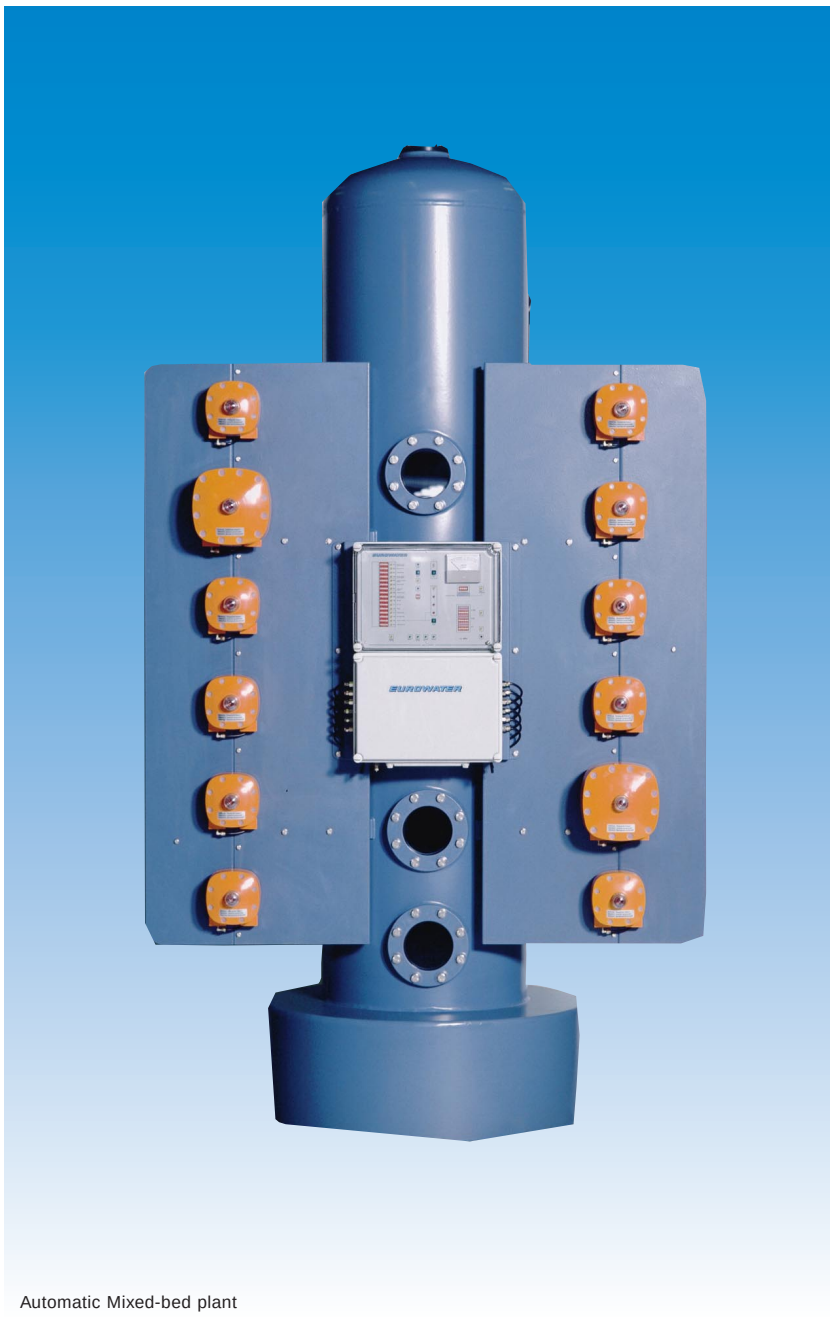
EUROWATER

A GROUP OF CO-OPERATING EUROPEAN WATER TREATMENT SPECIALISTS

DEMINERALIZATION

MIXED-BED, SERIES MB/MBA
MANUAL/AUTOMATIC

- **DEMINERALIZED WATER WITH EXTREMELY LOW SALT CONTENT**
- **APPLICABLE TO POLISHING OF HIGHLY TECHNOLOGIC WATER INSTALLATIONS**
- **APPLICABLE TO THE PHARMACEUTICAL INDUSTRY, THE ELECTRONICS INDUSTRY, HOSPITALS, POWER STATIONS, ETC.**
- **APPLICABLE FOR DEMINERALIZING OF MODERATE WATER QUANTITIES**
- **ADVANCED ELECTRONIC CONTROL SYSTEM**
- **CORROSION RESISTANT DESIGN**



Automatic Mixed-bed plant

AUTOMATIC MIXED BED PLANT

APPLICATION
Applicable for polishing of demineralized water that is produced in an automatic two-column plant or in a reverse osmosis plant. Also applicable for production of moderate quantities of demineralized high-quality water direct from the waterworks.

THE MIXED BED PRINCIPLE
The plant contains a mixture of cation and anion exchangers that are regenerated with hydrochloric acid and sodium hydroxide, respectively. When the water passes through the regenerated ion exchangers the cations and the anions are exchanged for hydrogen and hydroxyl ions, thus producing demineralized water with an extremely low conductivity.

REGENERATION
The regeneration starts with a separation of the two exchangers. Then follows a regeneration with hydrochloric acid and sodium hydroxide. After various rinses the two ion exchangers are again mixed by means of compressed air. The duration of a regeneration is 3½-4 hours.

PLANT DESIGN
The resin tank is surface treated with high density polyethylene making it absolutely free of pinholes. The dielectric strength is approx. 21 kV/mm. Pipes and automatic valves are made of plastics.

CONTROL PANEL
The electronic 12 V control panel contains a conductivity meter and control and program sections. The panel has battery back-up in case of interrupted power supply and output for remote alarms is available.

QUALITY CONTROL
The conductivity meter continuously indicates the quality of the treated water in microSiemens (µS/cm.). The lower the conductivity - the purer the water. The water quality is supervised by an adjustable alarm that also can transmit regeneration impulse.

PROGRAM FACILITIES
Choice between timer, meter, or quality control is available on the control section. The program section has sixteen time adjusted regeneration cycles. All regeneration and operational conditions can be followed via the light-emitting diodes.

DUPLEX
For continuous operation two mixed bed plants can be controlled so that one of the plants always is in service. When the capacity is exhausted the plant is regenerated and is then on stand-by while the other plant is in service.

CAPACITY
A mixed bed plant for polishing of demineralized water has a very large capacity. The basic capacity is stated in valence per regeneration. The actual capacity is calculated by dividing the basic capacity by the total salt content of the feedwater in valences.

QUALITY. POLISHING
Treatment of demineralized water with low carbonic acid content results in conductivities as low as under 0.1 µS/cm. at 10°C. This demands regenerations with demineralized water. If the silica content is to be as low as possible, it is necessary to heat the regeneration water.

QUALITY. WATERWORKS WATER
Admission of ordinary clean waterworks water with moderate salt content will result in demineralized water with conductivities that are lower than those in water from both two-column plants and reverse osmosis plants. Softened or demineralized water is used for the regeneration.

ACCESSORIES
Acid and caustic are drawn direct into the plant by ejectors. The chemicals can be drawn direct from the original chemical containers or from special acid and caustic tanks. The acid and alkaline water from the regeneration are neutralized according to the regulations in force pertinent to waste water.

MANUAL MIXED BED PLANT
The marketing of the plants also comprises a version with manual regeneration.

SPECIFICATIONS

Module	Flow Rate		Basic Capacity	Regenerant Consumption		Reg. Time	Required space (1)		
	Minimum m^3/h	Optimum m^3/h	val/reg.	30% HCL litres	30% NaOH litres	hours	Height mm	Width mm	Debth mm
MB/MBA 40	1.0	2.0	16	6	9	3.5	2800	1200	1100
MB/MBA 360	2.0	4.0	33	12	18	3.5	2800	1300	1200
MB/MBA 600	3.3	6.6	56	20	30	3.5	2800	1500	1300
MB/MBA 900	5.0	10.0	84	30	44	4.0	2800	1700	1400
MB/MBA 1200	7.0	14.0	117	42	63	4.0	2800	1700	1500
MB/MBA 1800	11.0	22.0	184	66	100	4.0	2900	2000	1700

(1) Dimensioned sketch with the exact installation dimensions is available.

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