

TULSION® T-42 MP

Macroporous Strong Acid Cation Exchange Resin

TULSION® T-42 MP is a high capacity macro-porous cation exchange resin supplied as moist spherical beads in the hydrogen/sodium form for use in water softening, de-alkalisation, de-mineralisation, condensate polishing and chemical processing applications. This resin combines the high exchange capacity of a gel type resin like **TULSION®T-42** with the exceptional physical and chemical stability of macro-porous resin.

TULSION® T-42 MP can be used most effectively in installations where the system's aggressiveness does not permit the use of gel type resin, as in condensate polishing

TYPICAL CHARACTERISTICS – Tulsion® T- 42 MP

| | | |
|----------------------------|---|---|
| Matrix structure | : | Polystyrene copolymer |
| Functional group | : | Nuclear sulphonic |
| Physical form | : | Moist spherical beads |
| Ionic form | : | Hydrogen |
| Screen size U.S.S (wet) | : | 16 to 50 |
| Particle size (minm. 95%) | : | 0.3 – 1.2 mm |
| Total exchange capacity | : | 1.7 (Na) & 1.63 (H) |
| Swelling (approx.) | : | Na ⁺ to H ⁺ 6% |
| Moisture content (approx.) | : | 56 ± 3% (H) & 53 ± 3% (Na) |
| Backwash settled density | : | 50 to 52 lbs/ft ³ (800 to 830 g/l) H ⁺ 52 to 54 lbs/ft ³ (830 to 870 g/l) Na ⁺ |
| Thermal stability | ; | 248 °F / 120 °C (H ⁺) |
| pH range | : | 0 to 14 |
| Solubility | : | Insoluble in all common solvents |

TYPICAL OPERATING CONDTION – Tulsion® T- 42 MP

| | | |
|--|---|--|
| Maximum operating temperature | : | 120 °C (250 °F) in H ⁺ form 140 °C (280 °F) in Na ⁺ form |
| Resin bed depth (minm.) | : | 600 mm (24") |
| Maximum service flow | : | 120 m ³ /hr/m ³ (15 gpm /ft ³) |
| Backwash expansion space | : | 40 to 75 % |
| Backwash flow rate for 40 – 70 % expansion | : | 9 to 25 m ³ /hr/m ³ (4 to 10 gpm/ft ²) |
| Regenerant | : | HCL and H ₂ SO ₄ for 'H' form and NaCl for 'Na' form |
| Regeneration level | : | 30 - 160 g HCl/l (1.9 to 1.0 lbs HCl/ft ³) 40 - 250 g H ₂ SO ₄ /l (2.5 to 15.6 lbs HCl/ft ³) 60 - 160 g NaCl/l (3.7 to 1.0 lbs HCl/ft ³) |
| Regenerant concentration | : | 1.5 to 5% for H ₂ SO ₄ , 3.0 to 5.0% HCl & 5.0 – 15.0% NaCl |
| Regenerant flow rate | : | 2 to 16 m ³ /hr/m ³ (0.25 to 2 gpm/ft ³) |
| Regeneration time | : | 20 to 60 mins. |
| Rinse flow rate : Slow | : | At regeneration flow rate |
| Fast | : | At service flow rate |
| Rinse Volume | : | 3 to 5 m ³ /m ³ (25 to 40 gal/ft ³) |

INFLUENT LIMITATION

| | | |
|-----------------------|---|-------------------|
| Free chlorine | : | Not traceable |
| Turbidity | : | Less than 2 NTU |
| Iron and heavy metals | : | Less than 0.1 ppm |

HYDRAULIC CHARACTERISTICS

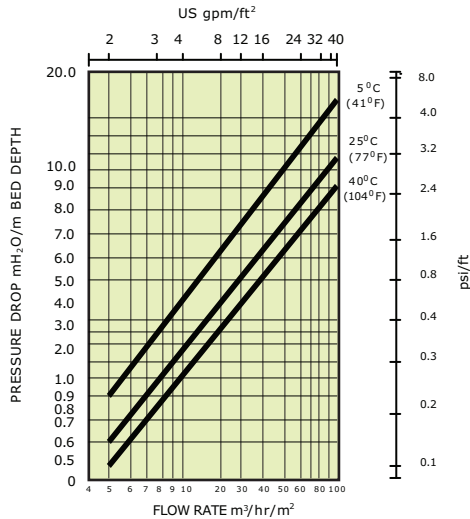


FIG. 1 PRESSURE LOSS

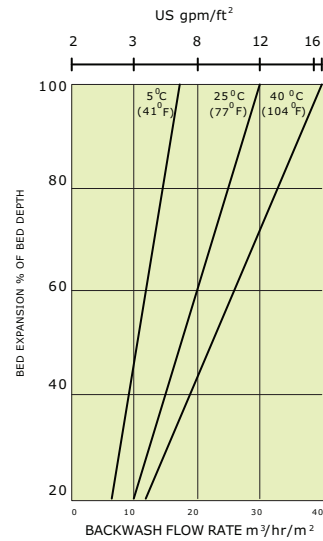


FIG. 2 BACKWASH AND BED EXPANSION

TESTING

The sampling and testing of ion exchange resins is done as per standard testing procedures, namely ASTM D-2187 and IS-7330, 1998.

PACKING

| | |
|-----------------|-------------|
| Super sacks | 1000 liters |
| MS drums | 180 liters |
| HDPE lined bags | 25 liters |

| | |
|-----------------|--------|
| Super sacks | 35 cft |
| Fiber drums | 7 cft |
| HDPE lined bags | 1 cft |

For Handling, Safety and Storage requirements please refer to the individual Material Safety Data Sheets available at our offices. The data included herein are based on test information obtained by Thermax Limited. These data are believed to be reliable, but do not imply any warranty or performance guarantee. Tolerances for characteristics are as per BIS/ASTM. We recommend that the user should determine the performance of the product by testing on own processing equipment.

For further information, please contact:



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In view of our constant endeavour to improve the quality of our products, we reserve the right to change their specifications without prior notice.

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