Aquasource* M-700B EU

Ultrafiltration Membrane System

FACT SHEET

VEOLIA

Pressurized ultrafiltration system up to 400 m^3/h featuring ZeeWeed* 700B membranes

Description and use

The Aquasource systems leverages 30 years of passion for ultrafiltration technology and collaboration with customers and plant operators. This collaboration created a unique product line and set of processes to facilitate plant operation and ensure customer satisfaction.

The Aquasource M-700B features Veolia's ZeeWeed 700B ultrafiltration hollow-fiber membranes, one of the most advanced ultrafiltration technologies in the market composed of our SevenBore* fiber technology with an inside-out flow orientation. The SevenBore fiber is regarded as a leading polyethersulfone (PES) product on the market.

Benefits

- Cost effective solution with its innovative backwash and cleaning regimes on investment and operation.
- Reliable Performances with the High Strength SevenBore Fiber Technology using 0.02 um nominal pore for optimal removal of suspended solids, bacteria and viruses ensuring low turbidity and silt density index (SDI) permeate.
- Modularity with the various configurations and expansion possibilities
- Simplicity of Operation and Integration with its smart program including automated sequences, remote communication, and self-adjusted process parameters.

Typical Applications

The Aquasource M-700B systems are suited for use in numerous municipal and industrial applications including:

- Process water production for Food & Beverage, Cosmetic and Bottling applications
- Pretreatment for RO for process water production
- Wastewater Reuse applications
- Polishing filtration
- Drinking Water Production
- Seawater filtration

Base System

- Feed/Backwash pump on Variable Frequency Drive (VFD)
- Disc Filters, 100 microns
- Ultrafiltration modules
- Clean in Place (CIP) Pump on VFD
- CIP tank
- Flow, Pressure and Level Transmitters
- PLC, HMI and Communication Protocol

Available Configurations

- Feed Pump redundancy
- Feed pump material of construction (sea water)
- Piping Material of Constructions
- Frame Material of Constructions
- Modules Quantity: 8 (480 m^2) to 80 (6800 m^2)
- Feed waterTurbidity meter
- Chemical dosing stations for cleaning (chlorine, caustic soda, mineral acid)
- Compressor for pneumatic valves & Membrane integrity test (MIT)

Instrumentation

Flow ..... Feed, CIP
Pressure.....Feed, Permeate, Compressed Air
Level .....CIP Tank
Temperature ..... Feed
pH .....Permeate
Turbidity .....Feed - Optional

Typical Permeate Quality

Virus …….. 4-log removal
Bacteria, Giardia, Cryptosporidium ..... 6-log removal
Total Suspended Solids (TSS) .....≤ 0.1 mg/L
Turbidity ..... ≤ 0.1 NFU
Total Organic Carbon (TOC) .....50-90% removal[1,2]

[1] Pretreatment required
[2] Dependent on water quality

UF Membrane Modules

Membrane ..... ZeeWeed 700B, Intside-Out Filtration
Chemistry ..... PES
Membrane Area .....: 60 or 85 m^2
Pore Size .....Ultrafiltration, 0.02-micron nominal

Operating Conditions

Parameters	Values
Typical Flux[3]	50-120 LMH
Production Cycle Duration[3]	30-120 mins
Typical Production Recoveries	85-95%
Typical TMP	0.1 – 0.9 bar
Max. allowable TMP	2.5 bar
Operating pH	2 - 11
Cleaning pH	1 - 13
Max. Operating Temperature	40° C
Filtration Mode	Dead-end
UF Permeate Pressure	< 1 bar

[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

Plastic Models

Model	P50	P70	P115	P150	PE230	PE400
	Model specifications					
Hydraulic Capacity (m3/h)	50	70	115	150	230	400
Modules Type	60 m^2	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS
Modules Quantity	6 - 20	8 - 30	12 - 50	16 - 60	24 - 80	32 - 80
Installed Power (kW)	6 - 11	6 - 18	11 - 22	24 - 36	28 - 51	36 - 51
Feed Pump	Configurable	Configurable	Configurable	Configurable	Configurable	Configurable
CIP Pump	Feed Pump used for CIP			SS316L / 5,5 kW		
BW Pump	Not required using Aquasource M innovative design					
Piping Material	U-PVC			HDPE		
Frame Material	Aluminum Alloy					
Tank Material	PEHD					
PLC/HMI	Siemens or Schneider					
	Main connections					
Feed	DN80	DN100	DN125	DN150	DN200 / Ø225	DN250 / Ø280
Production	DN80	DN100	DN125	DN150	DN200 / Ø225	DN250 / Ø280
Waste w/ chemicals	DN80	DN100	DN125	DN150	DN150 / Ø180	DN200 / Ø225
Waste w/o chemicals	DN80	DN100	DN125	DN150	DN150 / Ø180	DN200 / Ø225
	Applications					
Drinking Water	Yes - ACS compliant (French drinking water regulation)					
Industrial	Yes					
Sea Water	Yes - P50 SW to PE400 SW featured with upgraded steel material					

Stainless Steel Models

Model	I45	I65	I105	I160	I230	I400
	Model specifications					
Hydraulic Capacity (m^3/h)	45	65	105	165	230	400
Modules Type	60 m^2	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS	85 m^2 RMS
Modules Quantity	6 - 20	8 - 30	12 - 50	16 - 60	24 - 80	32 - 80
Installed Power (kW)	6 - 11	6 - 18	11 - 22	24 - 36	28 - 51	36 - 51
Feed Pump	Configurable	Configurable	Configurable	Configurable	Configurable	Configurable
CIP Pump	Feed Pump used for CIP			SS316L / 5,5 kW		
BW Pump	Not required using Aquasource M innovative design					
Piping Material	SS 316L					
Frame Material	SS 304					
Tank Material	PEHD					
PLC/HMI	Siemens or Schneider					
	Main connections					
Feed	DN80	DN100	DN100	DN125	DN150	DN200
Production	DN65	DN80	DN100	DN125	DN150	DN200
Waste w/ chemicals	DN65	DN80	DN100	DN125	DN150	DN150
Waste w/o chemicals	DN65	DN80	DN100	DN125	DN150	DN150
	Applications					
Drinking Water	Yes - ACS compliant (French drinking water regulation)					
Industrial	Yes					
Sea Water	No					