210	500	140
<b>FREECOOLING BDP-08</b>	895	1250	650	210	500	140
<b>FREECOOLING BDP-10</b>	995	1500	825	310	600	160
<b>FREECOOLING BDP-12</b>	995	1500	825	310	600	160

**DEHUMIDIFIERS**

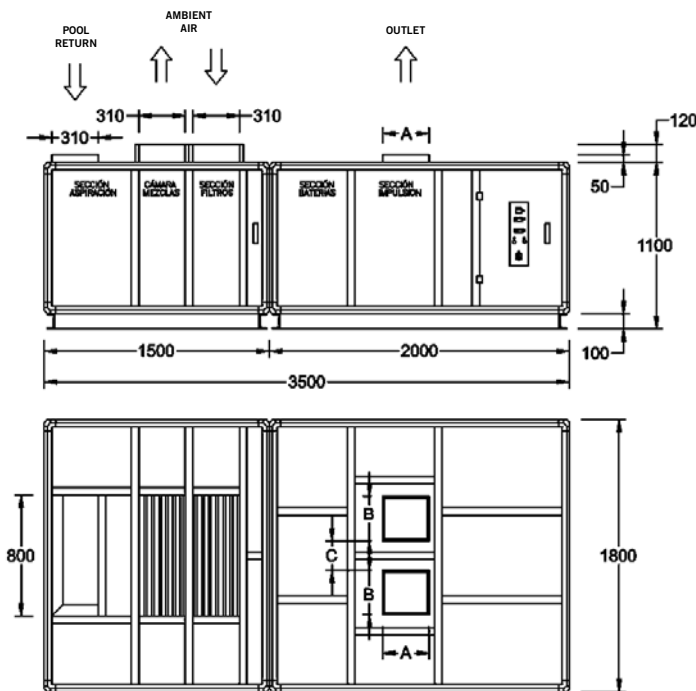
**BDP-16 - BDP-21 - BDP-25 - BDP-30 - BDP-35 Compisa BDP dehumidifying units**



POSSIBLE DIMENSIONS OF AIR DUCTS		
A (mm)	B (mm)	C (mm)
310	294	194
310	346	243
362	329	224

The size of the ducts can vary depending on the air flow rate demand.

**BDP-16 - BDP-21 - BDP-25 - BDP-30 - BDP-35 Compisa BDP dehumidifying units con FREECOOLING**

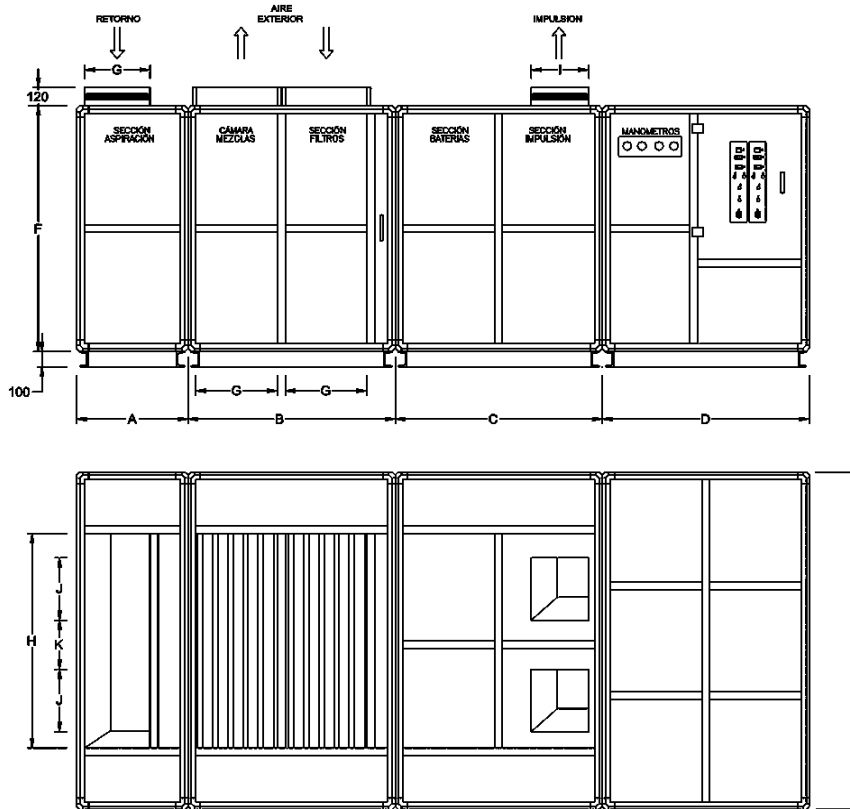


POSSIBLE DIMENSIONS OF AIR DUCTS		
A (mm)	B (mm)	C (mm)
310	294	194
310	346	243
362	329	224

The size of the ducts can vary depending on the air flow rate demand.

## DEHUMIDIFIERS

BDP-44 - BDP-50 - BDP-60 - BDP82 - BDP-110 - BDP-140 - BDP-160 Compisa BDP dehumidifying units with FREECOOLING



Model	Dimensions (mm)										
	A	B	C	D	E	F	G	H	I	J	K
BDP-44+F	800	1300	1400	1300	2200	1500	510	1400	352	406	304
BDP-50+F	800	1300	1400	1300	2200	1500	510	1400	414	483	374
BDP-60+F	800	1300	1400	1300	2200	1500	510	1400	490	438	333
BDP-82+F	800	1300	1500	1500	2400	1500	510	2000	490	438	333
BDP-110+F	800	1300	1500	1500	2700	1500	510	2000	490	438	333
BDP-140+F	1200	1900	1700	2000	3000	1800	810	2000	614	612	470
BDP-160+F	1200	1900	1900	2000	3000	1800	810	2000	804	675	500



# Leading in

solutions



# for your pool

## Presentation

**AstralPool** is a business group engaged in the marketing and distribution of equipment for residential and commercial pools, water parks, fluid handling, pool chemicals, domestic water treatment, water therapy and aquaculture, through a number of companies worldwide.

Global business turnover was 330 million euros in 2006. The group has a total workforce of 1200 employees and it is present in 30 countries with its own branches.

**AstralPool** belongs to Aquaria, a group founded in Barcelona in 1969 that currently has several holding groups involved in water-related businesses.

## Mission

The mission of **AstralPool** is to become worldwide leader in the distribution of swimming pool and water treatment equipment, by maintaining a close relationship with our customers and clearly focusing on innovation, in order to meet the expectations of an increasingly dynamic and changing environment, thereby offering the best possible solution to both our customers and the end users:

**"Leading in solutions for your pool"**

## Customer service: our focus in business

Our objectives are to keep supplying everything professional installers need for pool construction and maintenance, both quickly and efficiently.

We have the best tools for achieving our aim: a highly qualified staff, a strong, well-known brand, the broadest range of items available on the market, product quality that inspires customer confidence, proven experience, close relationships with customers and ongoing innovations.

### ASTRALPOOL DISTRIBUTION NETWORK



**ASTRALPOOL** 

Astral Export  
Australia  
Austria  
Bulgaria  
Chile  
China  
Czech Rep.  
Denmark  
France  
Germany

Greece  
Hungary  
India  
Italy  
Mexico  
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# visit our website!

[www.astralpool.com](http://www.astralpool.com)



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ICON



- Recommended for commercial pools



- AstralPool Fina Product



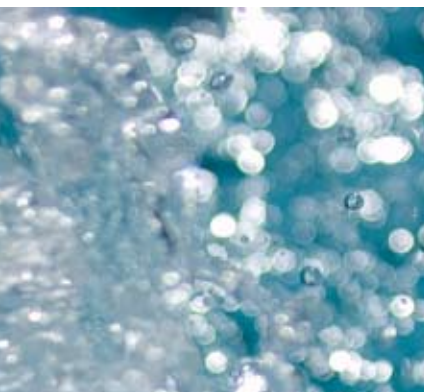
- Till end of stock





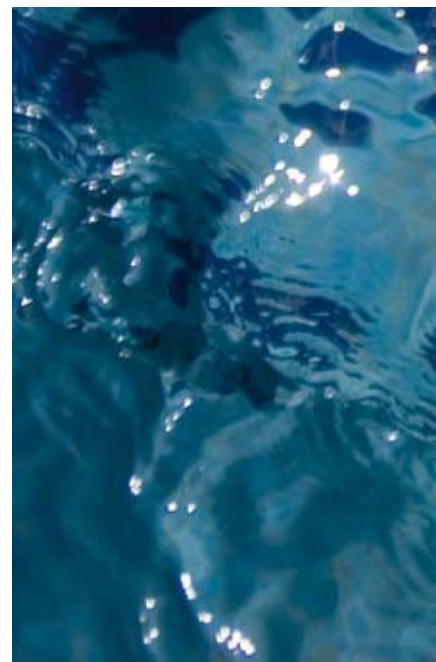
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PREFABRICATED POOLS

POOL SURROUND EQUIPMENT

POOL SHELL EQUIPMENT

FILTRATION

FILTRATION PUMPS

WATER TREATMENT

DOSING AND CONTROL EQUIPMENT

POOL CLEANING EQUIPMENT

POOL LIGHTING AND ORNAMENTAL FEATURES

POOL LINERS AND LINING MATERIAL

POOL COVERS AND ROLLERS

ABOVE GROUND POOLS

COMPETITION ACCESSORIES

PVC FITTINGS AND ACCESSORIES

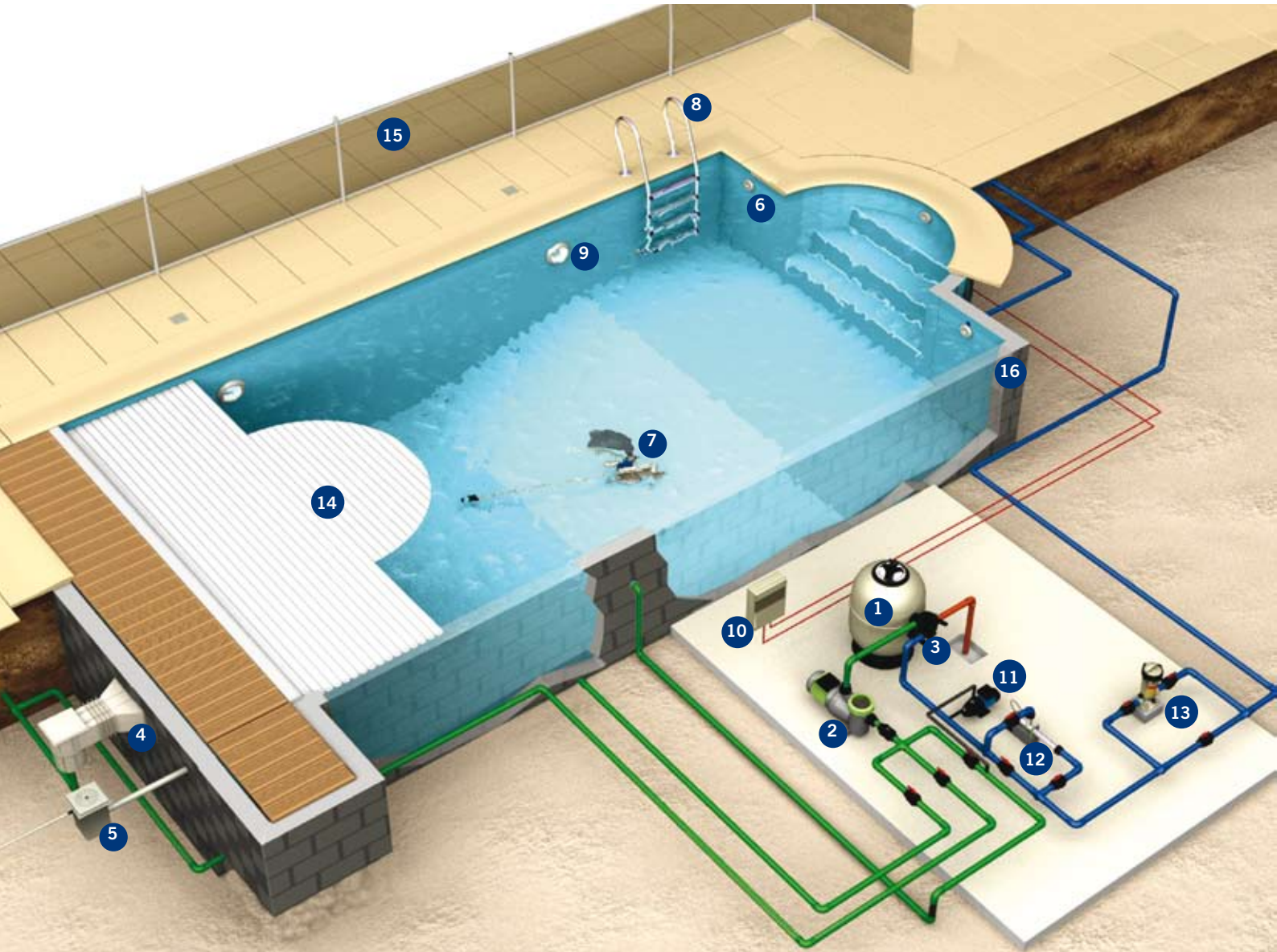
COMPUTER SOFTWARE

SPAS AND SAUNAS

POOL HEATING



## GENERAL SWIMMING POOL EQUIPMENT INSTALLATION DIAGRAM

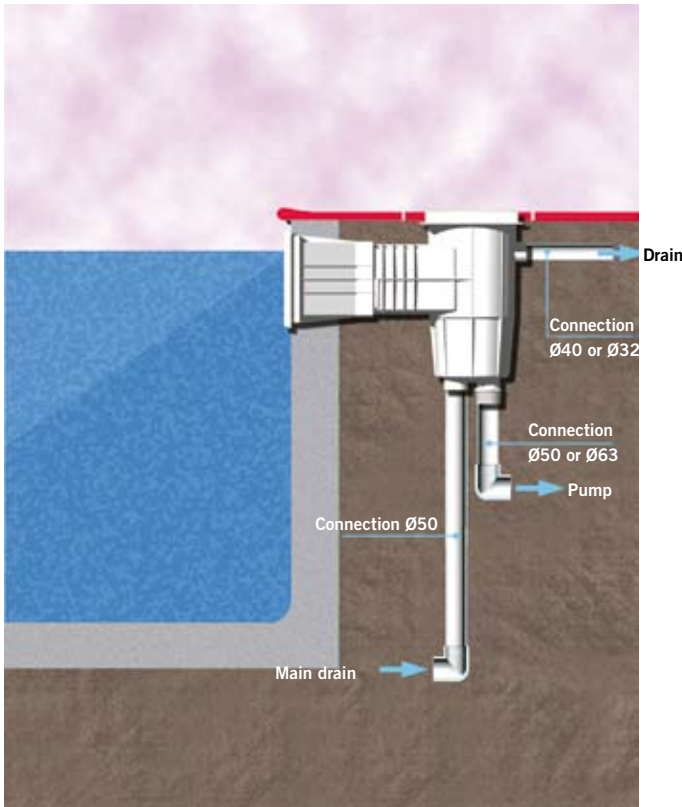


1	Filter
2	Pump
3	Multiport valve
4	Skimmer
5	Water level regulator
6	Inlet nozzle
7	Automatic pool cleaner
8	Ladder

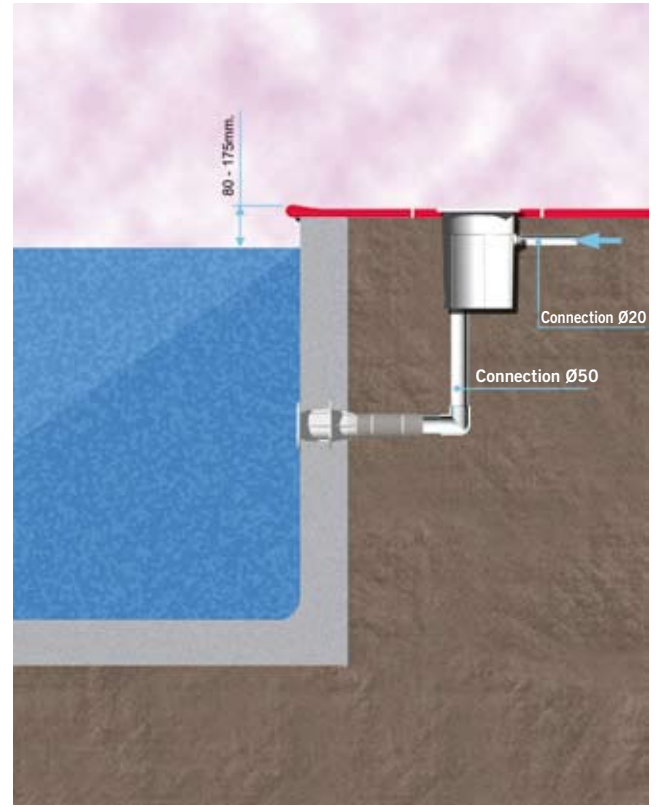
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## INSTALLATION DIAGRAMS

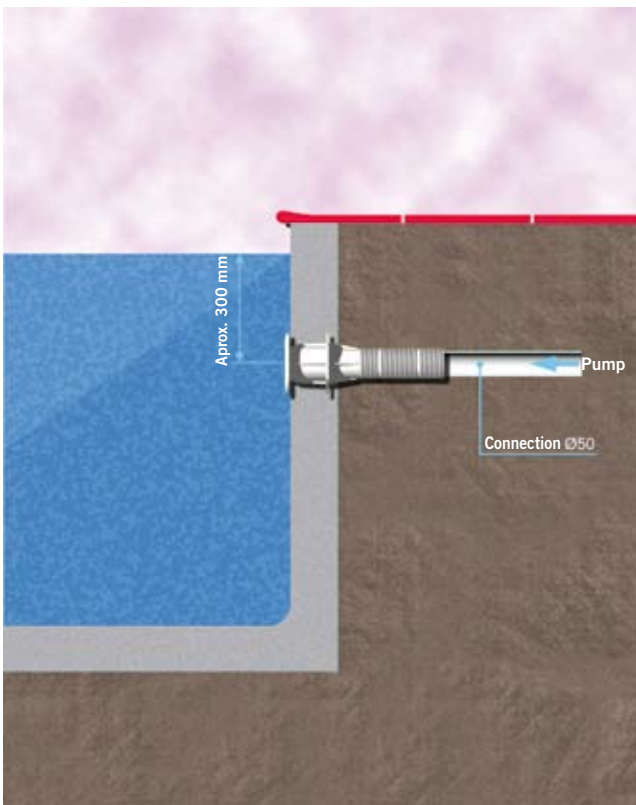
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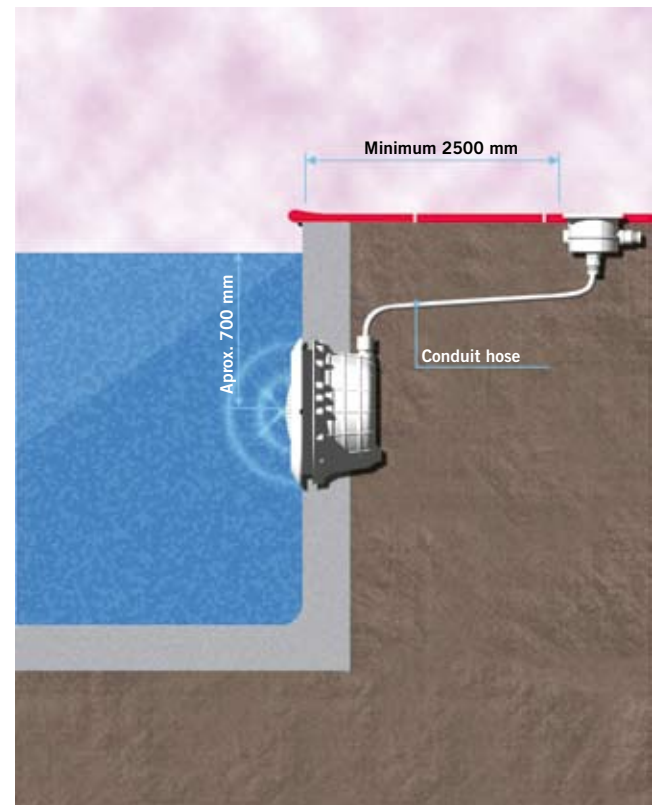
### INSTALLATION OF WATER LEVEL REGULATOR



### NOZZLE INSTALLATION



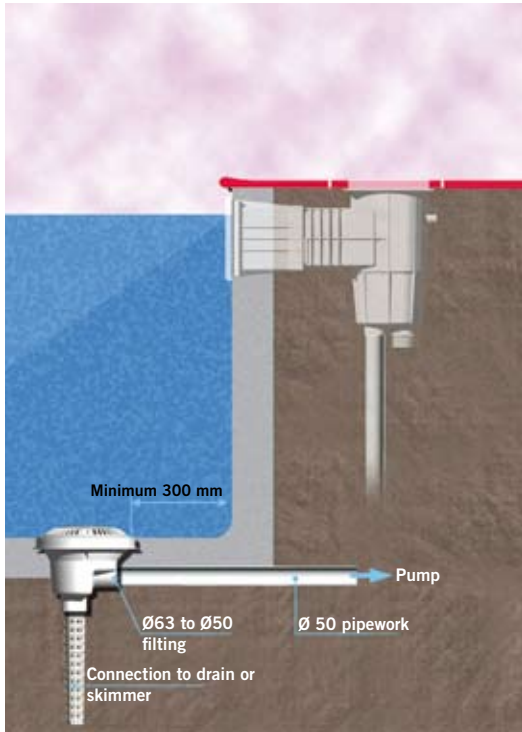
### UNDERWATER INSTALLATION LIGHTS



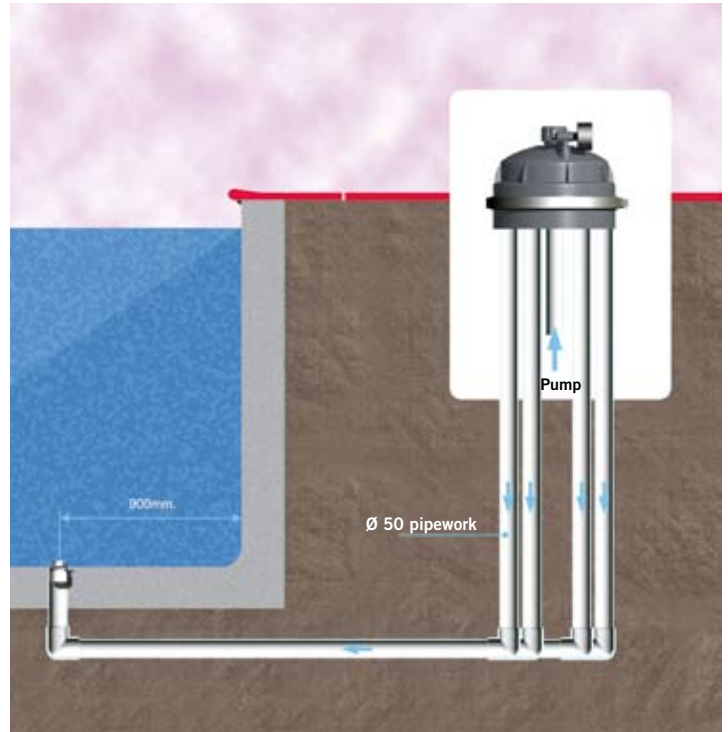


**INSTALLATION DIAGRAMS**

**MAIN DRAIN INSTALLATION**



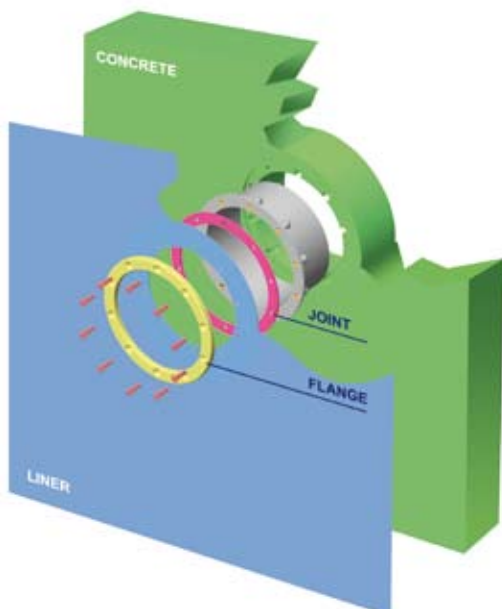
**NET'N'CLEAN VALVE INSTALLATION**



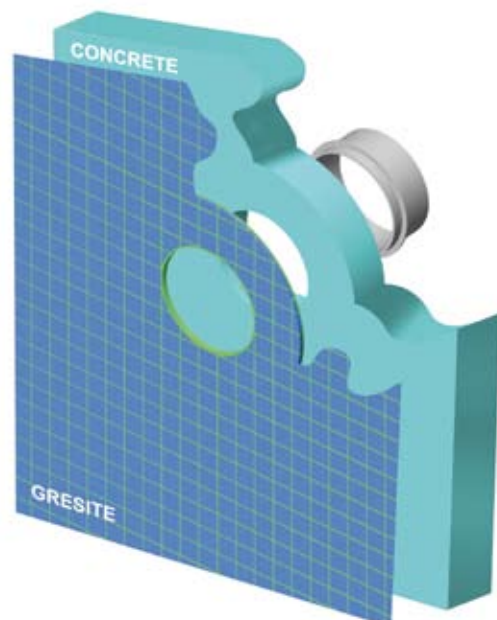
**INSTALLATION DIAGRAMS**

**CONCRETE POOLS:**

**Concrete + liner**

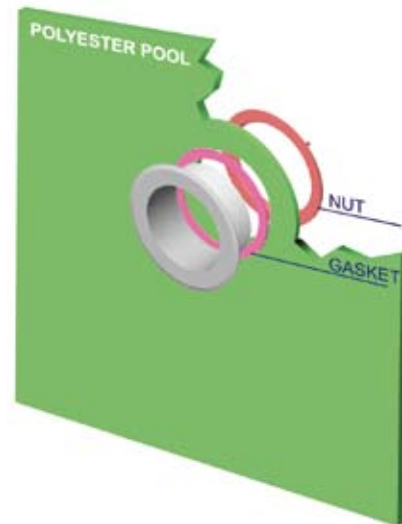
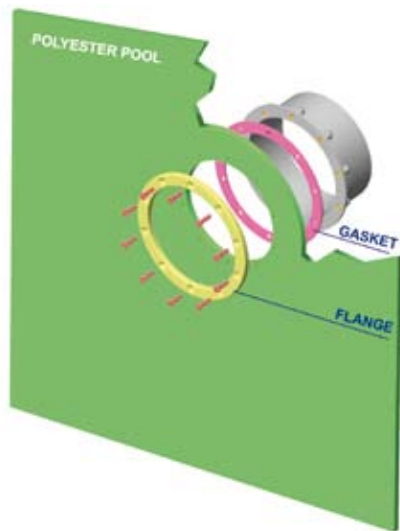


**Concrete**



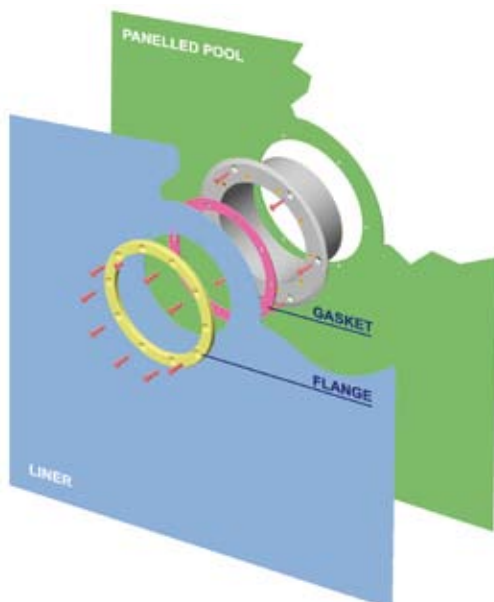
**INSTALLATION DIAGRAMS**

**FIBERGLASS POOLS:**

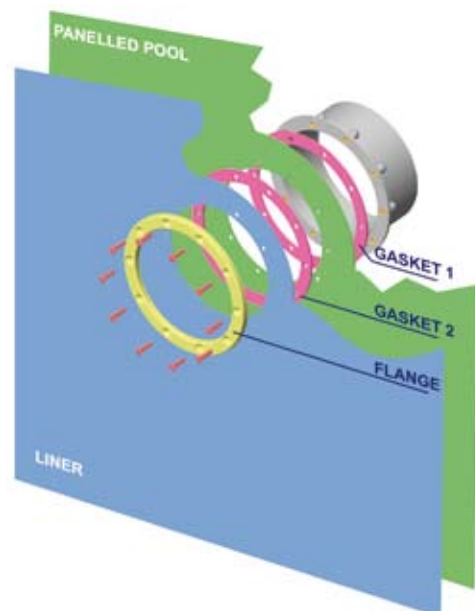


**PANEL POOLS:**

**1 gasket**










**2 gaskets**







**Filter and pump selection table**

							
Pool volume	Turnover	Filtration speed	Ø Filter	Connections		Pump	Sand
m <sup>3</sup>	h	m <sup>3</sup> /h/m <sup>2</sup>	mm	mm	inch	hp	Kg
40	8	50	350	50	1½"	0.3	40
40-50	8	50	400	50	1½"	0.5	60
50-60	8	50	450	50	1½"	0.5	70
60-75	8	50	500	50	1½"	0.5	100
75-90	8	50	560	50	1½"	0.75	130
90-115	8	50	600	50	1½"	1	160
115-130	8	50	650	63	2"	1	175
130-170	8	50	750	63	2"	1.5	300
170-200	8	50	800	63	2"	2	330

### Conversion table

<b>Length:</b>	<b>m</b>	<b>in</b>	<b>ft</b>	
Meter (m)	1	39.370	3.281	
Inch (in)	0.025	1	0.083	
Foot (ft)	0.305	12	1	
<b>Surface:</b>	<b>m<sup>2</sup></b>	<b>in<sup>2</sup></b>	<b>ft<sup>2</sup></b>	<b>cm<sup>2</sup></b>
Square meter (m <sup>2</sup> )	1	1150.388	10.764	10.000
Square inch (in <sup>2</sup> )	0.000645	1	0.0069	6.450
Square foot (ft <sup>2</sup> )	0.093	144.036	1	929.03
Square centimetre (cm <sup>2</sup> )	0.0001	0.155	0.00107	1
<b>Volume:</b>	<b>m<sup>3</sup></b>	<b>UK gal</b>	<b>US gal</b>	<b>l</b>
Cubic meter (m <sup>3</sup> )	1	219.969	264.172	1000
Imperial gallon (UK gal)	0.0045	1	1.201	4.546
U.S. gallon (US gal)	0.0038	0.833	1	3.785
Litre (l)	0.001	0.220	0.264	1
<b>Velocity:</b>	<b>m/s</b>	<b>in/s</b>	<b>ft/s</b>	<b>m/h</b>
Meter/second (m/s)v	1	39.370	3.281	3600
Inch/second (in/s)	0.025	1	0.083	91.44
Foot/second (ft/s)	0.305	12	1	1097.28
Meter/hour (m/h)	0.00028	0.011	0.00091	1
<b>Filtration velocity:</b>	<b>m<sup>3</sup>/m<sup>2</sup>.h</b>	<b>USgal/ft<sup>2</sup>.min</b>	<b>UKgal/ft<sup>2</sup>.min</b>	<b>ft<sup>3</sup>/ft<sup>2</sup>.min</b>
(m <sup>3</sup> /m <sup>2</sup> .h)	1	0.409	0.341	0.055
(US gal/ft <sup>2</sup> .min)	2.445	1	0.833	0.134
(UK gal/ft <sup>2</sup> .min)	2.936	1.201	1	0.158
(ft <sup>3</sup> /ft <sup>2</sup> .min)	18.322	7.474	6,311	1
<b>Mass:</b>	<b>kg</b>	<b>g</b>	<b>lb</b>	
Kilogram (kg)	1	1000	2.205	
Gram (g)	0.001	1	0.0022	
Pound (lb)	0.454	453.59	1	
<b>Pressure:</b>	<b>Pa</b>	<b>bar</b>	<b>kg/cm<sup>2</sup></b>	<b>psi</b>
Pascal (Pa)	1	0.00001	0.00001	0.00014
Bar (bar)	100000	1	1.019	14.504
Kilogr. per square cents (kg/cm <sup>2</sup> )	98100	0.981	1	14.228
Pounds per square inch (psi)	6894.76	0.0689	0.070	1
<b>Energy:</b>	<b>J</b>	<b>kWh</b>	<b>cal</b>	<b>kcal</b>
Joule (J)	1	2.77e <sup>-7</sup>	0.239	0.00024
Kilowatt per hour (kWh)	3600000	1	860421	861.244
Calorie (cal)	4.186	1.16e <sup>-6</sup>	1	0.001
Kilocalorie (kcal)	4186	0.0012	1000	1
<b>Power:</b>	<b>kW</b>	<b>HP</b>	<b>BTU/h</b>	
Kilowatt (kW)	1	1.341	3412.14	
Horsepower (HP)	0.746	1	2544.43	
British Thermal Unit/hour (BTU/h)	0.00029	0.00039	1	
<b>Flow:</b>	<b>m<sup>3</sup>/h</b>	<b>US gall/min</b>	<b>UK gall/min</b>	<b>l/s</b>
Cubic meters/hour (m <sup>3</sup> /h)	1	3.667	4.403	0.278
US gallon/minute (US gall/min)	0.273	1	1.201	0.076
UK gallon/minute (UK gall/min)	0.227	0.833	1	0.063
Litres/second (l/s)	3.6	13.198	15.85	1
<b>Temperature:</b>	<b>°C</b>	<b>°F</b>	<b>K</b>	
Degree celsius (°C)	1	[(9/5)x°C]+32	°C+273.16	
Fahrenheit (°F)	(5/9)x(°F-32)	1	n.a	
Kelvin (k)	K-273.16	n.a	1v	

### Pipe dimensions and water flow:

DN mm	D mm	Inches	Water flow (m <sup>3</sup> /h) depending on water velocity	
			Suction (1.2 m/s)	Discharge (2 m/s)
15	20	½"	1	1.6
20	25	¾"	1.6	2.7
25	32	1"	2.7	4.4
32	40	1 ¼"	4.4	7.3
40	50	1 ½"	7.5	12.5
50	63	2"	11	18.4
65	75	2 ½"	15.7	26.1
80	90	3"	22.3	37.1



# **APPENDIX**

## **A**

PVC & STEEL  
PIPES TABLES



## PVC Pipes - Friction Loss and Flow Velocity - Schedule 40

### **Water flow in thermoplastic PVC and CPVC pipes Schedule 40 - friction loss (*ft/100 ft, psi/100 ft*) and flow velocities at dimensions from 1/2 inch to 16 inches**

Friction loss and flow velocity in PVC and CPVC pipes Schedule 40 with water can be found in the table below. The table may be also be used for pipes in other thermoplastic materials where the inner diameter corresponds to [PVC Schedule 40](#).

- $1 \text{ ft (foot)} = 0.3048 \text{ m}$
- $1 \text{ ft/s} = 0.3048 \text{ m/s}$
- $1 \text{ gal (US)/min} = 6.30888 \times 10^{-5} \text{ m}^3/\text{s} = 0.0227 \text{ m}^3/\text{h} = 0.0631 \text{ dm}^3(\text{liter})/\text{s} = 2.228 \times 10^{-3} \text{ ft}^3/\text{s} = 0.1337 \text{ ft}^3/\text{min}$
- $1 \text{ psi}/100 \text{ ft} = 2.3 \text{ ftH}_2\text{O}/100 \text{ ft} = 2288 \text{ mmH}_2\text{O}/100 \text{ ft} = 22.46 \text{ kPa}/100 \text{ m}$

**Note!** Velocity should not exceed 5 feet per second.

The values can be used to calculate pressure loss with the [Equivalent Pipe Length Method](#).

1/2 inches				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
1	60	1.1	2.1	0.9
2	120	2.3	4.2	1.8
5	300	5.6	23.4	10.5
7	420	7.9	43.1	18.6
10	600	11.3	82.0	35.5

<b>3/4 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
1	60	0.6	0.5	0.2
2	120	0.3	1.0	0.4
5	300	3.2	5.7	2.5
7	420	4.4	10.5	4.6
10	600	6.3	20.0	8.7
15	900	9.5	42.5	18.4
20	1200	12.7	72.3	31.3

<b>1 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
2	120	0.8	0.6	0.2
5	300	1.9	1.7	0.8
7	420	2.7	3.2	1.4
10	600	3.9	6.0	2.6
15	900	5.8	12.8	5.5
20	1200	7.7	21.8	9.4
25	1500	9.7	32.9	14.2
30	1800	11.6	46.1	20.0

<b>1 1/4 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
2	120	0.4	0.1	0.1
5	300	1.1	0.4	0.2

7	420	1.6	0.8	0.4
10	600	2.2	1.6	0.7
15	900	3.3	3.3	1.4
20	1200	4.4	5.6	2.4
25	1500	5.5	8.5	3.7
30	1800	6.6	11.9	5.1
35	2100	7.7	15.8	6.8
40	2400	8.8	20.2	8.7
45	2700	9.9	25.1	10.9
50	3000	11.1	30.5	13.2
<b>1 1/2 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
2	120	0.3	0.1	0.03
5	300	0.8	0.2	0.1
7	420	1.1	0.4	0.2
10	600	1.6	0.7	0.3
15	900	2.4	1.5	0.7
20	1200	3.2	2.6	1.1
25	1500	4.0	4.0	1.7
30	1800	4.9	5.5	2.4
35	2100	5.7	7.4	3.2
40	2400	6.5	9.4	4.1
45	2700	7.3	11.7	5.1
50	3000	8.1	14.3	6.2
60	3600	9.7	20.0	8.7
<b>2 inches</b>				
Volume Flow	Volume Flow	Velocity (ft/sec)	Friction Head	Friction Loss

<i>(gal/min)</i>	<i>(gal/hr)</i>		<i>(ft/100 ft)</i>	<i>(psi/100 ft)</i>
5	300	0.5	0.07	0.03
7	420	0.7	0.1	0.05
10	600	1.0	0.2	0.09
15	900	1.5	0.5	0.2
20	1200	2.0	0.8	0.3
25	1500	2.4	1.2	0.5
30	1800	2.9	1.6	0.7
35	2100	3.4	2.2	0.9
40	2400	3.9	2.8	1.2
45	2700	4.4	3.4	1.5
50	3000	4.9	4.2	1.8
60	3600	5.9	5.8	2.5
70	4200	6.8	7.8	3.4
75	4500	7.3	8.8	3.8
80	4800	7.8	9.9	4.3
90	5400	8.8	12.4	5.4
100	6000	9.8	15.0	6.5
<b>2 1/2 inches</b>				
<i>Volume Flow (gal/min)</i>	<i>Volume Flow (gal/hr)</i>	<i>Velocity (ft/sec)</i>	<i>Friction Head (ft/100 ft)</i>	<i>Friction Loss (psi/100 ft)</i>
5	300	0.3	0.04	0.02
7	420	0.5	0.05	0.02
10	600	0.7	0.1	0.04
15	900	1.0	0.2	0.08
20	1200	1.4	0.3	0.1
25	1500	1.7	0.5	0.2
30	1800	2.1	0.7	0.3



35	2100	2.4	0.9	0.4
40	2400	2.7	1.2	0.5
45	2700	3.1	1.4	0.6
50	3000	3.4	1.8	0.8
60	3600	4.1	2.5	1.1
70	4200	4.8	3.3	1.4
75	4500	5.1	3.7	1.6
80	4800	5.5	4.2	1.8
90	5400	6.2	5.2	2.3
100	6000	6.8	6.3	2.7
125	7500	8.6	9.6	4.2
150	9000	10.3	13.4	5.8
<b>3 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
5	300	0.2	0.02	0.01
7	420	0.3	0.02	0.01
10	600	0.4	0.03	0.01
15	900	0.7	0.07	0.03
20	1200	0.9	0.1	0.05
25	1500	1.1	0.2	0.07
30	1800	1.3	0.2	0.1
35	2100	1.6	0.3	0.1
40	2400	1.8	0.4	0.2
45	2700	2.0	0.5	0.2
50	3000	2.2	0.6	0.3
60	3600	2.7	0.9	0.4
70	4200	3.1	1.1	0.5
75	4500	3.3	1.3	0.6

80	4800	3.5	1.4	0.6
90	5400	4.0	1.8	0.8
100	6000	4.4	2.2	0.9
125	7500	5.5	3.3	1.4
150	9000	6.6	4.6	2.0
175	10500	7.7	6.2	2.7
200	12000	8.8	7.9	3.4
250	15000	11.0	11.9	5.2
<b>4 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
20	1200	0.5	0.03	0.01
25	1500	0.6	0.04	0.02
30	1800	0.8	0.06	0.03
35	2100	0.9	0.08	0.04
40	2400	1.0	0.1	0.05
45	2700	1.2	0.1	0.06
50	3000	1.3	0.2	0.07
60	3600	1.5	0.2	0.1
70	4200	1.8	0.3	0.1
75	4500	1.9	0.3	0.2
80	4800	2.1	0.4	0.2
90	5400	2.3	0.5	0.2
100	6000	2.6	0.6	0.3
125	7500	3.2	0.9	0.4
150	9000	3.8	1.2	0.5
175	10500	4.5	1.6	0.7
200	12000	5.1	2.1	0.9
250	15000	6.4	3.2	1.4

300	18000	7.7	4.4	1.9
350	21000	9.0	5.9	2.6
400	24000	10.2	7.5	3.3
<b>5 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
30	1800	0.5	0.02	0.01
35	2100	0.6	0.03	0.01
40	2400	0.7	0.03	0.01
45	2700	0.7	0.04	0.02
50	3000	0.8	0.05	0.02
60	3600	1.0	0.07	0.03
70	4200	1.1	0.1	0.04
75	4500	1.2	0.1	0.05
80	4800	1.3	0.1	0.06
90	5400	1.5	0.2	0.07
100	6000	1.6	0.2	0.08
125	7500	2.0	0.3	0.1
150	9000	2.4	0.4	0.2
175	10500	2.8	0.5	0.2
200	12000	3.3	0.7	0.3
250	15000	4.1	1.1	0.5
300	18000	4.9	1.5	0.6
350	21000	5.7	2.0	0.9
400	24000	6.5	2.5	1.1
450	27000	7.3	3.1	1.3
500	30000	8.1	3.7	1.6
<b>6 inches</b>				
Volume	Volume	Velocity	Friction	Friction

Flow (gal/min)	Flow (gal/hr)	(ft/sec)	Head (ft/100 ft)	Loss (psi/100 ft)
50	3000	0.6	0.02	0.01
60	3600	0.7	0.03	0.01
70	4200	0.8	0.04	0.02
75	4500	0.8	0.05	0.02
80	4800	0.9	0.05	0.02
90	5400	1.0	0.06	0.03
100	6000	1.1	0.08	0.04
125	7500	1.4	0.1	0.05
150	9000	1.7	0.2	0.07
175	10500	2.0	0.2	0.1
200	12000	2.3	0.3	0.1
250	15000	2.8	0.4	0.2
300	18000	3.4	0.6	0.3
350	21000	3.9	0.8	0.3
400	24000	4.5	1.0	0.4
450	27000	5.1	1.3	0.6
500	30000	5.6	1.5	0.7
750	45000	8.4	3.3	1.4
1000	60000	11.2	5.5	2.4
<b>8 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
125	7500	0.7	0.03	0.01
150	9000	0.8	0.04	0.02
175	10500	1.0	0.04	0.02
200	12000	1.1	0.06	0.02
250	15000	1.3	0.07	0.03

300	18000	1.6	0.1	0.05
350	21000	1.9	0.2	0.07
400	24000	2.3	0.2	0.09
450	27000	2.6	0.3	0.1
500	30000	2.9	0.3	0.1
750	45000	3.2	0.4	0.2
1000	60000	4.9	0.9	0.4
1250	75000	6.5	1.5	0.6
1500	90000	8.1	2.2	1.0
2000	120000	9.7	3.1	1.3
<b>10 inches</b>				
Volume Flow (gal/min)	Volume Flow (gal/hr)	Velocity (ft/sec)	Friction Head (ft/100 ft)	Friction Loss (psi/100 ft)
200	12000	0.8	0.03	0.01
250	15000	1.0	0.04	0.02
300	18000	1.2	0.05	0.02
350	21000	1.4	0.07	0.03
400	24000	1.6	0.09	0.04
450	27000	1.9	0.1	0.05
500	30000	2.1	0.1	0.06
750	45000	3.1	0.3	0.1
1000	60000	4.1	0.5	0.2
1250	75000	5.1	0.7	0.3
1500	90000	6.2	1.0	0.4
2000	120000	8.2	1.7	0.7
2500	150000	10.3	2.6	1.1
<b>12 inches</b>				
Volume Flow	Volume Flow	Velocity (ft/sec)	Friction Head	Friction Loss

(gal/min)	(gal/hr)		(ft/100 ft)	(psi/100 ft)
350	21000	1	0.03	0.01
400	24000	1.2	0.04	0.02
450	27000	1.3	0.05	0.02
500	30000	1.5	0.06	0.03
750	45000	2.2	0.1	0.05
1000	60000	2.9	0.2	0.09
1250	75000	3.6	0.3	0.1
1500	90000	4.3	0.4	0.2
2000	120000	5.8	0.7	0.3
2500	150000	7.2	1.1	0.5
3000	180000	8.7	1.6	0.7
3500	210000	10.1	2.1	0.9
4000	240000	11.1	2.7	1.2

## **Steel Pipe Schedule 40 - Friction loss and Velocity Diagram**

**Friction loss and velocity diagrams - in imperial (*psi/100 ft, ft/s*) and SI (*Pa/100m, m/s*) units**

- $1 \text{ gal (US)/min} = 6.30888 \times 10^{-5} \text{ m}^3/\text{s} = 0.0227 \text{ m}^3/\text{h} = 0.06309 \text{ dm}^3(\text{litre})/\text{s} = 2.228 \times 10^{-3} \text{ ft}^3/\text{s} = 0.1337 \text{ ft}^3/\text{min}$
- $1 \text{ ft/s} = 0.3048 \text{ m/s}$
- $1 \text{ psi (lb/in}^2) = 6,894.8 \text{ Pa (N/m}^2) = 6.895 \times 10^{-3} \text{ N/mm}^2 = 6.895 \times 10^{-2} \text{ bar} = 27.71 \text{ in H}_2\text{O at } 62^\circ\text{F (16.7}^\circ\text{C)} = 703.1 \text{ mm H}_2\text{O at } 62^\circ\text{F (16.7}^\circ\text{C)} = 2.0416 \text{ in mercury at } 62^\circ\text{F (16.7}^\circ\text{C)} = 51.8 \text{ mm mercury at } 62^\circ\text{F (16.7}^\circ\text{C)} = 703.6 \text{ kg/m}^2 = 2.307 \text{ Ft. H}_2\text{O}$  The diagram below indicates friction loss for water flow through [ASME/ANSI B36.10/19 schedule 40 steel pipe.](#)

