PT TEKNOLOGI AIR PERKASA

Water & Waste Water Treatment Specialist

Product Information

IonEx S-100

IONEX S-100 is strong acid cationic ion exchange resin with high operating capacity and the ability to achieve pure water quality with very low residual totl hardness. IONEX S-100 is supplied as spherical beads in the sodium form, but can be supplied in H+ form too (optional).

IONEX S-100 is proven excellent product to use for demineralization and softening plant to reduce and eliminate cationic minerals in water.

Physical and Chemical Characteristics	
Polymer matrix structure	Polystyrene crosslinked with 8 % DVB
Functional group	$R\text{-}(SO_3)^-M^+$
Ionic form, as shipped	Na^+ / H^+
Physical form and appearance	Clear Spherical Beads
Sphericity	95% min.
Screen size range - U.S. Standard Screen	16-50 mesh, wet
Particle size range	+1.2 mm < 5%, 0.3 mm < 1%
Uniformity coefficient	1.6 max.
Water retention, Na^+ form H^+ form	43 - 48% 50 - 56%
Swelling $Na^+ \rightarrow H^+$	10%, max.
Shipping weight, Na^+ form H^+ form	780 - 880 g/l (51 lbs/cu.ft, approx.) 770 - 870 g/l (50 lbs/cu.ft, approx.)
Total exchange capacity, Na^+ form H^+ form	2.0 eq/l min. 2.0 eq/l min.
PH range	0 -14

Recommended Operating Condition	
Maximum temperature Na^+ form H^+ form	 120 ºC max. 100 ºC max.
Operating pH range	0 — 12
Maximum pressure loss, kPa	150
Minimum bed Depth	0.8 m
Freeboard as % of resin volume	50 —70%
Cocurrent Regeneration	
Service flowrate	40 m/h, max
Backwash flowrate	14 — 20 m/h
Backwash expansion	50 -60%
Regenerant Concentration Regenerant velocity Contact Time Regenerant consumption	8-10 % NaCl, 4 - 6% HCl, 2 — 3 % H_2SO_4 5 - 6 m/h 30 - 60 Minutes 100 — 200 g NaCl/liter resin 60 — 100 g HCl/liter resin 80 — 150 g H_2SO_4/liter resin
Slow rinse Rate	5 - 6 m/h
Slow rinse Volume	5 -6BV
Fast rinse Rate	Same as Service Flow Rate
Fast rinse Volume	5 —6BV
Countercurrent Regeneration	
Regenerant Concentration Flow Rate Contact Time Regenerant consumption	8-10 % NaCl, 4 - 6% HCl, 2 — 3 % H_2SO_4 5 - 6 m/h 30 - 60 Minutes 30 — 50 g NaCl/liter resin 40 — 50 g HCl/liter resin 40 — 80 g H_2SO_4/liter resin
Slow rinse velocity	5 - 6 m/h
Slow rinse volume	3 -4BV
Fast rinse rate	Same as Service Flow Rate
Fast rinse volume	3 -5BV

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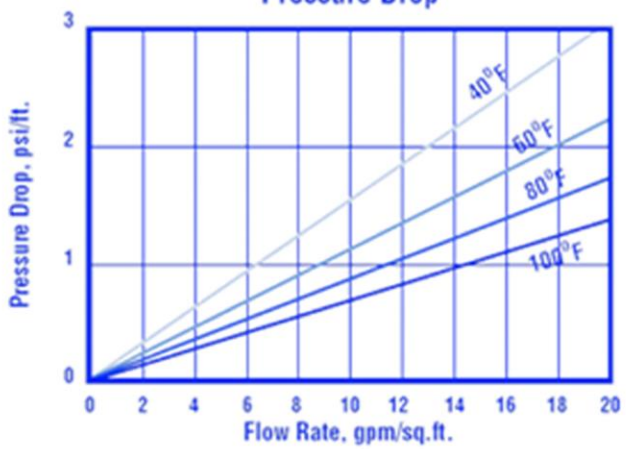
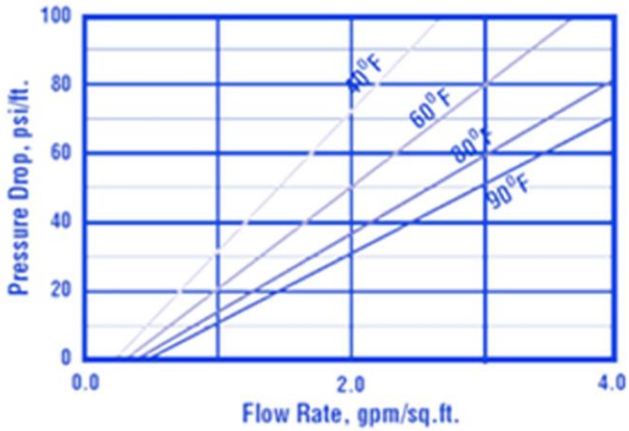
Hydraulic Properties

Pressure Drop



Pressure Drop: The graph above shows the expected pressure loss per foot of bed depth as a function of flow rate at various Temperatures.

Backwash Expansion



Backwash: After each cycle the resin bed should be backwashed at a rate that expands the bed 50 to 60 percent. That will remove any foreign matter and reclassify the bed.

SAFETY INSTRUCTION

Refer to MSDS (material safety data sheet) for transportation, application and for disposal.

Avoid strong oxidants (e.g. nitric acid, chlorine, etc) and sunlight that can cause damage to the resin. Nitric acid can cause violent reactions if contacts with ion exchange resin.