

Porex Filtration Division

20nm Ultrafilter

Porex introduces the next advancement in Tubular Membrane Filters (TMF™) designed for demanding ultrafiltration applications.

The Porex 20 Nanometer Ultrafilter

This advanced filter technology is well suited for such applications as wafer grinding where fine, abrasive silicon particles and colloidal silica particles range between 20 – 50 nanometers (0.02 – 0.05 microns). The silicon micro-particles are very sharp and can quickly damage many types of membrane materials.

Porex 20nm membranes incorporate the same robust membrane-to-substrate bond as standard Porex TMF membranes, which are engineered for excellent performance, high strength and durability — making it the ideal choice for wafer grinding applications worldwide. Other performance features include:

- Optimal Solids Separation
- High Flux Rates
- Highly Resistant to Abrasives & Chemicals

THE MOST ROBUST, LONG LASTING
MEMBRANE IN ITS CLASS!



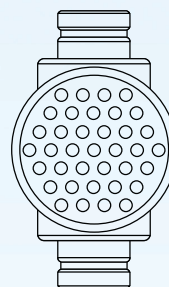
Designed specifically for:

- Wafer grinding
- Solar panel and glass grinding
- Any application involving fine, abrasive particle removal
- Also suitable for dewatering oil emulsions



Chemical Resistance

POREX TMF modules are resistant to a broad spectrum of corrosive chemicals and reagents as well as pH ranges of 0 to 14. Typically, pilot feasibility tests are needed to determine the actual TMF module performance under real operating conditions.



See reverse side of sheet for specifications and ordering information.



20nm Ultrafilter Specifications and Ordering Information

37 Tube

Coupling and Tubing Specifications		Physical Specifications	
Filtrate Port Vinyl Tubing Specifications		Modules	
I.D.	3 in. (76.2 mm)	Housing Diameter	6" Sc40
O.D.	3 1/2 in. (88.9 mm)	Filtrate Port (Qty 2)	ø2.875" x 1.89" L pipe stub
Wall Thickness	1/4 in. (6.35 mm)	Retentate Ports	6" pipe Anvil Gruvlok groove
Approx. Max Pressure	21 psi at 70 ° F	Mounting Required	Horizontal; 2 point
Weight (lbs / 100 ft)	144	Module Length	72" (1829 mm)
Gruvlok Coupling Specifications		Tubes	
Gruvlok Model	Anvil 7001 Standard Coupling	Number of Tubes	37
Sized	6 in.	Nominal ID	0.5" (12.7 mm)
Standard Gasket	C Style	Nominal OD	0.79" (20.07 mm)
Standard Gasket Material	Grade E (EPDM) suitable for most applications	Total Active Surface Area	27.75 ft ² (2.58 m ²)
Approx. Weight Each	11.8 lbs (5.4 kg)	Internal Liquid Volume	
		Filtrate Volume	3.07 gallons (11.62 ltr)
		Concentrate Volume	2.26 gallons (8.52 ltr)
		Total Volume	5.33 gallons (20.18 ltr)
Vitaualic Coupling Specifications		Materials of Construction	
Vitaualic Model	77 or 75 flexible coupling	Potting	Solvent Cement
Sized	6 in.	Internal Supports	Polypropylene
Standard Gasket Material	Grade E (EPDM) suitable for most applications	Gasket Material	None
Approx. Weight Each	7 lbs (3.2 kg)	Preservative	Propylene Glycol
		Membrane	PVDF

61 Tube

Coupling and Tubing Specifications		Physical Specifications	
Filtrate Port Vinyl Tubing Specifications		Modules	
I.D.	3 in. (76.2 mm)	Housing Diameter	8" Sc40
O.D.	3 1/2 in. (88.9 mm)	Filtrate Port (Qty 2)	ø2.875" x 1.89" L pipe stub
Wall Thickness	1/4 in. (6.35 mm)	Retentate Ports	8" pipe Anvil Gruvlok groove
Approx. Max Pressure	21 psi at 70 ° F	Mounting Required	Horizontal; 2 point
Weight (lbs / 100 ft)	144	Module Length	72" (1829 mm)
Gruvlok Coupling Specifications		Tubes	
Gruvlok Model	Anvil 7001 Standard Coupling	Number of Tubes	61
Sized	8 in.	Nominal ID	0.5" (12.7 mm)
Standard Gasket	C Style	Nominal OD	0.79" (20.07 mm)
Standard Gasket Material	Grade E (EPDM) suitable for most applications	Total Active Surface Area	45.75 ft ² (4.25 m ²)
Approx. Weight Each	21.7 lbs (9.8 kg)	Internal Liquid Volume	
		Filtrate Volume	6.55 gallons (24.78 ltr)
		Concentrate Volume	3.73 gallons (14 ltr)
		Total Volume	10.28 gallons (38.78 ltr)
Vitaualic Coupling Specifications		Materials of Construction	
Vitaualic Model	77 or 75 flexible coupling	Potting	Solvent Cement
Sized	8 in.	Internal Supports	Polypropylene
Standard Gasket Material	Grade E (EPDM) suitable for most applications	Gasket Material	None
Approx. Weight Each	20.8 lbs (9.4 kg)	Preservative	Propylene Glycol
		Membrane	PVDF

Operating Specifications									
Pre-Use Wetting Agent	Water Flux	Cross Flow Liquid Velocity	pH Range	Max Backpulse Pressure	Max Differential Pressure	Max Solids	Min Solids	Max Viscosity	Min Viscosity
IPA	>200 GFD (340 LMH)	10 – 16 ft/sec (3.0 to 4.9 m/s)	0 – 14	20 psi (138 kPa) at 25 ° C	120 psi (827 kPa) at 25 ° C	18%	0.25%	50 cp	<1 cp

Maximum Cleaning Solution Strength	
Bleach (NaOCl)	< 17% to 100 ° F (38 ° C)
Caustic (NaOH)	< 15% to 104 ° F (40 ° C)
Acid (HCl)	< 15% to 140 ° F (60 ° C)
Peroxide (H ₂ O ₂)	< 5% to 100 ° F (38 ° C)

Ordering Instructions							
Item Number	Description	Nominal Pore Size (µm)	Maximum Continuous Operating Temperature*	Housing	Substrate Tube	Shipping Dimensions (Inch) (mm)	Shipping Weight (lbs) (kg)
MME2002637VP	37 Tube PVC Module / PE 0.5" tube - 0.02µm	0.02µ	43 ° C / 110 ° F	Grade 1 PVC	UHMWPE	15 x 10 x 75.5 381 x 254 x 1918	75 34
MME2002661VP	61 Tube PVC Module / PE 0.5" tube - 0.02µm	0.02µ	43 ° C / 110 ° F	Grade 1 PVC	UHMWPE	15 x 10 x 75.5 381 x 254 x 1918	75 34



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