BILBAO SAND FILTERS

Translation of the original instructions for use

IMPORTANT: The installation manual you are holding in your hand contains basic information on safety precautions to be taken during installation and start-up. Therefore, it is essential that both the installer and the user read the instructions carefully before starting the installation and start-up.
Keep this manual for future reference.
To achieve optimal filter performance, follow all instructions below.

What's happening to the water in your pool?

This should be a primary question for all pool owners. In the past, some pools did not use filtration systems and the owner then solved the problem by filling the pool with clean water when necessary. Filling the pool with water was laborious and in the meantime the owner had an unhygienic pool where the cloudy water made swimming less than a pleasant experience. Today, pool owners demand perfect hygiene, crystal clear water and cost-effective operation.
These goals can be achieved through effective filtration and chemical treatment of pool water.
After you fill your pool with clean water in the summer, two basic situations can occur due to the water being exposed to the sun and air.

1. Biological contamination. The water is contaminated with microorganisms that can be either airborne or carried into the water by bathers. These parasites multiply rapidly in stagnant warm water and can cause algae growth, which gives the pool water a greenish color.
2. Rain and wind can bring dust, along with leaves and seeds, which can cloud and pollute the pool water. These two factors will quickly make the pool an unhygienic place to swim.

Problem solution:

1 “CHEMICAL” TREATMENT
Maintain the correct level of disinfectants in the water (chlorine, bromine, oxygen, etc.), which fight existing microorganisms with their disinfecting effect.
Since the use of chlorine is the most widespread method, it will be taken as a reference point.
2 “PHYSICAL” ADJUSTMENT
Provide the pool with a filtration system (filter and pump) that will remove suspended particles from the water.

PH LEVEL

The pH level is an indicator of the acidity or alkalinity of water. A neutral value is 7.0, and a pH of 0-7 indicates acidity, while 7-14 indicates alkalinity. Pool values typically range between 6.8 and 8.4.

Why is pH so important?

"THE IDEAL PH VALUE IN A SWIMMING POOL SHOULD BE BETWEEN 7.2 AND 7.6".
As previously stated, there must be sufficient residual chlorine in the pool to kill unwanted microorganisms. Chlorine can actually act as a bactericidal agent only if the pH of the pool water is between 7.2 and 7.6.

There are other reasons that call for the correct pH value: once the value is above 7.6, calcium in the water will precipitate and form visible cloudiness (this is emphasized in areas with hard water).

This will cause the water to become milky, which will prevent filtration, and deposits may also appear on the pool walls and fittings.

Once the pH value drops below 7.0, the pool water becomes corrosive and aggressive, irritating the eyes and mucous membranes. This also poses a long-term risk to the metal parts of the pool.

The quality of pool water is largely dependent on maintaining the correct pH value.

CHLORINE

Standards for the amount of residual (free) chlorine in pool water may vary from country to country, depending on the regulations of the relevant health authorities. Typical legal requirements range between 0.2 and 0.6 parts per million (i.e. 0.2-0.6 milligrams per liter).

What is meant by the term free or residual chlorine?
Even after filtration, some bacteria remain in the water, which must be destroyed by the disinfecting effect of chlorine, which usually acts on bacteria in the form of hypochlorous acid.
The amount of chlorine that is added to the water (above the amount needed to kill bacteria and oxygenate organic matter) remains free to fight new bacteria that are introduced into the pool by swimmers or atmospheric factors.

This chlorine, which remains in the water in the form of hypochlorous acid, is called free or residual chlorine.

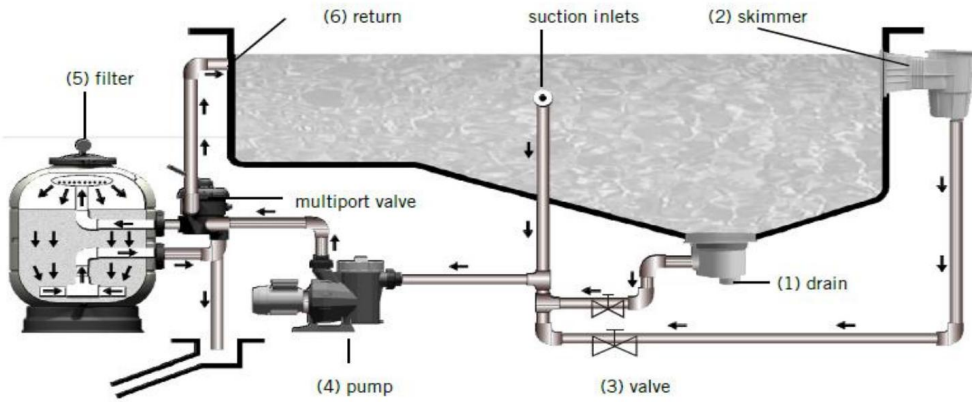
FILTRATION

It is essential that filtration is accompanied by chemical treatment of the pool water.
These two processes complement each other.

PRINCIPLE OF OPERATION

(6) water return suction holes (2) skimmer

(5) filter

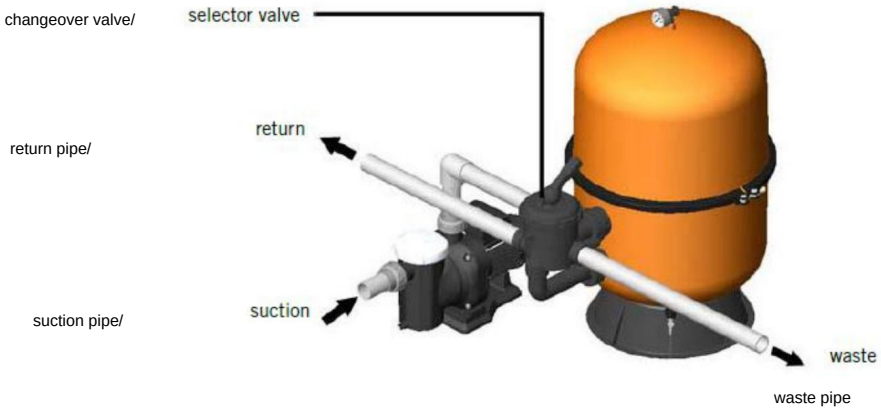


multi-way valve

(1) drain

(4) pump (3) valve

The suction water is led from the main drain pipe (1) at the bottom of the pool and the skimmers (2) on the surface of the pool and fed through a separate pipe with appropriate valves (3) through the pump (4) to the sand filter (5).
After filtration, the water returns to the pool through return holes (6), which are installed on opposite sides of the pool from the skimmers and drain pipes.
Once it reaches the filter, the water circulates downwards through quartz sand, which traps suspended particles.
The filter sand must be washed at certain intervals to remove retained particles by backflow.
This is achieved by reversing the flow through the filter, with the water containing the expelled particles being directed to the drain.
When the pressure in the filter increases from the original value by 0.5 kg/cm^2 and more, it means that a sand filter is necessary rinse.
If you follow these principles, the subsequent installation and operation instructions will not pose any problems for you.



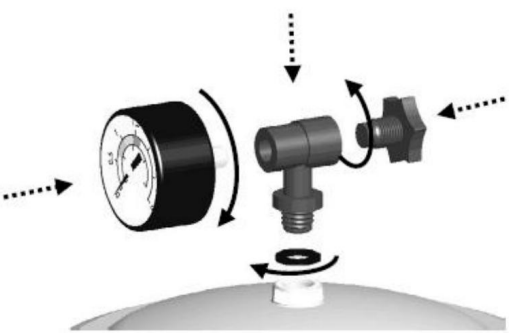
INSTALLATION

The filter should be installed as close to the pool as possible and preferably 0.50 meters below the water level in the swimming pool. Make sure that drainage is available at the filter installation location.

ATTENTION: Do not use iron pipes with hemp gaskets to connect the diverter valve, plastic fittings and TEFLON sealing tape must be used. Pipe termination is available with 1 ½" and 2" threads.
Always leave enough space around the filter to allow for necessary inspections and maintenance of the filter during its service life.

ASSEMBLY

To properly assemble the filter, follow these instructions: 1. Place
the filter on a horizontal, clean surface.
2. Place the filter where it will be located.
3. For a filter with a side valve, install the diverter valve into the filter. Make sure the connections between the valve and the filter are in the correct position.
4. Install the three connections to the diverter valve: pump line to valve, valve to waste drain, and valve to pool return line. Each of these three connections is clearly marked on the valve.
5. Install the T-type pressure gauge, coupling, pressure gauge and ventilation duct (see schematic drawing). **It is not necessary to use Teflon tape, as the watertightness is guaranteed by the coupling in this case.** Do not tighten the T-type pressure gauge with tools, hand tightening is sufficient.



PRESSURE GAUGE INSTALLATION (WITH VALVE)

SAND FILLING

To achieve maximum filter efficiency, it should be filled with quartz sand with a grain size of 16 / 32. The quantity is indicated on the label. Proceed as follows:

Fill the sand after the filter is installed in place and all pipes have been connected.
1. Unscrew the locking screws and remove the sleeve.
2. Remove the cap and coupling, being careful not to drop the safety ring.
3. Fill the filter halfway with water.
4. Slowly and very carefully pour the required amount of sand into the filter.
5. Clean the cap seat.
6. Fasten the filter cap in place.
7. Replace the sleeve and tighten the screws.

Attention: after starting, check that water from the filter does not leak through the sleeve.
Note: The manufacturer is not responsible for any damage to the filter that occurs when filling the filter with sand.

FILTERING PROCEDURE

The switch valve has a handle with 6 positions, which allows you to select the appropriate operation to ensure maximum filter efficiency.

CAUTION: Always turn off the pump when changing the position of the diverter valve.

FILTERING

With the pump off, place the diverter valve handle in the FILTERING position.

Turn on the pump.
When first starting, check the pressure on the pressure gauge. We recommend that you record this pressure as you will use it later to compare whether the filter is clogged and whether it needs to be “WASHED”. The “WASHING” operation must be carried out when the pressure gauge shows an increase in pressure of 0.5 kg/cm^2 in comparison
The initial pressure of the filter. It is advisable to check the pressure gauge from time to time, as this reading indicates the degree of saturation of the filter.
Remember that the valves at the bottom of the pool and the skimmers will be adjusted according to the amount of particles floating on the surface of the water. The main drain and skimmer valves will be adjusted according to the amount of floating matter on the surface. Remember that with the main drain valve fully open there will be little suction from the skimmers. If the skimmers need to have a stronger surface pull, reduce the flow from the main drain.

Example:

0.8 kg/cm² - 11.4 PSI: initial pressure

filter at the start of the filter cycle

1.3 kg/cm² - 18.5 PSI: The pressure is by 0.5 kg/cm^2 higher than the initial pressure, indicating the need for FLUSHING.

BACKWASH

Thousands of channels are created in each sand bed to collect the material contained and captured during the filtration process. The number of free channels allowing water to pass through is constantly decreasing. Therefore, the pressure progressively increases until will reach an increase of 0.5 kg/cm ^{2} At this pressure, the filter sand is no longer able to collect dirt and must be cleaned. Follow these steps:

Turn the diverter valve to the “BACKWASH” position and open the main drain valve and check valve, turn on the pump and let it run for 2 minutes. After this operation is completed, the dirt blocking the filter is removed.

RECIRCULATE

In this position, the diverter valve allows water from the pump to go directly into the pool without passing through the inside of the filter.

WASTE

If it is necessary to pump water out of the pool, this is done using the filter pump. To do this, you must set the diverter valve to the “WASTE” position. The motor is running and the main drain valve is open to provide sufficient suction for the pump. The pre-filter and main drain pipe must be full of water for the pump to be able to suck. Before pumping water out, make sure that the skimmer valves and bottom cleaner valves are closed.

RINSE

After performing the filter backwash operation (“BACKWASH”) and placing it in the “FILTER” position, the water flowing into the pool will be cloudy for a few seconds. To prevent it from entering the pool, use the “RINSE” position on the diverter valve, which works as follows: immediately after the BACKWASH operation, set the valve to the “RINSE” position and turn on the pump for 1 minute. After this time, turn off the pump and set the valve to the “FILTER” position.
This position ensures that the filtered water goes directly into the drain.

CLOSED

As the name suggests, this position shuts off the water flow from the filter pump and is used to open the pump's collection pre-filter.

STARTING

After filling the filter, the sand must be washed. Proceed as follows:
1. Open the air vent cap to let the air out.
2. Set the diverter valve to the BACKWASH position.
3. Open the valves controlling the pool suction line and let the pump run for 4 minutes.
4. Stop the pump, set the selector handle of the diverter valve to the RINSE position and rinse for 1 minute. Then turn the pump on and set the diverter valve to the FILTRATION position.
5. Close the air vent cap when water starts to come out.

After this operation, the filter will be ready to start the pool water filtration cycles.
ATTENTION: The pump must be switched off when changing positions on the switching valve.

MAINTENANCE

Do not use any solvents to clean the filter, as this could damage the filter, especially its surface finish.

Always replace couplings and parts that may not be in good condition.

Flush and rinse as needed and according to the instructions in this manual.

For better filter performance, clean the sand every year with ASTRAL Filnet solid or liquid product.
We recommend changing the sand inside the filter approximately every 3 years.

To avoid damaging the filter during the winter season, please proceed as follows:

Perform flushing and rinsing according to the previous detailed instructions.
Remove water from the filter.
Remove the lid to allow the filter to ventilate during periods of inactivity.
If you want to put the filter back into operation after a period of inactivity, follow the instructions in the START-UP paragraph.

Most common PROBLEMS

EFFECT	POSSIBLE CAUSE	SOLUTION
The filter only lets through a small amount of filtered water.	Blocked pre-filter.	Clean the filter.
Vacuum heads suck poorly	The motor is rotating in the wrong direction.	Check the direction of rotation of the motor using the arrow on the pre-filter. If it is wrong, reverse the motor connection.
	The suction pipe is blocked.	Clean.
The pressure gauge fluctuates considerably.	The pump is sucking in air.	Check for any leaks in the pre-filter or suction line.
	The intake is half closed.	Check that the suction valves are fully open.

SAFETY INSTRUCTIONS

Never run the system without water.
Always turn off the pump before handling the filter or diverter valve.
Do not allow children or adults to sit on the filter.
Do not connect the filter directly to the water supply, as the water pressure may be too high and exceed the maximum working pressure of the filter.
Do not use the filter circuit to fill and regulate the water level in the pool. Mishandling may lead to overpressure in the filter.
Do not clean the lid with solvents as this could damage it (surface finish, transparency, etc.).
Since all connections are made using couplings, it is not necessary to overtighten the nuts, as this could cause the plastic parts to crack.
DO NOT use Teflon to seal the T-type pressure gauge set, code 00545R0300.

Warranty certificate

1. GENERAL TERMS AND CONDITIONS

1.1. In accordance with these provisions, the seller guarantees that the product covered by this warranty is in perfect condition at the time of delivery.
1.2. The warranty period for the product is two (2) years from the date of delivery to the buyer.
1.3. In the event of any defect in the product reported to the seller by the buyer during the warranty period, the seller is obliged to repair or replace the product, at its own expense, wherever it deems appropriate, unless such repair or replacement is impossible or unreasonable.

1.4. If the product cannot be repaired or replaced, the buyer may request a proportional price reduction or cancellation of the purchase contract if the defect is sufficiently serious.
1.5. Parts replaced or repaired under warranty do not extend the warranty period of the original product, but will be covered by a separate warranty.
1.6. For this warranty to be effective, the buyer must provide proof of the date of purchase and delivery of the product.
1.7. If, after six months from the delivery of the product, the buyer reports a defect in the product, he must provide proof of the origin and existence of the alleged defect.
1.8. This guarantee certificate is issued without prejudice to the rights that consumers have under national regulations.

2. SPECIAL CONDITIONS

2.1. This warranty covers the products and product lines: BILBAO model filters.
2.2. For the warranty to be effective, the buyer must strictly follow the manufacturer's instructions, which are stated in the documents included with the product, specifically according to the product series and model.
2.3. If a time schedule is prescribed for the replacement, maintenance or cleaning of certain parts or components of the product, this warranty will only be valid if that schedule has been adhered to.
2.4. The manufacturer of the product offers the option of extending the warranty on Bilbao filters from three to five or ten years, depending on model as listed below. This warranty extension is subject to the following conditions:

2.4.1. Extended Manufacturer Warranty Coverage: In the event of any defect or non-conformity of the filter container, the manufacturer will repair or replace the filter at its sole discretion.
2.4.2. Exchange means that the buyer will accept payment of a fee of varying amounts, graded according to the age of the product, as set out in the following table:

Time elapsed since the date of purchase of filters model BILBAO	Percentage of the price payable at the time of claim
from 2 to 4	60%
years from 4 to 5 years	80%

2.4.3. The filter manufacturer also offers the option of extending the additional warranty during the third year for internal and external filter components.
2.4.4. No warranty extension applies to the filter media.
2.4.5. Additional conditions during the extended warranty valid from the third year are:

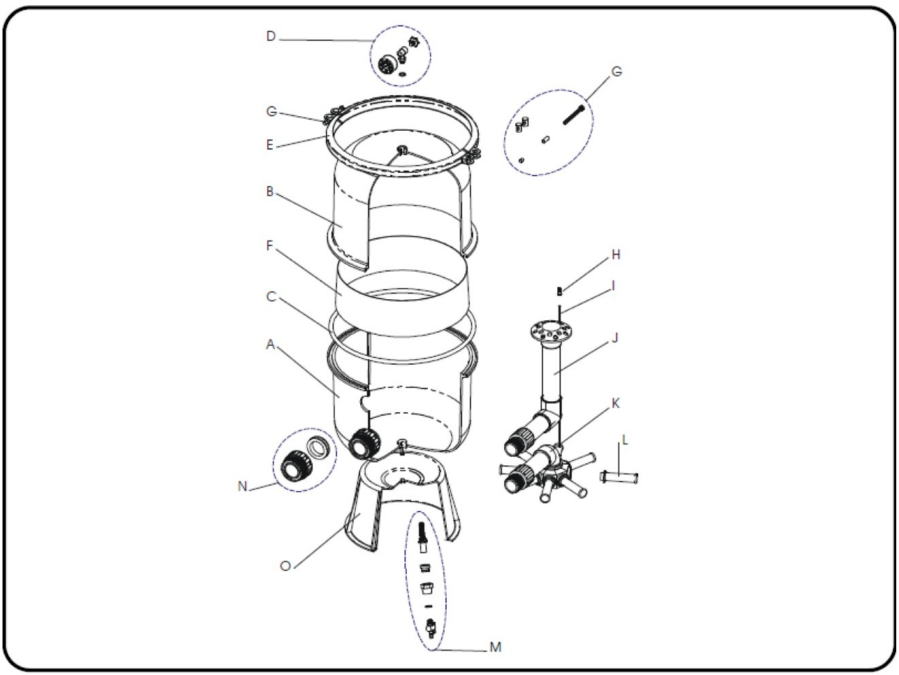
- In the event of an exchange, the buyer pays all transportation costs to and from the factory, for moving or new installation of the product or installation of a replacement part.
- In case of repair, the buyer pays the labor and transportation costs. • The manufacturer is not responsible for damage and expenses caused by downtime, nor for the time and materials spent in product exchange.
- The manufacturer does not authorize any third parties to extend any warranty with respect to its products, nor is it assumed that the products are covered by any unapproved warranty entered into in connection with the seller of its products.

2.4.6. A request for manufacturer services during the extended warranty period must be made through the seller or installer who delivered the product to the buyer.
2.4.7. For the extended warranty period to be valid, the buyer must provide evidence of the date of purchase and delivery. product.
2.4.8. The warranty extension will not be valid if the product has been inspected or repaired by persons not authorized by the manufacturer to do so.
2.4.9. The extension of the warranty from the third year does not imply or imply an additional manufacturer's warranty. to the dealer's warranty during the first two years.

3. LIMITATION OF WARRANTY

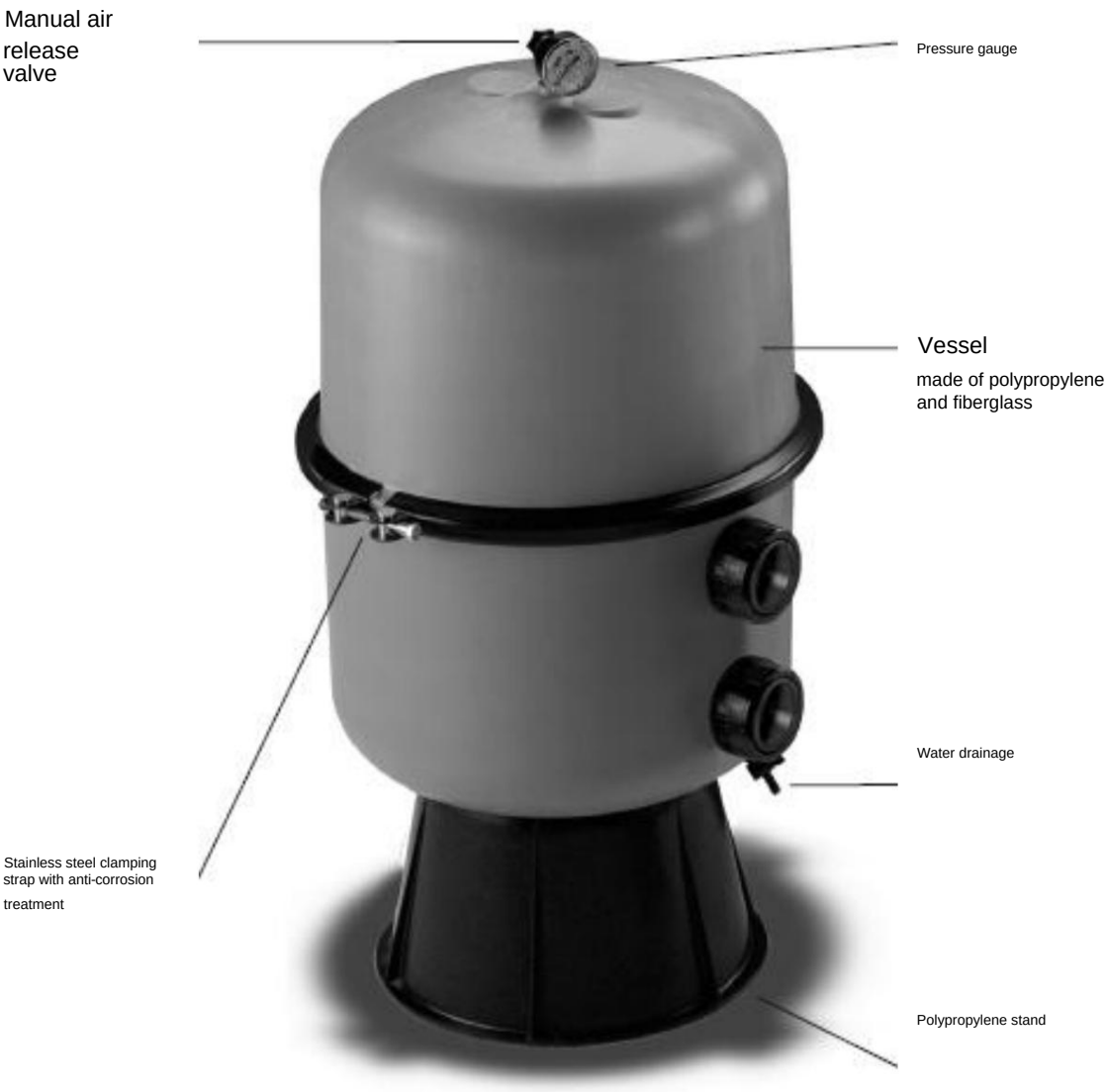
3.1. This warranty applies only to sales to consumers, where the term consumer refers to a person who purchases the product for purposes not related to their professional activities.
3.2. The warranty does not cover normal wear and tear resulting from the use of the product. As regards auxiliary parts, components or materials such as batteries, bulbs, etc., the conditions set out in the documentation supplied with the product apply.
3.3. The warranty does not cover cases where the product (I) has been mishandled, (II) has been repaired or serviced, or has been tampered with by unauthorized persons, or (III) has been repaired or serviced using non-original parts.

3.4. In cases where the defect of the product is caused by incorrect installation or commissioning, this warranty will only apply if said installation or commissioning is included in the sales contract and was carried out by the seller or under his responsibility.
3.5. Damage or failure of the filter due to exposure to temperatures below 0ºC or above 50ºC.
3.6. Damage or failure of the filter due to impacts or oversized filtration system pumps.



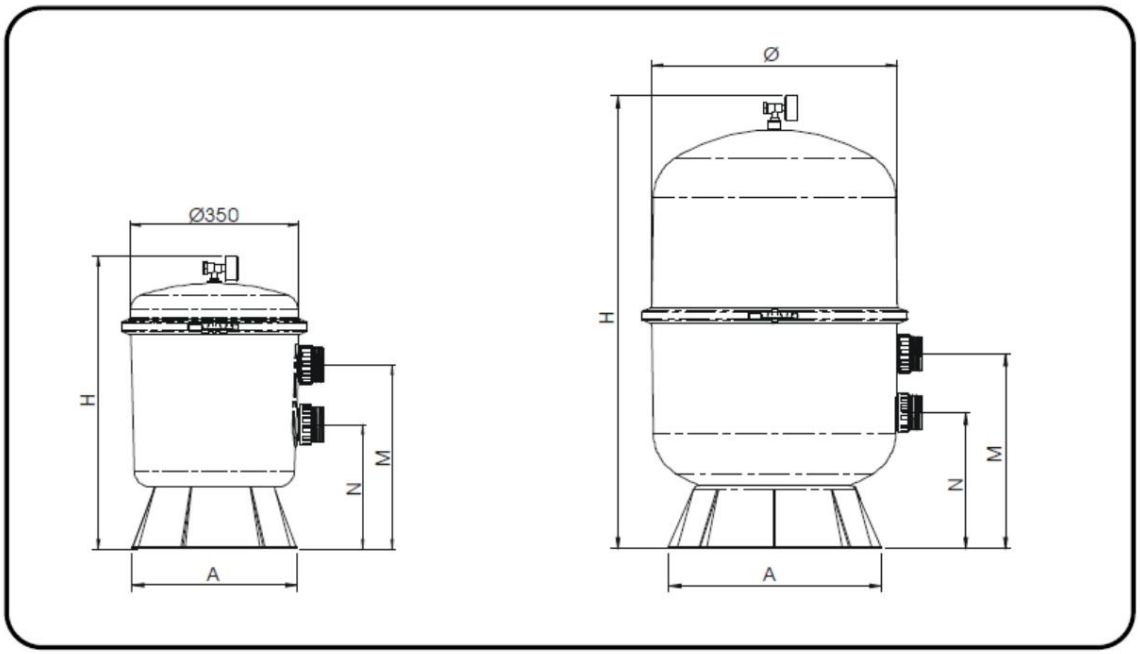
Item DESCRIPTION	Ø350	Ø400	Ø500	Ø600	QUANTITY
A Filter body B Filter	X 1	X	X	X	
cover C Filter O-ring D	X 1	X	X	X	
Pressure gauge kit E Filter seal	X 1	X	X	X	
ring Sealing protection ring FG O-	X 1	X	X	X	
ring kit H Air hole PVC filter tube IJ	X 1 1 2 / 3 1 1 1 / 8	X	X	X	
Nozzle kit K Collector kit Collector		X	X	X	
arm 110 mm L Collector arm 160 mm Collector	X	X	X	X	
arm 225 mm Water collection kit	X	X	X	X	
Drain connection kit Filter	X	X	X	X	
stand	X	X	X	X	
	X	X	X	X	
	X	X			
			X		
				X	8
M	X	X	X	X	
N	X	X	X	X	1
O	X	X	X	X	2 1

TECHNICAL DATA •



FILTER DIAMETER	350mm	400mm	500mm	600mm
FILTERING AREA	0.096 m²	0.126 m²	0.196 m²	0.283 m²
FLOW RATE 50 m³/h/m² - 20 USgpm/ft²	5 m³/h	6 m³/h	9 m³/h	14 m³/h
SAND	35 kg	50 kg	100 kg	125 kg
GRAIN SIZE		0.5 – 0.7 mm		
MAXIMUM WORKING PRESSURE		1.5 kg/m²		

• DIMENSIONS



MODEL	H(mm)	M(mm)	N(mm)	A(mm)
Ø 350	615	385	260	344
Ø 400	840	420	295	341
Ø 500	940	415	290	450
Ø 600	985	445	320	450

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