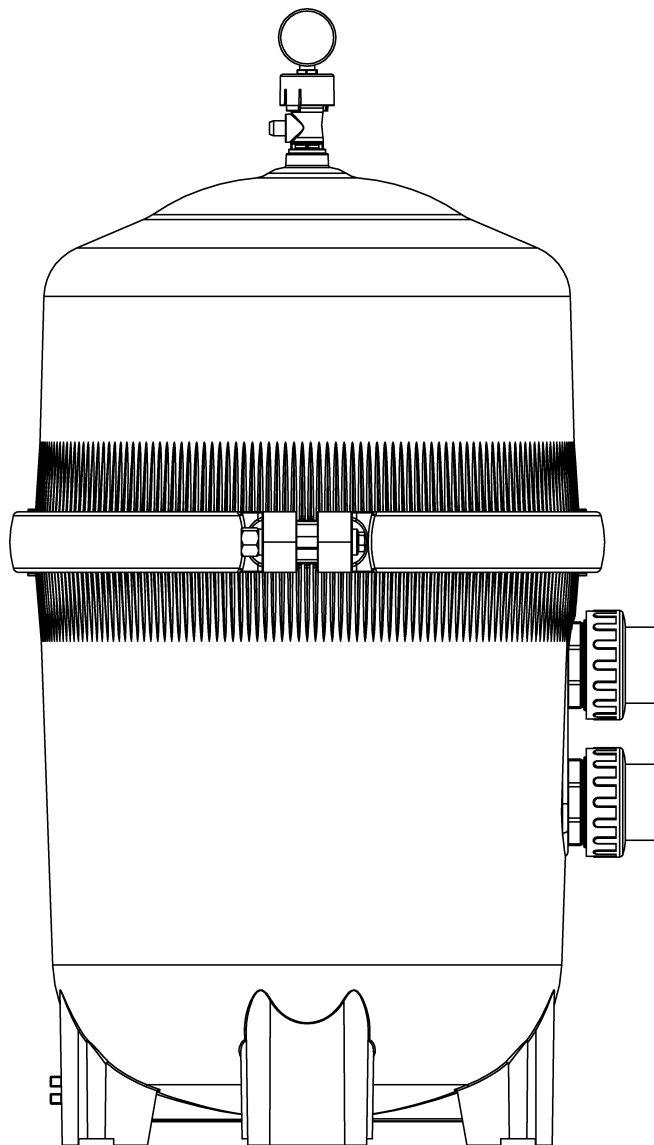




**IN-GROUND CARTRIDGE FILTER  
INSTALLATION & OPERATION MANUAL**

**BDXBT425  
BDXBT525**



**Please read before returning this product for any reason.**

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### EQUIPMENT INFORMATION RECORD

DATE OF INSTALLATION \_\_\_\_\_

INSTALLER INFORMATION \_\_\_\_\_

NOTES: \_\_\_\_\_

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## Definitions: Safety Alert Symbols and Words

This instruction manual uses the following safety alert symbols and words to alert you to hazardous situations and your risk of personal injury or property damage.

-  **DANGER:** Indicates an imminently hazardous situation which, if not avoided, **will** result in **death or serious injury**.
-  **WARNING:** Indicates a potentially hazardous situation which, if not avoided, **could** result in **death or serious injury**.
-  **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, **may** result in **minor or moderate injury**.
-  (Used without word): Indicates a safety related message.

**NOTICE:** Indicates a practice **not related to personal injury** which, if not avoided, **may** result in **property damage**.

## 1. Important Safety Instructions

When using electrical appliances, basic precautions should always be followed, including the following: **READ ALL INSTRUCTIONS BEFORE USING THE APPLIANCE.**

### **WARNING:**

- Read all safety warnings and all instructions. Failure to follow the warnings and instructions listed below may result in electric shock, fire, and/or serious injury.
- To reduce the risk of injury, do not permit children to use or climb on this product.
- Improper installation will create an electric hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and may also cause damage to property.
- **Risk of electric shock.**
- Always disconnect power to the filter at the circuit breaker before servicing the filter. Failure to do so could result in death or serious injury to serviceman, pool users, or others due to electric shock.
- All electrical wiring **MUST** be in conformance with all applicable local codes, regulations, and the National Electric Code® (NEC®).
- To reduce the risk of electrical shock, replace any damaged cord immediately.
- Hazardous pressure. Permanent filter damage will result if filter is improperly dis-assembled or assembled.
- Risk of injury. Never operate this filter system at more than 50 pounds per square inch (50 PSI/345kPa) pressure!
- When any part of the filtering system is serviced, air can enter the system and become pressurized upon restart of the system. 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, turn off the pump **BEFORE** starting any service on the filter system. Open the manual air relief valve located on the top of the filter. Wait until all pressure is relieved before proceeding. Additionally, it's recommended that trained pool professionals perform all pressure tests.
- Do not connect the Black & Decker Cartridge Filter to a Public Water System. All wiring, grounding and bonding of equipment must meet local and/or national electrical codes. Piping/plumbing must conform to local/state plumbing and sanitary codes. Make sure all piping is adequately supported. Check local codes for restrictions on backwash or waste water piping.

## 2. General Information

### 2.1 Introduction

This manual contains information for the proper installation and operation of the Black & Decker Cartridge Filter family. The instructions in this manual **MUST** be followed precisely.

### 2.2 Cartridge Filter Overview

Diatomaceous Earth (DE) Filters have always been renowned for providing crystal clear pool water. Cartridge filter systems have been popular for their convenience and ease of maintenance. The Black & Decker Cartridge Filter offers the best of both worlds in a high-quality product that exceeds all industry standards.

The Black & Decker Cartridge Filter features four easily accessible and removable elements. When water passes through these elements, impurities such as dirt, algae, and some forms of bacteria are filtered out at ultra-precise rates, which results in sparkling clear water. This four-element design also dramatically increases the filter's internal surface area, which ensures greater cleaning capacity per cycle, all without an increase in the tank size. In addition, this system achieves better performance and much longer filter cycles, which result in less cleaning and maintenance. Innovatively energy efficient, this filter can be operated less frequently while maintaining crystal clear water.

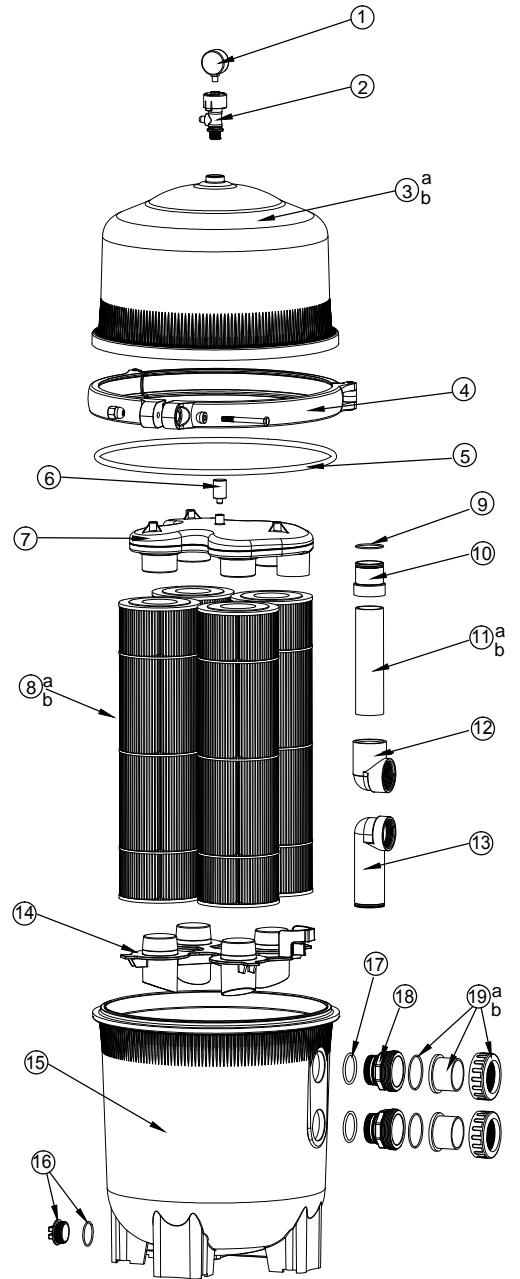
When maintenance is needed, this filter can be easily serviced by following the instructions in this manual. Please read through this document thoroughly and follow all safety instructions to clean the cartridges.

#### **General Features:**

- Distinct Four-Element Design for Optimal Filtration
- Longer Running Cycles Compared to Standard Cartridge Construction
- Easy Cleaning and Maintenance

## 2.3 Filter Structure

	PART #	DESCRIPTION	QTY
1	BD 51322	Press Gauge	1
2	BD 51330	Air Relief Assembly	1
3a	BD 51349	Upper Filter Tank for BDXBT425	1
3b	BD 51357	Upper Filter Tank for BDXBT525	1
4	BD 51365	Clamp System (Clamp, Nut, Bolt)	1
5	BD 51373	O-Ring	1
6	BD 51381	Air Relief Plug	1
7	BD 51403	Top Manifold	1
8a	BD 51411	Cartridge Element for BDXBT425	4
8b	BD 51438	Cartridge Element for BDXBT525	4
9	BD 51446	O-Ring	1
10	BD 51454	Adaptor	1
11a	BD 51462	Outlet Pipe for AC BDXBT425	1
11b	BD 51470	Outlet Pipe for AC BDXBT525	1
12	BD 51489	Short Elbow Inlet	1
13	BD 51497	Long Elbow Inlet	1
14	BD 51772	Bottom Manifold	1
15	BD 51780	Lower Filter Body	1
16	BD 51799	1 1/2" Drain Plug With O-Ring	1
17	BD 52019	O-Ring Bulkhead	2
18	BD 52051	Bulkhead Fitting	2
19a	BD 52086	Union Connection Kit (60 mm)	2



## 3. Installation

### 3.1 Location

1. The placement of the filter is very important in keeping installation costs to a minimum while providing for maximum efficiency of operation, as well as allowing adequate access for service and maintenance.
2. The unit should be located as close as practical to the existing pool pump to minimize water piping. The use of 90 degree bends and short radius elbows in the water piping should be kept to a minimum.
3. The pool filter should be installed on a level concrete slab not more than 6 feet above the pool water level. Position the pool filter so that the piping connections, valve, and drain are convenient and accessible for operation and maintenance. Install electrical controls such as switches and timers at least 5 feet from the filter system.
4. Allow sufficient clearance around the filter tank so you can visually inspect the tank and verify the clamp is properly installed. It is advised to tap the clamp with a mallet or similar tool to make sure the clamp is uniformly loaded before tightening. Allow sufficient space above the filter to allow for lid removal during cleaning and/or servicing. Position the manual air relief valve to safely direct water away from the filter system and all electrical connections.

Filter plumbing connections with O-Ring seals must be lubricated. Use only silicone based lubricant on the O-Rings. DO NOT use pipe compound, glue, or pipe dope on the bulkhead connections.

Be sure to install the pressure gauge before use. Never subject the filter to a working pressure over 50 psi, even when conducting tests.

### 3.2 Piping

1. The piping sequence is as follows: pool > pool pump > filter > heater > corrosion-resistant check valve > chemical feeder > pool. Use rigid PVC piping if possible.
2. All plumbing joints should be glued/sealed with the appropriate compound for the material (i.e. PVC solvent for sch. 40 PVC pipe). When the plumbing installation is complete, operate the pool pump and check the system for any leaks. Then check the filter pressure gauge to verify that there isn't any indication of excessive pump head pressure. Never use pipe joint sealing compound (e.g. 'pipe dope') on pipe and fittings that are plastic or may come into contact with plastic.
3. Keep piping tight and free of leaks. Pump suction line leaks may cause trapped air in filter tank or loss of prime at pump. Filter plumbing connections with O-Ring seals must be lubricated using silicone based lubricant.
4. Pump discharge line leaks may show up as dampness or jets of water.
5. For ease of installation, plastic pipe and fittings are recommended for all piping to and from pool.
6. DO NOT use pipe joint compound on base of filter. To do so will cause stress cracking of base, which will void warranty and may cause property damage.
7. Do not tighten fittings into base ports past thread stops. To do so will ruin filter base and void warranty, and may cause property damage.
8. If pool water level is higher than filter base, shut-off valves must be installed in suction and return lines.
9. Tighten all fittings hand tight plus 1/4 turn. Overtightening of fittings may damage the filter.

### 3.7 Installing the Clamp

The clamp installation instructions must be followed precisely in order to prevent the lid from blowing off during initial startup, restart or filter operation. Before working on the Filter System, complete the following steps.

1. Turn the pump off and shut off any automatic controls. Open the air relief valve and wait for the pressure to be relieved.
2. Make sure the lid O-Ring is in position in the lower tank half. Press the filter lid over the lower tank half sandwiching the O-Ring between the 2 halves.
3. Keeping the ends of the filter clamp apart, position the center of the filter clamp (the valley of the clamp) over both the upper and lower tank flanges. Carefully bring the ends together while inserting the closure bolt into the union located on the other side of the clamp assembly. Place the brass nut onto threaded end of bolt. Hand tighten the nut. Keep checking the clamp for proper seating while hand tightening the nut.
5. Tighten the nut using a wrench. Be sure to tap around the outside of the clamp using a mallet or similar tool (do not use a metal hammer) to ensure proper seating of the clamp. Continue tapping and tightening until clamp is secure.

### 3.8 Attaching Fittings and Hoses

There are several ways to hook up hoses to your filter and pump and the best way will depend on your set-up. Some pumps have female threads only (inside), some have male threads only (outside) and others may have both or none. Follow the following instructions to install fittings and hoses to your filter and pump:

1. First, cover the threads on the straight fitting and thread it into the slide valve which you have attached to the filter's "TO POOL" opening. Attach the 6' hose to the fitting you just threaded in and clamp in place using the hose clamp. The free end of this hose should be attached to the through wall return using another hose clamp.
2. There should be at least one hose fitting provided with your pump (or that you may need to purchase separately). Thread this fitting into the second slide valve which has been threaded into the bottom of your skimmer OR into your pump. Cover the threads of that fitting with Teflon tape before screwing it into the opening on the second slide valve.

**Note:** For inground installations the pump intake port Slide Valve is optional and can be installed at any union joint between the pump intake port and the pool skimmers.

3. Attach the flex pipe with connection fittings to your filter and pump. Keep in mind that the hose is bent so that the pump will accept the "higher" part and the filter will accept the "lower" part of the connection. Check the flex pipe with connection fittings to ensure that O-Rings are inside. Lubricate O-Ring with O-Ring Lube prior to installation.

**Note:** If you have a Side-Mount Pump, you will not need to attach this piece to your filter, as the pump is already connected.

4. **Installing flex pipe based on threads:** If you have a pump that has no threads, then you will need to purchase additional items to set up your new filter system. You will need to get a 3' hose (1-1/4" or 1-1/2" depending on the size your pump accepts) to attach directly onto your pump's outlet as the threaded fitting provided will not fit and an elbow fitting is necessary to thread into the female threads in the filter "FROM PUMP" port to attach your hose. Please remember you will need additional hose clamps to install with this method.

If your pump has threads on the outside of the outlet (top of the pump) then you will thread one of the connection fittings directly onto it. Thread opposite side directly onto the "FROM PUMP" port of the filter and hand tighten connection.

If your pump has threads on the outside of the outlet (top of the pump) then you will thread one of the connection fittings directly onto it. Thread opposite side directly onto the "FROM PUMP" port of the filter and hand tighten connection.

If your pump only has threads on the inside of the outlet (top of the pump) then you will need to use the union adapter. Cover the male threads of the union adapter with Teflon tape and thread the union adapter directly into the outlet on the pump. At this point, you may thread one of the connection fittings directly onto the union adapter and the other onto the "FROM PUMP" port of the filter and hand tighten the connection.

5. Finally, attach second 6' filter hose using clamps to the fitting on the bottom of your through wall skimmer and the other end onto the front of your pump. Once clamped in place you are done installing the filter system.

### 3.9 Assembly

The filter may shift position during shipping. To make sure elements are in place, follow procedure below before using filter. When disassembling filter, place all parts in a clean area.

1. Place filter in a clean area near its permanent location.
2. Remove filter clamp by loosening the clamp bolt, hinging the clamp open, then lifting it up and away from the filter tank.
3. With both hands, grasp the filter tank lid and lift it up and over the internal assembly.
4. Set tank lid in a clean place; check for missing or damaged parts.
5. Filter elements and manifold should be pressed firmly into place.
6. Replace tank lid evenly on filter tank shell for a tight seal. Be sure O-Ring and O-Ring seating area are clean.
7. Re-attach filter clamp and tighten clamp bolt.
8. Attach pressure gauge and air release valve. Apply Teflon tape to threads of pressure gauge. Tighten gauge hand tight only. Tighten air release valve finger tight only.



## 4. Operating the Filter

Check all clamps, bolts, lids and system accessories before testing. Release all air in system before testing. Tighten trap lids. Water pressure must be less than 25 PSI (172 kPa). Water temperature must be less than 100° F. (38° C). Open all side valves.

### 4.1 Starting the Filter

Note: Your filter cannot be run if the water is not at the proper level in the pool. Running the filter without water can cause serious damage to your pump and filter.

1. Turn pump OFF before starting procedure.
2. Open air release valve located on top of filter tank lid.
3. Air trapped inside the filter greatly increases the tank pressure. The air release valve allows you to get accumulated air out of the filter tank. At startup, open the air release valve and make sure that it is running a solid stream of water before putting the filter in service.
4. Start pump.
5. When a steady stream of water comes from air release valve, close valve.
6. Check pressure gauge. If pressure has risen more than 10 PSI (70kPa) above startup pressure, remove and clean element.
7. After filter is operating, record filter pressure gauge reading in owner's manual for future use.

The system is not operating properly if:

- a) A solid stream of water does not appear from the air relief valve within 30 seconds of start up.
- b) The pressure gauge indicates pressure inside the tank before water out flow appears.

If either condition appears, turn off the pump IMMEDIATELY. Open the valves in the water return line to relieve pressure and clean the air relief valve.

**Note:** When installed on a new pool, filter element may need cleaning after approximately 48 hours of operation.

**Note:** A new or recently cleaned filter element may pass some foreign material until it builds up a sufficient coating to stop all "fines". This is normal. A short operational period will correct the condition.

## 5. Filter Disassembly and Reassembly

**⚠ DANGER:** Hazardous pressure. Releasing lid ring with pressure on system will cause tank or tank lid to blow off base, causing severe injury or property damage. NEVER adjust, tighten or loosen ring when tank is under pressure. If filter leaks at the ring, do not adjust the ring. Regularly inspect clamp assemblies for cracked, corroded or broken welds and worn or stripped threads. If any wear or damage shows, replace the complete ring. Tension stresses and aggressive pool chemicals can aggravate mechanical wear. Tank clamp assemblies and nuts or plastic knobs should be replaced every five years. Do not use a filter that shows cracks, corrosion, or distortion.

### 5.1 Disassembling the Filter

**⚠ CAUTION:** To prevent injury, make sure that all pressure has been released from the filter tank before proceeding.

1. STOP PUMP.
2. CLOSE suction and return line valves (if used).
3. OPEN air release valve on top of filter.
4. WAIT until all pressure is released from filter tank and system before loosening either clamp.
5. Remove drain plug and drain filter.
6. Loosen lid ring; remove clamp by lifting it straight up over tank.
7. Remove tank lid from tank body. Be careful not to damage O-Ring. Place tank lid in clean area.

**Note:** If heavy dirt deposits have collected around bottom of filter element and base, wash out base before removing element.

8. Remove the O-Ring from the filter. Clean the O-Ring and inspect it. If you see cuts, cracking, deformation or wear, replace it.
9. Rock manifold side to side to free from cartridges and lift up. Inspect it for any cracks or damage and replace if present.
10. Remove the filter elements one at a time by rocking side to side and lifting straight up. Do not drop the element or damage may occur. Place the element in a clean area where it can be cleaned with a hose and spray nozzle.

## 5.2 Cleaning the Filter

1. Turn the pump off and turn off any automatic controls.
2. Close the main drain line if your pool is so equipped.
3. Open the air relief valve to relieve any pressure in the tank. Open the waste drain port located on the bottom of the tank.
4. Remove the pump's hair and lint strainer lid and clean out the basket. Replace basket and inspect lid O-Ring. Lubricate O-Ring with silicone lube if O-Ring appears dry. Replace lid onto hair and lint trap.
6. Remove the filter clamp and the filter lid.
8. Check the air relief valve for debris and dirt. Clean if necessary. Remove the top manifold and the elements.
10. Using a garden hose without a nozzle, spray water at elements to loosen and dislodge dirt and debris. Thoroughly wash each element both inside and out.
11. Lift manifold out of tank and wash out any and all debris.
12. Wash out the inside of the tank body.
13. Check the tank gasket located on the lip of the bottom tank half. Gasket should be firmly and evenly in place. Do not use petroleum lubricants on the gaskets.
14. Replace bottom manifold, the four elements, and the top manifold into the filter tank. Make sure the spring and standpipe assembly are retained on the top manifold.
15. Make sure the O-Ring is in position.
16. Replace the top lid carefully and install the clamp.
17. Replace drain cap.

## 5.3 Reassembling the Filter

1. Check the tank gasket located on the lip of the bottom tank half. Gasket should be firmly and evenly in place. Do not use petroleum lubricants on the gaskets.
2. Replace bottom manifold, the four elements, and the top manifold into the filter tank. Make sure the spring and standpipe assembly are retained on the top manifold.
3. Make sure the O-Ring is in position.
4. Replace the top lid carefully and install the clamp.
5. Replace drain cap.

## 6. Winterizing

1. Stop pump.
2. Open air release valve.
3. Remove drain plugs from ports.
4. Drain ALL piping to and from filter.
5. a) Gravity drain system as far as possible.  
b) Protect areas which retain water with non-toxic propylene glycol antifreeze (RV antifreeze) or pipeline Anti-Freeze.

**⚠ DANGER:** Failure to winterize your filter properly may result in damage to the tank, which is NOT covered under any warranty.

## 7. Troubleshooting

Problem	Possible Cause	Corrective Action
<b>Low water flow.</b>	<p>Element is plugged.</p> <p>Pipe blocked downstream from filter.</p> <p>Piping too small.</p> <p>Pump hair and lint trap is plugged.</p> <p>Pump impeller and diffuser worn.</p> <p>Pump too small for system.</p> <p>Pump pulling in air.</p>	<p>Clean the filter.</p> <p>Remove obstruction..</p> <p>Replace with larger pipe (consult dealer for recommendation).</p> <p>Empty and clean.</p> <p>Replace with new parts. Consult pump manual for information.</p> <p>Replace with larger pump.</p> <p>Lube hair and lint trap O-Ring.</p>
<b>Shorter filter cycle than normal.</b>	<p>Chlorine residual too low.</p> <p>Flow rate too high,</p> <p>Filter too small.</p> <p>Unstable water.</p> <p>Filter element not cleaned properly or plugged with algae, iron, calcium, etc.</p> <p>Heavy or improper application of powdered chlorine or chlorine pills that contain binder.</p> <p>Algae in pool.</p>	<p>Maintain proper residual (consult pool professional for rec).</p> <p>Restrict flow to rated capacity of filter (see decal on filter).</p> <p>Install larger filter or additional filter.</p> <p>Consult pool professional.</p> <p>Clean the filter.</p> <p>Clean the filter.</p> <p>Apply heavy dose of chlorine or algaecide as recommended by pool manufacturer. Continue until algae is controlled.</p>
<b>Pool water won't clear up.</b>	<p>Chlorine dosage too low.</p> <p>Element cloth torn or punctured.</p> <p>Filter too small, flow too low, or daily operating time too short, giving inadequate turnover rate.</p> <p>Pump too large — overpumping.</p> <p>Filter installed backward.</p>	<p>Maintain adequate chlorine residual (consult professional).</p> <p>Replace element.</p> <p>Consult dealer to verify that equipment is properly sized for your pool.</p> <p>Reduce flow rate.</p> <p>Replumb.</p>
<b>Filter elements liming up.</b>	<p>Element fabric stiffening due to excessive deposits of magnesium or calcium.</p>	<p>Soak the elements in a solution of 6 parts water, 1 part muriatic acid.</p>
<b>Filter bypasses dirt.</b>	<p>Element cloth torn or punctured.</p> <p>Filter element improperly seated in filter base.</p> <p>Filter is plumbed backwards and element cloth is ruptured.</p> <p>Colloidal fines (very small dirt particles) are present &amp; passing through element covering.</p> <p>Blue bypass plug was removed from lid.</p>	<p>Replace element.</p> <p>Follow Filter Disassembly &amp; Reassembly instructions and reposition properly.</p> <p>Replumb properly and replace element.</p> <p>Use Crystal Clear or if fines have already settled, vacuum to waste.</p> <p>Replace bypass plug and lid.</p>

## 8. Limited Warranty

### Service Information

The Pump Service Center is staffed with trained personnel to provide customers with efficient and reliable pool service. Whether you need technical advice, repair, or genuine factory replacement parts, contact the Pump Service Center. Call: (516) 796-2425 or visit [service@blackanddecker-pool.com](mailto:service@blackanddecker-pool.com) or [warranty@blackanddecker-pool.com](http://warranty@blackanddecker-pool.com).

### Blue Torrent Pool Products Limited Warranty

#### Limited Five-Year Warranty

Blue Torrent Pool products warrants this product to be free from defects in material or workmanship for a period of five (5) years following the date of purchase. Labor related to valid warranty claims are covered for a period of one (1) year. This warranty does not cover "wear and tear" items such as the filtering elements or sealing gaskets.

This limited warranty does not cover failures due to abuse, accidental damage, or when repairs have been made or attempted by anyone other than The Authorized Pump Service Centers.

A defective product meeting the guarantee conditions set forth herein will be replaced or repaired at no charge in either of two ways:

The first, which will result in exchanges only, is to return the product to the retailer from whom it was purchased (provided that the store is a participating retailer). Returns should be made within the time period of the retailer's policy for exchanges. Proof of purchase may be required.

Please check with the retailer for its specific return policy regarding time limits for returns or exchanges.

The second option is to take or send the product (prepaid) to the authorized Pump Service Center for repair or replacement at Blue Torrents Option option. Proof of purchase may be required.

Pump Service Center  
(516)796-2425  
1075 Hicksville Road  
Seaford, NY 11783 USA  
[service@blackanddecker-pool.com](mailto:service@blackanddecker-pool.com)  
[warranty@blackanddecker-pool.com](mailto:warranty@blackanddecker-pool.com)

This limited warranty constitutes the entire warranty. No other warranties apply, expressed or implied. This warranty gives you specific legal rights and you may have other rights which vary from state to state. Should you have any questions, contact the manager of the Pump Service Center.

**LATIN AMERICA:** This warranty does not apply to products sold in Latin America. For products sold in Latin America, check country specific warranty information contained in the packaging, call the local company, or see the website for such information.

**FREE WARNING LABEL REPLACEMENT:** If your warning labels become illegible or are missing, call (516) 796-2425 for a free replacement.

**Manufactured by Blue Torrent Pool Products**  
444 E 81ST ST  
NEW YORK, NY 10028-5859

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