

## ION EXCHANGER



TOC

### Applications

This ion exchanger is specially designed to produce high purity water used in the electronics industry for the manufacture of hard disks, monitors, CD ROMs, specialized semiconductors, integrated circuits, and for the production and assembly of silicon chips. The TOC Ion Exchanger is also suitable for all applications where high purity water has to be produced at a reasonable cost.

### Description

The TOC Ion Exchanger features a mixed bed of high purity gel-type ion exchange resins, specially developed and manufactured for water treatment after reverse osmosis or ion exchange purification.

The TOC ion exchanger produces water with a resistivity of 18 megohm/cm and a residual TOC (total organic carbon) content of less than 5 ppb in its first cycle in a well-designed ultrapure water system.

## Characteristics

- **Conductivity:** (for 2 R2 followed by a TOC)  
0.3 à 2 µS/cm.
- **Saturation:**  
Change when the preceding R2 ion exchanger reaches saturation
- **Maximum pressure:**  
3 bar at room temperature
- **Minimum treated volume:** 180 L at 20°F
- **Flow rate:** up to 30 liters/hour
- **Working temperature:** 10-60°C
- **Storage:**  
1 year, in its original packaging, at room temperature
- **Dimensions:** 500x60 mm
- **Weight:** 1,35 kg

## Properties

The granulometry is precisely defined to produce very high purity water from the first cycle. The mixture is stoichiometrically balanced and does not produce «caking». The mixture's uniformity results in excellent exchange kinetics.

	cation shape // « * »	Anion shape OH'
<b>Moisture retention (%)</b>	44.0 - 51.0	54.0 - 64.0
<b>Total exchange capacity (eq/L)</b>	≥1.80	1.00
<b>Uniformity coefficient</b>	≤1.2	≤1.25
<b>Average bead size (µm)</b>	580 à 680	580 à 690
<b>H-shape % of sites</b>	≥99	-
<b>OH-shape % of sites</b>		≥95.0
<b>Cl-shape % of sites</b>		≤0.5
<b>CO3-shape % of sites</b>		≤5.0
<b>SO4-shape % of sites</b>		≤0.1

## Recommended operating conditions

Recommended water quality at the column inlet (the TOC ion exchanger can be used outside these limits but performance may not be optimal):

Conductivity .....<2µS/cm  
Silica .....<5 ppb  
Total Organic Carbon .....<20 ppb