

TSK-GEL® DEAE-5PW Products

Analytical/Semi-Prep:	18757, 2mm ID x 7.5cm, 10 μ m 07164, 7.5mm ID x 7.5cm, 10 μ m 07574, 21.5mm ID 15cm, 13 μ m 13061, 5.0mm ID Glass x 5cm, 10 μ m 08802, 8.0mm ID Glass x 7.5cm, 10 μ m 14016, 20mm ID Glass x 15cm, 13 μ m	42152 Guard Cartridge, 2mm ID x 1cm, 10 μ m 19308, Guard Cartridge holder for 2mm ID cartridges 07210, Guardgel Kit, for PN 07164, 20 μ m 16092, Prep Guargel Kit for P/N 07574, 20 μ m 08806, Guardgel Kit Glass, for PN 13061 & 08802, 20 μ m
Preparative Columns:	07930, 55mm ID x 20cm, 20 μ m > 0.1 meq/ml	14466, Guardcolumn (20mm ID Glass x 2cm), 13 μ m 07928, Guardcolumn (45mm ID x 5cm), 20 μ m
Small Ion Capacity:	> 0.1 meq/ml	14594, Pre-injector membrane filter holder, SS
Counter Ion:	Cl ⁻	03409, 13mm ID Nylon Membrane filter, 0.45 μ m, for PN 14594

This sheet contains the recommended operating conditions and the specifications for TSK-GEL DEAE-5PW columns and guard columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: Distilled and Deionized Water
 - Max. Flow Rate: 0.12 mL/min (2mm ID)
1.0 mL/min (5.0mm ID Glass x 5.0cm)
1.2 mL/min (7.5mm ID x 7.5cm and 8.0mm ID Glass x 7.5cm)
8.0 mL/min (21.5mm ID x 15cm and 20mm ID Glass x 15cm)
50 mL/min (55mm ID x 20cm)

When changing solvents, use a flow rate equal to 50% of the maximum flow rate (20% for prep columns).
 - Standard Flow Rate: 0.05 - 0.10 mL/min (2 mm ID)
0.5 - 0.8 mL/min (5.0mm ID Glass x 5.0cm)
0.5 - 1.0 mL/min (7.5mm ID x 7.5cm and 8.0mm ID Glass x 7.5cm)
4.0 - 6.0 mL/min (21.5mm ID x 15cm and 20mm ID Glass x 15cm)
20 - 40 mL/min (55mm x 20cm)
 - Max. Pressure: 10 kg/cm² = 150 psi (8.0mm ID Glass x 7.5cm)
15 kg/cm² = 225 psi (7.5mm ID & 2mm ID, 5.0mm ID Glass and 20.0mm ID Glass)
25 kg/cm² = 375 psi (21.5mm ID x 15cm)
4 kg/cm² = 60 psi (55mm ID)
 - pH Range: 2.0 - 12.0
 - Salt Conc.: \leq 1.0 Molar
 - Organic Conc.: \leq 20%
 - Temperature: 10-45°C - Reduce flow rate when operating below 10°C.
 - Cleaning Solvents: (1) 0.1 - 0.2M NaOH, and, if not successful,
(2) 20 - 40% acetic acid aq., or
(3) Aqueous buffer in 30% acetonitrile or methanol, or
(4) Urea or nonionic surfactant in buffer.
- NOTE:** Clean the column regularly by injecting up to one column volume 0.1 - 0.2M NaOH in 250 μ l increments. Use a proportionally larger flow for (semi-) prep columns.
- Storage: Rinse the column with 3 to 5 CV of DI water. Then store it in 20% ethanol or methanol in DI water when it will not be used the next day. For overnight storage flush the column with the low salt concentration mobile phase at 10 - 20% of the maximum flow rate. Prevent air from entering the column!
 - Column Protection: The use of guard columns is recommended to prolong the life of the analytical column. Guard column life depends greatly on sample cleanliness. As a general rule, guard columns should be replaced when the peaks become excessively wide, or when the peaks show splitting.

B. SPECIFICATIONS

The performance of TSK-GEL DEAE-5PW columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

- Number of Theoretical Plates (N): > 700 (5mm ID Glass)
> 1,300 (7.5mm ID, 2mm ID and 8.0mm ID Glass)
> 3,000 (21.5mm ID and 20.0mm ID Glass)
> 1,500 (55mm ID x 20cm)
- Asymmetry Factor (AF): 0.8 - 1.6 (for analytical/semi-prep columns; no spec for prep columns).

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