



## INSTALLATION MANUAL

FIBERGLASS REINFORCED PLASTIC  
BOBBIN WOUND SAND FILTERS FOR  
COMMERCIAL POOL APPLICATION

IMPORTANT SAFETY INSTRUCTIONS  
READ AND FOLLOW ALL INSTRUCTIONS  
SAVE THESE INSTRUCTIONS

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**IMPORTANT SAFETY INSTRUCTIONS**

**THESE OPERATING INSTRUCTIONS CONTAIN IMPORTANT INFORMATION ON THE SAFE, PROPER AND ECONOMICAL OPERATION OF THIS SWIMMING POOL APPLIANCE. STRICT OBSERVATION OF THE OPERATING INSTRUCTIONS WILL HELP TO AVOID DANGERS, REDUCE REPAIR COSTS, SHUTDOWN TIMES AND INCREASE THE RELIABILITY AND WORKING LIFE OF THE PRODUCT.**

# BOBBIN WOUND SAND FILTERS

## 1-GENERAL INFORMATION

### 1.1-Introduction.

This manual provides the necessary instructions to install, use and maintain bobbin wound filters. In order to obtain the benefits that are indicated in the characteristics, all the instructions that appear in this manual must be followed. This will offer a safe and long-lasting installation.

The equipment's supplier will provide further information to the user whenever it is needed.

## 2 -DESCRIPTION

### 2.1-Description.

These filters have been designed to provide water in pools and aquatic parks, also for all water treatments that require the elimination of suspended matter using the proper reduction of filtration element.

Apart from the filter itself, filtration and purification process include some points that must be taken into consideration as they can influence the correct filter operation. These would be chemical water treatment, pump equipment, pipe segments and general hydraulic design.

When public pools are concerned, the current rules in each country should be observed, as the installation must follow them.

The filtration quality depends on different parameters as depth of filtration bed, characteristics, quality and grade of filtration media, etc., as well as filtration rate.

### 2.2 Filter's Characteristics.

The tank is made of resin of polyester and fiberglass, totally anticorrosive. Inside, it contains collectors and diffusers made of unalterable plastic material (PVC and ABS), tested against salt-water. They are supplied for a working pressure of 2.5 kg/cm<sup>2</sup>, 4 kg/cm<sup>2</sup>, or 6 kg/cm<sup>2</sup> and a maximum temperature of 50°C. Other specifications can be supplied upon request.

Filtration rates may be 20, 30, 40 and 50 m<sup>3</sup>/h/m<sup>2</sup>, depending on the application and the kind of filtration elements that have been selected. Rate 50 is not recommended in public pools.

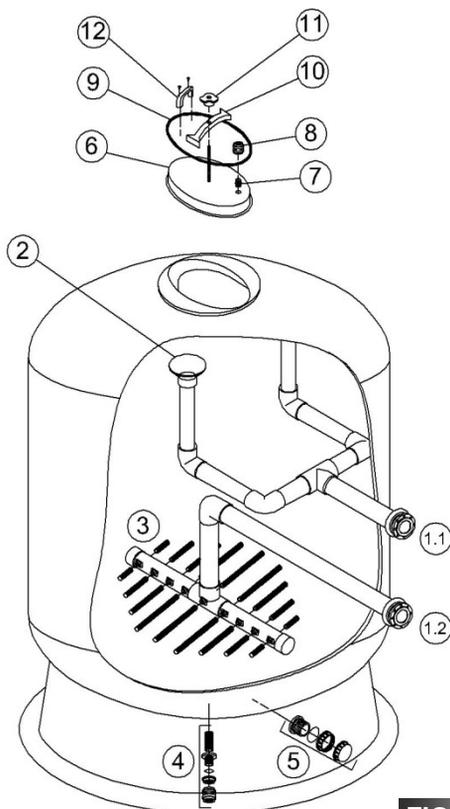
## 3-INSTALLATION

### 3.1 Filter installation.

Filters are delivered properly packed and ready in order to facilitate unloading and transport using forklift truck, crane etc. It is very important to make sure that the filters have not suffered bumps during transport.

To obtain a correct filter installation, the following stages must be observed:

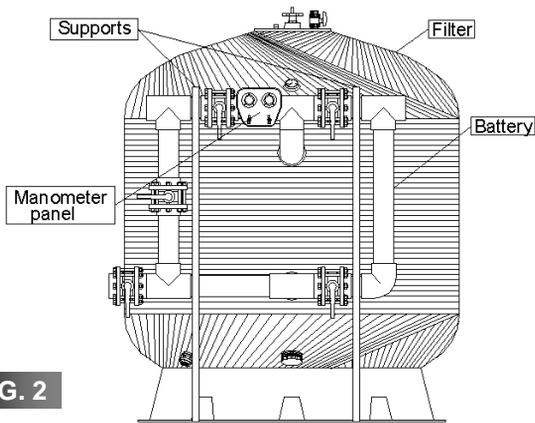
- Install filters on their final location.
- Install correctly the valves battery(ies) in the filters.
- Install battery supports and regulate them correctly (height, etc.).**
- Connect batteries with the delivery pipe of the pumps, returns pipes and drain.
- Check the inner parts of each filter (nozzles, collectors, top, diffusers).**
- Fill the filters with water.
- Empty half the water and add the filtration element (gravel, sand and/or anthracite), etc.



Nº	DESCRIPTION
1,1	Water inlet for filtration
1,2	filtrated water outlet
2	Diffuser
3	Collector
4	Drain 1"
5	Sand outlet
6	base oval lid
7	Nipple double threaded 1"
8	Ball valve threaded 1"
9	O'ring 370,00x14,00 NBR-70
10	Polyester bridge
11	Wheel
12	Lever

FIG. 1

# BOBBIN WOUND SAND FILTERS

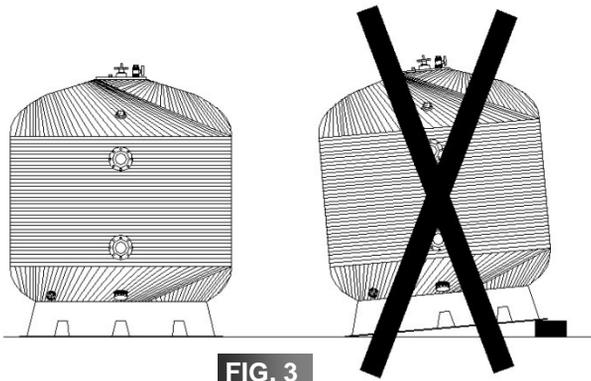


**FIG. 2**

### 3.1.1-Filters location.

Filters must be placed under the water level. However if vacuum occurs in the installation, suction cups must be installed in the lids to avoid that depression could collapse the filter's tanks.

Filters must be situated so that their bases are perfectly level and completely supported by the floor. (Fig. 3).



**FIG. 3**

The location must have the appropriated size to allow maintenance periodic overhauls and any other work. Additionally the room must provide a drain to allow, in case of accident, evacuation of water flowing from any tube, filter, pump, etc. this will avoid risk of damages in the electrical installations (pump, electric panels, etc.)

### 3.1.2 Setting up the valve battery.

Valves battery is delivered completely equipped, with four or five valves, (depending on your order), and its manometer panel with its corresponding connections. Filters connections may be flange polyester outlets of Ø200 up to Ø250 (Fig. 5) or with PVC outlets of Ø63 up to Ø160 (Fig. 6)



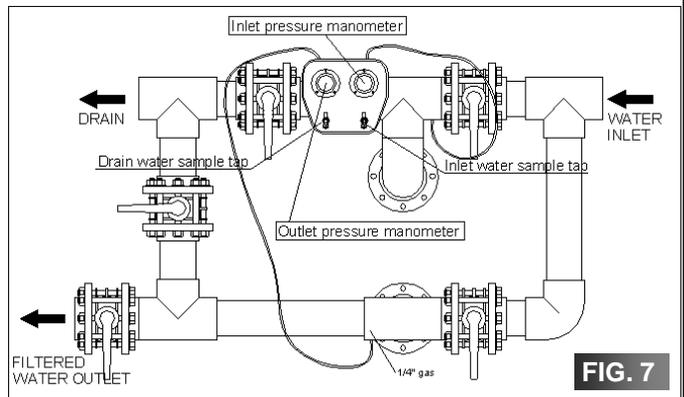
**FIG. 5**



**FIG. 6**

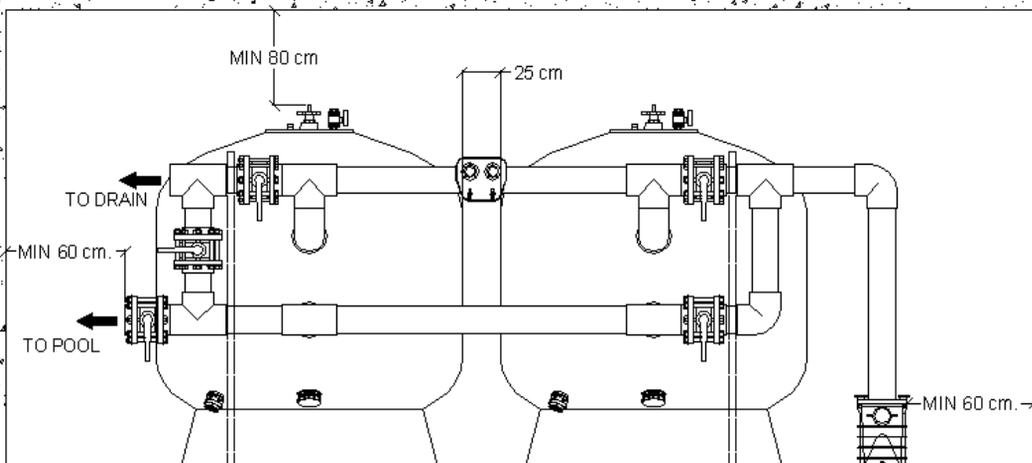
Check the filters if they are situated in the suitable distance from batteries and that they are lined-up.

You can start placing the battery avoiding forcing the flanges. Check also that outlets have not been damaged and that they are completely clean end empty.



**FIG. 7**

**FIG. 4**



# BOBBIN WOUND SAND FILTERS

## 3.1.3 Manometers.

If you have bought the battery with the filter, manometers are completely installed.

On pool filters, when the filter is clean, the usual pressures are:

- Inlet pressure: 0.8-1 Kg/cm<sup>2</sup>
- Outlet pressure: 0.4-0.6 Kg/cm<sup>2</sup>

When the differential pressure between the two manometers is 1 Kg/cm<sup>2</sup> or higher, backwash must be carried out.

**NOTE:** Once the manometers have been installed, you should cut the two little caps that are placed in the backside of the panel.

These caps have been put there to avoid the spilling of the manometer's glycerin.



## 3.1.4-Battery installation.

Once the battery is perfectly lined-up, it is necessary to install special supports to hold up the weight of the battery and the water that follows in it.

When the proper level and height have been achieved, the screw that supports the clamp must be tightened using a spanner.

In order to avoid that pulses and vibrations could damage or break the batteries when the tubes are being installed, other kind of supports are also available.

### IMPORTANT NOTE:

Avoid the fixing system that blocks the normal dilation of materials.

If you have any doubt, please contact our technical department.

## 4-STARTING.

Before filling filters sand or other filtration elements, it is advisable to check the internal collectors to make sure that they have not been damaged during transport or installation. Afterwards, fill the filters and the water installation and make an hydraulic test. Thus, you will make sure that there is no leak and that equipment works properly.

Then stop the pumps, open each filter's lid (the filter must not be emptied without opening the lid, as it could collapse) and empty half the water that each filters contains.

Then, start filling the filter with sand or other filtration elements, taking into account that first of all you must put gravel up to the collector arms (10 cm. approx).

This must be done very carefully in order to avoid any damage in the lower components of the filter. When the filter is being filled with sand, this must be carefully spread over the surface.

Once the filter is full with the filtration elements clean the lid and the inner part of the manhole. This will prevent any debris and particles of sand affecting the seal of the joint.

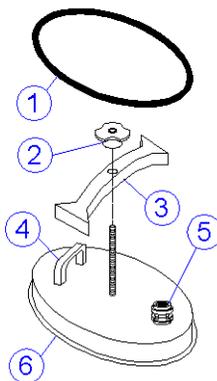
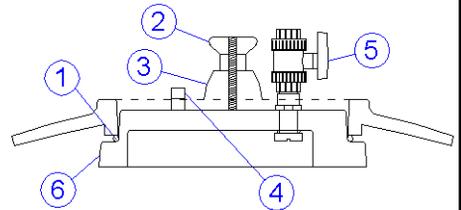


FIG. 10



Nº	DESCRIPTION
1	Seal
2	Wheel
3	Bridge
4	Lever
5	Ball valve Ø1"
6	Lid

Put the seal in the lid; then introduce the lid in the manhole, leaving it leveled and centered. The lid must be supported by the handle, as this will avoid that it could fall into the tank and damage any of its parts.

Put the bridge in the indicated position and tighten manually the wheel.

To achieve a proper seal, you do not have to tighten excessively the lid. The pressure itself will do it.

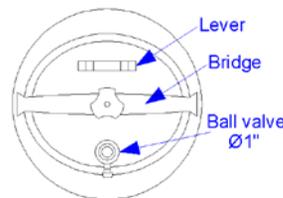


FIG. 11

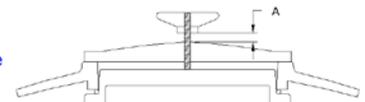


FIG. 12

## IMPORTANT

When the filter is under pressure, it is normal that wheel and bridge remain separated. You must not tighten the wheel again when the filter is under pressure, because when the pumps stop, the lid could be damaged or blocked.

Once the filter has been completely filled with water, start the performance of installation, venting manually to eliminate all the air that could be inside the filter, as the air makes the filter performance difficult.

If a vacuum appears in the filters, it is necessary to install double effect suction valves; these will also act as automatic air purifiers and would avoid that the tank could collapse.

# BOBBIN WOUND SAND FILTERS

## 5-WORKING PROCESS

### 5.1-Filtration.

It has to be done with the pump stopped and valves in position Fig 13.

During the filter functioning it is recommended to observe periodically the inlet and outlet manometers; the filtration element must be washed when the pressure difference between the two manometers is from 0.8 to 1 Kg/cm<sup>2</sup>.

You can also install an automatic saturation alarm that will warn when the filter has achieved the selected pressure.

### 5.2-Backwash.

The filtration bed forms thousands of channels that collect the impurities and solid waste contained in water.

In the course of time, sediment may block the collector system and dirt may blind the filter medium. In order to clean the filter, backwash must be carried out. Stop the pump and put valves in position, Fig 14.

The length of backwash will depend on the filtration element selected, but according to DIN 19643 the length should be 7 minutes, working on a rate of 50 m<sup>3</sup>/h/m<sup>2</sup> approximately.

It is advisable to put a sight glass in the overflow tube to check the length of backwash.

### FILTRATION

VALVE	POSITION
1	OPEN
2	CLOSED
3	CLOSED
4	CLOSED
5	OPEN

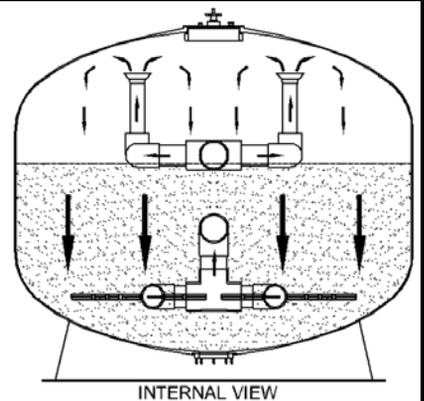
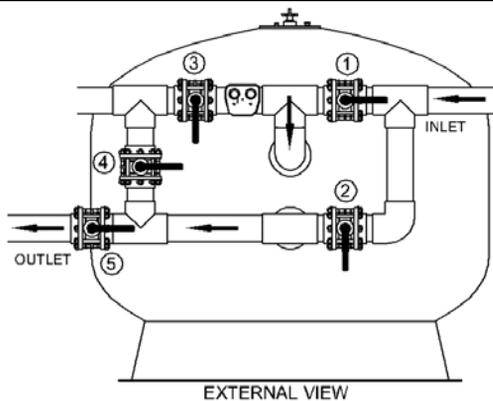


FIG. 13

### BACKWASH

VALVE	POSITION
1	CLOSED
2	OPEN
3	OPEN
4	CLOSED
5	CLOSED

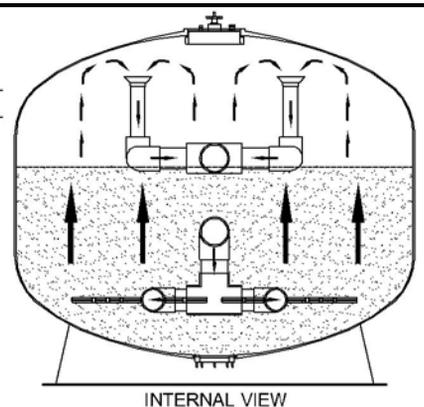
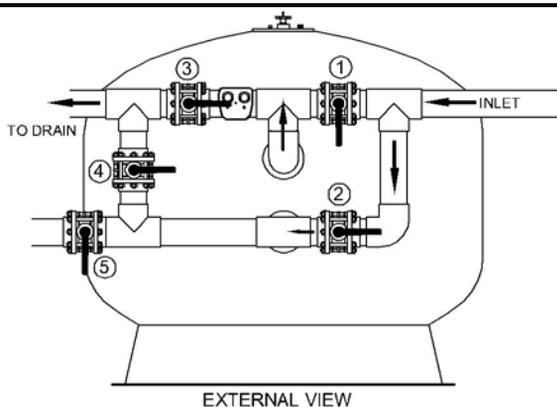


FIG. 14

# BOBBIN WOUND SAND FILTERS

## 5.3 Rinse.

This process can only be done when a five valve battery has been installed.

Rinse must be carried out immediately after backwash to discharge the remaining impurities that could have entered in the collectors during the filter's backwash. The length of rinse is 3 minutes (according to DIN 19643); this will prevent impurities appearing again in the network.

To perform rinse, valves must be in position Fig. 15. **Keeping the pump stopped**; after this, they must be immediately returned to position of filtration.

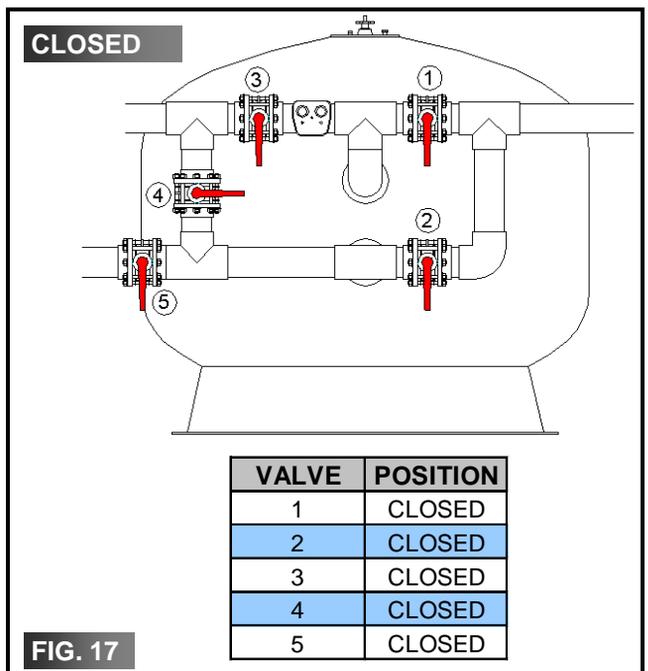
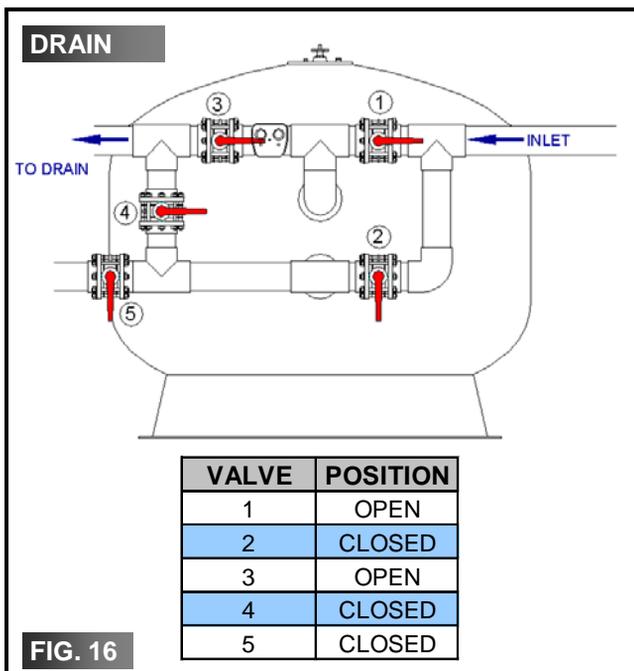
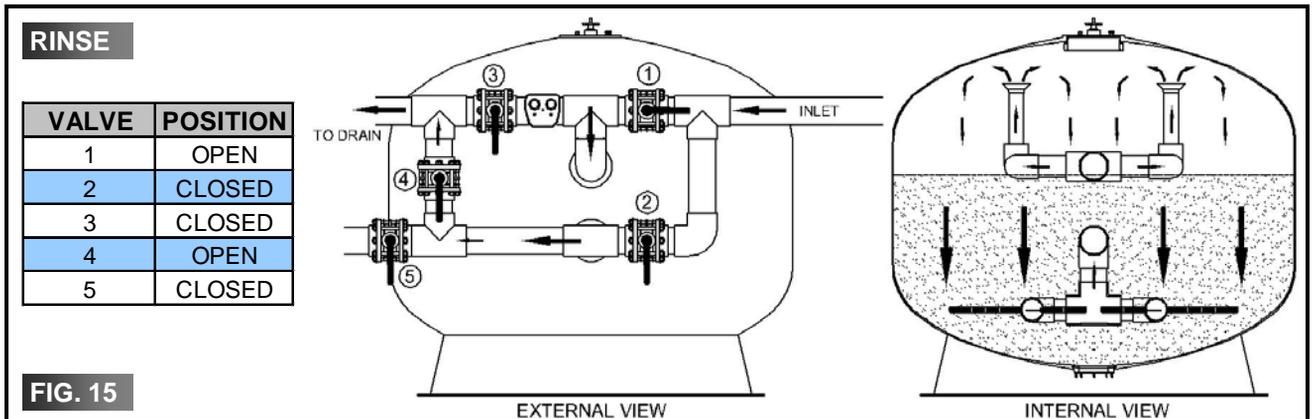
## 5.4-Drain.

When the pool has to be emptied, if its drain does not contain an overflow directly linked to the sewer, it can be drained using the filter's pump and putting valves in position. Fig. 16.

Before starting draining, it is necessary to check that the skimmer's valves, overflow channel and vacuum cleaners are closed.

## 5.5-Closed.

It is used to perform maintenance on the filter, clean prefilters, etc. As its name shows, all valves must be closed.



# BOBBIN WOUND SAND FILTERS

## 6-EMPTYING OF FILTER'S SAND

To change sand or filtration media, proceed as follows:

- 1-Remove top lid.
- 2-Drain filter's water through the lower drainage hole.
- 3-If there is enough clear space, sand can be removed through the man hole. It can also be removed unscrewing the lower drainage hole.
- 4-To refill the filter with sand, follow the instructions given in **starting**, checking first of all that the drainage hole has been perfectly fitted and that it does not leak water.

## 7-OTHER RECOMMENDATIONS

- If the equipment has been stopped during a long period of time, it is recommended to empty the water filter.
- If the filter is situated outside, it is recommended to paint it with a suitable product every two years.
- Filters can also be delivered with valves that perform automatically all the working process. Automatic valves may be electric or pneumatic.



Filter with automatic valves battery with pneumatic actuators

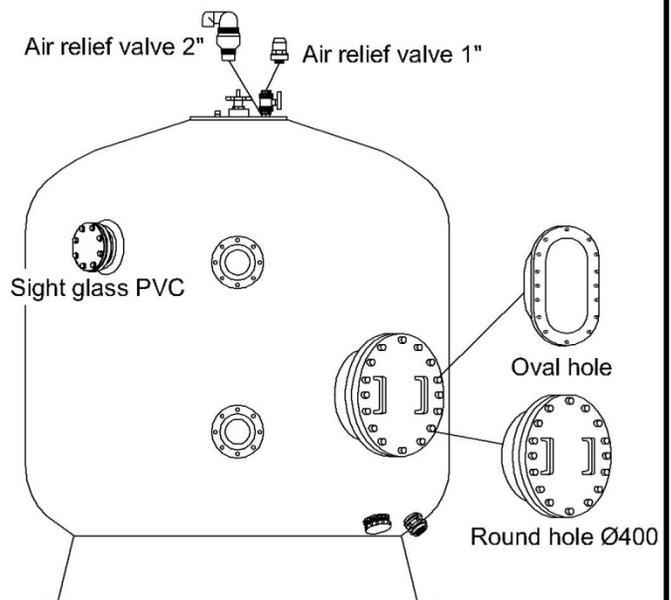


Filter with automatic valves battery with electrical actuators

-In standard filters, ozone water treatments must not be used and pressure and temperature specifications not be exceeded. Contact our technical department if you have any doubt about the use of our filters.

-During the washing process, pressure must never exceed 1 Kg/cm<sup>2</sup> for filters with plate with nozzles.

-Optionally, high performance filters can also be delivered with lateral man hole and sight glass, as well as special inner finishes of high maintenance quality and chemical resistance.



## 8-GUARANTEEE

This filter has been manufactured using the best high technology materials and manufacturing process, going through strict quality test on materials, finishes and performance. All those bumps, rips and breakages caused by an inadequate use of the product or by ignoring our recommendations are not included in this guarantee.

The correct performance of the filter is guaranteed for 2 years.

This guarantee only covers the replacement or repair of defective spare parts in our factory. Extra charges like works made by third parties, compensations, etc... will not be accepted by the manufacturer.

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NOTES



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