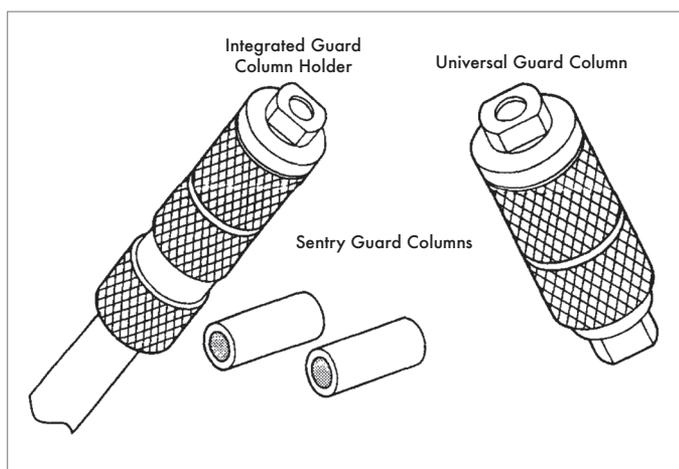


SENTRY GUARD COLUMN

I. INTRODUCTION

Waters Sentry™ Guard Columns protect your analytical column or cartridge column from particulate and chemical contamination in the mobile-phase stream. Contaminants that may damage your analytical column are intercepted by the guard column.



Sentry Guard Columns and Guard Holders

a. Packing Materials

The packing materials used in Waters Sentry guard columns are identical to the packaging materials used in Waters HPLC columns. Select guard columns with the same packing materials as your analytical column.

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- a. Packing Materials

II. INSTALLING THE GUARD COLUMN

- a. Installing the Universal Guard Column Holder
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- a. Procedure

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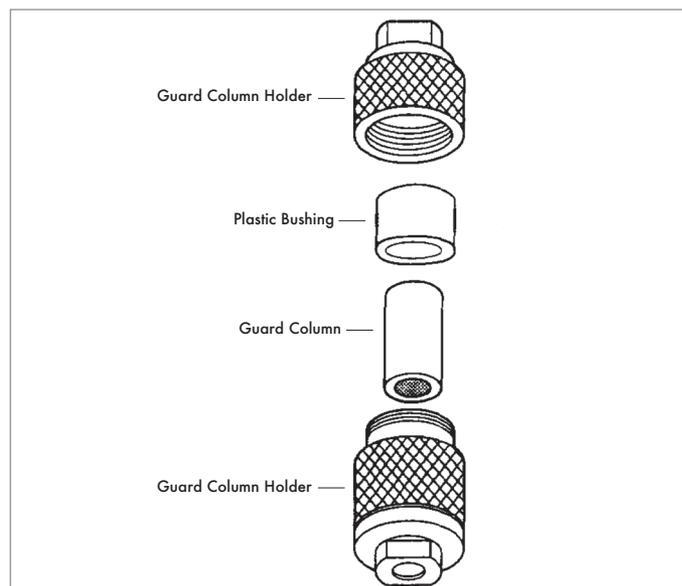
V. WARRANTY/SERVICE INFORMATION

VI. SPECIFICATIONS

II. INSTALLING THE GUARD COLUMN

a. Installing the Universal Guard Column Holder

Install the Universal Guard Column Holder in your HPLC system between the injector and the column. Use 0.009-inch (0.23 mm) i.d. tubing for all connections.

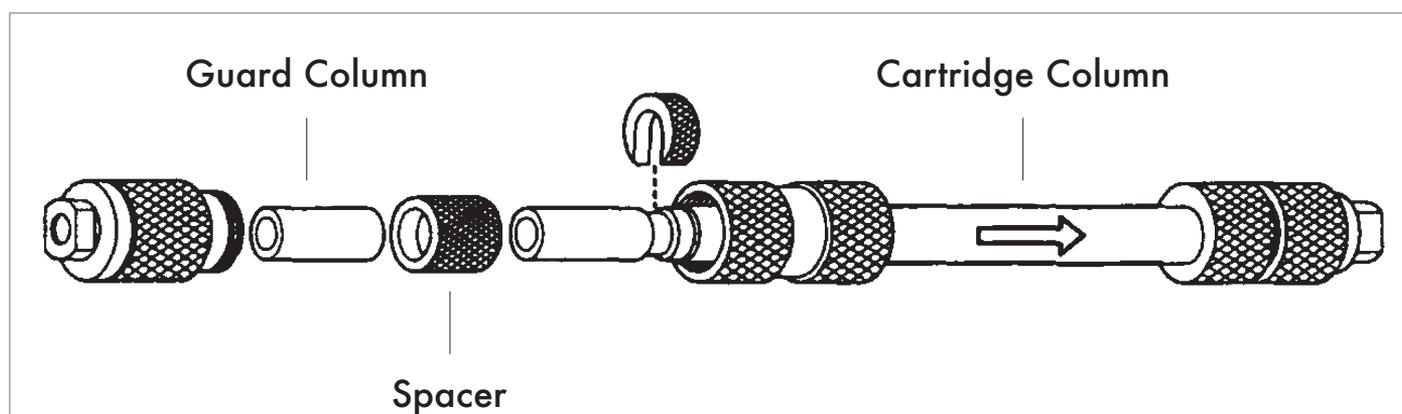


Universal Guard Column Holder, Exploded View

Note: Minimize the length of tubing between the guard column and the analytical column. Ensure that the tubing is seated in the bottom of the fitting before tightening the compression screw.

b. Installing the Integrated Guard Column Holder

Connect the Integrated Guard Column Holder directly to the inlet end of a cartridge column as shown below.



Integrated Guard Column Holder, Exploded View

III. REPLACING THE GUARD COLUMN

Replace guard columns before contaminants affect the analytical column. For best results, replace the guard column at regular intervals, for example:

- After completion of a set of analyses
- After running 50 to 100 samples
- Weekly

If the quality of your separation deteriorates, or if the initial back-pressure increases significantly (more than 20 percent), replace the guard column. If contaminants appear in the chromatogram, replace the guard column immediately and follow the column manufacturer's recommendations for cleaning the column.

a. Procedure

To replace the guard column:

1. Unscrew the two halves of the holder.
2. Remove the old guard column.
3. Install the new guard column.
4. Reassemble the holder. Hand-tighten only.
5. Equilibrate the analytical column and guard column with five column volumes of mobile phase. While equilibrating, check the holder and all connections for leaks.

IV. ORDERING INFORMATION

The table below lists Sentry guard columns and accessories. For complete list of Sentry Guard part numbers, please see Waters Chromatography Columns and Supplies Catalog (literature code 720002419EN). To order, contact your Waters representative.

Guard Column (2/pkg)	Part Number
Symmetry® C ₁₈	WAT054225
Symmetry C ₈	WAT054250
Nova-Pak® C ₁₈	WAT044380
Nova-Pak C ₈	WAT046830
Nova-Pak Phenyl	WAT046835
Nova-Pak Silica	WAT046845
Nova-Pak CN HP	WAT046840
μBondapak™ C ₁₈	WAT044480
μBondapak NH ₂	WAT046865
μBondapak Phenyl	WAT046850
μBondapak CN	WAT046855
μPorasil™ WAT046860	WAT046860
Delta-Pak™ C ₄ , 100 Å	WAT046875
Delta-Pak C ₄ , 300 Å	WAT046885
Delta-Pak C ₁₈ , 100 Å	WAT046880
Delta-Pak C ₁₈ , 300 Å	WAT046890
Puresil™ C ₁₈	WAT046870
Resolve™ C ₁₈	WAT046915
Resolve C ₈	WAT046920
Resolve CN	WAT046925
Accessories and Spare Parts	Part Number
Integrated Guard Column Holder	WAT046905
Universal Guard Column Holder	WAT046910
Compression Screws and Ferrules (5/pkg)	WAT025604
Seal, Kalrez®	WAT023401

V. WARRANTY/SERVICE INFORMATION

Waters Corporation warrants its Guard Columns and Guard Column Holders in accordance with the following terms and conditions:

Waters will replace without cost any guard column or holder that fails to perform satisfactorily, if notified within 90 days from your receipt. Returned columns and holders must have a Return Authorization Number granted by the Waters Customer Service Department. Approval is subject to the following exclusions:

- Physical damage to the guard column or holder because of misuse or abuse.
- Damage to the guard column or holder because of use with incompatible solvents or use at incorrect temperatures or pressures.
- Failure or decreased performance as a consequence of normal use.

For service and applications questions, contact your Waters representative.

VI. SPECIFICATIONS

The table below shows the specifications for Waters Sentry guard columns and holder assemblies.

Adsorption	4 mg to 40 mg, depending on nature of contaminants
Pressure Limit	40 MPa (400 Atm, 6000 psi)
Temperature Limit	80 °C
Dead Volume of Guard Column Holder Assembly	4 μL (plus connecting tubing for Universal Guard Column)

Sales Offices:

Austria and European Export
(Central South Eastern Europe,
CIS and Middle East) 431 877 18 07

Australia 2 9933 1777

Belgium 32 2 726 1000

Brazil 55 11 5094 3788

Canada 800 252 4752

China 8621 6495 6999

CIS/Russia +7 495 3367000

Czech Republic 42 02 617 11384

Denmark 45 46 59 8080

Finland +358 9 5659 6288

France (33) 1 30 48 72 00

Germany 49 6196 400600

Hong Kong 852 29 64 1800

Hungary 36 1 350 5086

India and India Subcontinent

91 80 2 837 1900

Ireland 353 1 448 1500

Italy 02 265 0983

Japan (81) 3 3471 7191

Korea (82) 2 820 2700

Mexico 5255 5200 1860

The Netherlands +31 (0)76-50 87 200

Norway 47 63 84 60 50

Poland (48) 22 833 4400

Puerto Rico 787 747 8445

Singapore 65 6273 1221

Spain 34 93 600 93 00

Sweden 46 8 555 11500

Switzerland 41 56 676 7000

Taiwan 886 2 2543 1898

United Kingdom 44 208 238 6100

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