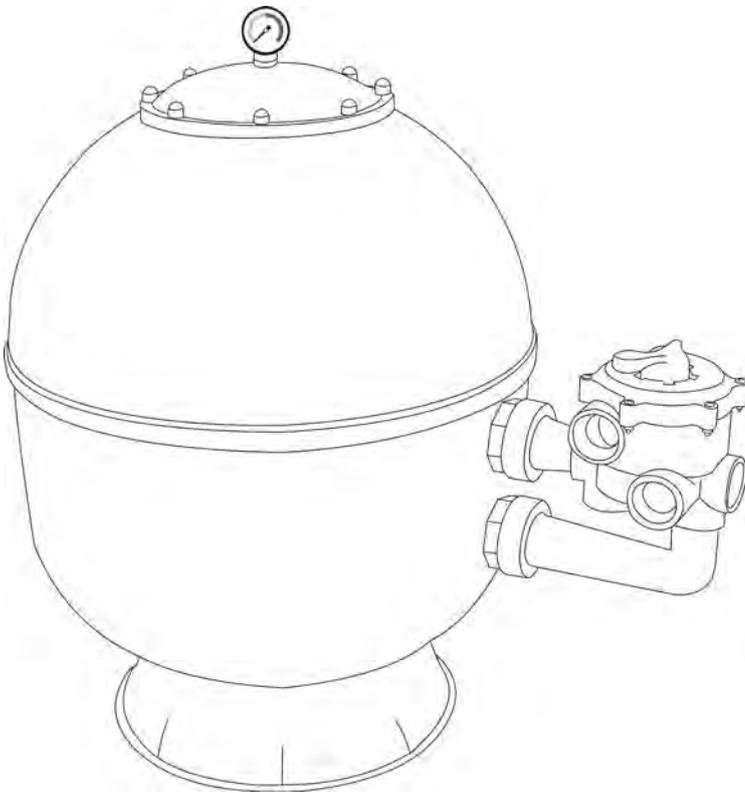


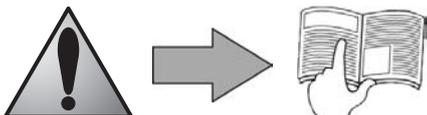
# BOREAL

Instructions for installation and use  
English

EN



More documents on:  
[www.zodiac-poolcare.com](http://www.zodiac-poolcare.com)



- Read this manual carefully before installing, maintaining or repairing this appliance!
- The symbol  indicates important information that it is imperative to take into consideration in order to avoid all risks of harm to persons or damage to the appliance.
- The symbol  indicates useful information.



## Warnings



- As part of a continuous improvement process our products may be modified without prior notice.
- Exclusive use: filtration of swimming pool water (must not be used for any other purpose).
- The appliance must be installed by a qualified technician in compliance with the manufacturer's instructions and with applicable local standards. The installer is responsible for installation of the equipment and for compliance with national installation regulations. Under no circumstances shall the manufacturer be held liable in the event of failure to comply with applicable national installation regulations.
- Incorrect installation can result in damaged equipment or serious physical injury (or even death).
- It is important that this equipment is operated by competent and capable (both physically and mentally) people who have previously received the instructions for use (by reading this manual). Any person not meeting these criteria should not go near the equipment, due to the risk of electric shock or other risk resulting in equipment damage or serious injury, possibly death.
- If the appliance suffers a malfunction: do not try to repair the appliance yourself, contact your installer.
- Before working on the equipment, make sure to switch off the water supply.
- Removing or bypassing one of the safety devices automatically voids the guarantee, as does fitting replacement parts not sold by Zodiac®.
- Keep the equipment out of the reach of children.
- This filter is compatible with all types of water treatment used in a swimming pool. Refer to the Zodiac® warranty conditions for details of the permitted water balance values.
- The filter is not a water disinfection system. Use a water treatment system complementary to filtration.
- Use only suitable filter medium (special swimming pool filtration glass or sand).
- Do not operate the filter without water.
- Switch off and disconnect the filtration pump at the mains then close the isolation valve before working on the filter or the multiway valve.
- It is strictly prohibited to handle the multiway valve when water is flowing in it.

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Available in the appendices at the end of this manual:

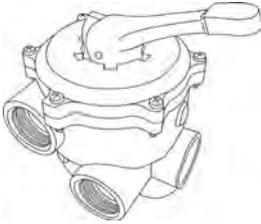
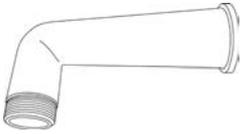
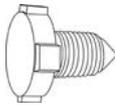
- Dimensions
- Description
- CE declaration of conformity

# 1. Information before installation

## 1.1 General delivery conditions

All equipment, even carriage and packaging paid, is shipped at the recipient's risk. In the event that items have been damaged during transportation, the recipient should write appropriate comments on the delivery note provided by the carrier (and confirm in writing to the carrier by registered letter).

## 1.2 Contents

					
Boreal	Multiway valve	Tightening ring	O-ring	Bent pipe	Straight pipe
x1	x1	x2	x2	x1	x1
					
Cover + seal	Pressure gauge	Air bleed screw	Nut	Washer	Cap
x1	x1	x1	x8	x8	x8

## 1.3 Technical specifications

Maximum filtration rate	50 m <sup>3</sup> /h/m <sup>2</sup>	
Working pressure	0.7 - 1.5 kg/cm <sup>2</sup> = 0.7 - 1.5 bar	
Proof pressure	2.5 kg/cm <sup>2</sup> = 2.5 bar	
Granulometry	Sand	0.4 - 0.8 mm
	Coarse glass*	1.0 - 3.0 mm
	Fine glass*	0.5 - 1.5 mm
Operating temperature range	1 °C - 40 °C	

Boreal	Filtering area	Filter medium capacity			Flow rate	
		Sand	Glass 1.0 - 3.0 mm*	Glass 0.5 - 1.5 mm*	40 m <sup>3</sup> /h/m <sup>2</sup>	50 m <sup>3</sup> /h/m <sup>2</sup>
	m <sup>2</sup>	kg				
D400	0.13	65	15	45	6	7.5
D520	0.21	100	30	60	8.4	10.5
D640	0.32	150	45	90	12.8	16
D760	0.46	225	60	150	18	22.5
D900	0.64	325	75	225	25.2	31.5

\* Zodiac® Crystal Clear glass granulometry

# 2. Installation

## 2.1 Selecting the location

- The filter must be installed:
  - after the circulation pump.
  - before a heating and/or water treatment system.
  - ideally 0.5 m below the water level.
  - ideally between 0.4 m and 5 m from the pool.
  - in a dry ventilated equipment room protected against frost.

- The filter must not be installed:
  - in an area subject to flooding, splashing, rain or exposed to sunshine.
  - more than 1.5 m above the water level.
  - near a heat source or flammable gas.
  - in an equipment room where chemicals are stored, since the emanations could damage the filter.
- Easy access is required for maintenance work (cover, hydraulic connection, valves, draining).
- The hydraulic circuit before the filter must be as short as possible and with the fewest obstacles (bends, other equipment), to avoid head loss.
- If possible, plan a slight slope on the pipes at suction to prevent air pockets from building up.

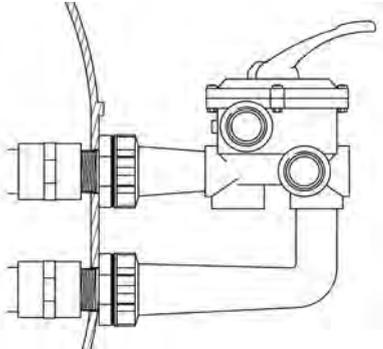
## 2.2 Installing and assembling the filter

### 2.2.1 Installation

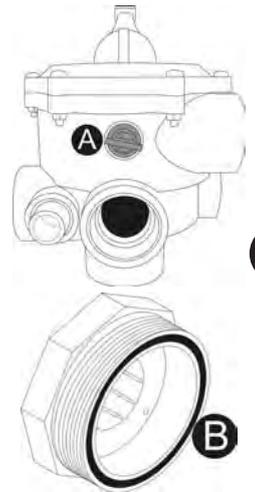
- Place on a stable, solid (e.g. concrete floor) and level surface.
- You are strongly recommended to fit a non-return valve if the filter is installed above the water level.
- Installation of valves upstream and downstream from the filter is mandatory if it is installed below the water level.

### 2.2.2 Filter assembly

- Screw the air bleed screw on the cover at the offset location (a seal is fitted).
- The pressure gauge can be installed either on the top of the cover the central location, or on the side of the multiway valve. IN the latter case, switch the screw (A) on the side of the valve and the pressure gauge. Use Teflon to seal.



- Unscrew the tightening rings if fitted on the filter.
- Fit the tightening rings, one on the bent pipe and the other on the straight pipe.
- Screw the straight pipe on the "TOP" location and the bent pipe "BOTTOM" location on the multiway valve. Use Teflon to seal.
- Fit the O-rings in the grooves (B) planned in the filter connections.
- Position the multiway valve and its pipes on the filter connections and screw the tightening rings by hand.



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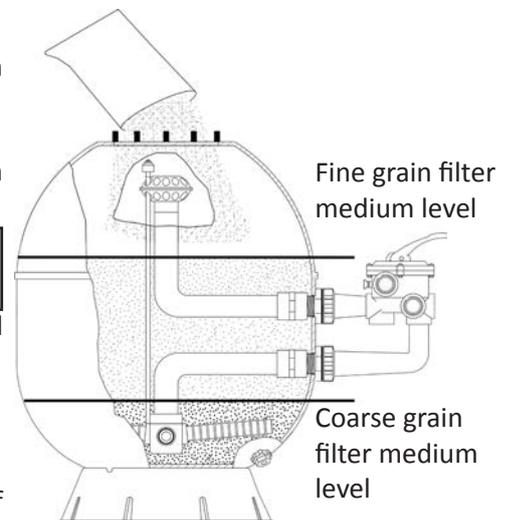
### 2.2.3 Filling the filter

- Check that the diffuser, the manifold and its strainers are in good position and correctly positioned.
- Fill the filter with one third of water so as to cover the strainers.
- Cover the diffuser with the bag provided to prevent the filter medium from entering it.

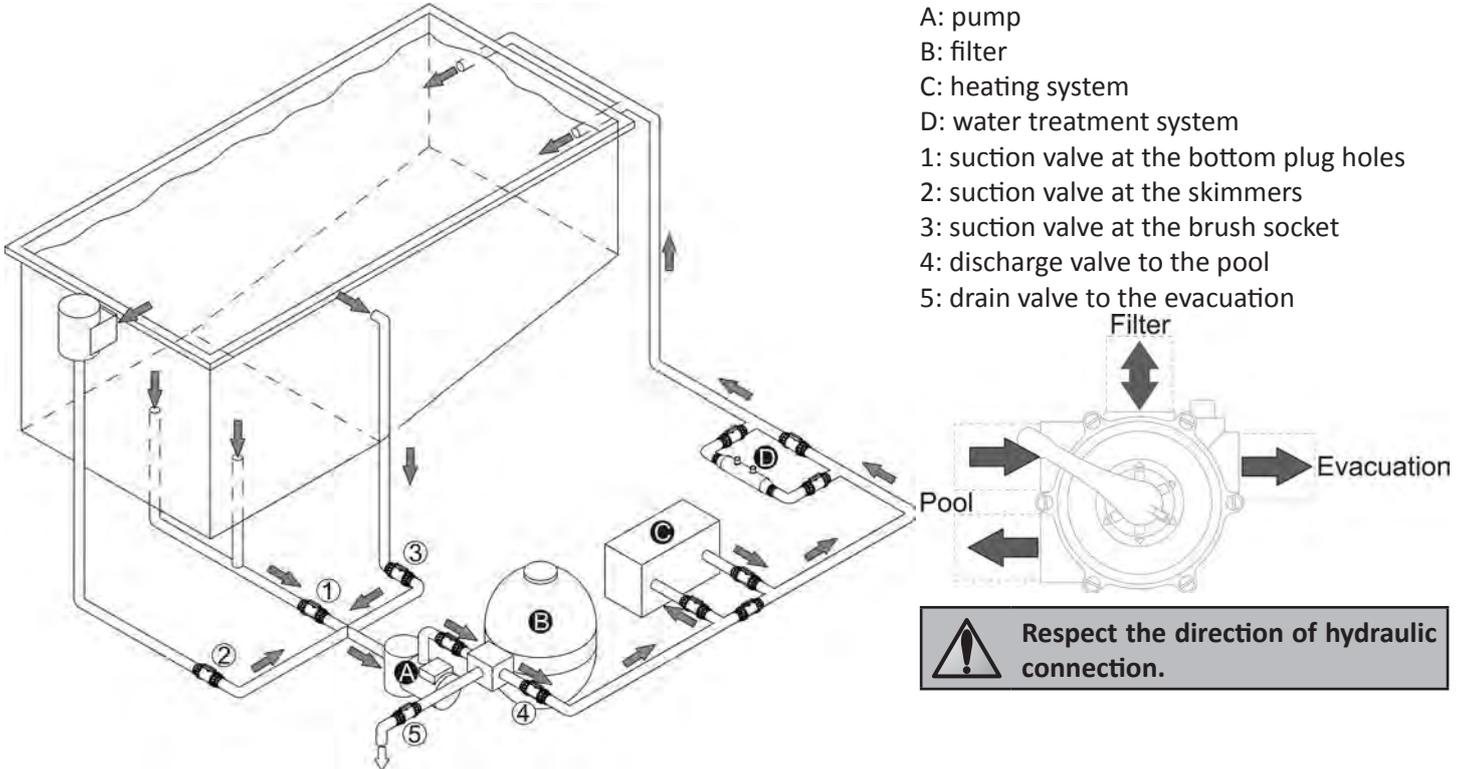


Cover the bolts with adhesive tape to protect them and make the cover easier to close.

- Carefully pour in the coarse grain filter medium up to the required level (take care not to damage the manifold and its strainers).
- Level the filter medium as it is poured in.
- Then pour in the fine grain filter medium up to the required level.
- Take the protection off the diffuser.
- Clean of any remaining filter medium around the opening and the bolts (if necessary, take the protection off the bolts).
- Position the cover and its seal on the opening.
- Fit the washers and nuts on the bolts. Tighten the 8 nuts diagonally to obtain a hermetic seal.
- Fit the caps on the nuts.



## 2.3 Hydraulic connections



- You are recommended to install suction and discharge valves to simplify maintenance work on the appliance.
- Avoid high points to simplify priming.
- Check that the hydraulic connections are correctly tightened and that no water can leak out or air leak in.
- The pipes must be supported to prevent any risk of breakage due to the weight of water.

## 3. Use

### 3.1 Checks before starting up

- Check that the hydraulic connections are correctly tightened.
- Check that the filter is stable and level.
- The hydraulic circuit must be bled and not contain any foreign bodies.
- The filter cover must be properly closed.
- Check that the valves are open.

### 3.2 Start the appliance



- **Never change the valve position during operation.**
- **Never dismantle the valve when the filter is pressurised.**

- Open the filter isolation valves and the drain valve to the evacuation.
- Open the filter cover air bleed screw.
- Set the multiway valve to position 2 (washing).
- Start the pump.
- When the filter level is at maximum (water comes out of the air bleed screw), close the cover air bleed screw.
- Check that there are no leaks on the hydraulic circuit.
- When starting for the first time, wash the filter medium until the water is clear in the transparent window on the side of the multiway valve.
- Stop the water circulation.
- Set the valve to position 3 (rinsing) and switch on the water circulation until the water is clear.
- Stop the filtration pump.
- Set the multiway valve to position 1 (filtration) and start a normal filtration cycle.
- Record the initial filter pressure shown on the pressure gauge to serve as reference value.
- Make sure that the pressure indicated lies within the operating range (see §1.3).

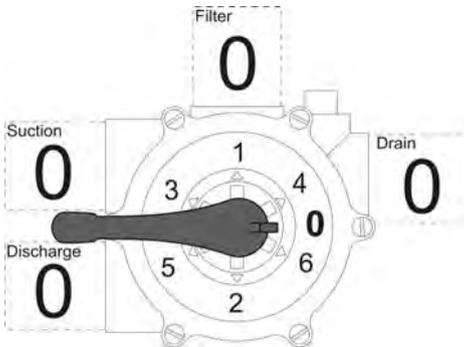


To consume less water, stop the washing and rinsing procedure as soon as the water is no longer cloudy in the transparent window on the side of the multiway valve.

### 3.3 Multiway valve positions

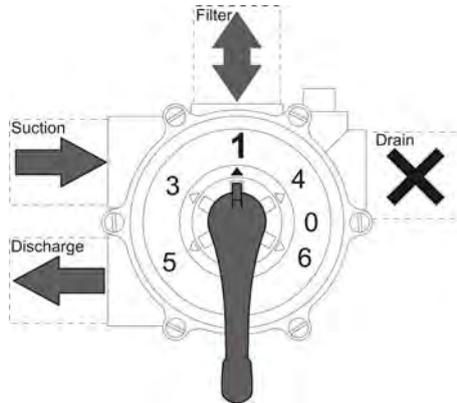
#### Position 0: Winter

Use when the pool is wintered (water level down and pipes drained). This position sets the internal seals of the multiway valve to standby to protect them and keep them in good condition.



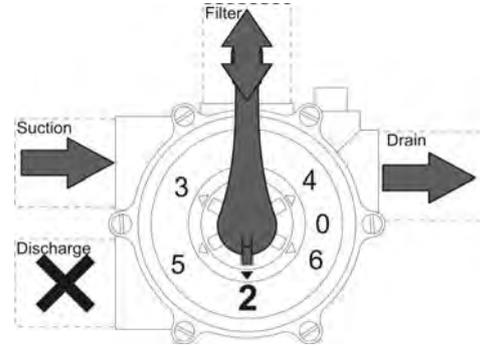
#### Position 1: filtration

Water is sent to the filter medium and returned to the pool.



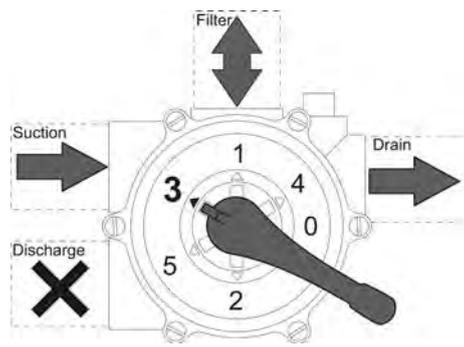
#### Position 2: washing

The filter medium is backflushed. The water circulation direction in the filter is reversed and the water discharged to the evacuation to eliminate the impurities.



#### Position 3: rinsing

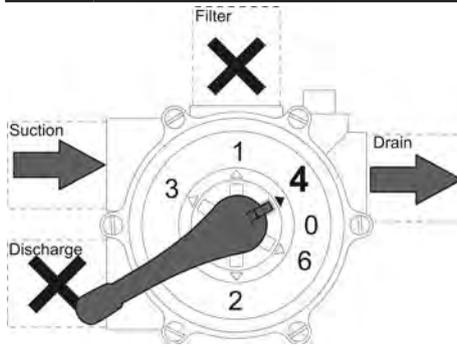
Water is sent to the filter medium and sent to the evacuation. This is carried out to complete the washing procedure and settle the filter medium in the filter, as well as to clean the filter pipes after backflushing.



#### Position 4: draining

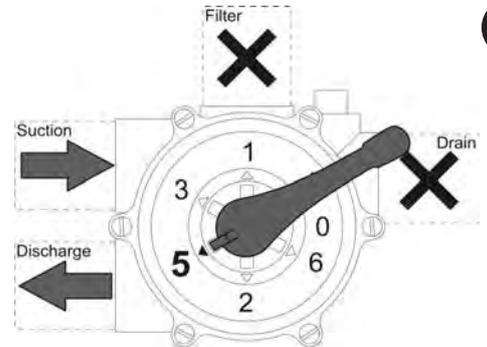
This is carried out to drain the pool or lower the water level. The water is sent directly to the evacuation without going through the filter.

**In this case, close the valves so that water is only sucked through the bottom plug holes to prevent air from getting into the pipes.**



#### Position 5: circulation

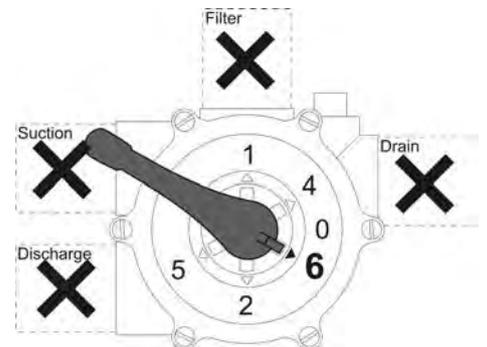
Water is circulated without going through the filter and sent directly to the pool.



#### Position 6: closed

Water no longer circulates in the multiway valve or the filter.

**Do not run the filtration pump when the valve is in this position!**



## 4. Maintenance

**General maintenance of the appliance is recommended when the pool is wintered and before restarting, to check that it operates correctly and maintains its performance, as well as to prevent certain types of failure. These operations are carried out at the user's expense, by a qualified technician.**

### 4.1 Maintenance instructions

- Make sure that the filter contains no foreign bodies.
- Clean the outside of the appliance, do not use solvent-based products.
- Check regularly that the cover seals and connections are in good condition.

## 4.2 Backflushing



- Backflush when water circulation becomes more difficult (pressure more than 0.3 to 0.5 bar above normal pressure).
- Backflushing is recommended once a month.

- Stop the water circulation and make sure to switch off your water treatment appliance if any, since water will not flow in this part of the hydraulic circuit.
- Check that the pressure is 0 bar.
- Set the valve to position 2 (washing) and switch on the water circulation again.
- When the water is clear in the transparent window on the side of the multiway valve, switch off the water circulation.
- Set the valve to position 3 (rinsing) and switch on the water circulation again.
- When the water is clear in the transparent window on the side of the multiway valve, switch off the water circulation.
- Set the valve to position 1 (filtration) and switch on the water circulation again.



For greater efficiency and to consume less water, perform several "washing-rinsing" cycles successively, each one for a few minutes.

## 4.3 Replacing the filter medium



Replace the filter medium when it is clogged or according to the frequency recommended by the manufacturer.

- Stop the water circulation.
- Set the valve to position 6 (closed) and close the other valves as a precaution.
- Open the air bleed screw on the cover and unscrew the drain plug to drain the water from the filter.
- Take off the cover then remove the filter medium manually or using a water and dust vacuum cleaner (take care not to damage the diffuser, the manifold and its strainers).
- Check that the diffuser, the manifold and its strainers are in good position and correctly positioned.
- Fill the filter with new filter medium (according to the instructions in §2.2.3).

## 4.4 Wintering

- Stop the water circulation.
- Clean the filter (see §4.2).
- Drain the water out of the filter (see §4.3), and the entire hydraulic circuit.
- If the filter is positioned below the water level, close the isolation valves at suction and discharge.
- Set the multiway valve to position 0 (winter).

## 5. Troubleshooting

Malfunction	Possible causes	Solutions
<b>Low water flow rate</b>	<ul style="list-style-type: none"> <li>• Pump pre-filter strainer and/or filter clogged</li> <li>• Valves incorrectly set</li> <li>• Water leak</li> </ul>	<ul style="list-style-type: none"> <li>• Clean the pump pre-filter strainer</li> <li>• Wash the filter medium</li> <li>• Set the valves</li> <li>• Check that there are no leaks</li> </ul>
<b>The pressure gauge indicates a high pressure</b>	<ul style="list-style-type: none"> <li>• Filter medium clogged or too old</li> <li>• Valves incorrectly set</li> </ul>	<ul style="list-style-type: none"> <li>• Wash the filter</li> <li>• Change the filter medium</li> <li>• Set the valves</li> </ul>
<b>Filter medium in the pool</b>	<ul style="list-style-type: none"> <li>• Incorrect filter medium grain size</li> <li>• Too much filter medium in the filter</li> <li>• Manifold and/or manifold strainers damaged</li> </ul>	<ul style="list-style-type: none"> <li>• Check the filter medium grain size, change if necessary (see §4.3)</li> <li>• Remove some filter medium to obtain the correct level (see §4.3)</li> <li>• Replace the damaged manifold and/or manifold strainers</li> </ul>
<b>The pressure gauge needle shakes violently</b>	<ul style="list-style-type: none"> <li>• Air leak in the circuit</li> <li>• Suction valves half-closed</li> </ul>	<ul style="list-style-type: none"> <li>• Check the connections and seals</li> <li>• Set the valves</li> </ul>
<b>Water cloudy</b>	<ul style="list-style-type: none"> <li>• Filter medium clogged</li> <li>• Water balance incorrect</li> <li>• Filtration time insufficient</li> </ul>	<ul style="list-style-type: none"> <li>• Wash the filter medium to eliminate the foreign bodies. If washing is insufficient, change the filter medium and check the condition of the manifold and/or its strainers.</li> <li>• Check and adjust the water balance</li> <li>• Wash the filter medium and increase the filtration time if this proves insufficient</li> </ul>

Malfunction	Possible causes	Solutions
<b>The filter must be cleaned more frequently</b>	<ul style="list-style-type: none"> <li>• Water balance incorrect</li> <li>• Filter medium clogged</li> <li>• Organic proliferation in the filter medium</li> </ul>	<ul style="list-style-type: none"> <li>• Check and adjust the water balance</li> <li>• Wash the filter. If washing is insufficient, change the filter medium</li> <li>• Clean the filter medium using a special "filter cleaner"</li> </ul>
<b>The multiway valve sticks</b>	<ul style="list-style-type: none"> <li>• The valve is clogged or contains foreign bodies</li> </ul>	<ul style="list-style-type: none"> <li>• Rinse the multiway valve. If this is insufficient, dismantle it (respect precautions in §3.2), change it if necessary</li> </ul>

## **6. Registering the product**

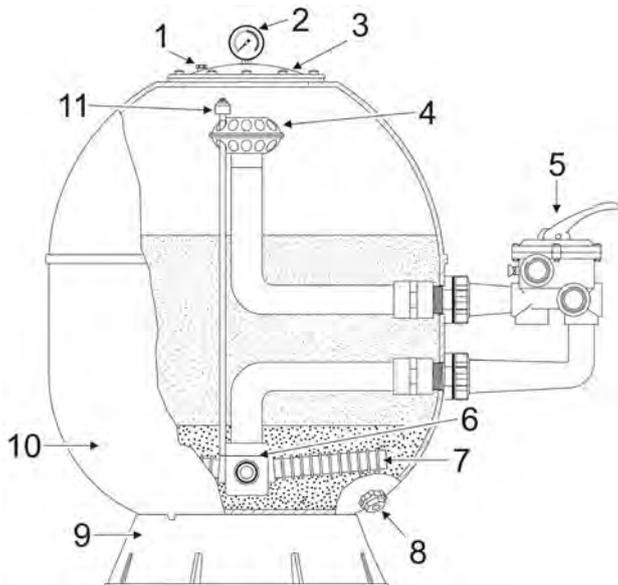
Register your product on our website:

- you will be the first to be informed of new Zodiac® products and special offers,
- You can help us to constantly improve our product quality.

Europe & Rest of the World	<a href="http://www.zodiac-poolcare.com">www.zodiac-poolcare.com</a>	
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Australia – Pacific	<a href="http://www.zodiac.com.au">www.zodiac.com.au</a>	

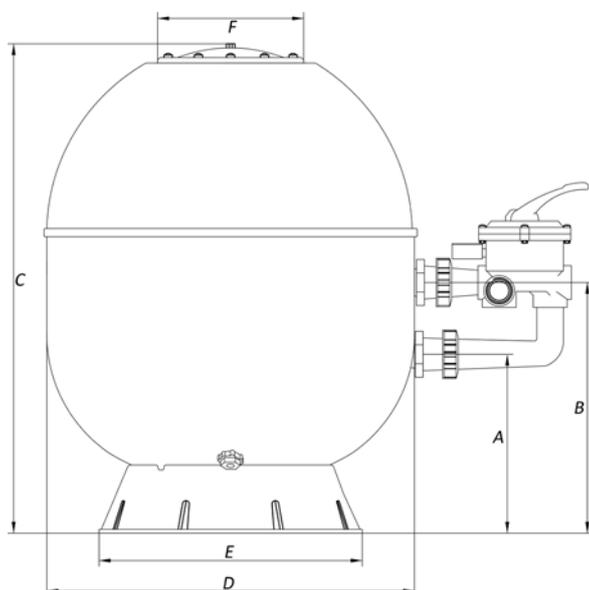
EN

## Description



1	Air bleed screw
2	Pressure gauge
3	Cover + seal
4	Diffuser
5	Multiway valve
6	Manifold
7	Strainers
8	Bleed screw
9	Base
10	Tank
11	Automatic air bleed

## Dimensions



Boreal	D400	D520	D640	D760	D900
<b>Dimensions (mm)</b>					
A	235	305	315	365	365
B	360	430	440	505	505
C	676	775	860	900	900
D	400	520	640	760	900
E	458	458	458	605	605
F	300	300	300	300	300
<b>Connections</b>					
	1" 1/2	1" 1/2	1" 1/2	2"	2"
<b>Poids (Kg)</b>					
	12,3	18	23,5	33,8	39,6

# Notes

A series of horizontal dashed lines for writing notes, arranged in a grid pattern across the page.



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