Product Data Sheet

IntegraPac™ Ultrafiltration Modules

Model IP-51, IPD-51, IP-77, and IPD-77

Description

The IntegraPac™ ultrafiltration modules are made from high strength, hollow fiber membranes engineered to reduce design and fabrication requirements with features and benefits including:

- 0.03 micron pore size for removal of bacteria, viruses and particulates, a 6 log removal of bacteria, a 2.5 log removal on viruses, and a <2.5 SDI guarantee with proper operation
- PVDF fibers which offer strength, chemical and fouling resistance; which allows for extended membrane life and consistent long-term performance
- Outside-in flow configuration allows higher TSS feed waters, while maintaining reliable system performance and high quality filtrate
- Innovative end-caps enable direct coupling of modules, eliminating the need for piping manifolds
- The IPD-51 and IPD-77 are tested and certified by NSF International under NSF/ANSI standard 61
- The IPD-77 is tested and certified by NSF/ANSI Standard 419 for Public Drinking Water Equipment on module IPD-77

These modules are an ideal choice for systems requiring a small footprint. The IP-77 and IPD-77 modules offer a high effective membrane area, which contributes to a more economical membrane system design. The IP-51 and IPD-51 modules are shorter in height and are suitable for applications where there is a head space constraint.

IntegraPac™ ultrafiltration modules can be used for a wide variety of treatment applications, such as groundwater, surface water, seawater, industrial and municipal wastewaters.

Typical Properties

		Membrane Area		Weight (empty/water filled)		Hold-Up Volume	
Product	**Type**	**m^2**	**ft^2**	**kg**	**lbs**	**liters**	**gallons**
IP-51	Industrial	51	549	53/102	117/225	49	13
IPD-51	NSF/ANSI 61 Drinking Water	51	549	53/102	117/225	49	13
IP-77	Industrial	77	829	66/119	146/262	53	14
IPD-77	NSF/ANSI 61 and 419 Drinking Water	77	829	66/119	146/262	53	14

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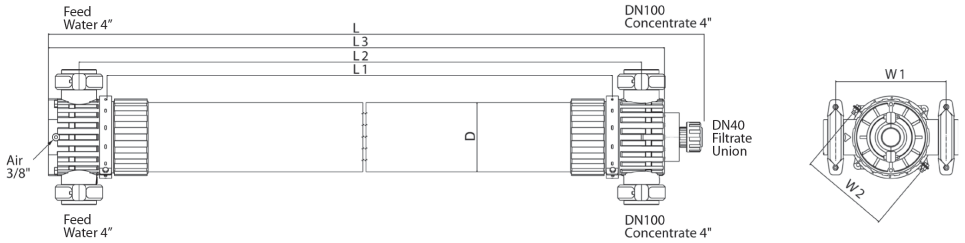
Dimensions



		Length				Diameter	Width	
Product	**Units**	**L**	**L1**	**L2**	**L3**	**D**	**W1**	**W2**
IP-51 and IPD-51	**SI (mm)**	1988	1500	1689	1864	225	360	342
	US (inch)	78.3	59.1	66.5	73.4	8.9	14.2	13.5
IP-77 and IPD-77	**SI (mm)**	2488	2000	2189	2364	225	360	342
	US (inch)	98.0	78.7	86.2	93.1	8.9	14.2	13.5

Suggested Operating Conditions

	SI Units	US Units
Filtrate Flux (25ºC)	40 – 90 l/m^2/hr	24 – 53 gfd
Flow Range Per Module[1]	2.0 – 6.9 m^3/hr	8.8 – 30.4 gpm
Temperature	1 – 40ºC	34 – 104ºF
Maximum Inlet Module Pressure (20ºC)	6.25 bar	90.65 psi
Maximum Inlet Module Pressure (40ºC)	4.75 bar	68.89 psi
Maximum Operating TMP	2.1 bar	30.5 psi
Maximum Operating Air Scour Flow	12 Nm^3/hr	7.1 scfm
Maximum Backwash Pressure	2.5 bar	
Operating pH	2 – 11	
Maximum NaOCl	2,000 mg/L	
Maximum Particle Size	300 µm	
Flow Configuration	Outside In	
Expected Filtrate Turbidity	≤ 0.1 NTU	
Expected Filtrate SDI	≤ 2.5	

[1] Flow range represents DUPONT IntregraPac™ IP-51, IPD-51, IP-77, and IPD-77 UF Modules for filtrate flux range shown

Important Information

Proper start-up of an ultrafiltration system is essential to prepare the membranes for operating service and to prevent membrane damage. Following the proper start-up sequence also helps ensure that system operating parameters conform to design specifications so that system water quality and productivity goals can be achieved.

Before initiating system start-up procedures, membrane pretreatment, installation of the membrane modules, instrument calibration and other system checks should be completed.

Please refer to the Ultrafiltration Technical Manual (Form No. 45-D00874-en).

Operation Guidelines

Avoid any abrupt pressure variations during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. Flush the ultrafiltration system to remove shipping solution prior to start-up. Remove residual air from the system prior to start-up. Manually start the equipment. Depending on the application, filtrate obtained from initial operations should be discarded.

Please refer to the Ultrafiltration Technical Manual (Form No. 45-D00874-en).

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General Information

- If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.
- To control biological growth during extended system shutdowns, it is recommended that storage solution be injected into the membrane modules.

Please refer to the Ultrafiltration Technical Manual (Form No. 45-D00874-en) and Technical Service Bulletins.

Product Stewardship

DuPont has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with DuPont products—from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

DuPont strongly encourages its customers to review both their manufacturing processes and their applications of DuPont products from the standpoint of human health and environmental quality to ensure that DuPont products are not used in ways for which they are not intended or tested. DuPont personnel are available to answer your questions and to provide reasonable technical support. DuPont product literature, including safety data sheets, should be consulted prior to use of DuPont products. Current safety data sheets are available from DuPont.

Please be aware of the following:

- The use of this product in and of itself does not necessarily guarantee the removal of cysts and pathogens from water. Effective cyst and pathogen reduction is dependent on the complete system design and on the operation and maintenance of the system.

Regulatory Note

NSF/ANSI 61 and 419 certified drinking water modules require specific conditioning procedures prior to producing potable water. Please refer to the Ultrafiltration Technical Manual (Form No. 45-D00874-en) flushing section for specific procedures. Drinking water modules may be subjected to additional regulatory restrictions in some countries. Please check local regulatory guidelines and application status before use and sales.