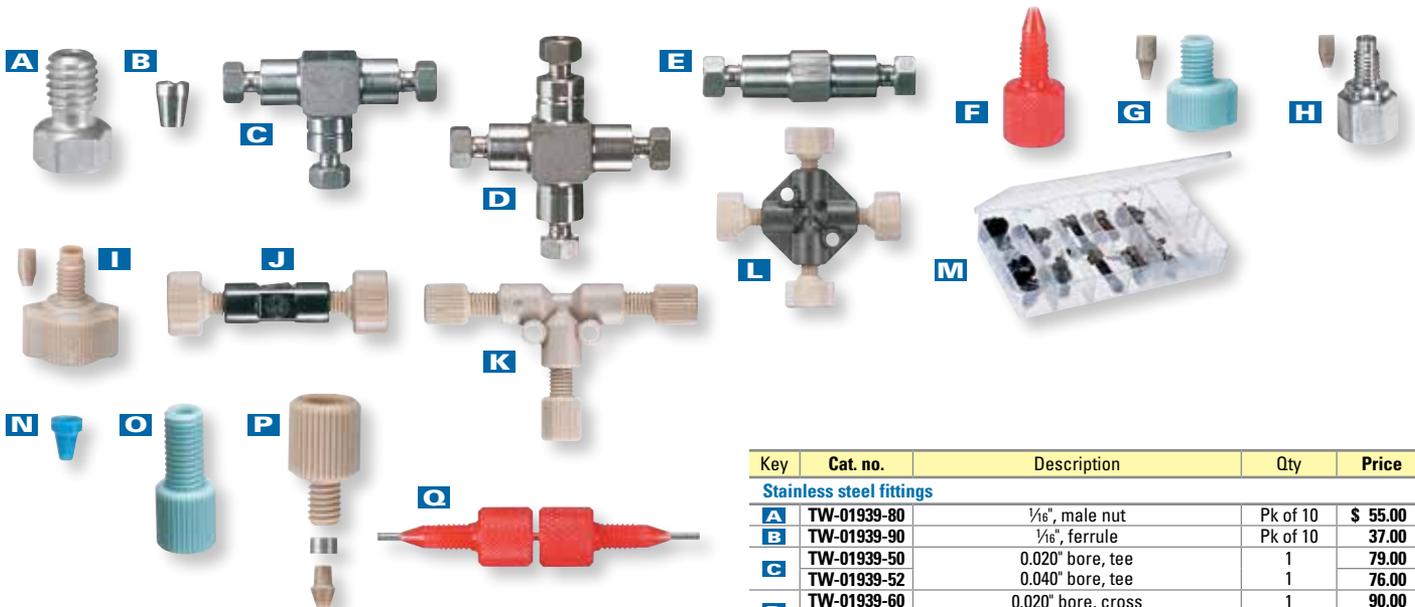


Chromatography Fittings



A-E Stainless Steel Fittings include nuts and ferrules. They are equivalent to Parker and Swagelok®. Tees and crosses connect two or more columns from the injector (0.020" bore), and join multiple solvent lines before the injector (0.040" bore). Tees and crosses take 1/16" OD tubing. Tee includes three ferrules and nuts each. Cross includes four ferrules and nuts each. Zero dead-volume (ZDV) unions connect tubing without any dead volume.

F Standard Fingertight® I High-Pressure Fittings are in one piece, and are finger tightened to withstand 4000 psi. Use with 1/16" OD plastic or SS tubing.

G-H Standard Fingertight II High-Pressure Fittings hold up to 6000 psi. Wrench tighten the SS nut/PEEK[†] ferrule type to hold up to 10,000 psi. Use with 1/16" OD plastic or SS tubing.

I PEEK[†] Fingertight III Fittings withstand bursting pressures of any 1/16" OD tubing or to 6000 psi. Replacement ferrules available below right.

J-L PEEK[†] High-Pressure Unions, Tees, and Crosses hold up to 5000 psi and include Fingertight III fittings. Fittings work with any 1/16" OD tubing.

J-L PEEK[†] Low-Pressure Unions, Tees, and Crosses hold up to 1000 psi (1/16" tubing), or to 500 psi (1/8" tubing). PEEK flangeless fittings included. Models 02008-00, -10, and -20 take 1/16" OD tubing; models 02008-04, -14, and -24 take 1/8" OD tubing.

M PEEK[†] Fitting Kit contains twenty ferrules, six Fingertight III nuts with ferrules, two metric adapters, two 10-32 female to 1/4-28 female adapters, two unions with 0.020" bore, one union with 0.050" bore, tees with 0.020" bore and 0.050" bore each, and crosses with 0.020" and 0.050" bore each.

N-O Flangeless Fittings are easy to assemble; slide the ferrule over the tubing and finger tighten the nut. No need to flange over PTFE tubing. Models 01939-30, -32 take 1/16" OD tubing and are rated at 1000 psi; models 01939-32, -42 take 1/8" OD tubing and are rated at 500 psi. Feature 1/4-28 threads.

P LiteTouch® Ferrule Systems feature unique double-coned ferrule and SS compression ring. Won't twist tubing while disconnecting. Compression ring remains attached to tubing for quick reconnection. Rated for 5000 psi (01939-36) or 7000 psi (01939-34 and -44). Order tool 01939-39 (at right) to remove compression ring. Order SS nuts ("A") or PEEK nuts ("P") in table.

Q Column Couplers allow zero dead-volume connections between column and column, column and detector, or column and guard column. Include a 5-cm length of 0.007" ID tubing.

Key	Cat. no.	Description	Qty	Price
Stainless steel fittings				
A	TW-01939-80	1/16", male nut	Pk of 10	\$ 55.00
B	TW-01939-90	1/16", ferrule	Pk of 10	37.00
C	TW-01939-50	0.020" bore, tee	1	79.00
	TW-01939-52	0.040" bore, tee	1	76.00
D	TW-01939-60	0.020" bore, cross	1	90.00
	TW-01939-62	0.040" bore, cross	1	89.00
E	TW-01939-70	0.020" bore, ZDV union, joins 1/16" tubing	1	37.00
	TW-01939-72	0.010" bore, ZDV union, joins 0.005" or 0.007" tubing	1	44.50
Standard Fingertight® I high-pressure fittings				
F	TW-01939-20	10-32, CTFE nut/CTFE ferrule	Pk of 10	121.00
	TW-01939-22	1/4-28, CTFE nut/CTFE ferrule	Pk of 10	160.00
Standard Fingertight® II high-pressure fittings				
G	TW-01939-00	10-32, acetal male nut/PEEK ferrule	Pk of 10	70.00
	TW-01939-02	1/4-28, acetal male nut/PEEK ferrule	Pk of 10	70.00
H	TW-01939-10	10-32, SS male nut/PEEK ferrule	Pk of 10	155.00
	TW-01939-12	1/4-28, SS male nut/PEEK [†] ferrule	Pk of 10	153.00
PEEK[†] Fingertight III fittings				
I	TW-02007-00	10-32, nut/ferrule	1	8.75
	TW-02007-02	1/4-28, nut/ferrule	1	8.75
PEEK[†] high-pressure unions, tees, and crosses				
J	TW-02008-02	0.020" bore, union	1	43.50
	TW-02008-06	0.050" bore, union	1	43.50
K	TW-02008-12	0.020" bore, tee	1	46.00
	TW-02008-16	0.050" bore, tee	1	46.00
L	TW-02008-22	0.020" bore, cross	1	63.50
	TW-02008-26	0.050" bore, cross	1	63.50
M	TW-02008-50	PEEK fitting kit	1	579.00
PEEK[†] low-pressure unions, tees, crosses and fitting kit				
J	TW-02008-00	0.020" bore, union	1	28.00
	TW-02008-04	0.050" bore, union	1	28.00
K	TW-02008-10	0.020" bore, tee	1	43.50
	TW-02008-14	0.050" bore, tee	1	43.50
L	TW-02008-20	0.020" bore, cross	1	52.50
	TW-02008-24	0.050" bore, cross	1	52.50
M	TW-02008-52	PEEK fitting kit	1	532.00
Flangeless fittings				
N	TW-01939-30	1/16", ETFE ferrule	Pk of 10	18.00
	TW-01939-32	1/8", ETFE ferrule	Pk of 10	18.00
O	TW-01939-40	1/16", ETFE male nut	Pk of 10	18.00
	TW-01939-42	1/8", ETFE male nut	Pk of 10	18.00
LiteTouch® ferrule systems				
P	TW-01939-34	1/16", PEEK ferrule system	Pk of 10	77.00
	TW-01939-36	1/8", PEEK ferrule system	Pk of 10	79.00
	TW-01939-44	1/16", PEEK nut	Pk of 10	40.00
	TW-01939-46	1/8", PEEK nut	Pk of 10	41.00
Column couplers				
Q	TW-01939-95	Two CTFE fittings, built-in nuts and ferrules	1	30.50
	TW-01939-96	Two sets of acetal nuts/ketone ferrules	1	24.50

TW-02007-50 Replacement ferrule for "I" fitting 02007-00 \$6.25
 TW-02007-52 Replacement ferrule for "I" fitting 02007-02 \$6.25
 TW-01939-39 Removal tool for "P" ferrule systems \$36.50

[†]Maximum operating temperature is 302°F (150°C).

HPLC Valves



Switching Valves offer two flow patterns. Carbon-filled PEEK valve, flangeless Tefzel® ferrules, and Delrin® nuts.

Drain Valves release pressures from HPLC systems or redirect the flow of the mobile phase. Carbon-filled PEEK valve includes three Fingertight® III fittings and a titanium rotor. Dead volume is 6.0 µL when closed and 18.4 µL when open.

Shut-Off Valves. PEEK valve and nut, flangeless Tefzel ferrule.

Catalog number	Description	Max psi	Tubing	Price
TW-02012-02	Switching valve, three port	500	1/16" OD	\$139.00
TW-02012-00	Switching valve, four port			139.00
TW-02013-00	Drain	5000	1/16" OD	240.00
TW-02014-00	Shut-off valve	500	1/16" OD	62.50
TW-02014-01			1/8" OD	62.50

Solvent Filters

Upchurch® HPLC Solvent Filters

Disposable Solvent Inlet Filters are economical and provide up to 6 months of protection (depending on usage and type of mobile phase). These 10-µm filters are easy to replace; simply tighten by hand. Wetted parts are 316 SS. Max flow rate is 15 mL/min; stem OD is 1/16".



Replaceable Solvent Inlet Filters are designed with the inlet tube at the bottom of the filter allowing filters to draw solvent to within 0.06" of the reservoir bottom. Reusable filter assembly features replaceable filter cup—easily change by loosening lock nut and removing cup. Wetted parts are 316 SS cup, PEEK nut and Tefzel seal. Max flow rate is 10 mL/min. Use with 1/8" or 3/16" OD tubing.



Catalog number	Description	Price	Replacement cups	
			Catalog number	Price/pk of 10
TW-42701-00	Disposable filter, for 1/16" ID tubing	\$26.00	—	—
TW-42701-02	Disposable filter, for 1/8" OD tubing	33.50	—	—
TW-42700-00	Replaceable filter assembly, 2 µm	85.00	TW-42700-50	\$39.00
TW-42700-02	Replaceable filter assembly, 10 µm	85.00	TW-42700-52	39.00

Metal-Free Solvent Inlet Filter

This 20-µm polyethylene filter is housed in a PEEK plastic body. Filter features a 1/4-28 UNF thread type, can be used with 1/16" or 1/8" OD tubing, and can withstand temperatures up to 212°F (100°C).



Catalog number	Description	Price	Replacement filter	
			Cat. no.	Price/ea
TW-25585-66	Metal-free solvent inlet filter, 20 µm	\$37.00	TW-25585-68	\$15.00

In-Line Filters

HPLC In-Line Filters

Inlet and outlet connections fit Upchurch, Swagelok®, Valco and Parker fittings. These stainless steel filters have a stainless steel frit and PEEK ring.

In-Line Solvent Filter is placed between pump and sample injection valve to trap piston seal particles. An 8° distribution cone spreads the solvent flow over the entire surface of the frit (0.094" dia x 0.062"), with 0.050" dia flow thru-hole for solvent.



Precolumn Filters have 0.020" dia flow thru-holes and 8° distribution cones for minimum band spreading and mixing.

Catalog number	Description	Price	Replacement frits	
			Cat. no.	Price/pk of 10
TW-02010-00	In-line solvent filter, 2 µm	\$73.50	TW-02010-50	\$45.00
TW-02011-00	Precolumn filter, 2 µm	73.50	TW-02011-10	45.00
TW-02011-01	Precolumn filter, 0.5 µm	73.50	TW-02011-11	45.00

In-Line Solvent Degassers

Degassers simultaneously filter and degas solvents to provide better HPLC reproducibility. They also eliminate false peaks due to solvent impurities and gas bubbles. Degassers feature built-in 0.2-µm filter. Aqueous phase degasser has a nylon filter and organic phase degasser has a polypropylene filter. Other wetted parts are polypropylene. Each box includes one set of ferrule nuts for 1/8" OD tubing.



Catalog number	Phase	Filter	Qty/bx	Price/bx
TW-29702-00	Aqueous phase	Nylon, 0.2 µm	10	\$207.00
TW-29702-10	Organic phase	Polypropylene, 0.2 µm		207.00

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HPLC Mobile Phase Reservoirs and Systems

Ultra-Ware® HPLC Systems with Economy Cap

These complete reservoir systems have chemical-resistant fluid/vapor contact surfaces. Cap body is PTFE; with TFE/propylene O-ring and polypropylene screw collar. Tubing passes through ¼-28 fittings. Cap has two ⅛" through holes and one through hole for ⅜" OD tubing. Flat-bottom reservoir is Type I, Class A borosilicate glass with a GL 45-4 screw thread and a plastic safety coating. The plastic coating blocks UV light up to 385 nm. Autoclavable.

What's included: one 2 µm PEEK inlet/sparge filter, two ETFE fittings, one ETFE plug, 10 ft (3.0 m) of ⅜" OD FEP tubing, and reservoir.

Specifications

Maximum temperature: 121° C

Operating pressure: -1 to 0.4 bar

Catalog number	Bottom style	Reservoir volume	Price
TW-02017-45	Flat	1 L	\$298.00
TW-02017-50		2 L	330.00
TW-02017-55		5 L	559.00



Mobile Phase Reservoirs

These reservoirs are manufactured of high-quality borosilicate glass for maximum chemical resistance. Reservoirs are coated with plastic for safety and UV resistance. Select from conical-bottom configuration for maximum solvent utilization or flat-bottom reservoirs. Autoclavable.

Catalog number	Bottom style	Reservoir volume	Price
TW-02017-00	Conical	0.5 L	\$192.00
TW-02017-05		1 L	218.00
TW-02017-10		2 L	329.00
TW-02017-15		5 L	574.00
TW-02017-20	Flat	1 L	155.00
TW-02017-25		2 L	197.00
TW-02017-30		5 L	438.00



02017-05

Quick-Disconnect Bottle Cap

Use this bottle cap to change tubing without unscrewing fittings. Cap comes with Tefzel® fittings and an adapter to accommodate either ⅛" or ⅝" OD tubing. Screw cap size is 45 mm; see our "Bottles" section on pages 195–225.

Note: Do not use caps in applications exceeding 10 psi.

Catalog number	Description	Price
LZ-02016-00	Quick-disconnect bottle cap	\$193.00



MORE info!

The majority of HPLC instruments require two mobile phases. Typically three reservoirs are suitable for most applications.

Quick-Disconnect HPLC Manifolds

A safe, cost-effective way to collect HPLC waste

- Use with Justrite quick-disconnect disposal cans 86395-00 and -10 (sold separately; contact your local dealer for details)

These polypropylene manifolds allow up to six waste lines from HPLC processes to be fed into a single intake fitting. Manifolds 86394-27 and -29 have six ¼-28 ports, one ⅜" NPT port (all come with caps for unused ports), and one quick-disconnect port in either 316 stainless steel or polypropylene. Manifold 86394-31 has a "stacker" connection for attaching on top of 86394-27 or -29. Up to 12 waste lines can be attached to a single disposal can when using the stacker manifold.

Catalog number	Description	Price
LZ-86394-27	Manifold with stainless steel quick disconnect	\$238.00
LZ-86394-29	Manifold with polypropylene quick disconnect	200.00
LZ-86394-31	Manifold with stainless steel stacker connection	200.00

- LZ-86394-33 Compression fittings with ferrules, for ⅛" OD (⅜" ID) hard-wall tubing. Pack of 6.....\$115.00
- LZ-86394-35 Compression fittings with ferrules, for ⅜" OD (⅜" ID) hard-wall tubing. Pack of 6.....\$115.00



86394-27



86394-29



86394-31



Manifold 86394-27 attached to 86394-31 "stacker"

Glass Chromatography Columns

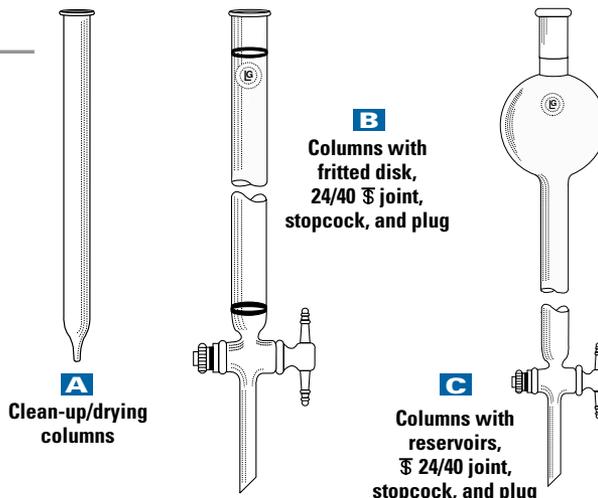
Ideal for adsorption, gel, permeation, and ion exchange techniques

A Corning® Disposable Glass Columns are ideal for the clean up of sample extracts or for drying of samples. Disposable columns reduce the chances of cross contamination.

Catalog number	Capacity	Dimensions (mm)	Qty/cs	Price/cs
TW-34695-60	10 mL	10.9 OD x 8.60 ID x 290 H	200	\$162.00
TW-34695-62	25 mL	15.8 OD x 14.0 ID x 297 H	100	192.00
TW-34695-64	50 mL	18.0 OD x 16.2 ID x 300 H	50	165.00

B LabGlass Standard Glass Columns are made of borosilicate glass and are available with or without 3/4 joints and fritted disks. The 3/4 joints on top of columns permit the connection of a funnel or other reservoir. Fritted disks (40 to 60 µm porosity) support packing materials. Includes a PTFE plug to control flow rate.

Catalog number	Fritted disk	3/4 joint	Dimensions (mm)	Qty/cs	Price/cs
TW-34695-46	No	No	10.5 ID x 150 L	1	\$ 102.00
TW-34695-48			10.5 ID x 250 L		105.00
TW-34695-50			19.0 ID x 250 L		117.00
TW-34695-52			19.0 ID x 500 L		130.00
TW-34695-32	No	Yes	10.5 ID x 150 L	1	104.00
TW-34695-34			10.5 ID x 250 L		107.00
TW-34695-36			19.0 ID x 250 L		122.00
TW-34695-38			19.0 ID x 500 L		122.00
TW-34695-40	Yes	Yes	10.5 ID x 150 L	1	119.00
TW-34695-42			10.5 ID x 250 L		124.00
TW-34695-44			19.0 ID x 250 L		134.00



C LabGlass Columns with Reservoirs are perfect for flash chromatography applications. Includes a PTFE plug to control flow rate.

Catalog number	Capacity	Dimensions (mm)	Qty/cs	Price/cs
TW-34695-54	200 mL	10.5 ID x 250 L	1	\$132.00
TW-34695-56	250 mL	19.0 ID x 300 L		143.00

Corning® Glass Wool

Easy-to-use wool is made of fine glass fibers, suitable for use as a filtering medium. Each bag contains one piece approximately 2" (5.1 cm) in diameter and 22" (55.9 cm) long.

TW-34552-01 Glass wool. Pack of 1 lb \$143.00
 TW-34552-21 Glass wool. Case of twelve 1-lb packs..... \$1380.00

Low-Pressure Liquid Chromatography Fittings

Chemically inert construction

These flangeless fittings connect easily by hand and offer an economical alternative to stainless steel fittings. Select from individual fittings or the comprehensive kit. Low-pressure fittings are rated to 1000 psi for 1/16" tubing and 500 psi for 1/8" tubing.

A-C Low-Pressure Unions, Tees, and Crosses – PEEK flangeless 1/4-28 threaded fittings included. 1/8" fittings feature 0.050" bore and are rated to 500 psi; 1/16" fittings feature 0.020" bore and are rated to 1000 psi.

D-F Flangeless Fittings are easy to assemble. Slide the ferrule over the tubing and finger-tighten the nut. Excellent chemical resistance. 1/8" fittings are rated to 500 psi; 1/16" fittings are rated to 1000 psi. All fittings feature 1/4-28 threads.

G PEEK Fitting Kit contains convenient 1/4-28 threaded fittings for both 1/16" and 1/8" tubing:

1/16" tubing: PEEK flangeless nuts (6), Tefzel® (natural) flangeless ferrules (10), and PEEK 0.020" bore Tee (1), cross (1), and union (2). Also includes 10-32 to M6 adapters (2) and 10-32 to 1/4-28 female adapters (2).

1/8" tubing: PEEK flangeless nuts (6), Tefzel (natural) flangeless ferrules (10), and PEEK 0.050" bore Tee (1), cross (1), and union (2). Also includes 10-32 to M6 adapters (2) and 10-32 to 1/4-28 female adapters (2).

Contact your local dealer for information regarding Delrin® acetal fittings or other materials.



Key	Description	Qty	For 1/16" tubing		For 1/8" tubing	
			Catalog number	Price	Catalog number	Price
A	Union, PEEK	1	LZ-02008-00†	\$ 28.00	LZ-02008-04‡	\$ 28.00
B	Tee, PEEK	1	LZ-02008-10†	43.50	LZ-02008-14‡	43.50
C	Cross, PEEK	1	LZ-02008-20†	52.50	LZ-02008-24‡	52.50
D	Nut, PEEK	10	LZ-02007-64	39.50	LZ-02007-66	39.50
E	Ferrule, Tefzel (natural)	10	LZ-02007-54	17.50	LZ-02007-56	17.50
F	Ferrule, Tefzel (blue)	10	LZ-01939-30	18.00	LZ-01939-32	18.00
G	PEEK fitting kit	1	LZ-02008-52	532.00	LZ-02008-52	532.00

†0.020" bore ‡0.050" bore