



Accessories

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Introduction

Accessories

The performance of a HPLC systems is not only demands the proper maintenance and operation of the system components such as pumps, detectors, columns etc., the careful selection and use of HPLC accessories is also required. YMC's commitment is to supply high quality spare parts and accessories from excellent partners.

The following pages highlight some examples of products available from our chosen suppliers.

For further details about products, prices and availability please contact our sales administration, Phone-No. +49 (0) 2064 427-253 or info@ymc.de.

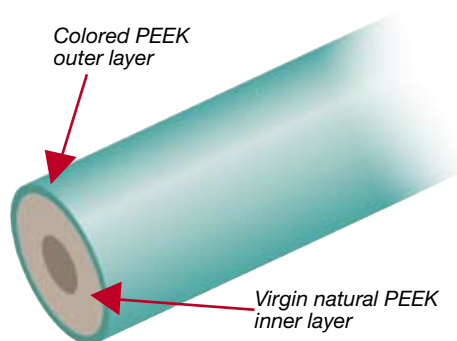
Dual Layer PEEK Tubing

- inner layer of natural PEEK, outer layer of colour-coded PEEK
- no possibility for eluent to contact colouring agents
- pressure performance equivalent to single layer tubing
- 1/16" o.d., i.d. from 0.02" to 0.30", ± 0.001 "



General

Dual Layer PEEK tubing eliminates any concern that pigments used to colour code the tubing could contaminate a critical sample stream or selectively retain a component of the sample. It looks like any other colour-coded tubing at first glance, but a closer look reveals that the pigmented layer surrounds a separate but integrally-bonded inner layer of natural PEEK.



Specifications

The 1/16" o.d. tubing is available in packs of 3 metre length with any i.d. you specify, from 0.002" to 0.030". Standard sizes are listed below. The i.d. tolerance of ± 0.001 " (± 0.025 mm) is equivalent to or better than that of tubing typically sold as premium grade. This Dual Layer tubing is available in a wide range of colours, striped or solid.

1/16" o.d. solid colour tubing

(mm)	i.d.		Colour	Qty	Part-No.
	(mm)	(inch)			
0.13	0.005		red	3 metres	JR-TD-6007-M3
0.18	0.007		yellow	3 metres	JR-TD-6008-M3
0.25	0.010		blue	3 metres	JR-TD-6009-M3
0.50	0.020		orange	3 metres	JR-TD-6010-M3
0.75	0.030		green	3 metres	JR-TD-6011-M3

For a comprehensive overview about HPLC accessories, consumables as well as catalogues and price information please contact YMC Europe GmbH, Phone: +49(0)2064-427-253, Email: info@ymc.de or www.ymc.de.



Easy Flange

- **handy tool for perfect flanges**
- **no heat or electricity required**
- **no contamination**

General

The Easy-Flange flange-rolling tool has been developed for fittings requiring a flange and is suitable for PTFE and PTFE-like tubes with OD between 1/16" and 1/8".

The tool forms the flange simply by applying a mechanical force and does not require electrical power. The quality of the flange is considerably improved since the flanges are formed without stressing the tubing by heat and because the specially designed negative conical profile of the flange-forming unit gives a shape ideal for maximum sealing properties.

The Easy-Flange-Combi Kit is an upgraded version of the standard Easy-Flange Kit, which comes complete with PTFE tubing, PPS nuts and Polypropylene O-rings.



Easy-Flange Kit

Part-No.	Description	Qty
JR-201540	Easy-Flange kit in plastic case, complete with the following parts:	
JR-202235	Flanging disc with 0.5 mm, SS pin for PEEK tubing	1 piece
JR-201541	Flanging disc with 0.8 mm polymer pin	1 piece
JR-201554	Flanging disc with 0.8 mm Titanium pin	1 piece
JR-201536	Flanging disc with 1.3 mm polymer pin	1 piece
JR-201537	Flanging disc with 1.3 mm Titanium pin	1 piece
JR-797	Tool, Clean-Cut tubing cutter	1 piece
JR-T-4036-M3	Tubing, PTFE, 1/16" x 0.75 mm i.d., 3 m / pk	1 pk

Easy-Flange Combi-Kit

Part-No.	Description	Qty
JR-201539	as Easy-Flange kit, with the following additional parts:	
JR-55060-10	Nut, PPS, flanged 1/16", 1/4-28, 10 / pk	1 pk
JR-201926-10	Ring, PP, flanged 1/16", 10 / pk	1 pk
JR-55061-10	Nut, PPS, flanged 1/8", 1/4-28, 10 / pk	1 pk
JR-201928-10	Ring, PP, flanged 1/8", 10 / pk	1 pk
JR-5508X-24	Adapter, PP, fingertight sleeve, assorted 2 pcs. per color, 24 / pk	1 pk
JR-T-6800-M3	Tubing, PTFE, 1/8" x 1/16" i.d., 3 m / pk	1 pk

One-Piece Fingertight Fittings

- **fingertight up to 350 bar (5000 psi)**
- **excellent chemical resistance**
- **one-piece**
- **biocompatible**
- **10-32 thread for 1/16" capillary**



General

YMC offers a large variety of fingertight fittings in PEEK and PPS. With their integrated ferrule one-piece fittings are a convenient alternative to nut/ferrule combinations. The 10-32 thread will fit virtually all standard high-pressure female connections. One-piece fittings can withstand pressures of up to 350 bar (5000 psi).

To identify various tubing lines the PEEK fingertight fittings are available in six colours.

The PPS fittings can be used as a hex-head nut or can be turned with the coloured adapters into a fingertight fitting in an instant. The adapters are available in 12 different colours for easy solvent line identification.

PEEK Colour-Coded One-Piece Fingertight Fittings

Colour	Part-No.
natural	JR-55020-5
black	JR-55021-5
red	JR-55022-5

Colour	Part-No.
yellow	JR-55023-5
blue	JR-55024-5
green	JR-55025-5

PPS Colour-Coded One-Piece Fingertight Fitting

Colour	Part-No.
black	JR-58000-5

- convenient alternative to PEEK
- fingertight with adapter



Colour-Sleeve Fingertight Adapters

Colour	Part-No.
natural	JR-55080-5
white	JR-55081-5
dark grey	JR-55082-5
black	JR-55083-5
lavendel	JR-55084-5
red	JR-55085-5

Colour	Part-No.
yellow	JR-55086-5
orange	JR-55087-5
brown	JR-55088-5
green	JR-55089-5
blue	JR-55090-5
pink	JR-55091-5

HPLC Kits



- **PEEK Starter Kit**
- **ChromBox Kit**

PEEK Starter Kit

- all parts biocompatible
- ideal kit for all HPLC users

For a number of interesting LC applications involving proteins, peptides, nucleic acids or other samples of biological origin metal systems may interact with samples or release transition metals that will deactivate columns.

By replacing stainless steel parts, such as tubing, fittings, ferrules, mobile phase filters, in-line filters etc. a biocompatible and metal-free environment is created for samples and mobile phase. The PEEK Starter Kit is a collection of items suitable for biochromatography applications.

The Kit consists of fittings, ferrules, tubing and solvent filters in addition to a union, the Clean-Cut tubing cutter and other useful tools including tubing elbows. All together for a very competitive price!



Part-No.	Description
JR-35P	PEEK Starter Kit

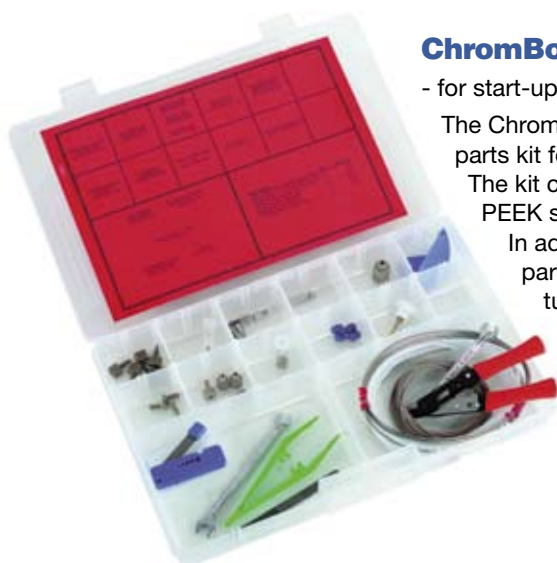
ChromBox Kit

- for start-up and standard use in all HPLC Systems

The ChromBox is an all-purpose analytical spare parts kit for everyone using HPLC.

The kit consists of identical items to those listed in the PEEK starter kit.

In addition, you will find the most often used spare parts made of 316L stainless steel, including fittings, tubing, and tools specifically for stainless steel fittings.



Part-No.	Description
JR-34N	ChromBox Kit

Vials and Septa

- numerous styles and materials
- high quality premium products
- solutions for most HPLC instruments



General

In order to maintain the high performance levels achieved with YMC columns, similar attention should be addressed towards equally high performance consumables. As for vials and septa, YMC can recommend with confidence the usage of premium products as listed hereafter manufactured by premium vendors. The selection provided represents the most commonly required items and a vast variety of specialty products which are available on request, such as crimping and capping systems, syringe filters, detector lamps or precision glass syringes and more. For local assistance please contact your YMC representative or approved YMC distributor.

Properties

Vials are available in three closure types: crimp, snap and screw cap. Each closure has its advantages and disadvantages.



Crimp Caps squeeze the septum between the rim of the glass vial and the crimped aluminium cap. This forms an excellent seal preventing evaporation. The septum stays seated during piercing by the autosampler needle. The crimp cap vial requires crimping tools to carry out the sealing process. For few samples, manual crimping tools are the best choice. For large numbers of sample, automated crimping tools are available.



Snap Caps are an extension of the crimp cap system of sealing. A plastic cap is stretched over the rim of the vial to form a seal by squeezing the septum between the glass and the stretched plastic cap. The plastic cap creates tension when trying to return to its original size. This tension forms the seal between glass, cap and septum. Plastic snap caps do not require any tools to assemble.

Snap Caps are not as effective as a seal as other closures. If the fit of the cap is very tight, the cap is hard to apply and may be subject to crack. If the fit is too loose, the seal is poor and the septum may dislodge.



Screw Caps vials are universal. Screwing the cap applies a mechanical force that squeezes the septum between the glass rim and the cap. Screw caps form an excellent seal and mechanically hold the septum in place during piercing. No tools are required for assembly.

These vials, compatible with all robotic autosamplers, can be used with many of Chromacol's clean, rubber and silicone 11 mm seals. This means that a cap and seal combination is available for almost any solvent used in chromatography.

Vials and Septa – Highlights



Barcode Vials

are pre-printed with a unique code. The code is machine-readable and can be downloaded into database and sample handling software. Most Chromacol glass vials maybe pre-labelled with a variety of barcode symbol systems. Labels are selected to give resistance to commonly used solvents and chemicals including DMSO and xylene. Adhesives are chosen to give a very high level of attachment with minimal edge lift. For the ultimate in chemical and physical resistance, the linear code of choice may also be permanently etched onto the vial.

Sample Storage Vials

For larger volumes of liquid sample, screw top storage vials are available with volumes from 8 ml to 40 ml. Amber versions are also available in USP Class I Neutral Borosilicate glass. Solid top storage caps with inert PTFE seals can be selected as an alternative to injection caps with clean silicone/PTFE septa.



Screw Finish Magnetic Caps

With new sample processors and autosamplers being developed which move vials using magnetic attraction, demand has arisen for metal caps in order to transport vials to allow the use in SPME and headspace extraction methods.

These screw caps are nickel plated metal with magnetic properties making them suitable for the vial transport with the popular CTC CombiPal instruments. The additional turns of thread give a secure seal while allowing easy opening and closing for sample addition.

CRIMPIMATE™

The CRIMPIMATE™ benchtop crimper is a complete workstation, which is economical, safe and requires little effort to create a perfect seal. Steel jaws provide a long life and reproducible crimp pressures. It can be assembled or dismantled in a few minutes and has a substantial steel base for balance and stability. CRIMPIMATE™ has a unique lever action, which greatly reduces the effort needed to generate a perfect crimp vial.

Unlike hand crimpers, each workstation can handle a wide variety of different seals and caps, since it is designed to accept interchangeable jaws.

Four jaw sizes are currently available for 8, 11, 13 and 20 mm crimp caps. Jaws can be changed in a little as 6 seconds and each is adjustable to cope with variations in vial collar and seal thickness.



HPLC Solvents

- **high purity solvents**
- **1 ml vial to 20,000 l iso container**
- **standards and reagents**
- **customised solvent mixtures**



General

High purity solvents for HPLC

High performance liquid chromatography is now an essential analytical tool especially in the areas of research and development, pharmaceutical quality control and analysis in the food and environmental sectors. This technique demands the highest quality solvents to allow reproducible separations. The basic requirements include a high UV-transmission factor, low particle levels, low acidity and alkalinity coupled with low levels of water and other non-volatile components. In addition there must be consistency between batches.

Solvents for isocratic analytical HPLC together with quality gradient-grade solvents are included in the HPLC range. Gradient-grade has the highest purity and is designed specifically for use with gradient elution HPLC using reversed phase materials and UV or fluorescence detection.

Solvents for LC/MS

The presence of alkali and alkaline earth metals in the mobile phase when using LC/MS can make the interpretation of the mass spectrum very difficult. YMC offers solvents designed for this technique with extremely low levels of these metals, at 0.1 ppm and less.

Solvents for ULC/MS

ULTRA Liquid Chromatography (ULC) requires solvents of superior quality. A new range of ULC/MS solvents has been designed to allow high resolution and sensitivity. Such ULC/MS solvents combine the highest specification for: UV, low gradient shift, minimal peak impurities and lowest ionic background for MS detection. All ULC/MS solvents are micro filtered and are packed under inert gas for improved shelf life. For mobile phase preparation selected buffers are also available. In addition several ULC/MS blends of water and acetonitrile with formic acid, acetic acid and trifluoroacetic acid are offered.

Connectors



- **Sure Fit™ connector**
- **universal connector**
 - enables perfect column connectivity
 - super high-pressure resistance
 - for connection to a guard column

Sure-Fit™-Connector

Since different column hardware manufacturers have introduced a variety of connecting port geometries over the years, the Sure-Fit™ Connector represents an ideal tool to avoid dead volumes or leakages, irrespective of the column brand, when connecting different columns to an HPLC system.

YMC strongly recommends the use of the Sure-Fit™ Connector due to its internal spring tensioned mechanism, which automatically self-adjusts to any port depth while maintaining constant pressure on the capillary tubing. This guarantees a connection free from any dead volume. Column changeovers become easy, especially as no tools are required. The Sure-Fit™ Connector is fingertight to 6000 psi and is available in a range of capillary tubing i.d. and lengths.



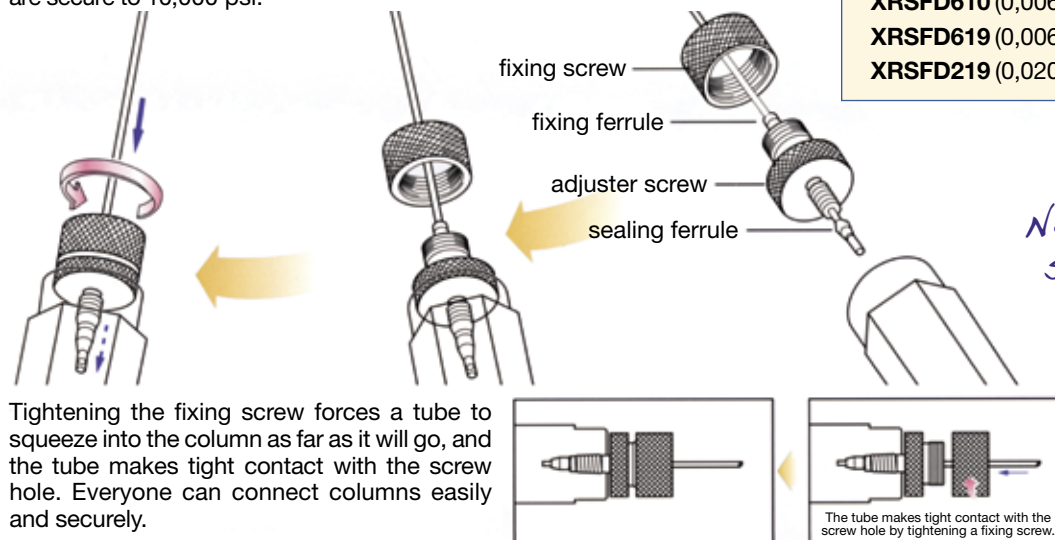
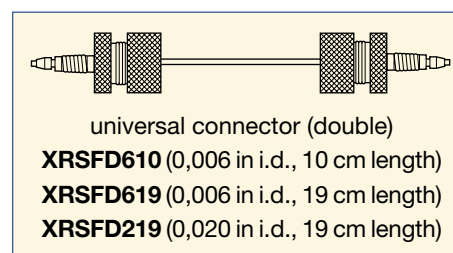
Column i.d.* (mm)	Tubing i.d.* (mm)	Single end unit (incl. 20 mm stainless steel capillary)	Double end unit (incl. 20 mm stainless steel capillary)
1.0-3.0 3.0-4.6	0.13 0.18	SFS2005 SFS2007	SFD2005 SFD2007
8.0-10 20-30	0.25 0.50	SFS2010 SFS3020**	SFD2010 SFD3020**

* other versions on request

** Includes 30 mm stainless steel capillary

Universal Connector

YMC recommends the use of the universal connector to enable perfect connections in combination with the YMC UltraHT Pro C18 column. The universal connector maintains system integrity and ensures peak efficiency by eliminating connector dead volume and leakage, preventing tubing being force out due to high pressures, and providing finger-tight connections that are secure to 10,000 psi.



Tightening the fixing screw forces a tube to squeeze into the column as far as it will go, and the tube makes tight contact with the screw hole. Everyone can connect columns easily and securely.