ACRO4 INSTALLATION AND MAINTENANCE INSTRUCTIONS

Before installing and using your new reverse osmosis system, carefully read through the instructions and ensure that your feed water meets the guidelines below e.g minimum water pressure 2.7 bar (40 psi) maximum water pressure 5.8 bar (85 psi). If you suspect the pressure is too high or low, check this before installing. Operating a system outside the guidelines will result in poor performance and will void the warranty.

OPERATING PARAMETERS

Minimum Water Pressure 2.7 bar (40psi)	Maximum Water Pressure 5.8 bar (85psi)
Maximum Dissolved Solids 1500ppm	- pH range 5 – 9 (inclusive)
Minimum Feed water Temp. 4 deg C (40f)	Maximum Feed water Temp. 29 deg C (85f)
Production Rate (max/24hr) 150ltr *	Feed type – Un / chlorinated.

**Production rate is based upon optimum feed water conditions. Actual rate of production will depend upon site conditions and age of membrane.*

INSTALLATION SPECIFICATION

Main Module		Reservoir		General Data
Height	410mm	Height	420mm	Saddle Valve – 10-15mm
Width	340mm	Diameter	280mm	Drain Clamp – 1.5" WP
Depth	140mm	Capacity (max)	9ltr	DO NOT FREEZE

After removing your system from the outer packaging and before you start the installation procedure, check that all the parts listed below are included.

1. Purification Module
2. 2 Gallon Reservoir (9ltr)
3. Faucet, Drain Clamp, reservoir valve, saddle valve, membrane & spanner (bagged)

TOOLS YOU WILL NEED

1. A normal electric drill with a 12 mm drill bit and a 4 mm drill bit (for parts 2 and 6)
2. A spanner or pliers (for parts 2 and 6)
3. Gloves for handling membrane (for part 5)
4. Stanley knife (pref) or scissors for cutting tubes. Always insure the tube end is cut square.
5. A screwdriver (for part 1)

USING A PLUMBER

You will only need a plumber if you do not have a suitable place on you under sink trap to attach the drain saddle (see part 3). The plumber will probably need to put in a longer trap. This is a very simple job which could be done yourself.

INSTALLATION PROCEDURE

I) PURIFICATION MODULE

This is the main unit (on the left of the picture) with the filter housings. Should be installed against a vertical surface in a position which allows for the filters and membrane to be replaced periodically. The module should be close to the faucet, to maximise the flow rate of pure water. Using the bracket (see item 3 in the picture) as a template, mark the position of the fixing screws (leaving 40mm of space below the filter housings (see items 9 and 10 in the picture) to allow for filter changes).

II) SELF TAPPING SADDLE VALVE (22)

Identify the mains cold water pipe, using a section that is straight and free from paint, scratches or dents. Connect the saddle valve to the cold water pipe. Finger tighten the clamp by turning the bottom nut. Then tighten properly with a spanner. **DO NOT OVER TIGHTEN.** One or two spanner turns after finger tight should do. **Do not split your pipe!** The aim is simply to make the saddle valve immovable on the pipe.

Once saddle clamp is secured firmly on the pipe, turn the T bar tap on the saddle clamp clockwise until is stops turning. (This will pierce the pipe with a metal pin – invisibly). Turning the T bar tap a few turns back will allow the water flow. **Only do this when you are ready to 'start up' the system.**

III) DRAIN SADDLE (26)

The drain saddle should be fitted above the sink trap (ie the pipe loop under the sink), or onto a washing machine stand pipe. BE SURE TO COMPLY WITH LOCAL PLUMBING CODES. Choose your spot making sure there will be enough room for the drain saddle to fit together tightly around the pipe. Drill a 4mm hole in the 1.5" plastic waste pipe and align the hole through the drain clamp using an awl (or a nail). Tighten the mounting bolts firmly. Cut the black tube to a comfortable length (ie so it will reach from the purification module to the drain saddle). Unscrew the black plastic nut on the drain saddle. To fit compression nut push the tube through the centre of the nut (ie so the nut is hanging loose on the tube). Then push tube end into the thread hole on the drain saddle. Now slide the nut down and screw it on firmly.

IV) RESERVOIR ISOLATING VALVE (23)

Simply wind four wraps of P.T.F.E. tape around the threads of the reservoir inlet / outlet. Offer the vacant threaded port of the valve onto the thread and tighten clockwise. *Do not over tighten – this is not a high-pressure joint.*

INSTALLATION OF MEMBRANE (16)

I) The membrane is supplied separate to the module (blue item in the sealed bag). **This is a fragile, high value item that must be handled with care.**
II) Remove the blue collet lock from the membrane housing inlet elbow (14) and remove the ¼" tube.
III) Remove the membrane housing cap (end of horizontal housing with inlet tube in the centre)
IV) Remove membrane (**use gloves**) from packaging and insert into the housing with the two black 'O' rings entering first. Push membrane in firmly to seat the 'O' rings properly.
V) Replace the membrane housing cap.
VI) Replace the ¼" white tube and collet lock.

FAUCET/TAP (27)

Select a position of the tap on your counter or sink unit. The faucet should be located in a position that gives a flow of water into the sink bowl. Ensure you have room underneath to connect filter to bottom of tap. You will need approximately 3 inches. Using the centre pop and hammer mark where the centre of the hole will be. Drill 12mm hole and insert the tail of the faucet through the hole and secure using the washers and locking nuts provided.

CONNECTIONS

A) Connect a length of black tubing between the drain restrictor (420 with arrow) (17) and the drain clamp (26) which you positioned in part 3. Please note: remove the blue collet lock from the drain flow restrictor outlet before attempting to remove the plug, or insert the tubing. (To remove plug press ring in while pulling). Tube should be pushed in firmly. The tube is held in the drain clamp with a compression nut. (See part 3).
B) There are 2 white stem elbow fittings in the bag with various other items, insert one into number 7 (facing away from you) and one into the inlet (facing towards you). Connect the loose white tube from the auto shut off valve (this has a few more white tube lengths already in it) to number 7 on the diagram.

C) Connect a length of black tubing between the self piercing saddle valve (22) on the supply and the inlet to the purification (I) module (lower right when viewed from the front, both are push-fit)
D) Connect a length of white tubing between the post filter outlet (20) (upper left) and the faucet/tap (27).
E) Connect a length of white tubing between the storage tank (23) and the inlet tee to the post filter (upper right) (19).

Pipes can be cut to length using a Stanley knife – ensure the end is cut square

START UP PROCEDURE

Once all the tubes are tightly connected, open the saddle valve by turning the T bar tap a few turns back (see part 2). This will allow the water to flow. **Check for leaks.** Ensure the reservoir valve is open (in line with tubing) and the faucet is off. It will take up to six hours to charge up the reservoir.

CAUTION: A new system contains preservatives that must be flushed to drain before use. Discard the water made in the first six hours of operation

SYSTEM MAINTENANCE
It is very important to follow the maintenance schedule to ensure optimum performance. Change consumables as follows:

PRE FILTERS	UP TO SIX MONTHS
POST FILTER	UP TO SIX MONTHS
MEMBRANE	1 TO 3 YEARS (dependant upon feed water quality)

PRE FILTER CHANGING
I) Turn off the saddle-tapping valve and isolate the storage vessel.
II) Open the faucet to relieve system pressure.
III) Remove the housing sumps by turning the sumps to the left (when viewed from the front).
IV) Pre filters are removed by taking them from the housings.

Place a drip tray beneath the sumps and use gloves to ensure a sterile environment.

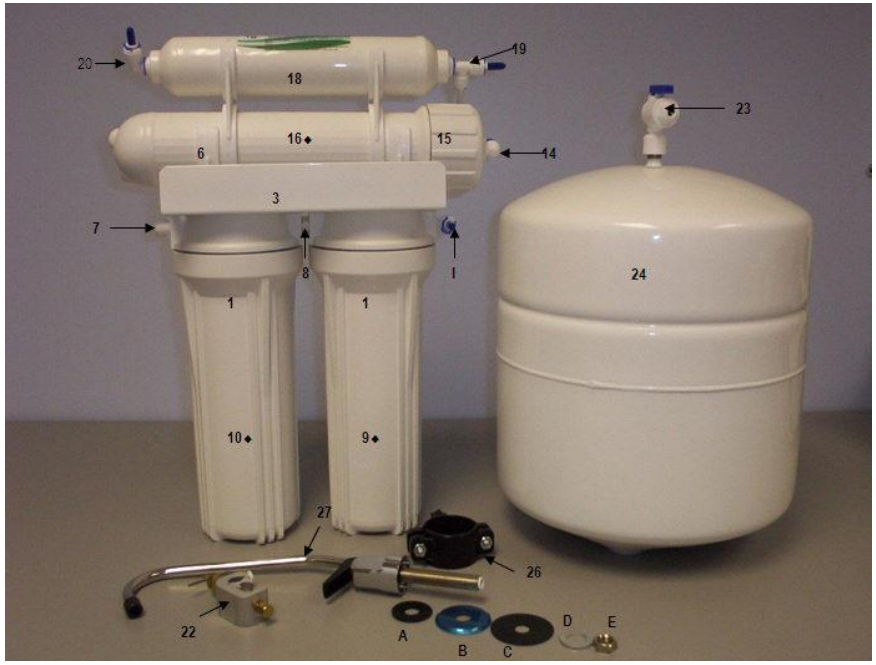
V) Place the new filters into the housing and tighten. DO NOT OVERTIGHTEN
VI) To restart open the saddle valve and reservoir valve.

MEMBRANE CHANGES
I) Follow the same procedure as above to depressurise the system.
II) Identify the membrane housing and remove the end cap.
III) Grasp the membrane and pull from the housing.
IV) Remove new membrane packaging and ensure that membrane is fitted with the two small 'O' rings entering the housing head first.
V) The first batch of product water should be discarded.

POST FILTER CHANGES
I) Follow the shut down procedure (as in pre filter changes – steps 1 +2)
II) Remove the blue collet lock from the push fit connectors on inlet/outlet
III) Remove fittings from inlet/outlet by depressing white collet ring whilst pulling the fitting.
IV) Install new post filter ensuring correct direction of flow. Replace blue collet locks.
V) Restart the system and run 2 litres of water to drain.

REPLACEMENT FILTERS
AC21/5P – Sediment Filter 5micron Spun Polypropylene (9♦)
AC18/10 – 10m Carbon Block 10" (10♦)
ACTFC50 – 50gpd Membrane (16♦)
H10P – 10" In-Line Filter GAC - 1/4" PF (18)

For any further information contact your supplier or consult a qualified plumber if you are in any doubt on installation.



No.	Description	Part No.	No.	Description	Part No.
1	10" ¼" ports housing x 2	AC100SPA	**18**	GAC post filter	H10P
2	Housing 'O' ring♦	ACW011	**19**	¼" stem x p. fit tee	PCROFIT2
3	Twin housing bracket	ACB16	**20**	¼" stem elbow	PCROFIT3
4	Housing screw♦	SCRE02	**21**	Product water non ret.v ♦	PCROCV1
5	2" x 2.5" bracket		**22**	Saddle tapping valve	ACSVCV5
6	Membrane housing clip	ACB21	**23**	Storage tank valve	PPSV500822W
7	¼" npt x ¼" p.fit elbow	PI480822S	**24**	2 gallon storage tank	ACRES2
7a	¼" stem elbow	PCROFIT3	**25**	Housing spanner♦	ACSP1
8	¼" barrel nipple	ACBN02	**26**	Drain clamp	ACRDC
9	5 micron primary filter♦	AC21/5P	**27**	Faucet	ACLRFT1
10	Carbon block sec. filter♦	AC18/10	**27a**	Faucet push fit adaptor♦	CI3208U7S
11	¼" white tubing♦	ACT147	**28**	¼" tubing - black♦	ACT144
12	Auto shut off valve ♦	ACASV	A	Above work surface	
13	Collet covers ♦	PIC1808R	B	Above work surface	
14	1/8" npt x ¼" elbow	PCROFIT1	C	Above work surface	
15	Membrane housing	ACROH10	D	Below work surface	
16	TFC membrane♦	ACTFC50	E	Below work surface	
17	Waste flow controller♦	ACRFC250		♦ = not shown	

Fault Finding

Symptom	Possible Causes	Correction
Lack of Product Water	1. Blocked pre-filter 2. Low water pressure 3. Tank exhausted	1. Change 2. Fit booster pump 3. Allow to refill
Tank heavy – No flow. Water from air valve	1. Air charge lost from tank 2. Bladder ruptured	1. Inflate to 5 psi empty 2. Replace tank
Water never runs out	1. Membrane badly fitted or failed	1. Refit/replace
Water tastes 'off'	1. Old filters 2. Bacteria in tank	1. Replace 2. Sanitise
Black water after filter change	1. Carbon fines from filter	1. Quite normal – flush to clear