

# PURON MP Standard Systems

## Pre-engineered Standard Systems for Wastewater Treatment

PURON® MP systems are pre-engineered ultrafiltration (UF) package plants and modular systems. With individual unit capacities ranging from 100 GPD up to 1,750,000 GPD, the PURON MP system is designed for both municipal and industrial applications, including wastewater and surface water applications with peak feed TSS concentrations up to 1,000 mg/L.

Featuring Koch Membrane Systems pressurized PURON MP modules, these skid-mounted systems offer customers a complete and cost-effective solution. The virtually unbreakable high performance PURON membrane provides consistent high quality effluent with total suspended solids of <5 mg/L. Using direct coagulation, the PURON MP system can reduce TOC and phosphorous concentrations by up to 50% and 90% respectively.

### PURON MP-10 Package System Shown



## BENEFITS

- Optimized design for application
- Simple operation
- Compact footprint
- Easily expandable
- Common ancillary equipment for multi-unit trains
- Flexible layout
- Turnkey solution
- Single source supply
- Minimal civil works required
- Fast delivery and installation

Features

		PURON® MP-6 & MP-10 Package Systems	PURON MP-24, MP-48, and MP-64 Modular Systems
Pre-Treatment	Fine Screening	X	X
	Chemical Dosing	O	O
	Feed Equipment	O	O
	Feed Pump VFD	O	O
Filtration System	Membranes	X	X
	Membrane Rack	X	X
	Membrane Blowers	X	X
	Backflush Pump	X	X
	Filtration System Valves	X	X
	Filtration System Instrumentation	X	X
	CIP System	X	X
	Permeate/BF Tank	X	O
	Train Redundancy	O	O
	Backflush Pump VFD	O	O
Ancillary and Post-Treatment	Neutralization Equipment	O	O
	Duty-Standby CIP Pump		O
	Skidded Ancillary Equipment		O
	Duty-Standby Backflush Pump		O

X: Included, O: Optional

System Models

Package Systems	System Capacity*				Membrane Area	
	Wastewater		Surface Water		m <sup>2</sup>	ft <sup>2</sup>
	1,000 Gal / Day	m <sup>3</sup> / Day	1,000 Gal / Day	m <sup>3</sup> / Day		
MP-6	100	380	165	620	304	3,276
MP-10	170	650	275	1,050	507	5,460
<b>Modular Systems</b>						
MP-24**	410	1,550	660	2,500	1,217	13,104
MP-48**	820	3,100	1,320	5,000	2,434	26,208
MP-64**	1,100	4,100	1,750	6,650	3,245	34,944

\* Final system sizing is application dependent and based on various design criteria, including, but not limited to, influent temperature and TOC/TSS concentration. Model number denotes maximum number of cartridges per skid. \*\* Can be combined in up to 6 units per train with common ancillary equipment.

### Installation

Package Systems (standard equipment)	Footprint	Electrical Power (460V, 60Hz)	Piping Connections		
			Feed	Backflush Waste	Permeate
MP-6	10' x 15' / 3.1m x 4.7m	15 kw	3" / DN80	3" / DN80	3" / DN80
MP-10	10' x 21' / 3.1m x 6.2m	20 kw	4" / DN100	4" / DN100	4" / DN100
Modular Systems (standard equipment)					
MP-24	11' x 16' / 3.5m x 5m	50 kw	6" / DN150	6" / DN150	6" / DN150
MP-48	11' x 26' / 3.5m x 8m	90 kw	8" / DN200	8" / DN200	8" / DN200
MP-64	11' x 31' / 3.5m x 10m	120 kw	10" / DN250	10" / DN250	10" / DN250

All skids are pre-wired with local disconnects. System assembly and wiring to be conducted by a qualified contractor. KMS to provide installation support and startup services. All non-package systems do not include interconnecting piping to ancillary equipment. Footprints noted are for individual stages and include cartridge removal clearance areas. Common CIP & backflush skid sizes are dependent on size and quantity of trains.

### OPEX

Water Source	Estimated Energy Usage		Estimated Chemical Usage*	
	\$ / 1k Gal.	\$ / m <sup>3</sup>	\$ / 1k Gal.	\$ / m <sup>3</sup>
Clean Surface Water	0.034	0.009	0.004	0.001
Difficult Surface Water	0.041	0.011	0.008	0.002
Easy Waste Water	0.037	0.010	0.006	0.002
Difficult Waste Water	0.045	0.012	0.013	0.003

Energy and chemical costs are estimates only and will be better defined with final system design. Power based on 13 cents per kwh.  
 \* Typical cleaning chemicals used: sodium hypochlorite and citric acid.



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