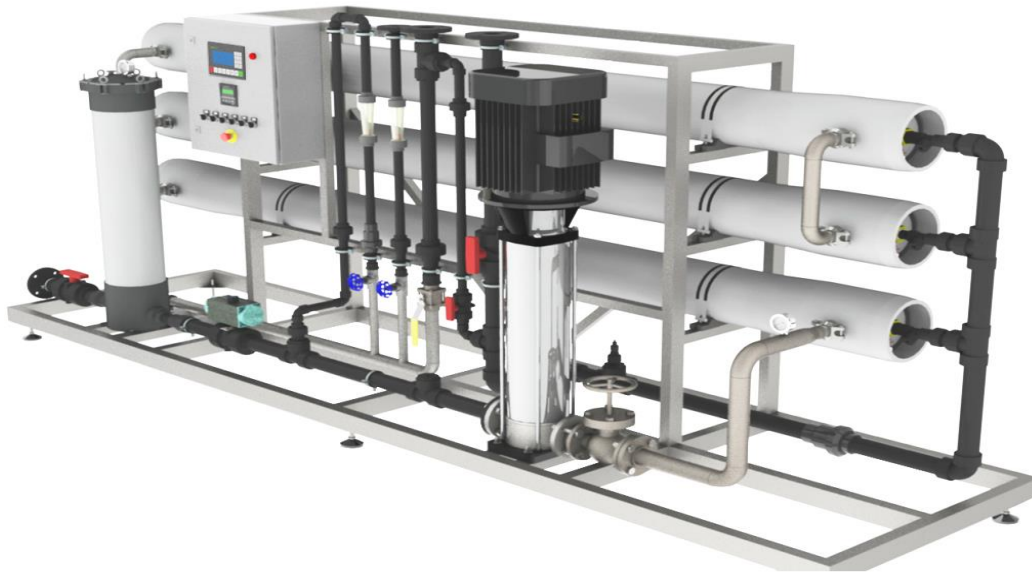


PTROM Series 50HZ

Reverse Osmosis Systems from 3.5m³/h to 10m³/h (Feed TDS < 2500 ppm).



PTROM Series

The smart, clean utilitarian industrial design of the PTROM Series allows for convenient installation, user-friendly operation, and ease of maintenance. These skid-mounted, packaged systems are pre-plumbed and pre-wired complete on a steel frame with panel-mounted pressure and flow instrumentation allowing for straight forward system monitoring and control. EWP offers an assortment of both basic and premium designs of pure water systems that can be private labeled or customized.

Ordering Guide				
Order Example	PTROM	10	TB/FD	380T50
RO series				
PTROM				
Nominal Capacity				
4	[4 m3/h]			
6	[6 m3/h]			
8	[8 m3/h]			
9	[9 m3/h]			
10	[10 m3/h]			
Connection (code)				
TB	[Thread, BSPT]			
TN	[Thread, NPT]			
FA	[Flange, ANSI]			
FD	[Flange, DIN]			
SA	[Socket, ANSI]			
SD	[Socket, DIN]			
Power supply (code)				
220S60	[220VAC/ single phase/60hz]			
380T50	[380VAC/ three phase /50hz]			
230S50	120S60	240S60	440T50	240T60
240S50	127S60	380T60	200T60	440T60
100S60	200S60	400T50	208T60	460T60
110S60	220S50	415T50	220T60	480T60

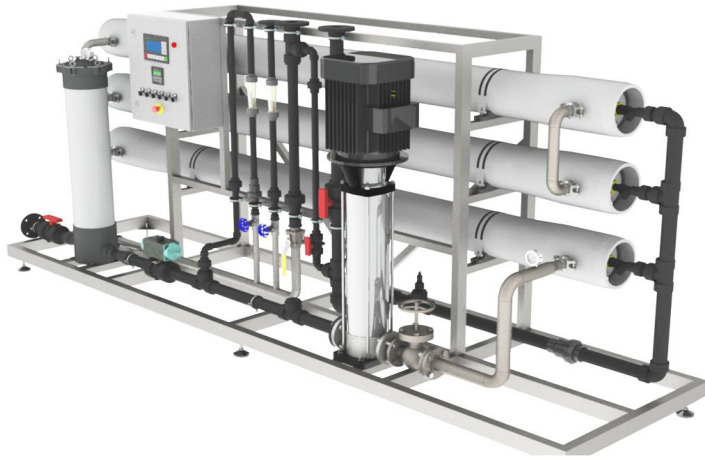
Benefits

- Fully equipped and customizable
- Individually tested and preserved
- Expandable and skid mounted
- Low operation and maintenance costs
- Components easily accessible
- Easy maintenance and servicing
- Pre-plumbed, wired and assembled
- 1-year limited warranty

Applications

- Municipal, Wastewater, Hotel, Military, Hospital,
- Food and beverage, Pharmaceutical, Mining,
- Power and energy, Refinery, Restaurants, Schools,
- Agriculture, Boiler feed, Disaster relief

PTROM Series Reverse Osmosis System



Standard Feature

Membrane and housing

- Membrane model --- LP22-8040
- Membrane manufacturer --- Vontron
- Nominal rejection --- 97-99%
- Housing --- FRP, 300psi, side port (for $\leq 1000\text{ppm}$)
FRP, 450psi, side port (for $\leq 2500\text{ppm}$)
- Housing manufacturer --- First Line or equal

Boost pump

- Type --- vertical multi-stage centrifugal
- Pump material --- SS304 (for $\leq 500\text{ppm}$)
--- SS316 (for $\leq 1000\text{ppm}$)
--- SS316 (for $\leq 2500\text{ppm}$)
- Connection --- DIN Flange
- Pump brand --- CNP

Electrical valve

- Feed valve --- UPVC
- Flush valve --- SS316

Instrumentation

- Flow meters --- Permeate, concentrate, concentrate recycle
- Conductivity --- Permeate
- Pressure gauge --- Pre-filter, post - filter, pump discharge, concentrate
- Pressure switch --- Feed, RO membrane inlet

Material of construction

- High-pressure piping --- SS304 (for $\leq 500\text{ppm}$)
--- SS316 (for $\leq 1500\text{ppm}$)
--- SS316 (for $\leq 2500\text{ppm}$)
- Low-pressure piping --- UPVC
- Frame --- SS304
- Control box --- IP54

Connection port

- Feed inlet port
- Permeate port
- Drain port
- Clean-in-place (CIP) ports

Documentation included

- Operation and maintenance manual
- Drawings: P&ID, electrical diagram

Control system

- Siemens PLC
- Parameter setting panel
- Tank level control
- Low pressure/High pressure protection
- Auto flush
- Pretreatment lockout control backup

Options and Upgrades

- ✧ pH and ORP meter
- ✧ Feed water conductivity meter
- ✧ ABB VFD
- ✧ Grundfos/Danfoss pump
- ✧ Dow/Hydranautics/Toray membrane
- ✧ SS304/316 seamless housing
- ✧ Easy access remote control
- ✧ Communication: Modbus RTU
- ✧ Flow transmitter with pulse signal output
- ✧ Pressure transducer with analog signal output
- ✧ Antiscalant dosing system
- ✧ Clean-in-place (CIP) system
- ✧ Pretreatment system

PTROM Series Specifications

MODEL	PTROM-4	PTROM-6	PTROM-8
Permeate rate ¹	4m ³ /hr	6m ³ /hr	8m ³ /hr
Approx. conc. rate	1.33m ³ /hr	2m ³ /hr	2.67m ³ /hr
Approx. recycle rate	3.33m ³ /hr	2.5m ³ /hr	1.8m ³ /hr
Approx. feed rate	5.33m ³ /hr	8m ³ /hr	10.7m ³ /hr
Design recovery	75%	75%	75%
Pump and Motor - Up to 500mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF8-13 (50hz)	CDLF12-11 (50hz)	CDLF12-12 (50hz)
Motor HP	5.5kw	7.5kw	7.5kw
Pump material	SS304	SS304	SS304
Design flow rate ²	8.66m ³ /hr	10.5m ³ /hr	12.5m ³ /hr
Design boost pressure	11.5bar	12.0bar	11.6bar
Pump and Motor - Up to 1000mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF8-16 (50hz)	CDLF12-13 (50hz)	CDLF12-14 (50hz)
Motor HP	5.5kw	11kw	11kw
Pump material	SS316	SS316	SS316
Design flow rate ²	8.66m ³ /hr	10.5m ³ /hr	12.5m ³ /hr
Design boost pressure	14.3bar	14.0bar	13.6bar
Pump and Motor - Up to 2500mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF8-20 (50hz)	CDLF12-18 (50hz)	CDLF12-18 (50hz)
Motor HP	7.5kw	11kw	11kw
Pump material	SS316	SS316	SS316
Design flow rate ²	8.66m ³ /hr	10.5m ³ /hr	12.5m ³ /hr
Design boost Press.	18.0bar	18.8bar	17.6bar
Membrane Element and Housing			
Membrane quantity	4	6	8
Memb. housing style	2element long, 2port	3element long, 2port	4element long, 2port
Membrane housing array	1→1	1→1	1→1
Cartridge Filtration			
Filter housing	HPCF-5DC3	HPCF-5DC3	HPCF-5DC4
PP cartridge length	30"	30"	40"
Filter housing Qty.	1	1	1
	5 per housing	5 per housing	5 per housing
Installation			
Inlet	1.5" Flange	1.5" Flange	2" Flange
Permeate	1.5" Flange	1.5" Flange	1.5" Flange
Drain	1" Flange	1" Flange	1-1/4" Flange
CIP inlet	1.5" BSPT or NPT	2" BSPT or NPT	2" BSPT or NPT
CIP conc. outlet	1.5" BSPT or NPT	1.5" BSPT or NPT	1.5" BSPT or NPT
CIP perm. outlet	1"DIN or Sch80	1"DIN or Sch80	1"DIN or Sch80
Package Dimension			
Approx. height	1675mm	1675mm	1675mm
Approx. width	3000mm	4000mm	5000mm
Approx. depth	1000mm	1000mm	1000mm
Approx. shipping weight	490kg	500kg	512kg
Options			
Antiscalant feed system	Metering pump: 1.5L/h Chemical tank: 200-300L	Metering pump: 1.5L/h Chemical tank: 200-300L	Metering pump: 1.5L/h Chemical tank: 200-300L
CIP system	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3
Pretreatment: sand / MMF filter + carbon filter	PTSC836-30	PTSC836-36	PTMC-100
Pretreatment: sand / MMF filter + carbon filter + softener	PTSCS836-30	PTSCS836-36	Customized

¹ Nominal permeate rate listed at temperature 25°C, Permeate rate can be reduced by up to 20% as temperature drops.

² Design flow rate of the pump is the sum of feed rate and concentrate recycle rate

MODEL	PTROM-9	PTROM-10	PTROM-12
Permeate rate ¹	9m ³ /hr	10m ³ /hr	11.1m ³ /hr
Approx. conc. rate	3m ³ /hr	3.33m ³ /hr	3.7m ³ /hr
Approx. recycle rate	1m ³ /hr	0.6m ³ /hr	0 ~ 0.5m ³ /hr
Approx. feed rate	12m ³ /hr	13.33m ³ /hr	14.8m ³ /hr
Design recovery	75%	75%	75%
Pump and Motor - Up to 500mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF12-13 (50hz)	CDLF16-10(50hz)	CDLF16-10(50hz)
Motor HP	11kw	11kw	11kw
Pump material	SS304	SS304	SS304
Design flow rate ²	13m ³ /hr	13.93m ³ /hr	16m ³ /hr
Design boost pressure	12.3bar	12.5bar	11.8bar
Pump and Motor - Up to 1000mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF12-15 (50hz)	CDLF16-11 (50hz)	CDLF16-12 (50hz)
Motor HP	11kw	11kw	11kw
Pump material	SS316	SS316	SS316
Design flow rate ²	13m ³ /hr	13.93m ³ /hr	16m ³ /hr
Design boost pressure	14.3bar	13.8bar	14.1bar
Pump and Motor - Up to 2500mg/L Feed TDS design			
Manufacturer	CNP	CNP	CNP
Model	CDLF12-18 (50hz)	CDLF16-14(50hz)	CDLF16-16(50hz)
Motor HP	11kw	15kw	15kw
Pump material	SS316	SS316	SS316
Design flow rate ²	13m ³ /hr	13.93m ³ /hr	16m ³ /hr
Design boost Press.	17.2bar	17.6bar	18.9bar
Membrane Element and Housing			
Membrane quantity	9	10	12
Memb. housing style	3element long, 2port	5element long, 2port	4element long, 2port
Membrane housing array	1→1→1	1→1	1→1→1
Cartridge Filtration			
Filter housing	HPCF-5DC4	HPCF-5DC4	HPCF-8DC4
PP cartridge length	40"	40"	40"
Filter housing Qty.	1	1	1
	5 per housing	5 per housing	8 per housing
Installation			
Inlet	2" Flange	2" Flange	2" Flange
Permeate	1.5" Flange	1.5" Flange	2" Flange
Drain	1-1/4" Flange	1-1/4" Flange	1.5" Flange
CIP inlet	2" BSPT or NPT	2" BSPT or NPT	2" BSPT or NPT
CIP conc. outlet	1.5" BSPT or NPT	1.5" BSPT or NPT	1.5" BSPT or NPT
CIP perm. outlet	1"DIN or Sch80	1"DIN or Sch80	1"DIN or Sch80
Package Dimension			
Approx. height	1675mm	1675mm	1675mm
Approx. width	4000mm	5500mm	5000mm
Approx. depth	1000mm	1000mm	1000mm
Approx. shipping weight	525kg	540kg	770kg
Options			
Antiscalant feed system	Metering pump: 1.5L/h Chemical tank: 200-300L	Metering pump: 1.5L/h Chemical tank: 200-300L	Metering pump: 1.5L/h Chemical tank: 200-300L
CIP system	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3	CIP tank: 500L CIP pump: 8m ³ /h@4.0bar CIP filter: HPCF-5DC3
Pretreatment: sand / MMF filter + carbon filter	PTMC-120	PTMC-120	PTMC-120
Pretreatment: sand / MMF filter + carbon filter + softener	Customized	Customized	Customized

Operating Limits

Maximum Feed Temperature	°C (°F)	35 (95)	pH (Continuous)	4 ~ 9
Minimum Feed Temperature	°C (°F)	5 (41)	Minimum pH (Continuous)	4
Maximum Feed Pressure	bar (psi)	5 (72)	Free Chlorine	undetectable
Minimum Feed Pressure	bar (psi)	2 (29)	Iron	ppm <0.1
Maximum TDS	ppm	1500	Manganese	ppm <0.05
SDI		<5	Organic matter	ppm <1