



EUROWATER

A GROUP OF CO-OPERATING EUROPEAN WATER TREATMENT SPECIALISTS

DEALKALIZATION

WEAKLY ACIDIC CATION EXCHANGER SERIES DCM & DCMH

- FEEDWATER TREATMENT FOR MEDIUM AND LARGE STEAM BOILERS
- REMOVES BICARBONATE HARDNESS
- REDUCES BOILER BLOWDOWN
- CONTINUOUS SUPPLY OF DEALKALIZED WATER
- PACKAGED MODULAR DESIGN
- FULLY AUTOMATIC CONTROL
- REGENERATES AT PRESET VOLUMES
- SAFE 12V CONTROL PANEL



DCMH 602-F

WEAKLY ACIDIC CATION EXCHANGER

BOILER FEEDWATER

PLANT DESIGN

A complete plant for dealkalization and softening of boiler feedwater comprises a weakly acidic cation exchanger, a degasser, a softener and chemical dosing pumps. These plants are included in the product program of EUROWATER.

DEALKALIZATION

The weakly acidic cation exchanger will after regeneration with hydrochloric acid exchange bicarbonate hardness with hydrogen. At the same time bicarbonate will be converted into free carbon dioxide. The excess acid of the regeneration is neutralized in an acid neutralizer.

DEGASSING

The dissolved carbon dioxide in the raw water as well as the carbon dioxide resulting from the dealkalization are removed in the carbon dioxide degasser.

SOFTENING

After regeneration with sodium chloride the automatic softening plant converts the mineral hardness of the raw water as well as any remaining hardness from the weak cation exchanger into easily soluble sodium salts.

CHEMICAL DOSAGE

By means of a dosing pump an oxygen binding agent and chemicals for regulation of the pH value are added to the dealkalized and softened water.

SYSTEM ADVANTAGES

APPLICATION

A system with dealkalization, degassing, softening and chemical dosage is an economical solution to treatment of feedwater for medium and large steam boilers.

DEALKALIZATION

Carbon dioxide compounds of the water (bicarbonate and free carbon dioxide) are reduced to under 0.5 mval/l., eliminating the risk of carbon dioxide corrosion. Moreover, the total salt content of the water is substantially reduced, whereby the need for blow-down of the boiler is reduced, thus lowering the caloric loss.

SOFTENING

The treated water contains no scale-forming calcium salts. Consequently, thermal loss on account of insulating scale formation is avoided. At the same time the risk of boiler damage by overheating is eliminated.

CHEMICAL DOSAGE

Admixture of oxygen binding agents prevents oxygen corrosion of the boiler and steam system. Phosphate admixture removes any remaining hardness. At the same time the pH value of the boiler water is kept alkaline. Among other things this keeps silica in solution and impedes various corrosion processes.

DCM & DCMH PLANTS

PRINCIPLE

The weakly acidic cation exchanger series DCM and DCMH includes one or two resin tanks plants with EUROWATER 5-cycle valves. The dealkalization plant includes acid tank, pulse water meter and an electronic control panel. Two-tank plants can be supplied skid-mounted.

METER CONTROL

A pulse water meter on the plant inlet measures the consumption of water. After consumption of water corresponding to one resin tank capacity, the control panel initiates regeneration of the tank due for regeneration. Thus the plant regenerates in accordance with water consumption.

RESIN TANKS

The resin tanks are coated with high density polyethylene making them absolutely free of pinholes. The dielectric strength is approx. 21 kV/mm. Thus the tanks have the strength of steel and the chemical corrosion resistance of plastics.

CONTROL PANEL

The CSC2 control panel comprises all control functions of the plant. The panel is operated on 12V low voltage only. The duration of each regeneration cycle can be set individually in the program section by means of switches on the panel front. The counter section receives impulses from the pulse water meter and at the programmed number of impulses the panel initiates a regeneration. Light-emitting diodes indicate the actual operation cycle of the plant and the number of impulses received from the pulse water meter.

SPECIFICATIONS

MODULE	FLOW RATE m ³ /h	PRESSURE LOSS AT 8°C bar	1- TANK UNIT			2- TANK UNIT		
			RESIN TANK			FRAME DIMENSIONS		
			Length mm	Width mm	Height mm	Length mm	Width mm	Height mm
DCM 60	1.5	0.7	300	300	1465	1000	450	1795
DCM 360	2.0	1.0	350	350	1525	1300	600	2075
DCM 600	2.5	0.9	450	450	1925	1300	600	2075
DCMH 600	5.0	0.7	620	450	1925	1480	600	2075
DCMH 1200	9.0	0.7	850	650	1925	1880	800	2075
DCMH 1800	14.0	0.9	1000	800	1925	2180	950	2075
DCMH 2000	14.0	1.1	1000	800	2425	2180	950	2575

(1) The flow rate of the individual unit depends on the composition of the water.

Operating pressure: 2-6 bar. Power supply: 230/12V, 50 Hz. Regeneration acid: 30% HCL. Water temperature: Max. 35°C.