

Reverse Osmosis Technical Information

What is Reverse Osmosis?

Reverse Osmosis is the method of purifying liquid by pushing it through a semi-permeable membrane. In the case of tap water, the membrane allows pure water molecules through it, whilst impurities are flushed away.

The benefits:

- Improves the taste, odour and appearance of your water.
- Unlimited supply of pure, fresh water for less than 2p a day.
- Use 30% less coffee and still enjoy the taste you like.
- Concentrated fruit drinks are fresher and more tasty.
- No more lime scale in your kettle or coffee machine.
- Improves the taste and texture of vegetables, soup and sauces.

What will Reverse Osmosis Remove?

Using R.O. membrane technology, it is possible to remove suspended solids, up to 98% of all dissolved solids, as well as virtually all bacteria, pesticides, insecticides and viruses.

The Membrane

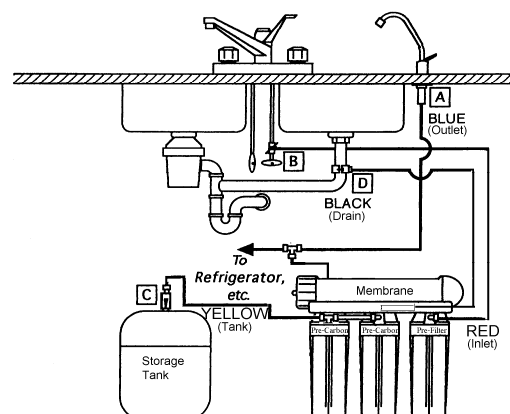
The term reverse osmosis is the opposite of osmosis. Osmosis is the means by which water and nutrients are supplied to living cells. Cell walls are natural semi-permeable membranes. They are selective allowing only certain materials to pass through the membrane while rejecting others. The natural flow is from the dilute solution to the concentrated solution. Reverse Osmosis is the process of utilising pressure to reverse the natural flow through a semi-permeable membrane.

Description

The membrane module is the heart of an RO system. There is an activated carbon pre-filter and a post-filter to “polish” the water. As the filtered RO water is produced very slowly it is necessary to store the treated water in a small pressurised tank. This is linked to separate drinking faucet (Tap) which will



System Diagram:



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supply the filtered RO water as and when it is required.

In an RO system water pressure is used to separate water into 2 streams. One part is forced through the

membrane and emerges through the unit to drain.

The membrane in an RO is exceedingly fine. The pore sizes are about 5 angstroms (five hundred millionths of a centimetre). As productivity of the membrane is proportional to size; the membrane is packaged into a spiral wound element. Our thin film composite (TFC) membranes are the most effective.

Installation

An in-home RO system can be installed under a kitchen sink. In some hard water areas it is advisable to use an RO unit in conjunction with a water softener. Calcium is known to clog membranes. Softened water can prolong the life of the system. The minimum water pressure required is 2.7 bar (40psi). Small RO pumps are available to provide the correct incoming pressure if it is insufficient.

You can easily fit the RO unit yourself; but we can also do it for you. Don't hesitate to call us on **020 8558 7495**

Specifications

Position	Undersink
Daily system capacity	60 galls (270 L)/day at 4 bar (60psi)
Storage capacity	3.2 galls (14.5 L)
Operation	Automatic
Watersource	Potable water only
Feedwater pressure	35 psi -100 psi
Standard module	2.45 bar - 7 bar
Feedwater temperature	4 ⁰ C - 25 ⁰ C/ 40 ⁰ F - 80 ⁰ F
Feedwater ph range	4.0 min - 9.0 max
Max total dissolved solids (TDS)	2000 PPM
Recovery	20 - 25 %
Filter cartridge replacement	At least every 6 months
Dimensions of -main unit	Dimensions of tank
Height 15" (380 mm)	Height 15" (380mm)
Width 14" (355 mm)	Diameter 11" (279mm)
Depth 7" (177mm)	

Efficiency

Specific elements that are controlled:

Metals		Pesticides	
Fluoride	95%	Lindane	99%
Copper	99%	Endrin	99%
Lead	99%	Deldrin	99%
Cadmium	99%	Aldrin	99%
Sodium	99%		
Zinc	99%		
Aluminium	99%	Bacteria	99%
Chlorine	99%		
Nitrate	99%		