Q-SEP®

OUTSIDE - IN HOLLOW FIBER ULTRAFILTRATION MEMBRANES

Q-SEP® outside-in hollow iber ultrailtration modules contain PVDF membranes manufactured with QUA's innovative modiied thermally-induced phase separation (TIPS) method. The membrane has high mechanical strength, high chemical and chlorine tolerance, and the ability to handle high feed turbidity for a wide range of applications.

Q-SEP® outside-in UF membranes are made of modiied hydrophilic polyvinylidene luoride (PVDF) material that ofers high iber strength and chemical resistance, resulting in higher membrane productivity. These hollow iber membranes operate under a low transmembrane pressure in an outside-in low coniguration for superior performance. Applications of Q-SEP® UF include pretreatment to RO systems (brackish and seawater applications), puriication of surface and well water for potable applications, iltration of industrial water, and wastewater recycle and reuse.

Q-SEP® modules deliver superior performance characteristics and product water quality that surpass the quality from conventional UF modules. This Q-SEP module provides a key advantage – the ability to operate with a one-pump system with no separate backwash pump or tank needed. This allows for lower equipment costs, lower risk of iber leakage, and easier operation than other UF systems.

Contact QUA for assistance in the selection of Q-SEP® membranes speciically designed for your application.

Q-SEP®

DATA SHEET

TECHNICAL INFORMATION

Operational Instructions	
Filtrate Flux Range	40 to 120 lmh (24 to 71 gfd)
Feed Pressure (Max.)	4.8 bar (70 psi)
Recommended Operating Pressure	up to 3.0 bar (43 psig)
Trans-Membrane Pressure	0.3 to 2.0 bar (5 to 30 psi)
pH Range	2 - 10
Operating pH Range	5 – 9
Operating Temperature Range	5 - 45o C (41 - 113o F)
Feed Turbidity	Up to 100 NTU
Expected Product Turbidity	<0.1 NTU
Filtration Cycle Duration	20 – 60 minutes
Operating Air Scour Flow	8 to 10 Nm3/hr (4.7 to 5.9 scfm)
Maximum Air low	12 Nm3/hr (7.1 scfm)
Air Inlet Pressure (Max.)	2 bar (30 psi)

Can handle up to 300 NTU on an intermittent basis

MAINTENANCE / CHEMICAL CLEANING

Operational Instructions	
Estimated Frequency	Once every 1-2 days, depending on feed water specs & TMP rise
Duration	20 to 30 minutes
CEB Chemicals	NaOCl (200 ppm as Cl2) with 9.0 – 9.5 pH HCl / H2SO4 (0.2% solution) with pH = 2 Citric acid (2% solution) with pH = 2
Cleaning Flow range	30 to 40 lmh (18 to 24 gfd)
Air Scouring Flow	2 – 4 Nm3/hr (1.2 to 2.4 scfm)
Chemical Feeding Port	Product

TECHNICAL INFORMATION

Parameter	Description/Information
Operating Coniguration	Self-encapsulated hollow iber ultrailtration membrane module (outside-in)
Operating Mode	Dead-end or Crosslow
Module Mounting	Vertical
Membrane Material	Hydrophilic PVDF
Membrane Pore Size	0.04 µ
Housing Material	UPVC
End Cap Material	GRP
Nozzle Size	2”Victaulic

MODULE SPECIFICATIONS

Parameters	Unit	Q-SEP 6012	Q-SEP 8012
Membrane Area	m2 (ft2)	60 (645)	80 (861)
Flow Rate, Minimum	m3/hr (gpm)	2.5 (10.6)	3.2 (14.1)
Flow Rate, Maximum	m3/hr (gpm)	7.2 (31.7)	9.6 (42.2)
Fiber Outside Diameter (OD)	mm (in)	1.25 (0.05)	1.25 (0.05)
Fiber Inside Diameter (ID)	mm (in)	0.75 (0.03)	0.75 (0.03)
Module Dimensions			
Diameter (A)	mm (in)	225 (8.85)	225 (8.85)
Length - With End Cap (B)	mm (in)	1780 (70.1)	2230 (87.8)
Length - Port to Port (C)	mm (in)	1666 (65.59)	2116 (83.3)
Distance - Width (D)	mm (in)	345 (13.58)	345 (13.58)
Distance-Feed To Center (E)	mm (in)	140 (5.51)	140 (5.51)
Module Weight	kg (lbs)	45 (99.2)	50 (110.2)

MODULE PORT DESCRIPTION

Ports Tag No.	Ports Description	Size & Type
N1	Reject	2”Victaulic
N2	Product	2”Victaulic
N3	Feed	2”Victaulic
N4	Air Inlet	1/2” Female NPT Threaded