

Reverse Osmosis (RO) Water Treatment Systems

Commercial and Industrial RO Systems & Components



Table of Contents

Packaged Reverse Osmosis Water Treatment Systems	3	Ultrafiltration System	13
Small Size RO System	4	PTUF Series	13
LPRO-16 Series without pretreatment	4	Seawater Desalination System	14
LPRO-412 Series without pretreatment	5	E-SWRO Series	14
BWRO-14 Series without pretreatment	6	Nanofiltration System	15
BWRO-412 Series without pretreatment	7	Electro-Deionization (EDI) System	15
Medium Size RO System	8	Membrane Bio-Reactor (MBR) System	15
PTROM Series without pretreatment	8	Membrane Elements	16
Large Size RO System	9	EDI Module	16
PTROL Series without pretreatment	9		
Pretreatment System	10		
PTSC836 Series	10		
PTSCS836 Series	11		
PTMC Series	12		

Also Available

- Residential RO System
- Membrane Pressure Vessels
- Couplings
- FRP Tanks
- Distributors
- Control Valves
- Pumps
- Ultraviolet Reactors
- Ozone Generators
- Package Systems
- Brine Tanks
- Media
- Cartridge Filters & Housings
- Water Treatment Parts

MID-ATLANTIC ENVIRONMENTAL EQUIPMENT, INC.

Main Phone:
877-MAE2inc
(877-623-2462)
mae2.com

Corporate Headquarters

15 Carroll Drive
Bluffton, SC 29910
843-836-1804
Fax: 843-836-1805
Email: sevans@mae2.com

Manufacturing Facility

Hardeeville, SC
843-296-4580

Field Support Services

Canton, GA
843-247-4087

Regional Sales Office

182 Spring Oaks Lane
Ruckersville, VA 22968
434-531-3472
Fax: 434-985-1214
Email: jfrydl@mae2.com

Packaged Reverse Osmosis Water Treatment Systems

20 Inch Packaged System



Take the expense and the mystery out of large-scale reverse osmosis plants (RO plants) with a packaged system. By making pre-designed, module-sized plants, fully assembled in standard 20-ft and 40-ft containers, the complexity and the construction of a building to house a water purification plant is no longer necessary. The container just needs to be shipped out to where the potable water is needed, and after a brief training session, commissioned workers are ready to produce high-quality potable water within days of delivery.

The plant will include:

- Interconnecting piping between components and systems
- Cabling and wiring of instrumentation inside the container to main control cabinet.
- Operations and maintenance manuals

Benefits

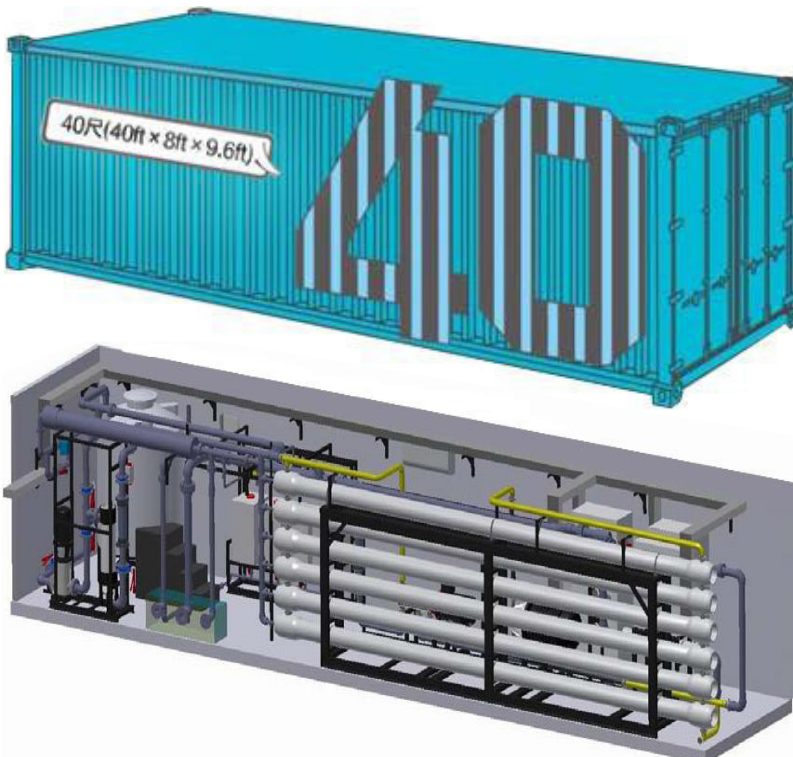
- Plug and play unit
- Mobile: useful for construction sites
- Small foot print
- Easy transportation
- Limited civil work (only container foundation)
- Quick installation
- Turnkey delivery: piping, cables, air conditioning

MAE2 also supplies:

- Packaged SWRO system
- Packaged UF system
- Packaged NF system
- Packaged MBR system

Others are available upon request.

40 Inch Packaged System



Small Size RO System

LPRO-16 Series without pretreatment

LPRO-16 Series Reverse Osmosis Systems have been engineered for capacities ranging from 1200GPD to 9000GPD (Feed TDS < 1500 ppm)



LPRO-B16 Series



LPRO-P16 Series

Features

- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS304
- UPVC high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Relay and timer control or Siemens PLC)
- Tank level control & Auto flush
- Pretreatment lockout control backup

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

Model Number	LPRO-B/P16-1500	LPRO-B/P16-3000	LPRO-B/P16-4500	LPRO-B/P16-6000	LPRO-B/P16-9000
Feed Water TDS	<1500ppm	<1500ppm	<1500ppm	<1500ppm	<1500ppm
Nominal Permeate Rate	0.25m ³ /hr	0.5m ³ /hr	0.75m ³ /hr	1.0m ³ /hr	1.5m ³ /hr
Recovery Rate	50~75%	50~75%	60~75%	60~75%	60~75%
Motor HP	1.5kw	1.5kw	1.5kw	1.5kw	2.2kw
Wet Contact Material	SS304	SS304	SS304	SS304	SS304
Membranes Quantity	1	2	3	4	6
Membrane Housing Quantity	1 (single element)	2 (single element)	3 (single element)	4 (single element)	6 (single element)
Inlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Permeate	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Drain	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT
CIP Inlet & Outlet	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT

Small Size RO System

LPRO-412 Series without pretreatment

LPRO-412 Series Reverse Osmosis Systems have been engineered for capacities ranging from 5000GPD to 20000GPD (Feed TDS < 1500 ppm)



LPRO-B412 Series



LPRO-P412 Series

Features

- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS304
- UPVC high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Relay and timer control or Siemens PLC)
- Tank level control & Auto flush
- Pretreatment lockout control backup

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

Model Number	LPRO-B/P412-6000	LPRO-B/P412-9000	LPRO-B/P412-12000	LPRO-B/P412-15000	LPRO-B/P412-18000
Feed Water TDS	<1500ppm	<1500ppm	<1500ppm	<1500ppm	<1500ppm
Nominal Perm. Rate	1.0m ³ /hr	1.5m ³ /hr	2.0m ³ /hr	2.5m ³ /hr	3.0m ³ /hr
Recovery Rate	60~75%	60~75%	65~75%	65~75%	65~75%
Motor HP	1.5kw	2.2kw	3kw	3kw	3kw
Wet Contact Material	SS304	SS304	SS304	SS304	SS304
Membrane Quantity	4	6	8	10	12
Housing Quantity	4 (single element)	6 (single element)	4 (2-element)	5 (2-element)	6 (2element)
Inlet	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT
Permeate	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Drain	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT
CIP Inlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
CIP Outlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT

Small Size RO System

BWRO-14 Series without pretreatment

BWRO-14 Series Reverse Osmosis Systems have been engineered for capacities ranging from 1200GPD to 6000GPD (Feed TDS < 3000 ppm)



BWRO-B14 Series



BWRO-P14 Series

Features

- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS316
- SS316 high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Relay and timer control or Siemens PLC)
- Tank level control & Auto flush
- Pretreatment lockout control backup

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

Model Number	LPRO-B/P412-6000	LPRO-B/P412-9000	LPRO-B/P412-12000	LPRO-B/P412-15000
Feed Water TDS	<3000ppm	<3000ppm	<3000ppm	<3000ppm
Nominal Permeate Rate	0.25m ³ /hr	0.5m ³ /hr	0.75m ³ /hr	1.0m ³ /hr
Recovery Rate	60~75%	60~75%	65~75%	65~75%
Motor HP	2.2kw	2.2kw	3.0kw	3.0kw
Wet Contact Material	SS316	SS316	SS316	SS316
Membranes Quantity	1	2	3	4
Membrane Housing Quantity	1 (single element)	2 (single element)	3 (single element)	4 (single element)
Inlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Permeate	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Drain	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT
CIP Inlet	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT
CIP Outlet	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT	3/4"BSPT or NPT

Small Size RO System

BWRO-412 Series without pretreatment

BWRO-412 Series Reverse Osmosis Systems have been engineered for capacities ranging from 5000GPD to 18000GPD (Feed TDS < 3000 ppm)



BWRO-B412 Series



BWRO-P412 Series

Features

- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS316
- SS316 high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Relay and timer control or Siemens PLC)
- Tank level control & Auto flush
- Pretreatment lockout control backup

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

Model Number	BWRO-B/P412-6000	BWRO-B/P412-9000	BWRO-B/P412-12000	BWRO-B/P412-15000	BWRO-B/P412-18000
Feed Water TDS	<3000ppm	<3000ppm	<3000ppm	<3000ppm	<3000ppm
Nominal Permeate Rate	1.0m ³ /hr	1.5m ³ /hr	2.0m ³ /hr	2.5m ³ /hr	3.0m ³ /hr
Recovery Rate	65~75%	65~75%	65~75%	65~75%	65~75%
Motor HP	3kw	3kw	4kw	4kw	4kw
Wet Contact Material	SS316	SS316	SS316	SS316	SS316
Membrane Quantity	4	6	8	10	12
Housing Quantity	4 (single element)	6 (single element)	4 (2-element)	5 (2-element)	6 (2-element)
Inlet	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT	1.5"BSPT or NPT
Permeate	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
Drain	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT	1/2"BSPT or NPT
CIP Inlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT
CIP outlet	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT	1"BSPT or NPT

Medium Size RO System

PTROM Series without pretreatment

PTROM Series Reverse Osmosis Systems have been engineered for capacities ranging from 4m³/h to 10m³/h (Feed TDS < 2500 ppm)



Features

- Vontron RO membrane
- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS304 / SS316
- SS304/SS316 high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Siemens PLC, Weinview HMI)
- Tank level control & Auto flush
- Pretreatment lockout control backup

Benefits

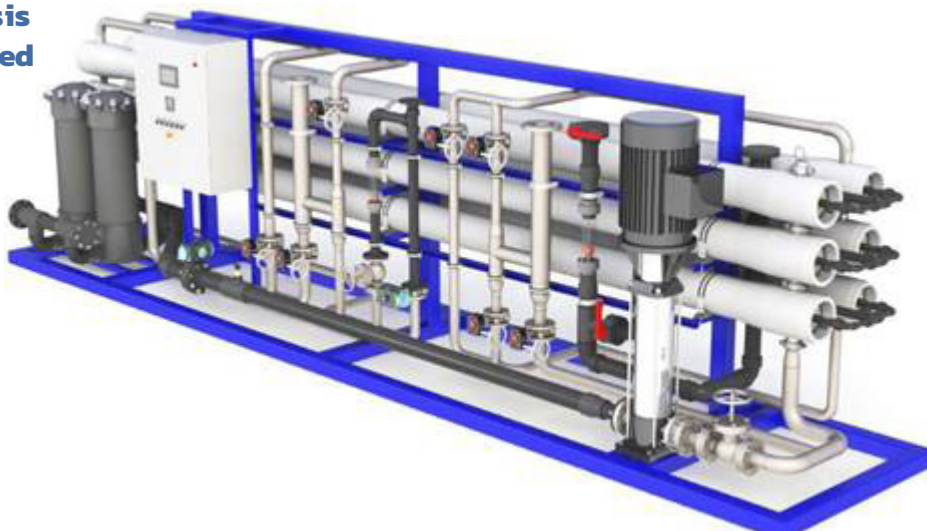
- Fully equipped and customizable
- Individually tested and preserved
- Expandable and skid mounted
- Low operation and maintenance costs
- Components easily accessible
- Easy maintenance and servicing
- Pre-plumbed, wired and assembled
- 1-year limited warranty

Model Number	PTROM-4	PTROM-6	PTROM-8	PTROM-9	PTROM-10	PTROM-12
Permeate Rate	4m ³ /hr	6m ³ /hr	8m ³ /hr	9m ³ /hr	10m ³ /hr	11.1m ³ /hr
Design Recovery	75%	75%	75%	75%	75%	75%
Membrane Quantity	4	6	8	9	10	12
Membrane Housing Style	2 element long, 2 port	3 element long, 2 port	4 element long, 2 port	3 element long, 2 port	5 element long, 2 port	4 element long, 2 port
Inlet	1.5" Flange	1.5" Flange	2" Flange	2" Flange	2" Flange	2" Flange
Permeate	1.5" Flange	1.5" Flange	1.5" Flange	1.5" Flange	1.5" Flange	2" Flange
Drain	1" Flange	1" Flange	1-1/4" Flange	1-1/4" Flange	1-1/4" Flange	1.5" Flange
CIP Inlet	1.5" BSPT or NPT	2" BSPT or NPT	2" BSPT or NPT	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	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	1"DIN or Sch80	1"DIN or Sch80	1"DIN or Sch80

Large Size RO System

PTROL Series without pretreatment

PTROL Series Reverse Osmosis Systems have been engineered for capacities ranging from 16m³/h to 108m³/h (Feed TDS < 2500 ppm)



Features

- Vontron RO membrane
- ASME certified membrane housing
- CNP boost pump SS316L (with ABB VFD & High pressure pump soft start)
- SS316 high pressure piping
- Control box IP54 (painted carbon steel)
- Control system (Siemens PLC, Weinview HMI)
- Tank level control & Auto flush
- Pretreatment lockout control backup

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

Model Number	PTROL-16	PTROL-20	PTROL-24	PTROL-30	PTROL-36
Max. Permeate Rate	16m ³ /hr	19.7m ³ /hr	24m ³ /hr	29.9m ³ /hr	32.5m ³ /hr
Design Recovery	75%	75%	75%	75%	75%
Membrane Quantity	16	20	24	30	36
Inlet	3" Flange	3" Flange	3" Flange	3" Flange	3" Flange
Permeate	2" Flange	3" Flange	3" Flange	3" Flange	3" Flange
Drain	1.5" Flange	1.5" Flange	1.5" Flange	1.5" Flange	1.5" Flange
CIP Inlet	2" BSPT or NPT	2" BSPT or NPT	2.5" BSPT or NPT	2.5" BSPT or NPT	2.5" BSPT or NPT
CIP Conc. Outlet	1.5" BSPT or NPT	1.5" BSPT or NPT	2" BSPT or NPT	2" BSPT or NPT	2" BSPT or NPT
CIP Perm. Outlet	1"DIN or Sch80	1.5"DIN or Sch80	1.5"DIN or Sch80	1.5"DIN or Sch80	1.5"DIN or Sch80

Model Number	PTROL-48	PTROL-60	PTROL-72	PTROL-90	PTROL-108
Max. Permeate Rate	48m ³ /hr	57.8m ³ /hr	65m ³ /hr	86m ³ /hr	96.8m ³ /hr
Design Recovery	75%	75%	75%	75%	75%
Membrane Quantity	48	60	72	90	108
Inlet	4" Flange	4" Flange	4" Flange	6" Flange	6" Flange
Permeate	3" Flange	4" Flange	4" Flange	5" Flange	5" Flange
Drain	2" Flange	2" Flange	3" Flange	3" Flange	3" Flange
CIP Inlet	3" Flange	3" Flange	3" Flange	4" Flange	4" Flange
CIP Conc. Outlet	3" Flange	3" Flange	3" Flange	3" Flange	3" Flange
CIP Perm. Outlet	1.5"DIN or Sch80	2"DIN or Sch80	2"DIN or Sch80	2"DIN or Sch80	2"DIN or Sch80

Pretreatment System

PTSC836 Series

PTSC836 Series (Sand filter + Carbon filter)

Pretreatment for RO have been engineered for capacities ranging from 0.3m³/h to 10m³/h

Features

- FRP tank
- CNP feed pump SS304
- Multiport valve
- Frame SS304
- Technical documentation
- Micro switch
- Control system (Relay control, tank level control)
- Pretreatment lockout signal

Benefits

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



Model Number	PTSC836-08	PTSC836-10	PTSC836-12	PTSC836-14	PTSC836-16
Service Flow Rate	0.4~0.7m ³ /h	0.7~1.0m ³ /h	1.0~1.5m ³ /h	1.5~2.0m ³ /h	2.0~2.5m ³ /h
Approx. Backwash Flow Rate	1.2m ³ /h (sand filter)	2.3m ³ /h (sand filter)	2.8m ³ /h (sand filter)	3.5m ³ /h (sand filter)	4.0m ³ /h (sand filter)
	0.9m ³ /h (carbon filter)	1.4m ³ /h (carbon filter)	1.6m ³ /h (carbon filter)	2.4m ³ /h (carbon filter)	2.8m ³ /h (carbon filter)
Motor HP	0.55kw	0.55kw	0.55kw	0.55kw	0.75kw
Approx. FRP Tank Dimension	Ø8"×H44"	Ø10"×H54"	Ø12"×H52"	Ø14"×H65"	Ø16"×H65"
Inlet	1" Thread	1" Thread	1" Thread	1" Thread	1-1/4" Thread
Outlet	1" Thread	1" Thread	1" Thread	1" Thread	1" Thread
Drain	1/2"	1/2"	1/2"	1/2"	3/4"

Model Number	PTSC836-18	PTSC836-21	PTSC836-24	PTSC836-30	PTSC836-36
Service Flow Rate	2.5~3.0m ³ /h	3.0~4.5m ³ /h	4.5~5.3m ³ /h	5.3~7.0m ³ /h	7.0~11m ³ /h
Approx. Backwash Flow Rate	6.0m ³ /h (sand filter)	8.0m ³ /h (sand filter)	12m ³ /h (multi-media filter)	16m ³ /h (multi-media filter)	22m ³ /h (multi-media filter)
	3.6m ³ /h (carbon filter)	6.0m ³ /h (carbon filter)	7.5m ³ /h (carbon filter)	12m ³ /h (carbon filter)	16m ³ /h (carbon filter)
Motor HP	0.75kw	1.1kw	1.5kw	2.2kw	3.0kw
Approx. FRP Tank Dimension	Ø18"×H65"	Ø21"×H62"	Ø24"×H72"	Ø30"×H72"	Ø36"×H72"
Inlet	1-1/4" Flange	1-1/4" Flange	2" Flange	2" Flange	2" Flange
Outlet	1.5" Flange	1.5" Flange	1.5" Flange	2" Flange	2" Flange
Drain	1/2"	1/2"	1/2"	1/2"	3/4"

Pretreatment System

PTSCS836 Series

PTSC836 Series (Sand filter + Carbon filter)

Pretreatment for RO have been engineered for capacities ranging from 0.3m³/h to 10m³/h

Features

- FRP tank
- CNP feed pump SS304
- Multiport valve
- Frame SS304
- Technical documentation
- Micro switch
- Control system
- (Relay control, tank level control)
- Pretreatment lockout signal

Benefits

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



Model Number	PTSCS836-08	PTSCS836-10	PTSCS836-12	PTSCS836-14	PTSCS836-16
Service Flow Rate	0.4~0.7m ³ /h	0.7~1.0m ³ /h	1.0~1.5m ³ /h	1.5~2.0m ³ /h	2.0~2.5m ³ /h
Approx. Backwash Flow Rate	1.2m ³ /h (sand filter)	2.3m ³ /h (sand filter)	2.8m ³ /h (sand filter)	3.5m ³ /h (sand filter)	4.0m ³ /h (sand filter)
	0.9m ³ /h (carbon filter)	1.4m ³ /h (carbon filter)	1.6m ³ /h (carbon filter)	2.4m ³ /h (carbon filter)	2.8m ³ /h (carbon filter)
	0.4m ³ /h (softener)	0.55m ³ /h (softener)	0.9m ³ /h (softener)	1.15m ³ /h (softener)	1.6m ³ /h (softener)
Motor HP	0.55kw	0.55kw	0.55kw	0.55kw	0.75kw
Approx. FRP Tank Dimension	Ø8"×H44"	Ø10"×H54"	Ø12"×H52"	Ø14"×H65"	Ø16"×H65"
Brine Tank Capacity	60L	100L	100L or 130L	160L or 200L	200L
Inlet	1" Thread	1" Thread	1" Thread	1" Thread	1-1/4" Thread
Outlet	1" Thread	1" Thread	1" Thread	1" Thread	1" Thread
Drain	1/2"	1/2"	1/2"	1/2"	3/4"

Model Number	PTSCS836-18	PTSCS836-21	PTSCS836-24	PTSCS836-30	PTSCS836-36
Service Flow Rate	2.5~3.0m ³ /h	3.0~4.5m ³ /h	4.5~5.3m ³ /h	5.3~7.0m ³ /h	7.0~11m ³ /h
Approx. Backwash Flow Rate	6.0m ³ /h (sand filter)	8.0m ³ /h (sand filter)	12m ³ /h (sand filter)	16m ³ /h (sand filter)	22m ³ /h (sand filter)
	3.6m ³ /h (carbon filter)	6.0m ³ /h (carbon filter)	3.5m ³ /h (carbon filter)	12m ³ /h (carbon filter)	16m ³ /h (carbon filter)
	1.8m ³ /h (softener)	2.7m ³ /h (softener)	7.5m ³ /h (softener)	5.7m ³ /h (softener)	8m ³ /h (softener)
Motor HP	0.75kw	1.1kw	1.5kw	2.2kw	3kw
Approx. FRP Tank Dimension	Ø18"×H65"	Ø21"×H62"	Ø24"×H72"	Ø30"×H72"	Ø36"×H72"
Brine Tank Capacity	200L or 300L	200L or 300L	300L	350L or 500L	500L
Inlet	1-1/4" Flange	1-1/4" Flange	2" Flange	2" Flange	2" Flange
Outlet	1.5" Flange	1.5" Flange	1.5" Flange	2" Flange	2" Flange
Drain	1/2"	1/2"	1/2"	1/2"	3/4"

Pretreatment System

PTMC Series

PTMC Series (Multi-media filter + Carbon filter) Pretreatment for RO have been engineered for capacities ranging from 10 m³/h to 50 m³/h



Features

- FRP tank
- CNP feed/backwash pump SS304
- Auto Valve controller (Siemens PLC control, backwash timer control)
- Lockout signal connection with RO backup
- Flow meter with switch or pulse signal
- Differential pressure and external signal control backup
- Technical documentation

Benefits

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

Model Number	PTMC-100	PTMC-120	PTMC-135	PTMC-150	PTMC-180
Service Flow Rate	10~16m ³ /h	14~22m ³ /h	18~30m ³ /h	22~35m ³ /h	32~50m ³ /h
Approx. Backwash Flow Rate	32m ³ /h (multi-media filter)	44m ³ /h (multi-media filter)	60m ³ /h (multi-media filter)	70m ³ /h (multi-media filter)	100m ³ /h (multi-media filter)
	21m ³ /h (carbon filter)	30m ³ /h (carbon filter)	38m ³ /h (carbon filter)	48m ³ /h (carbon filter)	68m ³ /h (carbon filter)
Feed Pump Motor HP	3kw	4kw	5.5kw	5.5kw	7.5kw
Backwash Pump Motor HP	4kw	5.5kw	7.5kw	11kw	11kw
Approx. FRP Tank Dimension	Ø1000×H2145mm	Ø1200×H2110mm	Ø1350×H2400mm	Ø1500×H2450mm	Ø1800×H2450mm
Inlet	2" Flange	3" Flange	3" Flange	3" Flange	4" Flange
Outlet	2" Flange	3" Flange	3" Flange	3" Flange	4" Flange
Drain	3" Flange	3" Flange	4" Flange	4" Flange	5" Flange
Air Inlet Inlet (Optional)	1/2" socket DIN or ANSI	1/2" socket DIN or ANSI	1.5" socket DIN or ANSI	1.5" socket DIN or ANSI	2" socket DIN or ANSI
Air Vent Inlet (Optional)	1/2" socket DIN or ANSI	1/2" socket DIN or ANSI	3/4" socket DIN or ANSI	3/4" socket DIN or ANSI	1" socket DIN or ANSI

Ultrafiltration System

PTUF Series

PTUF Series Ultra Filtration Systems have been engineered for permeate capacities ranging from 2.5 to 100m³/h.



Features

- Saveroy UF membrane
- CNP boost pump (ABB VFD, soft start)
- Control system
- (Siemens PLC, Weinview HMI)
- Over-pressure protection
- Auto backwash and CEB
- Pneumatic type auto valve
- Technical documentation

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

Model Number	PTUF-1	PTUF-2	PTUF-4	PTUF-6	PTUF-8
Product Flow Rate	3~5m ³ /h	6~10m ³ /h	14~20m ³ /h	21~30m ³ /h	24~40m ³ /h
UF Skid Approx. Height	2200mm	2200mm	2400mm	2450mm	2450mm
UF Skid Approx. Width	1000mm	1000mm	1100mm	1200mm	1300mm
UF Skid Approx. Depth	1200mm	1500mm	2000mm	2320mm	2650mm

Model Number	PTUF-10	PTUF-12	PTUF-14	PTUF-16	PTUF-18
Product Flow Rate	30~50m ³ /h	36~60m ³ /h	42~70m ³ /h	48~80m ³ /h	54~90m ³ /h
UF Skid Approx. Height	2450mm	2450mm	2500mm	2500mm	2500mm
UF Skid Approx. Width	1300mm	1300mm	1500mm	1500mm	1700mm
UF Skid Approx. Depth	3000mm	3400mm	3900mm	4500mm	5000mm

Model Number	PTUF-20	PTUF-22	PTUF-24	PTUF-26	PTUF-28
Product Flow Rate	60~100m ³ /h	66~110m ³ /h	72~120m ³ /h	78~130m ³ /h	84~140m ³ /h
UF Skid Approx. Height	3000mm	3000mm	3000mm	3000mm	3000mm
UF Skid Approx. Width	1700mm	1700mm	1700mm	1700mm	1700mm
UF Skid Approx. Depth	5000mm	5000mm	5000mm	5500mm	5500mm

Seawater Desalination System

E-SWRO Series

The marine/land-based E-SWRO series seawater desalination systems are custom designed for rugged use in harsh environments where a large quantity of potable water is required. E-SWRO Series have been engineered for permeate capacities ranging from 1 to 240m³/d.



Features

- Vontron RO membrane
- Corrosion resistant high pressure pump
- Heavy duty high pressure piping
- Automated flush after each stop
- Low pressure switch
- Feed water cartridge filter (5 micron)
- All electrical equipment minimum IP54

Benefits

- Modular configuration
- Compact physical dimensions
- Low electrical consumption
- Outstanding reliability with superior quality components
- Completed assembled-all components are delivered in a complete assembled state

Larger systems with big capacity are upon request

Model Number	Output Capacity		Operational Pressure (MPa)		Electric Source (kW)		Physical Dimension*(mm)	Remark
	m3/h	GPD	Pre-treatment	Membrane System	Voltage(V)	Power*(kW)	Length*Depth*Height	
E-SWRO-1	0.05	300	0.1~0.3	4~6.5	220/380	1.5	580*440*1600	Vertical
E-SWRO-2	0.1	600	0.1~0.3	4~6.5	220/380	1.5	580*440*1600	Vertical
E-SWRO-3	0.15	900	0.1~0.3	4~6.5	220/380	1.5	580*440*1600	Vertical
E-SWRO-5	0.25	1500	0.1~0.3	4~6.5	220/380	2.2	650*440*1600	Vertical
E-SWRO-10	0.5	3000	0.1~0.3	4~6.5	380	4.5	950*600*1800	Vertical
E-SWRO-20	1	6000	0.1~0.3	4~6.5	380	7.5	2500*700*1200	Horizontal
E-SWRO-50	2.5	15000	0.1~0.3	4~6.5	380	22	2500*1200*1700	Horizontal
E-SWRO-100	5	30000	0.1~0.3	4~6.5	380	40	3400*1500*1800	Horizontal
E-SWRO-200	10	60000	0.1~0.3	4~6.5	380	80	3400*2000*1800	Horizontal

Nanofiltration System

MAE²'s nanofiltration is a membrane filtration process used most often with low total dissolved solids water such as surface water and fresh groundwater, with the purpose of softening (polyvalent cation removal) and removal of disinfection by-product precursors such as natural organic matter and synthetic organic matter. Nanofiltration is also becoming more widely used in food processing applications such as dairy, for simultaneous concentration and partial (monovalent ion) demineralization.



Electro-Deionization (EDI) System

EDI removes ions from aqueous streams, typically in conjunction with reverse osmosis (RO) and other purification devices. Our high-quality modules continually produce ultrapure water up to 18 MΩ-cm. The typical application is polishing after a reverse osmosis system which replaces mixed bed DI and the associated hazardous chemicals used for resin regeneration.

Benefits

- Consistent water quality
- Continuous operation
- No regeneration chemicals
- No hazardous waste
- Simple operation
- Modular system more flexible, easy to expand
- Modules compact-smaller system footprint
- No leaking-proven module design



Membrane Bio-Reactor (MBR) System

The Membrane Bio-Reactor (MBR) is a state of the art pre-engineered sewage treatment system utilizing MAE²'s water treatment expertise with submerged membrane technology.

The membrane separation process eliminates the conventional sedimentation tank and allows high volumetric loading, resulting in a smaller footprint. The MBR can produce high quality effluent with high BOD5 removal, complete nitrification and partial de-nitrification and achieves virtually complete TSS removal.

Benefits

- Reduced space requirements
- Production of less sludge due to high sludge age
- Increased solids removal (elimination of bulking)
- Increased volumetric loading



Membrane Elements

EDI Module



Modules	PLX-100	PLX-200	PLX-300	PLX-450
Nominal Product Flow (m3/h)	<1500ppm	<1500ppm	<1500ppm	<1500ppm
Flow Range (m3/h)	1	2	3	4
Flow Range (m3/h)	0.5-1.2	1.5-2.2	2.5-3.5	4.0-5.0
Product Resistivity (MΩ.cm)	≥15	≥15	≥15	≥15
Operating Current (A)	≤6	≤6	≤6	≤6
Operating Voltage (V)	≤200	≤200	≤200	≤200
Feed Pressure (bar)	2-4.5	2-4.5	2-4.5	2-4.5
Recovery Ratio (%)	90	90	90	90

Electro-deionization (EDI) is the process of removing ionized or ionizable substances from water using ion exchange membranes, electrically active media (typically ion exchange resin), and a DC electric potential. EDI is used with reverse osmosis, which is an advanced environmental friendly technology on conventional mixed bed ion exchange making the process chemical-free to produce up to 18megohm-cm high purity deionized water.

Benefits

- Consistent water quality
- Continuous operation
- No regeneration chemicals
- No hazardous waste
- Simple operation
- Modular system more flexible, easy to expand
- Modules compact-smaller system footprint
- No leaking-proven module design



Modules	CP-5800S	CP-4500S	CP-3600S	CP-2000S	CP-1000S
Product Flow (m ³ /h)	4.2 ~ 5.8	3.0 ~ 4.5	2.0 ~ 3.5	1.0 ~ 2.3	0.9 ~ 1.2
Concentrate Flow { m ³ /h }	0.50 ~ 0.82	0.35 ~ 0.54	0.24 ~ 0.4	0.15 ~ 0.30	0.13 ~ 0.18
Electrolyte	60~75%	60~75%	65~75%	65~75%	65~75%
Flow (m ³ /h)	0.06				
DC Power	CB-500	CB-500	CA-350	CA-350	CA-150
Operation Voltage (V)	100 ~ 450	80 ~ 300	50 ~ 240	50 ~ 160	20 ~ 100
Operation Current (A)	0.5 ~ 5.5				