

DM - 75, 90, 120, 180, 240 Cartridge Filter Owners Manual

IMPORTANT SAFETY INSTRUCTIONS *READ AND FOLLOW ALL INSTRUCTIONS* SAVE THESE INSTRUCTIONS

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⚠ WARNING

Before installing this product, read and follow all warning notices and instructions accompanying this product. Failure to follow safety warnings and instructions can result in severe injury, death, or property damage. Call (800) 831-7133 for additional free copies of these instructions.

Important Notice



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.

⚠ CAUTION

Before starting any filter system, be sure the pump has been adequately primed by filling the strainer pot on the pump with water. Failure to do so will result in pump seal problems.

POOL WATER MAINTENANCE:

Properly treated pool water can prolong the life of your cartridges and insure a sparkling clear pool. Pool chemistry is a specialized area and you should consult your pool service specialist for specific details.

⚠ WARNING

Failure to operate your filter system or inadequate filtration may cause poor water clarity obstructing visibility in your pool. Poor water quality may result in diving in shallow pool areas, or diving into or on top of obscured objects, which can cause serious bodily injury or drowning.

SECTION I. INSTALLATION & OPERATING INSTRUCTIONS

A. General Information

1. The filter should be mounted on a level concrete slab. Position the filter so that the instructions, warnings and pressure gauge are visible to the operator. Also, position the filter so that the piping connections, control valve and drain port are convenient and accessible for servicing and winterizing.
2. Install electrical controls (e.g., on/off switches, timers control systems, etc.) at least five (5) feet from the filter. This will allow you enough room to stand clear of the filter during system start up.
3. Provide sufficient clearance around the filter to permit visual verification that the clamp is properly installed, see Figure 1.
4. Provide sufficient space above the filter to remove the filter lid for cleaning and servicing. This distance will vary with the model of filter you are using. See Table 1 for the required vertical clearance.

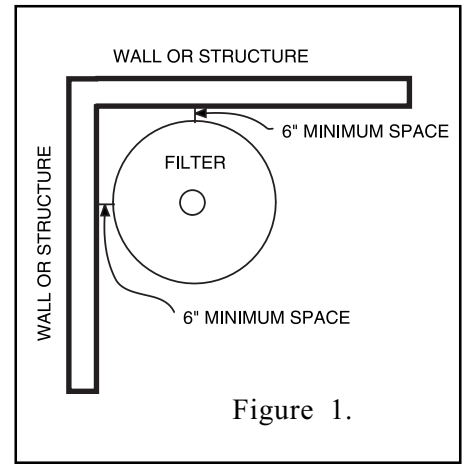


Figure 1.

⚠ WARNING



Risk of electrical shock or electrocution. Position the filter and the air release to safely direct water drainage and purged air or water. Water discharged from an improperly positioned filter or valve can create an electrical hazard that can cause severe personal injury as well as damage property.

5. Make all plumbing connections in accordance with local plumbing and building codes. Filter plumbing connections are provided with an O-ring seal. Use only a silicone base lubricant on the O-rings. Do not use pipe joint compound, glue or solvent on the bulkhead connections.

B. New Pool Installations

1. Initial Start Up - It may require a few days to clear up the pool water due to debris found in the plumbing lines, plaster dust, etc.
2. Check the pressure gauge periodically for increase in pressure. This is normal the first week of filtering, and it is suggested that the cartridges be removed and cleaned frequently until the water clears up.
3. Frequent cleaning of the cartridges in this initial period will also help to increase the life of the cartridges and give you longer filtering cycles thereafter.


C. Suggested Installation

1. A check valve is recommended between the filter and heater to prevent hot water backup from damaging the filter internals.
2. The maximum operating pressure of the tank is 50 psi. Never operate the unit above this pressure or attach a pump to this filter that has a shut-off pressure higher than 50 psi.
3. When performing hydrostatic pressure tests or when testing for external leaks of the completed filtration and plumbing system, ensure that the Maximum Pressure that the filtration system will be subjected to **DOES NOT EXCEED THE MAXIMUM WORKING PRESSURE OF ANY OF THE COMPONENTS CONTAINED WITHIN THE SYSTEM.** In most cases, the maximum pressure will be stated on each component of the system.
4. If doubt exists as to the pressure to which the system will be subjected, install an ASME approved automatic Pressure Relief or Pressure Regulator in the circulation system for the lowest working pressure of any of the components in the system.
5. Never install a chemical feeder or ozonator upstream of the filter. Always locate downstream with a check valve between the feeder and the filter.

TABLE 1

Model	Size	Vertical Clearance Req.
DM-75	75 sq. ft.	50 in.
DM-90	90 sq. ft.	50 in.
DM-120	120 sq. ft.	50 in.
DM-180	180 sq. ft.	70 in.
DM-240	240 sq. ft.	70 in.

- A positive shut off valve is not recommended downstream of the filter and/or heater. If the system is ever run with such a valve closed, the internal air vent becomes inoperative and a serious malfunction could result. "SEE WARNING BELOW". Also, running the system with this valve shut stops all water flow, which can damage the equipment.

⚠ WARNING	
	<p>THIS FILTER OPERATES UNDER HIGH PRESSURE. WHEN ANY PART OF THE CIRCULATING SYSTEM (e.g., LOCK RING, PUMP, FILTER, VALVES, ETC.) IS SERVICED, AIR CAN ENTER THE SYSTEM AND BECOME PRESSURIZED. PRESSURIZED AIR CAN CAUSE THE LID TO BLOW OFF WHICH CAN RESULT IN SEVERE INJURY, DEATH, OR PROPERTY DAMAGE. TO AVOID THIS POTENTIAL HAZARD, FOLLOW THESE INSTRUCTIONS.</p> <ol style="list-style-type: none"> BEFORE REPOSITIONING VALVES AND BEFORE BEGINNING THE ASSEMBLY, DISASSEMBLY, OR ADJUSTMENT OF THE LOCK RING OR ANY OTHER SERVICE OF THE CIRCULATING SYSTEM: (A) TURN THE PUMP OFF AND SHUT OFF ANY AUTOMATIC CONTROLS TO ASSURE THE SYSTEM IS NOT INADVERTENTLY STARTED DURING THE SERVICING; (B) OPEN THE AIR RELEASE; AND (C) WAIT UNTIL ALL PRESSURE IS RELIEVED -PRESSURE GAUGE MUST READ ZERO (0). WHENEVER INSTALLING THE FILTER LOCK RING, FOLLOW THE FILTER LOCK RING INSTALLATION INSTRUCTIONS EXACTLY. ONCE SERVICE ON THE CIRCULATING SYSTEM IS COMPLETE, FOLLOW SYSTEM RESTART INSTRUCTIONS EXACTLY. MAINTAIN CIRCULATION SYSTEM PROPERLY. REPLACE WORN OR DAMAGED PARTS IMMEDIATELY (e.g., lock ring, pressure gauge, the air release, O-rings, etc.) BE SURE THAT THE FILTER IS PROPERLY MOUNTED AND POSITIONED ACCORDING TO THE INSTRUCTIONS PROVIDED.

D. Filter Operation

- Set valves if any, to filter position.
- Open the air release on top of filter. Failure to open the air release could cause the lid to separate resulting in serious bodily injury and/or major property damage.
- Stand clear of the filter.
- Start pump and wait until a steady jet of water emerges from the air release, then close valve.
- Filter will operate efficiently until pressure gauge indicates time for cleaning cartridges. Note these pressures below. Depending on water conditions and pool usage, the cartridges may be cleaned and reused several times before replacement is needed.
- Always stand clear of the filter during operation and when power to the pump is turned on.


Filter Starting Pressure: _____ psi

Note the pressure at start-up when filter is clean. This will vary from pool to pool depending on pool line size. Note this pressure in box.

Cleaning Required at: _____ psi

Filter requires cleaning when pressure increases 8 - 10 psi over clean filter starting pressure.

E. System Restart Instructions

⚠ WARNING	
	<p>THIS FILTER OPERATES UNDER HIGH PRESSURE. WHEN ANY PART OF THE CIRCULATING SYSTEM (e.g., LOCK RING, PUMP, FILTER, VALVES, ETC.) IS SERVICED, AIR CAN ENTER THE SYSTEM AND BECOME PRESSURIZED. PRESSURIZED AIR CAN CAUSE THE LID TO BE BLOWN OFF WHICH CAN RESULT IN SEVERE INJURY, DEATH, OR PROPERTY DAMAGE. TO AVOID THIS POTENTIAL HAZARD, FOLLOW THESE INSTRUCTIONS.</p>

1. **Open the High Flow Air Relief Valve until it snaps into the full open position (this only requires a quarter turn counterclockwise).** Opening this valve rapidly releases air trapped in the filter.
2. Stand clear of the filter tank, then start the pump.
3. Close the air release knob after a steady stream of water appears.
4. The system is not working properly if either of the following conditions occur.
 - a. A solid stream of water does not appear within 45 seconds, after the pump's inlet basket fills with water.
 - b. The pressure gauge indicates pressure before water outflow appears.

If either condition exists, **shut off the pump immediately**, open valves in the water return line to relieve pressure, and clean the air release. If the problem persists, call 1-800-831-7133 for assistance.

SECTION II. CLEANING THE HIGH FLOW MANUAL AIR RELIEF VALVE

1. Turn the pump off and shut off any automatic controls to ensure that the system is not inadvertently started during servicing.
2. **OPEN THE HIGH FLOW MANUAL AIR RELIEF VALVE UNTIL IT SNAPS INTO THE FULL OPEN POSITION, THEN WAIT UNTIL ALL PRESSURE IS RELIEVED.**
3. With the relief valve attached to the filter tank, pull out the locking tabs and remove the valve stem and cover assembly with a counter clockwise and lifting motion, see Figure 2.
4. Clean the debris from the valve stem and body. Verify that the filter tank's air passage is opened by inserting a 5/16" drill bit through the valve body. Verify that the O-rings are in good condition, properly positioned, and lubricated with a silicone base lubricant.
5. Reinstall the valve stem and cover assembly with a downward and clockwise motion until it snaps into position.

SECTION III. REMOVING THE CARTRIDGES FOR CLEANING OR REPLACING

⚠ CAUTION

To prevent equipment damage and possible serious bodily injury and/or major property damage, always turn the pump off before changing any valve positions or servicing the filter.

A. Dissassembly

1. Turn pump off.
2. Drain filter - open drain valve and tank the air release and close all other valves.
3. Remove the ring. Press in both latches on the ring to unlock, then turn ring counter clockwise.
4. Remove tank lid. Avoid cutting rubber O-ring or damaging lid or tank O-ring channel.
5. Before removing cartridge, press the diffuser/inlet toward the inside wall of the tank; see Figure 3. Remove cartridge. Hold top edge of cartridge while pressing down on cap to remove cartridge.
6. Lift out cartridge and clean.

B. Cleaning the the cartridges.

NOTE

Handle carefully to avoid puncturing pleated material.

1. The use of a garden hose with pressure nozzle on the end will normally be all that is required to clean dirt from cartridges.



⚠ WARNING

Please heed all manufacturers' posted instructions, warnings and cautions when using Baquacil® or Baqua Clean®.

2. If high calcium deposits are detected, they may be removed by soaking cartridges in a solution of 1 part muriatic acid to 20 parts water. Use a PLASTIC pail or similar plastic container.
3. Suntan oils can coat the cartridges, thus restricting normal flow. This coating may be removed by soaking the cartridges in an approved cleaning solution* and water. 60 minutes of soaking time will usually break oil coating from cartridge. Rinse with clean water.
4. Algae may be removed from cartridges by using an approved cleaning solution* and water. Soak cartridges as long as necessary. Rinse with clean water.

C. Reassembly

1. Replace clean cartridge over core.
2. Remove the O-ring on tank and clean both O-ring and channel. Lubricate O-ring with a non-water soluble grease, such as silicon grease and replace O-ring in channel.
3. Clean the inside surface of the tank lid which O-ring seals against. Place lid on tank. Push down on lid to seat in place.
4. Replace the ring. Tighten the ring until it stops and is secured by the latches.

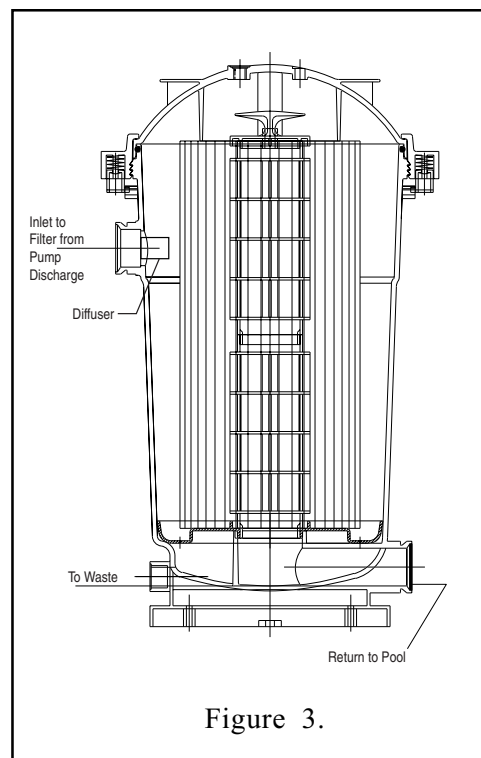
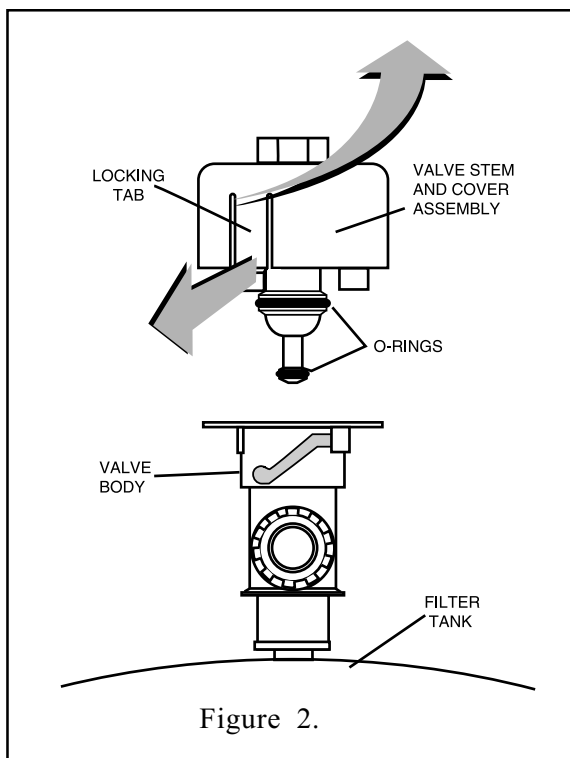
⚠WARNING



Conditions where air enters the filter and the tank lid is not installed properly can cause the lid to separate and could cause serious bodily injury and/or major property damage. Always stand clear of the filter when it is in operation or when power to the pump is turned on.

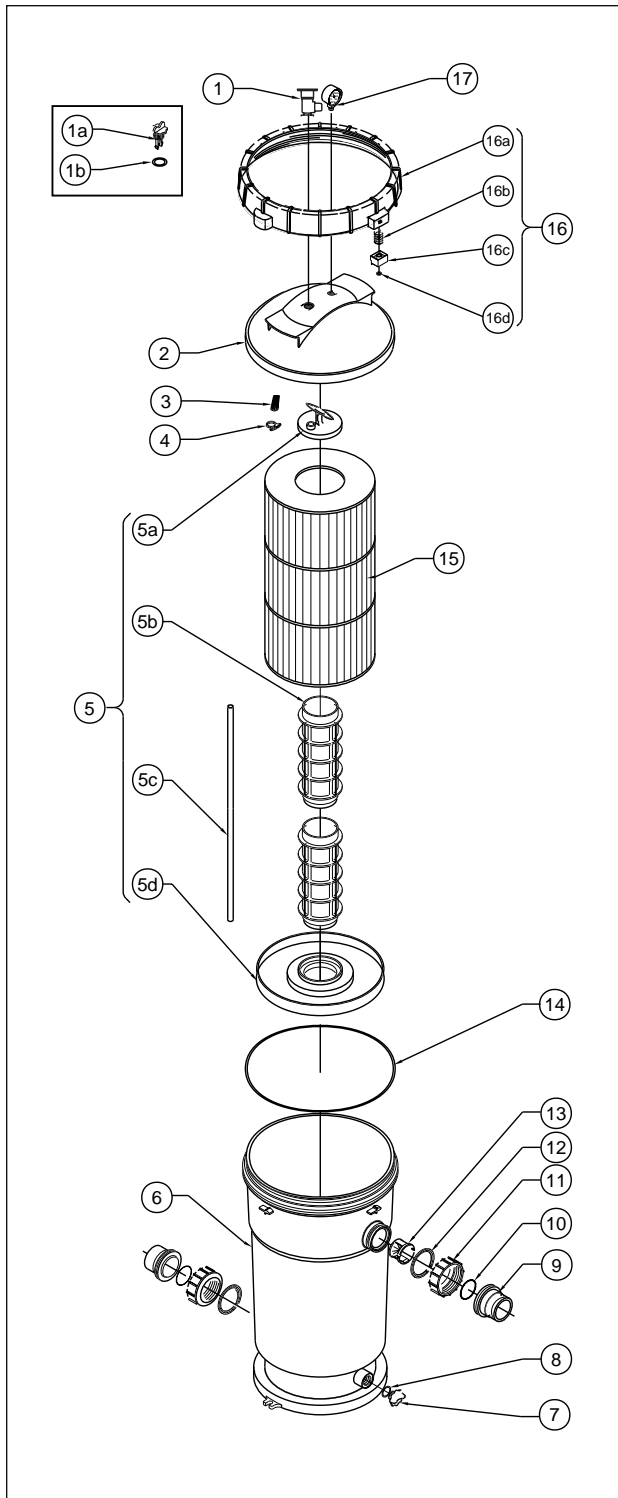
5. To restart the filter, refer to Section I. E, System Restart Instructions. Conditions where air enters the filter and the tank lid is not installed properly can cause the lid to separate and could cause serious bodily injury and/or major property damage. Always stand clear of the filter when it is in operation or when power to the pump is turned on.
6. When winterizing, insure that all water is removed from the filter.

*Contact your local Pool Supply for details.



SECTION IV. TECHNICAL DATA

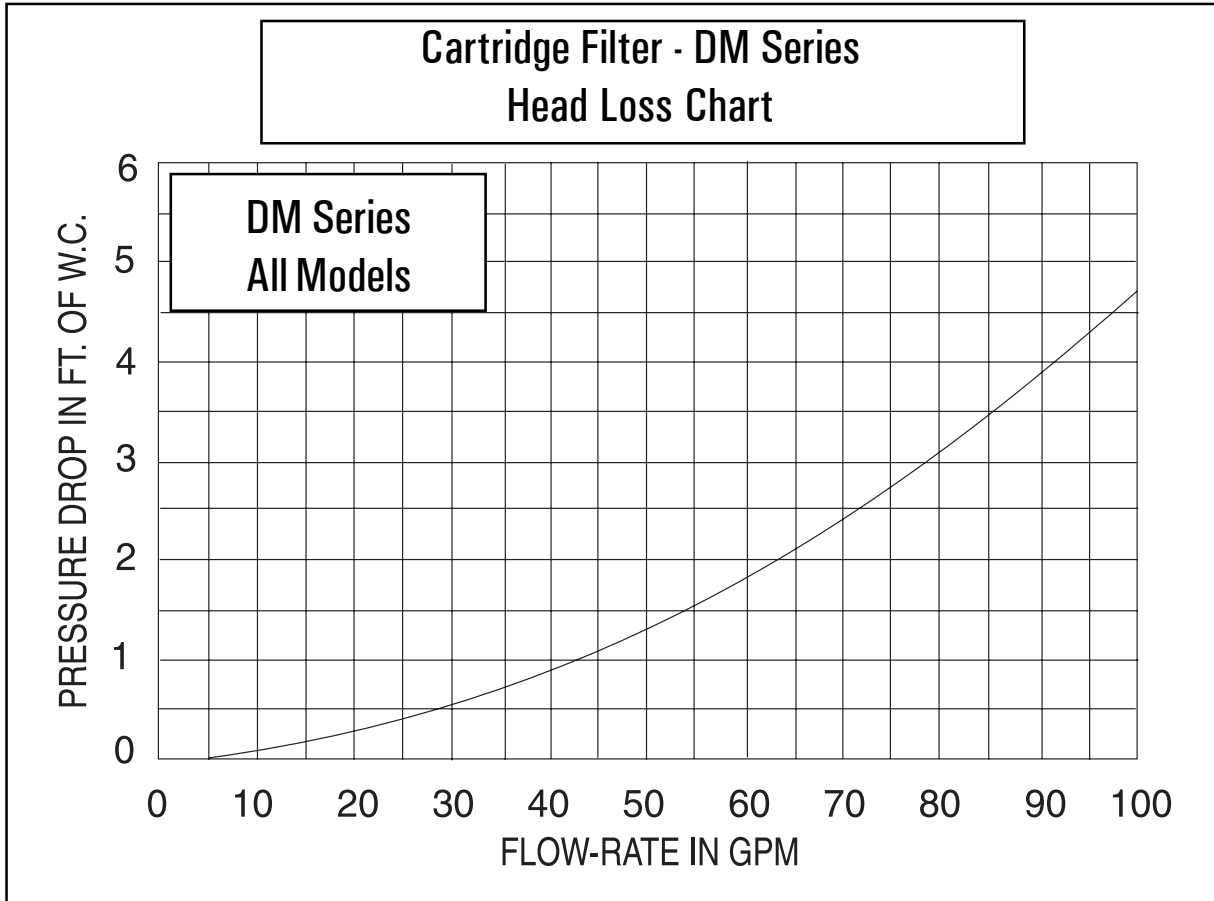
Cartridge Filter Parts List - Models DM-75, 90, 120, 180, 240.



Item	Part No.	Description	Qty.
1	98209800	High Flow Air Relief Valve	1
		{to be used with Item #2 - P/N 170010}	
1a	175666	Knob, Air release	1
		{to be used with Item #2 - P/N 170011}	
1b	175687	O-ring, Air release	1
		{to be used with Item #2 - P/N 170011}	
2	170010	Lid 75 / 90 / 120 Assy.	1
2	170011	Lid 180 / 240 Assy.	1
3	59014700	Air Bleed Sock	1
4	59011700	Clamp Air Bleed	1
5	175664	Core Cartridge Assy., 75/90/120 *	1
5a	Not	Cap - Cartridge Core	1
5b	Sold	Core Cartridge	2
5c		Tube 1/2" Dia. Acrylic, 75/90/120	21.5"
5d	Separately	Dust Collector	1
5	175665	Core Cartridge Assy. 180/240 *	1
5a	Not	Cap - Cartridge Core	1
5b	Sold	Core Cartridge	4
5c		Tube 1/2" Dia. Acrylic, 180/240	41"
5d	Separately	Dust Collector	1
6	170012	Tank Assy.	1
7	175679	Knob - Drain Port	1
8	175680	O-Ring Drain Port	1
9	79304600	Body, Swivel	2
10	39102900	Union O-ring	2
11	98212200	Union Nut	2
12	39104500	Union Nut "C" Clip	2
13	175674	Diffuser - Inlet	1
14	178568	O-Ring 2-451	1
15	175689	Cartridge 75 - Model DM-75	1
15	175652	Cartridge 90 - Model DM-90	1
15	175653	Cartridge 120 - Model DM-120	1
15	178571	Cartridge 180 - Model DM-180	1
15	178572	Cartridge 240 - Model DM- 240	1
16	175667	Ring Assy.	1
16a	Not	Ring	1
16b	Sold	Spring Lock Ring	2
16c		Lock Ring Block	2
16d	Separately	Fastener Grip.250	2
17	53003201	Gauge, Pressure	1

* Includes #3, 4, 5a, 5b, 5c, 5d.

SECTION V. HEAD LOSS CHART



SAVE THESE INSTRUCTIONS.

Pentair Pool Products

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