

TSK-GEL® G4000SW_{XL}/BioAssist G4SW_{XL} Products

Part Numbers:	08542, 7.8mm ID x 30cm (stainless)	08544, TSKtop-off gel SW _{XL} , 1g wet gel
	(stainless)	08543 Guard column for 7.8mmID SW _{XL} columns, 7µm
	20025, 7.8mmID x 30cm (PEEK)	18008 Guard column for TSKgel BioAssist SW _{XL} , 7µm (PEEK)

This sheet contains the recommended operating conditions and the specifications for TSK-GEL G4000SW_{XL} columns. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

1. Shipping Solvent: 0.05% NaN₃ and 0.1M Na₂SO₄ in 0.1M phosphate buffer, pH 6.7
 2. Max. Flow Rate: 1.2 mL/min

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 25% of the maximum flow rate.
 3. Standard Flow Rate: 0.5 - 1.0 mL/min
 4. Max. Pressure: 35 kg/cm² = 525 psi
 5. pH Range: 2.5 - 7.5
 6. Salt Conc.: ≤ 0.5 Molar
 7. Organic Conc.: 0 - 100% for aqueous soluble organic solvents. Make gradual solvent changes using a shallow gradient at low flow rate.
 8. Temperature: 10 - 30°C. Reduce flow rate when operating below 10°C.
 9. Cleaning Solvents: (1) conc. salt solution at low pH, e.g. 0.5M Na₂SO₄, pH 2.7
(2) methanol or acetonitrile in low conc. aqueous buffer
(3) buffered solution of urea or guanidine
- NOTE:** Choose a cleaning solvent based on sample properties, e.g. use (1) to remove basic proteins, and (2) to remove hydrophobic proteins. Chaotropic agents can solvate strongly adsorbed proteins, e.g. via hydrogen bonding.
10. Storage: Store the column in mobile phase containing 0.05% NaN₃ or 20% ethanol when it will not be used the next day. For overnight storage flush the column with mobile phase at low flow rate. Prevent air from entering the column!
 11. 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 after every 30-40 sample injections, when the peaks become excessively wide, or when the peaks show splitting.
 12. TSKtop-off gel: Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the column or guard column inlet. Use TSKtop-off gel SW_{XL} for filling in such voids.

B. SPECIFICATIONS

The performance of TSK-GEL G4000SW_{XL} columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

1. Number of Theoretical Plates (N): ≥ 16,000
2. Asymmetry Factor (AF): 0.7 - 1.6

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