

TSKgel[®] SuperHM-type Products

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| Part Numbers: | 17998, TSKgel SuperHM-L, 6.0 mm ID x 15 cm, 3 μ m 17999, TSKgel SuperHM-N, 6.0 mm ID x 15 cm, 3 μ m 18000, TSKgel SuperHM-M, 6.0 mm ID x 15 cm, 3 μ m 18001, TSKgel SuperHM-H, 6.0 mm ID x 15 cm, 3 μ m & 5 μ m | 18003, Guard Column, 4.6 mm ID x 3.5 cm, 4 m, for 6.0 mm ID SuperHM-type columns |
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This sheet contains the recommended operating conditions and the specifications for TSKgel SuperHM-type columns and guard column. TSKgel SuperHM-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 | |
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| 1. Shipping Solvent: | Tetrahydrofuran (THF) |
| 2. Standard Flow Rate: | 0.30 – 0.6 mL/min |
| 3. Max Flow Rate: | 0.80 mL/min |
| 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. |
| 4. Max. Pressure: | 3.9 MPa |
| 5. Temperature: | 25 – 140 °C |
| 6. 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. |
| 7. Compatible Solvents: | benzene, chloroform, xylene, toluene, dichloromethane, trichloroethane, dichloroethane, carbon tetrachloride, o-chlorophenol/chloroform, o-dichlorobenzene, dimethylformamide (DMF), dimethylacetamide, dimethylsulfoxide (DMSO), dioxane, n-hexane, cyclohexane, dodecane, hexafluoroisopropanol/chloroform, methylethylketone, N-methylpyrrolidine, acetone, ethanol, 1-chloronaphthalene, trichlorobenzene, methanol/chloroform, pyridine, quinoline, ethyl acetate |
| IMPORTANT: | <ol style="list-style-type: none"> After the first solvent exchange, exchanges should be limited to similar polarities. Carbon tetrachloride can corrode stainless steel parts in an HPLC system and in the column. How to change solvents: <ol style="list-style-type: none"> Use a linear gradient at a rate of change of 2% per minute. Use a flow rate of \leq 0.3 mL/min for 6.0 mm ID columns. |
| 8. Sample Size: | 1 – 200 μ g depending on sample concentration and MW; $<$ 50 μ m |
| 9. 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! |
| 10. 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 SuperHM-type 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): | \geq 16,000 |
| 2. Asymmetry Factor (AF): | 0.7 – 1.6 |

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