

INDU-COR HD System

INDU-COR HD external tubular crossflow MBR systems treat a variety of industrial wastewater streams. Available in ten standard sizes, the INDU-COR™ HD system treats feed capacities starting from 9,000 GPD. The system features KOVALUS SEPARATION SOLUTIONS™' 8mm multibore tubular membrane with MLSS concentrations of 10 – 25 g/L. The tubular membranes are high-flux and offer high-quality wastewater treatment and controlled production rates for challenging industrial streams. Operation and maintenance are simplified through an intelligent user interface and special cleaning process.

The INDU-COR HD systems are available as Economy or Plus, depending on the desired level of sophistication of valves and instrumentation.

BENEFITS

- Robust, expandable configuration
- Tolerant of varying feed flowrates
- Low energy consumption
- Reduced fouling
- Simple installation, operation, and maintenance
- Accessible modular external systems
- Intelligent user interface
- Compact footprint



Special Features

	Economy	Plus
Valves	Manual	Automatic
Instruments	Basic, rotameter	Indicating transmitters, magmeters
Permeate Recycle	Yes	Yes
Autopurge	Yes	Yes
Control	Manual	Semi-auto
Feed/CIP Pump	Yes	Yes
Enclosure NEMA	12	12
Panel	Pushbutton	HMI
Option	Only double mechanical seal	See list*

*Double mechanical seal; heater CIP (clean in place) tank; CSA stamp; pH control dose package with pH transmitter; free oil skimmer; totalizing flow transmitter; turbidimeter; tanks; turnkey; ancillary equipment as needed; remote status/control; enclosure upgrade to NEMA 4, etc.; HMI size; extra cards; upgraded PLC; other. All systems can be partially tubed for future expansion.

System Models

Model	Wastewater Flow		Membrane Area	
	1000 GPD	m ³ /d	ft ²	m ²
4" 1 x 6 Single System	9 – 29	36 - 109	413	38.3
4" 2 x 1 x 6 Double System Single Skid	19 – 57	72 - 219	827	76.8
6" 1 x 6 Single System	22 – 68	85 - 260	982	91.2
6" 2 x 1 x 6 Double System Single Skid	45 – 137	171 - 520	1,963	182.3
8" 1 x 6 Single System	40 – 123	153 - 465	1,757	163.2
8" 2 x 1 x 6 Double System Single Skid	81 – 245	306 - 931	3,514	326.4
10" x 3m 1 x 6 Single System	59 - 180	225 - 685	2583	240
10" x 3m 2 x 1 x 6 Double System Single Skid	118 - 360	450 - 1370	5166	480
10" x 4m 1 x 6 Single System	79 – 241	300 - 914	3,449	320.4
10" x 4m 2 x 1 x 6 Double System Single Skid	159 – 482	600 - 1827	6,898	640.8

Note: Capacities vary depending on application.

OPEX

Model	Feed Basis* (1000 GPD)	Energy Cost (\$ / day)	Chemical Usage (\$ / day)	Total Daily Operating Cost (\$)**
4" 1 x 6 Single System	19	16	3	44
4" 2 x 1 x 6 Double System Single Skid	38	31	5	86
6" 1 x 6 Single System	45	29	4	63
6" 2 x 1 x 6 Double System Single Skid	90	58	6	123
8" 1 x 6 Single System	81	62	5	104
8" 2 x 1 x 6 Double System Single Skid	162	125	7	206
10" x 3m 1 x 6 Single System	119	101	8	163
10" x 3m 2 x 1 x 6 Double System Single Skid	237	201	11	320
10" x 4m 1 x 6 Single System	159	73	8	135
10" x 4m 2 x 1 x 6 Double System Single Skid	317	147	11	266

Note: Feed basis values are nominal.

* 46 gfd design basis, actual design flux might vary

**Total daily operating costs are calculated to include cost of membrane replacement, labor, energy, and cleaning chemicals.

Actual operating costs are application-dependent and may vary.



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