

Instruction Manual

**eco-ENERGY
EFFICIENT**

With
3 YEAR
Warranty

eco-SPHERE™ PUMP

POND & WATERFALL PUMP

- PUR1400
- PUR2800
- PUR4100
- PUR5400C

INCLUDES INLINE CONTROLLER
Customize &
Adjust Water Flow For
Any Application



360°
Rotating
Adapters

Alpine
CORPORATION



Thank you for purchasing one of Alpine's Eco-Sphere™ pumps.

At Alpine, our goal is to supply our customers with quality products that provide convenience and value to your life. We hope you enjoy your purchase and thank you for choosing Alpine: Your One Stop Shop for all your Solar, Gift, Garden and Pond Supplies.

Our Eco-Sphere™ pumps are ideal for filtration systems, waterfalls, and ponds. Engineered to be highly energy efficient while maintaining maximum output. They are designed for continuous operation even in the harshest pond environments.

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LIMITED 3 YEAR WARRANTY

At our discretion, Alpine Corporation™ will repair or replace any pump found to have Manufacturer's defects as follows: pump body, cover, filter and accessories within three years of original purchase. Impeller and internal moving parts are warranted for one year of original purchase. This warranty does not cover any replaceable filtering material supplied with the pump or filter as it is considered expendable. Proof of purchase is required. Warranty does not cover damage resulting from negligent handling, misuse or lack of reasonable maintenance or care. Warranty is valid against defects due to material and the company's workmanship only. The sole obligation is at Alpine's discretion to replace/repair the defective unit with a suitable replacement part. Units should be checked for proper operation prior to returning as defective. No liability for loss or damage of any nature or kind, whether arising out of or from the use of the product, whether defective or not defective, is assumed by Alpine Corporation™ or its affiliates. Damaging, cutting or altering power cord, removing or defacing product labels voids any warranty consideration. Damages or injuries resulting from negligence or misuse of the product are not covered by warranty.

INTRODUCTION

Alpine's Eco-Sphere™ high performance pumps are ideal for filtration systems, waterfalls, and ponds. Engineered to be highly energy efficient while maintaining maximum output. Our durable "pre-filter" pump cage minimizes pump damage and clogging by selectively screening larger debris particles. Pumps feature a convenient carrying handle and 360° rotating adapters for easy placement. Includes "click fit" connectors to allow simple disassembly for routine maintenance and compatibility with other Alpine series pond systems. For select models, the precise controller enables pumps to customize and adjust water flow on any application.

For a car to stay in great condition, proper maintenance is required. Therefore, Alpine suggests that once a week, you verify that the pump is performing adequately. If you detect a drop in pump performance (such as a decrease in water flow from the pump or to the waterfall), first clean the pump's pre-filter cage and the tubing connected to the pump. If the water flow is still not fully restored to its original performance, simply clean the impeller and internal pump body. (See pages 3 & 4 for maintenance instructions)

SAFETY INFORMATION

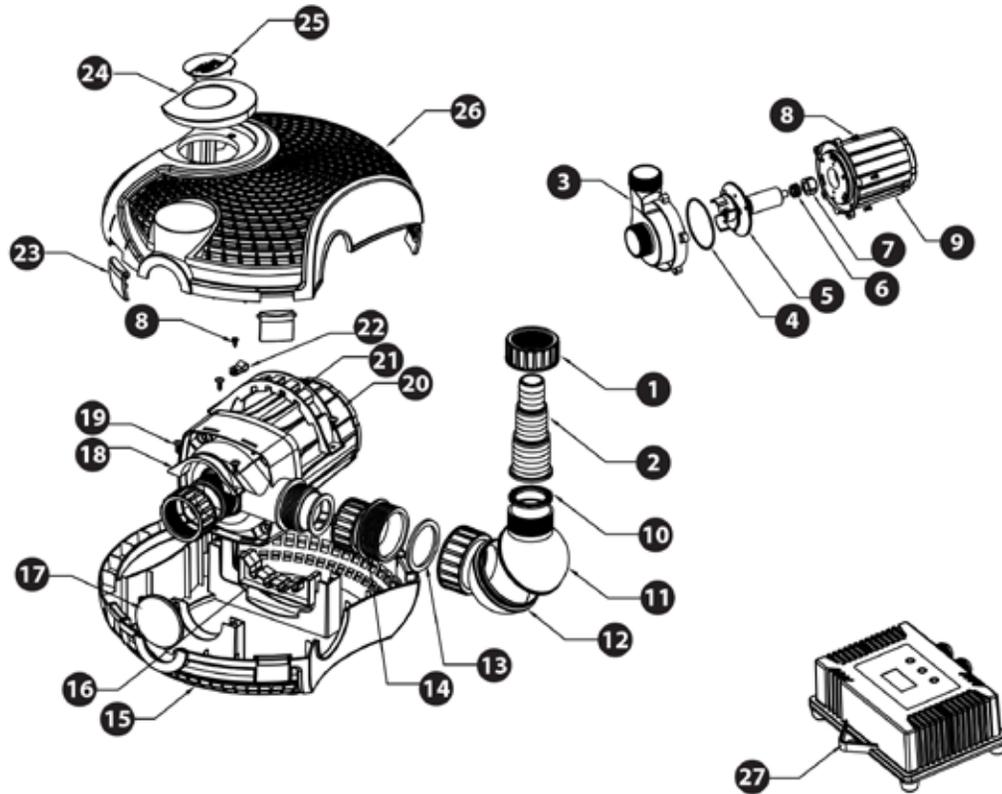
-  **WARNING:** Risk of electric shock – This pump has not been approved for use in swimming pool or marine areas
-  **WARNING:** To provide continued protection against risk of electric shock, connect to properly grounded, ground fault circuit interrupter (GFCI) outlets only, using the following guidelines:
 - (A) Read and follow all safety instructions and all the important notices on the appliance before using the pump. Failure to do so may result in loss of fish life and/or damage to this appliance.
 - (B) Have a qualified electrician install a properly grounded receptacle outlet, acceptable for outdoor use and protected from snow and rain.
 - (C) Any wiring of pumps should be performed by a qualified electrician to ensure code compliance and user safety.
 - (D) This is a pond pump. This pump has been evaluated for use with water only. Do not use this pump for other than intended use (i.e.: Do not use in swimming pools, aquariums, etc. Not to be used as a sump pump).
 - (E) Do not use this pump in swimming pools or other situations where people are immersed
 - (F) If an extension cord is necessary, ensure connection is watertight and dust proof. A cord with proper rating should be used. A cord rated for less amps or watts than the appliance rating may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled. The connection should be carried out by a qualified electrical installer.
 - (G) Unplug pump at receptacle outlet when not in use or before removal from pond.
 - (H) To reduce risk of electrical shock, all wiring and junction connections should be made per local codes. Requirements may vary depending on usage and location.
 - (I) Inspect the power cable before using. The power cable should be protected at all times to avoid punctures, cuts, bruises and abrasions. Never cut the cord.
 - (J) Never handle power cords with wet hands.
 - (K) To avoid injury, do not touch moving or hot parts.
 - (L) Do not use power cable to lift pump. (**See figure 1.1**)



Figure 1.1

-  **IMPORTANT:** Alpine Corporation is not responsible for losses, injury, or death resulting from a failure to observe these safety precautions, misuse or abuse of pumps or equipment.

COMPONENTS AND PUMP PARTS



(Figure 2.1)

Parts List: (Figure 2.1)

No.	Description	No.	Description
1	1.5" Plastic Nut	15	Pre-filter Cage- Bottom
2	2" Hose Fitting	16	Pump Holder
3	Pump Front Cover	17	Plastic Cover
4	O-Ring	18	Lower Bracket
5	Impeller	19	(4) Stainless Steel Screw 2
6	Ceramic Bearing	20	Pond Pump
7	Rubber Bearing	21	Upper Bracket
8	(5) Stainless Steel Screw 1	22	Cable Clamp
9	Pump Body	23	(4) Clips
10	1.5" O-Ring	24	Plastic Insert
11	1.5" Rotating Semi-Ball	25	Stainless Steel Alpine Logo Insert
12	2" Rotating Semi-Ball	26	Pre-filter Cage- Top
13	2" O-Ring	27	Controller (available on select models)
14	Adapter		

Parts can be ordered from the store where the pump was originally purchased.

DISMANTLING AND REASSEMBLING

! WARNING: Always unplug or disconnect all appliances in the pond from the electrical supply before installing, repairing, maintaining or handling the equipment in the water.

Dismantling (See Figure 2.1 on page 3):

- A. Follow the safety instructions. Unplug the power cord.
- B. Remove the top pre-filter cage (26) from the bottom pre-filter cage (15) by opening the four clips (23). Then push upper handle from the top pre-filter cage (26) towards the pump to release the cage.

See figure 2.2

- C. Remove the steel screw (8) from the cable clamp (22) to release the cord.
- D. Remove two steel screws (8) from the upper bracket (21) and remove.
- E. Remove two steel screws (8) from the lower bracket (18) and remove.
- F. Remove the pond pump (20) with the pump casing from the bottom pre-filter cage (15).
- G. Remove the four pump casing screws (19) and remove pump front cover (3).
- H. Remove the impeller (5) from the pump body (9). **Important Note:** The impeller magnet is powerful and will be pulled back towards the pump body (9) with great force. Ensure your fingers do not get clamped in the process. Pay attention to the O-ring (4), it will be attached to the pump body (9).
- I. Clean all parts with clear water and a soft sponge or cloth. **See figure 2.3**
- J. Replace defective parts (if any).



(Figure 2.2)



(Figure 2.3)

Reassemble (See Figure 2.1 on page 3):

- A. Insert the impeller (5) back into the pump body (9) **Important Note:** The impeller magnet is powerful and will be pulled back towards the pump body (9) with great force. Ensure your fingers do not get clamped in the process. **See figure 2.4**
- B. Replace the O-ring (4) and properly fit to the pump body (9).
- C. Check whether the impeller (5) can rotate freely.
- D. Replace the pump front cover (3) on the pump body (9) and then evenly tighten the four pump casing screws (19).
- E. Replace the pond pump (20) with the pump front cover (3) back in to bottom pre-filter cage (15).
- F. Place the upper bracket (21) over the pond pump (20) securing into the grooves. Then screw two steel screws (8) into place.
- G. Place the lower bracket (18) over the pond pump (20). Then screw two steel screws (8) into place.
- H. Replace the cord into the cable clamp (22) and insert a steel screw (8).

- I. Replace the top pre-filter cage (26) by pushing the upper handle into the bottom pre-filter cage (15) clicking into place. Then close the 4 clips (23).
- J. Restart the pump in water after properly reinstalling all the components.



(Figure 2.4)

PUMP INFORMATION

Eco-Pump	Eco-Sphere			
				
Model	PUR1400	PUR2800	PUR4100	PUR5400C
Maximum Flow Rate	1400 GPH/ 5300LPH	2800 GPH/ 11000 LPH	4100 GPH / 15500 LPH	2000-5400 GPH/ 1500-200000 LPH
Maximum Head	12'	16.5'	20'	20.5'
Motor Type	Magnet	Magnet	Magnet	Magnet
Wattage	35	80	145	200
Power Cord Length	33'	33'	33'	33'
Pump Discharge Diameter	1.5"	1.5"	2"	2"
Pump Dimensions	13"L x 12"W x 6"H	13"L x 12"W x 6"H	13"L x 12"W x 6"H	13"L x 12"W x 6"H
Controller Dimensions	NA	NA	NA	7"L x 6"W x 3"H
Pump Flow 5'	982 GPH/ 3717 LPH	1806 GPH/ 6836 LPH	2761 GPH/ 10451 LPH	3672 GPH/ 13900 LPH
Pump Flow 10'	348 GPH/ 1317 LPH	1014 GPH/ 3838 LPH	1494 GPH/ 5655 LPH	2469 GPH/ 9346 LPH
Pump Flow 15'	-	-	617 GPH/ 2335 LPH	1624 GPH/ 6147 LPH
Pump Flow 20'	-	-	266 GPH/ 1007 LPH	698GPH/ 2642 LPH

INSTALLATION

•Only operate the pump when it has water running through it. Failure to do so will overheat the pump and cause it to fail, thus voiding the warranty. **DO NOT OPERATE DRY!** If you are going to use your Eco-Sphere™ pump “in-line” or “out of the water,” you must prime the pump before turning it on. Priming a pump means to feed water into the tubing both in and out of the pump, to help create a suction effect to draw the water from the source. Failure to do so may cause your pump to run dry, because of air in the system- which could cause the pump to appear not to be working and will eventually burn out the pump altogether. Remember, running an Eco-Sphere™ pump dry voids the warranty!

•Be sure that the pre-filter cage is fully snapped shut (*See figure 3.1*). Failure to operate the pump without the pre-filter cage on will allow large debris to enter the pump, causing the pump to fail and voiding the warranty. To protect your fish or other pond wildlife from being sucked into the pump, it is highly recommended to not operate the pump without the pre-filter cage on.

•For models that come with an inline controller, please plug into your local power supply. If desired, please hang onto the wall using the notch at the top of the controller. Use the plus and minus buttons to adjust water flow and power button to turn on or off.

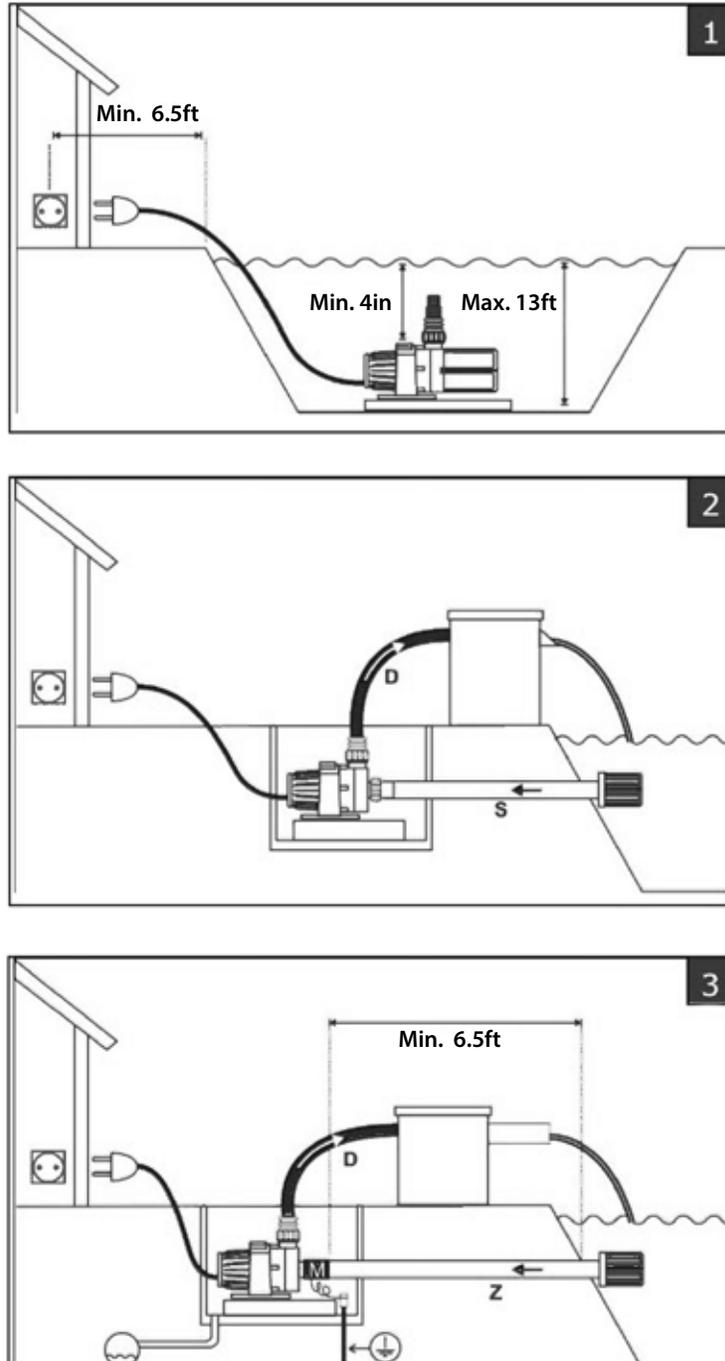
- Do not wear loose clothing that may become entangled in the impeller or other moving parts during installation.
- Keep clear of suction and discharge openings. DO NOT insert fingers in pump with power connected.
- Do not pump hazardous materials or liquids, such as oil, saltwater or organic solvents.
- Be sure no debris will block or restrict the pre-filter cage from water entering.



(Figure 3.1)

TYPICAL INSTALLATION FOR YOUR POND

The Eco-Sphere™ pump is designed to be submerged directly into the pond or out of the pond as long as water is running through the pump. To maximize pond circulation, locate the pump as far away as possible from the location of the water running into the water feature.



(Figure 4.1)

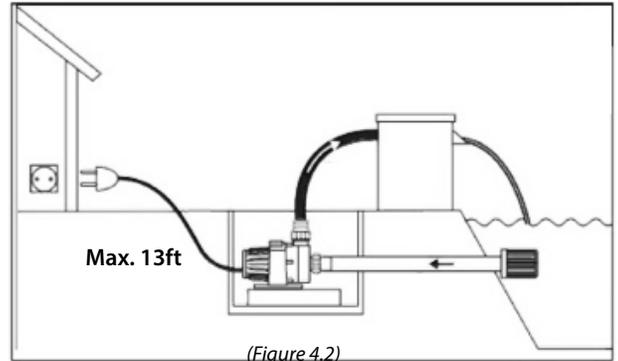
It is recommended that the pump is NOT positioned in the deepest area of the pond. This will protect the fish from suffocating by preventing the pond from completely draining in case of a leak in the tubing. Bricks or stones can be used, if needed, to raise the pump up off the bottom of the pond. The pump should be placed a maximum depth of 13 feet.

Starting up Pumps Installed in Water (See Figure 4.1 on page 6)

Important Note: Do not run the pump dry as this can cause damage.

- A. Place the pump in the water and let it fill with water
- B. To prevent unnecessary soiling, install the pump on a solid stone tile to ensure that it does not stand in sludge and suck it in.
- C. Ensure that there is at least 4 inches of water above the pump so that the pump cannot suck in air.
- D. The pump should not be immersed to a depth exceeding 13 feet under water.
- E. Turn the pump casing in the desired position and install the accessories on the threaded connection of the pump.
- F. Plug your pump into your local power supply and on select models you can control the flow rate from the controller.

See figure 4.2



(Figure 4.3)

Starting Pumps with Dry Installation (See Figure 4.1 on page 6)

The pump can also be installed outside the water.

- A. Remove the Pre-filter cage from the pump.
- B. Place the pump below the water level next to the pond, so that the water can flow into the pump (this pump is not self-priming).
- C. Turn the pump to the desired position and install a suction hose and output hose to the pump, to ensure air and water-tightness. **See figure 4.3**
- D. The suction hose must be completely filled with water before starting operation.
- E. Start the pump by plugging your pump into your local power supply and on select models you can control the flow rate from the controller.
- F. Tip: To protect the pump from soiling, the suction side must be provided with a pre-filter.

Removal and Storage of Waste

Electrical home appliances should be disposed of according to US standards. The product should not be disposed of with normal household waste but should be collected separately. You are responsible to ensure that the appliance is returned to a specially designated collection point, to be dismantled and you're processed in an environmentally friendly manner.

For more information on local waste collection points, please contact the municipality under which your residence is covered.



OPERATION AND MAINTENANCE

WARNING: Always unplug or disconnect all appliances in the pond from the electrical supply before installing, repairing, maintaining or handling the equipment in the water.

To avoid shortening the life of the pump, follow these simple maintenance procedures:

-Once a week, verify that the pump performance is satisfactory. If you detect a drop in pump performance (such as a decrease in water flow from the pump or to the waterfall) first clean the pump's pre-filter cage and tubing. If the water flow is still not fully restored to its original performance, clean the rotor impeller and motor casing.

-The pump impeller includes a high quality ceramic shaft that provides long-lasting, reliable performance when properly maintained. However, extreme care should be taken when handling the shaft during maintenance. Avoid dropping or pressing too hard on it to avoid breakage or hairline fractures, which may cause the shaft to snap while in operation.

-This pump is suitable for use in water temperatures from 32 degrees Fahrenheit (0 degrees Celsius) to 95 degrees Fahrenheit (35 degrees Celsius).

-To keep the pump in long lasting working conditions, always replace any worn parts.

Pump Pre-Filter Cage

Do not remove the pump's pre-filter cage while operating the pump. Failure to operate the pump without the pre-filter cage or operating the pump with a broken cage will allow large debris to enter the pump causing damage to the pump, thus voiding the warranty.



Pump Pre-Filter Cleaning

We recommend inspecting your pump on a regular basis to ensure it is functioning properly. If you notice the water flow rate diminish, it may be due to the pump's pre-filter cage being blocked with debris. In many cases, the clogged filter cage can be cleaned by reaching into the pond and pulling the pump out of the water to remove the debris from the filter cage.

Important Note: Always disconnect the power before performing maintenance on the pump. Pull off any debris stuck to the pump pre-filter cage and/or use a garden hose to spray off any debris stuck to the filter cage.

WINTER PUMP CARE

In cold climates, Alpine highly recommends to store your pump inside during the coldest months of the year. You may still use your Eco-Sphere™ pump during the winter time, but the Eco-Sphere™ pump cannot be used in below freezing temperatures. This pump is suitable for use in water temperatures from 32 degrees Fahrenheit (0 degrees Celsius) to 95 degrees Fahrenheit (35 degrees Celsius).

Please follow the steps below:

1. Disconnect the plug cord from the power supply.
2. Disconnect the tubing connected to the fitting.
3. Clean the pump and pre-filter cage with fresh water and store the pump in a frost-free location in container full of water to prevent the O-rings from drying.



TROUBLESHOOTING

Problem	Solutions
1. If your pump has reduced water flow	<p>A. Pump or tubing may be clogged, check area around pump to be sure there is no debris blocking water from entering into the pump.</p> <p>B. It may be necessary to clean the pump pre-filter and impeller. For instructions on how to clean your pump please turn to page 4 & 8.</p> <p>C. If none of the above solve your issue, the impeller needs to be replaced.</p>
2. If your pump hums and doesn't push water	<p>A. Pump or tubing may be clogged, check area around pump to be sure there is no debris blocking water from entering into the pump.</p> <p>B. It may be necessary to clean the pump pre-filter and impeller. For instructions on how to clean your pump please turn to page 4 & 8.</p> <p>C. Make sure the pump is receiving the correct voltage.</p> <p>D. If none of the above solve your issue, the impeller needs to be replaced.</p>
3. If your pump has completely shut-off	<p>A. The ground-fault circuit interrupter (GFCI) may have tripped.</p> <p>B. Check the temperature of the water to ensure it's within the working temperatures.</p> <p>C. It may be necessary to clean the pump pre-filter and impeller. For instructions on how to clean your pump please turn to page 4 & 8.</p> <p>D. If none of the above solve your issue, the impeller needs to be replaced.</p>
4. If your pump turns on and off	<p>A. Pump or tubing may be clogged, check area around pump to be sure there is no debris blocking water from entering into the pump.</p> <p>B. It may be necessary to clean the pump pre-filter and impeller. For instructions on how to clean your pump please turn to page 4 & 8.</p> <p>C. Check the temperature of the water to ensure it's within the working temperatures.</p> <p>D. If none of the above solve your issue, the impeller needs to be replaced.</p>

REPLACEMENT PARTS

Alpine Pump SKU#	Alpine Replacement Parts	Description
Impeller		
PUR1400	RPC118	Impeller for PUR1400
PUR2800	RPC120	Impeller for PUR2800
PUR4100	RPC128	Impeller for PUR4100
PUR5400C	RPC130	Impeller for PUR5400C
O-Rings for Impeller		
PUR1400	PUR1428-OR	O-Ring for PUR1400
PUR2800	PUR1428-OR	O-Ring for PUR2800
PUR4100	PUR4154-OR	O-Ring for PUR4100
PUR5400C	PUR4154-OR	O-Ring for PUR5400C
Fitting Set		
PUR1400	PUR-FIT	Fitting for PUR1400 (includes (2) 1.5" & 2" rotating Semi-ball, 1.5" plastic nut, 2" hose fitting, (2) 1.5" & 2" O-rings)
PUR2800	PUR-FIT	Fitting for PUR2800 (includes (2) 1.5" & 2" rotating Semi-ball, 1.5" plastic nut, 2" hose fitting, (2) 1.5" & 2" O-rings)
PUR4100	PUR-FIT	Fitting for PUR4100 (includes (2) 1.5" & 2" rotating Semi-ball, 1.5" plastic nut, 2" hose fitting, (2) 1.5" & 2" O-rings)
PUR5400C	PUR-FIT	Fitting for PUR5400C (includes (2) 1.5" & 2" rotating Semi-ball, 1.5" plastic nut, 2" hose fitting, (2) 1.5" & 2" O-rings)
Bracket Set		
PUR1400	PUR-BRT	Bracket for PUR1400 (Includes lower and upper brackets)
PUR2800	PUR-BRT	Bracket for PUR2800 (Includes lower and upper brackets)
PUR4100	PUR-BRT	Bracket for PUR4100 (Includes lower and upper brackets)
PUR5400C	PUR-BRT	Bracket for PUR5400C (Includes lower and upper brackets)
Pre-Filter Cage		
PUR1400	PUR-PFC	Pre-Filter Cage for PUR1400 (includes pre-filter cage-top, pre-filter cage- bottom, (4) clips)
PUR2800	PUR-PFC	Pre-Filter Cage for PUR2800 (includes pre-filter cage-top, pre-filter cage- bottom, (4) clips)
PUR4100	PUR-PFC	Pre-Filter Cage for PUR4100 (includes pre-filter cage-top, pre-filter cage- bottom, (4) clips)
PUR5400C	PUR-PFC	Pre-Filter Cage for PUR5400C (includes pre-filter cage-top, pre-filter cage- bottom, (4) clips)
Controller		
PUR5400C	RPC122	Controller for PUR5400C