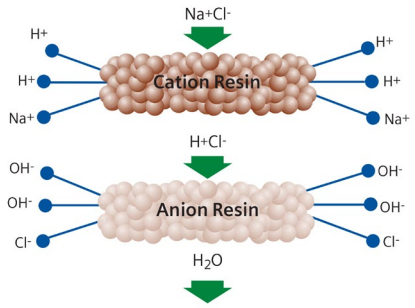
Exchange Deionisation Systems



Exchange deionisation systems provide a simple means of producing low conductivity water either directly from a mains feedwater supply or as polishers for reverse osmosis systems. A typical exchange mixed bed deionisation system includes pre-filtration, de-chlorination and two resin beds. Options are available for UV sanitation and sub-micron final filtration stages. System capacity will vary according to feedwater conductivity and the amount of ion-exchange resin in the system. Ion-exchange resin beds are available with 12 to 100 litres or mixed-bed deionisation resin, capable of processing between 1,800 to 30,000 litres of 50ppm TDS (75µS/cm conductivity) feedwater. System flow rate vary according to system configuration between 2 and 40 litres/minute. Minimum water quality exiting the systems is 1.0 M/cm resistivity (1 µS/cm conductivity) with all suspended solids above a nominal 1 micron removed. Optional UV sanitation lamps and pre-treatment stages are also available to tailor each system to your specific requirements.

System description

If the system is fed from mains water, the deionisation process begins with sediment removal (pleated cartridge filter cartridge and activated carbon based de-chlorination. This water passes through a two mixed-bed ion exchange resin beds (worker and polisher) to achieve the required minimum resistivity of 1.0 MΩ/cm.

For applications where the feedwater is supplied from an existing reverse osmosis system or distillation unit, the ExDI systems can be configured as polishers only with no pre-treatment stage for de-chlorination or sediment removal. In such cases, the standard monitor lamp is replaced with a digital resistivity monitor with readout of measured deionised water resistivity (conductivity and TDS monitors are also available by request). Water quality exiting these polisher configurations will meet ASTM Type 2 or 3 standards if required.

The ExDI systems are provided as an outright purchase with service available for tank and filter changes on an as-required basis. Installation and maintenance arrangements are available to best suit each site. At each service, the worker DI tank is exchanged with the polisher tank. A freshly filled resin tank is installed as the polisher and both pre-and post filters changed. The equipment ownership remains with you and we undertake to provide you with the water to suit your quality, flow rate and total volume requirements.

Key features

- *High flow rates: Minimal storage requirements; most systems are used on-line.*
- *Flexibility. Systems can be reconfigured to suit your changing needs.*
- *Performance. We guarantee the performance of all equipment and treatment processes.*
- *High Purity of the final water product to meet all applications*
- *Economical. No wastewater or electrical costs associated with the system.*
- *Versatile. The ExDI is ideal for variable demand applications.*

Pure Water, Simple Solutions

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Applications

Where water of >1.0MΩ/cm resistivity or <1.0 µS/cm conductivity is required or as polishers for reverse osmosis water where ASTM Type 2 or 3 standards are specified. These systems are ideally suited for applications where use is intermittent or where rental arrangements are not appropriate.

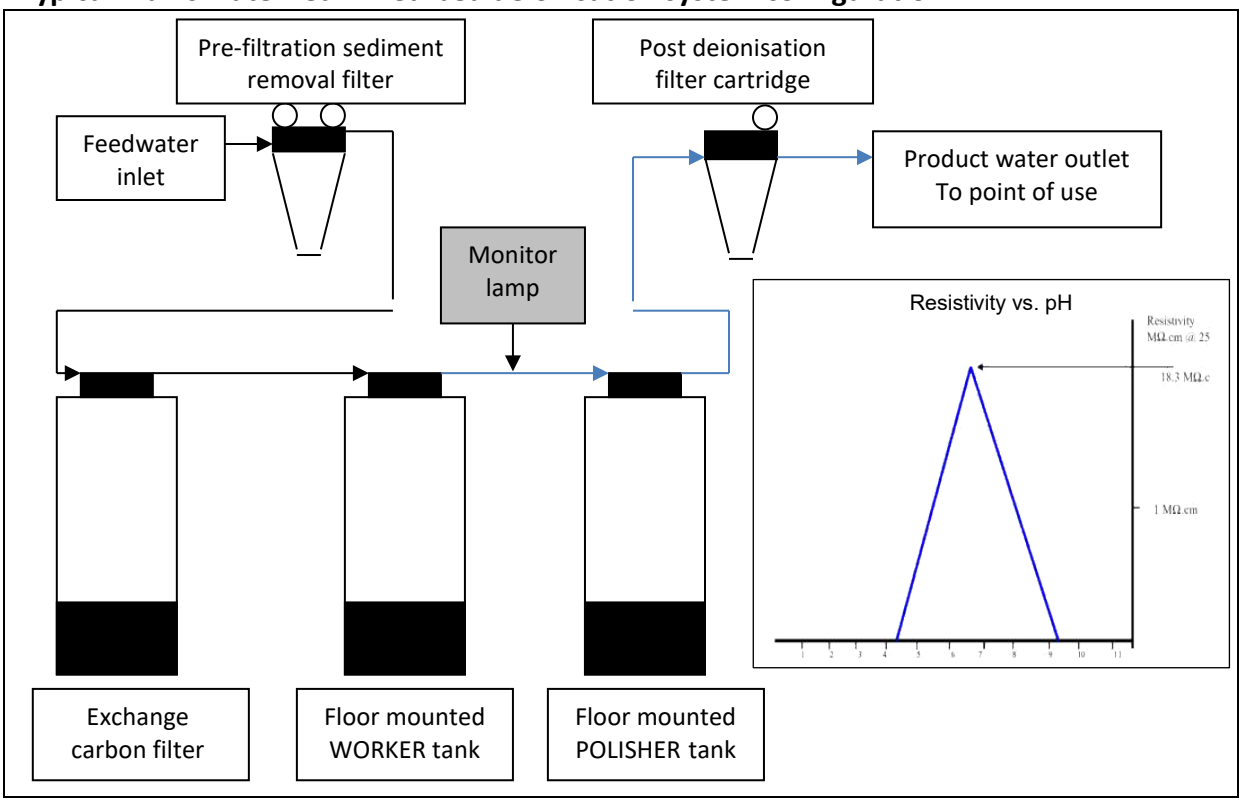
Installation (mains feedwater supply)

Installation requires a pressurised (140-350kPa) potable water supply through a suitable ball or gate valve and 240VAC power within 2 meters of the site. Appropriate access and footprint space together with mounting space for the filter housings. Skid mount installations are also available by request.

Installation (pre-treated feedwater supply from RO or still)

Installation requires a pressurised (100-250kPa) pre-treated feedwater supply with conductivity <5uS/cm through a suitable ball or gate valve and 240 VAC power within 2 meters of the site. Appropriate access and footprint space together with mounting space for the post filter housing. Skid mount installations are also available by request.

Typical mains water fed mixed-bed deionisation system configuration



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