

SIDE MOUNT RESIDENTIAL FILTER

INSTALLATION AND USER'S GUIDE



Filter Product Manual: INSTALLATION AND USER'S GUIDE

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1. Important Warning and Safety Instructions

Attention Installer

This manual contains important information about the installation, operation and safe use of this product. This information should be given to the owner/ operator of this equipment.

WARNING

Before installing, read and follow all warning notices and instructions accompanying this filter. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Email sales@minderpool.com.au for additional free copies of these instructions.

FILTER SAFETY INSTRUCTIONS

When installing and using this equipment, basic safety precautions should always be followed, including the following:

1. Read and follow all instructions.
2. Hazardous Pressure
Incorrectly installed or tested equipment may fail, causing severe injury or property damage. Read and follow instructions in owner's manual when installing and operating equipment. Have a trained pool professional perform all pressure tests.
3. Suction Entrapment Hazard. Suction in suction outlets and/or suction outlet covers, which are damaged, broken, cracked, missing, or unsecured cause severe injury and/or death due to the following entrapment hazards (symbols compliments of APSP):
4. Turn pump off before changing valve position
5. Do not unscrew Multiport Valve while pump is running
6. All glued fittings and pipe work should be allowed to dry to atmosphere for 24hours before closing the installation. Failure to do so could cause injury or installation failure
7. The fittings on these filters are constructed of ABS. Some PVC joint compounds are incompatible with ABS possibly causing failure to the product. Check compound suitability prior to use.
8. All electrical wiring MUST be in conformance with all applicable local codes, regulations, and the National Electric Code (NEC).
9. To reduce risk of injury, do not permit children to use or climb on this product. Closely supervise children at all times. Components such as the filtration system, pumps, and heaters must be positioned to prevent children from using them as a means of access to the pool.
10. Pool and spa components have a finite life. All components should be inspected frequently and replaced at least every seven years, or if found to be damaged, broken, cracked, missing, or not securely attached.

SAVE THESE INSTRUCTIONS!

Customer Service

Would you have further questions on Minder pump's replacement spare parts, swimming pool products, technical help, please email to sales@minderpool.com.au

Or contact your Minder's Regional Sales Manager

Malaysia (9am to 6pm – UTC +8:00)

Website

Visit www.minderpool.com.au to find out information about Minder Products

Minder Water Industries

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2. Filter Overview

The filter is designed for domestic and residential pool with properly sanitized fresh or salt chlorinated water. And it is suitable to use with sand, zelbrite or glass media type.

Swimming Pool Filters are, without a doubt, the most important accessory used in the treatment of swimming pool water. Their purpose is to eliminate suspended particles from the circulating water, thus improving the clarity of the water. The principle operation consists of passing the swimming pool water through a bed of sand which will retain any particles that are suspended in the water. It should be kept in mind that the filtration system consists of a number of elements, such as metering equipment, pumps, pool shell fittings and pipe work, which ensure the correct suction and return flows that will affect the resultant condition of the treated water. The quality of filtration depends on various factors the size and shape of the sand, the sand bed depth, characteristics of the sand such as granular size, density, etc. A most important parameter is the water filtration rate. Other factors affecting the selection of a filter are the materials used for its construction, the working temperature, and the operating pressure.

Minder's Filter

Manufactured from polyester resin and fiberglass, they are virtually corrosion-proof. The internal fittings (diffuser and lateral system) are manufactured from PVC and polypropylene. They are unaffected by salt water and are manufactured for a working pressure up to 2.5bar and a maximum working temperature of 50° C.

Remarks before Installation & Servicing

1. Locate the filter system as close to the pool
2. Place the filter in stable and level flooring, preferably concrete pavement. Filter system can be very heavy
3. Position all equipment to provide easiness in doing future maintenance works.
4. Protect filter and pumps from weather or direct sunlight with proper housing
5. Ensure there is sufficient space with proper ventilation for electrical equipment like pumps etc. (PVC, ABS and Electrical Equipment has maximum working temperature)
6. Ensure the pool is clean enough for pump and filter to work. Excessive dirt will cause congestion to pump and filter and may seriously damage the equipment
7. Ensure pump is compatible with filter specification (with maximum designed flow rate)
8. For below water installations ensure isolation valves are installed to reduce risk of flooding or water impact.
9. For above water installation ensure check valves are installed to prevent negative pressure (vacuum) in filter which may damage filter tank. (This applies to M series filter without air relief valve feature to relieve negative pressure)
10. Filters are supplied in a box or on a pallet with accessories included. Due to their weight and size it is recommended that mechanical means be employed to move the filters into position. It is also very important to inspect the filters carefully before installing. Make note on the shipping paperwork if there is any damage to the packaging. Polyester filters can be damaged during transportation and it is the responsibility of the installer to inspect at the time of delivery.

11. Damages to filters from transportation that are not noted on the bill of lading are not covered by Minder's warranty policy and all costs to repair will be the responsibility of the owner.
12. Never put the sand into the filter until it is in its final working position and all prior steps are complete.
13. The filters should be accessible for periodic maintenance or media change. It is absolutely necessary to leave a minimum access space around the filter(s), as defined on page 6.
14. The equipment room should be well ventilated and provided with adequate drainage capabilities so that should an emergency occur, resulting in flooding from a pipe, filter or pump, the water can be easily removed to avoid property damage. If drainage cannot be supplied directly from the equipment room, consideration should be given to the installation of an alternate system to remove water from the mechanical room, per federal, state and local codes.

Acceptable Pipe Size For Maximum Recommended System Flow Rate Per APSP-7 (6 ft/sec in the Branch line).			
<i>Pipe Size</i>	<i>Flow Rate GPM</i>	<i>Pipe Size</i>	<i>Flow Rate GPM</i>
2" (63 mm)	63 (150 lpm)	4" (100 mm)	238 (900 lpm)
3" (90 mm)	138 (522 lpm)	6" (90 mm)	540 (2040 lpm)

3. Installation

The filter should be installed by qualified personnel. Ensure that all fittings of the filters (internal PVC components such as laterals, hub, and pipes) are correctly assembled prior to loading of media such as sand.

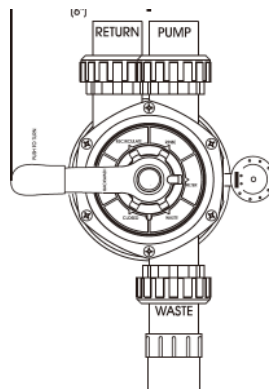
Only use plumbing simple tools such as screw drivers, wrenches, pipe sealant for unions to install and service the filter.

1. Carefully inspect the laterals and hub before installation for any visible defects.
2. Please ensure all laterals are hand tight before adding media, as they may be loosed during shipping and cause sand leakage.

Installing Multiport Valve

Note: Make sure gasket area is free of sand that may cause leakage during filter operation.

1. Connect first the multiport valve to the filter tank using it's' pipes with unions and pipe sealant.
2. Connect the system plumbing pipes to the unions of the multiport valve.
 - a. It is highly recommended to use Minder's provided unions to avoid forceful installation that may cause damage to the multiport valve main body. Damage to Multiport valve body is a costly mistake compare to damage to unions.
 - b. Do not over tight threaded components that may cause damage to the equipment
 - c. Connects plumbing pipes to pump, pool return and waste as below image:
 - d. O-ring and sealing surfaces must be clean
 - e. Union connections are hand tighten only.
 - f. All threaded joints will be accompanied by provided gaskets or O-rings
 - g. It is advisable to place valve dampener (Shock-Absorber) before the pump that may cause water impact that may cause damage to the pump body.
3. Assemble the pressure gauge with O-ring into position on the multiport valves body. (Do not over tighten. (Please note: the rubber nut on new pressure gauge should not be punched or cut. The purpose is to relieve air bubble and recalibrate the needle)



Loading Media

1. Sand is loaded through the top opening of the filter
2. Loosen and remove the 12 nuts & washers and carefully take off the bolt-down top lid and gasket.
3. Fill the filter tank half way of it's height with water to provide cushion from the falling impact during sand filling.

Note: laterals, hub and under-drain are ABS material and may be damaged from sand falling impact

4. Carefully fill in correct amount of media following the filter specification on media height. Also make sure the tubes is always centered during sand filling. And media surface should be levelled.

Note: excessive media will cause media to escape into pool during backwashing

5. Once the sand is filled to the correct height, place back filter neck gasket, lid, washers and nuts. And tighten all the 12 nuts with wrench and make sure the lid is tightened to the filter.

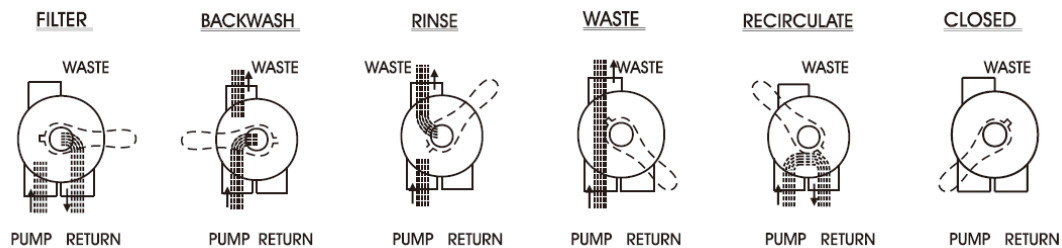
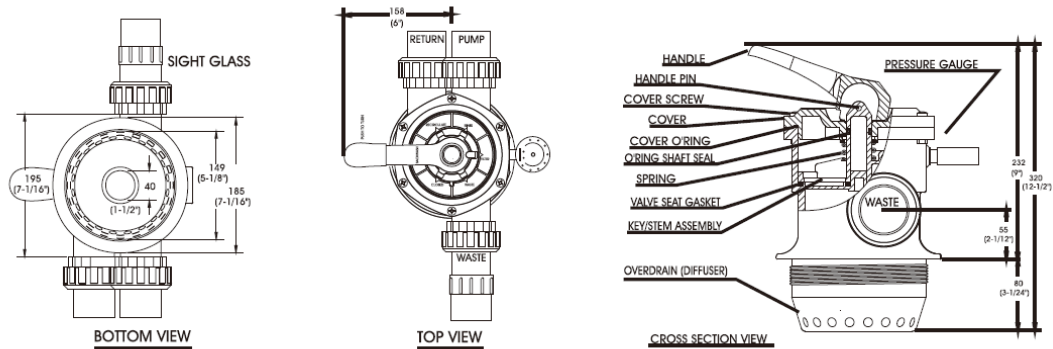
Note: Do not over-tighten the nuts unnecessarily as to cause creak on the lid. Further tighten only to prevent water leakage during operation.

6. Install the automatic air relief valve on top of the lid with O-ring in place. So any negative air pressure can be released automatically to prevent the tank body from deflate.

4. Operation:

FUNCTIONS OF VALVE POSITIONS	
Valve Position	Function
FILTER	Normal Filtration and Vacuuming
BACKWASH	Cleaning Filter by reversing the flow
RINSE	Used after backwash to flush dirt from valve
WASTE	By-passes filter, used for vacuuming to waste or lowering water level
RECIRCULATE	By-passes filter for circulating water to pool
CLOSED	Shuts off all flow to filter or pool

MULTIPOINT VALVE



Start-up

1. Open the plumbing system valve and make sure the pump is filled with water. Make sure the pump inlet piping is able to take water in from the pool.

Note: For filter system below water level, the pump is easily filled with water from gravity force. However, for filter system above water level, please make sure check valve is installed before the pump inlet whereby the water can be manually added and maintain in pump for priming purpose and also prevent negative pressure in filter.

2. With pump OFF, Depress the handle of multipoint valve and set the valve to "BACKWASH" mode
3. Start the pump and prime according to pump instruction (be sure all the suction and return lines are open), allowing the filter tank to fill with water. Once water is flowing out of the waste line, run the pump for 1 – 5 minutes to fully prime. This initial BACKWASH process will also remove any impurities or fine sand that may escape into the pool during "FILTER" mode

Note: Avoid pump running dry which may cause damage to pump.

4. Turn pump OFF and set valve to “RINSE” mode. Start pump and operate until water in sight glass is clear for 30 – 60 seconds. Turn pump OFF and set valve to “FILTER” mode and restart pump. The filter is now operating in normal filtration mode in removing suspended dirt in the pool constantly.
5. Inspect the whole system plumbing and equipment for any leakage.
6. Record the initial pressure gauge reading when the filter is clean.

Note: The pressure will vary from pool to pool depending on the pool plumbing system design.

5. Service & Maintenance

Note: Hazardous Pressure: Stop pump and release all pressure from system before working on filter, valve or any plumbing joints.

1. As the filter removes suspended dirt from the pool, the accumulation of dirt in the filter will cause pressure to rise and the flow to diminish. Therefore, when the pressure is increased by 0.5bar (50kpa) higher than the initial pressure of the clean filter, it is time to backwash the filter. (See BACKWASH section).
2. To backwash the filter, turn OFF the pump and switch the handle of the multiport valve to “BACKWASH” mode, then restart the pump. While the backwashing of filter sand/ media is running, observe the water at waste outlet of the multiport valve until the water is clear.
3. Once the waste water is clear, turn OFF the pump and switch back to “FILTER” mode and restart the pump. Now the filter is clean to run.

Recommended filtration velocity for sand: 40 – 50 m³/h/m²; Glass at 35 – 55m³/h/mw

Note:

- Do not use solvents to clean filter as it may damage the components
- Inspect sand/media bed (inside the filter) at least once a year to remove foreign material which has not been backwashed out of the system.
- When the sand/ media bed gets hard and crusty, remove all the sand/ media and replace it with a new sand/ media. Alternatively, you may determine that the sand/ media is ready to be replaced if the pressure does not return to within 0.5bar above the pressure of clean filter after sufficient backwashing.
- To prevent damage to equipment, keep water temperature below 50o C at all times.

Weekly Pool Equipment Inspection

1. Check the pressure during operation. When the pressure is increased by 0.5bar (50kpa), it is time to do backwashing
2. Carefully monitor water chemical balance and follow recommendation of your local pool professional
3. Keep water level adequate in pool. Failure to do so will cause pump to unable to take in water and damage your pump from running dry.

Lower or Drain Pool

1. Turn OFF pump, set valve handle to “WASTE”
2. Use Vacuum cleaner hose and head.
3. Start pump: run until pool is lowered to desired level
4. Turn pump “OFF” and set valve handle to “FILTER”
5. Start pump

Multiport Valve Service

If valve is leaking during normal operation, it will need to be repaired with the required components.

Contact Minder authorised dealer or sales@minderpool.com.au

6. Troubleshooting

Problem	Cause	Solution
Filter Start-up pressure high and water flow low	<ul style="list-style-type: none"> valve is closed at return pool line after MPV Possible high level of dirt accumulation in sand/media 	<ul style="list-style-type: none"> open valve in return pool line after MPV Do backwashing of filter. Follow Backwash instruction.
Filter start-up pressure low and water flow low	<ul style="list-style-type: none"> Restriction in suction line before the MPV or pump Air leakage before MPV in the plumbing line or improper sealed of pump strainer lid Pump is unable to suck water due to pool water level low Pump impeller is unable to rotate freely (blocked). Unusual pump symptoms: loud noise, heat-up. 	<ul style="list-style-type: none"> Open valve in suction line before MPV or pump. Or make sure there no dirt big enough to restrict the suction line. Make sure there's no air leakage in suction line. And make sure pump strainer lid is properly sealed with no air leakage. Make sure pool water level is sufficient of pump to take in water constantly. Contact Minder's authorised dealer to fix pump or contact sales@minderpool.com.au
Pool insufficiently clean (Algae/ Murky)	<ul style="list-style-type: none"> Filter is abnormally dirty from not backwashing for long enough time Sand/ Media too old Algae present in pool water 	<ul style="list-style-type: none"> Backwash the filter Replace media Don't run filter with live algae in pool. Check the chemical condition of the pool water and refer to pool water chemical treatment. Note: incorrect chemical treatment will greatly shorten filter life.
Sign of filter tank contraction	<ul style="list-style-type: none"> Negative pressure happening which will cause tank to leak overtime (costly mistake) 	<ul style="list-style-type: none"> Install check valve before pump inlet Once leak, replace filter tank
Leaking from filter tank joint	<ul style="list-style-type: none"> Dirt stuck at O-ring & gasket O-ring & gasket incorrectly positioned 	<ul style="list-style-type: none"> Clean o-ring at joint Position o-ring & gasket correctly
Hard Handle Turning	<ul style="list-style-type: none"> Grease dried-out 	<ul style="list-style-type: none"> Grease the 2 O-rings on Rotor inside MPV

7. Replacement Parts