

TSK-GEL® DEAE-2SW Products

Part Numbers:	18761, 2.0mm ID x 25cm, 5 μ m 07168, 4.6mm ID x 25cm, 5 μ m	42154, Guard Cartridge, 2mm ID x 1cm, 5 μ m 19308, Guard Cartridge Holder, for 2mm ID columns 07648, Guardgel Kit DEAE-SW, for PN 07168, 20 μ m 14594, Pre-injector membrane filter holder, SS 03409, 13mm Nylon Membrane filter, 0.45 μ m, for PN 14594 Counter Ion: H ₂ PO ₄ ⁻
Functional Group:	-C ₂ H ₄ N(C ₂ H ₅) ₂ H ⁺	
Small Ion Capacity:	> 0.3 meq/ml	

This sheet contains the recommended operating conditions and the specifications for TSK-GEL DEAE-2SW columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: Methanol (Replace with water before changing to the mobile phase of choice)
- Max. Flow Rate: 0.22 mL/min (2.0mm ID)
1.0 mL/min (4.6mm ID)

When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so as not to exceed the maximum pressure drop. When changing solvents, use a flow rate equal to 50% of the maximum flow rate.
- Standard Flow Rate: 0.12 - 0.17 mL/min (2.0mm ID)
0.6 - 0.8 mL/min (4.6mm ID)
- Max. Pressure: 130 kg/cm² = 1,950 psi (2.0mm ID)
150 kg/cm² = 2,250 psi (4.6mm ID)
- pH Range: 2.0 - 7.5
- Ionic Strength: Typical: 0.05 - 0.1 M starting buffer and 0.2 - 0.5 M final buffer.
- Organic Conc.: 0 -100% for aqueous soluble organic solvents. Make gradual solvent changes using a shallow gradient at low flow rate.
- Temperature: 10 - 45°C. Reduce flow rate when operating below 10°C.
- Cleaning Solvents: (1) Buffer with 0.5 - 1.0M salt, or
(2) pH 2 - 3 buffer, or
(3) Buffer containing 20% methanol or acetonitrile, or
(4) Urea or nonionic surfactant in buffer.

Choose a cleaning buffer based on sample properties, e.g. use (1) to remove strongly adsorbed proteins, (2) to reduce the negative charge on the biopolymer, (3) to decrease hydrophobic adsorption, and (4) to increase protein solubility.
- Storage: Store the column in 20% methanol at ambient temperature when it will not be used the next day. For overnight storage flush the column with the low salt concentration mobile phase at 0.2 mL/min. Prevent air from entering the column!
- Column Protection: The use of guard columns is recommended to prolong the life of the column. Guard column life depends greatly on sample cleanliness. As a rule, guard columns should be replaced when the peaks become excessively wide, or when the peaks are split.

B. SPECIFICATIONS

The performance of TSK-GEL DEAE-2SW columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

- Theoretical Plates (N): > 5,000 (2.0mm & 4.6mm ID)
- Asymmetry Factor (AF): 0.8 - 1.6 (2.0mm & 4.6mm ID)