

# Q-SEP® Q-CONNECT

## ULTRAFILTRATION MODULE



### Q-CONNECT™ ULTRAFILTRATION MODULE

Q-SEP® Q-Connect Outside-In UF modules series is pre-engineered Q-SEP Ultrafiltration rack solution designed keeping in view of the requirement of reduced foot print, high flow, ease of installation and containerized Ultrafiltration system. Q-Connect can be used for any industrial or municipal water and waste water treatment application requiring Ultrafiltration membranes.

Q-SEP 10012 and Q-SEP 9012 Q-Connect Series consists of outside-in Ultrafiltration membranes with 1.25 mm OD (outer fiber diameter).

These are available in two configurations, Q-Connect 6.0 with 6 Q-SEP 10012 / 9012 modules and Q-Connect 4.0 with 4 Q-SEP 10012 / 9012 modules. Each ultrafiltration module has a membrane area of 100 m<sup>2</sup> for 10012 and 90 m<sup>2</sup> for 9012. Q-SEP 9012 Q-Connect assembly are designed for containerised system.

Within the Q-Connect rack, the feed & product end caps of adjacent modules are joined to form the respective feed and the product headers, thus additional headers are not required. The reject header is installed above the module using structural support.



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Operational Instructions	
Filtrate Flux Range	40 to 120 Lm <sup>2</sup> h (24 to 71 gfd)
Feed Pressure (Max.)	4.8 bar (70 psi)
Operating Feed Pressure	3.0 bar (43 psi)
Transmembrane Pressure	0.3 to 2.0 bar (5 to 30 psi)
Operating pH Range	5 – 9
Operating Temperature (Max.)	5 - 45° C (41 - 113° F)
Feed Turbidity	Up to 100 NTU*
Expected Product Turbidity	< 0.1 NTU
Filtration Cycle Duration	20 – 60 minutes
Air Inlet Pressure (Max.)	2 bar (30 psi)

Chemically Enhanced Backwash (CEB)	
Estimated Frequency	Once every 1-2 days, depending on feed water specs & TMP rise
Duration	20 to 30 minutes
Cleaning Chemicals	NaOCl (200 ppm as Cl <sub>2</sub> ) with 9.0 – 9.5 pH HCl / H <sub>2</sub> SO <sub>4</sub> (0.2% solution) with pH = 2 Citric acid (2% solution) with pH = 2
Cleaning pH Range	2 – 10
Cleaning Flux Range	30 to 40 L/m <sup>2</sup> h (18 to 24 gfd)
Chemical Feeding Port	Product

Module Characteristics	
Membrane Material	Hydrophilic PVDF
Membrane Pore Size	0.04 μ
Operating Configuration	Self-encapsulated hollow fiber ultrafiltration membrane module (outside-in)
Operating Mode	Dead-end or Cross flow
Module Mounting	Vertical
Housing Material	UPVC
End Cap Material	GRP
Clamp Material	GRP
Nozzle Size	6" Victaulic
Air Connection Size	3" Victaulic

Parameters	Description / Information
Configuration	Self-encapsulated hollow fiber ultrafiltration membrane module (outside-in)
Operating Mode	Dead-end or Cross Flow
Module Mounting	Vertical

\*Can handle up to 300 NTU on an intermittent basis

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### Q-CONNECT™ ASSEMBLY SPECIFICATIONS WITH Q-SEP MODULES

Product Data	UOM	Q-SEP- 9012*		Q-SEP- 10012	
		Q-Connect™ 4.0	Q-Connect™ 6.0	Q-Connect™ 4.0	Q-Connect™ 6.0
Q-SEP® Modules for Q-Connect Assembly	Nos	4	6	4	6
Single Q-SEP® Module Membrane Area	m <sup>2</sup> / ft <sup>2</sup>	90 / 969		100 / 1076	
Single Q-SEP® Module Weight	Kgs / Lbs	66 / 146		68 / 150	
Q-connect Assembly Component Weight (excluding Q-SEP® module)	Kgs / Lbs	134 / 295		134 / 295	
Total Module Membrane Area	m <sup>2</sup> / ft <sup>2</sup>	360 / 3875	540 / 5813	400 / 4306	600 / 6458
Filtrate Flow Rate Minimum	m <sup>3</sup> / hr/ gpm	14.4/ 63.4	21.6/ 95.1	16/ 70.5	24/ 105.6
Filtrate Flow Rate Maximum	m <sup>3</sup> / hr/ gpm	43.2/ 190.2	64.8/ 285.3	48/ 211.3	72/ 316.8
Air Scouring – Air Assisted Cleaning	Nm <sup>3</sup> /hr /scfm	48 – 56/ 30 – 35	72 – 84/ 45 – 52	48 – 56/ 30 – 35	72 – 84/ 45 – 52
Air Scouring – Chemical Cleaning	Nm <sup>3</sup> / hr/ scfm	16 – 24/ 10 - 15	24 – 36/ 15 – 22	16 – 24/ 10 - 15	24 – 36/ 15 – 22
Rack Length (A)	mm/ inch	810/ 31.9	1214.4/ 47.8	810/ 31.9	1214.4/ 47.8
Rack Width (B)	mm/ inch	867.4/ 34.1	867.4/ 34.1	867.4/ 34.1	867.4/ 34.1
Rack Height - With Product Header (C)	mm/ inch	2553/ 100.5	2553/ 100.5	2703.1/ 106.4	2703.1/ 106.4
Q-Connect Assembly Weight Including Q-SEP Modules	Kgs/ Lbs	398 / 877	530 / 1168	406 / 895	542 / 1195

\*Q-Connect assembly 4.0 and 6.0 with Q-SEP 9012 is suitable for containerized installation.

### Q-CONNECT™ - 10012 / 9012 ASSEMBLY MODULE PORTS DESCRIPTION

Ports Tag No	Ports Description	Size & Type
N1	Reject	6" Victaulic
N2	Product	6" Victaulic
N3	Feed	6" Victaulic
N4	Air	3" Victaulic

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