

# TSK-GEL<sup>®</sup> Phenyl-5PW RP Products

<b>Part Numbers:</b>	18756, 2.0mm ID x 7.5cm, 10 $\mu$ m 08043, 4.6mm ID x 7.5cm, 10 $\mu$ m 14007, 8.0mm ID Glass x 7.5cm, 10 $\mu$ m 16260, 21.5 mm ID x 15cm, 13 $\mu$ m	42159 Guard Cartridge for 2mm ID column, 2mm ID x 1cm 19308 Guard Cartridge Holder for 2mm ID cartridges 19007, Guard Cartridge for 4.6mm ID column, 3.2mm ID x 1.5cm 19018, Guard Cartridge Holder for 3.2mm ID cartridges
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This sheet contains the recommended operating conditions and the specifications for TSK-GEL Phenyl-5PW RP columns. Installation instructions and column care information are described in a separate Instruction Manual.

<b>A. OPERATING CONDITIONS</b>	
01. Shipping Solvent:	30% Methanol - 70% Water
02. Max. Flow Rate:	0.12mL/min(2.0mm ID x 7.5cm) 1.2mL/min(4.6mm ID x 7.5cm) 2.5mL/min (8.0mm ID Glass x 7.5cm) 8mL/min (21.5mm ID x 15cm)  When a buffer with high viscosity is used, the maximum flow rate may have to be reduced so as not to exceed the recommended pressure drop. When changing solvents, use half the maximum flow rate.
03. Standard Flow Rate:	0.05 – 0.1mL/min (2.0mm ID x 7.5cm) 0.5 - 1.0mL/min (4.6mm ID x 7.5cm) 1.0 - 2.0mL/min (8.0mm ID Glass x 7.5cm) 6 - 8mL/min (21.5mm ID 15cm)
04. Max. Pressure:	1MPa (2.0mm ID x 7.5cm) 3MPa (4.6mm ID x 7.5cm) 2MPa (8.0mm ID Glass x 7.5cm) 3MPa (21.5mm ID x 15cm)
05. pH Range:	2.0 - 12.0
06. Organic Conc.:	0 - 100%
07. Temperature:	4 - 60°C
08. Cleaning Solvents:	(1) Acetonitrile or Methanol, or (2) Aqueous buffer in organic solvent, or (3) 0.1 - 0.2M NaOH, or (4) 20 - 40% acetic acid aqueous
<b>NOTE:</b>	Clean the column regularly by injecting up to one column volume of 0.1 - 0.2M NaOH in 250 $\mu$ l increments.
09. Storage:	Store the column in shipping solvent when it will not be used the next day. For overnight storage flush the 4.6mm ID column with the mobile phase at 0.2mL/min. Flush the 2mm ID column at 0.05mL/min overnight. Flush the larger columns at half the minimum standard flow rate. Prevent air from entering the column!
10. Column Protection:	The use of guard columns or filters is recommended to prolong the life of the analytical column. Guard column or filter life depends greatly on sample cleanliness. As a general rule, guard columns or filters should be replaced after every 30 - 40 sample injections, when the peaks become excessively wide, or when the peaks show splitting.
<b>B. SPECIFICATIONS</b>	
The performance of TSK-GEL Phenyl-5PW RP columns is tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:	
01. Number of Theoretical Plates (N):	> 700 (8.0mm ID Glass x 7.5cm) > 500 (4.6mm ID x 7.5cm) > 400 (2.0mm ID x 7.5cm) > 1,000 (21.5mm ID x 15cm)
02. Asymmetry Factor (AF):	0.8 - 1.6 (2.0mm ID x 7.5cm & 4.6mm ID x 7.5cm) 1.0 - 2.0 (8.0mm ID Glass x 7.5cm) 0.8 - 1.8 (21.5mm ID x 15cm)