



Im Leuschnerpark 4, 64347 Griesheim
 Tel: +49 6155-7043700 Fax: +49 6155-8357900
 E-Mail: info.tbg@tosoh.com
 Web: www.tosohbioscience.de

3604 Horizon Drive, Suite 100, King of Prussia, PA 19406, USA
 Tel: +1 800-366-4875 Fax: +1 610-272-3028
 E-Mail: info.tbl@tosoh.com
 Web: www.tosohbioscience.com

OPERATING CONDITIONS and SPECIFICATIONS

TSKgel® SuperMultiporePW Products

Part Numbers:	22789	6.0 mm ID x 15.0 cm L	TSKgel SuperMultiporePW-N	4 µm
	22790	6.0 mm ID x 15.0 cm L	TSKgel SuperMultiporePW-M	5 µm
	22791	6.0 mm ID x 15.0 cm L	TSKgel SuperMultiporePW-H	8 µm
	22793	4.0 mm ID x 3.5 cm L	TSKgel Super MP(PW)-N Guard	5 µm
	22794	4.0 mm ID x 3.5 cm L	TSKgel Super MP(PW)-M Guard	8 µm
	22795	4.0 mm ID x 3.5 cm L	TSKgel Super MP(PW)-H Guard	12 µm

This sheet contains the recommended operating conditions and the specifications for **TSKgel** SuperMultiporePW columns and guard columns. SuperMultiporePW columns have different pores sizes within the same bead. **TSKgel** SuperMultiporePW columns are used exclusively for Gel Filtration Chromatography. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

- Shipping Solvent: Water
- Standard Flow Rate: 0.3 -0.6 mL/min
- Max. Flow Rate: 0.6 mL/min
Before using the column, the solvent should be replaced with an appropriate mobile phase for analysis at a flow rate of 0.2 mL/min or less.

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.

- Max. Pressure: 45 kg/cm² = 650 psi **TSKgel** SuperMultiporePW-N
27 kg/cm² = 390 psi **TSKgel** SuperMultiporePW-M
9 kg/cm² = 130 psi **TSKgel** SuperMultiporePW-H
- pH Range: 2.0 – 12.0
- Salt Conc.: < 0.5 Molar
- Temperature: 10 - 80°C Reduce flow rate when operating below 10°C

- Organic Conc.: < 20% methanol, ethanol, acetonitrile, formic acid, dimethylsulfoxide, etc. 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.
- Mobile Phase: Although some non-ionic compounds can be measured with distilled water, it is generally recommended to carry out the measurement with aqueous salt solutions or buffered solutions, while considering the presence of ionic impurities which interact with the support. Representative mobile phases are shown below.

Salts in aqueous solutions: Sodium sulfate, sodium acetate, sodium dihydrogen phosphate, ammonium acetate, ammonium formate.

Buffers: Phosphate, tris hydrochloric acid, tris acetate, citrate, acetate.

- Cleaning Solvents: Adsorbed materials may be removed from the column by injections of solvent with different properties from the operating mobile phase.

- To remove ionic species, use high salt concentration buffer (less than 0.5M)
- To remove adsorbed basic compounds, use pH 2 - 3 acetic acid buffer
- To remove hydrophobic adsorption, use a buffer in acetonitrile or methanol

- Storage: For overnight storage flush mobile phase through the column at low flow rate. For longer term storage, purge the system with distilled water. Remove the column from the system and keep the ends of the column tightly capped with the end plugs supplied with the column. Under all circumstances, prevent air from entering the column!

- Column Protection: The use of the corresponding **TSKgel** SuperMP(PW) guard column is recommended to prolong the life of the **TSKgel** SuperMultiporePW columns. Guard column life depends greatly on sample cleanliness. As a general rule, guard columns should be replaced when the peaks become excessively wide, or when the peaks show splitting.

Note our technical hotline tel + 49 6155 70437-36 and e-mail, techsupport.tbg@tosoh.com

B. SPECIFICATIONS

The performance of **TSKgel** SuperMultiporePW 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):	≥	16,000	TSKgel SuperMultiporePW-N
	≥	12,000	TSKgel SuperMultiporePW-M
	≥	7,000	TSKgel SuperMultiporePW-H
Asymmetry Factor (AF):		0.7 – 1.6	