



## Permeate Pump Retrofit Kit



PP-RFK-RO



PP-RFK-DI

## INSTALLATION MANUAL

### **WARNING**

**Please read carefully before proceeding with installation. Failure to follow any attached instructions or operating parameters may lead to the product's failure and possible damage to property.**

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The Permeate Pump Retrofit Kit includes the pump, 4 right angle fittings, an Automatic ShutOff (ASO) Valve, and a clip to secure the pump to the membrane housing on your system. In addition, the DI version (PP-RFK-DI) includes a Ball Valve, a Push Tee fitting, and a 1 pound Check Valve. See the Diagram on Pages 6-7 for the correct location of these additional parts.

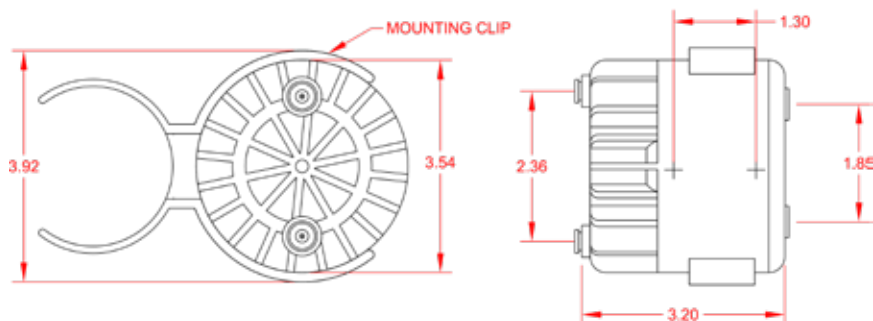
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## TECHNICAL SPECIFICATIONS

<b>Part Number:</b>	ERP 1000
<b>Pump Type:</b>	Positive displacement, reciprocating, single action diaphragm, hydraulically driven.
<b>Weight:</b>	1 lb.
<b>Materials:</b>	Wetted Materials: NSF listed and/or FDA approved
<b>Mounting:</b>	Always mount with outlet ports up. Mounting Clip included.
<b>Retrofit Mounting:</b>	The base of the membrane clip attaches to base of Permeate Pump clip with supplied fastener. Permeate Pump can then be mounted to membrane with clip.
<b>Hydraulic:</b>	Maximum Pressure: 80 PSI brine and 80 PSI Permeate side.
<b>Environmental:</b>	0-100% humidity, 32-140 degrees F ambient; water temp, 32-140 degrees F.
<b>Warranty:</b>	1 Year
<b>Agency Approval:</b>	NSF Standard 58 Certified

## PERMEATE PUMP SPECIFICATIONS (Dimensions are in inches)



## ***MOUNTING THE PERMEATE PUMP:***

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(For correct orientation of parts, refer to the diagrams on Pages 6-7 and Pages 8-9.)

1. Remove the 4 blue rubber plugs from the ports on the permeate pump and insert the 4 right angle fittings that came with the kit. (See "Working With Push Fittings" on Page 10.)
2. Attach the clip onto the RO Membrane housing. Then install the Permeate Pump onto the other side of the clip **with the arrow pointing up**. This step is VERY IMPORTANT to rid any entrapped air. (See Caution on Page 6 or Page 8.)
3. Shut off feed water and turn off storage tank valve. Bleed residual pressure by opening the faucet.
4. Locate the yellow drain tube. It is extremely important that the flow restrictor is in front of (before) the "BRINE IN" of the Permeate Pump. The pump will not operate if the flow restrictor is in the "BRINE OUT" line leading to the drain. (See Diagram on Page 6 for correct location of flow restrictor in 2 membrane system or Diagram on Page 8 for correct location for single membrane system.)
  - a. Cut the yellow tubing 12" away from the membrane (NOTE: the flow restrictor is still in this line)
  - b. Insert the cut end firmly into the "BRINE IN" fitting on the Permeate Pump. Be sure tube bottoms out in the fitting.
  - c. Insert the cut end of the remaining yellow tube into the "BRINE OUT" fitting on the Permeate Pump. Be sure tube bottoms out in the fitting.
5. Locate the blue product water (permeate) tube exiting the membrane.
  - a. Cut the blue tubing 12" away from the membrane.
  - b. Insert the cut end firmly into the "PERMEATE IN" fitting on the Permeate Pump. Be sure tube bottoms out in the fitting.
  - c. Insert the cut end of the remaining blue tube into the "PERMEATE OUT" fitting on the Permeate Pump. Be sure tube bottoms out in the fitting.
6. Locate the 1/4" black line, leaving Carbon Filter and going into the membrane.
  - a. Cut the black tubing in half. Insert the cut end that is attached to the Carbon Filter and insert it into the "IN" Port of the ASO Valve.
  - b. Insert the cut end, attached to Membrane, to the "OUT" Port.
  - c. The remaining blue line that leaves the "PERMEATE OUT" port connects to the other side of the ASO Valve (as show in diagrams).

(continued on next page)

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NOTE: The "IN" and "OUT" ports on the ASO valve are the red colored ports. They are labeled on the body of the valve. It is important that these ports be correctly oriented.

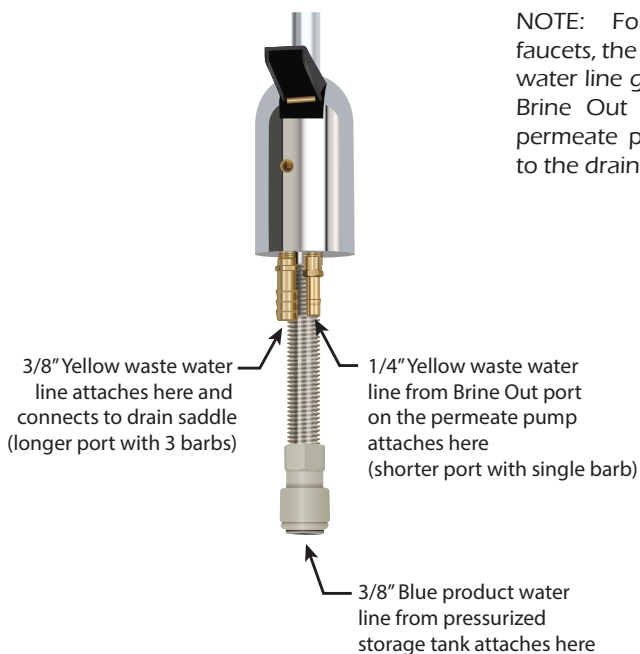
7. Turn on feed water supply and open storage tank valve. The Permeate Pump should begin cycling. An audible clicking sound will be heard as the pump operates.

IMPORTANT: If pump is not cycling (clicking), make sure all connections are made correctly and that all entrapped air has been bled from the lines by opening the faucet and tilting the system on its side.

For PP-RFK-DI: Refer to Diagram on Pages 6-7 for location of included Tee Fitting, Ball Valve, and Check Valve. It is imperative that the Check Valve be in the correct position with the arrow on the Check Valve pointing in the same direction as the water flow.

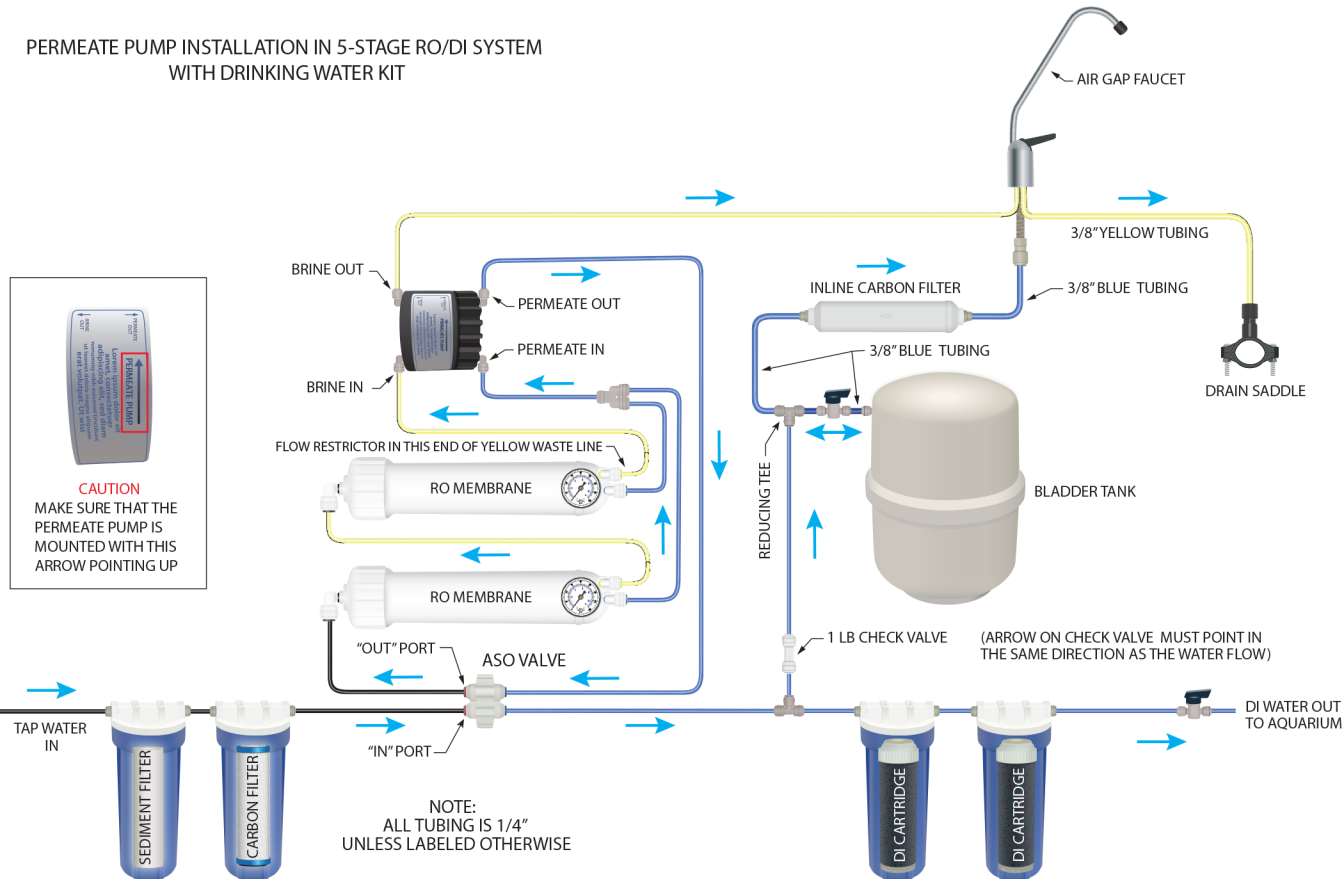
## AIR GAP FAUCET CONNECTIONS:

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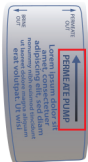


NOTE: For non-air gap faucets, the Yellow waste water line goes from the Brine Out port on the permeate pump directly to the drain.

# PERMEATE PUMP INSTALLATION IN 5-STAGE RO/DI SYSTEM WITH DRINKING WATER KIT

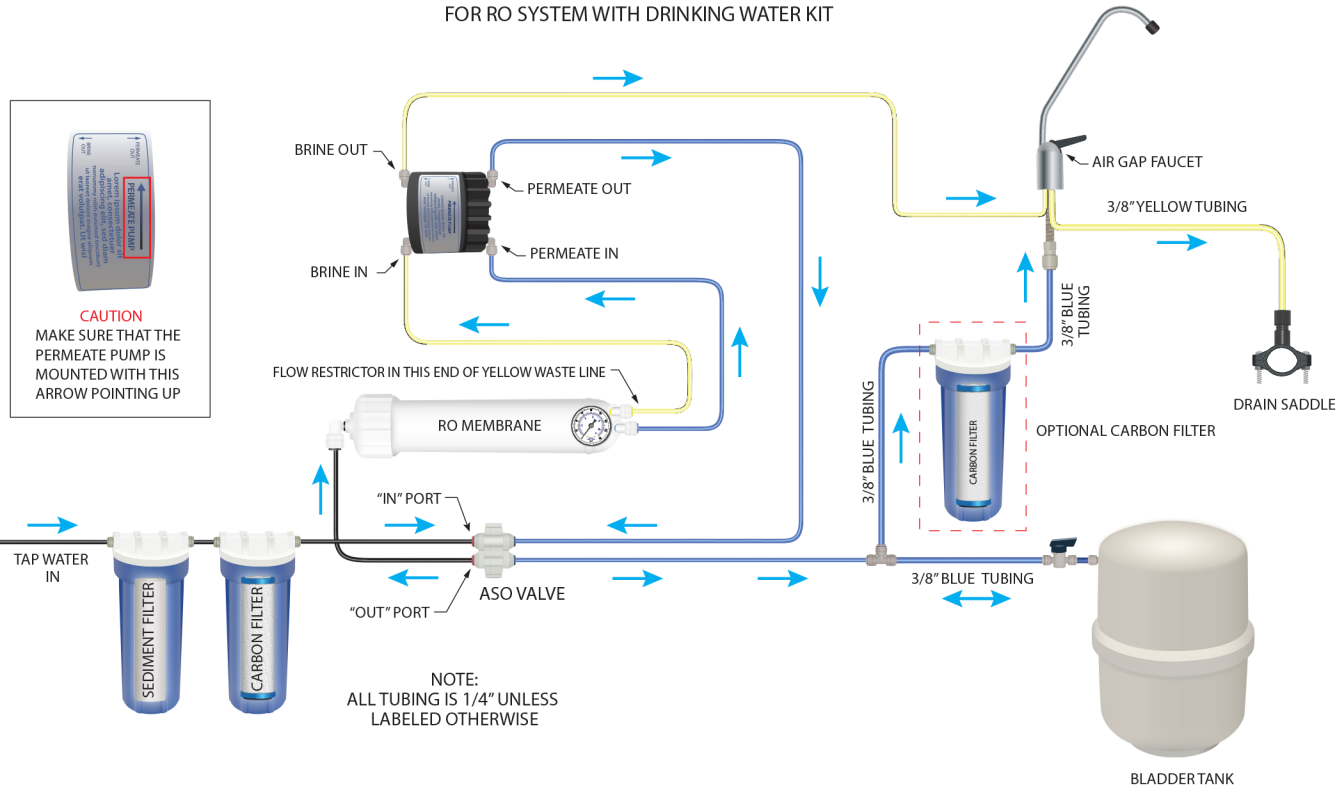


# PERMEATE PUMP INSTALLATION DIAGRAM FOR RO SYSTEM WITH DRINKING WATER KIT



## CAUTION

MAKE SURE THAT THE PERMEATE PUMP IS MOUNTED WITH THIS ARROW POINTING UP



## **WORKING WITH PUSH FITTINGS:**

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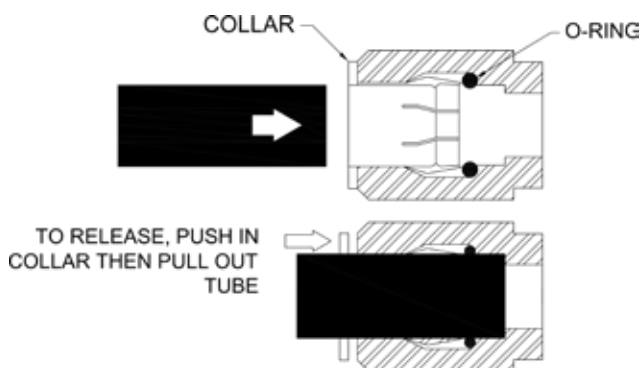
Push fittings are very reliable and convenient tubing connectors.

To remove the tubing from its push fitting:

1. Firmly depress and hold the push fitting collar down with your thumbnail.
2. While the push fitting collar is depressed, pull the tubing straight out of the push fitting. Once the tubing is removed, release the collar.

To reinsert the tubing into its push fitting:

1. Moisten the O-ring seal inside the push fitting by dripping a few drops of clean water into the fitting.
2. Grasp the tubing near the end, and insert the tubing into the push fitting.
3. Push the tubing into the fitting until resistance is felt, approximately 1/2 inch (12.7 mm). The tubing is now resting on the O-ring seal inside the fitting.
4. Firmly push the tubing approximately an additional 1/4 inch (6.35 mm) further into the fitting to completely seat the line into the fitting and past the O-ring seal.
5. Turn on the system water supply and check for leaks prior to further use or testing. If a leak is observed, you may not have pushed the tubing into the push fitting far enough to seal the tubing against the O-ring. Turn off the system water supply and reseal the tubing as described above.





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## ONE YEAR LIMITED WARRANTY:

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SpectraPure, Inc.® warrants the product to the original owner only to be free of defects in material and workmanship for a period of one year from the date of receipt. SpectraPure's liability under this warranty shall be limited to repairing or replacing at SpectraPure's option, without charge, F.O.B. SpectraPure's factory, any product of SpectraPure's manufacture. SpectraPure will not be liable for any cost of removal, installation, transportation or any other charges which may arise in connection with a warranty claim. Products which are sold but not manufactured by SpectraPure are subject to the warranty provided by the manufacturer of said products and not by SpectraPure's warranty. SpectraPure will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair or, if the product was not installed in accordance with SpectraPure's or other manufacturer's printed installation and operating conditions, or damage caused by hot water, freezing, flood, fire or acts of God.

SpectraPure will not be responsible for any consequential damages arising from installation or use of the product, including any water or mold damage due to flooding which may occur due to malfunction or faulty installation, including, but not limited to failure by installer to over- or under-tighten fittings, housings, and/or push-style fittings, or improper installation of push-style fittings. Consumable items such as prefilters and membranes are not covered under the one year warranty.

To obtain service under this warranty, the defective system or components must be returned to SpectraPure with proof of purchase, installation date, failure date and supporting installation data. Any defective product to be returned to the factory must be sent freight prepaid. Documentation supporting the warranty claim and a Return Merchandise Authorization (RMA) number must be included. SpectraPure will not be liable for shipping damages due to the improper packaging of the returned equipment and all returned goods must also have adequate insurance coverage and a tracking number.

SpectraPure will not pay for loss or damage caused directly or indirectly by the presence, growth, proliferation, spread or any activity of "fungus", wet or dry rot or bacteria. Such loss or damage is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss. We will not pay for loss or damage caused by or resulting from continuous or repeated seepage or leakage of water, or the presence or condensation of humidity, moisture or vapor, that occurs over a period of 14 days or more. "Fungus" and "fungi" mean any type or form of fungus or Mycota or any byproduct or type of infestation produced by such fungus or Mycota, including but not limited to, mold, mildew, mycotoxins, spores, scents or any biogenic aerosols.

SpectraPure will not be liable for any incidental or consequential damages, losses or expenses arising from installation, use, or any other causes. There are no expressed or implied warranties, including merchantability or fitness for a particular purpose, which extend beyond those warranties described or referred to above.

**\* The one year limited warranty does not apply to consumable items, including but not limited to, filters and cartridges unless specifically stated above.**

## TERMS AND CONDITIONS:

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1. Shipping charges on units or parts submitted to our facility for repair or replacement must be borne by the registered purchaser. After repair or replacement, the factory will return the unit or part freight prepaid to the customer.
2. We assume no warranty liability in connection with our equipment other than as herein specified.
3. This warranty is in lieu of all other warranties expressed or implied, including warranties of fitness for a particular purpose.
4. We do not authorize any person or representative to assume for us any other obligation on the sale of our equipment. This is the exclusive remedy and liability for consequential damages under any and all warranties which are excluded to the extent exclusion is permitted by law.
5. Proof of original purchase date must accompany all warranty claims.
6. SpectraPure, Inc. Reserves the right to change prices without notice when necessary. All prices in the catalog are quoted in US dollars.
7. Claims for error in quantity or condition must be made within 10 days of receipt of material. SpectraPure, Inc. will not be responsible for any claimed shortages not reported within 10 days. Returns other than warranty claims may be subject to 20% restocking fee.
8. SpectraPure, Inc. cannot be held liable for damage or loss to a shipment by a freight carrier. Check shipment for damage before acceptance or note on freight bill subject to inspection for concealed damage. Consignee must file claim. SpectraPure, Inc. will offer as much assistance as possible.
9. A complete credit check is required prior to shipping on a Net 30 basis. In the interim period during which credit references are being evaluated, all orders must be prepaid until approved.
10. All returned checks (due to insufficient funds or closed accounts) will be subjected to a **\$35 penalty charge**.
11. Invoices on Net 30 accounts not paid within 30 days of shipment will be considered delinquent and will accrue Finance charges at the rate of 1.5% per month (18% per annum).