



## CATION EXCHANGE RESIN TOKEM-140-10 MB (R)

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Strong acid cation exchange resin (gel type) with uniform particle range composition. Its uniformity range is less than 1.1.

High monodispersity and the absence of small fraction contributes to significantly decreased pressure drop across the bed height. This, in turn, enables high flow rates enhancing regeneration effectiveness and reducing reagent and rinsing water requirements.

Uniform particle composition, compact bed packing, and no dead zones increase diffusion rate and contact area. These features improve ion exchange kinetics.

The cation exchange resin is stable to chemical and mechanical stress. This monodispersed resin is characterized with a high osmotic stability. As a result its service life increases at least twice compared to that of polydispersed cation exchange resins.

GENERAL DESCRIPTION	
Matrix	Styrene-DVB
Functional group	Sulfonic acid
Polymer structure	gel
Ionic form	H <sup>+</sup> Hydrogen

### Application area:

Monodispersed cation exchange resin TOKEM-140-10 MB (R) can be applied in all conventional water treatment systems, including:

- regenerable mixed bed filters in combination with monodisperse anion exchange resin TOKEM-840 MB/85 (R).

### Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD VALUE
Appearance	Spherical beads, yellow to dark brown in colour
Ionic form	H <sup>+</sup>



PARTICLE SIZE DISTRIBUTION	
Mean particle size, mm	0.650 ± 0.025
Uniformity coefficient, max	1.1
Volume ratio of beads passing through N04 mesh, % max	1.0
Volume ratio of beads on N08 mesh, % max	2.0
Moisture retention, %	45-51
Osmotic stability, %, min	98
Total capacity, mmol/cm <sup>3</sup> (mg-eq/cm <sup>3</sup> ), min	2.0
Total uncracked beads as shipped, %, min	95
Difference between settling times of anion and cation resins, sec, max	7
Electrostatic coefficient, % max	20
Shipping weight, g/cm <sup>3</sup>	0.75-0.80
Particle density, g/cm <sup>3</sup>	1.20-1.25

**Processing Characteristics:**

SUGGESTED OPERATING CONDITIONS AND MODES:	
Bed depth min, mm	800
Pressure drop coefficient, kPa · h/m <sup>2</sup>	1.0
Temperature limit, °C	120
p H limit	0-14
Swelling at H <sup>+</sup> → Na <sup>+</sup> , %	7-10
Regenerant, %	(1-1.5-3.0) H <sub>2</sub> SO <sub>4</sub> (4-5) HCl
Total rinse requirement, BV	2-4
Backwashing bed expansion, %	50-80