

## IS 16240:2023 Reverse Osmosis Based Point of Use Water Treatment System for Drinking Purposes — Specification

Reverse Osmosis (RO) is a water treatment process that removes contaminants from water by using pressure to force water molecules through a semipermeable membrane.

In highly populated countries like India, the quality of drinking water has deteriorated due to contamination of soil and water from agricultural run-offs and industrial effluents. Tapping of groundwater for domestic use has also increased to meet the growing demand of water. Groundwater typically has higher concentrations of dissolved solids, namely minerals, and may contain harmful contaminants like heavy metals and naturally occurring elements like fluoride or arsenic in excess. Reverse Osmosis (RO) technology combined with sediment and carbon filters has proved to be an effective water treatment method for removing various inorganic, organic, and microbiological contaminants from the water.

The standard covers reverse osmosis (RO) based point-of-use (PoU) water treatment system. The standard specifies construction of the product describing main parts along with material to be used for those parts. The standard specifies the minimum recovery rate to be equal to or more than 40 percent while production rate shall not be less than 5 litre per hour. Key other requirements which have been specified include reduction in TDS to less than or equal to 500 mg/ litre. Limits of nine elements like Arsenic, Cadmium etc have been specified under Chemical requirement. Microbiological requirements of E Coli and MS-2 Coliphage (Virus) have also been specified along with optional Requirements for *Cryptosporidium parvum* and *Giardia lamblia*. Testing for chemical and microbiological requirements have also been specified.

Electrical safety of the product and earthing requirements conforming to as per IS 302 (part 1) has been specified. Test for routine pressure test, hydrostatic test and whole device leakage test have been specified to ensure installation in high rise buildings and robust construction. Maintenance of the device has also been specified to help consumers to get treated water over a long period of time.