

TSK-GEL® PW Guardcolumn Products

Part Numbers:	06763, Guardcolumn PWL, 7.5mm ID x 7.5cm	06758, Guardcolumn PWH, 21.5mm ID x 7.5cm
	06757, Guardcolumn PWL, 21.5mm ID x 7.5cm	07924, PW Guardcolumn, 45mm ID x 5.0cm
	06762, Guardcolumn PWH, 7.5mm ID x 7.5cm	

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

A. OPERATING CONDITIONS

1. Shipping Solvent: Water
2. Max. Flow Rate: 1.2 ml/min (7.5mm ID)
8.0 ml/min (21.5mm ID)
30.0 ml/min (45mm 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: 0.5 - 1.0 ml/min (7.5mm ID)
1.6 - 6.0 ml/min (21.5mm ID)
15 - 25 ml/min (45mm ID)
4. Max. Pressure: 15 kg/cm² = 225 psi (45mm ID)
20 kg/cm² = 300 psi (21.5mm ID)
40 kg/cm² = 600 psi (7.5mm ID)
5. pH Range: 2.0 - 12.0
6. Salt Conc.: ≤ 0.5 Molar
7. Organic Conc.: ≤ 20%. It is possible to use up to 50% organic when the solvent change is made very gradually using a shallow gradient at low flow rate.
8. Temperature: 10 - 80°C, Reduce flow rate when operating below 10°C.
9. Cleaning Solvents: (1) High salt concentration buffer (0.5 - 1.0M), or
(2) pH 2 - 3 or pH 9 - 12 buffer, or
(3) Buffer with acetonitrile or methanol, or
(4) Buffer with urea or SDS

NOTE: Choose a cleaning solvent based on sample properties, e.g. use (1) to remove basic polymers, and (3) to remove hydrophobic proteins etc.
10. Storage: Store the column in a 0.05% NaN₃ solution or 20% ethanol in DI water when it will not be used the next day. For overnight storage flush the column at low flow rate with the mobile phase. 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.