

PURE WATER PRODUCTION STATION

**R
M
A
X**



Advantages

- Produces demineralized water at low cost
- Works without electricity
- Easy to change the columns (tool provided)
- Columns change color when they become saturated.
- Portable device
- Avoids handling of containers (MSD)
- Low environmental impact

Description

The mixed bed of resins, composing the Rmax ion exchanger, reacts like a large number of pairs of cation and anion exchangers in series. The strong acid produced by the cationic resin is immediately neutralized by the neighboring anionic resin to form water, so that the exchange front remains neutral.

The water passing through the exchanger is thus demineralized without releasing the co-ions resulting from the exchange, which would restrict the reaction by establishing an equilibrium, as in the case of a cationic or anionic exchange alone. The height of the exchange front depends on the diffusion speed of the ions, the solution's volume charge and its initial concentration. The result is water of exceptional quality, which is almost impossible to get with a classical technique of separate cationic and anionic beds. A colored indicator is used to show the saturation point. When saturated, the resin changes from **BLUE** à **ORANGE**. Once saturated, the resin cannot be regenerated.

Properties

- **Structure:**
Styrene / Divinylbenzene copolymer
- **Functional groups:**
Quaternary ammonium
- **Chemical resistance:**
INSOLUBLE in acids, diluted bases and standard solvents.
- **Color change:**
New **BLEU**, saturated **OCRE**

Characteristics

- **Conductivity:** <2 $\mu\text{S}/\text{cm}$
- **Maximum pressure:**
2,5 bar at room temperature
- **Minimum treated volume:** 280L at 20°F
- **Flow rate:** up to 80 liters/hour
- **Working temperature:** 10-60°C
- **Dimensions:** 430x80 mm
- **Weight:** 1,8 kg
- **Storage:**
1 year, in its original packaging, at room temperature

Performance

The conductivity is related to the influent water alkalinity.
The capacity can be estimated by the following formula:

$$\text{Vol} = 550/\text{ST}$$

Vol is the number of liters of water with total salinity ST (meq/l) that one liter of resin can treat until it reaches saturation.

RMAX replacement column

