

HAICART CARTRIDGES

STAINLESS STEEL CARTRIDGE COLUMNS



Guide to HAICART Analytical Cartridge Part Numbers

- xF-0421-xxxx 40 x 3.2mm stainless steel cartridge
- xF-0532-xxxx 50 x 3.2mm stainless steel cartridge
- xF-1032-xxxx 100 x 3.2mm stainless steel cartridge
- xF-0446-xxxx 40 x 4.6mm stainless steel cartridge
- xF-0546-xxxx 50 x 4.6mm stainless steel cartridge
- xF-1046-xxxx 100 x 4.6mm stainless steel cartridge

See Page 23 for complete Part Number information

The HAICART family of HPLC cartridge columns provides a convenient and economical approach to guard column, trace enrichment, and fast analysis applications. These stainless steel cartridges are available with 3.2mm and 4.6mm internal diameters and with 2, 4, 5, or 10cm lengths. This wide selection makes it possible to address numerous analytical needs. See pages 66 - 67 for information about the cartridge holders required for Higgins Analytical's HAICART Cartridge Columns. HAICART cartridges are also compatible with PE/Brownlee MPLC cartridge holders.

CLIQUEUS 3.2 and 4.6mm I.D. S.S. Cartridges



CLIQUEUS C8 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
CF-0232-C085	\$200	CF-0432-C085	\$300	CF-0532-C085	\$340	CF-1032-C085	\$220
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		CF-0446-C085	\$300	CF-0546-C085	\$340	CF-1046-C085	\$220

CLIQUEUS C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
CF-0232-C185	\$200	CF-0432-C185	\$300	CF-0532-C185	\$340	CF-1032-C185	\$220
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		CF-0446-C185	\$300	CF-0546-C185	\$340	CF-1046-C185	\$220

CLIQUEUS Cyano 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
CF-0232-CNP5	\$200	CF-0432-CNP5	\$340	CF-0532-CNP5	\$360	CF-1032-CNP5	\$215
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		CF-0446-CNP5	\$340	CF-0546-CNP5	\$360	CF-1046-CNP5	\$215

CLIQUEUS Phenyl 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
CF-0232-PHN5	\$200	CF-0432-PHN5	\$340	CF-0532-PHN5	\$360	CF-1032-PHN5	\$215
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		CF-0446-PHN5	\$340	CF-0546-PHN5	\$360	CF-1046-PHN5	\$215

CLIQUEUS Silica 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
CF-0232-SIL5	\$190	CF-0432-SIL5	\$300	CF-0532-SIL5	\$340	CF-1032-SIL5	\$220
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		CF-0446-SIL5	\$300	CF-0546-SIL5	\$340	CF-1046-SIL5	\$220



HAISIL 100 C8 3.2 and 4.6mm I.D. S.S.Cartridges



HAISIL 100 C8 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
HF-0232-M085	\$190	HF-0432-M085	\$300	HF-0532-M085	\$310	HF-1032-M085	\$220
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		HF-0446-M085	\$300	HF-0546-M085	\$310	HF-1046-M085	\$220

HAISIL 100 C18 3.2 and 4.6mm I.D. S.S.Cartridges

HAISIL 100 C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
HF-0232-M185	\$190	HF-0432-M185	\$300	HF-0532-M185	\$310	HF-1032-M185	\$220
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		HF-0446-M185	\$300	HF-0546-M185	\$310	HF-1046-M185	\$220



HAISIL 300 3.2 and 4.6mm I.D. S.S.Cartridges

HAISIL 300 C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
HF-0232-W185	\$210	HF-0432-W185	\$350	HF-0532-W185	\$360	HF-1032-W185	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		HF-0446-W185	\$350	HF-0546-W185	\$360	HF-1046-W185	\$240

HAISIL HL 3.2 and 4.6mm I.D. S.S.Cartridges



HAISIL HL C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
LF-0232-C185	\$210	LF-0432-C185	\$370	LF-0532-C185	\$390	LF-1032-C185	\$270
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		LF-0446-C185	\$370	LF-0546-C185	\$390	LF-1046-C185	\$270

PROTO 200 3.2 and 4.6mm I.D. S.S.Cartridges

200

PROTO 200 C4 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
RF-0232-D045	\$210	RF-0432-D045	\$350	RF-0532-D045	\$360	RF-1032-D045	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		RF-0446-D045	\$350	RF-0546-D045	\$360	RF-1046-D045	\$240

PROTO 200 C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
RF-0232-D185	\$210	RF-0432-D185	\$350	RF-0532-D185	\$360	RF-1032-D185	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		RF-0446-D185	\$350	RF-0546-D185	\$360	RF-1046-D185	\$240

PROTO 300 3.2 and 4.6mm I.D. S.S.Cartridges



PROTO 300 C4 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
RF-0232-W045	\$210	RF-0432-W045	\$350	RF-0532-W045	\$360	RF-1032-W045	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		RF-0446-W045	\$350	RF-0546-W045	\$360	RF-1046-W045	\$240

PROTO 300 C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
RF-0232-W185	\$210	RF-0432-W185	\$350	RF-0532-W185	\$360	RF-1032-W185	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		RF-0446-W185	\$350	RF-0546-W185	\$360	RF-1046-W185	\$240



HAICART CARTRIDGES (continued)

STAINLESS STEEL CARTRIDGE COLUMNS



PHALANX 3.2 and 4.6mm I.D. S.S.Cartridges



PHALANX C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
PF-0232-C185	\$210	PF-0432-C185	\$350	PF-0532-C185	\$360	PF-1032-C185	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		PF-0446-C185	\$350	PF-0546-C185	\$360	PF-1046-C185	\$240

TARGA 3.2 and 4.6mm I.D. S.S.Cartridges



TARGA C8 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
TF-0232-C085	\$190	TF-0432-C085	\$350	TF-0532-C085	\$360	TF-1032-C085	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		TF-0446-C085	\$350	TF-0546-C085	\$360	TF-1046-C085	\$240

TARGA C18 5µm

20X3.2mm	5/pkg	40X3.2mm	2/pkg	50X3.2mm	2/pkg	100X3.2mm	1/pkg
TF-0232-C185	\$190	TF-0432-C185	\$350	TF-0532-C185	\$360	TF-1032-C185	\$240
		40X4.6mm	2/pkg	50X4.6mm	2/pkg	100X4.6mm	1/pkg
		TF-0446-C185	\$350	TF-0546-C185	\$360	TF-1046-C185	\$240



See pages 66 - 67 for information about the Cartridge Holders required for these Cartridges



HAIPEEK CARTRIDGES

PEEK/TITANIUM CARTRIDGE COLUMNS



Guide to HAIPEEK Analytical Cartridge Part Numbers

xK-0421-xxxx 40 x 2.1mm PEEK/titanium cartridge

xK-0521-xxxx 50 x 2.1mm PEEK/titanium cartridge

See Page 23 for complete Part Number information

PEEK and Titanium Cartridges

The HAIPEEK family of narrowbore HPLC cartridge columns is a unique high performance product for LC-MS and other high-speed, small volume applications. The 40 and 50mm sizes of 2.1mm I.D HAIPEEK HPLC Cartridges are individually tested. A Certificate of Analysis, which includes the original chromatogram and comprehensive testing and sorbent documentation, accompanies each column. The 20mm x 2.1mm cartridges excel as narrowbore guard columns, yet even though they are not individually tested, the majority are routinely used as very economical and efficient columns for high speed HPLC screening and LC-MS applications. See pages 66 - 67 for information about the cartridge holders required for Higgins Analytical's HAIPEEK Cartridge Columns. HAIPEEK cartridges are also compatible with PE/Brownlee MPLC cartridge holders.

CLIQUEUS 2.1mm I.D. PEEK/Titanium Cartridges



CLIQUEUS C8 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
CK-0221-C085	\$200	CK-0421-C085	\$290	CK-0521-C085	\$290

CLIQUEUS C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
CK-0221-C185	\$200	CK-0421-C185	\$290	CK-0521-C185	\$290

CLIQUEUS Cyano 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
CK-0221-CNP5	\$210	CK-0421-CNP5	\$290	CK-0521-CNP5	\$300

CLIQUEUS Phenyl 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
CK-0221-PHN5	\$210	CK-0421-PHN5	\$290	CK-0521-PHN5	\$300

CLIQUEUS Silica 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
CK-0221-SIL5	\$200	CK-0421-SIL5	\$290	CK-0521-SIL5	\$290

HASIL 100 2.1mm I.D. PEEK/Titanium Cartridges



HASIL 100 C8 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
HK-0221-M085	\$200	HK-0421-M085	\$290	HK-0521-M085	\$290

HASIL 100 C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
HK-0221-M185	\$200	HK-0421-M185	\$290	HK-0521-M185	\$290



See pages 66 - 67 for information about the Cartridge Holders required for these Cartridges



HAISIL 300 2.1mm I.D. PEEK/Titanium Cartridges

HAISIL 300 C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
HK-0221-W185	\$210	HK-0421-W185	\$310	HK-0521-W185	\$330



HAISIL HL 2.1mm I.D. PEEK/Titanium Cartridges

HAISIL HL C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
LK-0221-C185	\$210	LK-0421-C185	\$320	LK-0521-C185	\$330



HALANX 2.1mm I.D. PEEK/Titanium Cartridges

HALANX C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
PK-0221-C185	\$210	PK-0421-C185	\$320	PK-0521-C185	\$330

ROTO 200 2.1mm I.D. PEEK/Titanium Cartridges

ROTO 200 C4 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
RK-0221-D045	\$210	RK-0421-D045	\$320	RK-0521-D045	\$330



ROTO 200 C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
RK-0221-D185	\$210	RK-0421-D185	\$320	RK-0521-D185	\$330



ROTO 300 2.1mm I.D. PEEK/Titanium Cartridges

ROTO 300 C4 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
RK-0221-W045	\$210	RK-0421-W045	\$320	RK-0521-W045	\$330

ROTO 300 C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
RK-0221-W185	\$210	RK-0421-W185	\$320	RK-0521-W185	\$330



ARGA 2.1mm I.D. PEEK/Titanium Cartridges

ARGA C8 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
TK-0221-C085	\$200	TK-0421-C085	\$290	TK-0521-C085	\$290

ARGA C18 5µm

20X2.1mm	5/pkg	40X2.1mm	2/pkg	50X2.1mm	2/pkg
TK-0221-C185	\$200	TK-0421-C185	\$290	TK-0521-C185	\$290



HAISpeed10 CARTRIDGES

10mm I.D. Semi-Prep Cartridge Columns



Guide to HAI Speed 10 Cartridge Part Numbers

- xF-0310-xxxx 30 x 10mm cartridge
- xF-0510-xxxx 50 x 10mm cartridge
- xF-1010-xxxx 100 x 10mm cartridge

See Page 23 for complete Part Number information

HAISpeed10 - A high performance 10mm I.D. Cartridge System

High throughput requirements for combinatorial chemistry applications often call for 10mm I.D. columns. Higgins Analytical has developed a convenient cartridge system that offers an economical solution for demanding combinatorial and semi-preparative needs. Even though a HAI Speed10 cartridge costs a fraction of conventional 10mm HPLC column of the same length, they have the same consistently high performance of other Higgins Analytical columns.

Each 5cm and 10cm cartridge column is tested and is shipped with a CoFA.

CLIQUEUS 10mm I.D. Semi-Prep Cartridges



CLIQUEUS C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm	2/pkg
CF-0310-C181	\$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
CF-0510-C181	\$215	CF-1010-C181	\$290

CLIQUEUS C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
CF-0510-C185	\$350	CF-1010-C185	\$410

HAISIL 100 10mm I.D. Semi-Prep Cartridges



HAISIL 300 C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm	2/pkg
HF-0310-W181	\$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
HF-0510-W181	\$215	HF-1010-W181	\$290

HAISIL 300 10mm I.D. Semi-Prep Cartridges



HAISIL 300 C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
HF-0510-W185	\$350	HF-1010-W185	\$410

PROTO 200 10mm I.D. Semi-Prep Cartridges

200

PROTO 200 C4 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm	2/pkg
RF-0310-D041	\$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
RF-0510-D041	\$215	RF-1010-D041	\$290

PROTO 200 C4 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
RF-0510-D045	\$350	RF-1010-D045	\$440

PROTO 200 C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm	2/pkg
RF-0310-D181	\$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
RF-0510-D181	\$215	RF-1010-D181	\$290

PROTO 200 C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm	1/pkg	100x10mm	1/pkg
RF-0510-D185	\$350	RF-1010-D185	\$440



PROTO 300 10mm I.D. Semi-Prep Cartridges



PROTO 300 C4 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm 2/pkg
RF-0310-W041 \$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
RF-0510-W041 \$215 RF-1010-W041 \$290

PROTO 300 C4 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
RF-0510-W045 \$350 RF-1010-W045 \$440

PROTO 300 C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm 2/pkg
RF-0310-W181 \$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
RF-0510-W181 \$215 RF-1010-W181 \$290

PROTO 300 C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
RF-0510-W185 \$350 RF-1010-W185 \$440

PHALANX 10mm I.D. Semi-Prep Cartridges



PHALANX C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm 2/pkg
PF-0310-C181 \$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
PF-0510-C181 \$215 PF-1010-C181 \$290

PHALANX C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
PF-0510-C185 \$350 PF-1010-C185 \$440

TARGA 10mm I.D. Semi-Prep Cartridges



TARGA C18 10µm

10mm I.D. s.s. Guard Cartridges

30x10mm 2/pkg
TF-0310-C181 \$300

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
TF-0510-C181 \$215 TF-1010-C181 \$290

TARGA C18 5µm

10mm I.D. s.s. Semi-Prep Cartridges

50x10mm 1/pkg 100x10mm 1/pkg
TF-0510-C185 \$350 TF-1010-C185 \$440

See pages 66 - 67 for information about Cartridge Holders required for these Cartridges



HAIPEEK & HAICART Guards

PEEK/TITANIUM and s.s. Guard Cartridges



Guide to HAIPEEK and HAICART Guard Cartridge Part Numbers

xK-0221-xxxx 20 x 2.1mm PEEK/titanium guard cartridge
 xF-0232-xxxx 20 x 3.2mm stainless steel guard cartridge

See Page 23 for complete Part Number information

Note: Old HAICART P/INs such as HI 18, TI 18, CIPH, etc. can still be used when ordering.

Analytical Guard Cartridges

The complete range of sorbents manufactured by Higgins Analytical is available in 2cm x 2.1 or 3.2mm I.D. guard cartridges. Not only does this provide a wide selection of products for protecting analytical and narrowbore HPLC columns, it also facilitates a wide variety of trace enrichment, column switching, and ballistic gradient applications.

These 2cm long cartridges require a reusable holder and are compatible with Higgins Analytical's HAIPEEK Guard Holders as well as PE/Brownlee's NewGuard Holder.

CLIQUEUS Guard Cartridges



CLIQUEUS C8 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 CK-0221-C085 \$200

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 CF-0232-C085 \$200

CLIQUEUS C18 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 CK-0221-C185 \$200

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 CF-0232-C185 \$200

CLIQUEUS Cyano 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 CK-0221-CNP5 \$210

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 CF-0232-CNP5 \$200

CLIQUEUS Phenyl 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 CK-0221-PHN5 \$210

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 CF-0232-PHN5 \$200

CLIQUEUS Silica 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 CK-0221-SIL5 \$200

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 CF-0232-SIL5 \$200

HASIL 100 Guard Cartridges



HASIL 100 C8 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 HK-0221-M085 \$200

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 HF-0232-M085 \$200

HASIL 100 C18 5µm

2.1mm I.D. Peek/Titanium

20X2.1mm 5/pkg
 HK-0221-M185 \$200

3.2mm I.D. Stainless Steel

20X3.2mm 5/pkg
 HF-0232-M185 \$200



HAISIL 300 Guard Cartridges



HAISIL 300 C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 HK-0221-W185 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 HF-0232-W185 \$210

HAISIL HL Guard Cartridges



HAISIL HL C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 LK-0221-C185 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 LF-0232-C185 \$210

HEAVY Guard Cartridges



HEAVY C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 VK-0221-C185 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 VF-0232-C185 \$210

PHALANX Guard Cartridges



PHALANX C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 PK-0221-C185 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 PF-0232-C185 \$210

PROTO 200 Guard Cartridges



PROTO 200 C4 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 RK-0221-D045 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 RF-0232-D045 \$210

PROTO 200 C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 RK-0221-D185 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 RF-0232-D185 \$210

PROTO 300 Guard Cartridges



PROTO 300 C4 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 RK-0221-W045 \$210

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 RF-0232-W045 \$210

PROTO 300 C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 RK-0221-W185 \$210

3.2mm I.D. Stainless Steel
 0X3.2mm 5/pkg
 RF-0232-W185 \$210

TARGA Guard Cartridges



TARGA C8 5µm

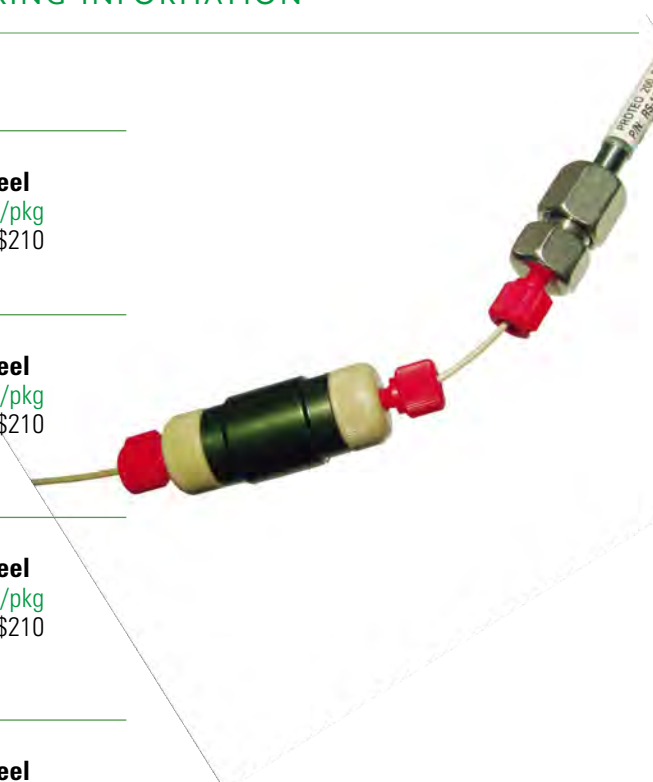
2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 TK-0221-C085 \$200

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 TF-0232-C085 \$200

TARGA C18 5µm

2.1mm I.D. Peek/Titanium
 20X2.1mm 5/pkg
 TK-0221-C185 \$200

3.2mm I.D. Stainless Steel
 20X3.2mm 5/pkg
 TF-0232-C185 \$200



HAI Speed20 CARTRIDGES

20mm I.D. Prep Guard Cartridge Columns



HAI Speed20 guard cartridges provide unique Protection for 20mm I.D. prep columns.

"Prep is a dirty business," and expensive columns can be quickly destroyed by crude samples if proper precautions are not taken. Higgins Analytical's HAI Speed20 Prep Guard System provides effective column protection without compromising performance. In addition to an efficiently packed bed which retains strongly absorbing junk that would change the selectivity of the prep column, these unique guard cartridges have 0.5µm frits that remove particulate contaminants as well.

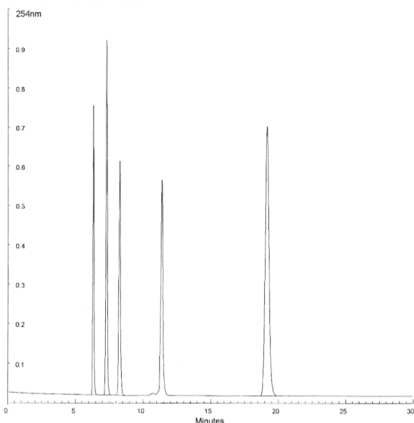
Guide to HAI Speed 20 Cartridge Part Numbers

xF-0220-xxxx 25 x 20mm cartridge

See Page 23 for complete Part Number information

HAI Speed20 guard cartridges provide convenience and performance

HAI SIL 100 C18 5µm
Dimensions 250 x 20mm
Catalog No. HS-2520-M185
Serial No. 937306



Catalog No.	HS-2520-M185		
Description:	HAI SIL 100 C18 5µm		
Dimensions:	250 x 20mm		
Sorbent Lot#:	A18143	Monofunctional/Endcapped	
Particle Size:	5µm		
Pore Size:	100 Å		
Mobile Phase:	70% Acetonitrile in Water		
Flow Rate:	10mL/min		
Pressure:	33 bar	Temp:	29.5 °C
Peak: IR(min)		Plates(N)	Skewness
# 1	6.31 Dimethyl Phthalate	21,383	0.217
# 2	7.28 Nitrobenzene	21,020	0.164
# 3	8.25 Anisole	20,183	0.190
# 4	11.36 Diphenylamine		
# 5	19.16 Fluorene	18,694	0.161

File: 072 26/3

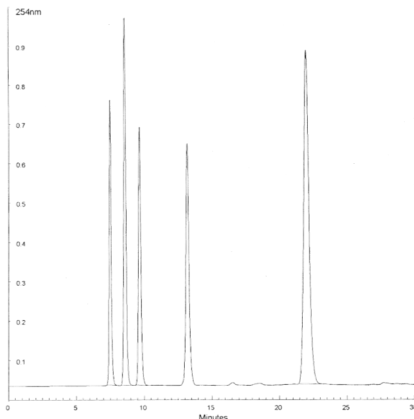


Typical 250x20mm HAI SIL 100 C18 5µm Test Chromatogram.

HAI SIL 300 C18 12µm
Dimensions 25 x 20mm
Catalog No. HF-0220-W182
Batch No. 260402

Coupled to

HAI SIL 100 C18 5µm
Dimensions 250 x 20mm
Catalog No. HS-2520-M185



Catalog No.	HF-0220-W182		
Description:	HAI SIL 300 C18 12µm		
Dimensions:	25 x 20mm		
Sorbent Lot#:	P25076	Monofunctional/Endcapped	
Particle Size:	12µm		
Pore Size:	300 Å		
Mobile Phase:	70% Acetonitrile in Water		
Flow Rate:	10mL/min		
Pressure:	bar	Temp:	28.5 °C
Peak: IR(min)	35 bar	Plates(N)	Skewness
# 1	7.50 Dimethyl Phthalate	10,655	0.328
# 2	8.59 Nitrobenzene	10,725	0.298
# 3	9.67 Anisole	11,094	0.294
# 4	13.19 Diphenylamine		
# 5	22.01 Fluorene	12,886	0.238

File: 172 26/4



The same 250x20mm 5µm column shown in the top chromatogram retested with a HAI SPEED 20 Guard Cartridge in line.



HAISIL 100 20mm I.D. Prep Guard Cartridges 

HAISIL 100 C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	HF-0220-M181	\$300	HF-0320-M181	\$160	HF-0520-M181	\$210

CLIPEUS 20mm I.D. Prep Guard Cartridges 

CLIPEUS C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	CF-0220-C181	\$300	CF-0320-C181	\$160	CF-0520-C181	\$210

HAISIL 300 20mm I.D. Prep Guard Cartridges 

HAISIL 300 C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	HF-0220-W181	\$300	HF-0320-W181	\$160	HF-0520-W181	\$210

PROTO 200 20mm I.D. Prep Guard Cartridges 200 

PROTO 200 C4 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	RF-0220-D041	\$300	RF-0320-D041	\$160	RF-0520-D041	\$210

PROTO 200 C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	RF-0220-D181	\$300	RF-0320-D181	\$160	RF-0520-D181	\$210

PROTO 300 20mm I.D. Prep Guard Cartridges 

PROTO 300 C4 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	RF-0220-W041	\$300	RF-0320-W041	\$160	RF-0520-W041	\$210

PROTO 300 C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	RF-0220-W181	\$300	RF-0320-W181	\$160	RF-0520-W181	\$210

PHALANX 20mm I.D. Prep Guard Cartridges 

PHALANX C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	PF-0220-C181	\$300	PF-0320-C181	\$160	PF-0520-C181	\$210

TARGA 20mm I.D. Prep Guard Cartridges 

TARGA C18 10µm	20mm I.D.	s.s. Prep Guard Cartridges				
	25x20mm	2/pkg	35x20mm	1/pk	50x20mm	1/pk
	TF-0220-C181	\$300	TF-0320-C181	\$160	TF-0520-C181	\$210

Both a Filter and a Guard

The 0.5µm pore size frits on HAIspeed20 cartridges provide unique built-in filtration for maximum column protection. These cartridges are shipped with end caps that prevent solvent loss and protect the cartridge and frits.



Cartridge Holders

Holders for 2.1, 3.2, 4.6, 10, and 20mm I.D. Cartridges



No Tools Required for Leak-Free Operation

Even though Higgins Analytical cartridge holders do not require any tools for assembly and disassembly, their leak-free operation assures that maximum performance will be achieved in your demanding, high-speed separations.

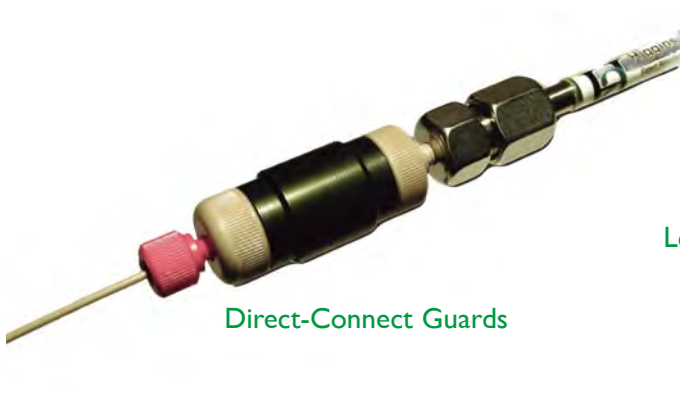
The Holder's light weight also makes it easy to handle and assures its compatibility in challenging plumbing situations.

Guide to Cartridge Holder Part Numbers

HK-GUARD-FF	Female/Female Holder for 2cm cartridge
HK-GUARD-FM	Female/Male Direct Connect Holder for 2cm cartridge
HK-HOLD-40	Holder for 4cm x 2.1, 3.2, 4.6mm cartridge
HK-HOLD-50	Holder for 5cm x 2.1, 3.2, 4.6mm cartridge
HK-HOLD-100	Holder for 10cm x 2.1, 3.2, 4.6mm cartridge
10-HOLD-30	Holder for 30x10mm cartridge
10-HOLD-50	Holder for 50x10mm cartridge
10-HOLD-100	Holder for 100x10mm cartridge
20-HOLD-25	Holder for 20 x 25mm cartridge

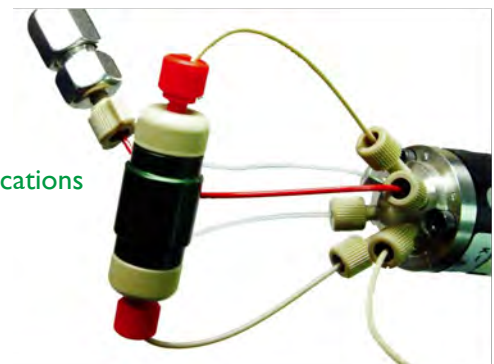


Higgins Analytical Cartridges and Holders enable a wide range of applications and techniques



Direct-Connect Guards

Loop-Column applications



2cm Guard Cartridge Holders

Direct Connect Holders

Female/Male Standard	Female/Male for Waters Column
HK-GUARD-FM \$170	WK-GUARD-FM \$170

Symmetrical Connection Holders

Female/Female Holder
HK-GUARD-FF \$180

Holdings for Analytical Cartridge Columns

Analytical Cartridge Holders

2cm Cartridges	4cm Cartridges	5cm Cartridges	10cm Cartridges
HK-HOLD-20 \$180	HK-HOLD-40 \$180	HK-HOLD-50 \$190	HK-HOLD-100 \$190

Note: HK-HOLD-20 is the same as HK-GUARD-FF

Holdings for 10mm I.D. Semi-Prep Guards and Cartridges

HAISPEED 10 Cartridge Holders

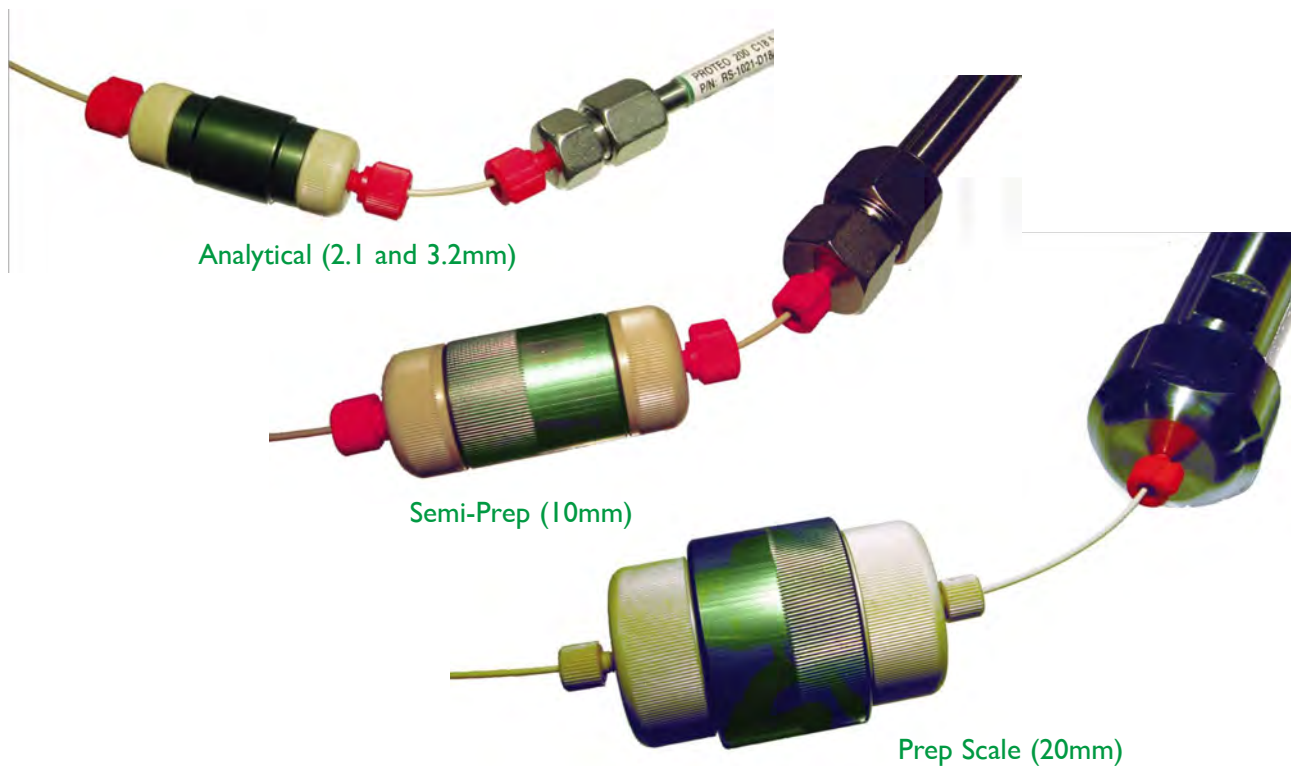
3cm Cartridges	5cm Cartridges	10cm Cartridges
10-HOLD-30 \$180	10-HOLD-50 \$190	10-HOLD-100 \$190

Holdings for 20mm I.D. Prep Guard Cartridges

HAISPEED 20 Guard Cartridge Holders

20x25mm Cartridges	20x35mm Cartridges	20x50mm Cartridges
20-HOLD-25 \$280	20-HOLD-35 \$280	20-HOLD-50 \$280

Higgins Analytical manufacturers the widest range of guard cartridges in the world



HAIFILTER

“We found the HAIFILTER to be an ideal solution for our high performance in-line filtration needs, and it doesn’t require any tools or wrenches!”

Table of Contents



KEY FEATURES:

- Low cost, yet effective column protection
- Direct column connection and symmetrical versions
- No tools required • Leak free operation
- 0.5µm filters in stainless steel, titanium or PEEK
- Inert construction's threads won't oxidize or gall

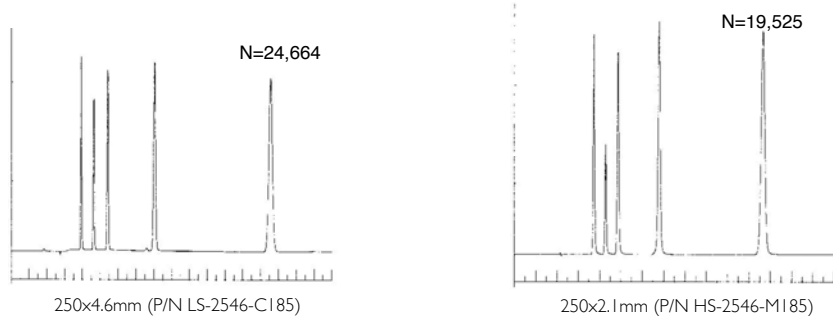
A simple, yet effective, means of protection is to place a filter in the flow path between the sample injection valve and the HPLC column. While this technique is commonly used, it is also commonly plagued by leaky holders and significant performance loss. The Higgins Analytical HAIFILTER resolves all of these problems!

Simplicity and Convenience

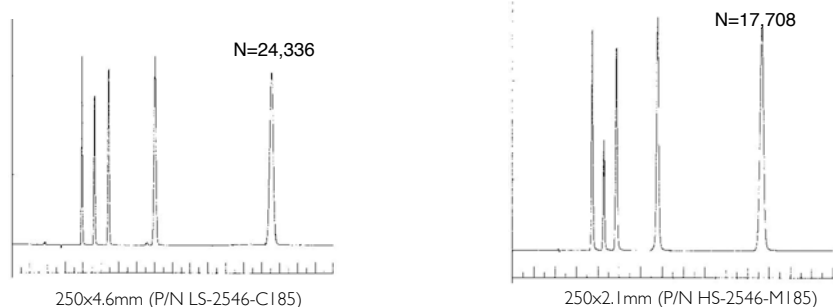
The Higgins Analytical HAIFILTER provides efficient and leak-free in-line filtration, yet it does not require any tools. To make it even more convenient, the HAIFILTER is designed to connect directly to the inlet fitting on the HPLC column, maximizing performance, and minimizing hardware. The 0.5µm porosity frits will remove much of the particulate contamination that is largely responsible for column pressure build up and plugging. The holder's inert construction, and the availability of PEEK and titanium as well as stainless steel frits, insures that the HAIFILTER can address all of your in-line filtration needs.



HPLC Columns without a HAIFILTER



HPLC Columns with a HAIFILTER



Performance

Try the experiment summarized by the chromatograms above with another manufacturer's in-line filter. You may be very surprised how much more other inline filters contribute to peak broadening when comparison to the miniscule 28µL² at 200µL/min volume-variance that is

obtained with the HAIFILTER. This exceptional efficiency is confirmed by chromatographers reporting that using a HAIFILTER permits the routine analysis of solid-phase sample extracts by LC/MS with good efficiency and greatly enhanced HPLC column life.

Two Convenient Formats

HAIFILTER is now available in two formats. The leak-free, finger-tight, and efficient performance are qualities of the HAIFILTER that have made it a popular product, replacing the competition's awkward and leaky alternatives in hundreds of laboratories worldwide. The direct-connect feature in the original design makes the HAIFILTER FM ideal for protecting HPLC columns while the symmetrical female thread fittings on each end of HAIFILTER FF provide unequalled flexibility to address your HPLC system's filtration requirements.

HAIFILTER Holders and Replacement Filters



HAIFILTER FM (Female/Male) Starter Kits

HF-FKIT	HAIFILTER FM (Standard)	\$320
HF-WKIT	HAIFILTER FM (for Waters HPLC columns)	\$320
HF-RKIT	HAIFILTER FM (for Rheodyne injection valves - Specify valve model when ordering)	\$320

Note: HAIFILTER FM Starter Kits include a package of 10 filters (HF-SFILT), a 10cm piece of PEEK tubing, and a Delrin bushing and a PEEK ferrule.



HAIFILTER FF (Female/Female) Starter Kit

FF-FKIT	HAIFILTER FF	\$320
---------	--------------	-------

Note: The HAIFILTER FF Starter Kit includes a package of 10 filters (HF-SFILT), two 10cm pieces of PEEK tubing, and two Delrin bushings and two PEEK ferrules.

Replacement Filters

All replacement kits contain 10 filters per package

HF-SFILT	Stainless steel HAIFILTER replacement filters	pkg of 10	\$110
HF-TFILT	Titanium HAIFILTER replacements filters	pkg of 10	\$170
HF-PFILT	PEEK HAIFILTER replacements filters	pkg of 10	\$210



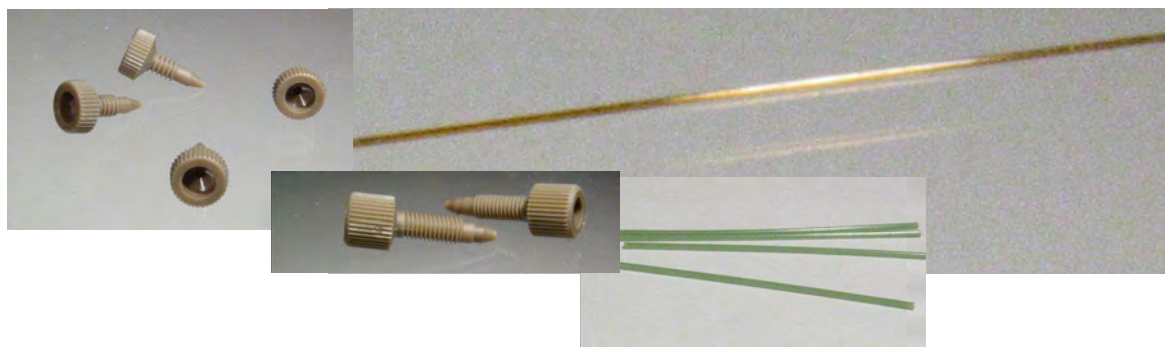
FILTER replacement is easy and requires no tools

Flexibility

Not only is the HAIFILTER available in two formats, it can also be directly connected to a sample injection or switching valve. The photograph to the right demonstrates how the HAIFILTER has been designed to clear the bushings on a popular Rheodyne sample injection valve.



PARTS AND ACCESSORIES



Micro Column Connector Kit

Kit facilitates plumbing a Piccolo, Sprite, Capellini 6-32, or a Capillary to your instrument

MIC-KIT	\$120
---------	-------

Kit Contains:

- 6-32 PEEK Bushings (4 each)
- 10-32 PEEK Long Bushings (2 each)
- Green Sleeve 0.155 x 0.025" (4 each)
- Brown Sleeve 0.062 x 0.015" (2 each)
- Fused Silica Capillaries 10cm x 150µm (4 each)