

PRODUCT DATA SHEET



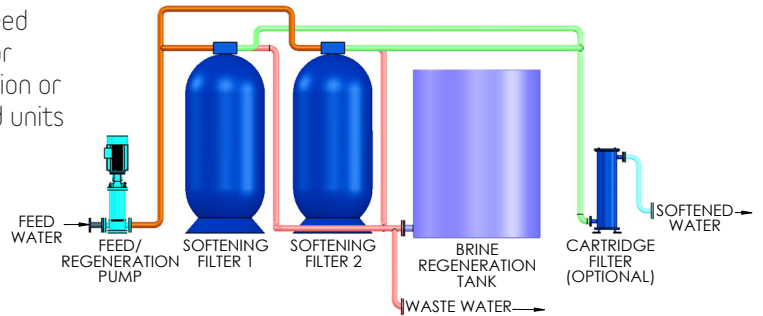
Water Softening Plant (WSP)

water | wastewater | sewage

OVERVIEW

MAK's Water Softening plants (WSP) are designed to reduce hardness from water sources that may have negative downstream implications such as scaling of pipework and equipment. The WSP contains resin beads charged with sodium ions. When the hardness ions come in contact with the resin beads the hardness ions are collected and the sodium ions are released, thereby softening the water via ion exchange. The WSP automatically completes a regeneration cycle whereby the filter is backwashed and the resin recharged with sodium ions via the brine regeneration tank.

Water Softening can be used in a range of applications such as potable water, boiler feed water and domestic appliance feed water (washing machines, dishwashers etc). Additional pre or post WSP treatment steps may be added to suit feed or softened water requirements such as iron removal, odor removal, colour removal, hydrocarbon removal, pH correction or sterilisation. The MAK WSP's are available as skid mounted units or containerized systems.



STANDARD SPECIFICATIONS

Parameter	Units	WSP-50	WSP-100	WSP-200	WSP-300	WSP-500	WSP-1000
Softened Water Flow Rate	m ³ /day	50	100	200	300	500	1000
Softened Water Recovery Rate	%	90 – 98% (varies according to feed water quality)					
pH	-	6 - 10					
Free Chlorine	mg/L	< 0.2 mg/L					
Iron	mg/L	< 3 mg/L					
Manganese	mg/L	< 2 mg/L					
Softened Water Hardness	mg/L	<120 as CaCO ₃ (typical, can be improved depending on requirements)					
Raw Water Hardness	mg/L	<200 as CaCO ₃ (higher levels of hardness can be treated if required)					
Raw Water Temperature	°C	15 ~ 35					
Ambient Design Temperature	°C	5 ~ 40 (-15 ~ 45 for insulated containerized system)					
Feed Water Inlet Pressure	kPa	>15 flooded suction or 200 kpa pressurised feed.					
Softened Water Discharge Pressure	kPa	~40 (higher discharge pressures available on request)					
Power Supply	-	AC 240, 1 Phase, 50/60Hz / AC 380~450 V, 3 Phase, 50/60 Hz					
Power Consumption	kW	2	3	4	5	7	9
No. Containers (Optional)	ft	1 x 10'	1 x 10'	1 x 10'	1 x 10'	1 x 20'	1 x 20'

STANDARD INCLUSIONS + OPTIONS

✓ = Standard Supply ○ = Optional Supply - = Not Applicable

Equipment	WSP-50	WSP-100	WSP-200	WSP-300	WSP-500	WSP-1000
Skid Mounted Plant & Equipment	✓	✓	✓	✓	✓	✓
Twin Parallel Alternating Softners	○	○	○	○	○	○
Softening Feed /Regeneration Pump	○	○	○	○	○	○
PLC Control System with HMI	○	○	○	○	○	○
Containerized system, c/w A/C & Lights	○	○	○	○	○	○
Container Insulation (walls & ceiling)	○	○	○	○	○	○
Container non-slip floor coverings	○	○	○	○	○	○
Container Side Access Door	○	○	○	○	○	○
Additional Pre-Softening Treatment	○	○	○	○	○	○
Additional Post-Softening Treatment	○	○	○	○	○	○
Premium Instrumentation Package	○	○	○	○	○	○
Softened Water Distribution Pump Set	○	○	○	○	○	○

Instrumentation	Standard Package	Premium Package
Pressure Gauges	✓	✓
Pressure Transmitters (4-20 mA)	-	✓
Flow Transmitters (4-20 mA)	-	✓
Flow Switch	-	✓
Flow Gauges (Rotameters)	-	○
Float Switches (Feed/Softened Water, Regeneration Tanks)	-	✓
Remote Monitoring & Control Capabilities	-	✓

MODEL SELECTION

- 0050** 50 m³/day Flow rate
- 0100** 100 m³/day Flow rate
- 0200** 200 m³/day Flow rate
- 0300** 300 m³/day Flow rate
- 0500** 500 m³/day Flow rate
- 1000** 1000 m³/day Flow rate
- XXXX** Custom supply flow rate

- XX** Skid mounted plant
- CX** Containerised plant, standard
- CF** Containerised plant with floor coatings
- CP** Containerised plant with floor coatings & insulation

S Single duty

T Twin alternating

- X** Pre WSP treatment - none
- F** Pre WSP treatment - free chlorine removal
- C** Pre WSP treatment - custom

- X** Post WSP treatment - none
- C** Post WSP treatment - custom

- X** Standard instrumentation package
- P** Premium instrumentation package, c/w remote monitoring
- C** Custom supply instrumentation package

Softened water pump set

- X** Without
- C** Custom

WSP - - - - -

NEED A QUOTE?
 COMPLETE THIS TABLE
 AND EMAIL TO...
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