

ASPIDA™ Submerged UF Modules

Hollow Fiber Submerged Membrane Modules for Water and Wastewater Treatment

PRODUCT DESCRIPTION	
Membrane Chemistry:	Proprietary PVDF
Membrane Type:	Submerged Hollow fiber Ultrafiltration
Flow Direction:	Outside - In
Nominal Pore Size:	0.03 µm
Outside Fiber Diameter:	0.045 inch (1.1 mm)
Module Frame Material:	SS316
Permeate Collection Tube Material:	SS316
Potting Material:	Proprietary Epoxy Compound
Storage Solution:	Calcium chloride/Glycerin solution

PRODUCT SPECIFICATIONS		
Part Number	Model	Membrane Area [ft ² (m ²)]
0723104	ASPIDA™ SHF2160	23,280 (2,160)

OPERATING AND DESIGN INFORMATION*	
Temperature Range:	34° F (1° C) - 104° F (40° C)
Allowable pH Range (continuous operation):	2 - 11
Allowable pH Range (short term):	1.5 – 12.5
Maximum Total Chlorine @ 77° F (25° C) or lower:	3,000 ppm @ pH <12
Typical Production Transmembrane Pressure:	≤ 6 psi (≤ 0.4 bar)
Maximum Production Transmembrane Pressure:	13 psi (0.9 bar)
Maximum Backflush Transmembrane Pressure:	17 psi (1.2 bar)
Typical Air Scour Rate:	192 scfm (336 Nm ³ /hr)
Maximum Air Scour Rate:	336 scfm (576 Nm ³ /hr)
Typical Backflush Flux:	18-40 gfd (30-70 l/mh)

*Consult KSS Process Engineering Group for specific applications

NOMINAL DIMENSIONS							
L		W		H		Weight	
Inches	mm	Inches	mm	Inches	mm	Pounds	Kg
98.4	2,500	31.5	800	94.5	2,400	5400	2,340

CONNECTIONS			
Permeate		Air	
Type	Size	Type	Size
Pipe	10"	Grooved Coupling	2.5"(2X)

* Dimensions are provided for reference only and should not be interpreted as accurate specifications.

STORAGE & TRANSPORT GUIDELINES

Storage of ASPIDA Modules

New modules are packaged in preservation solutions. Storage of ASPIDA™ modules should be carried out at ambient temperature (41 to 77°F / 5 to 25°C). Extended exposure to UV source must be avoided. The ASPIDA™ modules must not be stored for longer than 3 months on site.

Transport of ASPIDA Modules

Transport of ASPIDA™ modules should be carried out at ambient temperature (23 to 113°F / -5 to 45°C). When the ASPIDA™ modules are being transported by ship, the ASPIDA™ module should be placed in seaworthy packaging and stored at ambient temperature, provided that such temperature is between 23 and 113°F (-5 and 45°C).

Dry-up Protection

Once the ASPIDA™ hollow fiber module has been commissioned with an aqueous medium, it should never be stored dry. If the membrane plant is not operated for 7 days or less, the module may be kept wet by keeping it submerged in the water.

Storage of Used Modules

If the idle period is longer than 7 days, immersion in a storage solution is required. Proceed as follows:

- Submerge the module fully in potable water. Start the aeration for at least 3 to 4 hours, drain the tank and finally refill with fresh water again.
- Add sodium hypochlorite to form a solution of concentration of 10 mg/l total chlorine at pH between 5.5 and 7.5.
- Check the chlorine concentration daily. If the concentration of total chlorine drops below 5 mg/l additional dosage of sodium hypochlorite is necessary.

Long-term Storage

If a dry-up cannot be avoided due to transport or if the idle period is longer than 21 days, the module has to be conditioned. Please consult KSS for more details.

Proper Handling

Utmost care at any time should be taken when handling the module. Collisions, impact or hitting the ground in a rough manner may damage modules or connections.

Precautions When Working Near the Hollow Fiber Module

Keep the hollow fiber modules free from contact with sharp objects or exposure to heat sources. Actions that may cause sparks (e.g. welding, grinding) should be strictly prohibited.

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