



# CATION EXCHANGE RESIN TOKEM-160

TR 2227-023-72285630-2011

High capacity strong acid cation exchange resin (gel type). It is characterized with high chemical stability and mechanical strength. It is manufactured in H<sup>+</sup> form. Conversion to H<sup>+</sup> form is not less than 99%. It contains minimum amounts of iron and chloride ions and organic compounds. Its high purity allows using the cation exchange resin for deep water demineralization.

## GENERAL DESCRIPTION

Matrix	styrene-DVB
Functional group	sulfonic group
Polymer structure	gel
Ionic form	H <sup>+</sup> Hydrogen

### Application area:

- deep water purification;
- separation of various elements;
- production of ultrapure materials for food, health and pharmaceutical industries.

### Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD VALUE
Appearance	Spherical beads, yellow to dark brown in colour
PARTICLE SIZE DISTRIBUTION	
Particle size range, mm	0.40-1.25
Volume of effective size fraction, % min	98
Effective particle size, mm	0.45-0.65
Uniformity coefficient, max	1.6
Moisture retention, %	48-58
Osmotic stability, %, min	96
Total capacity, mmol/cm <sup>3</sup> (mg-eq/cm <sup>3</sup> ), min	1.9



Table con'd (Physical and Chemical Characteristics)

Hydrogen index, pH units min	4.5
Iron mass fraction, % max	0.03
Mass fraction of chloride ions, mg/cm <sup>3</sup> , max	0.0015
Water product oxidation in oxygen equivalent, mg/g max	0.5
Total uncracked beads as shipped, %, min	97
Dynamic exchange capacity with full regeneration, mmol/m <sup>3</sup> (g-eq/m <sup>3</sup> ), min	1600
Shipping weight, g/cm <sup>3</sup>	0.75-0.80
Particle density, g/cm <sup>3</sup>	1.17-1.25

**Processing Characteristics:**

**SUGGESTED OPERATING CONDITIONS AND MODES:**

Bed depth, mm min	800
Pressure drop coefficient, kPa·h/m <sup>2</sup>	1.35
Temperature limit, ° C	120
pH limit	0-14
Swelling at H <sup>+</sup> → Na <sup>+</sup> , %	5-8
Regenerant, %	(1-1.5-3.0) H <sub>2</sub> SO <sub>4</sub> (4-5) HCl
Total rinse requirement, BV	3-5
Backwashing bed expansion, %	50-80