

## PLEASE READ BEFORE COMMENCING INSTALLATION

This Fitting Guide is designed to assist in the installation of your Reverse Osmosis system and covers a number of different systems.

**Some of the parts that are supplied with each system may differ from those indicated in this instruction guide. Waste kits, membrane spanners, tube inserts/strengtheners and olives are not needed or supplied on all machines.**

**IF YOU ARE REPLACING AN OLDER RO FOR A NEW ONE - YOU MUST INSTALL A NEW WASTE CONNECTION OTHERWISE YOUR NEW SYSTEM WILL NOT WORK**

All Reverse Osmosis units (RO's) have the same basic installation rule;

- The water inlet is on the right hand pod as you look at the machine face on.
- The highest rating sediment filter normally fits in the right hand filter pod.
- The carbon filter is the centre pod and the 1 micron sediment filter is on the left.
- There is only **ONE** tube that supplies the tank.

The valve, prior to the final filter stage, dictates that if there is a demand for water from the tap the water will come from the tank. As soon as the demand stops, water will then revert to refill the tank. The tank valve is normally located on the top of the tank. A connection valve with isolation will normally be supplied. You may need to apply PTFE tape during installation.

There is a pressure valve on the side of the tank. You can use a tyre pressure gauge to check the tank pressure. The tube connection to the drinking water tap will always be after the final stage of filtration. The Membrane lives in a horizontal casing, with a screw cap end, above the vertical pods.

**PLEASE NOTE—THE MEMBRANE IS NOT PRE-INSTALLED, YOU WILL NEED TO FIT IT**

The membrane is normally supplied in a sealed package. It is vital to remove the packaging before installing the membrane. The larger rubber washer/bung/o ring end of the membrane is at the open screw end cap side of the membrane housing.

### **Waste supply**

**All RO units produce waste water.** The waste water can go to any drainage pipe. It is often installed by drilling a small hole in the drainage pipe (i.e. sink waste etc) inserting the supplied ¼ tube into the hole drilled and securing using silicon.

**RO Units have the following connections:**

- Water IN (normally supplied with a self cutting divert valve)
- Tank Connection (normally from a T-fitting between the membrane and horizontal carbon filter )
- Waste Connection From Reverse Osmosis System
- Tap connection (from the final filter)

**All other tube connections are pre installed on the unit. Take particular care that the flow restrictor is not removed. See page 2 for an image of the flow restrictor.**

**BEFORE COMMENCING INSTALLATION OF YOUR REVERSE OSMOSIS SYSTEM, ENSURE THAT YOU HAVE ACCESS TO A COLD WATER PIPE, WASTE PIPE AND AN ELECTRICAL CONNECTION IF REQUIRED.**

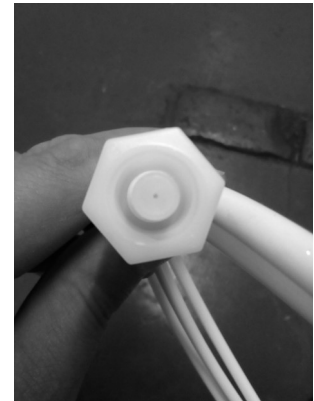
## IMPORTANT INSTALLATION INFORMATION - FLOW RESTRICTOR



Flow restrictor



Flow restrictor in situ (drain outlet on membrane)



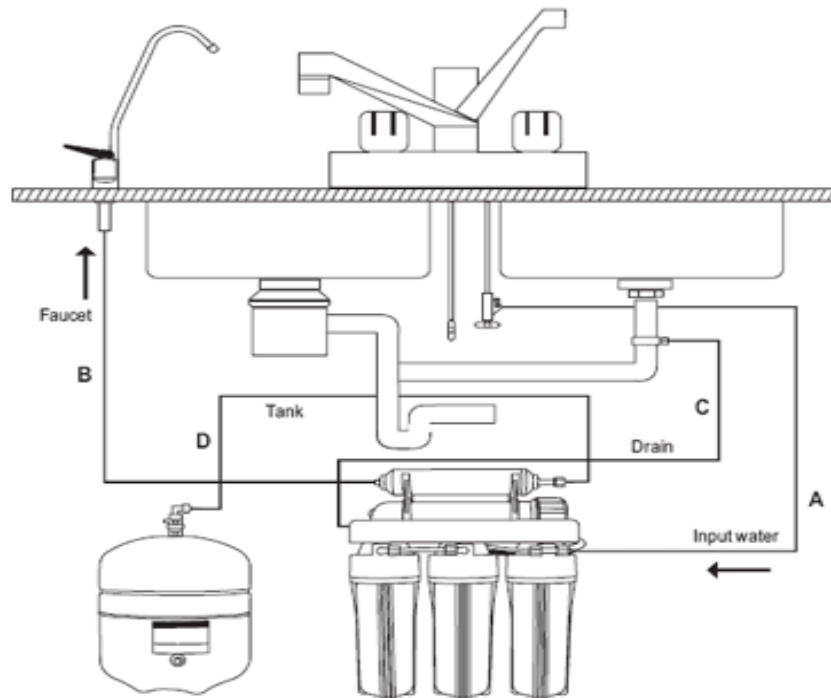
Another image of a flow restrictor in situ

## REVERSE OSMOSIS FITTING GUIDE

	Page
Important information page	1
Flow restrictor image	2
Guide index	2
Installation overview	3
Fitting the filters	4
Fitting the membrane	4
Waste connection	4
Fitting the tap	5
Connecting up	5
Connecting the waste supply	6
Starting up the system	6
Maintenance - Filter change information	7
Maintenance - Replacing filters	7
Maintenance - Replacing the membrane	8/4
Additional filters	8
Special offers for replacement filters and membranes	9

**BEFORE COMMENCING INSTALLATION, PLEASE MAKE YOURSELF FAMILIAR WITH THE FLOW RESTRICTOR WHICH IS PRE-INSTALLED ON THIS UNIT. DO NOT DISCARD DURING INSTALLATION OR THE UNIT WILL MALFUNCTION. SEE IMAGE ON PAGE 2 FOR CLARIFICATION**

### INSTALLATION OVERVIEW



### Connecting to the water supply via Saddle Valve or European Diverter Valve

#### Tube attached saddle valve

Locate the cold water pipe under the sink.

Insert the detachable collar into the valve using either the 15mm or 10mm side.

Turn the brass screw until the valve is tight onto the cold water pipe.

Turn the chrome handle on the valve all the way until it punctures the cold water pipe.



#### European Water Diverter

Locate the connection between the flexible tap hose and the ridged cold water pipe.

Having first turned off your water supply, disconnect the flexible hose from the ridged pipe.

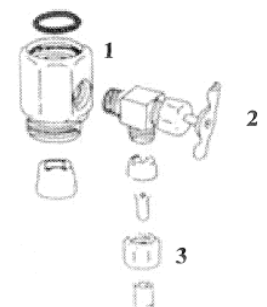
Attach the valve marked 1 on the diagram, to the ridged pipe using a compression fitting.

Attach the flexible tap hose to the opposite end of the valve.

Valve part 2, screw this fitting into valve 1 and fully tighten.

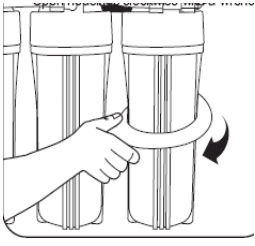
Unscrew the nut marked 3 and slide it together with the olive over a length of the 1/4" tube provided.

Push the tube into the valve and secure using the nut.



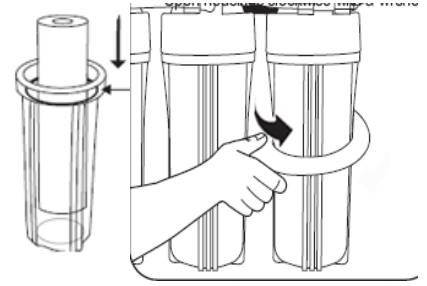
## FITTING THE FILTERS

The unit is supplied with 3 pre filters.



To install, use the wrench provided to unscrew the housing. Remove any protective wrapping that may be on the filters and fit from right (water inlet) to left in the following order,

- 5 micron sediment filter (sometimes no label)
- carbon filter (wide mesh filter or marked CT1)
- 1 micron sediment filter (sometimes marked pp1u or 1u)

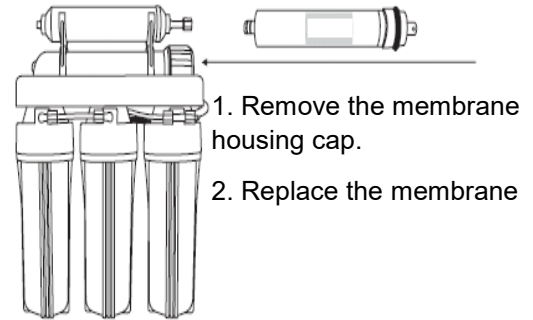
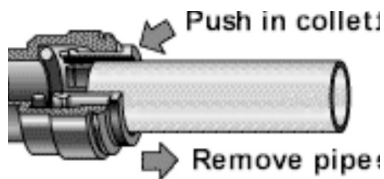


**Before fully tightening with the wrench, check that any o-rings are sited correctly.**

## FITTING THE MEMBRANE

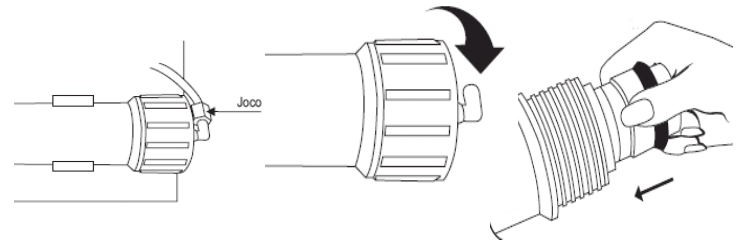
**(DON'T FORGET TO FIT THIS!)**

The membrane housing is located on the top part of the system and is horizontal with a screw cap end to the right. We advise that the tubing connected to the housing cap is disconnected prior to removing the cap. Most of the units are fitted with a "Jaco" compression fitting. Simply unscrew the nut and pull out the tubing. Some units may be supplied with a push fit type connector. To remove simply push down the collet and at the same time pull the tube out of the fitting.



Once you have removed the tube unscrew the end cap from the membrane housing.

Remove the shrink-wrap from the membrane and then push into the housing. The large bung should be at the cap end of the housing. Replace the screw cap and tighten, finally replace the tube and retighten the "Jaco" nut if fitted. Do not touch the surface of the membrane, use the end to place the membrane inside the housing.



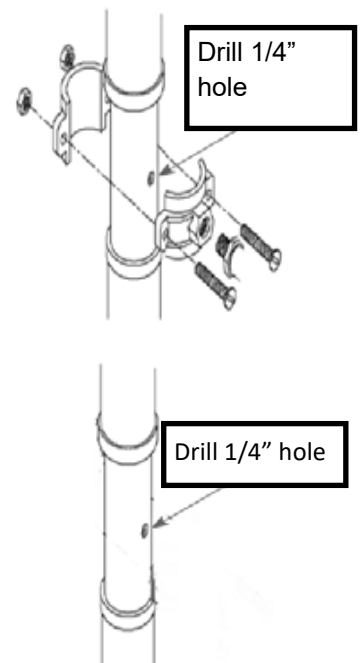
## WASTE CONNECTION

### If you purchased a waste clamp

Separate the two parts of the clamp by unscrewing the two bolts at the front of the clamp. Having located a suitable drainage point (under-sink waste etc.) attach the foam pad to the waste pipe. Place the front and back part of the clamp around the waste pipe. Secure into position using the nuts and bolts provided. Remove the "Jaco" nut on the front of the clamp and using the threaded hole on the clamp as a guide, drill a 1/4" hole into the waste pipe. Thread the "Jaco" nut over a length of 1/4" tube, feed several inches of the tube into the waste pipe and secure into position by re attaching the "Jaco" nut.

### Without a waste clamp

Having located a suitable drainage point (under-sink waste etc) drill a 1/4" hole into the waste pipe. Feed several inches of the tube into the waste pipe and secure into position using a silicone adhesive.



## FITTING THE TAP

Find a suitable location on the worktop or sink to position the tap. Remember to check for obstruction underneath the desired location. Using a suitable drill bit drill a hole large enough for the tap shank approximately 10mm. The washers are then fitted in the following order.

### 1. Above the sink

Chrome base plate, large flexible base plate, washer

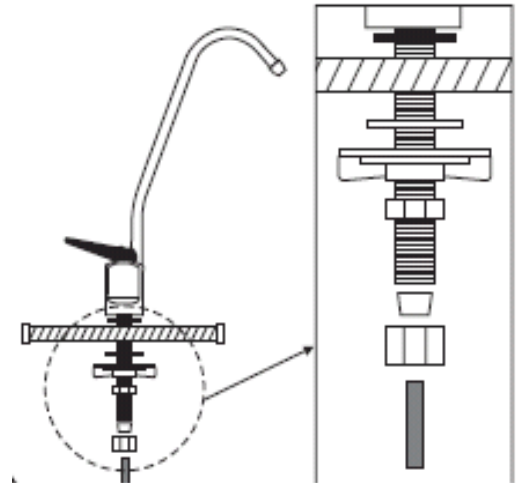
### 2. Under the sink

Small flexible rubber washer, large ridged washer,  
Star lock nut, nut to secure tap into position

### 3. Securing the tube

Push the semi closed nut and olive over the ¼ tube. Push the tube into the tap shank and secure using the nut.

If your tap is supplied with a push fitting simply screw the fitting onto the tap shank and push the tube into the fitting



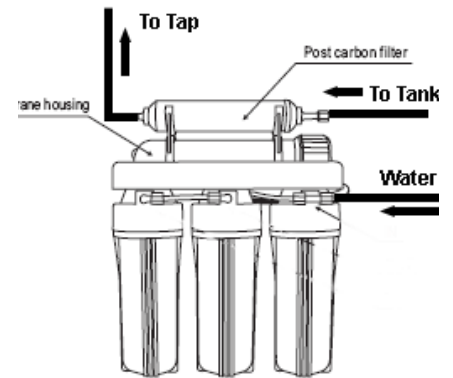
## CONNECTING TO THE REVERSE OSMOSIS SYSTEM

### Connect to the water inlet

Connect the tube from the saddle valve to the water inlet of the reverse osmosis unit. Dependent upon the type of unit, this will be either a "jaco" or push fit connection.

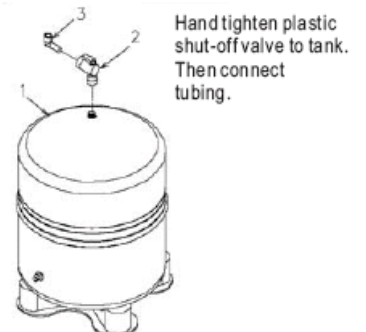
### Tap connection

The tap connection is always from the final stage filter on the reverse osmosis system. On a standard 5 stage this will be the post carbon (taste odour filter). If you have ordered any additional filters that are installed you should connect to the unconnected fitting on that filter. The fitting will be either "Jaco" or push fit type.



### Tank Connection

The connection to the tank from the reverse osmosis unit is located to the right of the post carbon filter. This connection forms a T shape, water in from the membrane then in/out to tank and in to post carbon filter. This T valve will allow water to either enter or exit the tank dependent on the demand. Again this connection will be either "Jaco" or push fit.



### On the Tank

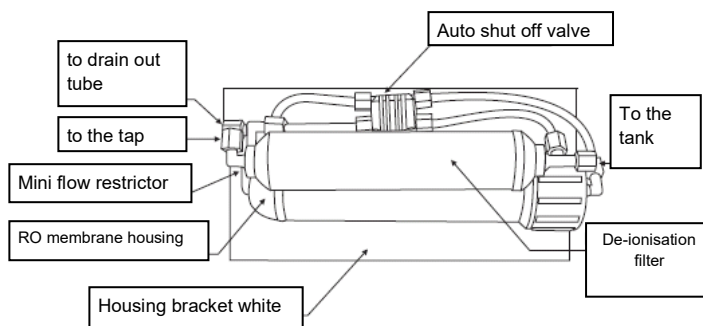
The inlet/outlet is normally located on the top of the tank. The valve located to the side of the tank is to test the pressure of the tank and top up using a suitable air line if required. The tank is supplied with an on/off valve that needs to be attached to the tank. To ensure a water tight seal it may be necessary to apply some PTFE type tape to the thread of the tank. We suggest approximately 10 turns. Once you have fitted the valve to the tank you can then attach the tube. Initially leave the tank in the off position, (lever position at 90 degree angle to incoming tube).



## CONNECTING THE WASTE SUPPLY

If you have completed all other connections you should have one connection remaining on the RO unit without a tube attached. This final connection is for the waste.

The connection is usually located to the right of the system, near the membrane housing cap. Connect the opposite end of the tubing that you previously attached to your waste pipe, to this connection. Some units may be supplied with a fast flush valve. This is a visible on/off valve located on the waste tube. Turn this to the **on** position initially.



## SYSTEM START UP

Ensure that any electrical connections that are required (Pumped RO, Ultra Violet systems etc) have been completed and that the power supply is currently off to these items.

### Putting into service

Turn the tube attached saddle valve or European water diverter to the fully open position. It is advisable at this point to check that any connections that you have made are water tight. Turn the tank valve to the **ON** position. (Lever parallel to the incoming tube.) If the system was fitted with a fast flush valve. Leave for 2 – 3 minutes the turn the flush valve off.

Switch **ON** any electrical apparatus that are connected to the unit (pump Ultra violet etc.).



Your reverse Osmosis System has begun the process of creating pure water. During the water making process, it is normal for water to run to waste.

**Dependent upon the quality, pressure and temperature of the incoming water supply, this process may take several hours. Once the tank is completely full, the waste water process will stop.**

When the system is no longer running to waste, you will need to empty the tank. This is only required on initial start up and will ensure that any impurities that could have entered the tank during the installation process are removed.

In order to empty the tank, simply turn the tap installed on the work surface or sink and also connected to the reverse osmosis system, to the fully open position. As soon as the flow ceases on the tap, turn back to the closed position.

The Reverse Osmosis will begin to refill the tank. After a few minutes you will be able to enjoy your first glass of pure refreshing Reverse Osmosis water.

Note.

The tank will replenish any water removed from the tank as soon as the demand ceases. Every time you have a glass of water the system starts to refill the tank. It is normal for the Reverse Osmosis system to create 3-4 litres of waste water for every litre of pure water.

The Membrane also requires time to saturate; this may take several days and can effect TDS readings during this period.

## FILTER CHANGE

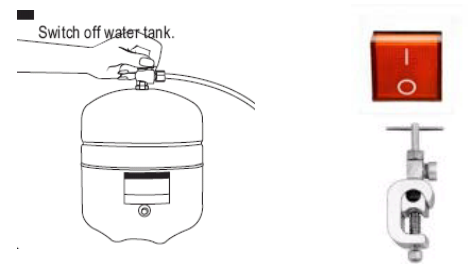
For optimum filtration under domestic use, we recommend that the filters are changed at the following intervals:

Stage 1	5 micron sediment filter	6 months
Stage 2	Carbon Block Filter	6 months
Stage 3	1 micron sediment filter	6 months
Stage 4	Reverse Osmosis Membrane	18 months
Stage 5	De-ionisation filter	6 months

ADDITIONAL FILTERS		
Ultra Violet Lamp		12 months
Mineral Filter		12 months
Alkaline Filter		12 months
Infra Ray Filter		12 months
Post carbon filter		6 months

Failure to change the filters at the correct time will affect the quality of water and TDS readings.

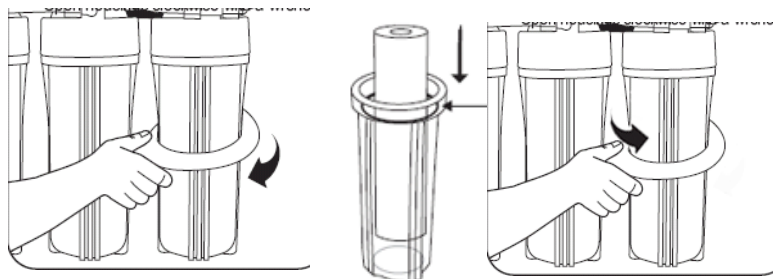
Before changing any of the filters on the system it is important that you take the Reverse Osmosis out of service mode. Turn off any electrical apparatus connected to the system. Switch the tank valve to the **OFF** position and fully close the diverter valve connected to the cold water supply.



**You must open the tap connected to the system to relieve any pressure build up.**

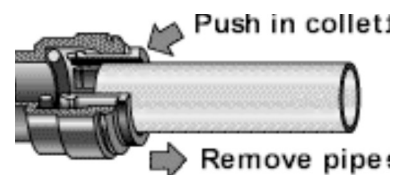
### Replacing stage 1, 2 and 3 filters (6 months)

Use the wrench provided to unscrew the housing. Remove the existing filter from the housing unit. **Before fitting the new filter, remove any protective wrapping from the filters one at a time** and fit from right (water inlet) to left in the following order; 5-micron filter, Carbon filter, 1-micron filter. Before fully tightening with the wrench check that any o-rings are sited correctly.



### Replacing the De-ionisation filter (6 months)

The replacement de-ionization filter provided is supplied as a generic filter and can be used with either push or jaco fittings. You will first need to remove the tubes attached to the fittings on the installed filter. For jaco fittings simply unscrew the jaco nut and pull out the tube. For push fittings, push the collet into the fitting and whilst the collet is depressed pull out the tube. Once you have removed the tubing unclip the filter from the RO system. Unscrew the fittings from the filter and screw into the new filter. Then simply clip the filter back onto the RO unit and replace the tube. For push fittings simply push the tube into the fitting. For jaco style, push the tube into the fitting and secure using the jaco nut.



## Replacing the membrane (18 months)

Follow the 'Fitting the membrane guide' on page 4 of these instructions. A pair of long nose pliers may be required to remove the membrane currently installed.

### Putting Back into Service

Ensure that all connections are fully watertight. Fully open the water diverter valve located on the cold water pipe. Switch any electrical apparatus connected to the Reverse Osmosis system back to **ON**. Allow the water to run for several minutes before turning the tap connected to the RO unit off and turning the tank valve back to the on position after a few minutes you will be able to enjoy refreshing reverse osmosis water

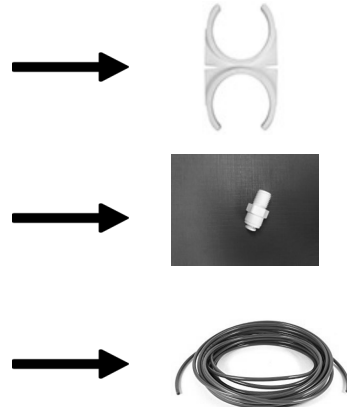
### Additional Stage Filters

If you have ordered any additional stage filters;

- Mineral
- Alkaline
- De Ionisation
- Ultra Violet
- Infra Ray

These filters will act as the final stage of your Reverse Osmosis system. They will first need to be installed to your system. The filter will have been supplied with the following:

- 2 x Reverse osmosis mounting bracket
- 2 x inlet/outlet connection pre connected to filter
- 1 x ¼" Tube



### Fitting

Push the two mounting brackets onto the post filter.

Push the additional stage filter onto the mounting bracket.

From the post filter outlet (normally labelled to tap) connect the ¼ tube provided.

Allowing a gentle curve without kinks; cut to size allowing enough length to connect to the water inlet of the additional filter. The water outlet from your additional filter will now be the connection to the tap that was previously on the post carbon filter.

If you have purchased the ultra violet filter please refer to the accompanying instructions relating to that system.

**Please now complete the instructions in the main Reverse osmosis fitting guide**



Save money with East Midlands Water Company  
on your replacement filters and membranes.



Call us to find out  
about our standing  
order **SPECIAL  
OFFERS**

on replacement filters and membranes



Thank you for purchasing your Reverse Osmosis system from East Midlands Water Company.

To maintain the optimum quality of filtration for your system, each filter **MUST** be changed at **6 monthly** intervals and the membrane every **18 months**. Additional filters that you have opted for will need replacing every 12 months.

We have a number of special offers available including the option to have automatic fulfilment through a standing order arrangement.

- **SIGNIFICANT SAVINGS** for replacement filters and membranes. Packages can entitle you to a FREE REPLACEMENT MEMBRANE every 18 months\*
- **PEACE OF MIND** - We send out your replacements automatically and direct to you. You don't have to remember to order them when they need renewing.
- **FREE OF CHARGE** delivery on filters and membrane replacement when opting for the savings package
- **GUARANTEED SUPPORT AND EXPERTISE** from the best Water Treatment business in the UK

\* guaranteed fixed price for 9 years from start date of standing order purchase

**0116 276 3334**

East Midlands Water Company, 2 Cannock Street, LEICESTER, LE4 9HR

Quote "Standing Order Special Offers"



**Reverse osmosis systems—pumped and**



**Quick change filter RO systems**



**3-stage water filtration systems**

Our EMS range of quality **water softeners** with 10 year parts and labour warranty—the best on the market



Our award winning three year Under Sink water filter—pure filter water, on tap.



**Water distillers**



**Tankless RO's**



**Scale eliminators**



**UV systems**



**Taps**