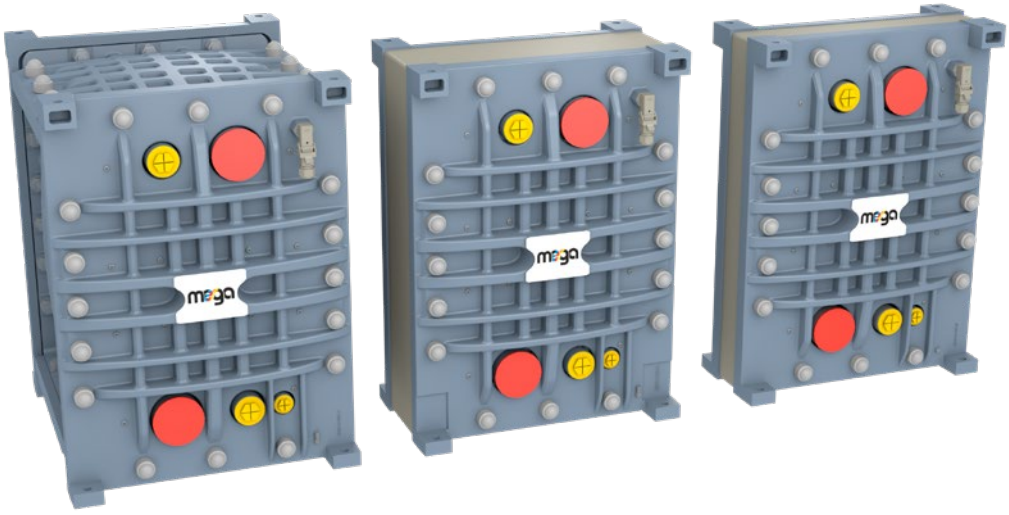
RALEX® EDI MPURE™ MODULES

MPURE™ ELECTRODEIONIZATION (EDI) MODULES ARE **USED FOR THE PRODUCTION OF HIGH PURITY WATER** FOR THE POWER, SEMICONDUCTOR AND CHEMICAL INDUSTRY.

DESCRIPTION

MPure™ modules are building on MEGA´s ion-exchange membrane manufacturing capability and extensive electroseparation experience. All modules include RALEX® ion exchange membranes developed by MEGA. EDI produces high purity water continuously without the use of hazardous regeneration chemicals required for a mixed bed process.

The novel MPure™ module produces 16 to 18 MΩ·cm product water quality at very high recovery. These modules are designed to replace mixed bed ion exchange at flow rates from 0.8 to 500 m^3/h (3.7 to 2000 gpm) and beyond. The advanced MPure™ stacks continuously produce high-resistivity water with low silica levels. Stacks can be interconnected to provide high-flow blocks. The robust design prevents both internal and external leaks. Exhaustive factory testing of each stack guarantees you will receive the stack in optimal condition, ready to plug-in.



MPure™ 36, MPure™ 12, MPure™ 6

FEATURES

- Module interconnection capability for low cost system construction
- High flow rate modules up to 15 m^3/h
- High deionization with recovery up to 97.5 %
- Robust design: no internal or external leaks
- Small footprint: ideal for operation inside containers
- Voltage stability
- Complete OEM engineering package

ralex® MEMBRANES

PRODUCT DATA SHEET

RALEX® EDI MPURE™ MODULES; EN/08/24

PHYSICAL SPECIFICATIONS

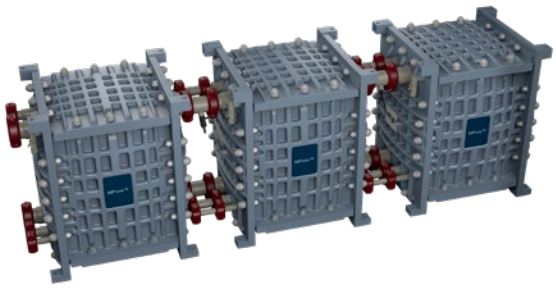
Parameter		MPure™ 36	MPure™ 12	MPure™ 6
Number of cell pairs		36	12	6
Dimensions (L × W × H)		584 × 671 × 811 mm (22.9 × 26.4 × 31.9 inch)	584 × 335 × 811 mm (22.9 × 13.2 × 31.9 inch)	584 × 251 × 811 mm (22.9 × 9.9 × 31.9 inch)
Shipping weight		330 kg (728 lbs)	157 kg (346 lbs)	121 kg (267 lbs)
Operating weight		350 kg (772 lbs)	163 kg (359 lbs)	124 kg (273 lbs)
Hydraulic Connections	D	2½" (73 mm) victaulic	2½" (73 mm) victaulic	2½" (73 mm) victaulic
	C	1¼" (42.4 mm) victaulic	1¼" (42.4 mm) victaulic	1¼" (42.4 mm) victaulic
	E	¾" (26.8 mm) victaulic	¾" (26.8 mm) victaulic	¾" (26.8 mm) victaulic

TYPICAL PERFORMANCE

Parameter	MPure™ 36	MPure™ 12	MPure™ 6
Diluate flow nominal	10 m^3/h (44 gpm)	3.33 m^3/h (14.7 gpm)	1.67 m^3/h (7.4 gpm)
Diluate flow maximum	15 m^3/h (66 gpm)	5 m^3/h (22 gpm)	2.5 m^3/h (11 gpm)
Diluate flow minimum	5 m^3/h (22 gpm)	1.67 m^3/h (7.4 gpm)	0.83 m^3/h (3.7 gpm)
Concentrate flow	> 0.3 m^3/h (> 1.3 gpm)	> 0.1 m^3/h (> 0.4 gpm)	> 0.05 m^3/h (> 0.2 gpm)
Electrode flow	> 0.1 m^3/h (> 0.4 gpm)	> 0.1 m^3/h (> 0.4 gpm)	> 0.1 m^3/h (> 0.4 gpm)
Recovery	< 97.4 %	< 96.2 %	< 94.3 %
Feed pressure	< 7 bar (< 102 psi)	< 7 bar (< 102 psi)	< 7 bar (< 102 psi)
Pressure drop diluate at nominal flow	1.1–2.5 bar (16–36 psi)	1.1–2.5 bar (16–36 psi)	1.1–2.5 bar (16–36 psi)
Pressure difference D>C	> 0.3 bar (> 4 psi)	> 0.3 bar (> 4 psi)	> 0.3 bar (> 4 psi)
Temperature	5–40 °C (41–104 °F)	5–40 °C (41–104 °F)	5–40 °C (41–104 °F)
Current	< 16 A	< 16 A	< 16 A
Voltage	< 300 V	< 100 V	< 50 V
Product water quality	> 17 MΩ·cm*	> 17 MΩ·cm*	> 17 MΩ·cm*
Silica removal	> 96 %	> 96 %	> 96 %

FEED WATER SPECIFICATION

Feed water source	RO permeate or deionized water
Temperature	5–40 °C
pH	4–10
Total exchangeable anions (TEA)	< 25 ppm as $CaCO_3$
Total exchangeable cations (TEC)	< 25 ppm as $CaCO_3$
Total chlorine	< 0.05 ppm as Cl_2
Iron + Manganese	< 0.01 ppm
Sulfide	< 0.01 ppm H_2S
Total hardness	< 1 ppm as $CaCO_3$
Total organic carbon (TOC)	< 0.5 ppm as C
Dissolved silica	< 1 ppm as SiO_2



Block of MPure™ 36 modules

* Actual performance will depend on site conditions.

Please use MEGA's software to determine actual performance.

If a system with MPure™ stacks is not connected directly after the RO system, for example if the feed water is supplied from the RO permeate tank, a safety filter with absolute efficiency for particles of 0.5–1 µm shall be installed at the feed water inlet to the system.

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