

# TSKgel® SuperMultiporeHZ Products

<b>Part Numbers:</b>	21815, TSKgel SuperMultiporeHZ-N, 4.6mm ID x 15cm, 3µm	21816, TSKgel SuperMPHZ-N Guard, 4.6mm ID x 2cm, 3µm
	21488, TSKgel SuperMultiporeHZ-M, 4.6mm ID x 15cm, 4µm	21489, TSKgel SuperMPHZ-M Guard, 4.6mm ID x 2cm, 4µm
	21885, TSKgel SuperMultiporeHZ-H, 4.6mm ID x 15cm, 6µm	21886, TSKgel SuperMPHZ-H Guard, 4.6mm ID x 2cm, 6µm

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

## A. OPERATING CONDITIONS

- Shipping Solvent: Tetrahydrofuran (THF)
- Max./Standard Flow: 0.4mL/min / 0.15 - 0.35mL/min
- Max. Pressure: TSKgel SuperMultiporeHZ-N: 4.0MPa (40bar, 560psi)  
TSKgel SuperMultiporeHZ-M: 2.4MPa (24bar, 336psi)  
TSKgel SuperMultiporeHZ-H: 1.5MPa (10bar, 140psi)
- Multiple Columns: TSKgel SuperMultiporeHZ columns of the same pore size can be connected in series to improve resolution. Connecting TSKgel SuperMultiporeHZ columns with different pore sizes or connecting them with other H-type columns will cause loss of linearity in the calibration curve. Connect analytical columns using short pieces of 1/16" stainless steel tubing with an internal diameter of 0.01" or smaller.
- Solvents: THF
- Temperature: 25 - 60°C
- Sample Size: 0.001 - 0.1mg per 4.6mm ID x 15cm column
- Storage: The column can be left overnight in THF in the LC system. When it will not be used for longer periods of time, remove the column from the equipment, seal the ends with the provided protective screws, and store it at laboratory temperature. At all times, prevent air from entering the column!
- Column Protection: The use of guard columns is recommended to prolong the life of the analytical column. Guard columns are not for analysis; they do not improve resolution when connected to the main column. They are also not a substitute for filtering the mobile phase and the sample. A guard column does reduce pump pulsation, and further protects the main column by collecting highly adsorptive components and insoluble substances. 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.

## B. SPECIFICATIONS

The performance of TSKgel SuperMultiporeHZ columns are tested under the conditions described in the Data Sheet. All analytical columns have passed the following quality control specifications:

- Number of Theoretical Plates (N): TSKgel SuperMultiporeHZ-N: > 20,000  
TSKgel SuperMultiporeHZ-M: > 16,000  
TSKgel SuperMultiporeHZ-H: > 11,000
- Asymmetry Factor (AF): TSKgel SuperMultiporeHZ-N:  $0.7 \leq AF \leq 1.4$   
TSKgel SuperMultiporeHZ-M:  $0.7 \leq AF \leq 1.4$   
TSKgel SuperMultiporeHZ-H:  $0.7 \leq AF \leq 1.4$

## C. SOLVENT COMPATIBILITY for TSKgel SuperMultiporeHZ Columns

TSKgel SuperMultiporeHZ columns can be used only in THF. This solvent cannot be replaced with any other solvent.

DS1229 Revised 04SEPTEMBER2012

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