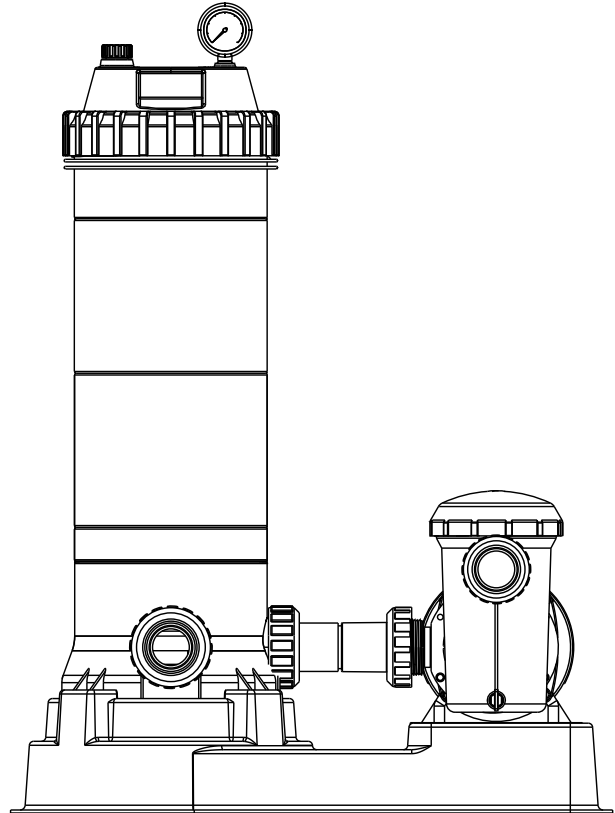


INSTALLATION AND OPERATION MANUAL

Cartridge Filtration Combo

Models

**RPCFP50, RPCFP75,
RPCFP100, RPCFP150,
RPCFP152, RPCFP202**



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

NOTE: The instructions in this manual are for the use of qualified individuals specially trained and experienced in the installation and maintenance of this type of equipment and related system components. Installation and service personnel are required by some states to be licensed. Persons not qualified shall not attempt to install, service, or maintain this equipment.

This manual should be maintained in legible condition and kept adjacent to the filtration combo or in a safe place for future use.

Raypak[®]
A Rheem[®] Company

Effective: 09-15-20
Replaces: 01-15-20
P/N 241833 Rev 4

Revision 4 reflects the following changes:

Cover page text "IMPORTANT SAFETY INSTRUCTIONS, READ AND FOLLOW ALL INSTRUCTIONS and SAVE THESE INSTRUCTIONS" text size increased from 14pt (4.9 mm) to 16pt (5.6 mm). Added heading "IMPORTANT SAFETY INSTRUCTIONS and SAVE THESE INSTRUCTIONS" on page 4. Updated children's warning to "To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times" on page 4. Added to new Bonding warning and GFCI warning at the bottom on page 5. Added "SAVE THESE INSTRUCTIONS" bottom of page 5. "Location" text revised on page 6. Table A revised on page 6. Figure 1 revised on page 7. "Pump to Filter" text revised on page 7. "Filter to Pool Return" text revised on page 7. "Cartridge Filter and Pump" text revised on page 8. "Packaging" list revised on page 7. "Effective Date" text revised on page 13.

CONTENTS

1. WARNINGS	4	6. GENERAL MAINTENANCE	8
Pay Attention to these Terms	4	Cartridge Filter and Pump	8
2. IMPORTANT SAFETY INSTRUCTIONS.		Cleaning	9
READ AND FOLLOW ALL INSTRUCTIONS.	4	Chemical Cleaning	9
3. OVERVIEW	6	Cartridge Filter Winterization	9
4. INSTALLATION	7	7. TROUBLESHOOTING	10
Location	7	Filter	10
Assembly	7	Pump	11
Packaging	7	8. ILLUSTRATED PARTS LIST	12
Union Kit Parts Identification Details	7	9. WARRANTY	13
5. START-UP	8		

1. WARNINGS

Pay Attention to these Terms

▲ DANGER	Indicates the presence of immediate hazards which will cause severe personal injury, death or substantial property damage if ignored.
▲ WARNING	Indicates the presence of hazards or unsafe practices which could cause severe personal injury, death or substantial property damage if ignored.
▲ CAUTION	Indicates the presence of hazards or unsafe practices which could cause minor personal injury or product or property damage if ignored.
CAUTION	CAUTION used without the warning alert symbol indicates a potentially hazardous condition which could cause minor personal injury or product or property damage if ignored.
NOTE	Indicates special instructions on installation, operation, or maintenance which are important but not related to personal injury hazards.

2. IMPORTANT SAFETY INSTRUCTIONS. READ AND FOLLOW ALL INSTRUCTIONS.

▲ WARNING: Before installing this product, read and follow all warnings notices and instructions in this manual. Failure to follow warnings and instructions can result in severe injury, death, or property damage. Please call 1-(877)-213-3726 or refer to www.raypak.com for more information related to this product.

▲ WARNING: Improper installation, adjustment, alteration, service, or maintenance can cause property damage, personal injury or loss of life.

▲ DANGER: Installers, pool operators and pool owners must read these warnings and all instructions before using the cartridge filter and pump.

▲ DANGER: Serious bodily harm or death can result if this filter and pump combo is not installed and used correctly.

▲ DANGER: High-pressure release from the cartridge filter can cause severe injury or major property damage due to parts flying open or apart. Release all pressure in the cartridge filter before doing any work on it. For example avoid adjusting the filter lid under pressure as that can cause it to separate and cause serious injury or property damage.

▲ WARNING: BEFORE WORKING ON FILTER!
 (1) Stop pump.
 (2) Open air release valve.
 (3) Release all pressure from system.

▲ WARNING: Risk of electrical shock. More than one disconnect switch may be required to de-energize the equipment before servicing.

▲ WARNING: This filter and pump combination set is intended for use in swimming pool applications.

▲ WARNING: 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 regulated the installation and use of this product. Consult your local building and health codes for more information.

▲ WARNING: To reduce the risk of injury, do not permit children to use this product unless they are closely supervised at all times.

▲ WARNING: When setting up pool water turnovers or flow rates, the operator must consider local codes governing turnover as well as disinfectant feed ratios.

▲ WARNING: DO NOT increase pump size; this will increase the flow rate through the system and exceed the maximum flow rate stated on the drain cover.

▲ WARNING: For filters intended for use in other than single-family dwellings, a clearly-labeled emergency switch shall be provided as part of the installation. The switch shall be readily accessible to the occupants and shall be installed at least 5 ft (1.5 m) away, adjacent to, or within sight of the filter.

NOTE: Always turn off all power to the pool pump before installing the cover or working on any suction outlet.

▲ DANGER: For continued protection against possible electrical shock, this unit is to be mounted to the base in accordance with the installation instructions.

▲WARNING: A pool or spa pump must be installed by a qualified pool and spa service professional in accordance with the National Electrical Code and all applicable local codes and ordinances. Improper installation may cause an electrical hazard which could result in death or serious injury to pool users, installers, or others due to electrical shock, and also cause property damage.

▲WARNING: Pumps are not a substitute for properly installed and secured pool drain covers. An ANSI/ASME A112.19.8 approved anti-entrapment drain cover must be used for each drain. Pools and spas should utilize a minimum of 2 drains per pump. If a drain cover becomes loose, broken or is missing, close the pool or spa immediately and shut off the pump until an approved anti-entrapment drain cover is properly installed with the manufacturer's supplied screws.



▲DANGER: ELECTROCUTION OR ELECTRICAL SHOCK RISK. DISCONNECT ELECTRICITY BEFORE WORKING ON PUMP, OR SHOCK, BURN OR ELECTROCUTION CAN RESULT.

Always disconnect pool pump power at the circuit breaker before servicing the pump. Death or serious injury to service people, pool users or others due to electric shock could result from failure to avoid the high danger risk.

NOTE: Always turn off all power to the pool pump before installing the cover or working on any suction outlet.

▲WARNING: Never work on the pump while it is running or the power is still connected. High voltage can cause serious or fatal injury. A suitable ground fault interrupter (GFCI) should always be installed at the power supply source of this unit. Article 681-31 of the NEC requires that a GFCI be used if this pump is used with a storage pool. Be sure to ground the motor before connecting to electrical AC power source. Failure to ground the motor can cause serious or fatal electrical shock hazard. **DO NOT** ground to a gas supply pipe line.

▲CAUTION: This pump is for use with permanently-installed pools and may also be used with hot tubs and spas. Do not use with storable pools unless pump is protected by a factory-installed double-insulated enclosure. A permanently-installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity.

▲WARNING: To reduce the risk of electrical shock, do not use an extension cord to connect the pump to the electrical supply, use a properly located outlet instead.

▲WARNING: To reduce the risk of electrical shock, replace any damaged electrical cord immediately.

▲CAUTION: Elevated water temperature can be hazardous. The U.S. Consumer Product Safety Commission has these guidelines:

1. Spa water temperatures should never exceed 104°F (40°C). A temperature of 100°F (38°C) is considered safe for a healthy adult. Special caution is suggested for young children.
2. Drinking of alcoholic beverages before or during spa or hot tub use can cause drowsiness which could lead to unconsciousness and subsequently result in drowning.
3. Pregnant Women Beware! Soaking in water over 102°F (39°C) can cause fetal damage during the first three months of pregnancy resulting in the birth of a brain-damaged or deformed child.
4. Before entering the spa or hot tub, users should check the water temperature with an accurate thermometer; spa or hot tub thermostats may err in regulating water temperatures by as much as 4°F (2.2°C).
5. Persons with a medical history of heart disease, circulatory problems, diabetes, or blood pressure problems should obtain a physician's advice before using pools or hot tubs.
6. Persons taking medications which induce drowsiness, such as tranquilizers, antihistamines, or anticoagulants, should not use spas or hot tubs.


▲WARNING: Do not bury the electrical cord. Place the cord so as to eliminate contact from lawnmowers, hedge trimmers, other equipment and to avoid a tripping hazard.

NOTE: This pump operates with electrical voltage, and can generate both vacuum and pressure in the water system. When properly wired and plumbed, this pump will operate in a safe manner.

▲WARNING: Risk of Electric Shock. Connect only to a branch circuit protected by a ground-fault circuit-interrupter (GFCI). Contact a qualified electrician if you cannot verify that the circuit is protected by a GFCI. The unit must be connected only to a supply circuit that is protected by a ground-fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GFCI should interrupt power. Push the reset button. Power should be restored. If the GFCI fails to operate in this manner, the GFCI is defective. If the GFCI interrupts power to the pump without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. Do not use this pump. Disconnect the pump and have the problem corrected by a qualified service representative before using.

SAVE THESE INSTRUCTIONS.

3. OVERVIEW



⚠ DANGER: This combo filter/pump operates under high pressure. When any part of the circulating system (e.g., clamp, pump, filter, valves, etc.) is serviced, air can enter the system and become pressurized. Pressurized air can cause the lid or valve to be blown off which can result in severe injury, death, or property damage.

- Before any service:
- Turn off electricity going both to the pump and to any automatic controls to avoid accidental system start-up during servicing.
 - To prevent damage to the pump and for proper operation of the system, clean pump, strainer and skimmer baskets regularly.
 - Do not unscrew the screws of the flange clamp while the pump is running.

⚠ WARNING: Failure to operate your filter system, or inadequate filtration, can cause poor water clarity obstructing visibility in your pool. Poor water clarity may obscure objects while swimming which, while swimming and diving, could cause serious personal injury or death. Never swim in a pool with poor water clarity.

This filter and pump combo system is an effective trouble-free proven method of filtration. Pool water enters the filter and passes through a polyester single-element cartridge. Suspended particles are trapped, and filtered water returns to the pool. As the build-up of dirt in the element increases, the water pressure rises and the water flow decreases. When the pressure reaches an unacceptable level, the filter cartridge must be removed and cleaned. The polyester element can be removed quickly for rinse cleaning without water loss to the pool. Spray washing with a common garden hose is generally sufficient for cleaning.

As a general rule of thumb, the filter should be cleaned at least once a month during the summer and every other month, if your pool is operational during the winter.

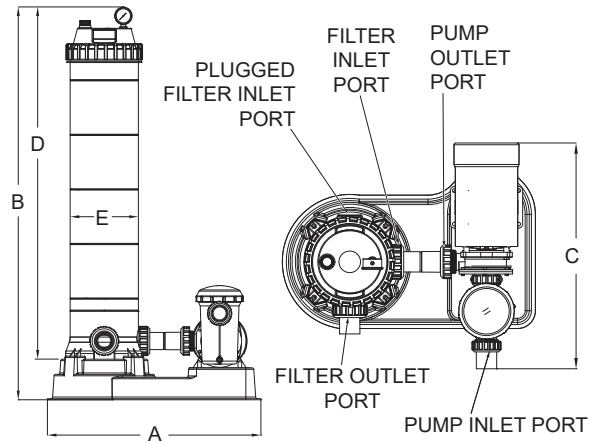


Figure 1. Dimensions

Combo Model	RPCFP50	RPCFP75	RPCFP100	RPCFP150	RPCFP152	RPCFP202
Pump Model	RPAGP75	RPAGP100	RPAGP100	RPAGP150	RPAGP152	RPAGP152
Filter Area ft ² (m ²)	50 (4.6)	75 (7)	100 (9.3)	150 (13.9)	150 (13.9)	180 (16.7)
Max Flow Rate Filter + Pump GPM (L/min)	50 (187)	50 (187)	63 (237)	68 (258)	68 (258)	68 (258)
Max Operating Pressure psi (bar)	36 (2.5)	36 (2.5)	36 (2.5)	36 (2.5)	36 (2.5)	36 (2.5)
Turnover Capacity Gallons (L)	2 Hours	6000 (22680)	6000 (22680)	7560 (28577)	8160 (30845)	8160 (30845)
	4 Hours	12000 (45360)	12000 (45360)	15120 (57154)	16320 (61690)	16320 (61690)
	6 Hours	18000 (68040)	18000 (68040)	22680 (85731)	24480 (92535)	24480 (92535)
Union Size (inch)	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
Pipe Size (inch)	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2	1-1/2
A in. (mm)	28.2 (716)	28.2 (716)	28.2 (716)	28.2 (716)	28.2 (716)	28.2 (716)
B in. (mm)	30.4 (772)	37.6 (955)	44.8 (1138)	52 (1321)	52 (1321)	59.2 (1504)
C in. (mm)	24.8 (630)	24.8 (630)	24.8 (630)	24.8 (630)	24.8 (630)	24.8 (630)
D in. (mm)	24-5/8 (625)	31-3/4 (805)	38-3/4 (985)	45-7/8 (1165)	45-7/8 (1165)	53 (1345)
E in. (mm)	9 (225)	9 (225)	9 (225)	9 (225)	9 (225)	9 (225)

Table A. Specifications

4. INSTALLATION

⚠ WARNING: Blockage of suction fittings can cause serious or fatal injury due to drowning. To reduce the risk of injury, do not permit children to use this product.

⚠ WARNING: Never work on the pump while it is running, or power is still connected. High voltage can cause serious or fatal injury. A suitable ground fault interrupter (GFCI) should always be installed at the power supply source of this unit. Article 681-31 of the NEC requires that a GFCI be used if this pump is used with a storage pool. Be sure to ground the motor before connecting to electrical AC power source. Failure to ground the motor can cause serious or fatal electrical shock hazard. DO NOT ground to a gas supply pipe line.

Location

The filter and pump should be placed in their permanent location, preferably as close to the pool or spa as is practical. Position the provided base on a level concrete slab, or similar foundation. Allow sufficient space around the filter for routine maintenance and provide adequate ventilation and drainage. There must be sufficient space above the filter to remove the cartridge. Position the pump on the base and locate the filter alongside, with the appropriate inlet plumbing connection facing towards the pump. For the minimum clearance measurements required for each model refer to **Table A**.

Weather Protection

The cartridge filters are constructed of weather-resistant materials. However, to ensure years of reliable performance, it is recommended that the filtration system be adequately shielded from direct sun and weather to maximize longevity.

Assembly

Assemble the pressure gauge to the filter lid using Teflon tape wrapped on the male thread. Do not over-tighten. See **Figure 5**.

Pipe Connections

Piping should be supported independently and not impose heavy loads on the filter or pump. PVC pipe for the pump and pool return lines should be used following the specifications in **Table A**. The cartridge filters are supplied with quick connect couplings suitable for the piping. Pipe fittings without screw-on threads must be secured with PVC glue. Do not glue any threaded portion of fittings.

If the pump and filter are located below the pool water level it will be necessary to fit isolating valves on the pipe between the pump and the pool, and on the return line from the filter to the pool.

Pump to Filter

The cartridge filters are equipped with two inlet ports marked INLET. Select the inlet port most suitable for the installation and affix the inlet port fitting. Plug the other inlet port with the cap provided. Ensure all o-rings are clean and properly lubricated with suitable lubricant.

Filter to Pool Return

Locate and install the filter outlet fitting into the filter port marked OUTLET that fitting is glued in. Ensure the O-ring on the fitting is clean, lubricated with O-ring lubricant, and positioned correctly.

The filter base is provided with four mounting holes to enable it to be secured, if required.

Packaging

The filtration combo was packed in three sections in one carton box including:

- Cartridge filter
- Pump
- Mounting base, union fitting, hose barbs and screws



Figure 2. Fasteners

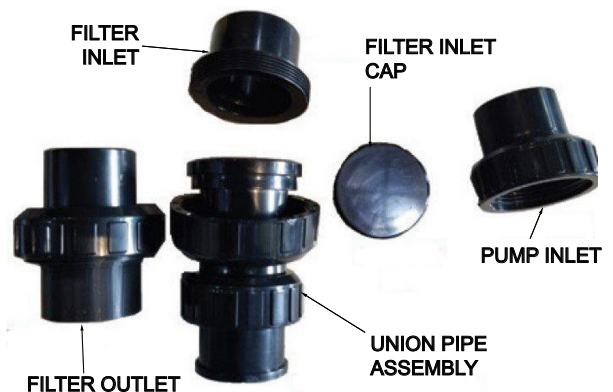


Figure 3. Union Kit Parts Identification Details

Cartridge Filter and Pump

1. Confirm the positioning to ensure that the instructions, warnings and pressure gauge are visible to the operator. Also, confirm that the piping connections, control valve and drain valve, are accessible for servicing and winterizing.
2. Place the pump on the mounting base with the lint pot (or pre-filter bucket) oriented to easily accept the incoming pipe from the pool (suction line). The outlet should be horizontal and inline to the filter inlet. Secure the pump to the base with the four M8 x 30 mm bolts provided. See **Figure 6**.
3. Position the cartridge filter on the mounting base so that the chosen filter inlet aligns with the pump outlet. There must be sufficient space above the filter to remove the lid and cartridge for cleaning and servicing. Secure the filter to the base with the four M4 x 35 mm screws provided. See **Figure 6**.
4. Install the union pipe assembly between the pump and filter, securing the locking nuts to the filter outlet and the chosen filter inlet. Make sure the O-ring is lubricated and is in the proper position in the union. Hand tighten the nuts to secure the connection. For pipe sizes, refer to the specifications. See **Table A**.

NOTE: Chosen filter inlet dictates orientation of filter outlet.

5. Affix provided plumbing fittings to pump inlet and filter outlet. Attach incoming (suction) pipe to pump inlet, and outlet (return) pipe to filter outlet.

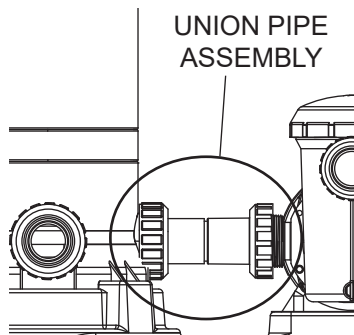


Figure 4. Union Connection Location

5. START- UP

⚠ WARNING: To eliminate risk of injury, ensure the pump is switched off and the air release valve is opened before removing the lid.

Before pump start up:

1. Make sure the filter cartridge is inside the filter and that the lid is securely fastened using the LID LOCK RING. See **Figure 5**.
2. Start pump:
 - a. Open the air release valve on the filter lid until water flows out.
 - b. Close off the air release valve.
 - c. Check to ensure that there is good water flow back to the pool. Operate the filter for a long enough time daily to circulate the full volume of pool water at least once. The filter should also be operated anytime the pool is in use and, for about one hour afterwards. During winter, running time may be reduced. Depending upon the system design, type and size of spa or pool, filter operating requirements will vary. Consult your builder or spa supplier as needed for recommendations.
3. Clean the cartridge whenever the volume and speed of water flow to the pool starts to diminish.

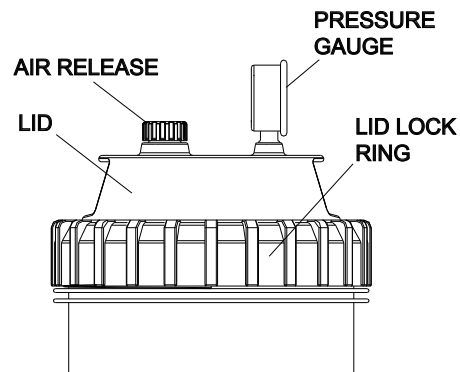


Figure 5. Lid Attachment, Pressure Gauge

6. GENERAL MAINTENANCE

It is essential to set up a regular schedule to clean the filter cartridge to the swimming water clear. The time between clean cycles, and the length of cycles, will depend on size of pool, usage, and other environmental conditions. Consult your local pool professional to work out a program that best suits your pool. Regular maintenance can identify potential issues early and thus save on expensive maintenance later on.

It is highly recommended that regular maintenance of your swimming pool equipment, including the filter, be performed by a qualified pool professional. This will extend the life of your equipment and give you the best performance.

Cleaning

⚠ WARNING: Failure to operate your filter system, or inadequate filtration, can cause poor water clarity obstructing visibility in your pool. Poor water clarity may obscure objects in the water which, while swimming and diving, could cause serious injury or death. Never swim in a pool with poor water clarity.

The normal pressure gauge reading is between 7-10 psi. When the pressure gauge reads above 12 psi, the filter cartridge needs cleaning.

⚠ DANGER: These instructions **MUST BE FOLLOWED EXACTLY** to prevent the lid from being blown off when opening the lid.

1. Turn off the pump and close the valves on the suction and return lines.
2. Open the air release valve on the lid. See **Figure 5**.
3. Unfasten the lid lock ring to remove the lid.
4. Remove the cartridge element. Clean it using a garden hose. Clean each pleat in turn until all are clean. Every 12 months return to your local pool professional to have it inspected or replaced.
5. Replace the cartridge element, carefully locating it in the bottom spigot.
6. Clean the O-ring lid, replace the lid and press firmly into place.
7. Fasten the lid lock ring.
8. Open the valves and turn on the pump. Close the air bleed valve when all air has been expelled.

Chemical Cleaning

Algae, calcium, clay, suntan oil and body oils can form a coating on the cartridge membrane which may not be easily removed using normal hosing off of the membrane. Instead, remove those stubborn issues by soaking the element in a de-greaser and/or de-scaler. Your local dealer or pool professional will be able to recommend suitable products. Additionally follow local guidelines and pool

professional advice to optimize water quality issues that the filter does not control, but is impacted by, such as pH and chlorine levels.

Cartridge Filter Winterization

⚠ CAUTION: Allowing water to freeze in the system will damage the system and cause potential water damage, flooding and potential property damage.

CAUTION: Do not use anti-freeze solution except Propylene Glycol, as other anti-freezes are highly toxic and will damage the pump.

For locations where the water may freeze, it is important to winterize your cartridge filter. Follow this simple and easy procedure to ensure that your filter will last a long time.

1. Make sure the pump is off and also turn off any automatic controls or circuit breakers to make sure the system cannot turn on inadvertently.
2. Disconnect the pump and drain out all of the water. Clear the basket of any leaves or debris. Let the pump body dry completely.
3. Disconnect the filter hoses that are attached to the pool.
4. Open the cartridge filter air release valve and drain out all of the water from it.
5. Open the ring lock and take out the filter element for cleaning and let it dry completely.
6. The cartridge filter tank body should be dried completely too. Any excess water or moisture could cause mold to grow and create an unpleasant odor.
7. Store the filter body, filter cartridge, the pump and hoses in a warm, dry area for the winter.

Failure to follow the above steps could cause the cartridge filter assembly to expand and crack from ice formation. Make sure to protect your investment and properly winterize your filter system.

Period	Check Point	Related Problems
Weekly	Check pressure gauge	If pressure increases to 12 psi or higher rinse the filter per instructions.
Quarterly	Check all gaskets and pressure gauge	Isolate and turn off the pump. Remove all gaskets and turn them over. You can also apply a silicone-based grease to extend gasket life. If dried out or cracked, contact your local pool professional for replacement.
	Check around the unit for leaves/debris or signs of flooding	Replace any debris that is restricting air circulation around the filter. If in a flood prone location, rectify.
	Check for any insects/ ants etc	It is a good practice to use a good quality surface spray around your equipment. Make sure all units are turned off and then spray around all units to eliminate any insects, ants, etc.
	Check for any leaks	If you notice any water leaking from the filter or other equipment, check the gaskets first and reseal. If leaks continue, contact your local pool professional to assess and rectify.

Table B. Maintenance Service Schedule

7. TROUBLESHOOTING

Filter

Problem	Cause	Action
Pool water is cloudy due to poor filtering	Cartridge membrane is dirty	Wash to remove dirt
	Algae build-up on filter membrane due to poor water chemistry	Clean filter chemically, adjust pool chlorine level
	Calcified cartridge membrane due to poor water chemistry	Clean filter chemically, adjust pool pH
	Heavy swimmer usage	Increase filter cycles
	Flow rate on pump is incorrect for pool size	Change system as needed
	Cleaning cycle is too short or infrequent	Increase cycle length and frequency
Filter leaking water	Tank cracked	Replace
	Drain plug is not tight	Re-tighten
	O-ring is damaged	Replace
Pressure gauge leak	Seal broken	Replace Teflon tape and re-tighten
Abnormal loss of pool water	Leak inside the control valves	Re-tighten or replace as needed
	Leak from pool or PVC piping	Inspect, repair, replace
High filter pressure	Filter requires washing	Wash
	Calcified filter membrane due to poor water chemistry	Clean filter chemically, adjust pool pH
	Algae build up on the filter	Chemically wash membrane
Low filter pressure	Air release valve incorrectly set	Re-assemble correctly
	Pump flow rate is too slow	Check speed and control valves

Table C. Troubleshooting Filter

Pump

Problem	Cause	Action
Motor Does Not Start	Switch or circuit breaker is in OFF position	Turn to ON position
	Fuses blown or thermal overload open	Replace the fuses
	Locked motor shaft	Replace the pump
	Motor windings burned out	Replace the pump
	Defective starting switch inside single-phase motor	Replace the pump
	Disconnected or defective wiring	Repair the wiring
	Low voltage	Call an electrician
Pump Does Not Reach Full Speed	Low voltage	Call an electrician
	Pump connected to the wrong voltage	Call an electrician
Motor Overheats (Circuit Breaker Trips)	Low voltage	Call an electrician
	Motor windings connected to the wrong voltage on dual-voltage models	Call an electrician
	Inadequate ventilation	Relocate the pump
Pump Delivers No Water	Pump is not primed	Prime the pump
	Closed valve in the suction or discharge line	Open the valve
	Leakage or air into the suction system	Call a plumber
	Impeller is clogged	Disassemble the pump, remove obstruction
Leakage of Water at Shaft	Shaft seal requires replacement	Replace the seal
Low Pump Capacity	Valve in suction or discharge line partly closed	Open or replace the valve
	Suction or discharge line partly plugged	Clear obstruction
	Suction or discharge line is too small	Re-plumb with a larger pipe diameter
	Plugged basket in skimmer or hair and lint strainer	Clean basket
	Dirty filter	Clean filter
	Impeller is clogged	Disassemble pump
High Pump Pressure	Discharge valve or inlet fittings closed too much	Readjust or replace
	Return lines is too small	Re-plumb with a larger pipe diameter
	Dirty filter	Clean filter
Noisy Pump and Motor	Plugged basket in skimmer or hair in lint strainer	Clean basket
	Worn motor bearings	Replace pump
	Valve in suction line partly closed	Readjust valve
	Suction line partly plugged	Clean or remove plug
	Vacuum hose is plugged or is too small	Clean or remove plug
	Pump is not supported properly	Examine or replace base
Air Bubbles at Inlet Fittings	Leakage of air into the suction line at the connections or valve stem	Call plumber
	Cover gasket of hair and lint strainer needs cleaning	Clean cover gasket
	Low water level in pool	Refill pool

Table D. Troubleshooting Pump

8. ILLUSTRATED PARTS LIST

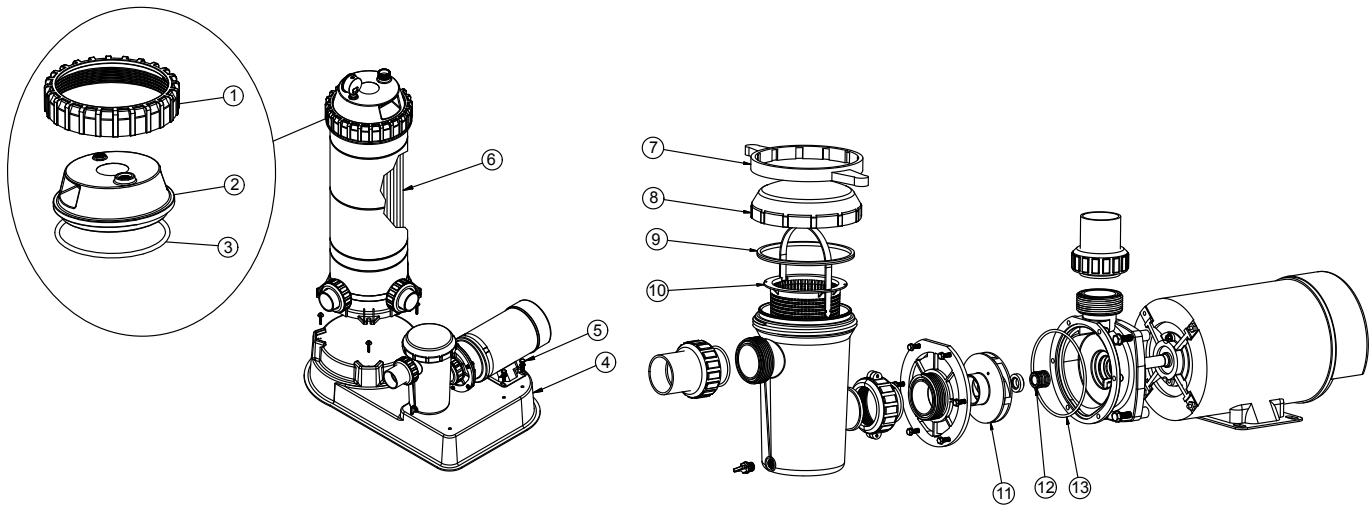


Figure 6. Cartridge Filter with Pump Exploded View

Item	Description	Raypak Order No.
1	Kit - Cartridge Filter Cover	018245F
2		
3		
4	Kit - Cartridge Filter Base	018238F
5	Kit - Mounting Hardware for Pump	018248F
6	Kit - Cartridge Filter Element RPCFP50 Kit - Cartridge Filter Element RPCFP75 Kit - Cartridge Filter Element RPCFP100 Kit - Cartridge Filter Element RPCFP150/152 Kit - Cartridge Filter Element RPCFP202	018240F 018241F 018242F 018243F 018244F
7	Kit - Transparent Cover AGP	018225F
8		
9		
10	Kit - Pump Basket AGP	018226F
11	Kit - Pump Impeller RPAGP75	018249F
	Kit - Pump Impeller RPAGP100/102	018250F
	Kit - Pump Impeller RPAGP150/152	018251F
12 13	Kit - Mechanical Seal 1/2" with O-Ring	018227F

Table E. Replacement Parts

9. WARRANTY

LIMITED WARRANTY ABOVE GROUND SWIMMING POOL FILTER SYSTEMS Models: RPSFP16, RPSFP18, RPSFP181, RPSFP21, RPSFP211, RPCFP50, RPCFP75, RPCFP100, RPCFP150, RPCFP152, RPCFP202

SCOPE OF WARRANTY

Raypak, Inc. ("Raypak") warrants to the original owner that the above ground swimming pool cartridge filter system or sand filter system models listed above and sold with this Limited Warranty certificate (the "Filter System"), when installed in the United States of America with a pool, will be free from defects in materials and workmanship under normal use and service for the Applicable Warranty Period defined herein. In accordance with the terms of this this Limited Warranty, Raypak will, at its option, repair or furnish a replacement for the FILTER SYSTEM or any defective part of the FILTER SYSTEM that fails in normal use and service during the Applicable Warranty Period. The repair or replacement will be warranted for only the unexpired portion of the original Applicable Warranty Period, or the Extended Warranty Period, as the case may be.

EFFECTIVE DATE

The Effective Date of this Limited Warranty is the date of original installation if properly documented. If you are not able to provide documentary proof of the date of original installation, the Effective Date will be thirty (30) days after date of purchase, not to exceed one (1) year after date of manufacture. All Applicable Warranty Periods specified in this Limited Warranty are measured from the Effective Date.

APPLICABLE WARRANTY PERIOD – UNREGISTERED

If the FILTER SYSTEM is installed with a pool, the Applicable Warranty Period is ninety (90) days from the Effective Date, parts only, for the FILTER SYSTEM and component parts.

EXTENDED WARRANTY PERIOD – REGISTERED

If, within 90 days of the Effective Date, the FILTER SYSTEM is installed in a pool at a single family residential dwelling and registered with Raypak (www.raypak.com/warranty), then the Applicable Warranty Period is one (1) year from the Effective Date for the FILTER SYSTEM and component parts.

LABOR AND SHIPPING COSTS

This Limited Warranty does **NOT** cover any travel time or any labor costs. Furthermore, unless applicable state law provides otherwise, this Limited Warranty does **NOT** cover any shipping costs to and from Raypak's designated service provider or to or from the installation site. All of the foregoing costs and expenses are your responsibility, unless applicable state law provides otherwise.

WARRANTY EXCLUSIONS

This Limited Warranty does **NOT** apply:

1. if the FILTER SYSTEM has been moved from its original place of installation, or if the original owner no longer owns the property where the original installation was made;
2. if the FILTER SYSTEM is not properly installed in a pool in accordance with applicable local codes and ordinances, good trade practices and the manufacturer's installation instructions;
3. if the rating plate(s) or serial number(s) are altered or removed;
4. if the FILTER SYSTEM is modified in any way, or if non-factory authorized accessories or other components are used in conjunction with the FILTER SYSTEM;
5. to damage, malfunctions or failures resulting from failure to properly install, operate or maintain the FILTER SYSTEM in accordance with the manufacturer's instructions;
6. to damage, malfunctions or failures resulting from abuse, act of nature, accident, fire, flood, freeze, lightning or the like;
7. to damage, malfunctions or failures resulting from connected system control devices;
8. to performance problems caused by improper sizing of the FILTER SYSTEM or electric service voltage, wiring or fusing;

- 9. to damage, malfunctions or failures resulting from any alteration, including the use of any attachment, including without limitation, any energy saving device not authorized by the manufacturer;
- 10. to damage, malfunctions or failures resulting from misuse or neglect, including but not limited to, freeze-ups.

HOW TO MAKE A WARRANTY CLAIM

You should immediately notify your dealer and provide proof of purchase model number serial number and date of installation. If the dealer is not available, please contact Raypak customer service at 805-278-5300. **Proper authorization MUST be obtained PRIOR to any repairs for the Limited Warranty to apply. This Limited Warranty is VOID if the product is repaired or altered in any way by ANY persons or agencies other than those authorized by Raypak.**

When requesting support please be ready to supply the model number, serial number, date of original installation and a description of the problem. Raypak reserves the right at all times to inspect, or require the return of, the defective FILTER SYSTEM or component part and to verify warranty coverage at its factory.

Warranty service CANNOT be initiated until the status of the warranty coverage has been established.

EXCLUSIVE WARRANTY- LIMITATION OF LIABILITY

THE LIMITED WARRANTY IS THE ONLY WARRANTY PROVIDED BY RAYPAK IN CONNECTION WITH THE FILTER SYSTEM AND ITS COMPONENT PARTS. NO ONE IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES ON RAYPAK'S BEHALF. ANY IMPLIED WARRANTIES, INCLUDING MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL NOT EXTEND BEYOND THE APPLICABLE WARRANTY PERIOD SPECIFIED IN THIS LIMITED WARRANTY. RAYPAK'S SOLE LIABILITY WITH RESPECT TO ANY DEFECT SHALL BE AS SET FORTH IN THIS LIMITED WARRANTY. IT IS AGREED THAT RAYPAK SHALL HAVE NO LIABILITY WHETHER UNDER THIS LIMITED WARRANTY OR IN CONTRACT, TORT OR NEGLIGENCE OR OTHERWISE FOR CLAIMS FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING NO LIABILITY FOR DAMAGE FROM WATER LEAKAGE), ALL OF WHICH ARE EXPRESSLY EXCLUDED, NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY LIMITED REMEDY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, OR FOR THE EXCLUSION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

We suggest you immediately record the model, serial number, date of original installation and receipt of purchase and retain this Limited Warranty Certificate in the event warranty service is needed.

DO NOT RETURN THIS DOCUMENT TO RAYPAK. KEEP IT WITH YOUR POOL FILTER SYSTEM OR BUSINESS RECORDS.

Register your product online at www.raypak.com/warranty

RAYPAK, INC., 2151 Eastman Avenue, Oxnard, CA 93030 • (805) 278-5300 FAX (800) 872-9725



www.raypak.com

Raypak, Inc., 2151 Eastman Avenue, Oxnard, CA 93030 (805) 278-5300 Fax (805) 278-5468