

Aquasource* XS-1500

Ultrafiltration Membrane System

FACT SHEET

WATER TECHNOLOGIES



Pressurized ultrafiltration system for 5-25 m³/h featuring ZeeWeed* 1500 membranes

Description and Use

Reliable, the Aquasource XS-1500 pressurized ultrafiltration system, featuring the ZeeWeed 1500 module, is ideally suited for challenging water filtration and as reverse osmosis (RO) pre-treatment. The Aquasource systems are proven to consistently outperform conventional filtration technology while meeting or exceeding effluent requirements.

Versatile, the Aquasource XS-1500 system comes with robust ultrafiltration modules and tailor-made options to meet a wide range of customers' applications allowing management of variable feed water quality typically observed in river and tertiary applications.

Simple and Compact, the Aquasource XS-1500 system has all the essential equipment of a fully functional ultrafiltration membrane water treatment system on one compact skid.

Benefits

- Leverage decades of ultrafiltration membrane system design experience.
- Modular mechanical and automation philosophy provides flexibility in design and integration.
- A compact profile which can fit in tight spaces and containers.
- Operates automatically including pre-filtration, backwashing, integrity testing, clean-in-place (CIP).
- One-skid design philosophy that minimizes ancillary loose-shipped equipment for significantly less interconnecting and installation work onsite.

- The ZeeWeed 1500 hollow-fiber membrane has a 0.02 µm nominal pore diameter for optimal removal of particulates, bacteria, viruses, low turbidity and low silt density index (SDI) permeate.



Typical Applications

The Aquasource XS-1500 system is suited for use in numerous municipal and industrial applications including:

- Pretreatment for RO for wastewater reuse
- Pretreatment for RO for process water production
- Wastewater Reuse applications
- Polishing filtration
- Industrial (brine) effluent filtration

Base System

- Feed/CIP Pump on Variable Frequency Drive (VFD)
- Disc Filter, 100 microns
- Ultrafiltration modules

- Backwash Pump on VFD
- Backwash tank
- CIP tank
- Air scouring compressor
- Siemens programmable logic controller (PLC), 10" human-machine interface (HMI)

Available Options

- Flow Control Valve for pressurized feed
- Remote I/O or Junction Box panel design
- Chemical dosing stations for cleaning (Chlorine, caustic soda, citric acid, mineral acid)
- Chemical dosing station for improved performances (coagulant)
- Turbidity meter
- Compressor for pneumatic valves & Membrane integrity test (MIT)

Instrumentation

Flow Feed, CIP
 Pressure.....Feed, Permeate, MIT
 LevelCIP & Backwash Tanks
 Temperature Feed
 pH Permeate
 TurbidityFeed - Optional

Typical Permeate Quality

Bacteria, Giardia, Cryptosporidium ≥ 4 -log removal
 Total Suspended Solids (TSS) ≤ 0.1 mg/L
 Total Organic Carbon (TOC) 50-90% removal^{1,2}

¹ Pretreatment required

² Dependent on water quality

UF Membrane Modules

Membrane ZeeWeed 1500, Outside-In Filtration
 Membrane Area 56m² / 600ft²
 Pore Size Ultrafiltration, 0.02-micron nominal
 Chemistry PVDF

Materials of Construction

Water Piping PVC, PP
 Water Sampling Hose PE
 Compressed Air Piping PU, Aluminum
 Skid Frames Aluminum Alloy
 TanksHDPE

Operating Conditions

Parameters	Values
Typical Flux ³	20-100 LMH
Production Cycle Duration	15-45 mins
Typical Production Recoveries	90-97%
Typical TMP	<1.5 bar
Max, allowable TMP	2.7 bar
Operating pH	5.0 - 10.0
Cleaning pH	2.0 - 12.0
Max. Operating Temperature	40° C
Filtration Mode	Dead-end
UF Permeate Pressure	< 1 bar
Number of trains (or skid)	1 to 3

³ Based on influent water quality and water temperature

Lifecycle Services with Lifetime Support

- Most extensive service capabilities in the industry
- InSight* Asset Performance Management remote monitoring available
- Upgrades to help you advance with Veolia's technology.

General System Specifications

Model	XS-15-4	XS-15-6	XS-15-8	XS-15-10
	Model specifications			
Hydraulic Capacity	25 m³/h			
Modules Quantity	4	6	8	10
Modules Type	ZW1500 VIC - 56 m²			
PLC/HMI	Siemens			
Communication Protocol	Profinet			
Power	400VAC, 3P, 50Hz, 12kW			
Feed / CIP pump power	4 kW			
Feed / CIP pump material	SS 316L			
BW pump power	3 kW			
BW pump material	SS 316L			
Length (+/- 10 mm)	3670 mm		4220 mm	
Width (+/- 10 mm)	1100 mm			
Height (+/- 10 mm)	2544 mm			
Shipping Weight	1500 kg			
Operating Weight	2375 kg	2465 kg	2560 kg	2650 kg
	Model Tie-Points			
Feed	DN50 PN10 Flange			
Service water (optional upon application)	DN50 PN10 Flange			
Production	DN50 PN10 Flange			
Waste w/ chemicals	DN50 PN10 Flange			
Waste w/o chemicals	DN50 PN10 Flange			
Chemical injection	DN20 PN16 Threaded			
Compressed Air Pneumatic Circuit	Rilsan flexible hose 8/10 mm			

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