

PURON MP Standard Systems

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DISTRIBUTOR

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 Separation Solutions 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 ² | ft ² |
| | 1,000 Gal / Day | m ³ / Day | 1,000 Gal / Day | m ³ / Day | | |
| MP-6 | 100 | 380 | 165 | 620 | 304 | 3,276 |
| MP-10 | 170 | 650 | 275 | 1,050 | 507 | 5,460 |
| Modular Systems | | | | | | |
| 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. KSS 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 ³ | \$ / 1k Gal. | \$ / m ³ |
| 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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Technical Customer Support

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