



DOW IntegraPac™ Ultrafiltration Skid

With IP-77

The DOW IntegraPac™ skid from Dow Water & Process Solutions is a pre-engineered, standardized skid design consisting of DOW™ Ultrafiltration modules, auxiliary parts and piping. It significantly streamlines design, assembly and installation, resulting in lower skid costs, reduced engineering design costs, easy assembly, smaller footprint and shortened delivery schedule. Features include:

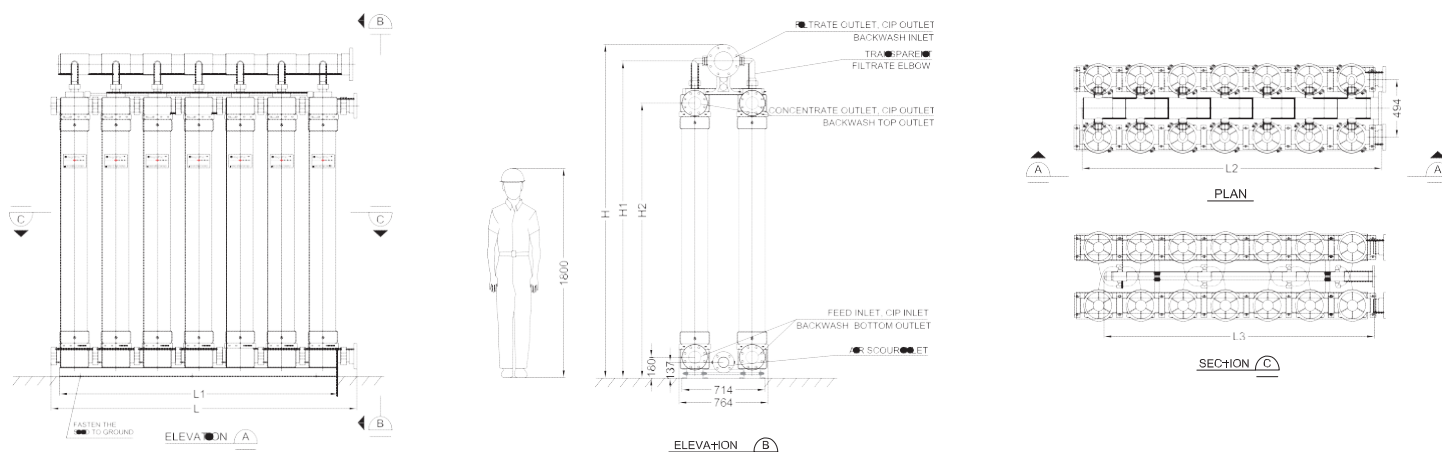


- Modular and scalable for design across a wide range of flow rates
- Materials of construction selected for corrosion resistance and chemical compatibility
- Shipped unassembled to lower transportation cost and prevent damage in transit
- Individual end caps with built-in interconnectivity allow modules to be connected directly, and eliminate ancillary piping, manifolding and connections
- Standardized and pre-fabricated components and parts eliminate measuring, cutting, gluing and welding
- Compact design and footprint saves space
- Easily accessible for physical inspection or replacement at end of life
- Operator-friendly transparent filtrate elbow designed and located for easy visual integrity inspection
- High pressure rating to enable direct feed to reverse osmosis feed pumps

Skid Configurations with IP-77 Modules

No. of Modules	IntegraPac™ Skid	Membrane Area		Flow @65 lmh (38 gfd)		Length (L)		Width		Height (H)		Weight, dry (incl. modules)		Weight, filled (incl. modules)		Hold-Up Volume	
		m ²	ft ²	m ³ /hr	gpm	mm	ft.	mm	ft.	mm	ft.	kg	lbs.	kg	lbs.	m ³	US gal
6	IP-77-06	462	4974	30	132	1241	4.1	764	2.51	2875	9.43	496	1093	840	1852	0.32	84.0
8	IP-77-08	616	6632	40	176	1604	5.3	764	2.51	2875	9.43	644	1420	1102	2429	0.42	112.0
10	IP-77-10	770	8290	50	220	1967	6.5	764	2.51	2875	9.43	791	1744	1364	3007	0.53	140.0
12	IP-77-12	924	9948	60	264	2330	7.6	764	2.51	2875	9.43	939	2070	1626	3585	0.64	168.0
14	IP-77-14	1078	11606	70	309	2693	8.8	764	2.51	2875	9.43	1091	2405	1893	4173	0.74	196.0
16	IP-77-16	1232	13264	80	353	3056	10.0	764	2.51	2875	9.43	1249	2754	2165	4773	0.85	224.0
18	IP-77-18	1386	14922	90	397	3419	11.2	764	2.51	2875	9.43	1401	3089	2432	5362	0.95	252.0
20	IP-77-20	1540	16580	100	441	3782	12.4	764	2.51	2875	9.43	1554	3426	2699	5950	1.06	280.0
22	IP-77-22	1694	18238	110	485	4145	13.6	764	2.51	2875	9.43	1706	3761	2966	6539	1.17	308.0

Example: 2 x 7 IntegraPac IP-77-14 Arrangement



Operating Parameters

	SI Units	US Units
Filtrate Flux @ 25°C	60-140 l/m ² /hr	35-82 gfd
pH, Operating	2-11	2-11
pH, Cleaning	2-12	2-12
Temperature	1-40°C	34°-104°F
Max. Inlet Module Pressure (@20°C)	6.25 bar	93.75 psi
Max. Operating TMP	2.1 bar	30 psi
Max. Operating Air Scour Flow	12 Nm ³ /hr	7.1 scfm
Max. Backwash Pressure	2.5 bar	36 psi
NaOCl (max)	2,000 mg/L	
TSS (max)	100 mg/L	
Turbidity (max)	300 NTU	
Particle Size (max)	300 µm	
Flow Configuration	Outside-in	
Expected Filtrate Turbidity	≤0.1 NTU	
Expected Filtrate SDI	≤2.5	

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 DOW IntegraPac™ skid, instrument calibration and other system checks should be completed. Please refer to the product technical manual.

Operational Guidelines

Avoid any abrupt pressure variations during start-up, shutdown, cleaning or other sequences to prevent possible membrane damage. Flush the DOW IntegraPac™ ultrafiltration system to remove storage solution prior to start-up. Remove residual air from the system prior to start-up. Manually start the equipment. Target a permeate flow of 60% of design during initial operations. Depending on the application, filtrate obtained from initial operations should be discarded. Please refer to the product technical manual.

General Information

If operating limits and guidelines given in this bulletin are not strictly followed, the limited warranty will be null and void.

To prevent biological growth during extended system shutdowns, it is recommended that storage solution be injected into the membrane modules. Please refer to the product technical manual.

Regulatory Note: Please check local regulatory guidelines and application status before use and sale.

LENNTECH

info@lenntech.com Tel. +31-152-610-900

www.lenntech.com Fax. +31-152-616-289

Warning: The use of this product 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.

NOTICE: No freedom from infringement of any patent owned by Dow or others is to be inferred. Because use conditions and applicable laws may differ from one location to another and may change with time, Customer is responsible for determining whether products and the information in this document are appropriate for Customer's use and for ensuring that Customer's workplace and disposal practices are in compliance with applicable laws and other government enactments. The product shown in this literature may not be available for sale and/or available in all geographies where Dow is represented. The claims made may not have been approved for use in all countries. Dow assumes no obligation or liability for the information in this document. References to "Dow" or the "Company" mean the Dow legal entity selling the products to Customer unless otherwise expressly noted. NO WARRANTIES ARE GIVEN; ALL IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE EXPRESSLY EXCLUDED.

