



# PURON<sup>®</sup> HOLLOW FIBER MODULES

*Hollow Fiber Submerged Membrane Modules for MBR Applications*

## PRODUCT DESCRIPTION

Membrane Chemistry:	Proprietary polymer
Membrane Type:	L1 braided hollow fiber for outside-in operation
Fiber Support Chemistry:	Polyester
Outside Fiber Diameter:	0.1 inch (2.6 mm)
Potting Material:	Proprietary epoxy compound
Module Frame Material:	316 Stainless Steel
Permeate Collection Tube Material:	PVC, PN 16 and PE manifolds
Storage Solution:	Glycerin

## PRODUCT SPECIFICATIONS

Model	Part Number	Membrane Area ft <sup>2</sup> (m <sup>2</sup> )
PSH 250	PUR-PSH31-8	2,690 (250)
PSH 500	PUR-PSH31-16	5,380 (500)
PSH 1500	PUR-PSH34-44	16,150 (1500)

## OPERATING & DESIGN INFORMATION\*

Temperature Range:	41 - 104°F (5 - 40°C)
Maximum Filtration Transmembrane Pressure:	9 psi (0.6 bar)
Maximum Backflush Transmembrane Pressure:	14.5 psi (1 bar)
Typical Instantaneous Air Flow Rates:	
PSH 250 and PSH 500 models:	0.016 – 0.038 scfm/ft <sup>2</sup> (0.30 - 0.7 Nm <sup>3</sup> /hr-m <sup>2</sup> )
PSH 1500 model:	0.015 – 0.033 scfm/ft <sup>2</sup> (0.27 - 0.6 Nm <sup>3</sup> /hr-m <sup>2</sup> )
Allowable pH Range for Cleaning	2.5 - 12
Maximum Allowed Total Chlorine @ 95°F (35°C) or Lower:	1,000 ppm @ pH 10 or higher during backflush
Maximum Allowed Total Chlorine @ 95°F (35°C) or Lower:	2,000 ppm @ pH 10 or higher during recovery cleaning
Maximum Allowed Total Chlorine Contact:	500,000 ppm-hrs cumulative

\* Consult Process Technology Group for specific applications.

## NOMINAL DIMENSIONS & WEIGHT\*

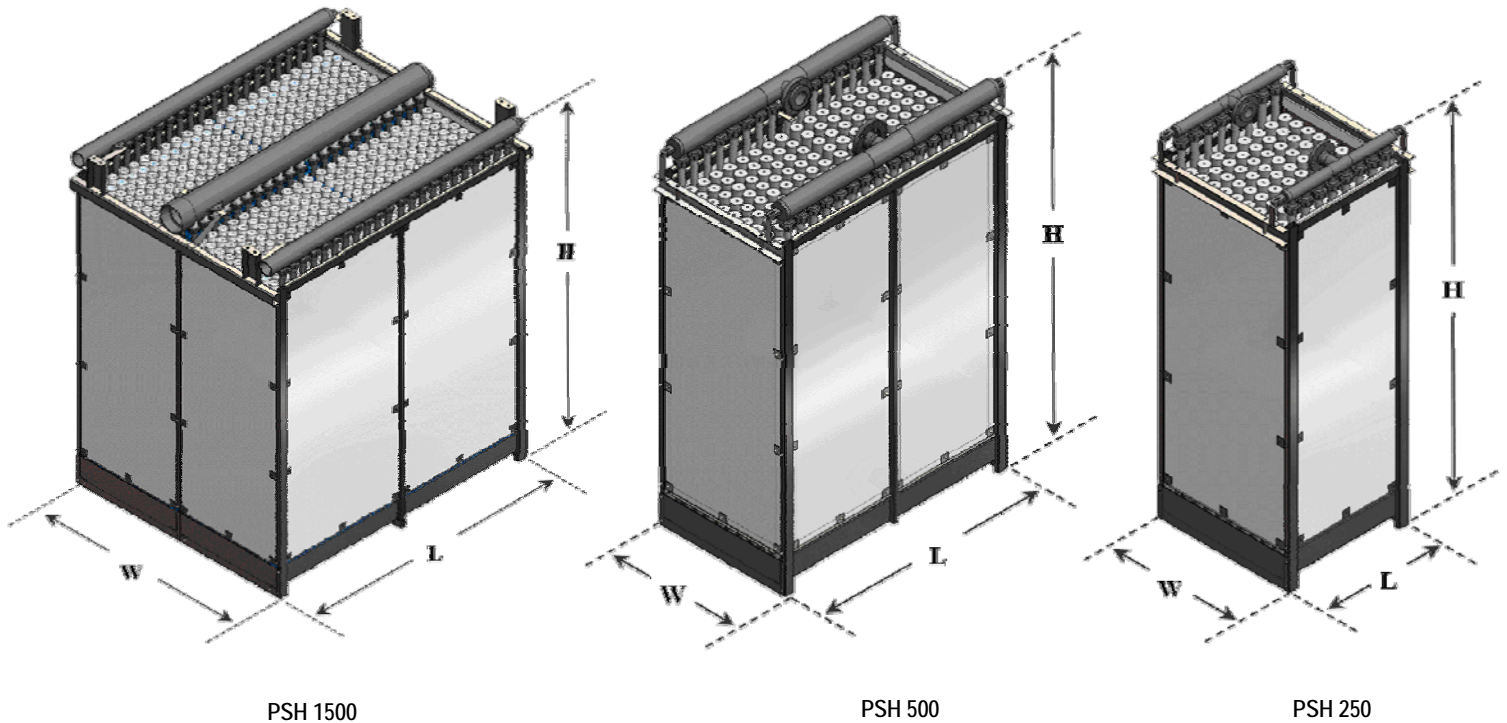
Model	L		W		H		Dry Weight	
	Inches (mm)		Inches (mm)		Inches (mm)		Pounds (kg)	
PSH 250	35.67	(906)	35.16	(893)	93.82	(2,384)	660	(300)
PSH 500	65.43	(1,662)	35.16	(893)	95.35	(2,422)	1,210	(550)
PSH 1500	88.35	(2,244)	69.10	(1,755)	99.61	(2,530)	2,860	(1,300)

\* See schematic diagrams next page.

## CONNECTIONS

Model	Permeate		Air	
	Type	Outside Diameter (mm)	Type	Outside Diameter (mm)
PSH 250	Flange	DN 50 (2")	Flange	DN 50 (2")
PSH 500	Flange	DN 80 (3")	Flange	DN 80 (3")
PSH 1500	Pipe	Ø 200	Pipe	Ø 110

## PURON® HOLLOW FIBER MODULES



### Module Transport and Storage Conditions:

#### Storage of PURON Modules

Storage of PURON 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 PURON modules must not be stored for longer than 3 months on site.

#### Transport of PURON Modules

Transport of PURON modules should be carried out at ambient temperature (23 to 113°F / -5 to 45°C).

When the PURON modules are being transported by ship, the PURON 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 PURON 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 biomass, provided the following conditions are met:

- The biomass is healthy and is aerated and the recirculation of biomass over the membrane chamber is functioning properly.
- The module is fully submerged in the biomass.
- The module aeration is switched on every 30 minutes for a period of 1 minute to assure mixing of sludge inside the module.

#### 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 KMS 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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