TSKgel® SuperHZM-H Products

	Column	Corresponding Guard Column
Part Numbers:	19664, TSKgel SuperHZM-H 4.6mm ID x 15cm, 10μm	19668, Guard column, 4.6mm ID x 2.0cm, 10μm
	19665, TSKgel SuperHZM-H 6.0mm ID x 15cm, 10μm	19667, Guard column, 4.6mm ID x 3.5cm, 10μm

This sheet contains the recommended operating conditions and the specifications for TSKgel SuperHZM-H columns and guard columns. SuperHZ-type columns are used exclusively for Gel Permeation Chromatography and require a micro LC system. Installation instructions and column care information are described in a separate Instruction Manual.

A. OPERATING CONDITIONS

01.	Shipping Solvent:	Tetrahydrofuran (THF)
02.	Max./Standard Flow:	0.40 mL/min / 0.15-0.35 mL/min for 4.6mm ID columns 0.70 mL/min / 0.25-0.60 mL/min for 6.0mm ID columns
03.	Max. Pressure:	1.0 MPa= 10 kg/cm^2 = 145 psi for 4.6mm ID columns 1.0 MPa= 10 kg/cm^2 = 145 psi for 6.0mm ID columns
04.	Multiple Columns:	Columns of the same or different pore size are often connected in series to improve resolution and/or to expand the linear portion of the calibration curve. Connect the columns in order of decreasing pore size to avoid overloading from the high MW components. Connect analytical columns using short pieces of 1/16" x 0.01" ID stainless steel tubing.
05.	Compatible Solvents:	If shipping solvent is Tetrahydrofuran: Benzene, Toluene, Xylene, Dichloroethane and Dichloromethane Important: Replacement to a different organic solvent must only be a one way solvent change During replacement flow rate should not exceed 0.1mL/min
06.	Temperature:	25 – 80C
07.	Sample Size:	10μL(for 4.6mm ID columns), 20μL (for 6.0mm ID columns) Concentration 0.1 - 2g/L for samples with MW 10,000 to over 5,000,000
08.	Storage:	The column can be left overnight in solvent 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!
09.	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 Super HZM-H columns are tested under the conditions described in the Data Sheet. All columns have passed the following quality control specifications:

1.	Number of Theoretical Plates (N):	> 9,000
2.	Asymmetry Factor (AF):	0.7-1.4

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