

CHROMATOGRAPHIC SPECIALTIES INC.

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TIPS FOR OPTIMIZING PISTON SEAL PERFORMANCE

- Tech Note CS13 -

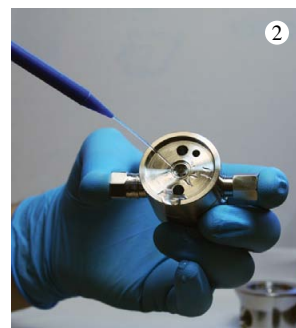
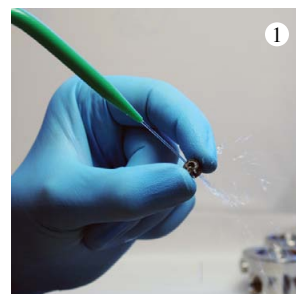
When it's time to put in a new piston seal, installing the seal properly is vital in ensuring smooth performance and prolonging seal life. Improper installation can cause premature or immediate seal failure. Maximize your seal life by following these sample tips.

1. Soften or wet the new seal with methanol or isopropanol prior to installation. If possible, soak the seal in either of these solvents for 5 to 10 minutes before installation.
2. Ensure that all mating surfaces, including the piston and the seal cavity are free of debris. Wet the seal cavity with methanol or isopropanol prior to inserting the seal and wet the inner seal wall and the piston shaft prior to bringing these surfaces together.
3. If you have a seal forming too, use it to form the front (spring) side of the seal. If you don't have a forming tool, squeezing gently around the outer front edge of the seal with clean fingertips can be helpful.
4. Avoid running seals dry, especially right after putting in a new seal. Always prime the pump by drawing or pushing mobile phase through the pump head(s) before turning it on. Forcing a dry pump to prime itself is no way to show your HPLC you care!

**Chromatographic Specialties Inc. currently carry both
ITB Seals (Graphitized-Carbon PTFE) and
UHMW-PE Seals (Ultra High Molecular Weight Polyethylene Blend)
from Optimize for the following HPLC pumps:**

- | | | | |
|-------------------|----------------|---------------------|----------|
| • ABI / Kratos | • Gynkotech | • LDC/Milton Roy | • SSI |
| • Beckman / Altex | • HP / Agilent | • LKB | • Tracor |
| • Bio-Rad | • Hitachi | • Perkin Elmer | • Varian |
| • Bischoff | • Isco | • Rainin | • Waters |
| • Dionex | • Jasco | • Shimadzu | |
| • Gilson / Rainin | • Knauer | • Spectra - Physics | |

*For more specific information, please contact
Chromatographic Specialties' Technical Support Team
at 1-800-267-8103 or email tech@chromspec.com.*



Product Number	Description
RK21356	HPLC Piston Seal Insertion Tool

Simplify pump maintenance: use one end to remove your old seal, then simply slip your new seal on the other end and push it flush into position. The tool cannot mar the surrounding metal surface of the pump housing.

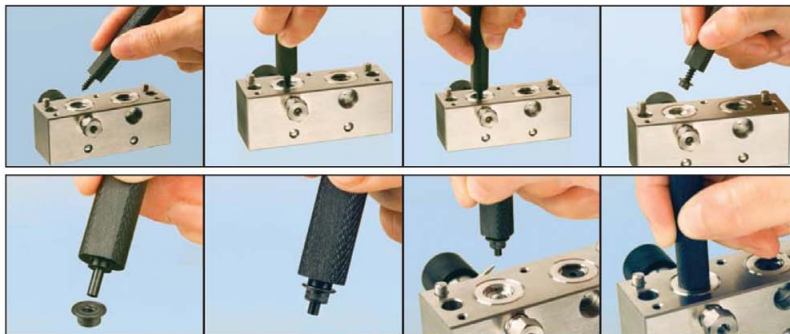


Product Number	Description
M101002695	Seal Forming/Insertion Kit

This kit contains three tools to accommodate all of your HPLC piston seals. One end has a beveled cavity for seal forming, while the other end is an insertion support for seal installation.

HPLC Piston Seal Insertion Tool

Simplify pump maintenance; use one end to remove your old seal, then simply slip your new seal on the other end and push it flush into position. The tool cannot mar the surrounding metal surface of the pump housing.



Use the flat side of the Piston Seal Insertion Tool to seat a Waters face seal.



1. Forming cavities in three different sizes lets you pick the best tool for the seal you are installing.



2. The piston seal is formed by pressing the tool onto the seal jacket.



3. Then, the seal is pressed into the pump head seal cavity using the insertion support.

Solvent Compatibility Guide for Seals

Mobile Phase Solvent	OPTI-SEAL® (UHMW-PE)			ITB® (PTFE)			Mobile Phase Solvent	OPTI-SEAL® (UHMW-PE)			ITB® (PTFE)		
	R	G	N	R	G	N		R	G	N	R	G	N
Acetamide	R				G		Ethyl Acetate			N	R		
Acetone			N	R			Ethyl Ether			N	R		
Acetonitrile	R		N		G		Ethylene Diamine	R				G	
Acrylonitrile	R		N				Ethylene Glycol		G		R		
Aqueous / Aqueous Buffered	R		N		G		Heptane		G		R		
Benzene			N	R			Hexane			N	R		
Butanol	R		N		G		Iso-octane			N	R		
Carbon Tetrachloride			N	R			Isopropyl Alcohol	R				G	
Chloroform			N	R			Methanol	R				G	
Cyclohexane			N	R			Methyl ethyl ketone		G		R		
Cyclohexanone			N	R			Pentane			N	R		
Dichloroethane			N	R			Pyridine		G		R		
Dichloromethane			N	R			Tetrahydrofuran (THF)			N	R		
Dimethyl Formamide (DMF)	R		N	R		N	Toluene			N	R		
Dimethyl Sulfoxide	R		N			N	Xylene		G		R		
Ethanol		G		R									

■ R = Recommended
 ■ G = Good (Better Choice Might be Available)
 ■ N = Not recommended (Material Degradation Probable)

For current pricing, contact the Chromatographic Specialties Inc. Customer Service Team at 1-800-267-8103 or email sales@chromspec.com.

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