

## TSK-GEL® QAE-2SW Products

<b>Part Numbers:</b>	07166, 4.6mm ID x 25cm, 5 $\mu$ m 07646, Guardgel Kit	<b>Counter Ion:</b> H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>
<b>Functional Group:</b>	- CH <sub>2</sub> CH <sub>2</sub> N (C <sub>2</sub> H <sub>5</sub> ) <sub>2</sub> (CH <sub>3</sub> )	<b>Small Ion Capacity:</b> > 0.3 meq/gram

This sheet contains the recommended operating conditions and the specifications for TSK-GEL QAE-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: 1.0 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 50% of the maximum flow rate.
- Standard Flow Rate: 0.6 - 0.8 mL/min
- Max. Pressure: 150 kg/cm<sup>2</sup> = 2,250 psi
- pH Range: 2.0 - 7.5
- Ionic Strength: Typical: 0.05 - 0.1M starting buffer and 0.2 - 0.5M 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 - 10M salt, or  
(2) pH2 - 3 buffer, or  
(3) Buffer containing 20% methanol or acetonitrile, or  
(4) Urea or nonionic surfactant in buffer.  
(5) 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!

### B. SPECIFICATIONS

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

- Theoretical Plates (N):  $\geq 5,000$
- Asymmetry Factor (AF): 0.8 - 1.6