

# TSKgel® G4000SW Products

<b>Part Numbers:</b>	08801, TSKgel G4000SW, 8.0 mm ID x 30 cm, Glass	08805, Guard column for TSKgel G4000SW Glass column, 8 mm ID x 4 cm
	05790, TSKgel G4000SW, 7.5 mm ID x 30 cm	05371, Guard column for TSKgel G4000SW columns, 7.5 mm ID x 7.5 cm
	05104, TSKgel G4000SW, 7.5 mm ID x 60 cm	05758, Guard column for for TSKgel G4000SW columns, 21.5 mm ID x 7.5 cm
	06729, TSKgel G4000SW, 21.5 mm ID x 30 cm	06819, TSKgel SW top-off gel, 1g
	05148, TSKgel G4000SW, 21.5 mm ID x 60 cm	

This sheet contains the recommended operating conditions and the specifications for TSKgel G4000SW columns. Installation instructions and column care information are described in a separate Instruction Manual.

<b>A. OPERATING CONDITIONS</b>	
1. Shipping Solvent:	0.05% NaN <sub>3</sub> and 0.1 mol/L Na <sub>2</sub> SO <sub>4</sub> in 0.1 mol/L phosphate buffer, pH 6.7
2. Max. Flow Rate:	0.8 mL/min (8.0 mm ID Glass) 1.2 mL/min (7.5 mm ID) 8.0 mL/min (21.5 mm 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 25% of the maximum flow rate.
3. Standard Flow Rate:	0.4 - 0.8 mL/min (8.0 mm ID Glass) 0.5 - 1.0 mL/min (7.5 mm ID) 3.0 - 6.0 mL/min (21.5 mm ID)
4. Max. Pressure:	1.0 MPa (21.5 mm ID x 30 cm) 1.5 MPa (7.5 mm ID x 30 cm) 2.0 MPa (21.5 mm ID x 60 cm, 8 mm ID Glass) 3.0 MPa (7.5 mm ID x 60 cm)
5. pH Range:	2.5 - 7.5
6. Salt Conc.:	< 0.5 mol/L
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. Turn the column in reverse flow direction and run at half the maximum flow rate. 2. Clean with 5 column volumes (CV) of 1 mol/L sodium chloride, pH 7.0 3. Clean with 5CV of ultra-pure water. 4. Clean with 5CV of 20% acetonitrile. 5. Clean with 5CV of ultra-pure water. 6. Turn column in normal flow direction and equilibrate in mobile phase for at least 45 minutes
10. Storage:	Store the column in mobile phase containing 0.05% NaN <sub>3</sub> 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. TSKgel SW top-off gel:	Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the column or guard column inlet. Use TSKgel SW top-offgel for filling in such voids.
<b>B. SPECIFICATIONS</b>	
The performance of TSKgel G4000SW 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):	≥ 8,000 (30 cm columns) ≥ 16,000 (60 cm columns)
2. Asymmetry Factor (AF):	0.7 - 1.6

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