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## OPERATING CONDITIONS and SPECIFICATIONS

### TSK-GEL® QC-PAK GFC 300

<b>Part Numbers:</b>	16216	8.0 mm ID x 15.0 cm L	QC-PAK GFC 300	Glass	<b>5 µm</b>
	16049	7.8 mm ID x 15.0 cm L	QC-PAK GFC 300	Metal	<b>5 µm</b>

This sheet contains the recommended operating conditions and the specifications for TSK-GEL QC-PAK GFC 300 columns. Installation instructions and column care information are described in a separate Instruction Manual.

#### A. OPERATING CONDITIONS

- Shipping Solvent: 0.05% NaN<sub>3</sub> and 0.1 M Na<sub>2</sub>SO<sub>4</sub> in 0.1 M phosphate buffer, pH 6.7
- Max.Flow Rate: 1.2 ml/min  
**NOTE:** 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.
- Standard Flow Rate: 0.5 - 1.0 ml/min
- Max. Pressure: 40 kg/cm<sup>2</sup> = 570 psi
- pH Range: 2.5 - 7.5
- Salt Conc.: ≤ 0.5 Molar
- Organic Conc.: 0 - 100% for aqueous soluble organic solvents. Make gradual solvent changes using a shallow gradient at low flow rate.
- Temperature: 10 - 30°C Reduce flow rate when operating below 10°C.
- Cleaning Solvents:
  - (1) conc. salt solution at low pH, e.g. 0.5 M Na<sub>2</sub>SO<sub>4</sub>, pH 2.7
  - (2) methanol or acetonitrile in low conc. aqueous buffer
  - (3) buffered solution of SDS, urea or guanidine (only if (1) and (2) failed before)**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.
- 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!
- 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. The SW<sub>XL</sub> guard column is filled with the same material that is used to manufacture QC-PAK GFC 300 as well as the G3000 SW<sub>XL</sub> columns.
- TSKgel Top-Off: Occasionally, due to accident, sample, mobile phase or operational variables, a depression can develop at the column or guard column inlet. Use TSKgel SW<sub>XL</sub> Top-Off (P/N 08544) for filling in such voids.

#### B. SPECIFICATIONS

The performance of TSK-GEL QC-PAK GFC 300 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):	≥ 10,000
Asymmetry Factor (AF):	0.7 - 1.6