



ENGLISH

Datasheet

RS PRO Reverse Osmosis unit complete with all cartridges

Stock No: 195-2219



Technical Specifications:-

Length: 310mm

Diameter: 120mm maximum

Material: acid compatible – will not corrode

10 year warranty

Compatible with 22mm, 35mm and 42mm condensate pipe

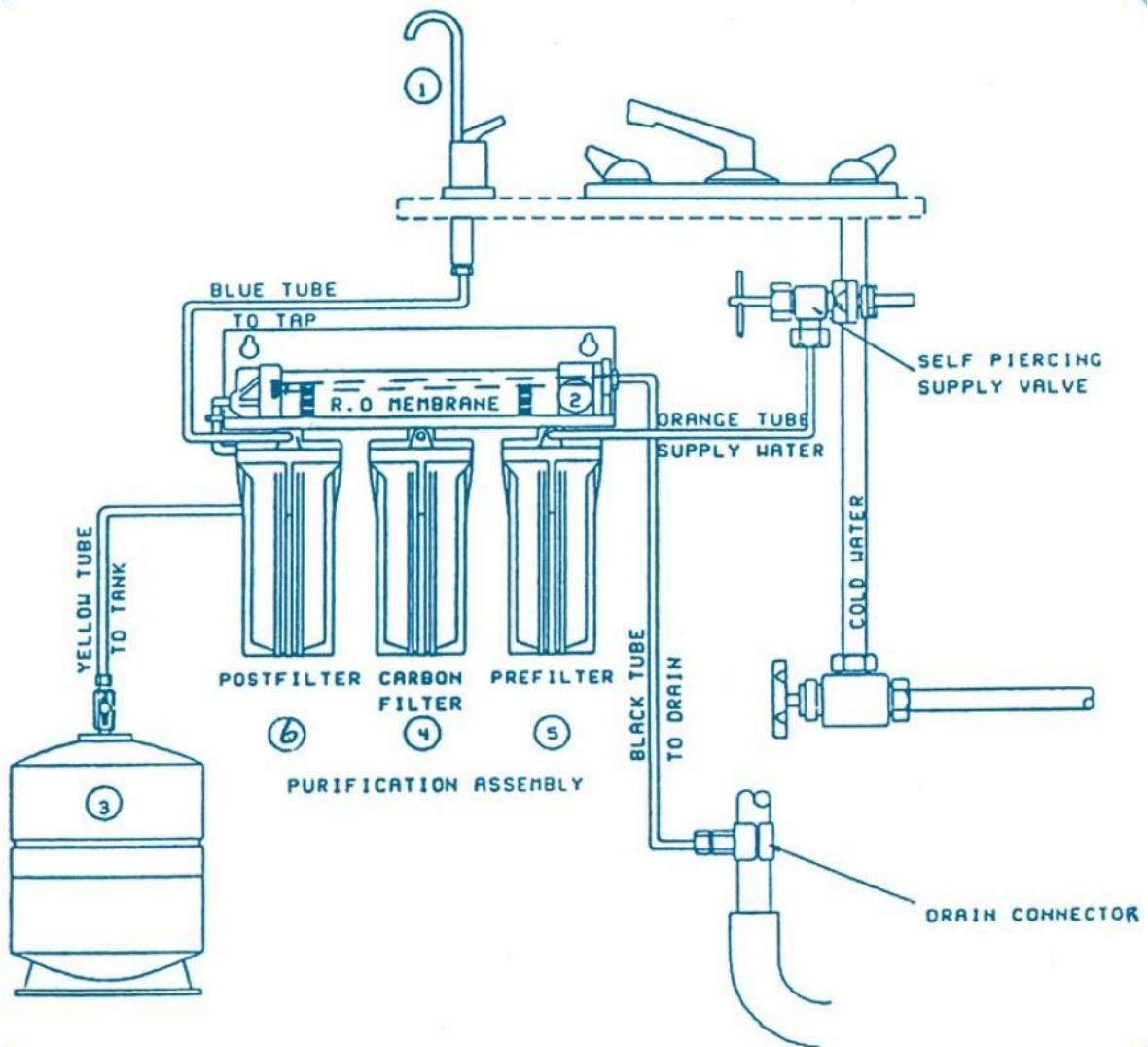
Features & Benefits:

Removes 90-99% of all dissolved solids from water

Provides water of extreme purity

Benefits for people with health concerns

Simplest way of removing certain contaminants from water



General

Basic Principles of Reverse Osmosis

Thank you for purchasing the RS PRO Reverse Osmosis System. In this booklet we provide full installation and operating instructions. Understanding the principles behind reverse osmosis is not strictly necessary, however, you may find this booklet easier to follow if you take a few moments to familiarise yourself with some of the technicalities presented below:

RO is based on a naturally occurring phenomena: The process of Reverse Osmosis removes 88 to 98% of total dissolved solids from your water making it the most effective form of water filtration available. To achieve such a high level of filtration, your RO system employs the principles found in the naturally occurring phenomena called osmosis. The movement of water from soils into plant roots is one example of osmosis at work in nature.

RO produces virtually pure water: The product water from your RO system will be free of all bad tastes and odours and will be virtually pure. Reverse Osmosis removes most dissolved solids from your water, these include mineral salts such as barium, calcium, chloride, chromium, copper, iron, fluoride, magnesium, manganese, nitrates, selenium, sodium, sulphates, zinc etc. RO also removes most heavy metals such as arsenic, cadmium, lead, mercury and silver.

At the heart of your RO system is the RO membrane. In addition to the osmosis process, this RO membrane acts as a very fine filter (Ultra-filtration to .0005 micron), acting as a barrier, blocking the passage of impurities. The RO membrane removes sediment, scale, asbestos and any suspended organic material, virtually all micro-organisms such as bacteria, cysts, virus and pyrogen, virtually all colloidal matter, heavy metals and most heavy metal complexes of arsenic, cadmium, lead, mercury and silver. RO removes virtually all molecules over a molecular weight of 300 (eg. pesticides)

Important notice: The RO system must not be used to treat water that is micro-biologically unsafe or where water is of an unknown quality. RS PRO cannot accept any liability or responsibility for equipment used in these situations. You must ensure that the RO system is installed in accordance with all local by-laws and regulations.

The RO system is to be used on potable water supplies only. If the water entering the system exceeds the parameters set out on page 4 of these instructions then additional pre-treatment is required.

The Five Stages of RO Filtration

The RO System employs five stages of filtration

Stage one: The first housing contains an SW5 strung filter. This filter removes sediment and other particles down to a size of 5 micron, after which the water passes to allow pressure switch before it goes through to the booster pump. The RO system has low and high pressure switches which co-ordinate the booster pump switching. If the pressure is low then the pump switches on. If the pressure is acceptable then the pump will remain switched off.

Stage two: Water from the booster pump passes to the second housing, which contains a C1 filter. This filter contains activated carbon and removes chlorine from the water.

Stage three: The third housing contains a SW1 filter, which removes any remaining particles from the water down to a size of 1 micron.

Stage four: Having passed through three stages of pre-filtration, the water then passes through to the RO membrane where virtually all of the remaining contaminants are removed. The RO process produces virtually pure water at a ratio of 1:4. Every litre of RO water requires four litres of rinse water. The rinse water is sent to the drain connection on the touch tap, where it passes through an air gap and then to drain. The air gap (a hole situated at the base of the touch tap) prevents the water from the drain finding its way back into the membrane.

A flow controller governs the rate at which water flows from the RO membrane to the drain. The flow through this controller can be increased/decreased by opening or closing the flow controller by-pass. The blue handle is normally left in the closed position (blue handle at 90° to the pipework).

When the RO unit is initially installed, the RO membrane needs to be flushed through with water. Opening the flow controller by-pass allows a greater flow of rinse water to drain. (Position blue handle so it runs along the same line as the pipework).

The product water from the RO membrane passes through the pressure equalising device and into the pressurised storage vessel. The rate of production is relatively low. The storage vessel provides a reservoir of product water, which then supplies a pressurised flow of water to the touch tap at a rate acceptable for domestic usage.

Stage five: Removing all the contaminants from water and storing it in a vessel has the potential to impart a taste into the water. A post filter containing activated carbon 'polishes' the water, whilst at the same time removing any unwanted tastes. Having passed through the five stages of filtration, the virtually pure water flows to the touch tap and the cycle is complete.