

# PROSEP FILTER SYSTEMS LTD

## F-RO-4 Reverse Osmosis System

### OPERATION & INSTALLATION INSTRUCTIONS



#### **F-RO-4**

4 Stage Reverse Osmosis System

**PROSEP Filter Systems Ltd**

- Unit G19, River Bank Way, Lowfields Business Park, Elland. W Yorkshire HX5 9DN -

- Tel: 01422 377367 Fax: 01422 377369 -

- Email: domestic @prosep.co.uk Web: www.prosep.co.uk -

*Dom/Instr/F-RO-4I&O*

**T**hank you for choosing your Reverse Osmosis Drinking Water System from **PROSEP Filter Systems Ltd** With proper care your water filtration system will produce high quality drinking water for many years.

Read carefully and follow the instructions in this manual before proceeding with the actual installation. Pay particular attention to all warnings, cautions and notes. Failure to do so could result in personal injury or damage to equipment or other property. System and installation need to comply with local laws and regulations. If you have any questions, please contact us.

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**PLEASE NOTE:** PROSEP Filter Systems Ltd reserve the right to alter the specifications of this product without prior notice

## CHECK LIST:

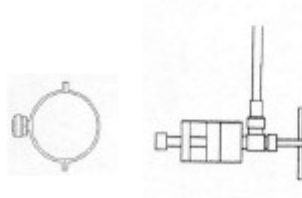
- 1) F-RO-4 Reverse Osmosis System
- 2) Water Storage tank (15 litres)
- 3) Coloured tubing (1/4" OD - Orange, Blue, White)
- 4) PTFE Tape
- 5) Installation kit: tank ball valve, drain saddle tap valve, feed water saddle valve, tap assembly
- 6) Instruction Manual



PRE PLUMBED REVERSE  
OSMOSIS SYSTEM



WATER STORAGE TANK  
AND BALL VALVE



DRAIN PIPE CONNECTOR  
& SADDLE TAPPING  
VALVE WITH TUBE  
ATTACHED



TAP AND  
CONNECTORS

## RECOMMENDED TOOLS LIST

- † Variable speed drill
- † 1/8" and 1/4" drill bits
- † 7/16" drill bit 1/2" and 9/16 open-end wrenches (or adjustable)
- † Phillips screwdriver
- † Utility knife

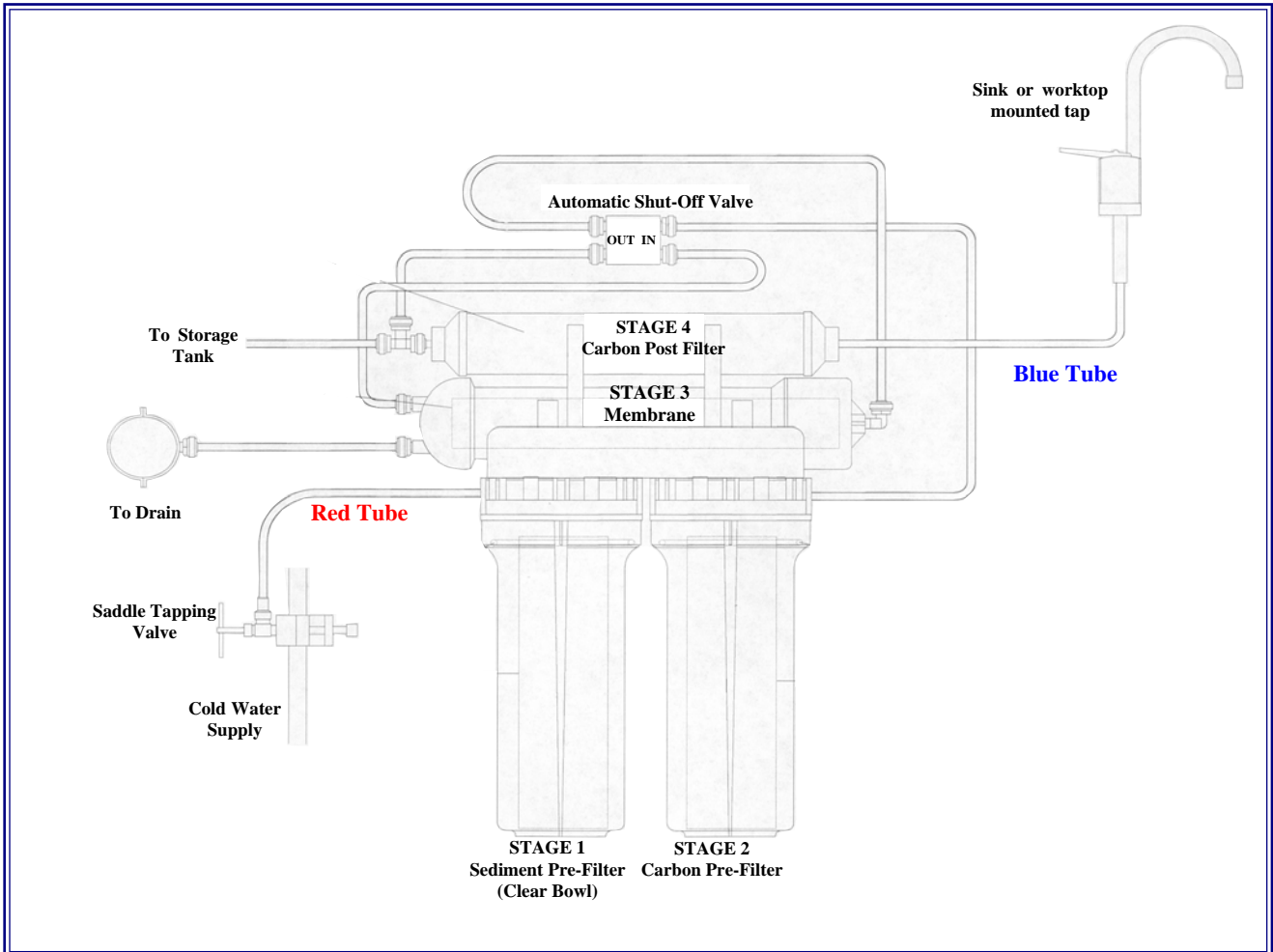
This Reverse Osmosis system contains a replaceable treatment component critical for effective reduction of total dissolved solids.

**SPECIFICATIONS:**

1st Stage: 5 Micron Sediment Cartridge  
 2nd Stage: Activated Carbon Block Cartridge  
 3rd Stage: 75 GPD TFC Reverse Osmosis Membrane  
 4th Stage: High Grade Activated Carbon Cartridge  
 Auto shut off valve  
 Min/Max Pressure: 2.8 - 6.0 bar  
 Water Temperature: 2 - 40°C  
 Recovery Rate: 20-25%

**SPARE PARTS LIST:**

Sediment Pre Filter Cartridge  
 Carbon Pre Filter  
 Carbon Post Filter  
 O Ring Seal (fitted inside the housings)  
 RO Membrane  
 1/4" JG x 1/4" Thread Elbow  
 1/4" JG x 1/8" Thread Elbow  
 1/4" JG x 1/4" Thread  
 1/4" JG Equal Tee  
 1/4" Thread x 1/4" Spigot



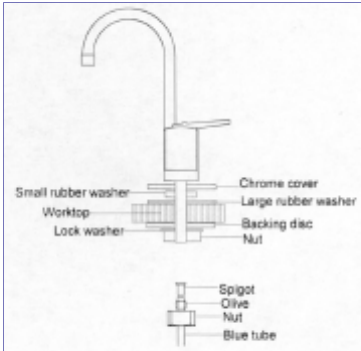
**REPLACEMENT PARTS:**

Treatment Stage	Description	Change-Out Period
Stage 1	Sediment Pre-Filter Cartridge	6 months
Stage 2	Carbon Pre-Filter Cartridge	6 months
Stage 3	Membrane	2 - 3 years
Stage 4	Carbon Post-Filter Cartridge	6 months

## FITTING INSTRUCTIONS:

### Fitting The Pre-Plumbed RO System

Use the bracket as a template to mark the position of the unit on a suitable wall or cupboard panel. Allow a minimum of 40mm clearance below the filter bowls to allow for filter change out. Drill and plug two holes and screw in 2 screws (not supplied) allowing the screw heads to protrude from the wall by approx. 5mm. Place the bracket over the screws and slide to left or right (as preferred) to lock bracket in position.



### Fitting The Tap

Select a suitable position on the work top or corner of the sink. Before drilling the hole, check there is nothing directly underneath that could be damaged i.e. water or waste pipes, cables etc. Also make sure that there is room for the locating washer and that you can physically reach the tap stud to connect the brass nut. Use a centre punch to mark the location of the hole to be drilled. Drill a 3mm pilot hole. Enlarge the hole to 11mm. If you are drilling through stainless steel, deburr and rough edges around the hole. Wipe clean with a soft cloth. Check that the tap stud fits easily through the hole. Secure the tap and blue tubing as shown in the diagram to the left. Firmly push the loose end of the blue tubing into the push fit connector fitted to the inline post carbon filter (Stage 4)

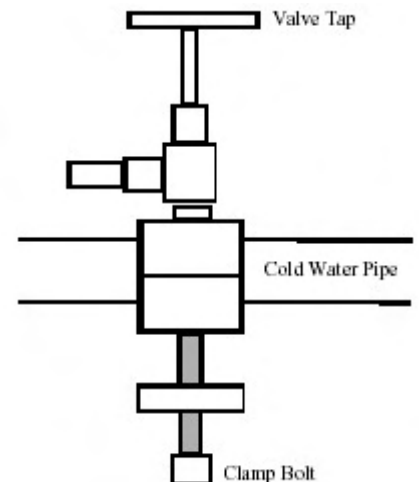
The tap has two 'ON' positions. Lift the lever up for continuous flow. Press the lever down for flow that ceases when the lever is released. **Note:** Some taps are supplied with the blue tubing already permanently fitted.

### Fitting The Saddle Tapping Valve (Red tubing attached)

Although not essential, we recommend that you turn off the cold water stopcock and relieve the water pressure by opening cold water tap. If the stopcock is under the sink, fit the valve after the stopcock. The valve must be fitted on the cold water supply only, (if you are uncertain, run the hot tap for a minute and feel the pipes under the sink to distinguish the cold pipe).

Do not fit the valve on a bend, a join or where there is solder on the copper pipe. Attach the clamp around the pipe and tighten the clamp bolt to ensure a water tight seal. Do not over tighten the clamp bolt as this may distort the water pipe. Firmly push the open end of the red tubing attached to the saddle tapping valve into the collar on the front of the sediment filter housing (Stage 1).

**Note:** Later designs have the red tubing already permanently fitted to the valve. The saddle tapping valve supplied with the F-RO-4 Reverse Osmosis System is designed to comply with British plumbing codes. (See 'System Start Up' Section for further details regarding the saddle tapping valve.)



### Fitting The Tank Ball Valve

Remove the plastic cap on the top of the tank. Wrap the thread 3 or 4 times with plumbers tape (PTFE/Teflon). Connect the ball valve to the thread and make sure it is tight but not over-tight. Connect the white tubing to the tank ball valve. Turn the tank ball valve off. **Note:** Do not tamper with the air valve on the low side of the storage tank. It has been preset at 8-10 psi by the manufacturers.

### Mounting The Drain Clamp

Position the drain saddle in the desired location (please see notes below), mark spot through thread outlet, remove saddle. Drill 1/4" (6.3mm) hole into the drain pipe above the water line of the trap/U-bend. Align the hole drilled in the drain pipe with the drain saddle using a drill bit. Make sure to align drain saddle to drilled hole. Attach drain saddle to drain pipe and tighten the two screws evenly. Connect the orange tubing to the drain clamp.

**Note:** The drain clamp will fit most standard drain pipe 1 1/2" diameter. It should be installed above the trap/u-bend and on the vertical or horizontal tailpiece. If a waste disposal unit is fitted, the drain clamp must not be fitted into the same waste pipe.

## SYSTEM START UP:

Turn on the cold water supply at the stopcock and turn the cross piece on the saddle tap valve anti-clockwise to open. Close the tank ball valve. Open the tap for continuous flow (Lever Up). Check the system for leaks, tighten as necessary. After 10-30 minutes, water will start to drip out of the tap. Let it drip for about 10 minutes and then flip the tap handle to the closed position. **TURN ON THE TANK BALL VALVE NOW.** It may now take several hours for the storage tank to fill, depending on the local water pressure.

**Note:** DO NOT DRINK THE WATER FROM THE FIRST TANK PRODUCED BY YOUR NEWLY PURCHASED REVERSE OSMOSIS SYSTEM.

After the tank is full (you will hear the water stop), flush the system by placing the tap in the open position until all the water is completely discharged. Upon complete discharge of the storage tank, return the tap handle to the closed position and let the refilling process begin. This process could take 2-3 hours to complete. After the second tank is filled, you may enjoy the pure water. Check for leaks daily for the first week and periodically thereafter. You may notice that the water may be milky coloured during the first week. This is caused by air bubbles in the water released from the carbon filter, they will dissipate on allowing to stand. It is normal and safe.

### NOTE:

DO NOT USE WITH WATER THAT IS MICRO BIOLOGICALLY UNSAFE OR OF UNKNOWN QUALITY WITHOUT ADEQUATE DISINFECTION BEFORE OR AFTER THE SYSTEM. SYSTEMS CERTIFIED FOR CYST REDUCTION MAY BE USED ON DISINFECTED WATER THAT MAY CONTAIN FILTERABLE CYSTS.

THIS REVERSE OSMOSIS SYSTEM CONTAINS A REPLACEABLE COMPONENT CRITICAL TO THE EFFICIENCY OF THE SYSTEM. REPLACEMENT OF THE REVERSE OSMOSIS COMPONENT SHOULD BE WITH ONE OF IDENTICAL SPECIFICATIONS, AS DEFINED BY THE MANUFACTURER, TO ASSURE THE SAME EFFICIENCY AND CONTAMINANT REDUCTION PERFORMANCE.

**WARNING:** DO NOT USE THIS SYSTEM TO PURIFY NON-DRINKABLE SOURCES OF WATER THAT ARE UNSAFE OR WITH WATER OF UNKNOWN QUALITY/

**WARNING:** NEVER USE HOT WATER OR ALLOW THE UNIT TO FREEZE.

**WARNING:** INCORRECT INSTALLATION WILL VOID THE WARRANTY.

## **FILTER MAINTENANCE AND CHANGE INSTRUCTIONS:**

This recommendation is intended for maximum efficiency of RO water production by your system.

### 1, Filter Maintenance

- a, It is OK to put pre & post filters of the shelf for several years.
- b, Keep the sealed, non-opened filter in an air tight container to prevent it from absorbing contaminants from the air.

### 2, Membrane Maintenance

- a, The dry packed membrane usually has a two-year shelf life. To prolong the shelf life, we recommend you keep the non-opened dry membrane in the refrigerator.
- b, Once being used, we recommend you run the RO system every day, at least 10-15 minutes (about 1 gallon or 4 litres drinking water.) This helps to maintain the membrane performance.
- c, If the RO system is not used for a few weeks, drain the storage tank. To bring the unit into service fill the tank and drain it twice, and allow to refill. Your RO system will then be ready to reuse.

### 3, Filter & Membrane Change Procedures:

- a, Shut off the water supply.
- b, Turn off the tank ball valve by turning the handle through 90 degrees.
- c, Open the tap fully for continuous flow.
- d, Slide the housing wrench in (bowl spanner) over the filter bowl. Use one hand to hold the system and the other hand to turn the wrench clockwise to separate the head from the bowl.

**NOTE:** IF IT IS TOO TIGHT TO OPEN THE HOUSING YOU MAY TRY TO UNPLUG THE FITTING BETWEEN THE RED TUBING AND THE SYSTEM IN ORDER TO REDUCE THE AIR AND WATER PRESSURE INSIDE THE HOUSING.

- e, To change the sediment cartridge and the pre-carbon cartridge you need to open the clear and opaque housings, remove the used filters and put the new filters into the housings. The **Sediment Pre-Filter** and the **Carbon Pre-Filter** can be installed either way up. Make sure the O-rings are in place and smear a little petroleum jelly on the O-rings. Replace the filter bowls and tighten by turning the bowl anti-clockwise.
- f, The **Carbon Post-Filter** must be installed the correct way. Please follow the flow direction indicated on the cartridge. Remove the existing cartridge by disconnecting it from the threaded or speedfit connectors. Pull the cartridge gently to remove from the holding brackets. Discard the used cartridge. Place the new cartridge over the holding brackets and push gently into place. Re-attach the threaded/speedfit connectors.
- g, Turn on the water supply and make sure there are no leaks.
- h, Let the water drip from the tap for about 10 minutes. If the water flow is less than 1 cup (8 oz or 240 ml) per minute, it may be a signal to change the membrane.

### i, Membrane Change Procedure:

- Shut off water supply.
- Unscrew the cap of the membrane housing.
- Slide out the used membrane and discard. (You may need thin nosed pliers to grip the membrane spigot.)
- Insert the new membrane with the 2 O-rings into housing first with the black brine seal at the open end of the membrane housing.
- Be sure it is fully seated into bottom end.
- Screw cap back on to the membrane housing, make sure O-ring is still in place.
- Turn on water supply & check for leaks.
- It may take 10-20 minutes for new membrane to run to normal flow.

Carry out system start up procedure.



## TROUBLE SHOOTING

**Note:** Turn off the system before servicing

PROBLEM	CAUSE	SOLUTIONS
Milky coloured water	Air in system	Air in the system is a normal occurrence with initial startup of the RO System. This milky look will disappear during normal use within 1 to 2 weeks.
Noise from tap	*Location of drain saddle *Restriction in drain line	*Relocate the drain to above water trap *Blockage sometimes caused by debris from garbage disposal or dishwasher
Small amount of water in storage tank	*System just starting up *Air pressure in storage tank is low	*Normally it takes 2-3 hours to fill the tank. Low water pressure and/or temperature can reduce production rate *Add pressure to storage tank. The pressure should be 8-10psi when the tank is empty
Slow production	*Low water pressure *Crimps in tubing *Clogged prefilters *Fouled membrane	*Add a booster pump * Make sure tubing is straight *Replace prefilters *Replace membrane
Water taste or smell offensive	*Post carbon is depleted *Fouled membrane *Sanitiser not flushed out	*Replace post carbon *Replace membrane *Drain storage tank and refill overnight
No drain water	*Clogged flow restrictor	*Replace flow restrictor
Leaks	*Fittings are not tightened *Twisted O-ring *Misalignment of hole in drain saddle	*Tighten fittings as necessary *Replace O-ring *Realign drain saddle