



Industrial Water Softener

EWS XPSFD900 SM - Data Sheet

Design

Model Number	EWS XPSFD900 SM
Operation	On/Off
System Configuration	Duplex Alternating
Power Supply	120vac
Service Flow Per Vessel	110
Flow Rate 15psi ΔP, gpm	150
Flow Rate 25psi ΔP, gpm	225
Backwash Flow Rate, gpm	45
Capacity @15lb/ft³ Per Vessel, kgr	900
Capacity @10lb/ft³ Per Vessel, kgr	810
Capacity @8lb/ft³ Per Vessel, kgr	720
Capacity @6lb/ft³ Per Vessel, kgr	600
Capacity Max System, kgr	1,800
Resin Qty Per Vessel, ft³	30
#20 Gravel Qty, lbs	500
1/4"x1/8" Gravel Qty, lbs	600
Hub & Lateral Size, in	2.0
Inlet Outlet Header, in	2.0
Drain Line Size, in	1.5
Brine Line Size, in	1.0

Miscellaneous Design Data

Mineral Tank Size, in.	42x72
Freeboard, in	22
Bed Depth, in	37.5
Max. Salt Load, lbs.	4,500
Total Regeneration Time, min.	125
Operating Pressure, psi (bar)	40-110 (2.7-7.6)
Operating Temperature, ° C (° F)	4-50 (40-122)
Piping	PVC Sch80
System Setup	Pre-Piped and Wired Skid Mounted
Shipping Weight, lbs	9,500
Operating Weight, lbs	25,500
Space Req'd in, L x W x H	175 X 78 X 114
Hub and Lateral, Type	Bottom
Vacuum Breaker	Watts
Test Ports, Type	Ball
Enclosure Type	Nema 4
Electrical Equipment	CSA or cUL or UL listed
Skid Construction, type	Carbon Steel Powder Coated Blue

Fiberglass Tank

Material:	FRP
Operating Pressure:	100 psi Max
Diameter:	42"
Height:	72"
Overall Height:	94.3"
Volume Gallons:	394.7 US GAL
Top Inlet:	Top opening 6" Flanged
Bottom Outlet:	Bottom opening 6" Flanged

Brine Tank

Diameter:	50"
Height:	60"
Material:	Polyethylene
Volume:	500 gal
Weight:	107 lbs
Color:	Black
Salt Capacity:	4,500 lbs

Brine Eductor

Material:	PVC Schedule 80
Flow Control Insert:	Buna N
Operating Pressure Range:	30 to 120 psig
Max Operating Temperature:	125°F
Flow Rate:	10.0 gpm
Connection Size:	1"
Connection Type:	fnpt

Cation Exchange Softening Resin

Model:	Aldex C-800
Cross Link:	8%
Maximum Temperature:	250 °F
Ionic Form:	Sodium (Na+)
Regenerant Flow Rate:	0.3 to 1.0 US GPM per cubic foot of resin
Regenerant Contact Time:	15 to 60 minutes
Slow Rinse Volume:	20 USG per cubic foot resin
Fast Rinse Volume:	30 USG per cubic foot resin
Total Capacity:	1.9 meq/ml min. 41 kilograins as CaCO3 /ft ³

Vacuum Breaker

Valve Type	Vacuum Breaker
Valve Function	Backflow Prevention
For Use With	Water
Actuation	Vacuum
Connection Style	Threaded NPT
Maximum Pressure	125 psi @ 70° F
Temperature Range	35° to 180° F
Mounting Orientation	Horizontal, Vertical

Pneumatic Spring Return and Manual Ball Valves With Actuator

Brand	Valworx
Valve Size	1" to 2"
Body Material	PVC
Ball Material	PVC
Ball Seats	PTFE (Teflon) energized with EPDM
Stem Seal	EPDM
Stem Material	PVC
Valve Temperature Range	32 to 140 °F (0 to 60 °C)
Pressure Rating	232 psi at 73 °F liquid only and 90 psi at 122 °F
Cycle Time	Approx 1 second per 90° rotation
Control Medium	Filtered compressed air with or without oil
Acuator Seals	NBR (Buna-N)
Air Connections	1/4" NPT
Actuator Type	Spring Return
Actuator Body	Anodized aluminium with polyester coated end covers
Control Pressure	80 to 120 psi
Approval	NSF/ANSI 61 G, NSF/ANSI 372

Limit Switch

Brand	Valworx
Housing Material	Aluminum die-cast housing, polyester powder coated
Visual Indicator	Dome style multiview (red-closed position, yellow-open position)
Electrical Connection	(2) 1/2" NPT female conduit, terminal strip (8 contacts)
Output Shaft	Stainless steel, Namur
Mounting Bracket	Namur fits 30x80 or 30x130, 20 to 30mm height
Fasteners	Stainless steel
Limit Switches	2 SPDT Honeywell mechanical switches - UL rated
Switching capacity	AC 125V 5Amps, 250V 3A, DC 250V 0.2A, 30V 4A
Protection class	IP67, NEMA 4, 4X weatherproof
Certification	CSA US and C, CE (UL rated switches)

Speed Control Unit For Spring Return Actuator

Brand	Valworx
Mounting	Sandwich mount per Namur VDI/VDE-3845
Mounting Hardware	(2) M5x55mm stainless socket cap screws (included)
Maximum Orifice	0.15 inches (3.74mm)
Working Pressure	22-140 PSI (1.5-10 bar)
Adjustment	Brass knurled knob with lock nut
Construction	Anodized aluminum body,brass,NBR seals
Environment	Type 4, 4X (indoor/outdoor)
Working Temperature	-4 to 176 °F (-20 to 80 °C)

Allen Bradley Micro 800 series PLC

PLC Brand:	Allen bradley
Series:	Micro 800
Software:	Connected components workbench
Mode Switch:	Run/Program/Remote
Expansion	Upto 4 IO modules in any combination
Communication:	isolated RS-232 or RS-485 electrical compatibility (selectable through the choice of communication cables). embedded RJ45 port that supports EtherNet/IP, Modbus TCP/IP and DNP3 over IP.
Connection limits:	Total number of client plus server connections - 64 Maximum number for EtherNet/IP Client - 16 /server - 16 Maximum number for Modbus TCP Client - 16/Server - 16
Embedded:	Real time clock and web server with email functionality
Data file support:	Floating point and Double integer data
Calculation:	32 bit signed integer math
Memory:	Up to 20 KB
Memory Module:	Optional
Local IO Max:	256
Operating Power:	24 VDC
Throughput:	0.7 ms for a typical 1 KB word program.
Operating Temperature:	-20...60 °C (-4...140 °F)
Certification:	CE, UL, cUL

Allen Bradley Micro 800 series HMI

Brand:	Allen Bradley
Series:	CR1000
Screen Size:	10.4"
Communication:	serial, Ethernet
Programming Software:	Connected components
Operating Power:	24 VDC
Colors:	16M color
CPU Speed:	800 MHz
Operating Temperature:	-10 to 50 °C
Certification:	CE, cULus

Flowmeter

Brand and Model:	ABB, Water Master Series Magnetic type flowmeter
Bore Diameter	DN 50 (2 in.)
Liner Material	Elastomer
Electrode Design	Standard
Measuring Electrodes Material	Stainless steel 316
Grounding Accessories	2x Potential Equalizing Rings (Stainless Steel)
Process Connection Type	Flanges ANSI / ASME B16.5 / 16.47 B Class 150
Process Connection Material	Carbon steel
Usage Certifications	Standard (without PED)
Calibration Type	Standard factory calibration
Temperature Range of Installation / Ambient	Standard design / -20 ... 60 °C (-4 ... 140 °F)
Name Plate	Adhesive label
Explosion Protection Certification	usFMc Div. 2
Protection Class Transmitter / Sensor	IP 67 (NEMA 4X) / IP 67 (NEMA 4X), integral
Cable Conduits	NPT 1/2 in.
Power Supply	24 V AC / DC, 60 Hz
Input and Output Signal Type	4-20 mA, Pulse and Frequency Digital Output
Configuration Type / Diagnostics Type	Parameters set to factory defaults / Standard diagnostic functions activated
Documentation Language	English (standard)
Accuracy	±0.2 % of reading
Certification:	NSF 61, cFMus class 1 div 2

Pressure Transducer

Brand:	IFM
Model:	PN2694
Measuring range	-14.6 to 145 psi
Process Connection	1/4" NPT thread external
Media	Liquid and Gas
Medium Temperature	-25 to 80 °C
Type of pressure	Relative Pressure
Pressure Rating	1087 psi
Operating Voltage	18 to 30 V DC
Reverse Polarity Protection	Yes
Output signal	switching signal; analogue signal; IO-Link; (configurable)
Repeatability [% of the span]	< ± 0,1; (with temperature fluctuations < 10 K; Turn down 1:1)
Certification:	cULus approval

Valve Bank

Brand	Burkert
Communication	IO-Link
Body	PPA
Seal	NBR and PUR
Manual Override	Available and Lockable
Valve Positions	4 Valve positions (max. 8 valve functions 3/2 type)
Pressure Range	0 to 116 psi
External Air Supply	43.5 to 116 psi
Flow Rate	310 l/min
Nominal Power Per Valve	0.7 W (0.1 W after power reduction)
Nominal current per valve	29 mA (10 mA after power reduction)
Voltage	24 V DC
Voltage tolerance	±10%
Media	Compressed air oiled, oil-free, dry; neutral gases (5 µm filter recommended)
Ambient temperature	-10 °C...+55 °C
Certification:	cULus Approval

IO-Link master with Modbus TCP interface

Brand	IFM
Model:	AL1342
Application Electrical data	I/O modules for field applications
Daisy-chain function	fieldbus interface
Operating voltage [V]	20...30 DC; (US; to SELV/PELV)
Current consumption	[mA] 300...3900; (US)
Max. current load total [A]	3.6
Total number of inputs and outputs	16; (configurable)
Number of inputs and outputs	Number of digital inputs: 16; Number of digital outputs: 8
Max. current load per output [mA]	300
Short-circuit proof	Yes
Communication interface	Modbus-TCP; IO-Link
Ambient temperature [°C]	-25...60
Connection	M12
Certification:	cULus approval

IO-Link input module

Brand	IFM
Model:	AL2341
Application Electrical data	Digital Input Module
Operating voltage [V]	18...30 DC
Current consumption [mA]	100..1100; (US)
Additional voltage supply [V]	18...30 DC; (UA UAi)
Current rating per port [mA]	100; (US)
Number of inputs	Number of digital inputs: 20;
Input circuit of digital inputs	PNP; (type 2 (IEC 61131-2))
Communication interface	IO-Link
Ambient temperature [°C]	-25...60
Protection	IP 65; IP 67
Connection	M12
Certification:	cULus approval

Temperature sensor with display

Brand	IFM
Model:	TN2603
Measuring range	-50...150 °C
Process connection	threaded connection 1/4" NPT
Installation length EL [mm]	25
Measuring element	1 x Pt 1000; (to DIN EN 60751, class A)
Media	liquids and gases
Pressure rating [bar]	400
Operating voltage [V]	18...32 DC; (cULus - Class 2 source required)
Current consumption [mA]	< 50
Reverse polarity protection	Yes
Output signal	switching signal; analog signal; IO-Link; (configurable)
Permanent current rating of switching output DC [mA]	250
Number of analog outputs	1
Analog current output [mA]	4...20
Measuring range	-50...150 °C
Display accuracy [K]	± 0,3 + (± 0,1 % MS)
Display	alphanumeric display, red/green 4-digit
Certification:	cULus approval