

EUROWATER

A GROUP OF CO-OPERATING EUROPEAN WATER TREATMENT SPECIALISTS

DEMINERALISATION

SEMI-AUTOMATIC DEMINERALISER TYPE DMS

- SEMI-AUTOMATIC 2-STAGE DEMINERALISATION PLANT
- AUTOMATIC REGENERATION AFTER MANUAL INITIATION
- AUTOMATIC DOSING OF CHEMICALS
- SAFE LOW-VOLTAGE CONTROL FOR 12 V SUPPLY



DMS 42-F

DEMINERALISATION

Demineralisation by ion exchange is a method of removing dissolved solids from water. In most industrial processes, high alkalinities and totally dissolved solid concentrations in water are inimical to various functions. Therefore, it is usually necessary to reduce the dissolved solids in the process water.

THE 2-COLUMN PRINCIPLE

The unit consists of one column with a strongly acid cation resin followed by a column with a strongly alkaline anion resin. These resin beds are regenerated with hydrochloric acid and sodium hydroxide, respectively. During passage through the columns, the dissolved salts in the water are exchanged with hydrogen and hydroxide, forming water.

PLANT DESIGN

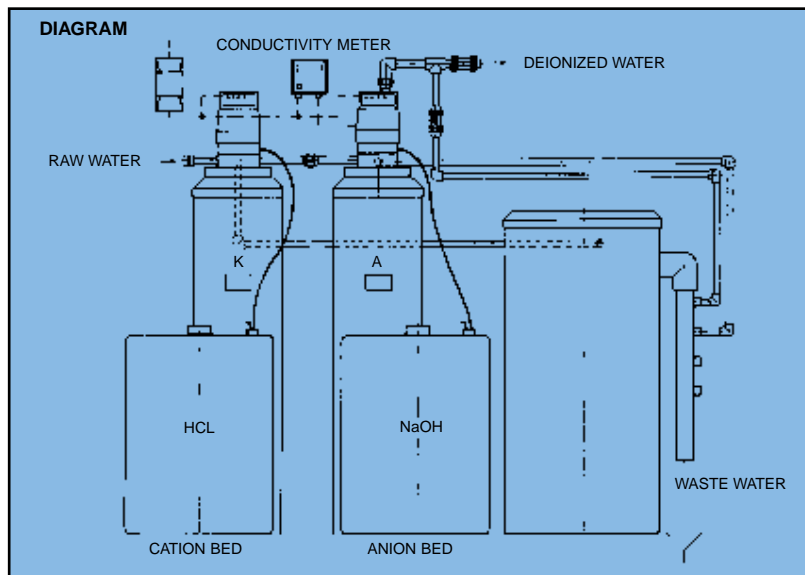
The plant comprises two ion exchange pressure vessels, lined internally and externally with high density polyethylene. The connecting piping is made of PVC and provided with manually operated outlet and rinse valves. Each vessel is also provided with a EUROWATER 4-cycle valve for regeneration. The conductivity of the demineralised water is shown on a meter with a measuring range of 0.1-50 µS/cm.

REGENERATION

When the unit is exhausted, it is regenerated with hydrochloric acid and sodium hydroxide. The programmed regeneration is initiated and consists in both columns of the following cycles: Backwash, draw of acid or sodium hydroxide, and rinse. Duration of a regeneration: approximately 2 hours.

PLANT OPERATION

On completion of each service cycle, the conductivity of the treated water will increase, and the unit is then taken out of service by closing the outlet valve. After



this, regeneration is initiated by pressing the start button. On completion of the regeneration the unit is rinsed, until the correct water quality is obtained, and the unit is then ready for service.

STORAGE TANKS FOR ACID AND SODIUM HYDROXIDE

The unit draws acid and sodium hydroxide direct from the original containers. If wanted, the unit may be delivered with special storage tanks in white polyethylene.

CIRCULATION

Very low minute flow rates or periods with no water activity may cause an increase in the conductivity and thereby unnecessary regenerations. The unit can be supplied with a circulation pump to eliminate these problems.

PLANT CAPACITY

The plant capacities stated are for waterworks main supply with a total content of one degree German hardness (1°GH). The actual capacity between two regenerations is found by dividing the basic capacity shown for 1°GH by the amount of dissolved solids in the water, converted into degrees of German hardness.

INSTALLATION

Local regulations must be observed. Connecting piping and drain valves after the plant should preferably be constructed in PVC, acid-proof stainless steel or the like.

DRAIN WATER NEUTRALISATION

We can propose different ways of neutralising the acid and alkaline drain water from the unit, if required.

SPECIFICATIONS

TYPE	Flow Rate m³/h	Pressure Loss bar	Basic Capacity at 1°GH** m³	Regenerant Consumption		Floor Space* required mm x mm	Total Height mm	Connections		
				30% HCl l	30% NaOH l			Inlet " BSP	Outlet mm PVC	Drain mm PVC
DMS 42-F	1.4	1.1	80	10	8	450 x 1000	1805	3/4	25	20
DMS 62-F	2.0	1.2	115	15	13	450 x 1000	1805	3/4	25	20
DMS 362-F	2.6	2.0	200	26	23	600 x 1300	2080	3/4	25	20
DMS 602-F	3.3	2.0	300	37	32	600 x 1300	2080	3/4	25	20

* 2-column frame mounted units without storage tanks.

** 1°GH corresponds to 0.357 mval/l

Operating pressure: 2-6 bar. Water temperature: max. 35°C. (for certain fillings lower). Power supply: 230/12V, 50 Hz.

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