

WATEX CMS DUPLEX WATER SOFTENERS TECHNICAL DATA

Technical parameters	Unit	Model			
		DUPLEX CMS 14	DUPLEX CMS 16	DUPLEX CMS 18	DUPLEX CMS 21
Nominal flow rate* Qnom	m³/h	4.4	6.2	7.0	7.0
Flow rate** Qmax	m³/h	6.0	9.0	9.0	9.0
Maximum flow rate at ΔP = 1 bar	m³/h	6.0	9.0	9.0	9.0
Capacity per vessel between regenerations	m³	15.1	18.9	22.7	30.3
Feed water used for calculation	Iron 0.2 mg/L; hardness 6.0 meq/L				
Water per regeneration***	L	320	410	500	670
Salt per regeneration	kg	15.0	18.8	22.5	30.0
Minimum backwash flow rate	m³/h	0.8	1.1	1.4	1.8
Pressure vessel diameter	in	14	16	18	21
	m	0.36	0.41	0.46	0.53
Pressure vessel volume	L	145	183	237	316
Filter media volume per vessel	L	100	125	150	200
Overall dimensions					
Length (L)	m	1.28	1.38	1.76	1.94
Width (W)	m	0.46	0.46	0.77	0.77
Height (H)	m	1.91	1.91	1.91	2.00
Connections: inlet/outlet/drain	in	1"/1"/1"	1¼"/1¼"/1"	1¼"/1¼"/1"	1¼"/1¼"/1"
Clack control valve		CI 1"	CI 1.25"	CI 1.25"	CI 1.25"
		NHVB x 2	NHVB x 2	NHVB x 2	NHVB x 2
Treatment capabilities		Hardness, iron, ammonium, turbidity			
Pressure vessel material		FRP (glass-fibre-reinforced plastic)			
Filter media		Resinex KW-8 ion exchange resin, quartz sand 1×3 mm, 3×5 mm			
Operating pressure	bar	2-6			
Electrical supply		220 V, 50 Hz, 1 phase			
Power consumption	W	3 W			



* Filtration rate 25 BV/h
 ** Filtration rate 40 BV/h
 *** Water use may double if feed water quality changes

WATEX CMS DUPLEX WATER SOFTENER DESCRIPTION

APPLICATION

WATEX CMS DUPLEX water softeners operate continuously. They are mainly used in industrial facilities that require stable water hardness and iron concentration over extended periods.

FILTER OPERATION

During operation, deposits accumulate in the filter medium (ion exchange resin). Salt is used to regenerate the resin. Regeneration wastewater can be discharged to a biological wastewater treatment plant subject to its acceptance requirements. The unit consists of 2 filter vessels, 2 control valves and 2 brine tanks. Each filter vessel contains ion exchange resin, which reduces water hardness and iron concentration. The control valves regenerate the filters automatically. The brine tanks contain salt tablets used for regeneration. The treatment capacity between regenerations is calculated from the resin quantity and the incoming water quality.

FILTER CONTROL

WATEX CMS DUPLEX units have Clack WS CI control valves with built-in flow meters. Regeneration is controlled by the volume of water used, reducing salt consumption. A bypass can be fitted for straightforward maintenance. The control unit retains its information during a power failure. Settings can be adjusted to suit the application, including regeneration time and frequency, salt consumption, water hardness and other parameters. The 2 control valves maintain consistent water quality: both vessels operate simultaneously, and when one is being regenerated, the other continues to supply treated water. During regeneration, half of the total flow capacity remains available.

OPERATING REQUIREMENTS

Salt tablets are used for regeneration. Treated water can be used for drinking and other normal uses when the incoming water quality and installation meet the applicable requirements. The equipment requires an electrical supply, a drain connection and an inlet water pressure of at least 2.5 bar.

RECOMMENDATIONS

Have the chemical composition of the raw water analysed before selecting the equipment. Install a mechanical prefilter in the inlet line to help extend the equipment service life.