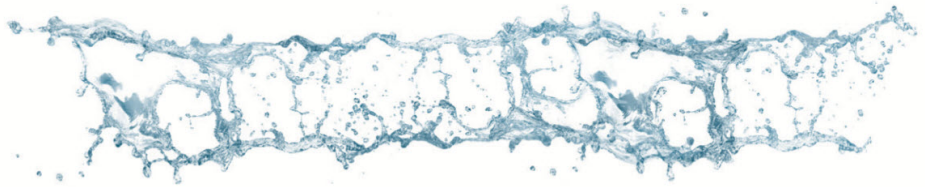


## FILTRATION: DE-IONISATION UNITS - MIXED BED



The MIXED BED Ion-Exchange unit produces water of high purity for many process water applications. It can be used in isolation as a single treatment solution or in conjunction with other de-ionisation or reverse osmosis equipment to increase the quality of product water and/or extend the periods between resin recharge.

MIXED BED units are typically installed after a reverse osmosis unit when a water quality of less than 1 micro Siemens cm<sup>-1</sup> conductivity is required. Typical applications include polishing of reverse osmosis water for use in Hospital pharmacy departments, processes in the electronics industry, chemical manufacture and final rinse in the glazing industry.



## PRODUCT RANGE DATA

MODEL	Resin (litres)	Tank Size	Capacity (l/h) @ 100°C	Capacity (l/h) @ 150°C
MB-10	10	0817	200	400
MB-19	19	1019	380	760
MB-25	25	0835	500	1000
MB-37	37	1035	780	1500
MB-48	48	1044	960	1900

## TECHNICAL INFORMATION

Cation (+) and Anion (-) resins can be mixed together in a single vessel to produce a very high water quality by the many ion exchange reactions that continually occur as the water passes through the Mixed Bed of resins.

Positive charged ions in the incoming mains water supply are exchanged for Hydrogen (H+) ions and negatively charged ions are exchanged for Hydroxyl (OH-). The treated water produced is almost entirely made up of pure water (HOH or H2O) and is of demineralised quality.

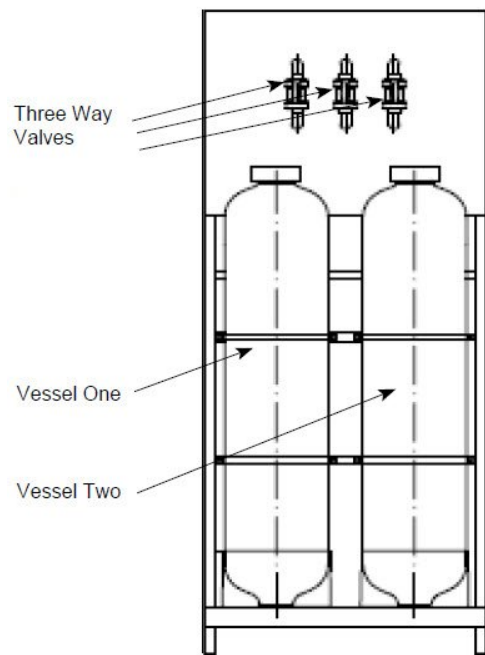
The Mixed Bed typically consists of a strong acid Cation resin and a strong base Anion resin mixed together, usually at a volumetric ratio of 40% Cation to 60% Anion resin. Other ratios can be used depending on the water analysis, the capacity desired and the required quality of the treated water.

## GENERAL OPERATION

When utilising a single vessel water simply passes through the resin bed, the resin quality being monitored by the installed conductivity readout. When the readout shows a conductivity greater than 10 micro Siemens (or less, dependent on water quality requirements) the resin tank should be renewed.

When utilising a duplex system similar to that shown in the adjacent drawing, water, in service mode, passes through the mixed bed vessels in series (vessel 1 to 2). A suitably installed conductivity cell monitors the quality of the outlet water and when the quality deteriorates a microprocessor controller, complete with alarm outputs and temperature compensation, will indicate that vessel 1 requires replacement. When replaced the flow is reversed so that vessel 2 receives the feed water supply by adjusting the three-way valves accordingly.

When the quality monitor next indicates replacement vessel 2 is changed and the flow path returned to the original configuration, vessel 1 to 2, again by adjusting the three-way valves accordingly.



LUBRON UK LIMITED reserve the right to change equipment specification without prior notice, as part of our continuous product development programme.