

# Resinex™ TPX-4004

## Strong acid cation exchange resin

**Resinex™ TPX-4004** is a high purity, pretreated, premium grade, strongly acid macroporous-type cation exchange resin specially designed for decationisation in the sugar industry. **Resinex™ TPX-4004** is a bead type, crosslinked, polystyrene divinylbenzene resin that offers excellent bead integrity and very low extractables. The product is highly suitable for a wide variety of treatment of solutions of organics in the food industry (e.g. decationisation of sugar solutions). The selected bead sizes ensures a low pressure drop and is adapted for all modern systems

### Typical Properties

Type	Crosslinked polystyrene divinylbenzene
Form	macroporous, brown opaque, spherical beads
Functional group	Sulfonic acid
Whole bead count	95% min.
Ionic form, as shipped	Na <sup>+</sup>
Bead size	(≥90%) 0.42 - 1.25 mm
Uniformity coefficient	1.60 max.
Bulk density, as shipped	820 kg/m <sup>3</sup>
Real density	1.25 g/cm <sup>3</sup>
Water retention	42 - 48%
Total capacity (Na <sup>+</sup> form)	1.80 eq/l min.
Volume change Ca <sup>2+</sup> → Na <sup>+</sup>	2% max.
Stability, temperature	120°C max.
Stability, pH	0 - 14

### Standard Design Conditions

Bed depth	> 700 mm
Service flow rate	8 - 55 BV/h
Backwash expansion	50 - 75%

### Key Features and Benefits

- **Pretreated and Rinsed**  
Guarantees minimal color throw and eliminates taste and odor
- **High Integrity, Beads**  
Excellent resistance to mechanical degradation ensures low pressure drop
- **Low Extractables**  
Specially treated to eliminate leaching of organic matters
- **Selected Bead Size**  
Lower pressure drop and regenerant consumption

### Typical Applications

- Softening of sugar and pectin thin juices
- Decationisation of sugar solutions
- Extraction of amino acids

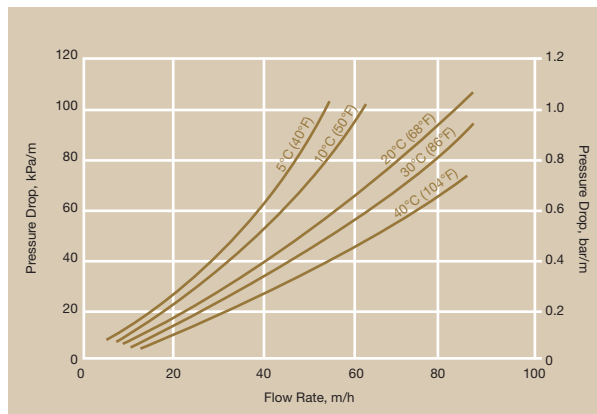
### Standard Packaging

- 25 lit. PE valve bag
- 1000 litre big bag

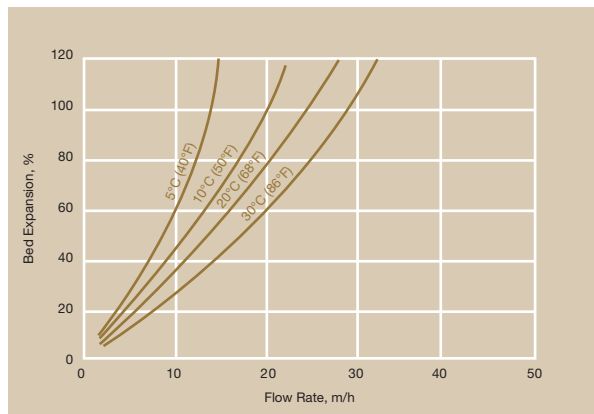
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### Pressure Drop



### Backwash Expansion



### Standard Regeneration Parameters

### Co-Flow

### Counter-Flow

Concentration	5% HCl	5% HCl
Level	60-120 g/l	50-80 g/l
Flow rate regenerant	4-6 BV/h	6-8 BV/h
Contact time regenerant	30-60 min.	20-40 min.
Flow rate slow rinse	4-6 BV/h	6-8 BV/h
Slow rinse water required	2-4 BV	2 BV
Flow rate fast rinse	10-30 BV/h	10-30 BV/h
Fast rinse water required	6-10 BV	6-10 BV

### Product Packing



25 lit. polyethylene valve bag  
48 bags per pallet



Polypropylene FIBCs  
(big bag), 1,000 lit.



**CAUTION** Strong oxidizing agents such as nitric acid can react violently with ion exchange resins and cause explosive type reactions. Before using strong oxidants, consult sources knowledgeable in the handling of these materials.



**NOTICE** Due to the progressive nature of the Jacobi Carbons Group and the continually improving design and performance of our products, we reserve the right to change product specifications without prior notification. The information contained in this datasheet is intended to assist a customer in the evaluation and selection of products supplied by Jacobi Carbons. The customer is responsible for determining whether products and the information contained in this document are appropriate for customer's use. Jacobi Carbons assumes no obligation or liability for the usage of the information in this datasheet, no guarantees or warranties, expressed or implied, are provided. Jacobi Carbons disclaims responsibility and the user must accept full responsibility for performance of systems based on this data.

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