

**Magic Box**
**Tubings**
**Low pressure**

PTFE (PolyTetraFluoroEthylene)  
 ETFE (EthylTriFluoroEthylene),  
 FEP (Fluorinated Ethylene Propylene)  
 FEP (Fluorinated Ethylene Propylene),  
 PFA (PerFluoro Alkoxyalkane)  
 Nylon

**Metal tubes**

Stainless steel  
 Pre-cut stainless steel, flexible

**PEEK tubes**

Striped color coded PEEK tubing  
 Solid color coded PEEK tubing  
 Thermo formed PEEK tubing

**Tubing cutter**

Stainless steel  
 PEEK

**Low pressure fittings**

Flanging-Tool, flanged fittings  
 Flangeless fittings  
 PEEK & Barbed adapters

**Fittings and valves**

Swagelok Valves  
 Swagelok Fittings

**PEEK Fittings**

Uptisûr, PEEK simple, No-Twist  
 Hexagonal head, identification ring  
 PEEK 2 pieces, unions  
 PEEK tees, crosses, mixers, couplers

**Safety Caps**

**Safety Caps GL45**  
**Werner, Air valves, Accessories**  
**Safety Waste Caps**  
**Exhaust filters**  
**Arnold Funnels**  
**Marco Funnels**

**HPLC accessories**

**Mobile phase filters**  
 Last drop  
**Mobile phase filters**  
 Last drop, biocompatible  
**Mobile phase filters**  
**In line Filters**  
**In line Filters**  
 Very high pressure, preparative  
**Liquid flowmeter**  
**Empty HPLC columns**  
 HPH, preparative  
**Stainless steel frits and Sainless frits with PEEK ring**  
**Biocompatible empty HPLC columns**

**D.2**
**D.3 - D.23**
**D.3 - D.6**

D.3

D.4

D.5

D.6

**D.7 - D.8**

D.7

D.8

**D.9 - D.11**

D.9

D.10

D.11

**D.12-13**

D.12

D.13

**D.14 - D.16**

D.14

D.15

D.16

**D.17 - 19**

D.17

D.18 - D.19

**D.20 - D.21**

D.20

D.21

D.22

D.23

**D.24 - D.31**

D.24

D.25

**D.26 - D.27**

D.28

**D.29 - D.30**

D.31

**D.32 - D.40**
**D.32**

D.32

**D.33**

D.33

**D.34**
**D.35**
**D.36**

D.36

**D.37**
**D.38**

D.38

**D.39**
**D.40**
**GC accessories**
**Gas filter**

Purigaz (base plate and filters) **D.41 - D.45**  
 Purigaz( High Flow base plate and filters) & accessories **D.41 - D.42**  
 Click-On **D.43**  
 Click-On Big trap **D.44**  
**D.45**

**Leak detectors**
**GC Ferrules**
**Injection Septa**
**GC tools and Glass wool**
**D.46**
**D.47 - D.48**
**D.49 - D.50**
**D.51**
**Accessories & tools**
**Hexagonal and Torx wrenches, flat wrenches**
**Wrenches, pliers, tweezers**
**Screwdrivers, Cutters, Magnets, Drills**
**Set of 120 pieces**
**D.52 - D.55**
**D.52**
**D.53**
**D.54**
**D.55**



BZ3050



BZ3300



BZ3310



BZ1580



BZ1870

These cases bring together a set of necessary and innovative products for your specific uses.

The cases and drawers are labeled with all product part numbers and designations.

### Magic Box HPLC "Stop dead volume"

We have selected all items to help you to reduce the dead volumes of your HPLC and all the tools to make your daily tasks easier.

BZ3050 kit includes:

- A MarvelX capillary for a high security connection between the injector and the column inlet with very low dead volume
- High quality PEEK tubing in a coil to optimize capillary length (0.17 and 0.25 mm)
- A polymeric tubing cutter for perfect and safe cutting
- Uptisûr fittings
- Slotted wrench and Allen wrench set
- PEEK union
- In-line filter with 2 µm frit to protect the columns from any pollution

Description	P/N
Magic Box HPLC "Stop dead volume".	BZ3050

### Magic Box "Stainless steel capillaries"

Large series of 1/16" stainless steel capillaries perfectly cut and "clean." 5, 10, 20 cm in 0.13 mm and 0.25 mm (10 capillaries each).

Description	P/N
Magic Box "Stainless steel capillaries"	BZ3300

### Magic Box "PEEK capillaries"

Set of 1/16" PEEK capillaries of 5, 10, 20 cm with internal diameter of 0.25 mm; 0.17 mm; 0.13 mm (5 capillaries each).

Description	P/N
Magic Box "PEEK capillaries"	BZ3310

### Magic Box GC "Gas lines"

A storage box and accessories to make or maintain your gas lines 1/8" brass : 1/8" brass tube, tube cutter, 1/8" tee, 1/8" front and back brass fittings & ferrules, flat wrenches and adjustable wrench.

Description	P/N
Magic Box GC "Gas lines"	BZ1580

### Magic Box "1/8" and 1/4" Fittings & unions"

Assortment of fittings, ferrules, unions, tees, caps, plugs in brass or stainless steel.

Description	P/N
Magic Box "Stainless steel fittings and unions in 1/8" & 1/4" or 68 pieces	BZ1870
Magic Box "Stainless steel fittings and unions in 1/8" & 1/4" or 68 pieces	FV2630



## PTFE Tubing

(PolyTetraFluoroEthylene)

PTFE (polytetrafluoroethylene) tubing is chemically inert and suitable for low pressure applications. The maximum operating temperature is 100°C.

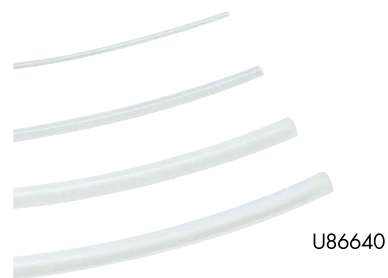
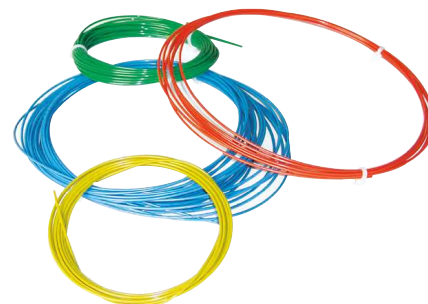
- Chemically inert, biocompatible
- Ideal for all low and medium pressure applications
- Low permeability
- Flexible, allows flanged collars
- Easy to clean
- Colored version for internal diameter identification

### Natural or colored PTFE tubing

OD	ID	P max. (psi)	P max. (bar)	Color	1.5 m	3 m	10 m	15 m	25 m
1/16" (1.6 mm)	0.18 mm	900	62	Natural	U89506	U89500	U89502	U89507	U89503
	0.25 mm	800	55	Natural	182499	182490	182492	18249A	182493
	0.25 mm	800	55	Blue		U88510	U88511		U88512
	0.25 mm	800	55	Black		U89520	U89521		U89522
	0.50 mm	700	50	Natural	18248A	182484	182485	18248B	182488
	0.50 mm	700	50	Orange		U88610	U88611		U88612
	0.50 mm	700	50	Black		U89540	U89541		U89542
	0.75 mm	550	37	Natural	18678C	186780	186788	18678L	186789
	0.75 mm	550	37	Green		U88520	U88521		U88522
	1.00 mm	350	25	Natural	178005	178000	178003	178009	178001
1/8" (3.2 mm)	1.59 mm	500	35	Natural	18950D	189500	189504	18950F	189502
	2.40 mm	250	18	Natural	177994	177990	177991	177997	177992
2 mm	1.70 mm	150	10	Natural	847154	847150	847152	847155	847153
2.3 mm	1.70 mm	150	10	Natural		HP6020	---		---
4 mm	3.00 mm	250	17	Natural	U88534	U88531	U88533		---
3/16" (4.76 mm)	3.76 mm	200	14	Natural		898480*	---		---
1/4" (6.35 mm)	4.75 mm	250	17	Natural		732260*	---		---
1/2"	9.53 mm	200	14	Natural		AXFGB0*	---		---

Other lengths available on request.

\*Delivered by meter.



Polymer compatibility  
see "Technical Support" chapter.

### RELATED PRODUCTS

**SafetyCap:**  
The mobile phase bottle is hermetically sealed:  
no harmful vapors in the lab  
and no change in the proportions of the mobile phase.  
Consumables - Protective caps - SCAT



### TECHNICAL TIP

Tolerances	OD mm	ID mm
1/16"	± 0.05	± 0.05
1/8"	± 0.10	± 0.10
3/16"	± 0.10	± 0.10
1/4"	± 0.10	± 0.10
1/2"	± 0.20	± 0.20





### ETFE Tubing (EthylTriFluoroEthylene)

ETFE (ethyltrifluoroethylene) tubings are particularly suitable for HPLC as they have a higher burst pressure than PTFE.

The 1/16" OD x 0.25 mm ID tubing withstands a pressure of 186 bar (2700 psi) with water as mobile phase.

However, it is important to note that when used with organic solvents, the ETFE tubing can swell, reducing the maximum pressure to 70 bar (1000 psi).

It is the ideal polymer for applications with chloride salts which typically corrode stainless steel.

- Designed for high pressure, very good mechanical strength
- High resistance to most solvents

OD	ID (mm)	Color	P max. (bar)	1 m	1.5 m	3 m	10 m	15 m	25 m
1/32" (0.8 mm)	0.25	Natural	152	---	U86644	U86640	U86641	U86645	U86642
	0.20	Natural	200	---	AXFG60	AXFG64	AXFG63	AXFG61	AXFG62
	0.25	Natural	186	---	168955	168950	168951	168956	168953
1/16" (1.6 mm)	0.50	Natural	152	---	168964	168960	168961	168965	168962
	0.75	Natural	117	---	168978	168970	168974	168979	168975
	1.00	Natural	83	---	958046	958040	958041	958047	958042
3 mm	1.00	Natural	138	YE3690	---	YE3691	---	---	---
1/8" (3.2 mm)	1.59	Natural	110	---	U86654	U86650	U86651	U86655	U86652
	2.40	Natural	34	---	AXFG70	AXFG74	AXFG71	AXFG72	AXFG73
6 mm	4.00	Natural	69	YE4310	---	YE4311	---	---	---
1/4" (6.35 mm)	4.80	Natural	17	---	---	AXFG82	---	---	---

Other lengths available on request.

### FEP Tubing (Fluorinated Ethylene Propylene)

FEP (Fluorinated Ethylene Propylene) tubing is chemically inert to most HPLC solvents and is recommended for low pressure applications.

- More transparent and less permeable than PTFE
- Chemically resistant to most HPLC solvents
- Recommended for ion chromatography applications

OD	ID (mm)	Color	P max. (bar)	1 m	3 m	10 m	25 m
1/32" (0.8 mm)	0.13	Natural	78	YE3330	YE3331	YE3332	---
	0.15	Natural	78	YE3400	YE3401	YE3402	---
	0.18	Natural	72	YE3460	YE3461	YE3462	---
	0.25	Natural	68	YE3560	YE3561	YE3562	---
	0.38	Natural	51	YE3600	YE3601	YE3602	---
	0.50	Natural	35	YE3630	YE3631	YE3632	---

Other lengths available on request.



### TECHNICAL TIP

Tolerances	OD mm	ID mm
360 µm	± 0.025	± 0.013
1/32"	± 0.025	± 0.025
1/16"	± 0.05	± 0.05
1/8"	± 0.10	± 0.10
3/16"	± 0.10	± 0.10
1/4"	± 0.10	± 0.10



OD	ID (mm)	Color	P max. (bar)	1 m	1.5 m	3 m	10 m	15 m	25 m
1/16" (1.6 mm)	0.25	Natural	117	---	U89554	U89550	U89551	U89555	U89552
	0.50	Natural	96	---	U89474	U89470	U89471	U89475	U89472
	0.75	Natural	76	---	U89486	U89480	U89481	U89487	U89482
	1.00	Natural	52	---	U89514	U89510	U89511	U89515	U89512
1/8" (3.2 mm)	1.59	---	69	---	U89496	U89490	U89491	U89497	U89492
	2.10	---	41	---	YE4015	YE4010	YE4011	YE4014	YE4012
3/16" (4.76 mm)	3.18	---	41	---	YE4214	YE4210	YE4211	YE4215	YE4212
1/4" (6.35 mm)	4.35	---	45	U89530	---	---	---	---	---
1 mm	0.50	---	62	---	YE3674	YE3670	YE3671	YE3675	YE3672
2 mm	1.00	---	62	---	YE3704	YE3700	YE3701	YE3705	YE3702
3 mm	1.00	---	82	---	YE3934	YE3930	YE3931	YE3935	YE3932
	2.00	---	41	---	YE4135	YE4131	YE4132	YE4136	YE4133
4 mm	3.00	---	---	AXFGLO	---	---	---	---	---
	3.96	---	---	AXFGJO	---	---	---	---	---
1/4"	3/16"	---	---	AXFGKO	---	---	---	---	---
	1 m	5/16"	---	1/4"	AXFGGO	---	---	---	---

Other lengths available on request.

### PFA Tubing (PerFluoro Alkoxyalkane)

PFA (perfluoroalkoxy) tubing has excellent chemical stability and high mechanical resistance.

Always use PFA instead of PTFE if gas permeability is an issue.

OD	ID (mm)	Color	P max. (bar)	1 m	1.5 m	3 m	10 m	15 m	25 m
1/16" (1.6 mm)	0.50	Natural	100	---	984548	984540	984544	984549	984545
	0.75	Natural	76	---	U88505	U88500	U88501	U88506	U88502
	1.00	Natural	55	---	BG2944	BG2940	BG2941	BG2945	BG2942
1/8" (3.2 mm)	1.59	Natural	72	---	984976	984970	984971	984977	984972
	1.70	Natural	65	YE3710	---	---	---	---	---
3/16" (4.76 mm)	3.20	Natural	41	YE4220	---	---	---	---	---
1/4" (6.35 mm)	4.35	Natural	45	YE4320	---	---	---	---	---
1/4"	3.97	Natural	45	1M7680	---	---	---	---	---
	4.80	Natural	45	AXFG90	---	---	---	---	---

Other lengths available on request.

Polymer compatibility  
see "Technical Support" chapter.

**RELATED PRODUCTS**

See tubing cutters.

704421      703620      780790



**TECHNICAL TIP**

Tolerances	OD mm	ID mm
360 µm	± 0.025	± 0.013
1/32"	± 0.025	± 0.025
1/16"	± 0.05	± 0.05
1/8"	± 0.10	± 0.10
3/16"	± 0.10	± 0.10
1/4"	± 0.10	± 0.10





### TECHNICAL TIP

#### Color code for gases:

- : Flammable: Hydrogen
- : Oxidizer
- : Nitrogen
- : Oxygen, Air

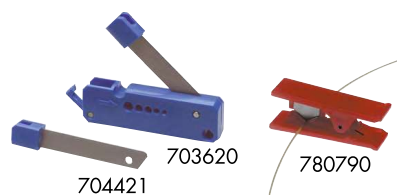
### Polyamide tubing (Nylon)

- High pressure resistance

OD	ID (mm)	Color	P max. (bar)	1 m
1/8" (3.2 mm)	1.60	Natural	69	875571
		Yellow	69	922721
		Blue	69	887371
		Green	69	922701
		Black	69	965811
		White	69	841351
1/4" (6.35 mm)	4.30	Natural	69	327712
		Yellow	69	AA0290
		Blue	69	AA0270
		Green	69	S30490
		Black	69	859500
		White	69	279550

#### RELATED PRODUCTS

See tubing cutters.





### Stainless steel tubing HPLC - UHPLC

- Wide range of stainless steel tubings (in coils or pre-cut) for in liquid, gas and other chromatography applications
- Stainless steel type 316, smooth surface, high quality, pre-cleaned
- Pre-cut tubes: perfect cutting to avoid dead volumes



### Stainless steel tube in coil

OD	ID (mm)	Premium	
		+/- 0.010 mm 1 m	+/- 0.025 mm 1 m
360 µm	0.075	AXFGD0	---
	0.150	---	AXFGE0

OD	ID (mm)	Standard +/- 0.05 mm		Premium +/- 0.025 mm	
		3 m	10 m	3 m	10 m
1/32" (0.8 mm)	0.13	---	---	AA2591	AA2592
	0.18	---	---	GE0421	GE0422
	0.25	---	---	FI4501	FI4502
	0.50	---	---	U54971	U54972
1/16" (1.6 mm)	0.10	AXFGF3	AXFGF2	---	---
	0.13	383952	383954	383956	383957
	0.18	383943	383944	---	---
	0.25	177873	177874	17787A	17787B
	0.38	---	---	AJ8471	AJ8472
	0.50	186243	186249	186247	186248
	0.75	177893	177899	177896	177897
	1.00	217433	217434	21743A	21743B
1/8" (3.2 mm)	0.75	---	---	170142	170143
	1.00	---	---	AA2631	AA2632
	1.52	---	---	I52511	I52512
	1.78	---	---	U05702	U05703
	2.10	177923	177926	---	---
	2.16	---	---	17792C	17792D
1/4" (6.35 mm)	4.65	---	---	177973*	---



\* Delivered per meter.

All our tubes can be delivered in coils of several tens of meters.

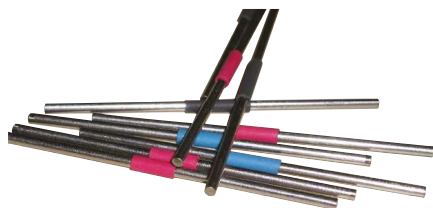


333930



1F9130





## RELATED PRODUCTS

Magic Box "Stainless steel capillaries"  
BZ3300 (see page D.4) Pre-cut stainless steel  
tubes



## Pre-cut stainless steel tubing

Pre-cut tubings are steam cleaned and offer burr-free ends, ready to be used for HPLC applications.

OD	ID (mm)	Color	5 cm	10 cm	13 cm	18 cm	20 cm	30 cm
1/32" (0.8 mm)	0.050	Blue	AXFGS0	AXFGT0	AXFGW0	AXFGX0	AXFGU0	AXFGV0
	0.075	Black	AXFGY0	AXFGZ0	AXFH20	AXFH30	AXFH00	AXFH10
	0.10	Red	GM7170	GM7171	GM7171	GM7171	GM7172	GM7173
	0.15	Yellow	GM7120	GM7121	GM7121	GM7121	GM7122	GM7123
	0.20	Natural	GM7250	GM7251	GM7251	GM7251	GM7252	GM7253
	0.25	Blue	GM7280	GM7650	GM7650	GM7650	GM7900	GM7950
	0.38	Green	GM7410	GM7670	GM7670	GM7670	GM7920	GM7980
	0.46	Black	GM7290	GM7660	GM7660	GM7660	GM7870	GM7990
	0.50	Blue	AXFGS0	AXFGT0	AXFGU0	AXFGV0	AXFGW0	AXFGX0
	0.75	Black	AXFGY0	AXFGZ0	AXFH00	AXFH10	AXFH20	AXFH30
1/16" (1.6 mm)	0.13	Red	U90150	U90160	AXFGH40	AXFGH50	547964	U90170
	0.18	Yellow	U90180	559811	AXFGH60	AXFGH70	559821	U90190
	0.25	Blue	292071	292081	AXFGH80	AXFGH90	560761	U90200
	0.50	Orange	U90210	390191	AXFGHA0	AXFGHB0	U90220	U90230
	0.75	Green	U90240	U90250	AXFGHC0	AXFGHD0	U90260	U90270
	1.00	---	518770*	GD7790*	---	---	520290*	853680*
	1.17	---	AD9920	AE5990	---	---	AC9350	AC9070

Other lengths available on request.

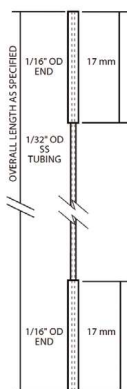
OD	ID (mm)	15 cm	25 cm	1 m	3 m
1/8"	2.00	AB7200	AD8970	AD9110	AD9230

\*Sold by 2 units.

## TECHNICAL TIP

What tubing diameter should be used depending on the flow rate and the internal diameter of the column?

ID column mm	Flow rate mL/min	ID tubing mm
1 to 2.1	0.05 to 0.2	<0.13
2.1 to 3	0.2 to 0.5	0.13 to 0.17
3 to 4.6	0.5 to 1	0.17 to 0.25
4.6 to 10	1 to 10	0.25
10 to 21.2	10 to 25	0.25 to 0.50
50	50 to 100	0.50 to 1.00



## Flexible stainless steel tube

- High quality 1/32" stainless steel capillary with 1/16" ends
- Delivered without fittings, easy to use
- Compatible with standard stainless steel and PEEK fittings
- No dead volume connection

OD	ID (mm)	Color	105 mm	130 mm	150 mm	180 mm	200 mm	280 mm	400 mm	600 mm	700 mm	800 mm	900 mm
1/32" (0.8 mm)	0.13	Red	DZ9690	B8DDP0	DZ9700	B8DDQ0	DZ9710	DZ9720	DZ9730	---	DZ9750	DZ9760	---
	0.18	Yellow	DZ9770	B8DDS0	DZ9780	BVGCFO	DZ9790	DZ9800	DZ9810	DZ9820	DZ9830	DZ9840	LV0180
	0.25	Blue	DZ9850	B8DDT0	DZ9870	B8DDU0	DZ9890	DZ9900	DZ9910	DZ9920	DZ9930	DZ9940	---
	0.50	Orange	DZ9950	B8DDW0	---	B8DDX0	DZ9980	DZ9990	EJ8050	EK2440	EL6310	EO0000	---





### PEEK Tubings (PolyEtherEtherKetone)

We recommend striped PEEK tubing for easy identification by color-coding the tube ID, with identification, with maximum chemical resistance and biocompatibility. The stripe is added to the outside. The dye never comes in contact with the fluid stream.

The stripe is added to the outside. The dye never comes in contact with the fluid stream.

- Inert and biocompatible polymer
- Can be used up to 100°C
- Good pressure resistance (variable depending on internal and external tube diameters)
- Color-coded according to internal diameters
- Available in long coils

Incompatibility: some solvents such as dichloromethane, DMSO, THF or concentrated acid solutions...

Please refer to the compatibility table in the "Technical Support" section.

### TECHNICAL TIP

Relationship between the internal diameter of the tube and the volume/cm.

ID mm	µL/cm
0.05	0.02
0.064	0.03
0.075	0.04
0.1	0.08
0.13	0.13
0.15	0.18
0.17	0.23
0.2	0.32
0.25	0.49
0.5	1.96
0.75	4.42
1	7.85
1.59	19.86

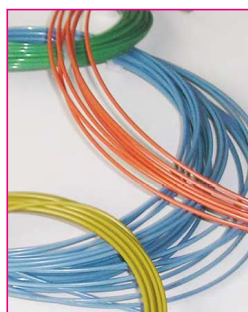
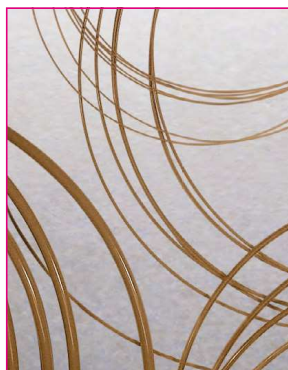
  

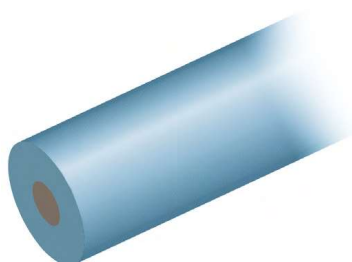
Tolerances	OD mm	ID mm
1/32"	± 0.025	± 0.013
1/16" ID < 0.25 mm	± 0.025	± 0.013
1/16" ID > 0.25 mm	± 0.025	± 0.025
1/8"	± 0.050	± 0.050

### Striped color-coded PEEK tubing

OD	ID (mm)	Color	P max. (bar)	1 m	1.5 m	3 m
1/32" (0.8 mm)	0.050	Orange	455	YE4350	YE4353	YE4351
	0.064	Pink	455	YE4430	YE4433	YE4431
	0.075	Green	455	YE4470	YE4474	YE4471
	0.100	Black	455	YE3770	YE3773	YE3771
	0.13	Red	414	YE3390	YE3393	YE3391
	0.15	Natural	400	YE3450	...	YE3451
	0.18	Yellow	386	PIY320	PIY323	PIY321
	0.20	Orange	369	PIY220	PIY223	PIY221
	0.25	Blue	338	YE3590	YE3594	YE3591
	0.50	Orange	269	YE3650	YE3653	YE3651

OD	ID (mm)	Color	P max. (bar)	1.5 m	3 m	10 m	15 m	25 m
1/16" (1.6 mm)	0.050	Orange	480	EO3426	EO3420	EO3422	EO34227	EO3423
	0.064	Pink	480	BG2965	BG2960	BG2961	BG2966	BG2963
	0.075	Green	470	EO3405	EO3400	EO3402	EO3406	EO3403
	0.100	Black	460	EO3387	EO3380	EO3382	EO3388	EO3383
	0.13	Red	460	56644E	566440	566441	56644F	566443
	0.18	Yellow	440	76711C	767110	767111	76711D	767115
	0.25	Blue	420	76712K	767120	767121	76712M	767123
	0.50	Orange	345	AXFGC1	767130	767131	76713C	767138
	0.75	Green	262	76714J	767140	767143	76714K	767147
	1.00	Gray	179	67681D	676810	676811	67681H	676814
	1.40	Black	55	382695	382690	382691	382696	382691





## Solid color-coded PEEK tubing

OD	ID (mm)	Color	P max. (bar)	1 m	3 m	10 m		
1/32" (0.8 mm)	0.050	Orange	455	YE4340	YE4341	---		
	0.064	Pink	455	YE4420	YE4421	---		
	0.075	Green	455	YE4460	YE4461	---		
	0.100	Black	455	YE3760	YE3761	---		
	0.13	Natural	414	---	T78580	T78581		
	0.13	Red	414	YE3340	YE3341	---		
	0.15	Purple	400	YE3410	YE3411	---		
	0.18	Yellow	386	YE3470	YE3471	---		
	0.20	Orange	369	YE3530	YE3531	---		
	0.25	Blue	338	YE3580	YE3581	---		
0.50	Orange	269	YE3620	YE3621	---			

OD	ID (mm)	Color	P max. (bar)	1.5 m	3 m	10 m	15 m	25 m
1/16" (1.6 mm)	0.064	Natural	480	---	B41E10	---	---	---
	0.100	Black	460	LV0114	LV0110	LV0111	LV0115	LV0112
	0.13	Red	460	969438	969430	969435	969439	969436
	0.15	Purple	460	LV0124	LV0120	LV0121	LV0125	LV0122
	0.18	Yellow	440	969444	969440	969442	969445	IO0150
	0.25	Blue	420	969457	969450	969451	969458	969452
	0.38	Gray	269	LV0144	LV0140	LV0141	LV0145	LV0142
	0.50	Orange	269	969468	969460	969463	969469	969465
	0.75	Green	262	IV0123	969470	969471	969478	969473

OD	ID (mm)	Color	P max. (bar)		3 m	10 m		
1/8" (3.2 mm)	0.75	Natural	379		676940	676941		
	1.59	Natural	248		803770	803771		
	2.00	Natural	179		676950	676951		

OD	ID (mm)	Color	P max. (bar)		3 m			
1/4"	3.17	Natural	227		676960*			

\* Delivered per meter.

## RELATED PRODUCTS

Magic Box \*PEEK capillaries  
BZ3310 Pre-cut PEEK tubes (see page D.4)



### Thermo-formed polymeric tubing

This spiral-wound PEEK tubing is ideal for connecting elements of a HPLC chain.

Its great flexibility makes it possible to move the instruments without risk of breaking of the connections.

The assemblies made are always "clean."

Each spiral is finished with a 15 cm long straight part to make the fixing easier. The diameter of the coils is about 13.5 mm.

A color code allows an easy identification of the internal diameter.

Two solutions are proposed:

- Mass dyeing before extrusion
- Colored border printed on the external surface of the tube

Note:

Be careful not to unnecessarily increase the dead volume of your installation.

These tubes quickly induce a great length and are not necessarily recommended between injection valve and column.

### Support for 1/16" OD PEEK tubes

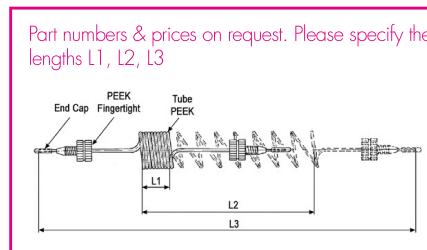
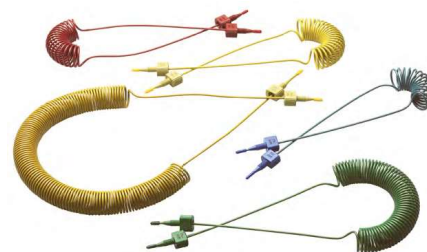
These two supports at 90° and 180° are dimensioned in such a way that they do not affect the characteristics of the tube (chemical resistance and pressure resistance) despite the bending.

Description	P/N	Qty
Support at 90°	877101	5 u
Support at 180°	877112	5 u

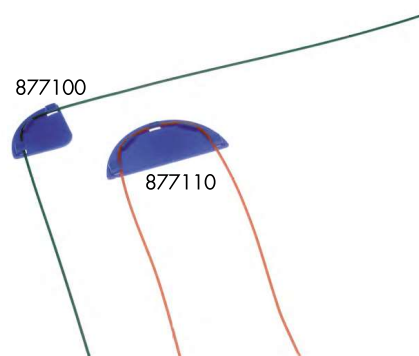
### The smart little clip

Can be attached to any wall up to 4 mm thick (e.g. a beaker). Maintains the desired position all 1/16" or 1/8" plastic tubes.

Description	P/N	Qty
Clips for tubes 1/16" or 1/8" (OD)	835910	10 u



Part numbers & prices on request. Please specify the lengths L1, L2, L3





AK2960

### Electric tubing cutter

This electric tubing cutter cuts 1/8" and 1/16" tubings; the finishing tool is used to prepare tubes with a very small internal diameter (up to 0.008").

Description	P/N	Qty
Electric tubing cutter, 220 volts (supplied with finishing kit for 1/16" pipe)	AK2960	1 u
Replacement wheels	100124	3 u
1/16" finishing kit	100116	1 u
1/8" finishing kit	100118	1 u

### 1/16" OD SS tubing cutter

Very fast and easy to use: no effort to cut.

Almost perfect 90° cut

- No deformation of the internal diameter
- Only a deburring with a file may be necessary in some cases



745830

Description	P/N	Qty
1/16" OD SS tubing cutter	745830	1 u

### 1/8" & 1/4" OD SS tubing cutter



1F9130

Description	P/N
Stainless steel, copper, nickel tubing cutter 1/8" to 1/2"	1F9130

### Advion Interchim Scientific tubing cutter

- Ideal for cutting 1/16" to 1/8" tubes
- Allows for perfect cuts
- No finishing required



333930

Description	P/N	Qté
Tubing cutter 1/16" to 1/8"	333930	1 u
Replacement wheels	097746	1 u



### Polymeric tubing cutter

Without any doubt the best polymeric pipe cutter. Regardless of the hardness of the tube, a clean cut is obtained without effort. Recommended by our technicians for its great efficiency and robustness.

- High precision cutting pliers
- Large capacity: perfect cut up to 1/2" external diameter
- No cutting effort

Description	P/N	Qty
Polymeric tubing cutter	AXGYM0	1 u

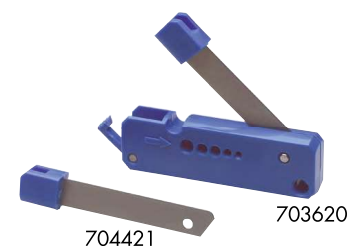


AXGYM0

### "Clean-Cut" tubing cutter

The "Clean-Cut" tubing cutter ensures a clean, non-crushing cut of all polymeric tubes from 1/16" to 1/8" external diameter (PEEK, PTFE, ETFE, or other plastics).

Description	P/N	Qty
"Clean-Cut" tubing cutter delivered with a spare blade	703620	1 u
Spare blade	704421	1 u



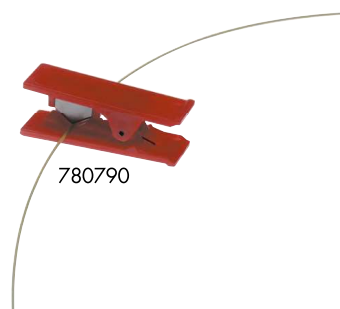
703620

704421

### "Guillotine" tubing cutter

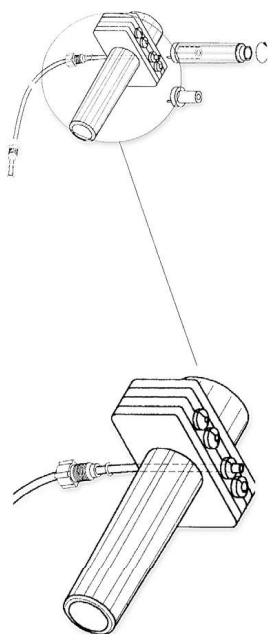
This tool is recommended for cutting PTFE, ETFE or soft polymer tubing. For PEEK, or hard material, the "AXGYM0" or "Clean-Cut" is recommended.

Description	P/N	Qty
"Guillotine" tubing cutter	780790	1 u
Spare blade	780800	1 u

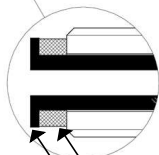


780790





737351



Washer

Flange on the end of PTFE tubing



D04150

215151

### Flanging tool

A very practical tool for forming flanged tubes

- Time to form a flanged: 20 seconds!
- Forming at room temperature
- Versatile (1/16" or 1/8" tube forming)
- Very easy to use
- No effort required
- Economical

This tool makes it very easy to quickly and safely make all your connections. It is extremely simple to use. No need for training or extensive trial-and-error: you will succeed on your first try!

There is no need to heat the end of your tube to form it: the "flanging tool" can be used at room temperature. All Nylon®, PTFE, Tefzel® 1/16" or 1/8" tubing, regardless of its internal diameter, can be worked on without any physical effort.

Description	P/N
Complete Flanging tool	737350
The 737350 kit includes in addition to the Flanging tool:	
Forming tool (stainless steel tip 0.5 mm) for PEEK tube	741440
Forming tool (plastic tip 0.8 mm)	264310
Forming tool (titanium tip 0.8 mm)	974660
Forming tool (plastic tip 1.3 mm)	264610
Forming tool (titanium tip 1.3 mm)	779090
"Clean Cut" tubing cutter	703620
PTFE tubing 1/16" - 0.75 mm (3 m)	186780
Flanging tool complete with low pressure accessories	737351
737351 kit includes the entire kit 737350 plus the following items:	
Nuts 1/16" - 1/4"-28 (10 u)	D10010
1/16" polypropylene gaskets (10 u)	215401
Nuts 1/8" - 1/4"-28 (10 u)	D13640
Polypropylene Gaskets 1/8" (10 u)	215151
Identification ring assortment (24 u)	GM8790
PTFE tubing 1/8" - 1/16" (3 m)	189500

### Nuts and rings for flanged tubings

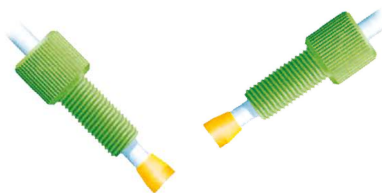
- 1/4"-28 low pressure thread
- Nylon nuts and union

Description	1/16"	1/8"
Nuts black	215140	215130
Nuts white	215141	215131
Polypropylene Gaskets	215401	215151
Hexagon head nut PPS	D10010	D13640
Polypropylene Gaskets	215401	215151
1/4"-28 Nylon Union	---	187210

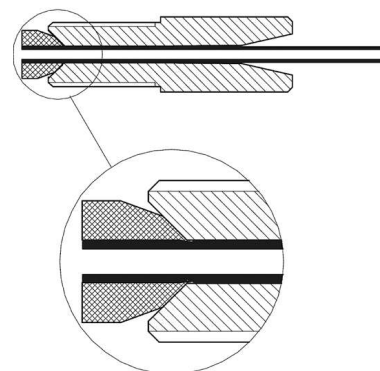


### Flanged less fittings

The "no flanged" system solves all your low pressure connection problems regardless of the flexible tube used (PTFE or ETFE).



- Manual tightening nuts
- Standard low pressure thread 1/4"-28
- No forming tool is required: no flanged, the ferrule is crimped directly on the tube
- Completely inert system: only the ETFE ferrule (very stable fluorocarbon polymer) is in contact with the mobile phase
- No dead volume
- Very good pressure resistance (70 bar for 1/16" connections and 35 bar for 1/8" connections)
- Fits to all instruments (LDC, LKB, Altex/Beckman, Waters, PerkinElmer, Bio-Rad...)



Description	1/16"	1/8"	Qty
Polyacetal nut (white)	177810	245490	10 u
Polyacetal nut (black)	245480	245540	10 u
Polyacetal nut (blue)	231532	245552	10 u
Polyacetal nut (green)	187202	245510	10 u
Polyacetal nut (yellow)	245472	245532	10 u
Polyacetal nut (red)	231522	245523	10 u
PEEK nut (natural)	167150	921390	10 u
PPS nut (black) hexagonal head	D18570	D30160	10 u
Tefzel ferrule	163800	163840	10 u

#### Collapsible ferrule

PPS nut (black) hexagonal head	D12840	AU0550	10 u
Collapsible ferrule	U73230	D26120	10 u

#### Ferrule + stainless steel ring system - high pressure

PPS nut	D12840	---	10 u
PEEK fittings + 1/32" stainless steel ring	---	PIY420	10 u
PEEK fittings + 1/16" stainless steel ring	---	PIY430	10 u

#### Accessories

PEEK Cross	U89140	U89150	1 u
PEEK tee	U89120	U89130	1 u
PEEK mixing tee	GC4300	GC4320	1 u
Manifold 5 ports	LO1890	954030	1 u
Manifold 9 ports	GC2820	954040	1 u
Straight polyamide union (delivered without fitting)		187210	5 u
Straight polyamide union	778881	779081	1 u
PEEK plug		526730	5 u





AA2800



AB7390

## Polypropylene barbed adapters

Perfect for connecting flexible tubes

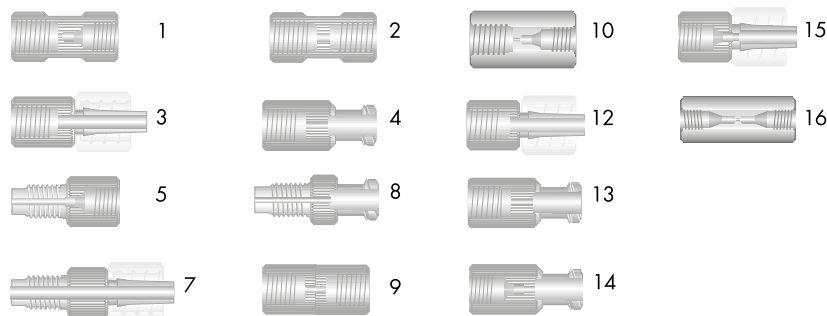
ID of the flexible tube	1/16" = 1.6 mm	1/8" = 3.02 mm
10-32 Male	AB7390	U12710
1/4"-28 male	AA2800	738940
Female luer	AE2390	---
Male Luer	AE4850	AE6620
Male Luer Lock	AD7710	AE2430

Available in PEEK on request.

## PEEK adapters

Union input		1/4"-28	M6	Luer	Luer	10-32
Union output		female	female	female	male	female
1/4"-28	female	778880 9	654811 2	U86322 4	U86330 3	737660 1
1/4"-28	male	---	---	871233 8	GC4420 7	U86240 5
M6	female	---	---	D51781 13	D51771 12	654754 10
Luer	female	---	---	---	---	962551 14
Luer	male	---	---	---	---	239681 15
10-32	female	---	---	---	---	869290 16

## Delivered without fitting



Other threads available on request.





## 2-way "on/off" ball shut-off valve

### 40 Series

Max pressure: 206 bar or 3 000 psi  
 Temperature range: 10°C to 65°C  
 Stainless steel body

### 40G Series

Max pressure: 206 bar or 3 000 psi  
 Temperature range: -53°C to 148°C  
 Stainless steel body

	Serie 40 - Brass			Serie 40 - SS		
		Right	Angle		Right	Angle
2-way valve "on/off"	1/16"	B-41S1	B-41S1-A	1/16"	SS-41GS1	SS-41GS1-A
2-way valve "on/off"	1/8"	B-41S2	B-41S2-A	1/8"	SS-41GS2	SS-41GS2-A
2-way valve "on/off"	1/4"	B-42S4	B-42S4-A	1/4"	SS-42GS4	SS-42GS4-A
2-way valve "on/off"	3/8"	B-43S6	B-43S6-A	3/8"	SS-43GS6	SS-43GS6-A

3, 5 and 7 way valves available on request.

## Metering valves

Description	Stainless steel straight	Stainless steel angle	Brass straight	Brass angle
1/16"	---	SS-SS1-A	---	B-SS1-A
1/8"	SS-SS2	SS-SS2-A	B-SS2	B-SS2-A
1/4"	SS-SS4	SS-SS4-A	B-SS4	B-SS4-A

These valves cannot be used as shut-off valves.

## Online Filters

Stainless steel	Brass	Inlet	Outlet
SS-2F-*	B-2F-*	1/8"	1/8"
SS-2F-T7-*	B-2F-T7-*	1/8"	1/8" tube
SS-4F-*	B-4F-*	1/4"	1/4"
SS-4F-T7-*	B-4F-T7-*	1/4"	1/4" tube

### Replacement filter elements (316 stainless steel)

	P/N
For 2F series filters (1/8")	SS-2F-K4-*
For 4F series filters (1/4")	SS-4F-K4-*

\*Suffix: 05, 2, 7, 15, 60 or 90 (6 porosities available from 0.5 to 90 µm).

## Check valves

- Fluid flow in one direction only
- Possibility to choose the minimum opening pressure: 1/3; 1; 10; 25 psi or 0.02; 0.06; 0.68; 1.7 bar
- Can be used up to 413 bar
- Available in stainless steel and brass

Description	Stainless steel	Brass
1/8" stainless steel check valve	SS-2C-@	B-2C-@
1/4" stainless steel check valve	SS-4C-@	B-4C-@
3/8" stainless steel check valve	SS-6C-@	B-6C-@

@ = 1/3 or 1 or 10 or 25 (psi).

Ball shut-off valves



Other configurations are possible: such as NPT outlets, or tube outlets in mm... Please contact us.



SS.SS2



SS.2FT7.7



Fine adjustment valve with vernier available on request.





Nut



Front ferrule



Back ferrule



Unions



Reducing unions



Plugs



Caps

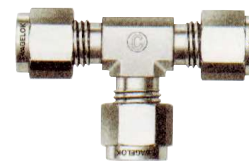
## Fittings

		Inox	Laiton	PTFE
Nut	1/16"	SS-102-1	B-102-1	T-102-1
	1/8"	SS-202-1	B-202-1	T-202-1
	1/4"	SS-402-1	B-402-1	T-402-1
	3/8"	SS-602-1	B-602-1	---
Front ferrule	1/16"	SS-103-1	B-103-1	T-103-1
	1/8"	SS-203-1	B-203-1	T-203-1
	1/4"	SS-403-1	B-403-1	T-403-1
	3/8"	SS-603-1	B-603-1	---
Back ferrule	1/16"	SS-104-1	B-104-1	T-104-1
	1/8"	SS-204-1	B-204-1	T-204-1
	1/4"	SS-404-1	B-404-1	T-404-1
	3/8"	SS-604-1	B-604-1	---
Front and back ferrules kit (10 of each)	1/16"	SS-100-SET	B-100-SET	T-100-SET
	1/8"	SS-200-SET	B-200-SET	T-200-SET
	1/4"	SS-400-SET	B-400-SET	T-400-SET
	3/8"	SS-600-SET	B-600-SET	T-600-SET
Unions	1/16"	SS-100-6	B-100-6	---
	1/8"	SS-200-6	B-200-6	T-200-6
	1/4"	SS-400-6	B-400-6	T-400-6
	3/8"	SS-600-6	B-600-6	---
Reducer unions	1/8"-1/16"	SS-200-6-1	B-200-6-1	T-200-6-1
	3/16"-1/8"	SS-300-6-2	B-300-6-2	T-300-6-2
	1/4"-1/16"	SS-400-6-1	B-400-6-1	T-400-6-1
	1/4"-1/8"	SS-400-6-2	B-400-6-2	T-400-6-2
	3/8"-1/4"	SS-600-6-4	B-600-6-4	T-600-6-4
Plugs	1/16"	SS-100-C	B-100-C	---
	1/8"	SS-200-C	B-200-C	---
	1/4"	SS-400-C	B-400-C	---
	3/8"	SS-600-C	B-600-C	---
Caps	1/16"	SS-100-P	B-100-P	---
	1/8"	SS-200-P	B-200-P	---
	1/4"	SS-400-P	B-400-P	---
	3/8"	SS-600-P	B-600-P	---



Fittings

		Stainless steel	Brass	PTFE
Tees	1/16"	SS-100-3	B-100-3	T-100-3
	1/8"	SS-200-3	B-200-3	T-200-3
	1/4"	SS-400-3	B-400-3	T-400-3
	3/8"	SS-600-3	B-600-3	---
Cross	1/8"	SS-200-4	B-200-4	---
	1/4"	SS-400-4	B-400-4	---
	3/8"	SS-600-4	B-600-4	---
Reducer	1/16" x 1/8" tube	SS-100-R-2	B-100-R-2	---
	1/16" x 1/4" tube	SS-100-R-4	B-100-R-4	---
	1/8" x 1/16" tube	SS-200-R-1	B-200-R-1	---
	1/8" x 1/4" tube	SS-200-R-4	B-200-R-4	---
	3/16" x 1/4" tube	SS-300-R-4	B-300-R-4	---
	1/4" x 1/8" tube	SS-400-R-2	B-400-R-2	---
	1/4" x 3/8" tube	SS-400-R-6	B-400-R-6	---
	3/8" x 1/4" tube	SS-600-R-4	B-600-R-4	---
Male NPT connector	1/16" x 1/8" NPT	SS-100-1-2	B-100-1-2	T-100-1-2
	1/8" x 1/8" NPT	SS-200-1-2	B-200-1-2	T-200-1-2
	1/8" x 1/4" NPT	SS-200-1-4	B-200-1-4	---
	1/4" x 1/8" NPT	SS-400-1-2	B-400-1-2	---
Female NPT connector	1/4" x 1/4" NPT	SS-400-1-4	B-400-1-4	---
	1/16" x 1/8" NPT	SS-100-7-2	B-100-7-2	---
	1/8" x 1/8" NPT	SS-200-7-2	B-200-7-2	---
	1/8" x 1/4" NPT	SS-200-7-4	B-200-7-4	---
	1/4" x 1/8" NPT	SS-400-7-2	B-400-7-2	---
	1/4" x 1/4" NPT	SS-400-7-4	B-400-7-4	---



Tees



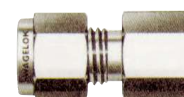
Cross



Reducer



Male NPT connector



Female NPT connector

RELATED PRODUCTS

Magic Box Fittings and unions brass or stainless steel 1/8" & 1/4 BZ1870 or FV2630





### Uptisûr 10-32 connector for 1/16" tube

- Part manufactured by machining
- High resistance to crushing and bursting
- Limits the risk of leakage
- Material: PEEK polymer
- Totally inert and biocompatible
- Use up to 5,000 psi (350 bar)

It will allow you to efficiently connect all 1/16" tubes (10-32). Unlike "molded" fittings, these "machined" connectors offer better mechanical resistance, excellent pressure resistance and a perfect seal, even after several tightenings.

Description	P/N	Qty
Uptisûr® connector (PEEK nut 1/16")	468452	10 u

### Standard PEEK connector

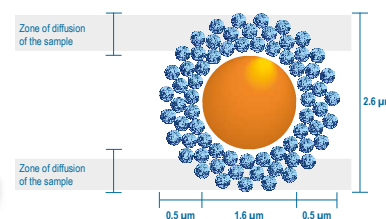
- Part manufactured by molding
- Manual tightening
- Use up to 5,000 psi (350 bar)
- Compatible with all 1/16" fittings
- Several colors available



Description	P/N	Qty
Light brown PEEK nut	78077G	10 u
Black PEEK nut	982850	5 u
Red PEEK nut	982860	5 u
Yellow PEEK nut	982870	5 u
Blue PEEK nut	982880	5 u
Green PEEK nut	982890	5 u

### RELATED PRODUCTS

Range of Advion Interchim Scientific (U)HPLC analytical columns Uptisphere® CS Evolution™  
 Superficially porous & monodisperse silica.  
 Learn more about these products in the chapter: LC Analysis





### PEEK HT hex head connector for UHPLC

- Specific PEEK HT material for higher pressure resistance
- One piece fitting
- Available in 10 - 32 thread for 1/16" tube and 6-40 thread for 1/32"
- Hand or wrench tightening

Description	OD tube	P max. (bar)	P/N	Qty
PEEK HT Fitting	1/16"	700 bar	PIY240	10 u
PEEK HT Fitting	1/32"	625 bar	PIY250	10 u
Manual clamping tool	1/16"		PIZ050	1 u
Manual clamping tool	1/32"		PIZ040	1 u



### Single PEEK Hex Head Connector

- One piece 10 - 32 fitting for 1/16" external tube
- < 5,000 psi or 350 bar
- Small footprint (1/4")
- Manual or wrench tightening
- Compatible with all 1/16" fittings

Description	P/N	Qty
Short (15 mm)	T7857S*	5 u
Long (19.5 mm)	T7857L*	5 u
Manual tightening	T7857F	5 u

\*Allow the use of an identification ring.



### 1-piece PPS (Polyphenylene Sulphide) fitting

- Economical compared to PEEK
- Excellent chemical resistance
- Small footprint
- Pressure resistance < 350 bar

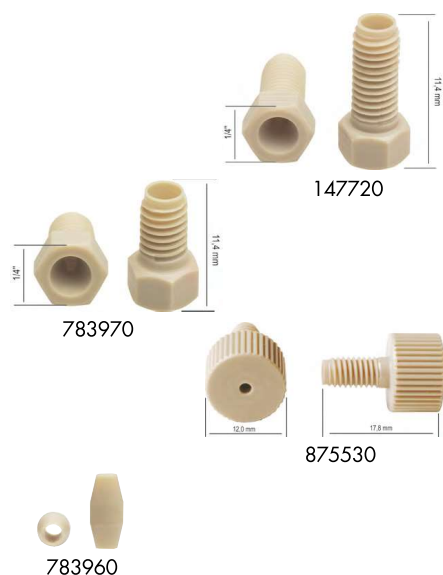
Description	P/N	Qty
Black PPS fittings 10-32	GM9170	5 u



### Identification rings for hexagonal head fittings

	For PEEK fittings		For PPS fittings	
Natural	---	---	GM8960	5 u
White	U89030*	5 u	GM8720*	5 u
Dark gray	---	---	GM8830	5 u
Black	U89020*	5 u	GM8840*	5 u
Lavender	---	---	GM8930	5 u
Red	U89040*	5 u	GM8970*	5 u
Yellow	U89000*	5 u	GM8950*	5 u
Orange	---	---	GM9100	5 u
Brown	---	---	GM8770	5 u
Green	U89010*	5 u	GM8940*	5 u
Blue	U88990*	5 u	GM8800*	5 u
Purple	---	---	GM9050	5 u
Assortment of colors*	U89051	6 x 2 u	GM8791	6 x 2 u





### 2-pieces PEEK connector with double ferrule

- The double ferrule allows a 2-point fixation
- Full biocompatibility
- High pressure resistance 420 bar (6,000 psi)
- Manual or wrench tightening
- Adaptable to all 1/16" fittings
- Ideal for use with PEEK tubing

Maximum operating pressure is 400 - 450 bar (6,000 - 6,500 psi). The double ferrules are made entirely of PEEK. They can be used with all conventional HPLC solvents. PEEK is particularly recommended if the compounds to be analyzed are sensitive to stainless steel.

Description	P/N	Qty
Long PEEK nut (15 mm)	147720	5 u
Short PEEK nut (7.5 mm)	783970	5 u
PEEK manual nut	875530	5 u
Double ferrule PEEK	783960	5 u

### 2-pieces PEEK connector with single ferrule

- Manual tightening
- Use up to 275 bar (~4,000 psi)
- Reusable nut, interchangeable ferrule
- Compatible with all types of 1/16" female fittings

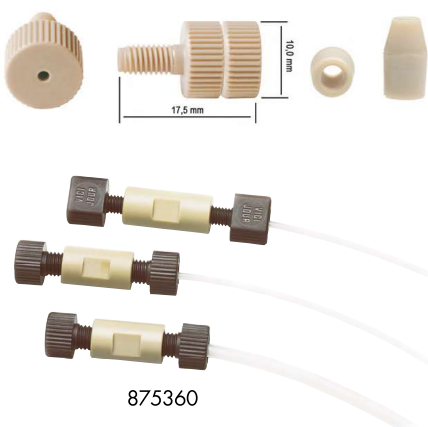
This fitting consists of a PEEK nut and a single PEEK ferrule. The maximum pressure is 275 bar. This system allows the connection with all types of 1/16" female fittings.

Description	P/N	Qty
Manual nut 1/16" for 2-piece connector	821461	5 u
Single ferrule 1/16" for 2-piece connector	780760	5 u

### PEEK Union

- Connection to all types of 1/16" pipes (10-32 thread)
- Low dead volume
- 0.3 mm passage diameter

Description	P/N	Qty
Union + 2 PEEK fittings	875360	1 kit
Union only	869290	1 u





### HPLC tees and crosses

- 100% PEEK-compatible
- Accept all manual connection systems (thread 10-32)
- Pressure rating: 10,000 psi (690 bar)
- Supplied: with or without fittings
- Flow diameter 0.4 mm

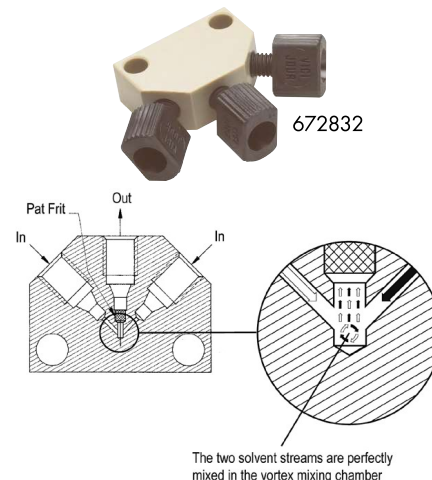
Description	P/N	Qty
1/16" PEEK tee only	921490	1 u
1/16" PEEK tee with 1/16" fittings	921500	1 u
1/16" PEEK cross alone	921520	1 u
1/16" PEEK cross with 1/16" fittings	921540	1 u



### Biocompatible mixing tee

- Ideal mixing thanks to the 5 µm PAT frit
- Dead volume (including sinter): 4 µL
- Minimal pressure drop (10 psi at 1 mL/ min)
- Pressure resistance: 7,000 psi
- Comes with 3 PEEK fittings

Description	P/N	Qty
Mixing tee + 3 PEEK fittings	672832	1 u



### Column coupler (10-32)

#### Economical "two piece" coupler

This extremely simple coupler is the most economical way to connect column to pre-column. Consists of two single PEEK connectors and a 1/16" stainless steel tube with a small internal diameter and minimal length.

Description	P/N	Qty
Economical "two-piece" coupler 0.25 mm	387570	1 u



#### "UNIVERSAL" one-piece coupler

- Column-column connection, column-pre-column connection, column-injector connection
- Manual tightening
- Pressure resistance: 5,000 psi
- Biocompatible (100% PEEK)
- Low dead volume (∅ int. 0.25 mm)

Description	P/N	Qty
Blue 0.25 mm	974534	1 u
Red 0.13 mm	T78540	1 u
Yellow 0.17 mm	T78550	1 u
Orange 0.50 mm	T78560	1 u



#### "Toupie" coupler

Bore		Dead volume	P/N
0.50 mm	Kel-F	6.0 µL	AD8391
1.50 mm	PEEK	54 µL	AD7680





### SafetyCaps: Safe Solvent Supply for any HPLC / UHPLC System

Organic solvents are toxic, flammable and the vapours can escape through the smallest openings.

The S.C.A.T. system guarantees a safe and fixed connection of all hoses and blocks harmful vapours for your safety without compromising the mixing ratio of the mobile phase.

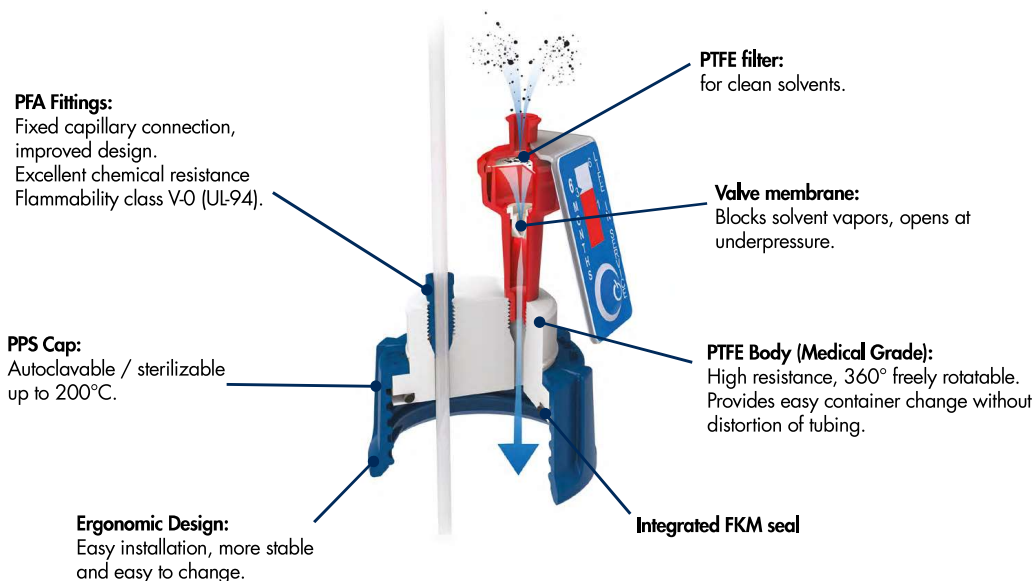
Ventilation valves ensure safe pressure equalization without under- or overpressure in the solvent cylinders.

The V2.0 venting valve is the safest valve on the market due to its design and components. It can be used with a flow rate of up to 400 ml/min.

It is equipped with a PTFE filter so that no particles enter the mobile phase bottle when the valve is opened.

In addition, it is possible to inject a gas or connect a tube to a desiccator using the female luer lock outlet.

The high-performance plastics used offer maximum chemical resistance.



### SafetyCap for external diameter tubing $\leq 1/8''$ or 3.2 mm GL45 SafetyCap

1/4" - 28 fittings for ext diam tube 1.6 ; 2.3 ; 3.2 mm	Capillary connections*				
	1 SafetyCap I	2 SafetyCap II	3 SafetyCap III	4 SafetyCap IV	6 SafetyCap VI
SafetyCaps with air valve	307019	307909	307910	307410	307520
SafetyCaps with valve and air valve	307119	307919	307920	307419	307519
SafetyCaps with valve and air valve	---	307219 (1 valve)	307319 (2 valves)	---	---
SafetyCaps - space saving with air valve	399019	399909	---	---	---

\* = Number of fittings to connect capillaries.

Each cap is supplied with a air valve and 1/4" - 28 fittings for 1.6 mm, 2.3 mm and 3.2 mm external diameter tubing.





### Werner: The clean flushing process

Installation of 4 Safety Caps (GL45 or GL28) or less using closed caps.  
Easy installation: capillaries are reliably fixed and the wide opening of the bottle GL80 allows easy passage of tubing and solvent strainers or filters.

Description	4 sorties GL45	4 sorties GL38
Werner adaptater GL80	106660	106696
Description	P/N	
Bottle 1L GL80 (clear glass)	XF097A	



### Accessories for SafetyCaps

#### Air valves for SafetyCaps

Due to its design and components, the V2.0 ventilation valve is the safest on the market and can be used with a flow rate of up to 400 ml/min.

It is equipped with a PTFE filter so that no particles enter the mobile phase bottle when the valve is opened.

In addition, it is possible to inject a gas or to connect a tube to a desiccator using the female luer lock outlet.

The valve has a 1/4"-28 thread which fits to the majority of stoppers on the market.



	1 unit	8 units	10 units	50 units
P/N	317010	397008	397010	397050

### PFA fittings (Nut and ferrule integrated)

Ø OD tubing	Thread size	PFA (5 u)		White PTFE
1.6 mm = 1/16"	1/4" - 28	107061	Green	107041 (10 u)
		107048	Transparent	---
2.3 mm	1/4" - 28	107059	Purple	107042 (10 u)
		107063	Blue	107043 (10 u)
3.2 mm = 1/8"	1/4" - 28	107060	Black	---
		107066	Transparent	---
4.76 mm = 3/16"	5/4" - 24	---	---	107045 (1 u)
6.35 mm = 1/4"	1/8"NPT	---	---	107044 (1 u)



### Plugs

Thread	Replacement	Material	P/N - 10 u	P/N - 5 u	P/N - u
1/4" - 28	Standard fitting	PFA	160501	160502	---
5/4" - 24	Fitting 3/16" = 4.76 mm	PTFE	160503	160515	---
1/8" NPT	Fitting 1/4" = 6.35 mm or Leak	PTFE	---	---	160506
GL14	Exhaust filter	PTFE	---	---	107620





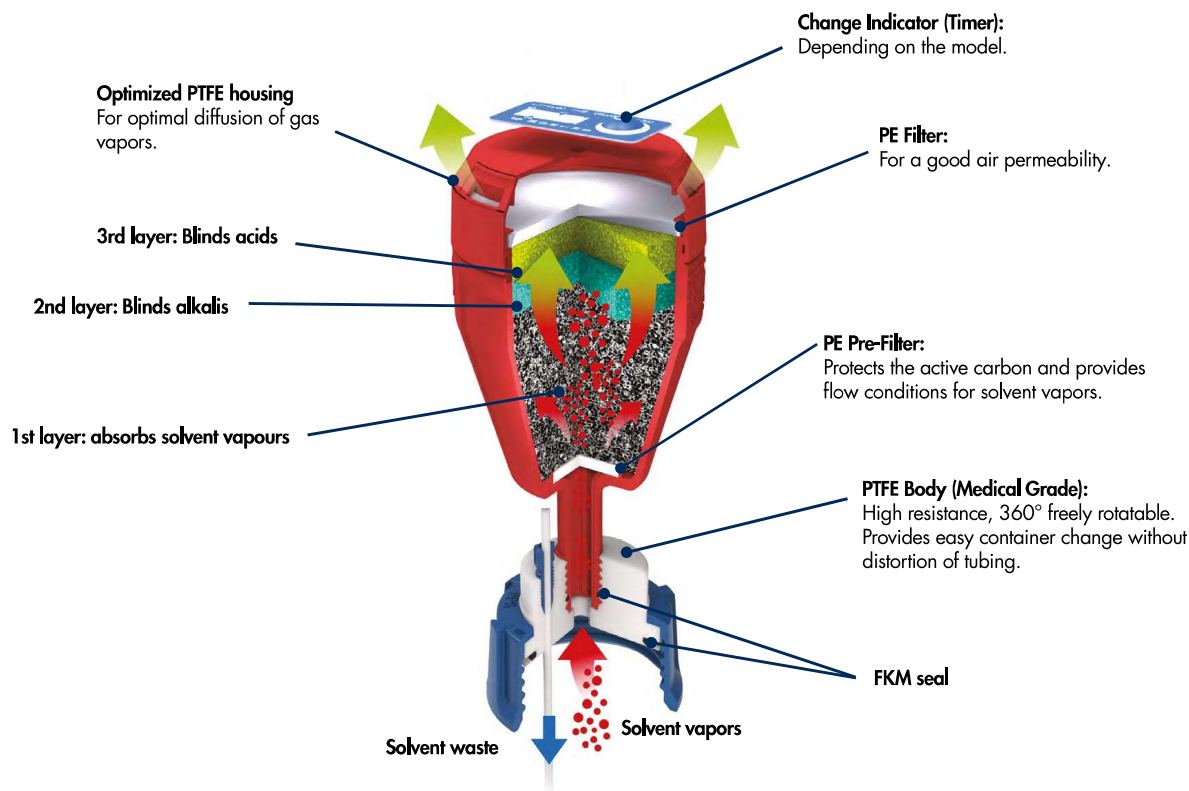
### Safety Waste Caps to collect HPLC, UHPLC waste safely

The canister breathes without releasing harmful solvent vapors thanks to the use of an exhaust air filter.

The exhaust filters contain special particles with a very large specific surface area of 1,500 m<sup>2</sup>/g in order to absorb a maximum of vapor (99% of volatile substances).

The plugs are supplied without exhaust air filters (see following pages).

- Fire protection according to UL 94 (safety standard for the flammability of plastics)
- Autoclavable and sterilizable up to 200°C
- High-quality, FDA-compliant materials used



307500

		3 capillary connections	2 capillary connections + 1 leak	4 capillary connections + 1 leak	3 capillary connections + 3 leaks
GL40	Standard	307108	307109	---	---
GL45	Standard	307912	307923	308921	---
S60/61	Standard	307918	307925	307931	307500
	Electrostatic conductive	307916	307944	---	---

SafetyWaste Caps are supplied with fittings but without the exhaust filter.

1/4" - 28 fittings for 3.2 mm and 2.3 mm capillaries, leak fitting for 5.0 to 11.5 mm internal diameter.



307912



307923



307944



307931



### Safety Waste Caps V2.0 with Level Control (mechanical or electronic)

			3 capillary connections	2 capillary connections et 1 leak
S60/61	Mechanical Level control	Standard	307961	307964
		Electrostatic conductive	308961	308964
	Mechanical Level control	Standard	308401	308403
		Electrostatic conductive	308402	308404

1/4" - 28 fittings for 3.2 mm and 2.3 mm capillaries, leakage fitting for 5.0 to 11.5 mm flexible tubes internal diameter.



308401

308404

### Safety Waste Caps

		3 capillary connections	2 capillary connections + 1 leak	4 capillary connections	4 capillary connections + 1 leak	5 capillary connections
S55	Standard	107917	107924	---	---	---
	Electrostatic conductive	107936	107943	---	---	---
S51	Standard	107930	107922	---	---	---
	Electrostatic conductive	107935	107942	---	---	---
S65	Standard	---	---	---	108047	108046
	Electrostatic conductive	---	---	---	108055	---
S70	Standard	107913	107926	---	---	---
	Electrostatic conductive	107915	107945	---	---	---
GLS80	Standard	---	---	107029	107033	---
S90	Standard	---	---	107927	107947	---
	Electrostatic conductive	---	---	107928	107949	---
S95	Standard	---	---	107256	107257	---
B53	Standard	---	---	---	107037	---
B63	Standard	107051	107050	---	---	---
B83	Standard	---	---	107036	107034	---
	Electrostatic conductive	---	---	107052	107053	---

1/4" - 28 fittings for 3.2 mm and 2.3 mm capillaries, leak fitting for 5.0 to 11.5 mm flexible tubes internal diameter.



307964

107917

107924

107928

### Safety Waste Caps with level indicator

			3 capillary connections	2 capillary connections + 1 leak	4 capillary connections	4 capillary connections + 1 leak
S55	Mechanical Level control	Standard	107960	107963	---	---
		Electrostatic conductive	108030	---	---	---
	Electronic Level Control	Standard	108200	108201	---	---
		Electrostatic conductive	---	---	---	---
S51	Mechanical Level control	Standard	---	107242	---	---
	Electronic Level Control	Standard	---	107241	---	---
S65	Mechanical Level control	Standard	---	---	---	107969
S70	Mechanical Level control	Standard	107962	107965	---	---
	Electronic Level Control	Standard	---	108407	---	---
S90	Mechanical Level control	Standard	---	---	107966	107967
	Electronic Level Control	Electrostatic conductive	---	---	108031	---
S95	Mechanical Level control	Standard	---	---	---	107258
	Electronic Level Control	Standard	---	---	---	107259
B63	Mechanical Level control	Standard	---	107247	---	---
	Electronic Level Control	Standard	---	107248	---	---
B83	Mechanical Level control	Standard	---	---	---	108156
	Electronic Level Control	Standard	---	---	---	108205

1/4" - 28 fittings for 3.2 mm and 2.3 mm capillaries, leak fitting for 5.0 to 11.5 mm flexible tubes internal diameter.



107960

108030

108201

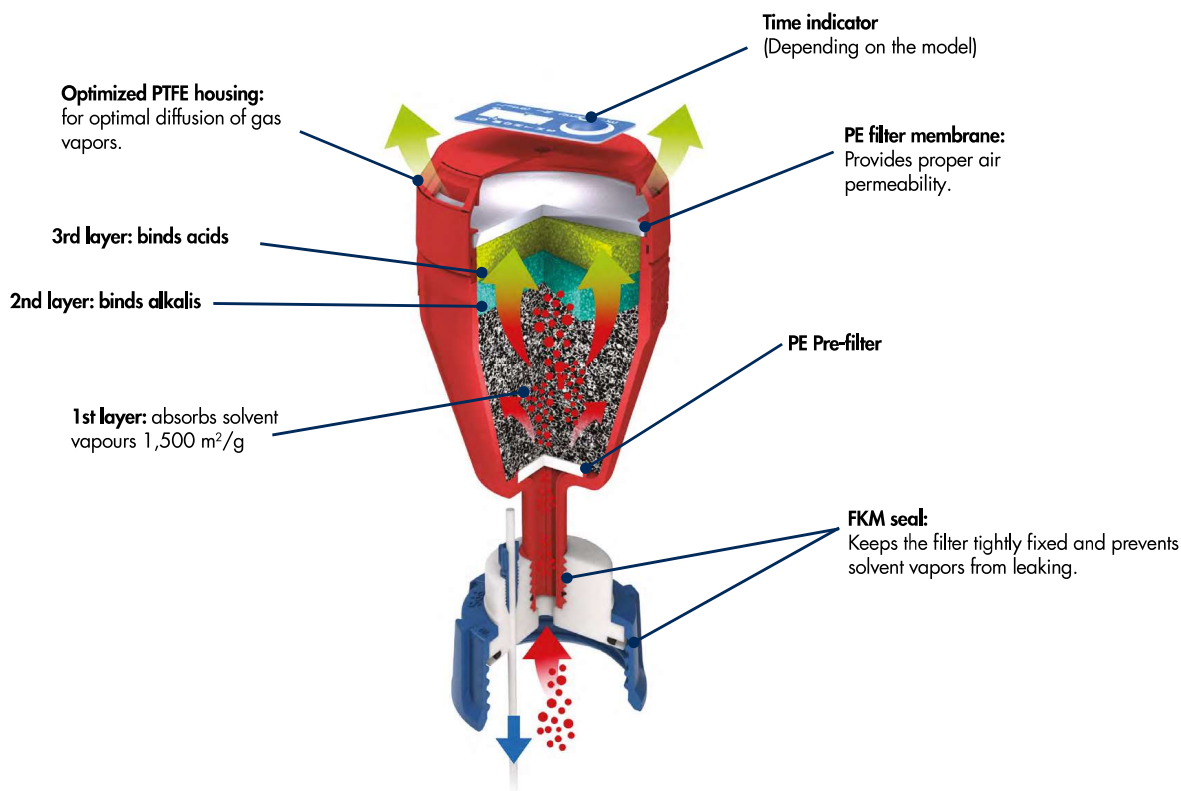




### Exhaust filters V3.0

- SCAT exhaust filters block off harmful vapors and ensure for safe pressure equalization in the waste containers of HPLC systems.
- Our core active carbon has been optimized for taking up organic solvent vapors and has been tested by regulatory ASTM/DIN/ISO methods
- Optimization of the plastic housing allows better diffusion of solvent vapors
- 3 types of layers to absorb organic, acid and basic solvent vapors
- Selection of activated carbon with strict physical and chemical properties (hardness, adsorption capacity and particle size control) is more effective (adsorption capacity of 1,500 m<sup>2</sup>/g)

Exhaust air filters are available with a time indicator or a label to warn the date of replacement



Filter type	Life time
S	3 months
M	6 months
L	12 months

	V3.0 with time indicator		V3.0 with label	
S	410534 (1 u)	490335 (4 u)	---	---
M	410535 (1 u)	490336 (2 u)	407982 (1 u)	490914 (2 u)
L	407986 (1 u)	490986 (2 u)	---	---

The exhaust filter has been optimized for the capture of eluent vapors used in HPLC. The lifetime of the filter depends, among other things, on the composition of the waste collected, the temperature and flow rate.

These factors can vary considerably from customer to customer.

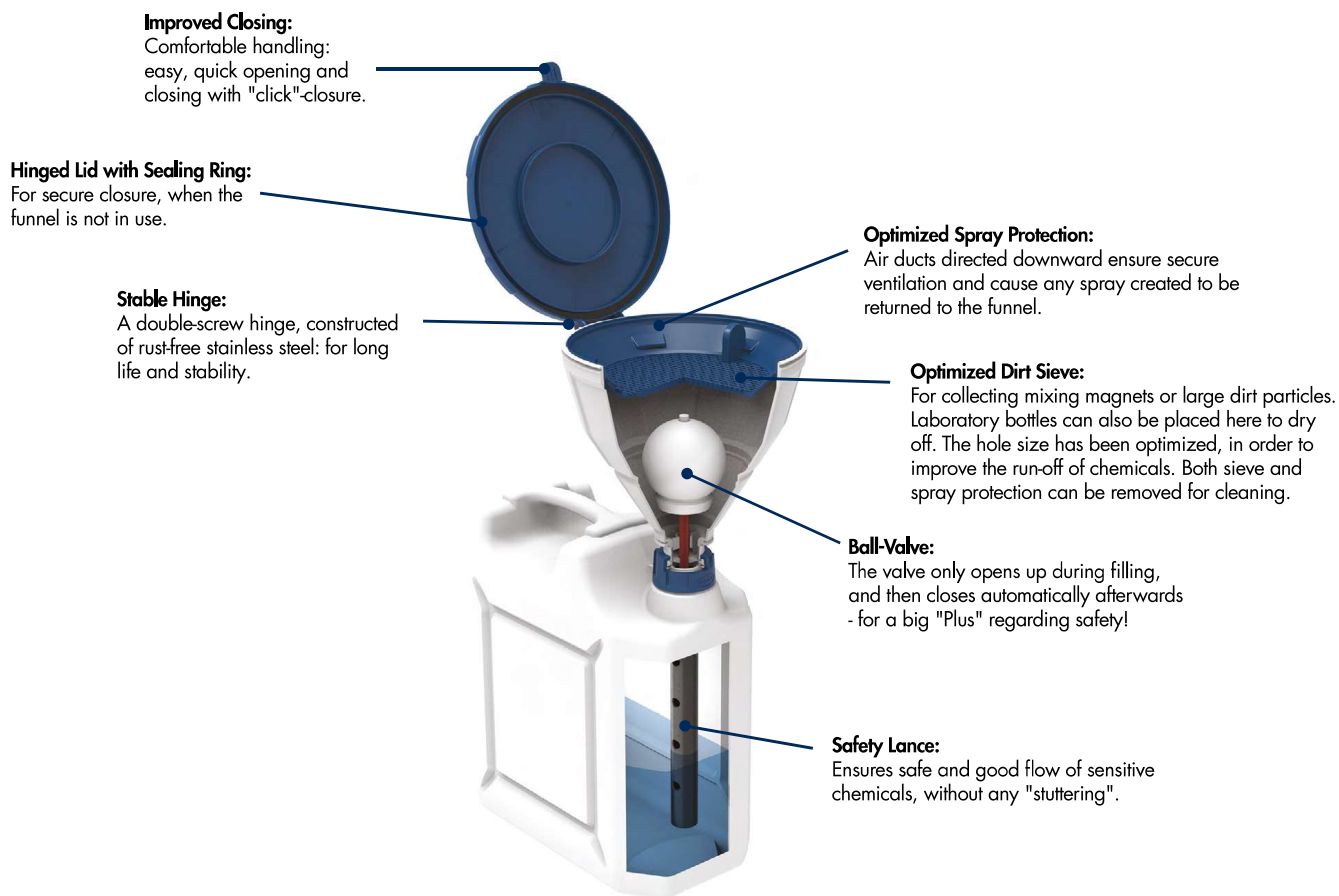
To ensure that you are always safe, we recommend you replace your filters every 3 months with the S version, every 6 months with the M version and every year with the L version.



## Arnold Safety Funnel: ball valve and hinged lid

This funnel allows you to safely empty your used solvents into a canister: the funnel is fixed to the canister and remains stable during transfer; the ball system opens when depositing liquids and then closes automatically. In addition, it is equipped with a PE-HD grid to filter out residues and to collect magnetic bars or other solid materials. The funnel can be equipped with a "lance" for a better diffusion of the liquid in the canister.

As for the lid, it allows the canister + funnel to be hermetically sealed.



Thread of container	Lance 220 mm	P/N	P/N Electrically conductive
GL45	x	317642	317622
GL45	-	---	317638
S50	x	317649	317629
S51	x	317644	317624
B53	x	317632	---
S55	x	317645	317625
S60/61	x	317641	317621
S65	x	317646	317626
S70/71	x	317648	317628
B83	x	317647	317627
S90	x	317643	317623
S95	x	---	317635
R2" BSP/G2" + 2" TriSure	-	---	317630





### Models without ball valve, for highly viscous liquids

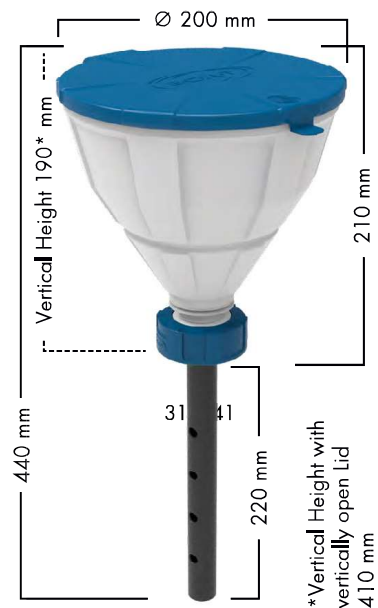
Thread of container	P/N Electrically conductive
GL45	317633
S60/61	317634

Description	Color	P/N
Dirt sieve	Blue	317640
	Black	317620

### SafetyWaste set: Canister + Arnold funnel

Description	10 L	20 L
Kit: Canister S55 + Safety funnel ball Arnold (white)	307450	---
Electrostatic conductive kit: Canister 60/61 with floater	307320	307321

- Material: PE-HD
- Color Blue / White / Black



\* The total height can vary, dependent upon the thread adapter with which the funnel has been delivered.

## TECHNICAL TIP

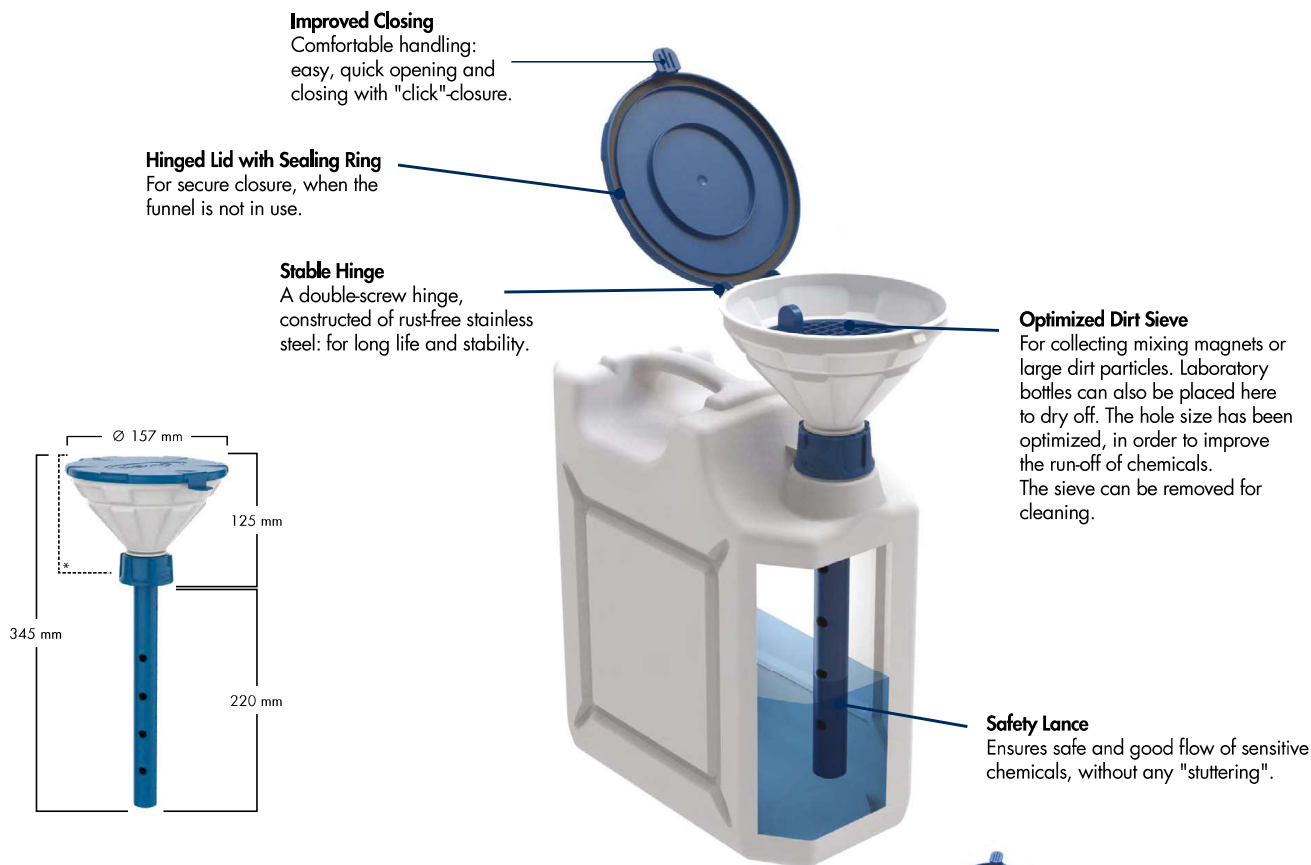
### Electrostatic conductive systems:

All components made of PE-HD EL can be earthed and are suitable for voltage equalisation according to TRGS 727. TRGS 727.

Electroconductive PE-HD EL has an earth resistance discharge of  $< 109 \Omega$ , according to DIN EN 61340-5-1 and is suitable for zones 0, 1 and 2 in accordance with the Ordinance on Hazardous Substances (GefStoffV), EN 1127-1, DIN EN 60079-10-1 and DIN EN 60079-10-2. It is resistant to chemicals as defined in SEFA 3 and SEFA 8.



## Safety funnel Marco with hinged lid



Thread of canister	Lance 220 mm	Integrated level control	Kit standard	Electrically conductive
GL45	-	-	318952	318962
GL45	x	-	318992	---
S50	-	-	318955	---
S50	x	-	318995	318985
S51	-	-	318953	---
S51	x	-	318993	318983
S55	-	-	318951	318961
S55	x	-	318991	318981
S60/61	-	-	318950	318960
S60/61	x	-	318990	318980
S60/61	-	x 150	---	317637
S60/61	-	x 190	---	317651
S65	-	-	318954	318964
S65	x	-	318994	318984

	Blue	Black electrically conductive
Dirt sieve	318999	318989
Replacement dirt sieve with small holes 3 x 3 mm	118999	---
Replacement lid	318998	318988

### SafetyWaste set: Canister + Marco funnel

	2.5 L	5.0 L	10 L
Standard version	307316	307317	307318
Electrically conductive version with collecting tray	---	---	307315



## HPLC accessories - Mobile phase filters



### "Last Drop" filter

- Flat bottom to allow pumping of the last milliliters of mobile phase, reducing the risk of de-priming
- Large filtration surface
- Stainless steel or PTFE filter element with different porosities
- 2 types of connections possible:
  - Tripod or 3 diameter adapter for tubes with internal diameter 1.5, 2.2 and 3.5 mm
  - 1/4"-28 connections for 1/8" external diameter tubes

	2 µm	Max flow rate	2.5 µm	Max flow rate	5 µm	Max flow rate	10 µm	Max flow rate
<b>Tripods: adapter for tubes 1.5 - 2.2 and 3.5 mm internal diameter</b>								
Stainless steel frit	921321	28 mL/min	---	---	GM9030	30 mL/min	921341	30 mL/min
PTFE frit	---	---	921361	1.2 mL/min	921371	2.6 mL/min	921381	3.5 mL/min
Hydrophobic PTFE frit	---	---	---	---	---	---	YE4860	11 mL/min
<b>1/4"-28 fittings for 1/8" OD tubing</b>								
Stainless steel frit	GM9030	28 mL/min	---	---	GM8980	30 mL/min	AU0680	30 mL/min
PTFE frit	---	---	AU0650	1.2 mL/min	AU0660	2.6 mL/min	AU0670	3.5 mL/min
Hydrophobic PTFE frit	---	---	---	---	---	---	YE4861	11 mL/min



### "Last drop" filters + helium bubbling

2 in 1, this filter combines the solvent filter and the helium bubbling filter.

- Stainless steel or PTFE filtering part parallel to the bottom of the solvent tank to remove almost all the solvent (porosity available in 2, 5 and 10 µm)
- Stainless steel or PTFE filtering part on the side for helium bubbling (porosity 10 µm)

	2 µm	Max flow rate	2.5 µm	Max flow rate	5 µm	Max flow rate	10 µm	Max flow rate
Stainless steel frit	413511	30 mL/min	---	---	T78650	30 mL/min	413521	30 mL/min
PTFE frit	---	---	413531	1.2 mL/min	T78640	2.6 mL/min	413541	3.5 mL/min
Hydrophobic PTFE frit	---	---	---	---	---	---	YE4820	11 mL/min

### Replacement parts

Description	P/N	Qty
PEEK nuts 1/4"-28 tube 1/8"	921390	10 u
1/8" ETFE ferrules	163840	10 u





### Biocompatible high flow rate last drop filters

- The solution to combine biocompatibility and high flow rate
- Ceramic frit
- Glass body
- 1/8" tube connection

Description	1-1.6 µm	Max flow rate	10-16 µm	Max flow rate	40-100 µm	Max flow rate
Ceramic frit	YE4870	30 mL/min	YE4800	50 mL/min	YE4810	200 mL/min
PEEK replacement nut	YE4630		1u			

### Economical last drop filters

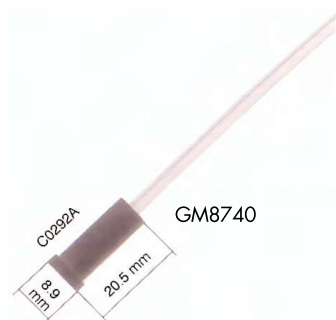
- Stainless steel frit (2 or 10 µm) crimped into a PTFE body
- Easy to install (1/8" tube can be simply plugged in it)
- Reduces the risk of your HPLC pump de-priming
- Two models are available: 19 mm and 22 mm

Ø & nature/ Porosity of the frit	2 µm	Max flow rate	2.5 µm	Max flow rate	5 µm	Max flow rate	10 µm	Max flow rate
19 mm PTFE	---		U88890	1.2 mL/min	U88900	2.6 mL/min	U88880	3.5 mL/min
22 mm PTFE	---		AU0530	1.2 mL/min	AU0540	2.6 mL/min	U88910	3.5 mL/min
19 mm SS	983020	30 mL/min	---	---	---	---	983030	30 mL/min
22 mm SS	983040	30 mL/min	---	---	---	---	983050	30 mL/min

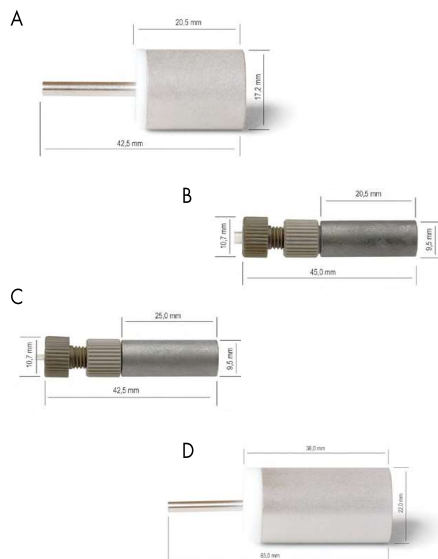
### Biocompatible suction filter

- Totally inert polymer (no metal parts in contact with the solvent)
- Tube connections using a ferrule and nut:  
allowing all 1/8" tubing to be attached regardless of internal diameter
- Replaceable filter element

Description	5 µm	Max flow rate	20 µm	Max flow rate
Complete PTFE filter	821760	2.2 mL/min	U88370	500 mL/min
Replacement filter	821770	2.2 mL/min	U88380	500 mL/min
Economical PE filter	GM8740	300 mL/min	---	---



## HPLC accessories - Mobile phase filters



### Stainless steel filters for mobile phase or degassing

- Different configurations and porosities
- Tube connections using a ferrule and a nut: this allows all 1/8" or 1/16" tubes to be fixed regardless of internal diameter or socket connections in tubes with an internal diameter of 1/8".
- The 2 µm version is ideal as a helium diffuser (0 to 400 mL/min) in any configuration

Ø & nature/ Porosity of the frit	2 µm	Max flow rate	10 µm	Max flow rate	20 µm	Max flow rate
1/8" (model B)	188104	35 mL/min	887133	100 mL/min	U88480	120 mL/min
1/16" (model C)	230381	35 mL/min	976602	35 mL/min	U88490	35 mL/min

Ø & nature/ Porosity of the frit	2 µm	Max flow rate	25 µm	Max flow rate	
17.2 mm (model A)	344510	50 mL/min	---	---	
22.0 mm (model D)	542410	95 mL/min	344540	100 mL/min	

### Low pressure in-line cartridge filters

- Easy to replace
- 1/4"-28 connection
- Three different porosities
- Stainless steel body
- Stainless steel frit pressed into an inert cartridge



	2 µm	Max flow rate	10 µm	Max flow rate	75 µm	Max flow rate
P/N / 5 u	GC3410	30 mL/min	GC3400	30 mL/min	GC3420	30 mL/min

Union and nuts not included.

All flow rates were measured with methanol/water (1:1).

#### RELATED PRODUCTS

Dispensing box: UptiVial™ Kit  
 A single reference for your bottles, caps & glassware, an attractive price and a dispenser box.  
 Available in stock. See chapter:  
 Bottles, Capsules & Glassware - UptiVial™





### Opti-Solv direct connection filters

A solution for the protection of columns and valves, adapted to your needs according to your applications.

- Easy to use, they are installed as a 10 - 32 manual clamp fitting.
- Compatible with all columns
- Version without dead volume

### Opti-Solv Mini filter

The Opti-Solv mini filter is equipped with 2 frit materials of different porosities (5 µm then 0.5 ; 2 ; 5 µm)

Filter porosity	P/N	Qty
0.5 µm	10-04-00095	5 u
2 µm	10-04-00097	5 u
5 µm	10-04-02768	5 u

### Opti Solv Micro Filter up to 6,000 psi

Internal frit volume: < 200 nl

Filter porosity	Standard	Biocompatible	Qty
0.5 µm	---	10-04-03621	5 u
1 µm	10-04-03357	---	5 u
2 µm	10-04-03389	---	5 u
10 µm	---	10-04-03707	5 u

### Optisolv nanofilter

Ideal for mass spectrometry applications to avoid clogging of the electrospray and nanospray mechanisms.

Internal volume < 50 nL

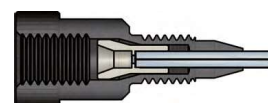
Filter porosity	Biocompatible	Qty
0.5 µm	10-04-03625	5 u

### In-line filters Upti-filter

Protection of your HPLC columns and pre-columns.

- Direct in-line mounting by simple manual tightening.
- Lower dead volume than traditional in-line filters.
- Filter body in PEEK, with stainless steel filter element 0.5 µm or 2 µm
- Maximum operating pressure: 5,000 psi or 350 bar

Description	P/N	Qty
PEEK in-line filter with 2 µm stainless steel filter element	R21281	10 u
PEEK in-line filter with 0.5 µm stainless steel filter element	T50270	10 u





### In-line high pressure filters

The EXP Precolumn hand tight filter system is ideal for protecting UHPLC columns with small particle sizes.

Simple, innovative and easy to use, this hand-tight assembly is validated up to 20,000 psi and tested up to 30,000 psi.

The reusable holder allows the use of 0.5  $\mu\text{m}$  or 0.2  $\mu\text{m}$  filter cartridges with very low dead volume and low dispersion.

It is equipped with EXP type "fitting" titanium/PEEK ferrule.

### Very high pressure UHPLC filters - Opti-Solv EXP2 (External Pressure)

	1 $\mu$	5 $\mu$	10 $\mu$
Filter bodies	15-04-05242	---	---
0.2 $\mu\text{m}$ frit	---	15-04-05263	15-04-05264
0.5 $\mu\text{m}$ frit	---	15-04-05261	15-04-05262
2 $\mu\text{m}$ frit	---	15-04-05259	15-04-05260

### In-line filters or direct connection

- Up to 15,000 psi
- Volume 5  $\mu\text{L}$
- Stainless steel body and ferrule
- 0.5  $\mu\text{m}$  stainless steel frit

	In-line filter	Filter with direct connection
Body + frit 0.5 $\mu\text{m}$	850-1025	850-1020
Frit 0.5 $\mu\text{m}$ (5 $\mu$ )	850-1020-01	850-1020-01

### High capacity in-line filters

- 316 stainless steel filter
- Filtering surface: 2.2  $\text{cm}^2$

	Internal Volume	Standard version 6,000 psi	High pressure version 15,000 psi	Replacement frits per 5 $\mu$
2 $\mu\text{m}$	120 $\mu\text{L}$	850-1310	850-1310HP	850-1320
0.5 $\mu\text{m}$	100 $\mu\text{L}$	850-1315	850-1315HP	850-1325

Replaceable and interchangeable frits.

### Iso-Prep inline filter (21.2 mm)

- For protecting 10.0 ; 15.0 ; 21.2 ; 30.0 ; 50.0 mm preparative columns
- Use up to 8 000 psi or 550 bar
- 2  $\mu\text{m}$  frit and 21.2 mm diameter, easy frit replacement

Description	P/N	Qty
In line filter 21.2 mm (body + 2 $\mu\text{m}$ frit)	CE4600	1 $\mu$
Replacement frit	CE4620	1 $\mu$



### Electronic flowmeters for liquids

The solution to know the real flow rate delivered by your HPLC pump

- Flow measurement from 50 µL/min to 25 mL/min
- Fast, accurate flow reading (4 digit display)
- Accuracy < 1.0% (0.5% from 0.25 mL/min to 5 mL/min)
- Volumetric measurement - not dependent of solvent nature
- Calibrated device, delivered with a certificate
- Compact device: 138 x 76 x 45 mm
- 320 g

These flowmeters, with a very wide range of flow rates, allow you to qualify your pump with a certified instrument.

The small volume of the internal cell (140 µL) reads the flow rate very quickly (about 25 s at 1 mL/min).

The measured solvent is only in contact with PEEK, PTFE, and borosilicate glass parts. This measurement is not dependent of the solvent as long as the viscosity does not exceed 10 cP.

For the qualification of your equipment, the flow meter can be connected to your computer via RS232 or USB (optional) or to a specific printer in order to record the flow rate.

The device is delivered in a case with all the useful accessories (cleaning, mounting bracket, user manual and certificate). It cannot be used online.

Description	P/N
Liquid flow meter from 0.05 to 25 mL/min calibrated at 1 mL/min	U95540
Liquid flow meter from 0.05 to 25 mL/min calibrated at 0.5 - 1.0 - 1.5 mL/min	U95550
Liquid flow meter from 0.05 to 25 mL/min calibrated at 0.1 - 1.0 - 2 mL/min	HV9150
Options	P/N
Option interface USB	BL6290
Printer	CA1700
Battery operated	
RS232 interface	
Delivered with 10 rolls of paper	
Compact: 47 x 92 x 108 mm	
330 g	

Recalibration on request.



## HPLC accessories - Empty HPLC columns



### Empty HPH™ analytical columns

- HPLC & UHPLC compatible
- Maximum tube resistance: 1,200 bar

The HPH kit includes one HPH™ stainless steel tube, one 2 µm inlet frit, one 0.5 µm outlet frit, two stainless steel end fittings, two 1/16" plugs.

Dimension	P/N	Qty	Dimension	P/N	Qty
250 x 4.6 mm	HPH-250/046	1 kit	250 x 3.0 mm	HPH-250/030	1 kit
200 x 4.6 mm	HPH-200/046	1 kit	150 x 3.0 mm	HPH-150/030	1 kit
150 x 4.6 mm	HPH-150/046	1 kit	125 x 3.0 mm	HPH-125/030	1 kit
125 x 4.6 mm	HPH-125/046	1 kit	100 x 3.0 mm	HPH-100/030	1 kit
100 x 4.6 mm	HPH-100/046	1 kit	75 x 3.0 mm	HPH-075/030	1 kit
75 x 4.6 mm	HPH-075/046	1 kit	50 x 3.0 mm	HPH-050/030	1 kit
50 x 4.6 mm	HPH-050/046	1 kit	30 x 3.0 mm	HPH-030/030	1 kit
30 x 4.6 mm	HPH-030/046	1 kit	25 x 3.0 mm	HPH-025/030	1 kit
25 x 4.6 mm	HPH-025/046	1 kit	250 x 2.1 mm	HPH-250/021	1 kit
300 x 4.0 mm	HPH-300/040	1 kit	150 x 2.1 mm	HPH-150/021	1 kit
250 x 4.0 mm	HPH-250/040	1 kit	125 x 2.1 mm	HPH-125/021	1 kit
200 x 4.0 mm	HPH-200/040	1 kit	100 x 2.1 mm	HPH-100/021	1 kit
150 x 4.0 mm	HPH-150/040	1 kit	75 x 2.1 mm	HPH-075/021	1 kit
125 x 4.0 mm	HPH-125/040	1 kit	50 x 2.1 mm	HPH-050/021	1 kit
50 x 4.0 mm	HPH-050/040	1 kit	30 x 2.1 mm	HPH-030/021	1 kit
30 x 4.0 mm	HPH-030/040	1 kit	25 x 2.1 mm	HPH-025/021	1 kit

Stainless steel or PEEK microcolumns a references available on request.

50 mm available on request.

The prep columns are delivered with:

- 1 tube
- 2 frits
- 2 connectors



### Empty HPH™ preparative columns

- Easily replaceable capsule frit
- High quality internal surfacing
- Frit 5 µm inlet and 2 µm outlet

Diameter	Length 250 mm	Length 150 mm	Length 100 mm	Length 50 mm
30 mm	1E7940	1E7930	1E7920	1E7910
21.2 mm	1E79L0	1E7890	1E7880	1E7870
10 mm	1E7850	1E7840	1E7830	1E7820

### Packing tool

Packing adapter for analytical columns	HPH-ADAPTER
Packing adapter with union for 10 mm preparative columns	1F8000
Packing adapter with union 30 mm for 21.2 and 30 mm preparative columns	1F8010
Union for 21.2 mm preparative column	1F8030

### Plugs

Description	P/N
Plugs 1/16" (10 u)	AD8762





**Stainless Steel Frits**

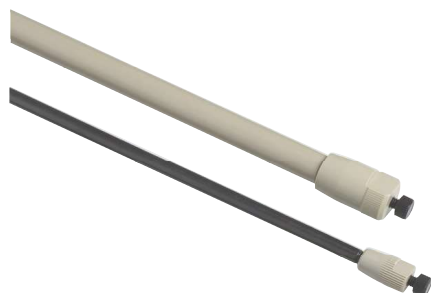
OD frit	mm	Thickness inches	mm	Porosity	Frit volume	Qty	P/N
1/16"	1.59	0.03	0.76	0.5 µm	0.39 µL	5 u	YE3270
				1 µm	0.45 µL	5 u	GM9190
				2 µm	0.53 µL	5 u	GM9180
				10 µm	0.60 µL	5 u	GB3681
1/8"	3.18	0.04	1.02	0.5 µm	2.10 µL	5 u	GM9150
				1 µm	2.43 µL	5 u	GM9080
				2 µm	2.83 µL	5 u	GM8810
				10 µm	3.24 µL	5 u	846511
1/4"	6.35	0.04	1.02	0.5 µm	8.39 µL	5 u	GM9090
				2 µm	11.30 µL	5 u	165200
				10 µm	12.91 µL	5 u	GM9000
3/8"	9.53	0.04	1.02	0.5 µm	18.91 µL	5 u	GM8900
				2 µm	25.45 µL	5 u	GM9040
				10 µm	29.09 µL	5 u	AF2600
1/2"	12.7	0.04	1.02	0.5 µm	33.58 µL	5 u	GM9230
				2 µm	45.20 µL	5 u	GM8890
				10 µm	51.66 µL	5 u	GM8730
1"	25.4	0.06	1.52	2 µm	269.43 µL	5 u	GM8760
				10 µm	307.92 µL	5 u	GM8530

**Stainless steel frits with PEEK ring**

OD ring inches	mm	OD frit inches	mm	Thickness inches	mm	Porosity	Frit volume	Qty	P/N
0.118	3	0.38	0.97	0.028	0.7	0.5 µm	0.13 µL	5 u	AU0490
						2 µm	0.18 µL	5 u	U87240
						5 µm	0.20 µL	5 u	AU0500
		0.077	1.96	0.028	0.7	0.5 µm	0.55 µL	5 u	AU0510
						2 µm	0.74 µL	5 u	AU0520
						5 µm	0.80 µL	5 u	U87250
1/4"	6.35	0.078	2	0.062	1.59	10 µm	0.87 µL	5 u	PIZ020
						0.5 µm	1.30 µL	5 u	U87220
						2 µm	1.74 µL	5 u	137853
		0.125	3.2	0.062	1.59	0.5 µm	3.32 µL	5 u	U87190
						2 µm	4.47 µL	5 u	335381
						0.5 µm	4.94 µL	5 u	U87180
		0.153	3.9	0.062	1.59	2 µm	4.47 µL	5 u	538140
						0.5 µm	6.87 µL	5 u	U87170
						2 µm	9.24 µL	5 u	170550
		0.181	4.6	0.062	1.59	0.5 µm	1.75 µL	5 u	U87200
						2 µm	2.25 µL	5 u	U87210
						0.5 µm	1.75 µL	5 u	U87200
0.125	3.2	0.062	1.59	2 µm	2.25 µL	5 u	U87210		



## HPLC accessories - Biocompatible empty HPLC column



### PEEK columns - Biocompatible

- Biocompatible
- High pressure applications
- Filling system available

2.1 mm ID columns: 210 bar (3,000 psi) during analysis and 350 bar (5,000 psi) during column packing with the YE4020 packing kit.

4.0 mm ID columns: 350 bar (5,000 psi) during analysis and 560 bar (8,000 psi) when packing the column with the packing kit 113331.

Tolerance: 0.05 mm

### PEEK columns

ID / length	30 mm	50 mm	100 mm	150 mm	250 mm	300 mm
2.1 mm ID	YE4230	YE4360	YE3780	YE3870	YE4110	---
4.0 mm ID	---	YE4400	YE3820	YE3920	YE4120	YE4240

The columns are delivered without frit.

### PEEK column end fittings

ID	2.1 mm ID	4.0 mm ID
P/N of a column end.	737660	U89400

### PEEK columns frit

Column ID	Qty frit	Titanium frit 5 µm	Polyethylene 10 µm
2.1 mm	5 u	FI4210	YE4670
4.0 mm	5 u	CP8640	YE4680

### Packing adapters

Column ID	Packing adapter kit complete packing adapter	Packing adapter	Replacement seal
2.1 mm	YE4020	GM8570	GM9060
4.0 mm	113331	GM8490	113350

### PEEK pre-columns

Description	Ti Frits 5 µm	Ti Frits 2 µm
Holder + pre-column	YE4560	YE4561
Pre-column with frits	YE4530	YE4520
Replacement frits	YE4330	YE4000

Description	P/N
Packing kit	GM9600
Replacement seal for packing tool	GM9140







### Purigaz Filters

- Purification of non-corrosive gases: reduction of contaminants to less than 0.1 ppm (purity > 99.9999%)
- 100% inert and hermetic cartridge system; The gas is only in contact with steel and high purity glass (inside glass to limit diffusion and outside plastic) for safety (no diffusion or micro-leakage).
- Maximum pressure: 15 bar
- Maximum flow rate: 7 L/min and 20 L/min for the High Flow version.
- Quick installation of the unit (base + filters) on an existing line.
- Replacement of filters in record time without contaminating your gas lines, thanks to the check valves at the base plate. No tool required.

### Filter Base plates

	1 position	2 positions	3 positions	4 positions
Brass - 1/8"	PG0210	PG0220	PG0230	PG0240
Brass - 1/4"	1I5950	AY1ER0	AY1EW0	AY1EZ0
Inox - 1/8"	PG0211	AY1ET0	AY1EY0	AY1F10
Inox - 1/4"	AY1EQ0	AY1ES0	AY1EX0	AY1F00

### Triple filter kit (1 position base plate + filter cartridge)

Use a triple filter to remove water, oxygen and hydrocarbons from your carrier gas to protect your gas column.

To save time, we recommend filters packaged in helium or high purity hydrogen. This eliminates the filter purging time.

Base plate type	Base plate + Triple filter	Base plate + Triple Helium filter	Base plate + Triple Hydrogen filter
Brass - 1/8"	PG0250	PG0260	AY1F90
Brass - 1/4"	AY1F20	AY1F50	AY1F80
Inox - 1/8"	AY1F40	AY1F70	AY1FB0
Inox - 1/4"	AY1F30	AY1F60	AY1FA0
Replacement filter	PG005R	PG006R	PG0500



### RELATED PRODUCTS

Magic box GC: a storage box and consumables to create or maintain your gas lines.  
See chapter: Consumables - Magic Box™



Applications:  
GC/MS - GC/TCD - GC/FID





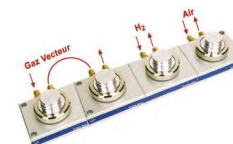
Applications: GC/FID



### COMBI Purigaz Filters and Base plate kits

Base plate	1 position Base plate + filter			2 positions Base plate + filters
	CO <sub>2</sub> /SULFUR	CO <sub>2</sub> /SULFUR/ MOISTURE	OXYGENE/ MOISTURE	HYDROCARBON/MOISTURE
Brass - 1/8"	AY1FD0	AY1FH0	AY1FL0	HV7250
Brass - 1/4"	AY1FC0	AY1FG0	AY1FK0	AY1FO0
Inox - 1/8"	AY1FF0	AY1FJ0	AY1FN0	AY1FP1
Inox - 1/4"	AY1FE0	AY1FI0	AY1FM0	AY1FP0
Replacement filter	1H7530	NJR060	NJR050	PG004R

### Purigaz Filters and multiposition Base plate kits



Base plate	3 pos Base Plate + TRIPLE Filter + 2 COMBI Filters (Moisture + HC)	Base 4 pos + 1 humidity filter, 1 oxygen filter, and 2 HC filters
	Brass - 1/8"	PG0330
Brass - 1/4"	AY1G00	AY1G30
Inox - 1/8"	AY1G20	AY1G50
Inox - 1/4"	AY1G10	AY1G40
Replacement filter	IK5471	AY1IV0

### Purigaz Replacement Filters

	Capacity	P/N
Moisture Filter	7.2 g water	PG001R
Oxygen Filter	150 mL O <sub>2</sub>	PG002R
Hydrocarbon Filter	12 g (n-butane)	PG003R
COMBI Hydrocarbon / Moisture	3.5 g H <sub>2</sub> O, 6 g HC (n-butane)	PG004R
COMBI Oxygen / Moisture	3.5 g H <sub>2</sub> O, 75 mL O <sub>2</sub>	NJR050
COMBI Moisture / Carbon Dioxide	3.5 g H <sub>2</sub> O, 6 g CO <sub>2</sub>	NJR060
TRIPLE Filter (Oxygen/Moisture/Hydrocarbon)	1.8 g H <sub>2</sub> O, 75 mL O <sub>2</sub> , 4 g HC (n-butane)	PG005R
TRIPLE Helium Filter (Oxygen/Moisture/Hydrocarbon)	1.8 g H <sub>2</sub> O, 75 mL O <sub>2</sub> , 4 g HC (n-butane)	PG006R
TRIPLE Hydrogen Filter (Oxygen/Moisture/Hydrocarbon)	1.8 g H <sub>2</sub> O, 75 mL O <sub>2</sub> , 4 g HC (n-butane)	PG0500

Ability to install an electronic recall indicator/audio-visual early warning system: progressive display of the filter status in real time instead of the traditional indicator of a last minute color change (contact us).

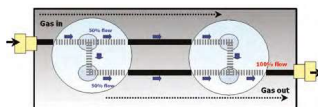




### "High Flow" Base Plate - 2 positions

- 100% inert and hermetic cartridge system
- Maximum pressure: 15 bar - Maximum flow rate: 20 L/min
- Not compatible with standard filters and base plates

Description	P/N / kit
High Flow Base Plate - Brass - 1/4"	AY1EU0
High Flow Base Plate - Inox - 1/4"	AY1EVO



### "High Flow" Base Plate - 2 positions + Gas Filters

	2 hydrocarbon filters	2 H <sub>2</sub> O filters	1 HC filter + 1 H <sub>2</sub> O filter	1 O <sub>2</sub> filter + 1 H <sub>2</sub> O filter	1 filter O <sub>2</sub> / H <sub>2</sub> O + 1 filter HC / H <sub>2</sub> O
Filter capacity	24 g HC*	14,4 g H <sub>2</sub> O	12 g HC* + 7,2 g H <sub>2</sub> O	150 mL O <sub>2</sub> + 7,2 g H <sub>2</sub> O	
High Flow Base Plate - Brass - 1/4"	PG0550	AY1FS0	AY1FU0	AY1FW0	AY1FY0
High Flow Base Plate - Inox - 1/4"	AY1FRO	AY1FT0	AY1FV0	AY1FX0	AY1FZ0
Replacement filters / 2 u	PG0510	PG0520	NJR070	NJR080	AY1IU0

\*n-butane.



### Base plate accessories

#### Base plate connectors

	1/8" Laiton	1/8" Inox	1/4" Laiton	1/4" Inox
Standard base plate connector set	IK4591	IK4611	IK4581	1K6290
"High flow" base plate connector set	---	---	AY1EJ0	AY1EK0

Applications:  
ICP / OES - ICP/MS - LC/MS - TOC - Air Zéro generator

#### O-ring replacement set

A set of 2x10 replacement O-rings for replacing the O-rings on the in- and outlet valves on a base plate.

P/N : E24021



#### Wall mount bracket set

P/N : AY1E10

#### Universal flush-cap set

Flush-cap that mounts on a base plate allowing the gas to pass through the base plate without a filter attached.

P/N : AY1E10



#### Universal ring nut

Universal ring nut to mount a filter or flush-cap on a base plate.

P/N : AY1EM0



#### Particulate filter

Particulate filter for high flow base plates.

P/N	Particulate filter	Replacement Frits 0.5 um (per 12u)
	CD0320	CD0330



## GC Accessories - In line Gas Filters



### Click-on inline filters

- Very high capacity and high flow rate up to 25 L/min and 11 bar
- Highest purity 99.9999
- Innovative Click-On connector system with check valves that close the gas line when changing the cartridge
- Dimensions: 20 cm long, 3.2 cm diameter, 0.6 kg

### Click On Stainless Steel Filter Kit + Click On Connectors

Description	Capacity	Trap	Connectors type	Trap + brass connectors	Trap + SS connectors
Moisture trap	21 g H <sub>2</sub> O	CA4110	1/4"	CD0960	CD0970
			1/8"	CA7690	CD0980
Oxygen trap	3000 mL O <sub>2</sub>	CA4120	1/4"	CD0990	CD1010
			1/8"	CD1000	CD1020
Hydrocarbon trap	36 g HC (like n-butane)	CA4130	1/4"	CD1030	CD1050
			1/8"	CD1040	CD1060
Combi (oxygen/moisture) trap	1500 mL O <sub>2</sub> + 10 g H <sub>2</sub> O	CA4140	1/4"	CD1070	CD1090
			1/8"	CD1080	CD1100
Combi (moisture/hydrocarbon) trap	10 g H <sub>2</sub> O + 18 g HC	CA4170	1/4"	CD1310	CD1330
			1/8"	CD1320	CD1340
Triple trap (moisture/oxygen/hydrocarbon)	6 g H <sub>2</sub> O + 1 000 mL O <sub>2</sub> + 12 g HC	CA4150	1/4"	CD1150	CD1170
			1/8"	CD1160	CD1180
Triple Helium trap (moisture/oxygen/hydrocarbon)	6 g H <sub>2</sub> O + 1 000 mL O <sub>2</sub> + 12 g HC	DZ9230	1/4"	CD1230	CD1250
			1/8"	CD1240	CD1260
Triple Hydrogen trap (moisture/oxygen/hydrocarbon)	6 g H <sub>2</sub> O + 1 000 mL O <sub>2</sub> + 12 g HC	1H6610	1/4"	1H6820	1H6840
			1/8"	1H6830	1H6850
Carbon dioxide trap	36 g CO <sub>2</sub>	1H6920	1/4"	1H6960	1H6980
			1/8"	1H6970	1H6990
Combi (carbon dioxide / moisture) trap	10 g H <sub>2</sub> O + 18 g CO <sub>2</sub>	1H6930	1/4"	1H7000	1H7030
			1/8"	1H7010	1H7040



### Click On Glass Filter Kit + Click On Connectors

Description	Capacity	Trap	Connectors type	Trap + brass connectors	Trap + SS connectors
Moisture trap	6 g H <sub>2</sub> O	1H6640	1/4"	1H7050	1H7070
			1/8"	1H7060	1H7080
Oxygen trap	850 mL O <sub>2</sub>	FJ1400	1/4"	1H7090	1H7110
			1/8"	1H7100	1H7120
Hydrocarbon trap	15 g HC (comme n-butane)	1H6650	1/4"	1H7130	1H7150
			1/8"	1H7140	1H7160
Combi (oxygen/moisture) trap	415 mL O <sub>2</sub> + 3 g H <sub>2</sub> O	CA4240	1/4"	CD1110	CD1130
			1/8"	CD1120	CD1140
Combi (moisture/hydrocarbon) trap	3 g H <sub>2</sub> O + 7 g HC	1H6660	1/4"	1H7210	1H7230
			1/8"	1H7220	1H7240
Triple Hydrogen trap (moisture/oxygen/hydrocarbon)	6 g H <sub>2</sub> O + 1 000 mL O <sub>2</sub> + 12 g HC	1H6630	1/4"	CD1190	CD1210
			1/8"	CD1200	CD1220
Triple Helium trap (moisture/oxygen/hydrocarbon)	2 g H <sub>2</sub> O + 400 mL O <sub>2</sub> + 1.5 g HC	CA4220	1/4"	CD1270	CD1290
			1/8"	CD1280	CD1300
Triple Hydrogen trap (moisture/oxygen/hydrocarbon)	2 g H <sub>2</sub> O + 400 mL O <sub>2</sub> + 1.5 g HC	1H6670	1/4"	1H7250	1H7270
			1/8"	1H7260	1H7280
Carbon dioxide trap	6 g CO <sub>2</sub>	1H6940	1/4"	1H7290	1H7310
			1/8"	1H7300	1H7320
Combi (carbon dioxide / moisture) trap	3.5 g H <sub>2</sub> O + 3 g CO <sub>2</sub>	1H6950	1/4"	1H7330	1H7350
			1/8"	1H7340	1H7360





### Connectors and accessories

Description	Inox	Brass
Click-on connector set 1/4" (2 u)	CA4280	CA4290
Click-on connector set 1/8" (2 u)	CA4260	CA4270
Click-on double connector	CA4300	---



Description	P/N
Click-on wall-mounting clamp set	CA4330
Click-on replacement O-ring set (1/2 x 10 u)	CA4310

### Click-on Big Trap

- Very high capacity and high flow rate up to 25 L/min and 11 bar
- Highest purity 99.9999%
- Innovative Click-On connector system with non-return valves that close the gas line when changing the cartridge

Description	Capacity	Trap	Connectors type	Trap + brass connectors	Trap + SS connectors
Moisture big trap	210 g H <sub>2</sub> O	SNC790	1/4"	SNC800	SNC820
			1/8"	SNC810	SNC830
Oxygen big trap	4.5 L O <sub>2</sub>	SNC840	1/4"	SNC850	SNC870
			1/8"	SNC860	SNC880
Hydrocarbon big trap	360 g HC	SNC890	1/4"	CD1030	CD1050
			1/8"	CD1040	CD1060
Combi Oxygen / Moisture big trap	105 g H <sub>2</sub> O + 2,25 L O <sub>2</sub>	SNC920	1/4"	SNC930	SNC950
			1/8"	SNC940	SNC960
Combi Moisture / Hydrocarbon big trap	105 g H <sub>2</sub> O + 2,25 L O <sub>2</sub>	SND070	1/4"	SND080	SND100
			1/8"	SND090	SND110
Triple big trap (moisture/oxygen/hydrocarbon)	2 L O <sub>2</sub> + 70 g H <sub>2</sub> O + 120 g HC	SNC970	1/4"	SNC980	SND000
			1/8"	SNC990	SND010
Triple Helium big trap (moisture/oxygen/hydrocarbon)	2 L O <sub>2</sub> + 70 g H <sub>2</sub> O + 120 g HC	SND020	1/4"	SND030	SND050
			1/8"	SND040	SND060
Triple Hydrogen trap (moisture/oxygen/hydrocarbon)	2 L O <sub>2</sub> + 70 g H <sub>2</sub> O + 120 g HC	SND120	1/4"	SND130	SND150
			1/8"	SND140	SND160
Carbon dioxide big trap	450 g CO <sub>2</sub>	SND170	1/4"	SND180	SND200
			1/8"	SND190	SND210
Combi (carbon dioxide / moisture) big trap	105 g H <sub>2</sub> O + 225 g CO <sub>2</sub>	SND220	1/4"	SND230	SND250
			1/8"	SND240	SND260



Supplied with mounting bracket.

### Connectors and accessories

Description	Brass	Inox
Click-on connector set 1/4" 2 u	CA4280	CA4290
Click-on connector set 1/8" 2 u	CA4260	CA4270
Double Click-on connector	CA4300	---



Description	P/N
Big trap mounting brackets	SCN780
O-ring replacement set (2 x 10 u)	CA4310





### Electronic leak detector

Advion Interchim Scientific leak detector

- Allows quick and easy detection and measurement of gas leaks
- Measures the difference in thermal conductivity between the probe and the ambient air
- Visual and/or audible alarm proportional to the intensity of the leak
- Sensitivity: 0.0005 mL/min for helium
- Very small size (95 g)

Description	P/N
Leak detector	E25103

### TECHNICAL TIP

Ability to check:

- Good installation of the capillary column
- Injection septa sealing
- All gas lines



The ferrules provide the sealing between the column and the system. The ideal ferrule provides a perfect sealing with different column exterior diameters, with minimal tightening, does not stick to the column or fittings and withstands high thermal cycling. Three types of ferrules are available in packs of 10:

Material	Benefits	Limitations	T° limits
Graphite	Easy to use, stable seal Higher temperature limit	Flexible, easy to deform or destroy	450°C
Polyimide	Easily reusable Good temperature resistance	Frequent bleeding subject to leakage Polymer bleeding problematic with some NPD and ECD detectors	350°C
Polyimide /Graphite	Hard material, good temperature temperature, reusable	Recommended for GC/MS applications	400°C 40% graphite (VG2) 400°C 15% graphite (VG1)
PTFE	Inert		250°C



**Interchim® ferrules**

Straight ferrules	PTFE	Graphite	100 % polyimide	Polyimide /Graphite (60/40)
1/16"	164750	164981	164420	164640
1/8"	164762	164993	164431	164650
1/4"	164783	165001	164440	164660
3/8"	---	311750	---	---
1/2"	---	315280	---	---

Reducing ferrules	ID column	PTFE	Graphite	100 % polyimide	15 % graphite / 85 % polyimide	40 % graphite / 60 % polyimide
1/16" to 0.3 mm	0.10 - 0.18 mm	BN1250	---	BN1260	---	U73970
1/16" to 0.4 mm	0.25 mm	795981	349348	314986	318842	308150
1/16" to 0.5 mm	0.32 mm	522251	25614B	229405	338411	326787
1/16" to 0.8 mm	0.53 mm	795991	17990A	229412	310442	33803A
1/16" to 1 mm	0.65 mm	796011	186073	229422	FL7680	571012
1/16" to 1.2 mm	0.75 mm	795951	247461	795962	FL7690	795971

1/8" to 1/16"		164802	165014	164452	---	164672
1/8" to 0.4 mm	0.25 mm	795751	358221	795741	FL7500	390342
1/8" to 0.5 mm	0.32 mm	795771	358233	795762	FL7510	390354
1/8" to 0.8 mm	0.53 mm	795841	358243	795831	FL7520	390372

1/4" to 1/16"	---	164832	165024	164461	---	164681
1/4" to 1/8"	---	164841	262824	164471	---	164691
1/4" to 3/16"	---	BN0740	---	---	---	---
1/4" to 0.4 mm	---	FL7830	FL7850	FL7910	FL7860	FL7880
1/4" to 0.5 mm	---	FL7810	795921	FL7920	---	795911
1/4" to 0.8 mm	---	FL7820	795941	FL7930	---	795931
1/4" to 6 mm	---	---	230340	---	---	164710

Short ferrules for HP/Agilent	Graphite	100 % Polyimide	15 % Graphite / 85 % Polyimide	40 % Graphite / 60 % Polyimide
1/16" - 0.4 mm	AH6301	164522	E21981	Q92342
1/16" - 0.5 mm	430393	AH6341	E04601	Q92332
1/16" - 0.8 mm	431134	AH6351	E04581	Q92322

**TECHNICAL TIP**

**Why replace them?**

Signs of wear and tear on a ferrule include:

- Background noise from oxygen diffusion in the system
- Oxygen-catalyzed column bleeding
- Sample degradation
- Sample loss
- Increased detector signal/noise
- Poor retention time reproducibility

**How to reduce the problems?**

General ferrule installation techniques:

- Do not over tighten, hand tighten the nut and finish tightening with a spanner (1/4 turn).
- Condition the ferrules before use (only for polyimide and polyimide/ graphite).
- Avoid contamination, especially fingerprints.
- Examine used ferrules with a magnifier glass for cracks, chips or other damage before reuse.
- Change the ferrules when installing new columns.





Ferrules 2 & holes	PTFE	Graphite	100 % polyimide	15 % graphite 85 % polyimide	40 % graphite 60 % polyimide
1/16" to 0.3/0.3 mm	---	---	---	528150	---
1/16" to 0.4/0.4 mm	FL9410	528171	528161	FL9400	528182
1/16" to 0.5/0.5 mm	FL9420	528211	528201	FL9430	528222
1/16" to 0.4/0.3 mm	---	---	---	528240	---
1/16" to 0.3/0.3/0.3 mm	---	---	---	528250	---
1/8" to 0.5/0.5 mm	795801	795811	795781	FL9440	764582
1/8" to 0.8/0.8 mm	FL9480	FL9460	FL9470	FL9450	BN0731

Ferrules not drilled	PTFE	Graphite	100 % polyimide	40 % graphite 60 % polyimide
1/16"	164901	BN0691	164503	164721
1/8 "	164911	BN0711	164512	164731
1/4"	164921	BN0721	164522	164471
3/8"	---	---	FL9370	---





### High performance septa

Central guide septa :

- Pre-pierced for extended life and reduced coring that guides the syringe needle to the same point for each injection.
- The central guide facilitates needle penetration, avoids septum puncture and reduces the risk of needle twisting.
- Excellent high temperature performance.
- Delivered pre-packaged in protective packaging.

Septa that don't stick:

A unique plasma treatment process ensures non-stick septa, without the use of talcum powder which could cause damage to the needle.

### Which septum to choose?

Septum	Max temperature	Lifetime	Low bleeding	Applications
Silicone HT transparent	340°C	Good	Good	Universal, low bleeding, long life time
BTO	High T° optimised - 400°C	Good	Excellent	High temperature, low bleed, compatible with MS detectors
Marathon	350°C	Excellent	Good	High temperature, low bleed, trace analysis
Advanced green	350°C	Very good	Good	Most economical for general GC
Blue	275°C	Good	Good	Specific applications requiring a polyimide barrier layer
Puresep P	300°C			
Puresep T	225°C			

### WHY REPLACE THEM :

Septa should be regularly replaced to avoid:

- leakage
- decomposition
- sample loss
- reduced column or split flow
- ghost peaks
- column degradation



Septa with needle guide



Septa for Shimadzu

### Compatibility

Injector brand	Injector type	Size septum
Agilent/HP	5880A, 5890, 6850, 6890, 7890	11 mm
	5700, 5880, 5900	9.5 mm
	On-column injection	5 mm
	Purged packed column	11 mm
Bruker/Varian	1177 Injector	9 mm
	1040/41/60/61	9.5 mm
	1075/77/78	11 mm
Fisons/Carlo Erba	1079, 1093/94 SPI	11.5 mm
	8000 Series	17 mm
PerkinElmer	Sigma series, 8000 Series, Clarus	11 mm
	AutoSystem/Autosystem XL	11 mm
Shimadzu	All	plug
	Trace, Focus Split/splitless	17 mm
Thermo Instruments	9001, GCQ	9.5 mm
	PTV injector	12.7 mm

### HOW TO REDUCE PROBLEMS :

- use the recommended temperature range
- replace them regularly
- install them with a simple "by hand"
- use septum purge as soon as possible
- use automatic injectors
- use sharpened syringe needles

### RELATED PRODUCTS

Never miss a gas leak again with our electronic detector

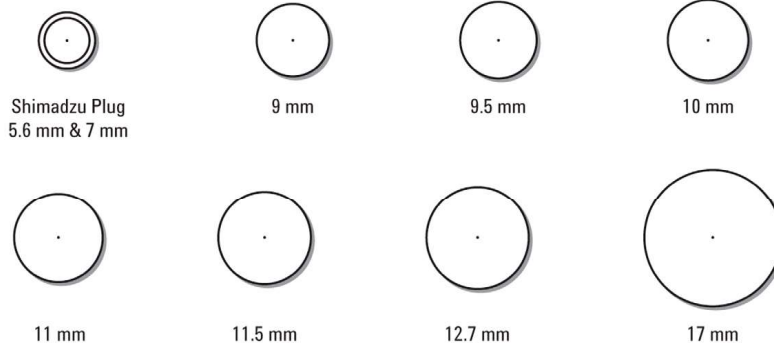




## Advion Interchim Scientific injection Septa

## Premium Septa

Description	Silicone Natural	Marathon	BTO	Advanced green 3
5 mm with center guide	---	Q99480 / 25 u	Q99450 / 50 u	Q99510 / 50 u
6.4 mm	---	---	U08830 / 50 u	---
9 mm with center guide	---	Q99490 / 25 u	Q99460 / 50 u	Q99530 / 50 u
9.5 mm = 3/8"	AS4JS0 / 25 u	---	983110 / 50 u	335651 / 50 u
10 mm	AS4JT0 / 25 u	---	983120 / 50 u	---
11 mm = 7/16" with center guide	AS4JU0 / 25 u	Q99390 / 25 u	E23425 / 50 u	E57851 / 50 u
		Q99391 / 50 u	E23426 / 100 u	E57854 / 100 u
11.5 mm with center guide	AS4JV0 / 25 u	Q99500 / 25 u	Q99470 / 50 u	Q99520 / 50 u
12.7 mm = 1/2" with center guide	AS4JW0 / 25 u	U13770 / 25 u	983141 / 50 u	U13840 / 50 u
17 mm	AS4JX0 / 25 u	U13780 / 25 u	AX0780 / 50 u	U13850 / 50 u
		U13781 / 50 u	---	---
Shimadzu	---	U13790 / 25 u	815560 / 50 u	815570 / 50 u



## Septa general use

Blue Septa	50 u	100 u
5 mm	BVL9L0	BVL9L1
6.4 mm (1/4")	178270	178271
9 mm	BVL9M0	BVL9M1
9.5 mm (3/8")	178285	178280
10 mm	AQ9X80	AQ9X81
11 mm (7/16")	178760	178761
11.5 mm	BVL9P0	BVL9P1
12.7 mm (1/2")	178770	178772
17 mm	BVL9N0	BVL9N1
Shimadzu plugs	BVL9S0	BVL9S1

Puresep Septa (/50u)	Puresep™ P	Puresep™ T
6 mm (1/4")	305241	305251
9.5 mm (3/8")	168540	305261
11 mm (7/16")	259870	983200
11.5 mm	BVL9Q0	BVL9R0
12.7 mm (1/2")	168550	305271

**PURESEP™ P**

The septum is made from silicone with a high temperature polyimide layer. Although the polyimide layer is stable up to 400°C, the recommended upper limit for the septum is 300°C due to the characteristics of the silicone.

**PURESEP™ T**

The silicone-based septum is coated on one side with a double layer of polyimide and PTFE on the other side.

The polyimide adheres to both silicone and PTFE, providing a better bond and increased durability. The PTFE outer coating ensures maximum inertia and helps to minimise leakage. Maximum inlet temperature of 225°C.



### Injection port cleaning kit

- Kit includes: two brushes with stainless steel bristles, one scraper for removing septa residue
- Can be used on all standard instruments

Description	P/N
Injection port cleaning kit	Q70520

### FID cleaning kit

Description	P/N
FID cleaning kit	624190

### Stainless steel Microprobes

Potential uses include: septa removal, small parts cleaning, soldering, packing columns, adjusting electronics, hooking/retrieving small parts, gluing, positioning samples under microscopes and any micro manipulation.

Description	P/N
Kit n°1 (3 u)	HZ9912
Kit n°2 (5 u)	BWIT40

### Mirror

Mirror on rod for viewing in corners and tight spaces.  
Can be used to check the flame of the detector.

Description	P/N
Mirror	BX6523

### Ferrule removal kit

Description	P/N
Ferrule removal kit	268630

### Glass wool & quartz wool

Description	P/N	Qty
Untreated glass wool	164233	50 g
DMCS (silanized) treated glass wool	1F6040	10 g
Pesticide grade treated glass wool	E21940	10 g
Untreated quartz wool	260093	15 g

### Glass wool extractor

Description	P/N
Glass wool extractor	164282



Q70520



624190



HZ9912



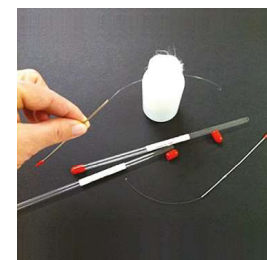
BWIT40



BX6523

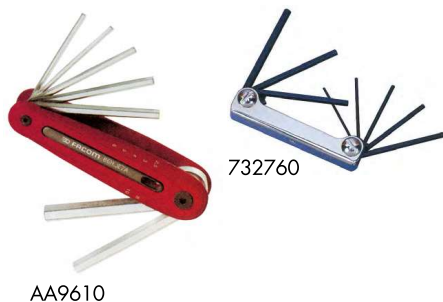


268630



164282





AA9610

732760



AA9370

FJ7250



DV5970

### WHICH WRENCH FOR WHICH TUBE?

Tube diameter	Wrench in inches
1/16"	1/4
1/8"	7/16
1/4"	9/16
3/8"	1" 1/16
1/2"	1" 5/16
1"	1" 7/16



965870

PIZ050

## Hexagonal wrenches

### On a frame

Dimensions	P/N
mm [2,5-3-4-5-6-8-10]	AA9610
Inches [1/16-5/64-3/32-1/8-5/32-3/16-1/4]	AA9611
Inches 0.05"-1/16"-5/64"-3/32"-7/64"-1/8"-9/64"-5/32"	732760*

### "Long" Individuals

A (mm)	B x L (mm)	P/N	A (Inches)	B x L (mm)	P/N
2	16 x 75	AA9320	1/16	16 x 62	AA9370
3	20 x 90	L62651	1/8	20 x 90	AA9380
4	25 x 100	M10701	9/64	22 x 95	M10721
5	28 x 115	AA9330	3/16	28 x 115	AA9390
6	32 x 135	AA9340	1/4	32 x 140	AA9400
8	36 x 150	AA9350	5/16	36 x 150	AA9410
10	40 x 170	AA9360	3/8	38 x 170	AA9420
Kit 1.5 - 2 - 2.5 - 3 - 4 - 5 - 6 - 8 - 10					FJ7250

## TORX male wrenches

Description	P/N
Torx n° 8-10-15-20-25-27-30-40	DV5970

## Flat wrenches

Metric dimensions	P/N	U.S. Dimensions	P/N
7-8	AA8720	1/4-5/16	E51011
8-10	AA8730	3/8-7/16	E51121
10-13	AA8740	1/2-9/16	311380
13-17	AA8750	5/8-11/16	BC2510
Box of 8 keys*	AA8711	Boîte 6 clés**	AA8700

\* 8-9 ; 10-11 ; 12-13 ; 14-15 ; 16-17 ; 18-19 ; 21-23 ; 22-24

\*\* 1/4-5/16 ; 3/8-7/16 ; 1/2-9/16 ; 5/8-11/16 ; 3/4-13/16 ; 7/8-15/16

## 1/4" wrench

Designed to easily unscrew hex nuts, with 1/16" tube passing through the slot.

Description	P/N
1/4" Hex & 5/16" Slotted wrench	755750
1/4" hexagonal slotted wrench	965870
Standard slotted wrench	311360
Adapter for manual tightening	PIZ050



## Wrenches

Length x aperture (mm)	P/N
100 x 13	AA9430
150 x 19	AA9440
205 x 24	AA9450
255 x 28	AA9460
305 x 34	AA9470



## Multi-grip pliers

	High performance	High performance	Standard	Mini
handles	Ergonomic	Chrome	PVC coated	Comfort coated
Maximum opening	Ergonomic handles	52 mm	46 mm	14 mm
P/N	AA9651	AA9480	AA9490	GV8440



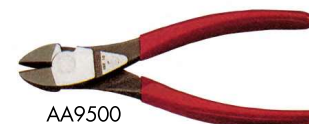
## Band wrench

Description	P/N
Band wrench	BU6420



## Cutting pliers

Length	P/N
14 cm	AA9500



## Universal" pliers

Length	P/N
165 mm	AA9510



## Nose pliers

	Straight	Straight	Curved
Length	150 mm	200 mm	200 mm
P/N	BN3570	BN3540	BN3560



## Straight nose circlip pliers

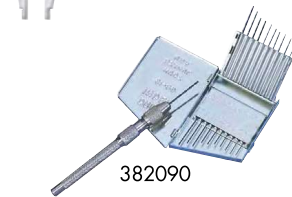
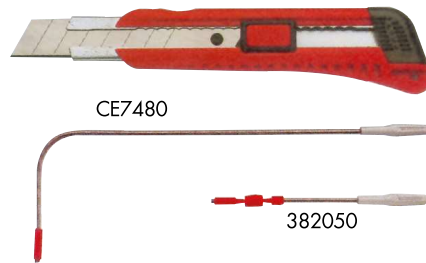
Diameter of tips	For inner circlips	For outer circlips
0.9 mm	CC8270	CE7420
1.3 mm	CC8310	CE7430



## Tweezers

Right	Right	Right	Angled 40°	Angled 45°
130 mm	155 mm	165 mm	155 mm	150 mm
pointed beaks	long thin beaks	long strong beaks	strong long ridged beak	thin ridged beaks
stainless steel	carbon steel	stainless steel	stainless steel	stainless steel
CC6480	E27041	CE7390	CE7400	CC6470
				Plastic AU0640





### Screwdriver

For slotted screws		"Phillips"		"Pozidriv"		Torx				
l x L (mm)	P/N	N°	D x L (mm)	P/N	N°	D x L (mm)	P/N	N°	D x L (mm)	P/N
3.5 x 100	AA9110	0	3 x 75	AA9190	0	3 x 75	AA9300	10	3 x 75	E24381
4.0 x 150	AA9120	1	4.5 x 100	E51071	1	4.5 x 100	E27031	20	4 x 100	E24371
5.5 x 150	AA9130	2	6 x 125	E51081	2	6 x 125	E51101	25	5 x 100	BE8830
6.5 x 200	AA9160	3	8 x 150	E51091	3	8 x 150	AA9310	30	6 x 125	BE8840

### Magnetic bit holder screwdriver

6 bits:

- For slotted screws 0.5 mm x 4 mm and 0.8 mm x 5.5 mm
- For Phillips screw n°1 and n°2
- For Pozidriv screw n°1 and n°2

Description	P/N
Magnetic bit holder screwdriver	DV7590

### Cutters

Description	Blade 9 mm	Blade 18 mm
Cutter	CE7450	CE7470
Spare blades	GV8460	GV8450

### Magnets

Description	P/N
Magnetic finger extra thin (Ø 7 mm) flexible 530 mm	CE7480
Magnetic pen	382050

### Vernier caliper

- Accuracy 1/50th - 0.02 mm
- Measuring capacity: 200 mm

Description	P/N
Vernier caliper	FO2510

### Set of drills

Description	P/N
20 drills from 0.34 to 1 mm (0.0135" to 0.039")	382090

### PTFE rolls

Description	P/N
PTFE rolls (12 m x 12 mm)	E01901

### Ferrule extractors

Description	P/N
Ferrule extractors (2 sizes)	268630
1/16" - 1/8" ferrule pullers	FO2550














### File

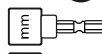

Description	P/N
File	AU0610



### Set of 120 pieces

Screwdrivers with sockets for most common needs, including laboratory use.

-  Pozidriv®: PZ00, PZ0, PZ1, PZ2, PZ3
-  Phillips®: PH00, PH0, PH1, PH2, PH3
-  Slot: 3, 4, 4.5, 5, 5.5, 6, 6.5, 7, 8 mm
-  Torx®: T5, T6, T7, T8, T9, T10, T15, T20, T25, T27, T30, T40, T45
-  Torx® drilled: TT8, TT10, TT15, TT20, TT25, TT27, TT30, TT35, TT40, T45
-  TS10, TS15, TS20, TS25, TS27, TS30, TS40, TS45, TS50
-  Square: SQ0, SQ1, SQ2, SQ3
-  6 pans: 1.5, 2, 2.5, 3, 4, 5, 5.5, 6, 8 mm
-  6 pans drilled: 2, 2.5, 3, 4, 5, 6 mm
-  6 pans: 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"
-  Spanner®: 4, 6, 8, 10 mm
-  XZN®: M5, M6, M8
-  Butterfly: 1, 2, 3
-  Torq-set®: 6, 8, 10
-  Triwing®: 1, 2, 3, 4

-  Sockets: 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 mm
-  Sockets: 5/32", 3/16", 7/32", 1/4", 9/32", 5/16", 11/32", 3/8", 7/16", 1/2"



Description	P/N	Qty
Box 120 pieces	HO8610	1 u

