



PENTAIR FullFloXF F Series Vertical Grid D.E.Filter Installation Guide

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PENTAIR FullFloXF F Series Vertical Grid D.E.Filter



Product Information

| | |
|---------------------|---------------------------|
| Product Name | Vertical Grid D.E. Filter |
| Product Type | Pool/Spa Filter |
| Manufacturer | Pentair |

Product Usage Instructions

Safety Precautions

- Do not permit children to use this product.
- The system operates under high pressure. Follow the safety instructions to prevent personal injury or property damage.
- Keep safety labels in good condition; replace if missing or damaged.

Installation

1. Contact Pentair for any installation-related questions.
2. Provide the owner and/or operator of the equipment with the installation guide after installation or leave it on/near the filter.

Operation and Maintenance

- This manual contains important information for operating and maintaining the filter. Retain it for future reference.
- Read and follow all instructions in this manual and on the equipment.
- Replace worn or damaged parts immediately (e.g., closure, pressure gauge, valve(s), O-rings, etc.).

- Maintain the proper water level in the pool or spa.
- Ensure that the return line to the pool is unobstructed and return valves are open.

Pressure Test

Due to the potential risk involved, it is recommended to keep the pressure test time to a minimum as required by the local code. Take the following precautions:

- Do not allow people to work around the system during the pressure test.
- Post appropriate warning signs and establish a barrier around the pressurized equipment.
- If the equipment is located in an equipment room, lock the door and post a warning sign.

IMPORTANT SAFETY INSTRUCTIONS READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS

Pressurized air can cause the lid to separate from the tank with great force. To reduce the risk of severe injury or death, relieve pressure by opening air relief valve before opening filter. Before starting the pump after servicing, ensure that clamp band is correctly fastened. See Important Warnings and Safety Instructions (page i) and follow all instructions exactly; including the Opening the Filter (page 5), Installing the Filter Lid and Clamp Ring (page 7), and Start-Up Instructions (page 8).

IMPORTANT WARNING AND SAFETY INSTRUCTIONS

Important Notice:

This guide provides installation and operation instructions for this product. Consult Pentair with any questions regarding this equipment.

Attention Installer: This guide contains important information about the installation, operation and safe use of this product. This information should be given to the owner and/or operator of this equipment after installation or left on or near the filter.

Attention User: This manual contains important information that will help you in operating and maintaining this filter. Please retain it for future reference.

READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS

This is the safety alert symbol. When you see this symbol on your system or in this manual, look for one of the following signal words and be alert to the potential for personal injury.

Warns about hazards that can cause death, serious personal injury, or major property damage if ignored.

Warns about hazards that may cause death, serious personal injury, or major property damage if ignored.

Warns about hazards that may or can cause minor personal injury or property damage if ignored.

Indicates special instructions not related to hazards.

Carefully read and follow all safety instructions in this manual and on equipment. Keep safety labels in good condition; replace if missing or damaged.

Before installing this product, read and follow all warning notices and instructions which are included. 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.

Consumer Information and Safety

This filter is designed and manufactured to provide many years of safe and reliable service when installed, operated and maintained according to the information in this manual and the installation codes referred to in later sections. Throughout the manual, safety warnings and cautions are identified by the “ ” symbol. Be sure to read and comply with all of the warnings and cautions.

Do not operate the filter until you have read and understand clearly all the operating instructions and warning messages for all equipment that is a part of the pool circulating system. The following instructions are intended as a guide for initially operating the filter in a general pool installation, however each installation may have unique conditions where the starting procedure could be different. Failure to follow all operating instructions and warning messages can result in severe injury, death, or property damage.

Do not permit children to use this product. Use only a PTFE or silicone based lubricant when lubricating the O-rings on the union and bulkhead

couplings. Use of petroleum based products will damage the equipment. **SYSTEM OPERATES UNDER HIGH PRESSURE.**

When any part of the circulating system, (e.g., closure, pump, filter, valve(s), etc.), is serviced, air can enter the system and become pressurized. Pressurized air can cause the top closure to separate which can result in severe injury, death, or property damage. To avoid this potential hazard, follow these instructions:

1. Let air and pressure out of system before and after servicing.
 1. Shut off pump and RELIEVE PRESSURE by opening the manual air/pressure relief valve before servicing, including before tightening the clamp bolt. Follow the Opening the
 2. Filter instructions exactly (page 5).
 3. Follow Start-Up Instructions exactly after completing service (page 8). The air/pressure relief valve must remain open until water comes out, allowing all air out of the system.
2. Install lid and clamp ring properly.
 1. Follow the Installing the Filter Lid and Clamp Ring instructions exactly (page 7). The nut must be tightened until the spring is compressed when clamp is installed. Tap the clamp with a rubber mallet or similar tool after clamp installation to ensure proper seating.
3. Maintain circulation system properly to help prevent air entering the system.
 1. Replace worn or damaged parts immediately, (e.g., closure, pressure gauge, valve(s), O-rings, etc.).
 2. Maintain proper water level in the pool or spa.
4. Verify that the return line to the pool is unobstructed. Ensure return valves are open and any winterizing plugs are removed.

Due to the potential risk that can be involved it is recommended that the pressure test be kept to the minimum time required by the local code. Do not allow people to work around the system when the circulation system is under pressure test. Post appropriate warning signs and establish a barrier around the pressurized equipment. If the equipment is located in an equipment room, lock the door and post a warning sign.

Never attempt to adjust any closures or lids or attempt to remove or tighten bolts when the system is pressurized. These actions can result in a separation or failure of system components. This instantaneous release of energy can cause components to be accelerated to high velocities and to travel far distances. These components could cause severe personal injury or death if they were to strike a person.

Never exceed the maximum operating pressure of the system components. Exceeding these limits could result in a component failing under pressure. This instantaneous release of energy can cause the closure to separate and could cause severe personal injury or death if they were to strike a person.

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION.

This filter must be installed by a qualified service professional in accordance with the National Electrical Code and all applicable local codes and ordinances. Always disconnect power to the equipment at the circuit breaker before servicing any of the equipment. Ensure that the disconnected circuit is locked out or properly tagged so that it cannot be switched on while you are working on the pool equipment. Failure to do so could result in serious injury or death to serviceman, pool users or others due to electric shock. Position the filter and the air relief valve 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.

This filter is intended for use in swimming pool applications. Most states and local codes regulate the construction, installation, and operation of public pools and spas, and the construction of residential pools and spas. It is important to comply with these codes, many of which directly regulate the installation and use of this

product. Consult your local building and health codes for more information.

SERIOUS BODILY INJURY OR DEATH CAN RESULT IF THIS FILTER IS NOT INSTALLED AND USED CORRECTLY.

INSTALLERS, POOL OPERATORS AND POOL OWNERS MUST READ THESE WARNINGS AND ALL INSTRUCTIONS BEFORE USING THIS FILTER.

HAZARDOUS PRESSURE: STAND CLEAR OF PUMP AND FILTER DURING START UP Circulation systems operate under high pressure. When any part of the circulating system (i.e. clamp ring, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the pump housing cover filter lid and valves to violently separate which can result in severe personal injury or death. Filter tank lid and strainer cover must be properly secured to prevent violent separation. Stand clear of all circulation system equipment when turning on or starting up pump.

Before servicing equipment, make note of the filter pressure. Be sure that all controls are set to ensure the system cannot inadvertently start during service. Turn off all power to the pump.

IMPORTANT: Place filter manual air relief valve in the open position and wait for all pressure in the system to be relieved.

Before starting the system, fully open the manual air relief valve and place all system valves in the “open” position to allow water to flow freely from the tank and back to the tank. Stand clear of all equipment and start the pump.

IMPORTANT: Do not close filter manual air relief valve until all pressure has been discharged from the valve and a steady stream of water appears. Observe filter pressure gauge and be sure it is not higher than the pre-service condition.

For Installation of Electrical Controls at Equipment Pad (ON/OFF Switches, Timers and Automation Load Center) Install all electrical controls at equipment pad, such as on/off switches, timers, and control systems, etc. to allow the operation (startup, shut-down, or servicing) of any pump or filter so the user does not place any portion of his/her body over or near the pump strainer lid, filter lid or valve closures. This installation should allow the user enough space to stand clear of the filter and pump during system start-up, shut down or servicing of the system filter.

The following information should be read carefully since it outlines the proper manner of care and operation for your filter system. As a result of following these instructions and taking the necessary preventative care, you can expect maximum efficiency and life from your filtration system.

General Installation Information

The following information should be read carefully since it outlines the proper manner of care and operation for your filter system.

You can expect maximum efficiency and life from your filtration system by following these instructions and taking the necessary preventative care.

- Have a trained pool professional perform all pressure tests.
- Do not connect the system to a high pressure or city water system.
- Trapped air in the system can create a hazardous condition. BE SURE to purge all air from the system before operating or testing equipment.
- DO NOT pressure test with compressed air!
- Piping must conform to local/state plumbing and sanitary codes.
- Support piping independently to prevent strains on filter or valve.
- Fittings restrict flow; for best efficiency, use the fewest possible fittings.
- A check valve installed ahead of the filter inlet will prevent contaminants from draining back into the pool.
- A check valve installed between the filter and heater will prevent hot water from backing up into the filter and deforming the internal components.
- All wiring, grounding and bonding of associated equipment must meet local and/or National Electrical Code standards.

IMPORTANT: Keep all warning labels in good condition. If any warnings labels are damaged, missing, or become illegible call Pentair Customer Service at 1-800-831-7133 and request replacement labeling.

SAVE THESE INSTRUCTIONS

CUSTOMER SERVICE / TECHNICAL SUPPORT

If you have questions about ordering Pentair replacement parts, and pool products, please contact:
Customer Service and Technical Support, USA (8 A.M. to 4:30 P.M. — Eastern/Pacific Times)

Phone: (800) 831-7133

Fax: (800) 284-4151

Web site

Visit www.pentair.com for information about Pentair products.

Sanford, North Carolina (8 A.M. to 4:30 P.M. ET)

Phone: (919) 566-8000

Fax: (919) 566-8920

Moorpark, California (8 A.M. to 4:30 P.M. PT)

Phone: (805) 553-5000 (Ext. 5591)

Fax: (805) 553-5515

GENERAL INFORMATION

THIS SYSTEM OPERATES UNDER HIGH PRESSURE.

When any part of the circulating system (e.g., Clamp Ring, Pump, Filter, Valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid to separate which can result in serious injury, death, or property damage. To avoid this potential hazard, follow the instructions below.

Filter Overview

- Curved filter grid elements maximize filtration area; internal design minimizes flow restrictions.
- FullFloXF® F-Series Vertical Gird D.E. Filter captures microscopic impurities like dirt, algae, and some forms of bacteria.
- Full 2-1/2" x 3" bulkhead unions for improved hydraulic efficiency and easy piping installation.
- HiFlow™ Manual Air Relief Valve for rapid air release.
- Conveniently located 2" drain for easy and complete draining.

General Operation Information

Read and follow all instructions and warnings before installing or servicing your filter. Proper installation and operation can prevent unnecessary repairs and maintenance.

Your filter is a piece of machinery, do not tamper with it, attempt to disassemble it or otherwise adjust it unless you fully understand it's operation. Serious injury or death can occur if the equipment is improperly handled. Consult a pool service professional for maintenance and service assistance.

1. This filter operates under pressure. When clamped properly and operated without air in the water system, this filter will operate in a safe manner.
2. The maximum working pressure of this filter is 50 psi. Never subject this filter to pressure in excess of this amount – even when conducting hydrostatic pressure tests.
3. Ensure the maximum working pressure of the filter system does not exceed the maximum working pressure of any components within the system during hydrostatic or external leak tests. Consult the maximum pressure stated on each component of the system.
4. The pressure gauge is the primary indicator of how the filter is operating. Maintain your pressure gauge in

good working order (refer to Maintaining the Pressure Gauge).

5. If filter operates without diatomaceous earth (D.E.) for more than three minutes, filter elements may be damaged.

Maintaining the Pressure Gauge

The pressure gauge is the primary indicator of how the system operates. It is critical to keep the pressure gauge in good condition.

Replace pressure gauge (P/N 190058) if any of the requirements below are not met:

1. Pressure gauge at zero (0) when pressure is relieved and system is turned off.
2. Pressure gauge reads correctly while system is in operation.
3. The pressure gauge is readable and not damaged in any way.

Pressure Tests

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.

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 set to the lowest working pressure of all of the components in the system.

INSTALLATION

The following information describes how to install the FullFloXF® F-Series Vertical Grid D.E. Filter. Only a qualified service person should install this filter.

Note: Before installing this product, read and follow all warning notices and instructions on pages i-ii.

Filter Location

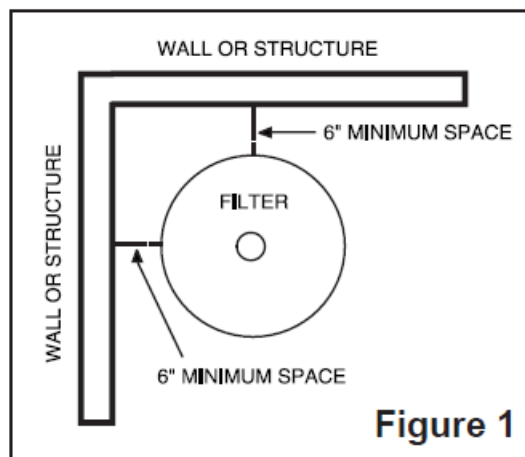
1. The filter should be mounted on a level concrete slab. Position the filter so that instructions, warnings and the pressure gauge are visible to the operator.
2. Position the filter so that the piping connections, control valve and drain port are convenient and accessible for servicing and winterizing.
3. Install electrical controls (e.g., on/off switches, timers, control systems, etc.) at least 5 ft. (1.5 m) from the filter. This will allow you enough room to stand clear of the filter during system start up.
4. Allow sufficient clearance around the filter to permit visual verification that the clamp ring is properly installed around the tank flanges, see Figure 1. Note: Refer to the page 7 for instructions on properly installing the clamp ring.
5. Allow 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.
6. Position the filter to safely direct water drainage. Rotate the HiFlow™ Manual Air Relief Valve to safely direct purged air or water. Water discharged from an improperly positioned filter or valve can create an electrical hazard as well as damage property.

RISK OF ELECTRICAL SHOCK OR ELECTROCUTION. Position the filter and manual air relief valve 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.

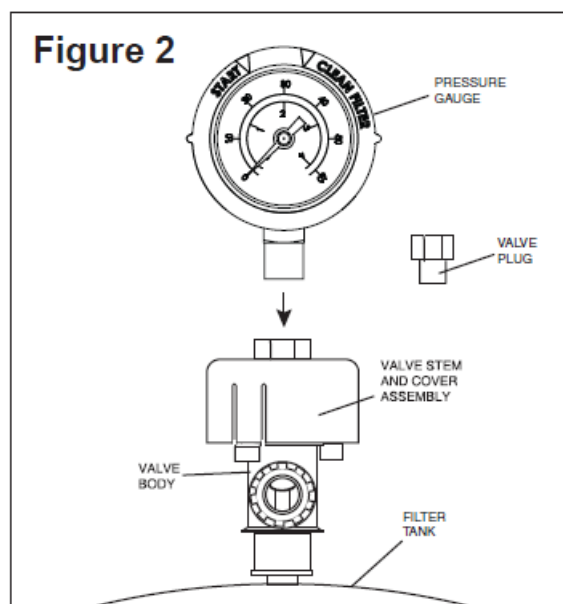
7. Install the manual air relief valve and pressure gauge before use. See Installing the Manual Air Relief Valve on the next page.

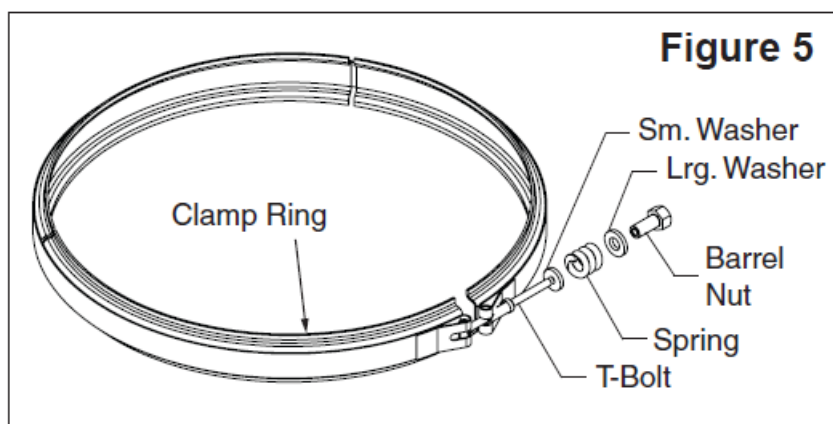
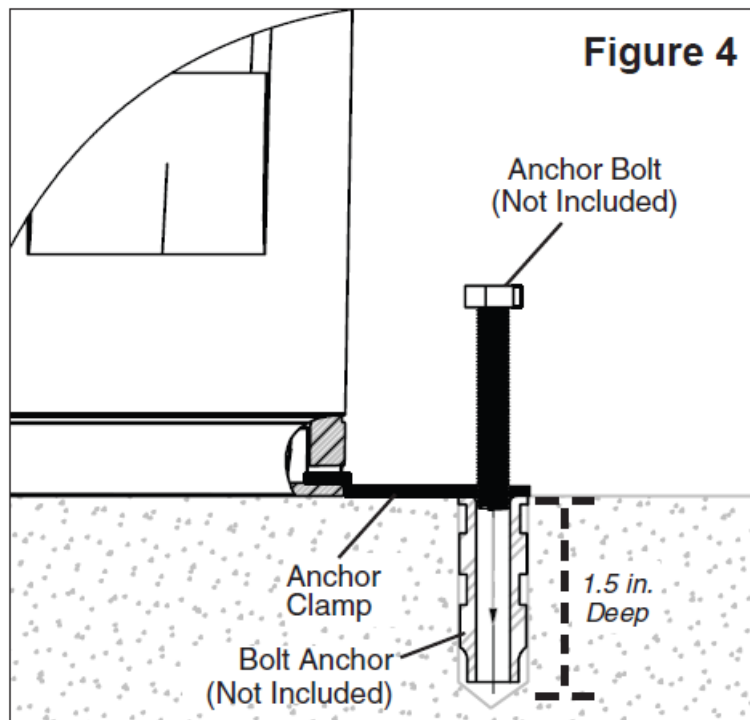
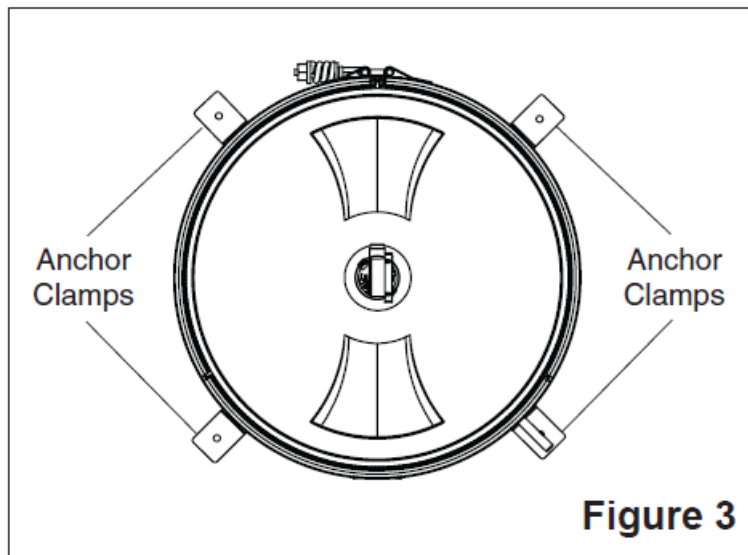
Filter Plumbing

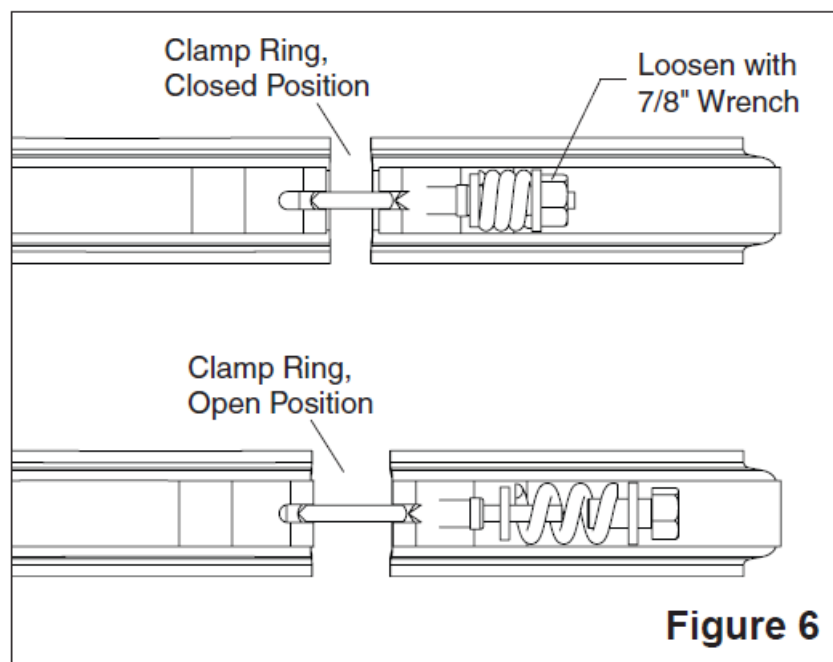
1. Make all plumbing connections in accordance with local plumbing and building codes. Check local codes for restrictions on backwash to waste piping, separation tank requirements and spent D.E. disposal requirements.
2. Filter plumbing connections are provided with an O- ring seal. To avoid damage to the O-rings, use only a silicone base lubricant on the O-rings. Do not use pipe joint compound, glue or solvent on the bulkhead connections.



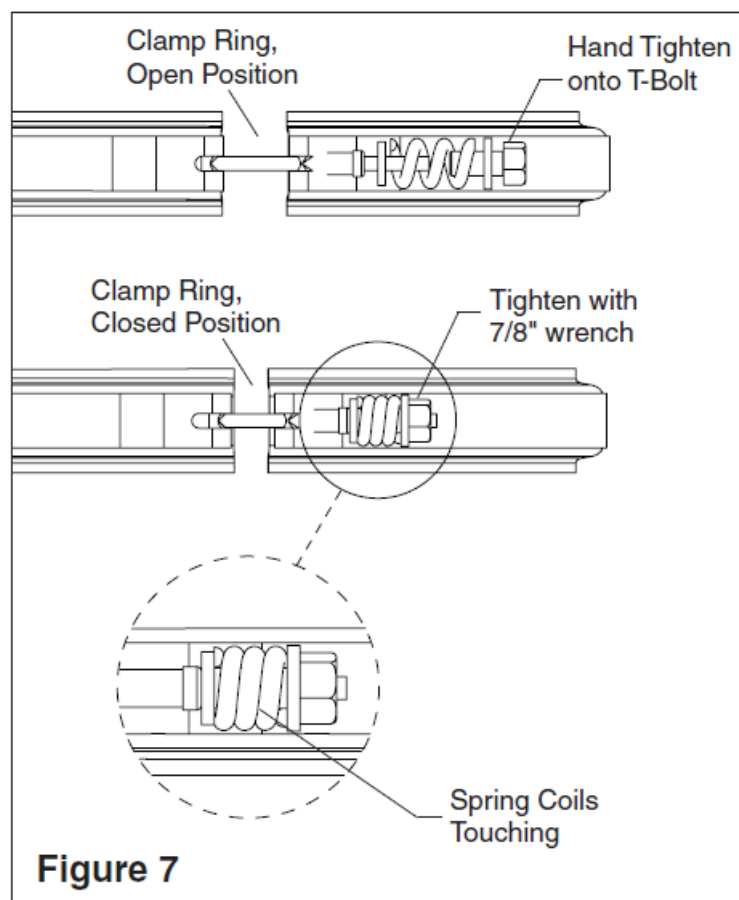
| Table 1 | | | |
|---------|--------|------------|-----------------------------|
| Model | P/N | Size | Vertical Clearance Required |
| F48 | 188619 | 48 sq. ft. | 65 in. |
| F60 | 188620 | 60 sq. ft. | 80 in. |
| F72 | 188621 | 72 sq. ft. | 80 in. |







| Table 2 | | |
|--------------------------|-------------------|----------------------------|
| Filter Area (sq. ft.) | Weight of D.E. | No. of 1lb. Coffee Cans |
| 48 | 4.8 lbs. | 10 |
| 60 | 6.0 lbs. | 12 |
| 72 | 7.2 lbs. | 14 |



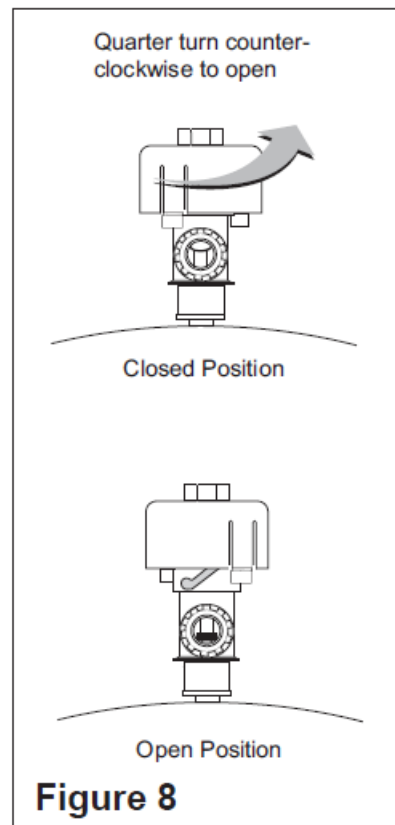
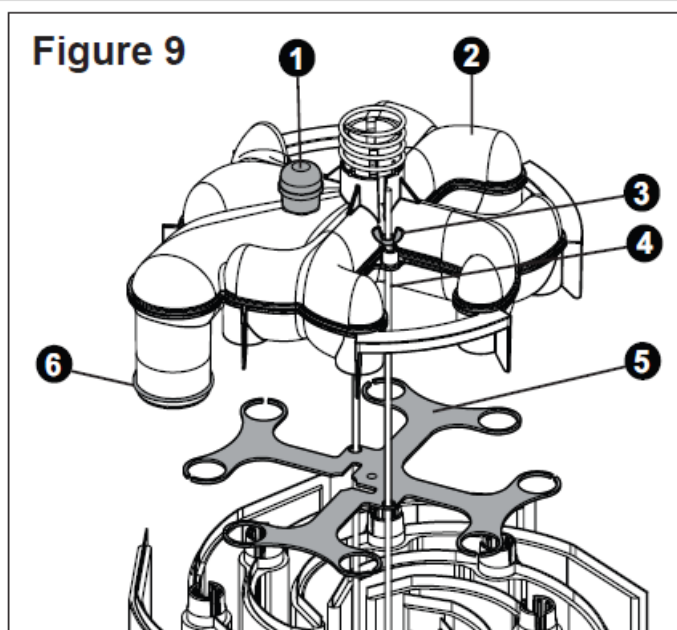


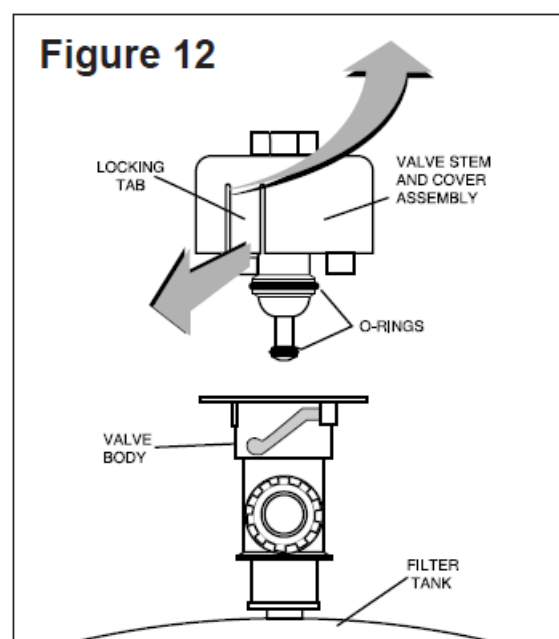
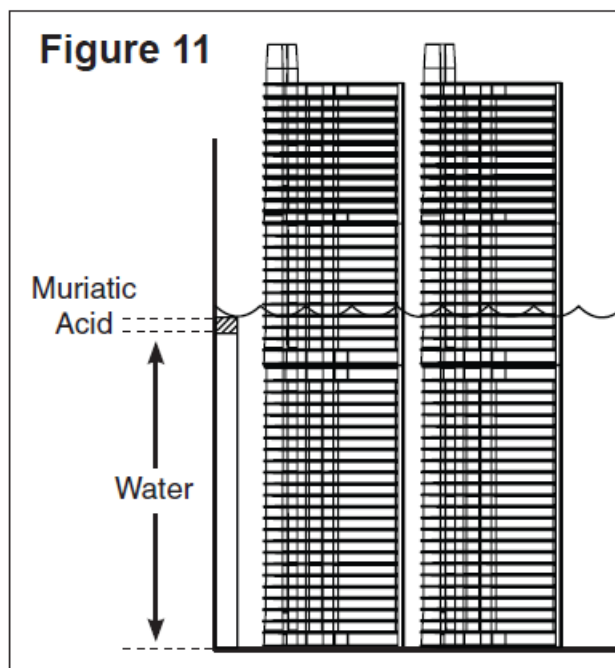
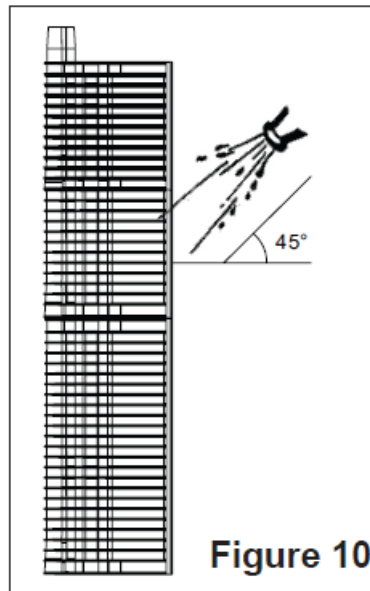
Table 3

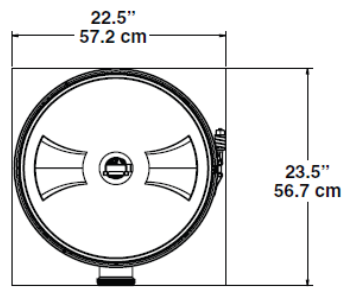
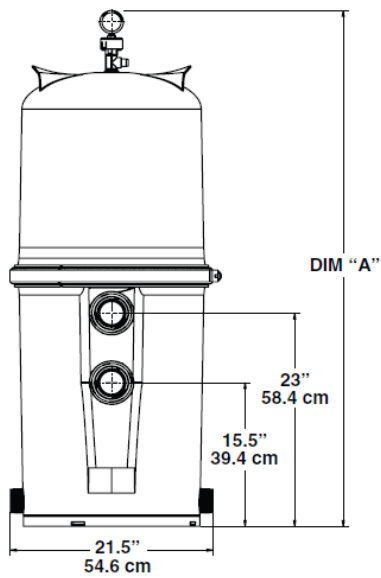
ORIGINAL STARTING PRESSURE IS: _____ psi.
(pounds per square inch)

SERVICE THE MEDIAAT: _____ psi.

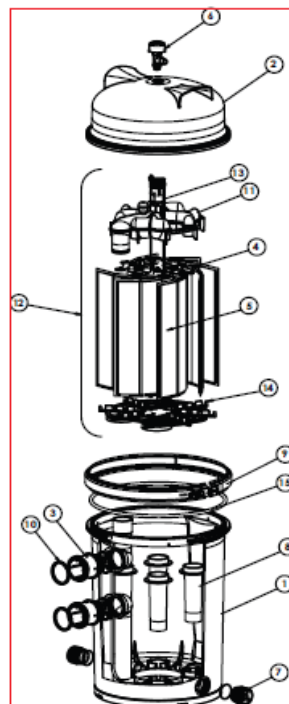
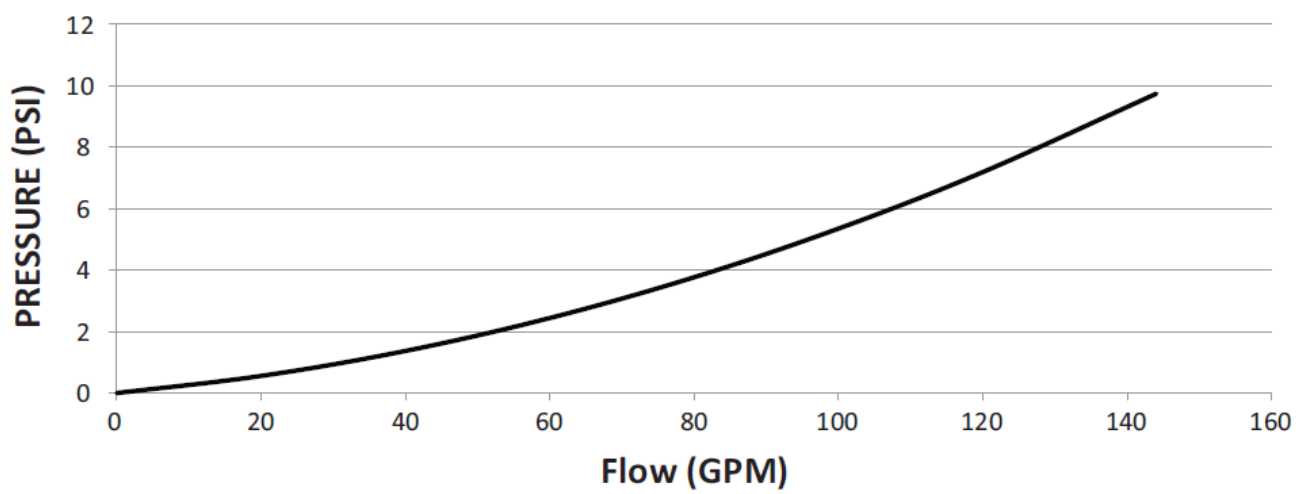
ORIGINAL PUMP RPM: _____ rpm.
(for Variable Speed Pumps Only)








| MODEL | DIM "A" |
|-------|------------------|
| F48 | 42.6" (108.2 cm) |
| F60 | 55.6" (141.2 cm) |
| F72 | 55.6" (141.2 cm) |





P/N 198286 REV. A 2/3/21

Documents / Resources

| | |
|---|---|
|  | <p>PENTAIR FullFloXF F Series Vertical Grid D.E.Filter [pdf] Installation Guide 188625, FullFloXF F Series Vertical Grid D.E. Filter, FullFloXF F Series, FullFloXF, FullFloXF Vertical Grid D.E. Filter, Vertical Grid D.E. Filter, Vertical Grid, D.E. Filter, Filter</p> |
|---|---|

References

-  [Pentair](#)