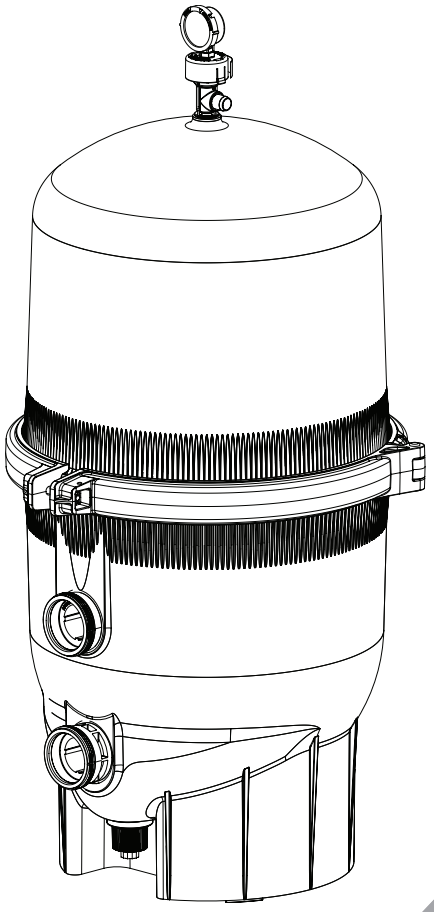
PENTAIR POOL

# CLEAN AND CLEAR® PLUS
## CARTRIDGE FILTER

# INSTALLATION AND USER'S GUIDE



IMPORTANT SAFETY INSTRUCTIONS
READ AND FOLLOW ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

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# CUSTOMER SERVICE / TECHNICAL SUPPORT

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**Call:** (800) 831-7133

**Visit:** www.pentair.com

**Fax:** (800) 284-4151

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# IMPORTANT SAFETY INSTRUCTIONS

This guide provides important information that helps ensure proper and safe installation, operation, and maintenance of this equipment. If there are any concerns or questions about tasks described in this manual, consult Pentair or a qualified professional.

**ATTENTION INSTALLER!** Ensure this guide is given to the pool owner and/or operator after installation.

**ATTENTION USER!** Retain this guide for future reference.

Call (800) 831-7133 for additional free copies of these instructions or product labels. Refer to www.pentair.com for more information.

## READ AND FOLLOW ALL INSTRUCTIONS SAVE THESE INSTRUCTIONS

This is the safety alert symbol. When you see this symbol in this guide or on the product itself, note the related signal word and be aware of the potential for personal injury.

**DANGER** Warns of hazards, that if ignored, will result in death or serious injury.

**WARNING** Warns of hazards, that if ignored, could result in death or serious injury.

**CAUTION** Warns of hazards, that if ignored, could result in minor or moderate injury.

***NOTICE*** Indicates information, that if ignored, could result in property damage.

Carefully read and follow all instructions in this guide or displayed on the equipment. Ensure all product labels are kept in good condition and replace missing or damaged labels immediately.

**WARNING** FAILURE TO FOLLOW ALL INSTRUCTIONS AND WARNINGS COULD RESULT IN DEATH OR SERIOUS INJURY. **INSTALLERS, OPERATORS, AND OWNERS MUST READ AND UNDERSTAND ALL WARNINGS AND INSTRUCTIONS BEFORE OPERATING OR SERVICING THE FILTER.**

**WARNING** This filter must be installed by a qualified professional in accordance with all applicable codes and ordinances. Improper installation could result in death, serious injury, or property damage.

**WARNING** Do not permit children to use this equipment.

**WARNING** **TRAPPED AIR CAN LAUNCH THE LID WITH DEADLY FORCE!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, and/or property damage.

**To avoid this potential hazard:**

1. Before servicing the filter FOLLOW FILTER DISASSEMBLY INSTRUCTIONS EXACTLY.
2. When installing the filter clamp FOLLOW FILTER REASSEMBLY INSTRUCTIONS EXACTLY.
3. After servicing is complete FOLLOW STARTUP INSTRUCTIONS EXACTLY.
4. NEVER attempt to adjust or tighten the clamp while the system is pressurized or the filter pump is on.
5. Maintain filtration system properly. Replace worn or damaged parts immediately.

**WARNING** The filter air relief valve and pressure gauge are critical for ensuring safe operation of the equipment. Failure to properly maintain these components could result in death or serious injury.

**WARNING** Never exceed the maximum operating pressure of any filtration system component. Exceeding these limits could result in a component failing under pressure, and could result in death, serious injury, or property damage.

**WARNING** It is recommended that pressure tests be kept to the minimum time required by local codes. Stand clear of the filter during pressure testing. Post appropriate warning signs and establish a barrier around the pressurized equipment. Failure to take these precautions could result in death, serious injury, or property damage.

**WARNING** If using compressed air to winterize the filtration system, ensure the filter air relief valve is open before servicing to prevent violent lid separation and possible death or serious injury.

# IMPORTANT SAFETY INSTRUCTIONS

**⚠WARNING**

Install all system controls (ON/OFF Switches, Timers, Automation Controllers, Valves) so that the system may be serviced and started without placing any portion of the body over or near the pump strainer lid, filter lid, or valve closures. Failure to follow these instructions could result in death or serious injury.

**⚠WARNING**

Always disconnect power to the equipment at the circuit breaker before servicing this equipment. Ensure the disconnected circuit is locked out or properly tagged so that it cannot be activated during servicing. Failure to do so could result in death or serious injury.

**⚠WARNING**

Position the filter and filter air relief valve so that purged water is directed away from electrical outlets, circuit breakers, and/or other electrically powered systems. Water discharged from an improperly positioned filter or valve can create an electrical hazard that could result in death, serious injury, or property damage.

# GENERAL INFORMATION

## GENERAL OPERATION

Read and follow all instructions and warnings before installing or servicing this filter. Proper installation and operation can prevent unnecessary maintenance and prolong the life of the filter and filter components.

**⚠WARNING**

**NEVER attempt to adjust or tighten the clamp while the system is pressurized or the filter pump is on.** Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage.

1. The filter operates under pressure and operates in a safe manner if clamped properly and without air in the circulating system.
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. Be sure the maximum pressure of the filter system does not exceed the maximum 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.
5. **Clean your filter when pressure reads approximately 10 psi higher than the "Original Starting Pressure," or when significant reduction in flow is noticed**. The pressure reading increases as it filters dirt from your pool. This build up of pressure will vary due to different bathing loads, temperature, environmental conditions, etc.

   ***Note:*** When using a variable speed pump the "Original Starting Pressure" will be dependent on the pump speed (RPM) when recording the original operating pressure. Record the "Original Pump RPM" in **TABLE 2, page 6**.

## PRESSURE TESTS

Filtration system pressure tests should only be performed by a qualified professional.

The maximum working pressure of this filter is 50 psi [3.5 bar].

**⚠WARNING**

Never exceed the maximum operating pressure of any filtration system component. Exceeding these limits could result in a component failing under pressure, and could result in death, serious injury, or property damage.

**⚠WARNING**

It is recommended that pressure tests be kept to the minimum time required by local codes. Stand clear of the filter during pressure testing. Post appropriate warning signs and establish a barrier around the pressurized equipment. Failure to take these precautions could result in death, serious injury, or property damage.

# INSTALLATION

This filter is intended for use in swimming pool applications only. Most state and local codes regulate the construction, installation, and operation of public pools and spas, and the construction of residential pools and spas. Consult your local building and health codes for more information.

**⚠WARNING** This filter must be installed by a qualified professional in accordance with all applicable codes and ordinances. Improper installation could result in death, serious injury, or property damage.

**⚠WARNING** Install all system controls (ON/OFF Switches, Timers, Automation Controllers, Valves) so that the system may be serviced and started without placing any portion of the body over or near the pump strainer lid, filter lid, or valve closures. Failure to follow these instructions could result in death or serious injury.

## INSTALL LOCATION

1. Mount the filter on a level concrete slab.
2. Position the filter so that safety labels and pressure gauge are visible and easy to read.
3. Position the filter so that plumbing connections, control valve, and drain port are easily accessible.
4. Install system controls in a way that allows the user to stand clear of the filter during system startup.
5. Allow sufficient clearance around the filter for regular inspection of filter clamp tension and positioning. Refer to **FIGURE 1**.
6. Allow sufficient clearance above the filter to remove the filter lid. Refer to **TABLE 1**.
7. Position the filter and filter air relief valve so that purged air and water is directed away from electrical outlets, circuit breakers, or other electrically powered systems.

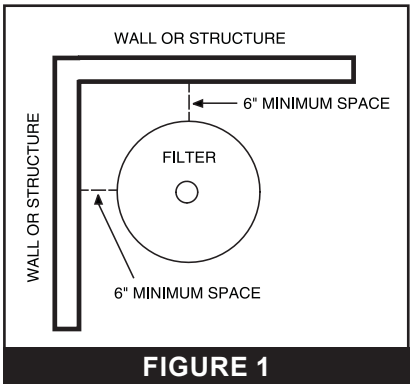



**FIGURE 1**

| MODEL | REQUIRED VERTICAL CLEARANCE |
|---|---|
| CCP320 | 62 in. [158 cm] |
| CCP420 | 68 in. [173 cm] |
| CCP520 | 74 in. [188 cm] |

**TABLE 1**

**⚠WARNING**

Position the filter and filter air relief valve so that purged water is directed away from electrical outlets, circuit breakers, or other electrically powered systems. Water discharged from an improperly positioned filter or valve can create an electrical hazard that could result in death, serious injury, or property damage.

8. A check valve ahead of the filter will prevent contaminants from draining back into the pool.
9. A check valve between the filter and heater will prevent hot water from draining back into the filter and deforming internal filter components.

## PLUMBING REQUIREMENTS

1. Plumbing connections must conform to all applicable codes and ordinances.
2. Refer to local codes and ordinances for backwash requirements.
3. Mechanically support piping to prevent strains on filter or valve.
4. Use only PTFE or silicone based lubricant when lubricating O-rings and seals. Use of petroleum based products will damage the equipment.
5. Fittings restrict flow. Use as few fittings as possible.
6. Do not connect the system to a high pressure or city water system.

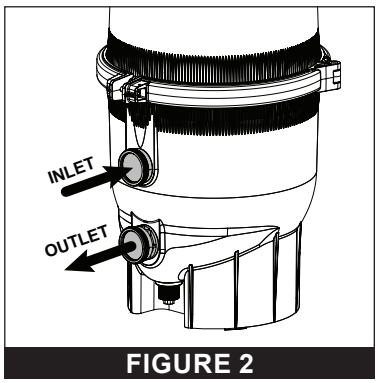



FIGURE 2

## INSTALLING THE FILTER AIR RELIEF VALVE

**⚠WARNING**

Position the filter and filter air relief valve so that purged water is directed away from electrical outlets, circuit breakers, or other electrically powered systems. Water discharged from an improperly positioned filter or valve can create an electrical hazard that could result in death, serious injury, or property damage.

**⚠WARNING**

The filter air relief valve and pressure gauge are critical for ensuring safe operation of the equipment. Failure to properly maintain these components could result in death or serious injury.

1. Remove the Air Relief Valve and Pressure Gauge from the accessories pack included with the filter.
2. Ensure the valve O-ring is installed onto the bottom of the air relief valve.
3. Using a 9/16-inch wrench, remove the plug from the top of the air relief valve.
4. Wrap the threads of the pressure gauge with two full rounds of thread tape.
5. Thread the pressure gauge into the top of the air relief valve hand tight.
6. Follow *Startup Instructions, page 6* exactly.

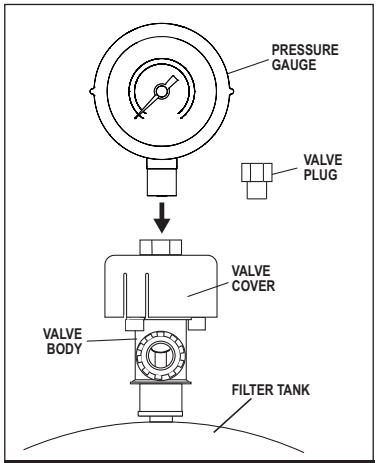



FIGURE 3

# MAINTENANCE

Pentair recommends maintenance be performed by a qualified professional.

**⚠WARNING** **BEFORE SERVICING THE FILTER, THE USER MUST READ AND UNDERSTAND ALL MAINTENANCE AND SAFETY INSTRUCTIONS.** FAILURE TO FOLLOW THESE INSTRUCTIONS COULD RESULT IN DEATH OR SERIOUS INJURY.

**Scan the QR code for a detailed servicing video.**

## DISASSEMBLING THE FILTER

**⚠WARNING** **TRAPPED AIR CAN LAUNCH THE LID WITH DEADLY FORCE!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage. FOLLOW FILTER DISASSEMBLY INSTRUCTIONS EXACTLY.

1. **BEFORE DISASSEMBLING THE FILTER:**
   a. Disconnect power to the pump and any automatic controls at the circuit breaker;
   b. Turn the top portion of the filter air relief valve 1/4 turn counter-clockwise until it snaps into the OPEN position (**FIGURE** ▭);
   c. Stand clear of the filter and wait until all pressure is relieved. **Pressure gauge must read zero (0) psi**.
2. Close suction and return lines.
3. Remove the drain plug from the bottom of the filter and allow the tank to drain.
4. While holding the clamp ends together, use a 3/4-inch socket and wrench to remove the clamp nut counterclockwise. Refer to **FIGURE 5**.

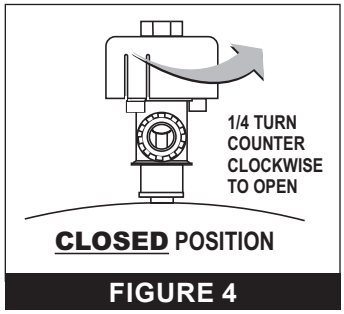


FIGURE 4

**⚠CAUTION** Hold the clamp halves securely in place while removing the clamp nut. This helps prevent the decompressed clamp from sliding off the tank flanges and damaging plumbing.

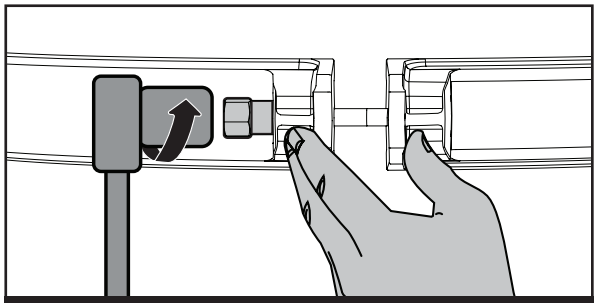


FIGURE 5

5. Remove the clamp ring from the filter and place it aside.
6. Carefully remove the filter lid.

**⚠WARNING** DO NOT lift the lid by the air relief valve. This may damage the valve and could result in death or serious injury.

***Note:*** If the lid is tightly sealed to the filter base gently shift the filter lid side to side to separate the tank halves. **DO NOT use tools to break the seal. This could damage the tank O-ring.**

7. Place aside the filter lid and tank O-ring in a safe place where they will not be damaged while performing maintenance.

# REASSEMBLING THE FILTER

**⚠WARNING** **TRAPPED AIR CAN LAUNCH THE LID WITH DEADLY FORCE!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage. FOLLOW FILTER REASSEMBLY INSTRUCTIONS EXACTLY.

1. Verify power to the pump and any automatic controls is disconnected at the circuit breaker.
2. Ensure the tank O-ring is clean and undamaged, then seat it along the flange of the filter base.
3. Place the filter lid onto the filter base and verify the O-ring is not pinched between the filter lid and base.

   **⚠WARNING** DO NOT lift the lid by the air relief valve. This may damage the valve and could result in death or serious injury.

4. Position the clamp ring over both the upper and lower tank flanges, then bring the ends of the clamp together.
5. While compressing the clamp with a pair of *Tongue-and-Groove Pliers (1)*, start the *Clamp Nut (2)* by hand. Refer to **FIGURE 6**.
6. Use a *3/4-inch Socket and Wrench (3)* to tighten the *Clamp Nut (4)* between 16 and 18 ft-lbs. [22-24 Nm]. Refer to **FIGURE 7**.
7. Verify the gap between the ends of the clamp is between 1/2-inch and 3/4-inch [13-19 mm]. Refer to **FIGURE 7**.

   **⚠WARNING** **The filter clamp must be fully tightened, according the instructions above, to prevent the lid from launching with deadly force during system restart.**

8. Reinstall the drain plug.
9. Follow *Startup Instructions, page 6* exactly.

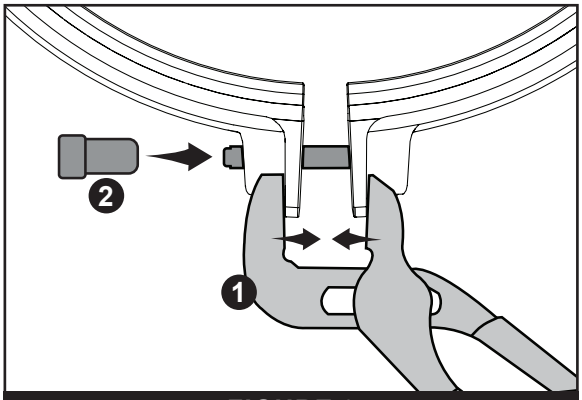



**FIGURE 6**

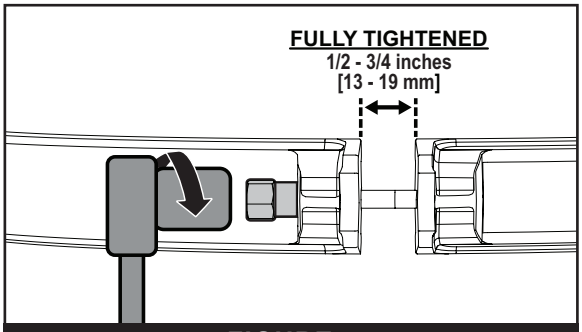



**FIGURE 7**

# STARTUP INSTRUCTIONS

**⚠WARNING**

**TRAPPED AIR CAN LAUNCH THE LID WITH DEADLY FORCE!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage. FOLLOW STARTUP INSTRUCTIONS EXACTLY.

1. **BEFORE STARTING THE PUMP, CONFIRM THE FOLLOWING:**
   a. Gap between the ends of the clamp is between a 1/2-inch and 3/4-inch [13-19 mm];
   b. Filter air relief valve is open.
   If not, turn the top portion of the filter air relief valve 1/4 turn counter-clockwise until it snaps into the OPEN position (**FIGURE 8**).
   c. Suction and return lines are open.
2. Reestablish power to the pump and any automatic controls at the circuit breaker.
3. Stand clear of the filter, then start the pump.
4. Verify proper operation. The system is not operating properly if:
   a. A solid stream of water does not appear from the valve within approximately 30 seconds of pump prime.
   b. Water leaks from under the clamp.
   c. Pressure gauge indicates pressure before water flows from the valve.

   ***IMPORTANT!*** If any of these conditions exist, immediately disconnect power to pump and any automatic controls. NEVER ATTEMPT TO ADJUST CLAMP WHILE PUMP IS RECEIVING POWER!
5. After proper operation is ensured, turn the top portion of the filter air relief valve 1/4 turn clockwise until it snaps into the CLOSED position (**FIGURE 9**).
6. The first time the system is started, record the following information in **TABLE 2**:
   a. Original Starting Pressure
   b. Pressure at which the filter should be cleaned/serviced. This is approximately 10 psi [0.7 bar] higher than the "Original Starting Pressure".
   c. If the system includes a variable speed pump, record Original Pump RPM at startup.

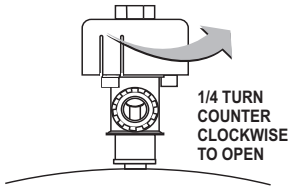



**FIGURE 8**

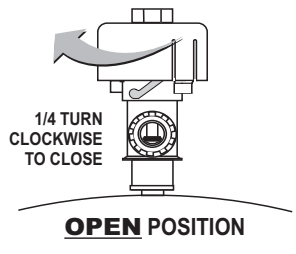



**FIGURE 9**

ORIGINAL STARTING PRESSURE IS: _____ psi/bar.

SERVICE THE CARTRIDGES AT: _____ psi/bar.

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

**TABLE 2**

# MANUALLY CLEANING CARTRIDGES

Filter cartridges may require manual cleaning when pressure remains high after backwashing, or when winterizing your filter.

**⚠WARNING**

**Trapped air can launch the lid with deadly force!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage. To avoid this potential hazard:

1. Before servicing the filter FOLLOW FILTER DISASSEMBLY INSTRUCTIONS EXACTLY.
2. When installing the filter clamp FOLLOW FILTER REASSEMBLY INSTRUCTIONS EXACTLY.
3. After servicing is complete FOLLOW STARTUP INSTRUCTIONS EXACTLY.
4. NEVER attempt to adjust or tighten the clamp while the system is pressurized or the filter pump is on.
5. Maintain filtration system properly. Replace worn or damaged parts immediately.

### TO MANUALLY CLEAN THE FILTER CARTRIDGES:

1. Follow *Disassembling the Filter, page 4* exactly.
2. Remove the Compression Spring/Adapter from the Top Manifold. Refer to **FIGURE 10**.
3. Remove the Top Manifold (**FIGURE 10**) from the filter cartridges and lay the manifold aside.
4. Carefully remove each cartridge.
5. Using a garden hose with a straight flow nozzle, hold the nozzle at a 45-degree angle to the cartridge and wash the entire cartridge from top to bottom. Refer to **FIGURE 11**.

   ***Note:*** Pay special attention to the area between pleats.

   ***Note:*** If mineral buildup is present on the cartridges, they may require acid soaking. Refer to *Acid Soaking the Filter Cartridges, page 8* for instructions.
6. Wash out the inside of the filter tank and bottom manifold. Water and debris will drain out through the drain plug.
7. Inspect the O-ring around the edge of the filter flange. The O-ring must be clean and be evenly seated around the entirety of the filter flange.
8. Reinstall the bottom manifold, cartridges, and top manifold, ensuring the spring and standpipe assembly are retained on the top manifold.
9. Follow *Reassembling the Filter, page 5* exactly.

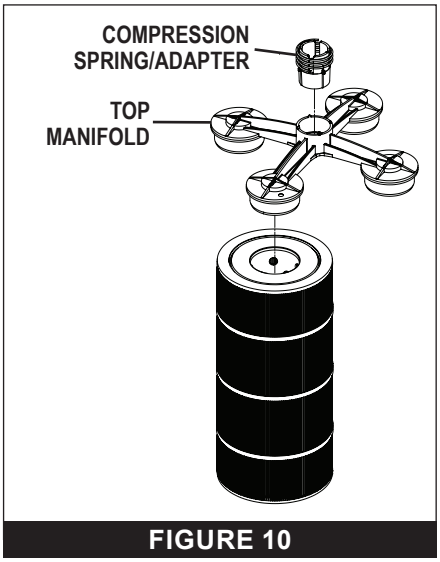



**FIGURE 10**

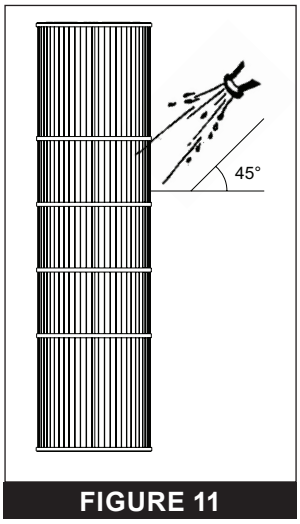



**FIGURE 11**

# ACID SOAKING THE FILTER CARTRIDGES

After prolonged operation, filter cartridges may need to be soaked in an acid solution. Acid soaking is intended to remove algae, calcium carbonate, iron, and other mineral build-ups from the cartridges. If not removed, these mineral deposits can restrict flow through the cartridges and decrease filter efficiency and performance.

**⚠WARNING**

**Muriatic acid is corrosive and can lead to skin inflammation or burns.**

**ALWAYS** wear proper personal protective equipment when handling acid to prevent serious injury.

**NOTICE** To prevent degradation of the acid by UV light, store muriatic acid in an opaque container and away from direct sunlight.

**REQUIRED TOOLS:**

- Large Plastic Container
- Garden Hose with a Straight Flow Nozzle
- Muriatic Acid
- Rubber Gloves
- Safety Glasses
- N-95 Dust Mask

**PROCEDURE:**

1. Remove all oils and cleaning agents from the cartridges.

   **NOTICE** Acid soaking before removing oils or cleaning agents could result in premature cartridge failure.

2. Put on protective equipment - rubber gloves, safety glasses and N-95 dust mask.
3. In a large plastic container, create a solution of one part muriatic acid to twenty parts water. See **FIGURE 12**.

   **⚠WARNING** Introduce the muriatic acid as close to the water surface as possible. This will minimize splash back and reduce the risk of serious injury.

4. Gently place the bottom of the cartridges into the acid solution.
5. Allow the cartridges to soak in the solution for 10 minutes, or until bubbling stops.
6. Flip the cartridges and gently place the top halves into the solution.
7. Allow the top halves of the cartridges to soak for 10 minutes, or until bubbling stops.

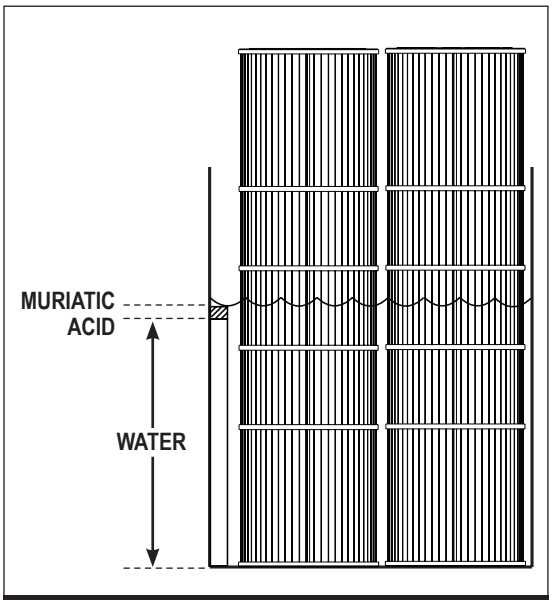



**FIGURE 12**

8. Carefully remove the cartridges from the acid solution.
9. Using a garden hose with a straight flow nozzle, hold the nozzle at a 45-degree angle to the cartridge and wash the entire cartridge from top to bottom. See **FIGURE 11**, page 7.

   ***Note:*** Pay special attention to the area between pleats.

10. Dispose of the acid solution in accordance with all applicable codes and ordinances.
11. Wash out the inside of the filter tank and bottom manifold. Water and debris will drain out through the drain plug.
12. Inspect the O-ring around the edge of the filter flange. The O-ring must be clean and be evenly seated around the entirety of the filter flange.
13. Reinstall the bottom manifold, cartridges, and top manifold, ensuring the spring and standpipe assembly are retained on the top manifold.
14. Follow *Reassembling the Filter, page 5* exactly.

## MAINTAINING THE PRESSURE GAUGE

**⚠WARNING** The filter air relief valve and pressure gauge are critical for ensuring safe operation of the equipment. Failure to properly maintain these components could result in death or serious injury.

**Replace pressure gauge if any of the following conditions exist:**

1. Pressure gauge does not read zero (0) psi when pressure is relieved and system is turned off.
2. Pressure gauge does not read correctly while system is operating.
3. Pressure gauge is difficult to read or damaged in any way.

## CLEANING THE FILTER AIR RELIEF VALVE

**⚠WARNING** The filter air relief valve and pressure gauge are critical for ensuring safe operation of the equipment. Failure to properly maintain these components could result in death or serious injury.

1. **Shut off pump and relieve all pressure from the filtration system.**
   a. Shut off power to the pump and any automatic controls at the circuit breaker.
   b. Open the filter air relief valve by turning the top of the valve 1/4 turn counterclockwise until it snaps into the full open position.
   c. Stand clear of the filter and wait until all pressure is relieved. **Pressure gauge must read zero (0) psi**.
2. With the air relief valve installed, pull out the locking tabs and unlock the valve stem and cover assembly from the valve body counter-clockwise (**FIGURE 13**).
3. Pull the valve stem and cover assembly away from the valve body.
4. Clean and check the valve stem and body:
   a. Remove any debris.
   b. Ensure the air passage is open by inserting a 5/16-inch drill bit through the valve body.
   c. Ensure the valve stem O-rings are in good condition, properly positioned, and lubricated with a silicone-based lubricant.

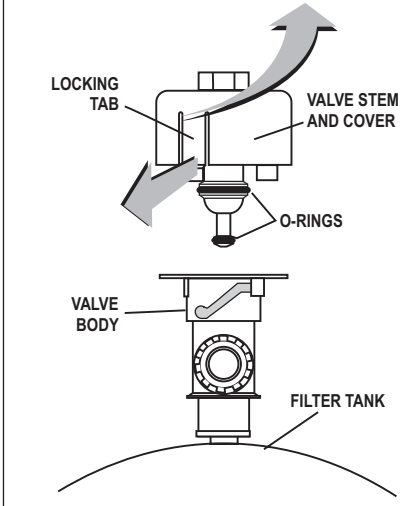



**FIGURE 13**

**NOTICE** Use only PTFE or silicone based lubricant when lubricating O-rings and seals. Use of petroleum based products will damage the equipment.

5. Reinstall the valve stem and cover assembly by pressing downwards and turning clockwise until it snaps into position on the valve body.

## WINTERIZING THE SYSTEM

In milder climates, when temporary freezing conditions may occur, ensure the filtration system operates continuously until freezing conditions are no longer a concern.

If prolonged freezing conditions are expected, the filter should be fully drained and cartridges should be removed. Follow the steps below to properly winterize the filter.

1. Follow instructions given in *Disassembling the Filter, page 4* exactly.
2. Follow the instructions given in *Manually Cleaning Cartridges, page 7.*
3. Store the cartridges and drain plug in a location where they will be protected from freezing conditions.
4. Follow the instructions given in *Reassembling the Filter, page 5*.

**⚠WARNING** If using compressed air to winterize the filtration system, ensure the filter air relief valve is open before servicing to prevent violent lid separation and possible death or serious injury.

# TROUBLESHOOTING

**⚠WARNING** **Trapped air can launch the lid with deadly force!** When any part of the filtration system is serviced, air can enter the system and become trapped. Trapped air can cause the filter lid to violently separate from the filter base, and could result in death, serious injury, or property damage. To avoid this potential hazard:

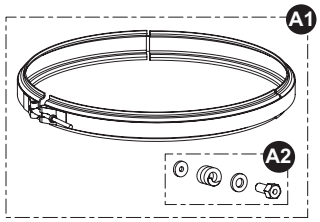
1. Before servicing the filter FOLLOW FILTER DISASSEMBLY INSTRUCTIONS EXACTLY.
2. When installing the filter clamp FOLLOW FILTER REASSEMBLY INSTRUCTIONS EXACTLY.
3. After servicing is complete FOLLOW STARTUP INSTRUCTIONS EXACTLY.
4. NEVER attempt to adjust or tighten the clamp while the system is pressurized or the filter pump is on.
5. Maintain filtration system properly. Replace worn or damaged parts immediately.

| PROBLEM | POSSIBLE CAUSE | CORRECTIVE ACTIONS |
|---|---|---|
| **FILTER LEAKS DURING STARTUP** | Tank O-ring pinched between filter halves | 1. Follow *Disassembling the Filter, page 4* exactly to disassemble the filter.<br>2. Remove the O-ring and inspect for damage.<br>3. If O-ring is damaged, replace O-ring.<br>4. Follow *Reassembling the Filter, page 5* exactly to properly reassemble the filter. |
| | Clamp improperly installed | 1. Follow *Disassembling the Filter, page 4* exactly to disassemble the filter.<br>2. Follow *Reassembling the Filter, page 5* exactly to ensure the clamp is reinstalled properly. |
| **PRESSURE REMAINS HIGH AFTER BACKWASH** | Cartridges require cleaning | 1. Follow *Manually Cleaning Cartridges, page 7* to manually clean the cartridges.<br>2. If pressure remains high after manual cleaning, acid soak the cartridges according to *Acid Soaking the Filter Cartridges, page 8*.<br>3. If pressure remains high after tablet soaking, continue to CARTRIDGES REQUIRE REPLACEMENT below. |
| | Cartridges require replacement | Replace cartridges if necessary.<br>Refer to *REPLACEMENT PARTS, page 11* to determine correct replacement cartridge. |
| **PRESSURE DROPS AT GAUGE** | Clogged skimmer or pump strainer baskets | Clean skimmer and pump strainer baskets. |
| | Stalled pump | Shut off power to filter pump and any automatic controls, then attempt to manually turn the pump motor shaft.<br>a. If motor shaft turns freely, disassemble the pump according to instructions in the pump manual and inspect the impeller.<br>b. If the motor shaft does not turn freely, there is likely an obstruction in the suction line or the motor has locked up. Refer to the pump manual for instructions. |

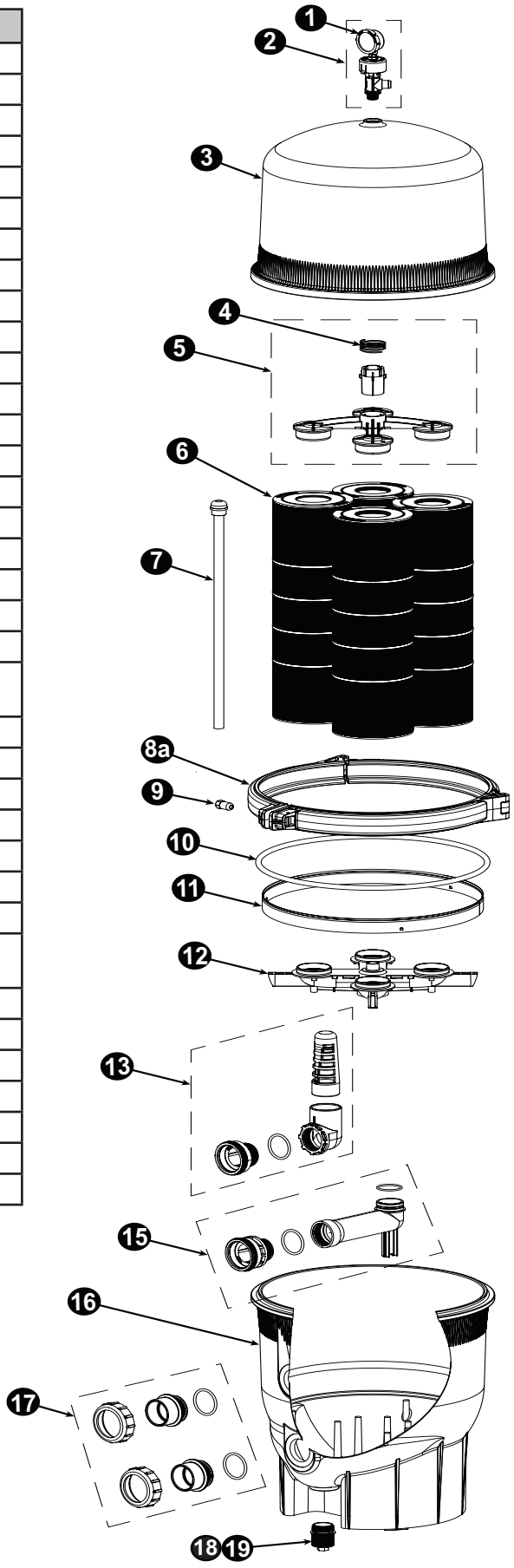
# REPLACEMENT PARTS

| ITEM | P/N | DESCRIPTION |
|---|---|---|
| 1 | 190058z | Pressure Gauge |
| 2 | 98209800 | Air Relief Valve |
| 3 | 179296 | Tank Lid, C&C 320 |
| | 179258 | Tank Lid, C&C 420 |
| | 179260 | Tank Lid, C&C 520 |
| 4 | 178616z | Compression Spring |
| 5 | 170027 | Top Manifold Assembly |
| 6 | PCC80 | Cartridge, single, C&C 320 |
| | PCC80-PAK4 | Cartridges, set, C&C 320 |
| | ULTRA-A5-PAK4 | Ultra Cartridges, set, C&C 320 |
| | PCC105 | Cartridge, single, C&C 420 |
| | PCC105-PAK4 | Cartridges, set, C&C 420 |
| | ULTRA-A6-PAK4 | Ultra Cartridges, set, C&C 420 |
| | PCC130 | Cartridge, single, C&C 520 |
| | PCC130-PAK4 | Cartridges, set, C&C 520 |
| | ULTRA-A7-PAK4 | Ultra Cartridges, set, C&C 520 |
| 7 | 170029 | Air Bleed Assembly, C&C 320 |
| | 170028 | Air Bleed Assembly, C&C 420 |
| | 178583 | Air Bleed Assembly, C&C 520 |
| 8a | 198102 | Cast Clamp Assembly |
| 8b | See *Spring Clamp Kits* | Spring Clamp Assembly |
| 9 | 198098z | Clamp Nut |
| 10 | 39010200z | O-ring, Tank |
| 11 | 195339 | Backup Ring |
| 12 | 170035 | Bottom Manifold |
| 13 | 190039 | Baffle Assembly |
| 14 | 86006900z | O-ring, Inlet/Outlet |
| 15 | 170036 | Outlet Assembly |
| 16 | 178578 | Tank Base (includes items 7, 14, 16 and 18) |
| 17 | 98960311 | Union Kit, Black |
| | 271096 | 2" Valve Adapter Kit, Almond |
| | 270004 | 2" Valve Adapter Kit, Black |
| | 274426z | 2 x 2.5" Valve Adapter Kit |
| 18 | 51005000z | O-ring, Drain Plug |
| 19 | 190030z | Drain Plug w/ O-ring |
| - | 192019 | Drain Plug Wrench |

| SPRING CLAMP KITS (Item 9b) | | |
|---|---|---|
| A1 | 190003 | Spring Clamp Assembly |
| A2 | 53108900z | Hardware Kit |

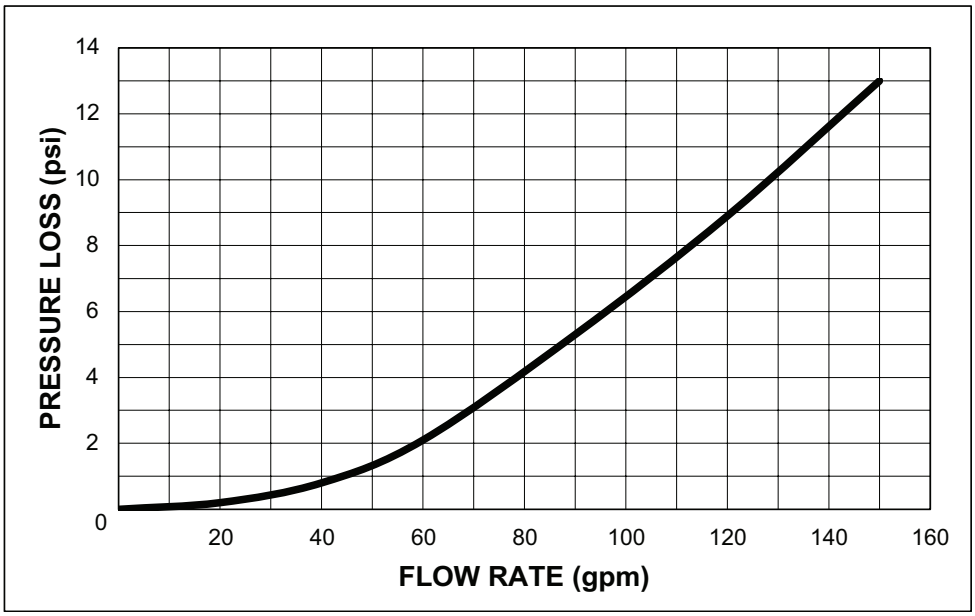



***Note:*** Spring clamps and kits are only compatible with filters manufactured before August 2025



# TECHNICAL DATA

## PRESSURE LOSS CURVE

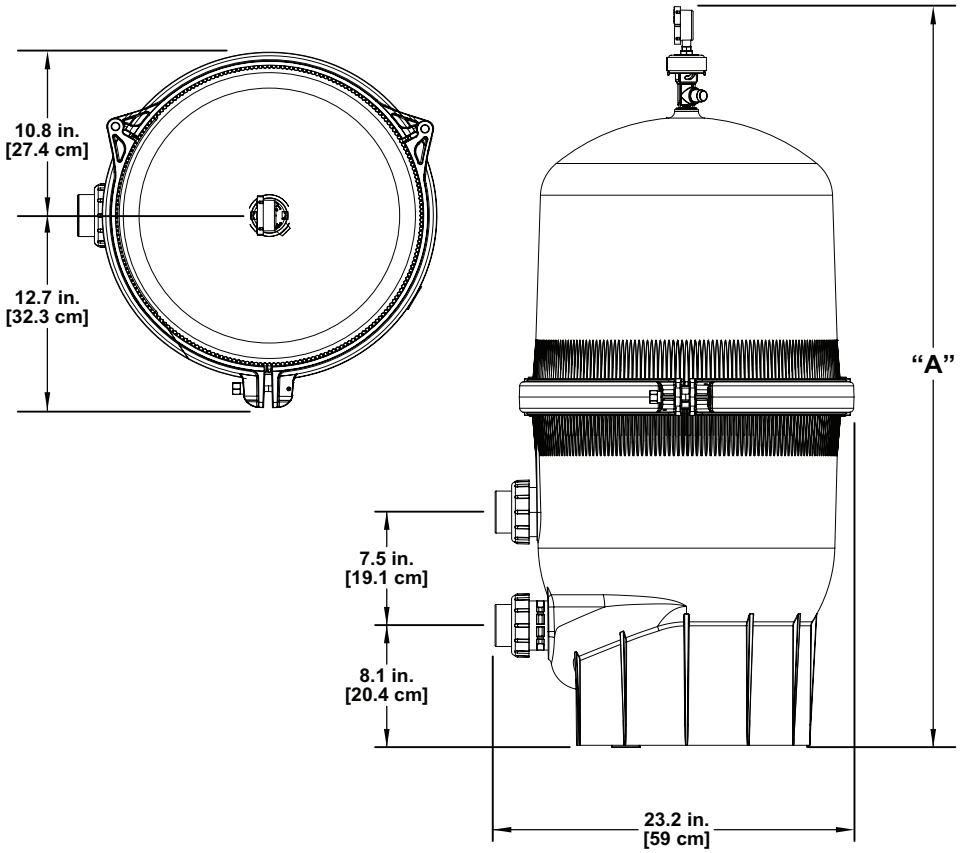



## TURNOVER RATES

| MODEL | FILTER AREA ft² [m²] | FLOW RATE gpm [lpm] | TURNOVER RATES gallons [liters] | | |
|---|---|---|---|---|---|
| | | | 6 hours | 8 hours | 12 hours |
| CCP320 | 320 [29.7] | 120 [454] | 43,200 [163,530] | 57,600 [218,040] | 86,400 [327,060] |
| CCP420 | 420 [39] | 150 [568] | 54,000 [204,412] | 72,000 [272,550] | 108,000 [408,825] |
| CCP520 | 520 [48.3] | | | | |

**NOTE:** Actual system flow will vary based on plumbing size and other system components.

# DIMENSIONAL DRAWINGS




| MODEL | DIM "A" |
|---|---|
| CCP320 | 43 in. [109.2 cm] |
| CCP420 | 49 in. [124.5 cm] |
| CCP520 | 56 in. [142.2 cm] |

# NOTES

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PENTAIR POOL



P/N 179262 REV. A 6/6/25