



## HIGH PERFORMANCE ULTRAFILTRATION MEMBRANE

Hydramem Ultrafiltration Modules are hollow fiber membranes designed for wide variety of treatment applications such as Brackish Water (Ground, River & Surface), Municipal & Industrial Waste Waters & Sea Water for Potable as well as Process use. These modules are made from Modified PES (Polyethersulfone) fibers. This State of the Art Membrane module comes with a nominal pore size of 20 nm(0.02 microns) & MWCO of 100 KD which operates at low pressure and gives consistent permeate quality of SDI <3. Hydramem UF modules are used for removal of bacteria, viruses and suspended particulates to protect RO.

Benefits:

- High Strength Modified PES Fiber**
- Low Operating Pressure & Power Consumption**
- No Air Scouring required**

Membrane Specifications:

<b>Model</b>		HM UF 60 PES
<b>Type</b>		Hollow Fiber Ultrafiltration
<b>Material</b>		Modified Polyether Sulphone
<b>Nominal Pore Size</b>	nm (μ)	20 (0.02 )
<b>Nominal MWCO</b>	Dalton	100,000
<b>Fiber Bore Diameter (Inner)</b>	mm	0.9
<b>Fiber Bore Diameter (Outer)</b>	mm	1.5
<b>MOC:</b>		
<b>Housing</b>		UPVC
<b>End Cap / Couplings</b>		GFPP

Module Data:

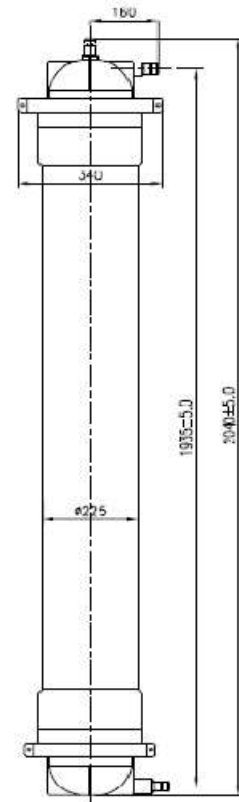
<b>Membrane Surface Area (Active)</b>	m <sup>2</sup>	60
<b>Outer Diameter Housing</b>	mm	225
<b>Total Module Length</b>	mm	2040 ± 5.0
<b>Distance between feed ports</b>	mm	1935 ± 5.0
<b>Distance feed - module center axis</b>	mm	160 ± 2.0
<b>Feed / Permeate Port</b>	Inch	2" Victaulic End
<b>Backwash In / Out</b>	Inch	2" Victaulic End
<b>Empty Weight With End caps</b>	kgs	50

Performance Details:

<b>Filtrate Flow Range</b>	gpm (m <sup>3</sup> /hr)	8 - 32 (1.8 - 7.2 )
<b>Filtrate SDI</b>		≤ 3
<b>Filtrate Turbidity</b>	NTU	≤ 0.5
<b>Bacteria / Virus Reduction</b>	log	4

Operational Data:

<b>Mode of Operation</b>		In to Out (Dead End / Cross Flow)
<b>Operating Flux Range</b>	gfd (lmh)	18 - 70 (30 - 120)
<b>Operating Temperature</b>	°C	15 - 45
<b>Feed Pressure Operating Range</b>	bar	2.0 to 2.5
<b>Feed Pressure Maximum</b>	bar	2.5
<b>Trans membrane Pressure</b>	bar	1.0 - 1.4
<b>pH Range Operation</b>		4.0 - 10.0
<b>pH Range Cleaning</b>		2.0 - 14.0
<b>Chlorine Tolerance Instantaneous</b>	ppm	250 (for short duration)
<b>Chlorine Tolerance Maximum</b>	ppm-hrs	200,000
<b>Max Feed TSS</b>	ppm	< 25
<b>Max Feed Trubidity</b>	NTU	< 25
<b>COD</b>	ppm	< 70
<b>BOD</b>	ppm	< 20
<b>Oil &amp; Grease</b>		Nil



Process Data:

<b>Backwash Flux</b>	gfd (lmh)	100 - 141 (170 - 240)
<b>Backwash Pressure</b>	bar	1.5 - 2.5
<b>Backwash Frequency</b>		Once in every 30 - 60 min*
<b>Backwash Duration</b>	sec	30 - 60*
<b>Forward Flush Duration</b>	sec	15 - 45*
<b>Forward Flush Flow</b>	m <sup>3</sup> /hr	Feed Flow*
<b>Chemical Enhanced Backwash</b>		Once in 8/16/24 hrs*
<b>CIP Cleaning</b>		Depending upon Feed Water Quality
<b>Cleaning Chemicals</b>	pH	
<b>NaOH</b>	pH	12 -- 13
<b>HCL</b>	pH	3 -- 4
<b>Disinfection Chemicals</b>		NaOCl

Note:

\* Backwash / CEB / CIP frequency & duration may vary depending upon the feed water source, quality & fluctuations

**Important Warnings & Information:**

1. For the recommended design range & guidelines, please follow this technical bulletin or call an application specialist.
2. In order to prevent membrane deformation and to maintain membrane performance, please follow the instructions during start-up.
3. During operation mode, do not operate the module outside of the specified pressure values and special care should be taken to prevent any damage to membrane.
4. The customer is fully responsible for the effects of chemicals that are incompatible with the membrane modules.
5. Follow instructions mentioned on the caution sticker placed on product packaging.

 HYDRAMEM is the registered trademark of Ion Exchange (India) Ltd.

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All India Service and Dealer Network

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