

The 3 Individual Units



Sediment Filter (10", 11" & 13")

This sediment filter detains the finest soil particles of up to 1 µm (0.001 mm). Working as a preliminary filter, it eases the function of the carbon block filter and protects the RO membrane against blocking. Via the bayonet connection it is possible to simply replace the cartridge in a "plug and play" procedure.



Carbon Block Filter (10", 11" & 13")

This carbon block filter utilises an activated carbon block and thus joins mechanical filtering features to the absorption performance of high-value activated carbon. This carbon crystal filter detains fine soil particles and absorbs chlorine, ozone, organic contaminants, colorants, drug substances.



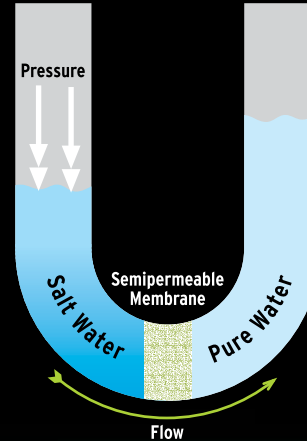
RO Membrane (10", 11" & 13")

This RO membrane functions as a water-permeable TFC reverse osmosis membrane of the latest generation and removes nitrates, phosphates, heavy metals and hardness-forming substances. First-class high-purity water is obtained. This high purity water is almost completely free of dissolved salts and thus is to be further treated for aquaristic usage or blended with tap water.

What is Reverse Osmosis?

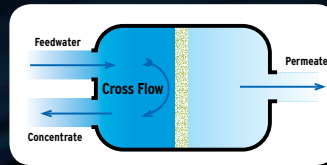
Osmosis is a natural process that occurs in all living cells. Water permeates through a membrane that excludes suspended solids, dissolved salts and larger organic molecules. These semi-permeable membranes have pores of approximately 0.0005 microns in size.

Water molecules have a stronger tendency to escape from pure water than from a salt solution. Water flows through the semi-permeable membrane from the pure solution to the salt solution in an effort to equalise the osmotic pressure of the two solutions.



The Osmosis process may be reversed by applying pressure to the salt solution.

In **Reverse Osmosis**, water from the salt solution is forced back through the semi-permeable membrane to the pure solution. The process stops when the osmotic pressure of the increasingly salty solution equals the applied pressure.



In practice unwanted components from the mains or tap supply must be continuously removed before the osmotic pressure rises significantly.

This is achieved using a cross flow mechanism where the surface of the semipermeable membrane is continually flushed. Therefore, commercial membranes have an inlet stream and two outlet streams. The inlet is known as the Feedwater and the outlets are the Permeate (pure water) and the Concentrate (reject water).

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The Reverse Osmosis Unit

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Detachable Pods

Bayonet style "pods" of cartridges are a unique feature of the New Era RO unit. They are fixed by means of a very simple and quick bayonet type push and twist mechanism - an industry first.

Four sizes

Available as 90/150/250/370 litres per day.

Available in 2 or 3 cartridge system

3 part system is as described here.
2 part system contains RO membrane and carbon block filter.

Individual cartridges

Available in 10", 11" and 13".

Benefits

- Unique bayonet push/twist system
- Quick and simple to install
- Quick and simple to replace cartridges
- Flexible and comprehensive water treatment system
- Unique design
- Compact and elegant
- Wall mounted
- 2 or 3 cartridge system

The 3 Stage Procedure

New Era's Reverse Osmosis Unit in Full Flow

Key Element One

Modular manifold that allows the use of 3 sizes of "pod" (cartridge). Additional pods can also be added.

Key Element Two

Sediment Filter
(Mechanical pre-filter)

Key Element Three

Carbon Filter

Key Element Four

Sealed RO Membrane
The RO "pod" is manufactured so that the membrane cannot be touched or contaminated by the user on installation.

