



## Product Data Sheet

### DuPont™ IntegraPac™ Ultrafiltration Modules

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

#### Description

DuPont™ IntegraPac™ Ultrafiltration (UF) modules with XP fiber are made from high permeability, high mechanical strength, hollow fiber PVDF membranes. The modules provide excellent performance, industry leading membrane area with low energy and chemical consumption. IntegraPac™ modules have the following general properties and characteristics:

- Up to 35% higher permeability than previous generation modules improving operating efficiencies and productivity
  - 0.03 µm nominal pore diameter for removal of bacteria, viruses, and particulates including colloids to protect downstream processes such as RO
  - PVDF polymeric hollow fibers for high mechanical strength with excellent chemical resistance providing long membrane life and reliable operation
  - Outside-In flow configuration allowing a wide range of solids in the feed water minimizing the need for pretreatment processes and reducing the backwash volume compared to Inside-Out configurations
- Innovative end-caps enable direct coupling of modules, eliminating the need for piping manifolds



These modules are an excellent choice for systems requiring a small footprint. The IP-77XP module offers a high effective membrane area combined with high permeability fibers that provide an economical and efficient membrane system design.

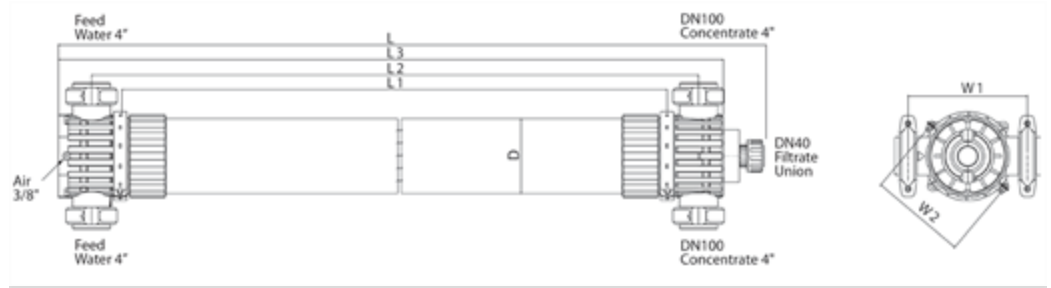
The IP-51XP module is shorter in height and is suitable for applications where height is a constraint while maximizing productivity and efficiency with high permeability fibers.

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

#### Typical Properties

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

## Dimensions



Product	Units	Length				Diameter	Width	
		L	L1	L2	L3	D	W1	W2
IP-51XP and IPD-51XP	SI (mm)	1988±3	1500	1689±3	1864±3	225	360	342
	US (inch)	78.3±0.1	59.1	66.5±0.1	73.4±0.1	8.9	14.2	13.5
IP-77XP and IPD-77XP	SI (mm)	2488±3	2000	2189±3	2364±3	225	360	342
	US (inch)	98.0±0.1	78.7	86.2±0.1	93.1±0.1	8.9	14.2	13.5

## Suggested Operating Conditions

	SI Units	US Units
Filtrate Flux (25°C)	40 – 110 l/m <sup>2</sup> hr	24 – 65 gfd
Flow Range Per Module <sup>1</sup>	2.0 – 8.5 m <sup>3</sup> /hr	8.8 – 37.4 gpm
Temperature	1 – 40°C	34 – 104°F
Maximum Inlet Module Pressure (20°C)	6.25 bar	90.65 psi
Maximum Inlet Module Pressure (40°C)	4.75 bar	68.89 psi
Maximum Operating TMP	2.1 bar	30.5 psi
Maximum Operating Air Scour Flow	12 Nm <sup>3</sup> /hr	7.1 scfm
Maximum Backwash Pressure	2.5 bar	36 psi
Operating pH	2 - 11	
Maximum NaOCl	2000 mg/L	
Maximum Particle Size	300 µm	
Flow Configuration	Outside-in	
Expected Filtrate Turbidity	≤ 0.1 NTU	
Expected Filtrate SDI	≤ 2.5	

<sup>1</sup> Flow range represents DuPont™ IntegraPac™ IP-51XP, IPD-51XP, IP-77XP and IPD-77XP 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).

**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.

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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.

**Have a question? Contact us at:**

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