



CATION EXCHANGE RESIN TOKEM-140-10

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Strong acid cation exchange resin (gel type) with uniform particle range composition. It possesses uniformity range of 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 lead to better ion exchange kinetics and improve static and dynamic exchange capacity of the cation exchange resin.

Increased content of crosslinking agent provides for higher capacity, osmotic stability and mechanical strength of this cation exchange resin compared to ordinary resins. These features enable operating it under tougher conditions and with more frequent regenerations, such as in condensate polishing plants.

GENERAL DESCRIPTION

Matrix	styrene-DVB
Functional group	Sulfonic acid
Polymer structure	gel
Ionic form	H ⁺ Hydrogen Na ⁺ Sodium

Application area:

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

- softening and demineralizing water treatment systems with co-current regeneration;
- softening and demineralizing water treatment systems with packed bed counter-current regeneration
- condensate polishing.

Physical and Chemical Characteristics:

CHARACTERISTICS	STANDARD VALUE
Appearance	Spherical transparent beads, yellow to dark brown in colour
Ionic form	H ⁺ Na ⁺



Table con'd (Physical and Chemical Characteristics)

Mean particle size, mm	0.65±0.05	
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	41-45
Osmotic stability, %, min	98	
Total capacity, mmol/cm ³ (mg-eq/cm ³), min	2.0	2.1
Total uncracked beads as shipped, %, min	95	
Shipping weight, g/cm ³	0.75-0.80	0.80-0.85
Particle density, g/cm ³	1.20-1.25	1.26-1.30

Processing Characteristics:**SUGGESTED OPERATING CONDITIONS AND MODES:**

Bed depth min, mm	800	
Pressure drop coefficient, kPa·h/m ²	1.0	
Temperature limit, ° C	120	
pH limit	0-14	
Swelling at H ⁺ → Na ⁺ , %	3-6	
Regenerant, % H ⁺ form	(1-1.5-3.0) H ₂ SO ₄ (4-5) HCl	
Na ⁺ form	(6-10) NaCl	
Total rinse requirement, BV	2-4	
Backwashing bed expansion, %	50-80	