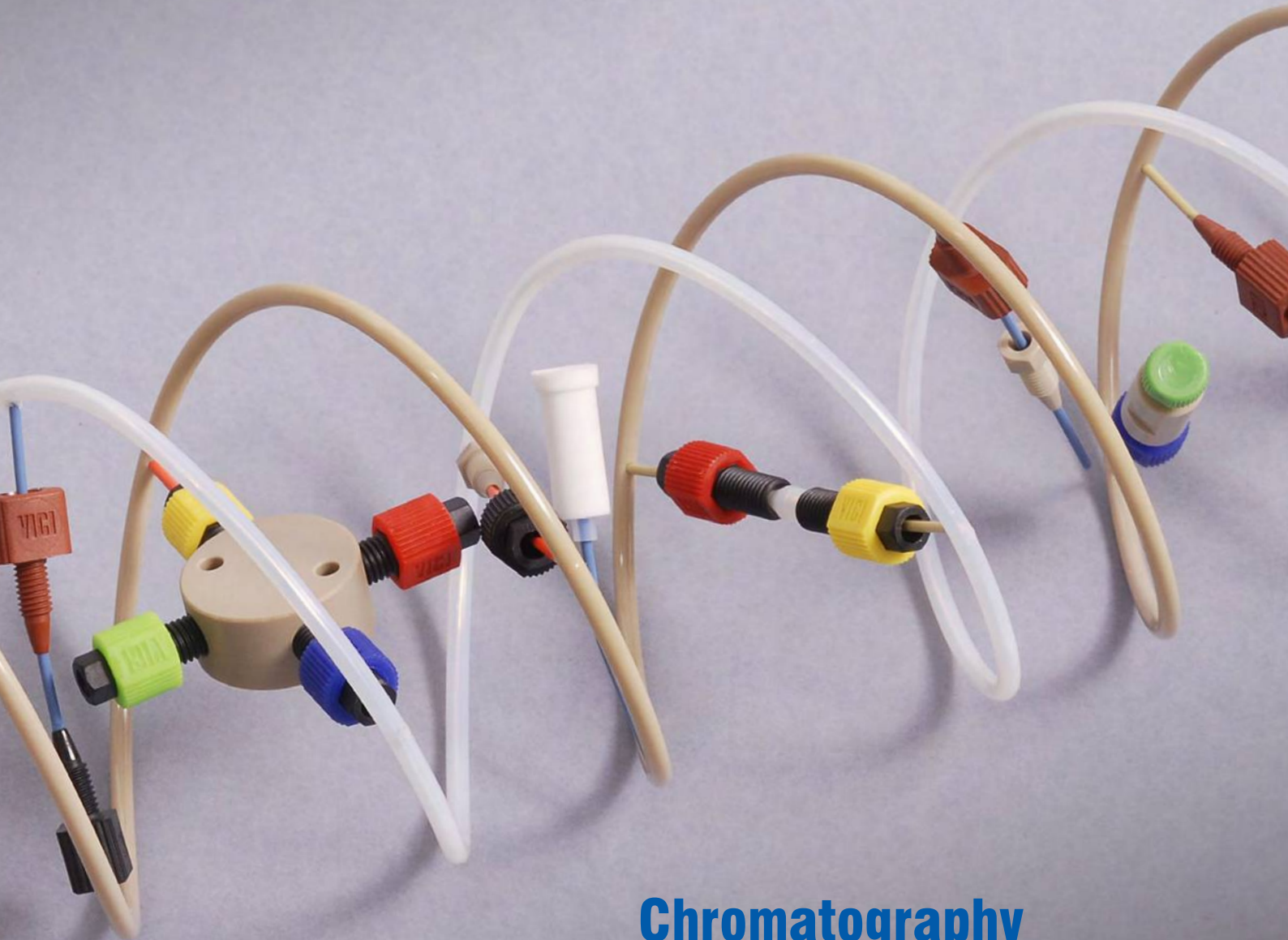


# VICI Jour®



## Chromatography Fluid/Gas Transfer

Catalog 10 Int

## Conditions of Sale

There is no minimum order. Terms are net 30 days. Prices subject to change without notice.

## Returns

No returns will be accepted more than 90 days after shipment for any reason. Before 90 days, no returns will be accepted without prior authorization. If it is necessary to return material to us, please contact our Sales Department for a return authorization number and forwarding instructions. Inspect shipments upon receipt and report shortages and incorrect or damaged material to us immediately.

Important! Damaged shipments must remain with the original packaging for freight company inspection.

Returned material will be subject to a restocking charge of 20% for catalog items. Special orders cannot be returned unless defective.

## Repairs

For repair return authorization or information about factory refurbishments, contact our Service Department.

## Technical Service

Our capable staff is waiting to assist you with your technical questions and application needs.

## Notice

VICI reserves the right to correct errors and change prices, designs, or specifications without notice or liability. The information in this catalog is correct to the best of our knowledge but is not guaranteed to be so. VICI assumes no responsibility with respect thereto.



## VICI AG International

Since 2004 the VICI Jour product lines for Chromatography and Fluid/Gas Transfer are supported and distributed by VICI AG International.

VICI AG International, in Schenkon, Switzerland, was established in 1981 to provide more direct contact with a growing European customer base of Valco Instruments Co. Inc. Houston, TX, USA. From the very beginning, VICI AG International was developed as an independent site for the manufacturing of Valco valves and the handling of all VICI product lines. Strong technical support and excellent customer relationships contributed to VICI AG International's quick growth. The idea of handling international business through VICI AG International proved efficient, so by the early 90's the territory was expanded to include Africa, the Middle East, and the Far East.

Since September 1996, VICI AG International is ISO certified. Present certification to ISO 9001:2008 is for the whole company, sales and production of analytical components.

VICI AG International was the first ISO-certified manufacturer of high pressure and low pressure valves for scientific equipment.



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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## SPECS

**Material**  
PEEK

**Dimensions**  
OD and ID, see chart

**Tolerances**  
360  $\mu\text{m}$  (.014") OD PEEK tubing:  $\pm$  0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing:  $\pm$  0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing:  $\pm$  0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing:  $\pm$  0.05 mm (.002") on OD and ID

**Pressure rating**  
See chart

**Chemical resistance**  
See chart on page 118, ff

Max. recommended working temp.:  $< 100^{\circ}\text{C}$  (continuous) for 1/16" OD tubing with ID up to 0.75 mm

**Spares & Tools**  
A clean burr-free perpendicular cut can be achieved with the VICI Jour Clean-Cut tubing cutter JR-797 see page 30

To bend PEEK tubing at the optimum radius, use our Tubing Elbows on page 29

We recommend PEEK fingertight and flangeless fittings for your applications  
Fingertight see page 35-40, 47-49  
Flangeless see page 59-63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)

## PEEK Tubing Premium Grade

All PEEK tubing has Premium Grade tolerances e.g. 1/16"  $\pm$  0.001"

- 360  $\mu\text{m}$ , 1/32", 1/16", 1/8" and 1/4" OD tubing available
- Tighter tolerances
- Easy to cut
- Biocompatible

PEEK tubing has the strength required to withstand continuous use at HPLC pressure without swelling or bursting. The dense polymer structure of VICI Jour PEEK tubing eliminates the permeability to organic solvents that causes other polymer tubing, such as ETFE to "sweat". For easy identification of ID VICI Jour tubing is color coded. VICI recommends "Striped Color-Coded" tubing. It is manufactured of virgin, natural PEEK and therefore ensures maximum chemical resistance and biocompatibility. The color dye is applied only to the outer surface and thus not in contact with the fluid stream. "Solid Color-Coded" tubing however is made of pre-dyed raw material.

For all users that want to have biocompatibility and full colored PEEK tubing, VICI Jour introduced the DUAL LAYER PEEK tubing. Only natural PEEK is in contact with fluid stream.

Remember PEEK tubing is not affected by halide salts, high strength buffers or other aggressive mobile phases that degrade stainless steel. The polymer surface will not leach metal ions into the eluent or extract metal sensitive components from the sample. By far the most outstanding property is its excellent burst pressure.

Due to the tighter tolerances, VICI Jour PEEK tubing is the best choice for chromatography applications in which exact flow rates or tube volume are of importance. The tighter tolerance ensures a more consistent internal volume of the transfer lines.

PEEK is compatible with almost any of the solvents commonly used in HPLC. Dichloromethane, THF and DMSO may cause swelling in PEEK. Concentrated nitric and sulphuric acid will attack PEEK.

### Recommended maximum working pressure PEEK tubing

| OD                | ID                | bar  | psi  | OD      | ID       | bar  | psi  |
|-------------------|-------------------|------|------|---------|----------|------|------|
| 360 $\mu\text{m}$ | 50 $\mu\text{m}$  | 358  | 5200 | 1/16"   | 0.050 mm | 434  | 6300 |
|                   | 75 $\mu\text{m}$  | 345  | 5000 |         | 0.064 mm | 434  | 6300 |
|                   | 100 $\mu\text{m}$ | 300  | 4400 |         | 0.075 mm | 428  | 6200 |
|                   | 125 $\mu\text{m}$ | 275  | 4000 |         | 0.100 mm | 420  | 6100 |
|                   | 150 $\mu\text{m}$ | 240  | 3500 |         | 0.13 mm  | 420  | 6100 |
| 1/32"             | 0.050 mm          | 414  | 6000 | 0.18 mm | 400      | 5800 |      |
|                   | 0.064 mm          | 414  | 6000 | 0.25 mm | 386      | 5600 |      |
|                   | 0.075 mm          | 414  | 6000 | 0.50 mm | 310      | 4500 |      |
|                   | 0.100 mm          | 414  | 6000 | 0.75 mm | 240      | 3500 |      |
|                   | 0.13 mm           | 379  | 5500 | 1.00 mm | 165      | 2400 |      |
|                   | 0.15 mm           | 365  | 5300 | 1.40 mm | 52       | 750  |      |
|                   | 0.18 mm           | 351  | 5100 | 1/8"    | 0.75 mm  | 345  | 5000 |
|                   | 0.20 mm           | 340  | 4900 |         | 1.59 mm  | 224  | 3250 |
|                   | 0.25 mm           | 310  | 4500 |         | 2.00 mm  | 165  | 2400 |
|                   | 0.38 mm           | 250  | 3600 |         |          |      |      |
| 0.50 mm           | 193               | 2800 | 1/4" |         | 3.17 mm  | 227  | 3300 |

## PEEK Tubing – 1/16" OD

### PEEK Tubing – Striped Color-Coded – 1/16" OD

| Part No.       | ID(mm) | Qty/pkg | Color  |
|----------------|--------|---------|--------|
| JR-T-5802-M3   | 0.050  | 3 m     | orange |
| JR-T-5802-M5   | 0.050  | 5 m     | orange |
| JR-T-5802-M10  | 0.050  | 10 m    | orange |
| JR-T-5802-M25  | 0.050  | 25 m    | orange |
| JR-T-5998C-M3  | 0.064  | 3 m     | pink   |
| JR-T-5998C-M5  | 0.064  | 5 m     | pink   |
| JR-T-5998C-M10 | 0.064  | 10 m    | pink   |
| JR-T-5998C-M25 | 0.064  | 25 m    | pink   |
| JR-T-5803-M3   | 0.075  | 3 m     | green  |
| JR-T-5803-M5   | 0.075  | 5 m     | green  |
| JR-T-5803-M10  | 0.075  | 10 m    | green  |
| JR-T-5803-M25  | 0.075  | 25 m    | green  |
| JR-T-5804-M3   | 0.100  | 3 m     | black  |
| JR-T-5804-M5   | 0.100  | 5 m     | black  |
| JR-T-5804-M10  | 0.100  | 10 m    | black  |
| JR-T-5804-M25  | 0.100  | 25 m    | black  |
| JR-T-5999-M3   | 0.13   | 3 m     | red    |
| JR-T-5999-M5   | 0.13   | 5 m     | red    |
| JR-T-5999-M10  | 0.13   | 10 m    | red    |
| JR-T-5999-M25  | 0.13   | 25 m    | red    |
| JR-T-6000-M3   | 0.18   | 3 m     | yellow |
| JR-T-6000-M5   | 0.18   | 5 m     | yellow |
| JR-T-6000-M10  | 0.18   | 10 m    | yellow |
| JR-T-6000-M25  | 0.18   | 25 m    | yellow |
| JR-T-6001-M3   | 0.25   | 3 m     | blue   |
| JR-T-6001-M5   | 0.25   | 5 m     | blue   |
| JR-T-6001-M10  | 0.25   | 10 m    | blue   |
| JR-T-6001-M25  | 0.25   | 25 m    | blue   |
| JR-T-6002-M3   | 0.50   | 3 m     | orange |
| JR-T-6002-M5   | 0.50   | 5 m     | orange |
| JR-T-6002-M10  | 0.50   | 10 m    | orange |
| JR-T-6002-M25  | 0.50   | 25 m    | orange |
| JR-T-6003-M3   | 0.75   | 3 m     | green  |
| JR-T-6003-M5   | 0.75   | 5 m     | green  |
| JR-T-6003-M10  | 0.75   | 10 m    | green  |
| JR-T-6003-M25  | 0.75   | 25 m    | green  |
| JR-T-60031-M3  | 1.00   | 3 m     | grey   |
| JR-T-60031-M5  | 1.00   | 5 m     | grey   |
| JR-T-60031-M10 | 1.00   | 10 m    | grey   |
| JR-T-60031-M25 | 1.00   | 25 m    | grey   |
| JR-T-60032-M3  | 1.40   | 3 m     | black  |
| JR-T-60032-M5  | 1.40   | 5 m     | black  |
| JR-T-60032-M10 | 1.40   | 10 m    | black  |
| JR-T-60032-M25 | 1.40   | 25 m    | black  |



### SPECS

**Material**  
PEEK

**Dimensions**

OD and ID, see chart

**Tolerances**

360  $\mu$ m (.014") OD PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing: +/- 0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing: +/- 0.05 mm (.002") on OD and ID

**Pressure rating**

See chart on page 5

**Chemical resistance**

See chart on page 118, ff

Max. recommended working temp.: < 100°C (continuous) for 1/16" OD tubing with ID up to 0.75 mm

**Spares & Tools**

A clean burr-free perpendicular cut can be achieved with the VICI Jour Clean-Cut tubing cutter JR-797 see page 30

To bend PEEK tubing at the optimum radius, use our Tubing Elbows on page 29

We recommend PEEK fingertight and flangeless fittings for your applications  
Fingertight see page 35–40, 47–49  
Flangeless see page 59–63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.



## PEEK Tubing – 1/16" OD

## SPECS

**Material**  
PEEK

**Dimensions**  
OD and ID, see chart

**Tolerances**  
360 µm (.014") OD PEEK  
tubing: +/- 0.013 mm  
(.0005") on OD and ID

OD 1/32" PEEK tubing:  
+/- 0.013 mm (.0005")  
on OD and ID

OD 1/16" PEEK tubing:  
+/- 0.025mm (.001")  
on OD and ID

OD 1/8" PEEK tubing:  
+/- 0.05 mm (.002")  
on OD and ID

**Pressure rating**  
See chart on page 5

**Chemical resistance**  
See chart on page 118, ff

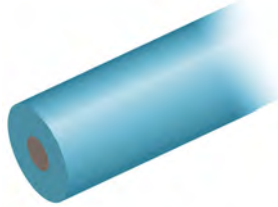
Max. recommended work-  
ing temp.: < 100°C  
(continuous) for 1/16"  
OD tubing with ID up to  
0.75 mm

**Spares & Tools**  
A clean burr-free perpen-  
dicular cut can be  
achieved with the VICI Jour  
Clean-Cut tubing cutter  
JR-797 see page 30

To bend PEEK tubing at  
the optimum radius, use  
our Tubing Elbows on  
page 29

We recommend PEEK fin-  
gertight and flangeless fit-  
tings for your applications  
Fingertight see page  
35-40, 47-49  
Flangeless see page  
59-63

VICI Jour Sample Loops  
for analytical applications  
are made of Striped Color  
Coded Tubing (see page  
109, ff)



## PEEK Tubing – Solid Color-Coded – 1/16" OD

| Part No.      | ID (mm) | Qty/pkg | Color   |
|---------------|---------|---------|---------|
| JR-T-5998-M3  | 0.064   | 3 m     | natural |
| JR-T-5998-M10 | 0.064   | 10 m    | natural |
| JR-T-6007-M3  | 0.13    | 3 m     | red     |
| JR-T-6007-M10 | 0.13    | 10 m    | red     |
| JR-T-6008-M3  | 0.18    | 3 m     | yellow  |
| JR-T-6008-M10 | 0.18    | 10 m    | yellow  |
| JR-T-6009-M3  | 0.25    | 3 m     | blue    |
| JR-T-6009-M10 | 0.25    | 10 m    | blue    |
| JR-T-6010-M3  | 0.50    | 3 m     | orange  |
| JR-T-6010-M10 | 0.50    | 10 m    | orange  |
| JR-T-6011-M3  | 0.75    | 3 m     | green   |
| JR-T-6011-M10 | 0.75    | 10 m    | green   |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

## Dual Layer PEEK Tubing – Color-Coded – 1/16" OD

| Part No.       | ID(mm) | Qty/pkg | Color  |
|----------------|--------|---------|--------|
| JR-TD-6007-M3  | 0.13   | 3 m     | red    |
| JR-TD-6007-M10 | 0.13   | 10 m    | red    |
| JR-TD-6008-M3  | 0.18   | 3 m     | yellow |
| JR-TD-6008-M10 | 0.18   | 10 m    | yellow |
| JR-TD-6009-M3  | 0.25   | 3 m     | blue   |
| JR-TD-6009-M10 | 0.25   | 10 m    | blue   |
| JR-TD-6010-M3  | 0.50   | 3 m     | orange |
| JR-TD-6010-M10 | 0.50   | 10 m    | orange |
| JR-TD-6011-M3  | 0.75   | 3 m     | green  |
| JR-TD-6011-M10 | 0.75   | 10 m    | green  |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.  
Minimum Order Quantity 30 m.**

## PEEK Tubing – 1/32" OD

### PEEK Tubing – Striped Color-Coded – 1/32" OD

**NEW**

| Part No.     | ID(mm) | Qty/pkg | Color   |
|--------------|--------|---------|---------|
| JR-T-5702-M1 | 0.050  | 1 m     | orange  |
| JR-T-5702-M3 | 0.050  | 3 m     | orange  |
| JR-T-5764-M1 | 0.064  | 1 m     | pink    |
| JR-T-5764-M3 | 0.064  | 3 m     | pink    |
| JR-T-5703-M1 | 0.075  | 1 m     | green   |
| JR-T-5703-M3 | 0.075  | 3 m     | green   |
| JR-T-5704-M1 | 0.100  | 1 m     | black   |
| JR-T-5704-M3 | 0.100  | 3 m     | black   |
| JR-T-5705-M1 | 0.13   | 1 m     | red     |
| JR-T-5705-M3 | 0.13   | 3 m     | red     |
| JR-T-5706-M1 | 0.15   | 1 m     | natural |
| JR-T-5706-M3 | 0.15   | 3 m     | natural |
| JR-T-5707-M1 | 0.18   | 1 m     | yellow  |
| JR-T-5707-M3 | 0.18   | 3 m     | yellow  |
| JR-T-5710-M1 | 0.25   | 1 m     | blue    |
| JR-T-5710-M3 | 0.25   | 3 m     | blue    |
| JR-T-5720-M1 | 0.50   | 1 m     | orange  |
| JR-T-5720-M3 | 0.50   | 3 m     | orange  |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**



### SPECS

**Material**  
PEEK

**Dimensions**

OD and ID, see chart

**Tolerances**

360  $\mu$ m (.014") OD PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing: +/- 0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing: +/- 0.05 mm (.002") on OD and ID

**Pressure rating**

See chart on page 5

**Chemical resistance**

See chart on page 118, ff

Max. recommended working temp.: < 100°C (continuous) for 1/16" OD tubing with ID up to 0.75 mm

**Spares & Tools**

A clean burr-free perpendicular cut can be achieved with the VICI Jour Clean-Cut tubing cutter JR-797 see page 30

To bend PEEK tubing at the optimum radius, use our Tubing Elbows on page 29

We recommend PEEK fingertight and flangeless fittings for your applications  
Fingertight see page 35–40, 47–49  
Flangeless see page 59–63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)

## PEEK Tubing – 1/32" OD

## SPECS

**Material**  
PEEK**Dimensions**

OD and ID, see chart

**Tolerances**

360 µm (.014") OD PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing: +/- 0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing: +/- 0.05 mm (.002") on OD and ID

**Pressure rating**

See chart on page 5

**Chemical resistance**

See chart on page 118, ff

Max. recommended working temp.: &lt; 100°C (continuous) for 1/16" OD tubing with ID up to 0.75 mm

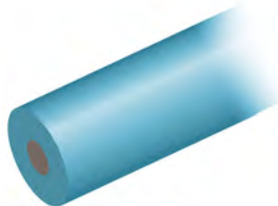
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Flangeless see page 59-63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)



## PEEK Tubing – Solid Color-Coded – 1/32" OD

NEW

| Part No.      | ID (mm) | Qty/pkg | Color   |
|---------------|---------|---------|---------|
| JR-T-5602-M1  | 0.050   | 1 m     | orange  |
| JR-T-5602-M3  | 0.050   | 3 m     | orange  |
| JR-T-5664-M1  | 0.064   | 1 m     | pink    |
| JR-T-5664-M3  | 0.064   | 3 m     | pink    |
| JR-T-5603-M1  | 0.075   | 1 m     | green   |
| JR-T-5603-M3  | 0.075   | 3 m     | green   |
| JR-T-5604-M1  | 0.100   | 1 m     | black   |
| JR-T-5604-M3  | 0.100   | 3 m     | black   |
| JR-T-5993-M3  | 0.13    | 3 m     | natural |
| JR-T-5993-M10 | 0.13    | 10 m    | natural |
| JR-T-5605-M1  | 0.13    | 1 m     | red     |
| JR-T-5605-M3  | 0.13    | 3 m     | red     |
| JR-T-5606-M1  | 0.15    | 1 m     | purple  |
| JR-T-5606-M3  | 0.15    | 3 m     | purple  |
| JR-T-5994-M3  | 0.18    | 3 m     | natural |
| JR-T-5994-M10 | 0.18    | 10 m    | natural |
| JR-T-5607-M1  | 0.18    | 1 m     | yellow  |
| JR-T-5607-M3  | 0.18    | 3 m     | yellow  |
| JR-T-5608-M1  | 0.20    | 1 m     | orange  |
| JR-T-5608-M3  | 0.20    | 3 m     | orange  |
| JR-T-5995-M3  | 0.25    | 3 m     | natural |
| JR-T-5995-M10 | 0.25    | 10 m    | natural |
| JR-T-5610-M1  | 0.25    | 1 m     | blue    |
| JR-T-5610-M3  | 0.25    | 3 m     | blue    |
| JR-T-5715-M3  | 0.38    | 3 m     | natural |
| JR-T-5715-M10 | 0.38    | 10 m    | natural |
| JR-T-5620-M1  | 0.50    | 1 m     | orange  |
| JR-T-5620-M3  | 0.50    | 3 m     | orange  |

Other pack sizes and tubing lengths are available on request. Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.  
Minimum Order Quantity 30 m.**

## PEEK Tubing – 360 µm OD

### PEEK Tubing – Striped Color-Coded – 360 µm OD **NEW**

| Part No.      | ID (µm) | Qty/pkg | Color  |
|---------------|---------|---------|--------|
| JR-T-3650-M1  | 50      | 1 m     | orange |
| JR-T-3650-M3  | 50      | 3 m     | orange |
| JR-T-3675-M1  | 75      | 1 m     | green  |
| JR-T-3675-M3  | 75      | 3 m     | green  |
| JR-T-36100-M1 | 100     | 1 m     | grey   |
| JR-T-36100-M3 | 100     | 3 m     | grey   |
| JR-T-36125-M1 | 125     | 1 m     | red    |
| JR-T-36125-M3 | 125     | 3 m     | red    |
| JR-T-36150-M1 | 150     | 1 m     | black  |
| JR-T-36150-M3 | 150     | 3 m     | black  |

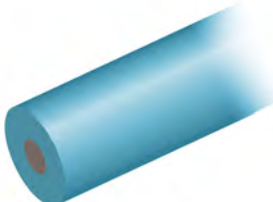
Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

### PEEK Tubing – Solid Color-Coded – 360 µm OD **NEW**

| Part No.      | ID (µm) | Qty/pkg | Color   |
|---------------|---------|---------|---------|
| JR-T-3750-M1  | 50      | 1 m     | orange  |
| JR-T-3750-M3  | 50      | 3 m     | orange  |
| JR-T-6060-M3  | 75      | 3 m     | natural |
| JR-T-6060-M10 | 75      | 10 m    | natural |
| JR-T-3775-M1  | 75      | 1 m     | green   |
| JR-T-3775-M3  | 75      | 3 m     | green   |
| JR-T-37100-M1 | 100     | 1 m     | grey    |
| JR-T-37100-M3 | 100     | 3 m     | grey    |
| JR-T-37125-M1 | 125     | 1 m     | red     |
| JR-T-37125-M3 | 125     | 3 m     | red     |
| JR-T-37150-M1 | 150     | 1 m     | black   |
| JR-T-37150-M3 | 150     | 3 m     | black   |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**



### SPECS

**Material**  
PEEK

**Dimensions**

OD and ID, see chart

**Tolerances**

360 µm (.014") OD PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing: +/- 0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing: +/- 0.05 mm (.002") on OD and ID

**Pressure rating**

See chart on page 5

**Chemical resistance**

See chart on page 118, ff

Max. recommended working temp.: < 100°C (continuous) for 1/16" OD tubing with ID up to 0.75 mm

**Spares & Tools**

A clean burr-free perpendicular cut can be achieved with the VICI Jour Clean-Cut tubing cutter JR-797 see page 30

To bend PEEK tubing at the optimum radius, use our Tubing Elbows on page 29

We recommend PEEK fingertight and flangeless fittings for your applications  
Fingertight see page 35–40, 47–49  
Flangeless see page 59–63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)



**SPECS****Material**  
PEEK**Dimensions**

OD and ID, see chart

**Tolerances**360  $\mu\text{m}$  (.014") OD PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/32" PEEK tubing: +/- 0.013 mm (.0005") on OD and ID

OD 1/16" PEEK tubing: +/- 0.025mm (.001") on OD and ID

OD 1/8" PEEK tubing: +/- 0.05 mm (.002") on OD and ID

**Pressure rating**

See chart on page 5

**Chemical resistance**

See chart on page 118, ff

Max. recommended working temp.: &lt; 100°C (continuous) for 1/16" OD tubing with ID up to 0.75 mm

**Spares & Tools**

A clean burr-free perpendicular cut can be achieved with the VICI Jour Clean-Cut tubing cutter JR-797 see page 30

To bend PEEK tubing at the optimum radius, use our Tubing Elbows on page 29

We recommend PEEK fingertight and flangeless fittings for your applications  
Fingertight see page 35-40, 47-49  
Flangeless see page 59-63

VICI Jour Sample Loops for analytical applications are made of Striped Color Coded Tubing (see page 109, ff)

**PEEK Tubing – natural**

| Part No.       | OD   | ID (mm) | Qty/pkg |
|----------------|------|---------|---------|
| JR-T-6004-M3   | 1/8" | 1.59    | 3 m     |
| JR-T-6004-M10  | 1/8" | 1.59    | 10 m    |
| JR-T-60041-M3  | 1/8" | 0.75    | 3 m     |
| JR-T-60041-M10 | 1/8" | 0.75    | 10 m    |
| JR-T-60042-M3  | 1/8" | 2       | 3 m     |
| JR-T-60042-M10 | 1/8" | 2       | 10 m    |
| JR-T-6006      | 1/4" | 3.17    | per m   |

Other pack sizes and tubing lengths are available on request. Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID. Minimum Order Quantity 30 m.**

## Premium Grade Stainless Steel Tubing

### Premium Grade Stainless Steel Tubing

- Premium Grade – seamless
- Variety of sizes for HPLC and GC applications
- Smooth internal surface
- Soft annealed OD for easy ferrule connections

#### Premium Grade Stainless Steel Tubing 1/32" OD

| Part No.       | OD    | ID   | Qty/pkg |
|----------------|-------|------|---------|
| JR-TSS.505-M3  | 1/32" | 0.13 | 3 m     |
| JR-TSS.505-M10 | 1/32" | 0.13 | 10 m    |
| JR-TSS.507-M3  | 1/32" | 0.18 | 3 m     |
| JR-TSS.507-M10 | 1/32" | 0.18 | 10 m    |
| JR-TSS.510-M3  | 1/32" | 0.25 | 3 m     |
| JR-TSS.510-M10 | 1/32" | 0.25 | 10 m    |
| JR-TSS.520-M3  | 1/32" | 0.50 | 3 m     |
| JR-TSS.520-M10 | 1/32" | 0.50 | 10 m    |

#### Premium Grade Stainless Steel Tubing 1/16" OD

| Part No.      | OD    | ID   | Qty/pkg |
|---------------|-------|------|---------|
| JR-TSS105-M3  | 1/16" | 0.13 | 3 m     |
| JR-TSS105-M10 | 1/16" | 0.13 | 10 m    |
| JR-TSS110-M3  | 1/16" | 0.25 | 3 m     |
| JR-TSS110-M10 | 1/16" | 0.25 | 10 m    |
| JR-TSS115-M3  | 1/16" | 0.38 | 3 m     |
| JR-TSS115-M10 | 1/16" | 0.38 | 10 m    |
| JR-TSS120-M3  | 1/16" | 0.50 | 3 m     |
| JR-TSS120-M10 | 1/16" | 0.50 | 10 m    |
| JR-TSS130-M3  | 1/16" | 0.75 | 3 m     |
| JR-TSS130-M10 | 1/16" | 0.75 | 10 m    |
| JR-TSS140-M3  | 1/16" | 1.00 | 3 m     |
| JR-TSS140-M10 | 1/16" | 1.00 | 10 m    |

#### Premium Grade Stainless Steel Tubing 1/8" OD

| Part No.      | OD   | ID   | Qty/pkg |
|---------------|------|------|---------|
| JR-TSS230-M3  | 1/8" | 0.75 | 3 m     |
| JR-TSS230-M10 | 1/8" | 0.75 | 10 m    |
| JR-TSS240-M3  | 1/8" | 1.00 | 3 m     |
| JR-TSS240-M10 | 1/8" | 1.00 | 10 m    |
| JR-TSS260-M3  | 1/8" | 1.52 | 3 m     |
| JR-TSS260-M10 | 1/8" | 1.52 | 10 m    |
| JR-TSS267-M3  | 1/8" | 1.70 | 3 m     |
| JR-TSS267-M10 | 1/8" | 1.70 | 10 m    |
| JR-TSS285-M3  | 1/8" | 2.16 | 3 m     |
| JR-TSS285-M10 | 1/8" | 2.16 | 10 m    |

### SPECS

**Material**  
SS316, seamless

**Dimensions**  
See chart

**Tolerances**  
OD: +/- 0.05 mm (.002")  
ID: +/- 0.025 mm (.001")

**Pressure rating**  
1/32" OD tubing:  
varies with ID, min. 400 bar  
(5800 psi)

1/16" OD tubing:  
varies with ID, min. 365 bar  
(5300 psi)

1/8" OD tubing:  
varies with ID, min. 315 bar  
(4600 psi)

**Tech Tip**  
We recommend Pre-Cut  
Stainless Steel Tubing for  
zero-dead volume connec-  
tions (see page 14–15)

**Note**  
ID dimensions in mm are  
converted from nominal  
inch dimensions

**SPECS****Material**

SS316, welded under inert gas

**Dimensions**

See chart

**Tolerances**

ID and OD +/- 0.05 mm (.002")

**Pressure rating**

For 1/16" and 1/8" OD tubing: varies with ID, min 315 bar (4600 psi)

**Tech Tip**

We recommend Pre-Cut Stainless Steel Tubing for Zero-Dead Volume Connections (see page 14–15)

**Stainless Steel Tubing**

- Variety of sizes for HPLC and GC applications
- Smooth internal surface
- Soft annealed OD for easy ferrule connections

**Stainless Steel Tubing 1/16" OD**

| Part No.        | ID (mm) | Qty/pkg |
|-----------------|---------|---------|
| JR-T-625-04-M3  | 0.13    | 3 m     |
| JR-T-625-04-M10 | 0.13    | 10 m    |
| JR-T-625-05-M3  | 0.18    | 3 m     |
| JR-T-625-05-M10 | 0.18    | 10 m    |
| JR-T-625-10-M3  | 0.25    | 3 m     |
| JR-T-625-10-M10 | 0.25    | 10 m    |
| JR-T-625-20-M3  | 0.50    | 3 m     |
| JR-T-625-20-M10 | 0.50    | 10 m    |
| JR-T-625-30-M3  | 0.75    | 3 m     |
| JR-T-625-30-M10 | 0.75    | 10 m    |
| JR-T-625-40-M3  | 1.00    | 3 m     |
| JR-T-625-40-M10 | 1.00    | 10 m    |

**Stainless Steel Tubing 1/8" OD**

| Part No.        | ID (mm) | Qty/pkg |
|-----------------|---------|---------|
| JR-T-626-00-M3  | 2.1     | 3 m     |
| JR-T-626-00-M10 | 2.1     | 10 m    |

**Stainless Steel Tubing 1/4" OD**

| Part No.    | ID (mm) | Qty/pkg |
|-------------|---------|---------|
| JR-T-628-00 | 4.65    | per m   |



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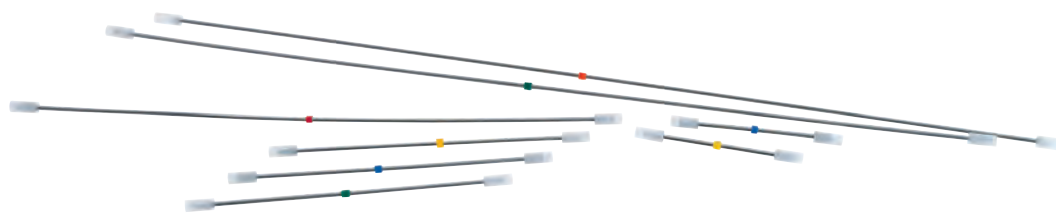
## Pre-cut Stainless Steel Tubing

### Pre-cut Stainless Steel Tubing

- For zero dead volume connections
- Ready to use
- Cleaned
- Soft annealed OD for easy ferrule connections

VICI Jour offers pre-cut stainless steel tubing in lengths most commonly required in HPLC systems. These tubes are cut to square, burr-free ends for zero dead volume connections.

VICI pre-cut tubing is specially steam cleaned to remove both organic and inorganic contaminants. Furthermore softer free PE caps are used to avoid the contamination of the tubing.



### Pre-cut Stainless Steel Tubing 1/16" OD

| Part No.   | ID (mm) | Color  | Length (mm) |
|------------|---------|--------|-------------|
| JR-T-97005 | 0.13    | red    | 50          |
| JR-T-97010 | 0.13    | red    | 100         |
| JR-T-97015 | 0.13    | red    | 200         |
| JR-T-97020 | 0.13    | red    | 300         |
| JR-T-97025 | 0.18    | yellow | 50          |
| JR-T-97030 | 0.18    | yellow | 100         |
| JR-T-97035 | 0.18    | yellow | 200         |
| JR-T-97040 | 0.18    | yellow | 300         |
| JR-T-97045 | 0.25    | blue   | 50          |
| JR-T-97055 | 0.25    | blue   | 100         |
| JR-T-97060 | 0.25    | blue   | 200         |
| JR-T-97065 | 0.25    | blue   | 300         |
| JR-T-97075 | 0.50    | orange | 50          |
| JR-T-97080 | 0.50    | orange | 100         |
| JR-T-97085 | 0.50    | orange | 200         |
| JR-T-97090 | 0.50    | orange | 300         |
| JR-T-97095 | 0.75    | green  | 50          |
| JR-T-97100 | 0.75    | green  | 100         |
| JR-T-97105 | 0.75    | green  | 200         |
| JR-T-97110 | 0.75    | green  | 300         |

### SPECS

#### Material

Tubing: SS316, seamless  
Caps: Polyethylene

#### Dimensions

OD: 1/16", ID see chart

#### Tolerances

OD:  $\pm 0.05$  mm (.002")  
ID:  $\pm 0.025$  mm (.001")

#### Pressure rating

For 1/16" OD tubing:  
Varies with ID, min. 365 bar  
(5300 psi)

#### Spares & Tools

We recommend our Stainless Steel Fittings on page 50



## Pre-cut Stainless Steel Flexible Tubing

## SPECS

## Material

Tubing: SS316, seamless  
Caps: Polyethylene

## Tolerances

OD: +/- 0.05 mm (.002")  
ID: +/- 0.025 mm (.001")

## Pressure rating

For 1/32" OD tubing:  
Varies with ID, min. 400 bar  
(5800 psi)

For 1/16" OD tubing:  
Varies with ID, min. 365 bar  
(5300 psi)

## Spares &amp; Tools

We recommend our Stainless Steel Fittings on page 50

Pre-cut Stainless Steel Flexible Tubing **NEW**

- For zero dead volume connections
- Ready to use
- Cleaned
- Soft annealed OD for easy ferrule connections

VICI Jour offers pre-cut stainless steel flexible tubing in lengths most commonly required in HPLC systems. All tubes are made of **1/32" Premium Grade Stainless Steel** tubing.

These tubes are cut to square, burr-free ends for zero dead volume connections. The ends are laserwelded into 1/16" OD SS tubing.

VICI pre-cut tubing is specially steam cleaned to remove both organic and inorganic contaminants.

Furthermore softener free PE caps are used to avoid the contamination of the tubing.

## Pre-cut Stainless Steel Tubing 1/32" OD

| Part No.   | ID (mm) | Color  | Length (mm) |
|------------|---------|--------|-------------|
| JR-T-96005 | 0.13    | red    | 105         |
| JR-T-96010 | 0.13    | red    | 150         |
| JR-T-96015 | 0.13    | red    | 200         |
| JR-T-96020 | 0.13    | red    | 280         |
| JR-T-96025 | 0.13    | red    | 400         |
| JR-T-96030 | 0.13    | red    | 600         |
| JR-T-96035 | 0.13    | red    | 700         |
| JR-T-96040 | 0.13    | red    | 800         |
| JR-T-96105 | 0.18    | yellow | 105         |
| JR-T-96110 | 0.18    | yellow | 150         |
| JR-T-96115 | 0.18    | yellow | 200         |
| JR-T-96120 | 0.18    | yellow | 280         |
| JR-T-96125 | 0.18    | yellow | 400         |
| JR-T-96130 | 0.18    | yellow | 600         |
| JR-T-96135 | 0.18    | yellow | 700         |
| JR-T-96140 | 0.18    | yellow | 800         |
| JR-T-96205 | 0.25    | blue   | 105         |
| JR-T-96210 | 0.25    | blue   | 150         |
| JR-T-96215 | 0.25    | blue   | 200         |
| JR-T-96220 | 0.25    | blue   | 280         |
| JR-T-96225 | 0.25    | blue   | 400         |
| JR-T-96230 | 0.25    | blue   | 600         |
| JR-T-96235 | 0.25    | blue   | 700         |
| JR-T-96240 | 0.25    | blue   | 800         |
| JR-T-96305 | 0.50    | orange | 105         |
| JR-T-96310 | 0.50    | orange | 150         |
| JR-T-96315 | 0.50    | orange | 200         |
| JR-T-96320 | 0.50    | orange | 280         |
| JR-T-96325 | 0.50    | orange | 400         |
| JR-T-96330 | 0.50    | orange | 600         |
| JR-T-96335 | 0.50    | orange | 700         |
| JR-T-96340 | 0.50    | orange | 800         |



VICI Competitor B Competitor A

## Polymeric Tubing

### Polymeric Tubing

- For low and mid pressure applications
- Biocompatible

#### FEP tubing

FEP (FluorinatedEthylenePropylene) is chemically inert to most HPLC solvents and is recommended for low pressure applications. Typically 1/16" OD holds up to 117 bar (1700 psi) and 1/8" holds up to 70 bar (1000 psi). We recommend FEP for ion chromatography applications. Max. operating temperature for FEP is 80°C. FEP tubing is also available in a color-coded version.

#### ETFE tubing

ETFE tubing has some outstanding properties which makes it particularly suitable for HPLC since it has a higher burst pressure when compared to PTFE. The most common dimension is 1/16" x 0.25 mm which will withstand up to 186 bar (2700 psi) using water as mobile phase. It is important, however, to note that when using ETFE with organic solvents it may swell and will reduce the max. pressure to 70 bar (1000 psi). It is the ideal polymer for applications with chloride salts, which typically corrode stainless steel.

#### PFA tubing

PFA tubing (PerFluoroAlkoxy) has excellent chemical stability and mechanical strength. Always use PFA instead of PTFE if gas permeability is an issue. 1/16" OD high purity tubing has a maximum pressure rating of up to 100 bar (1450 psi), while 1/8" OD maximum 72 bar (1050 psi).

#### PTFE tubing

PTFE tubing (PolyTetraFluoroEthylene) is chemically inert and suitable for lower pressure applications. Typically 1/16" OD tubing holds up to 62 bar (900 psi) and 1/8" up to 35 bar (500 psi).

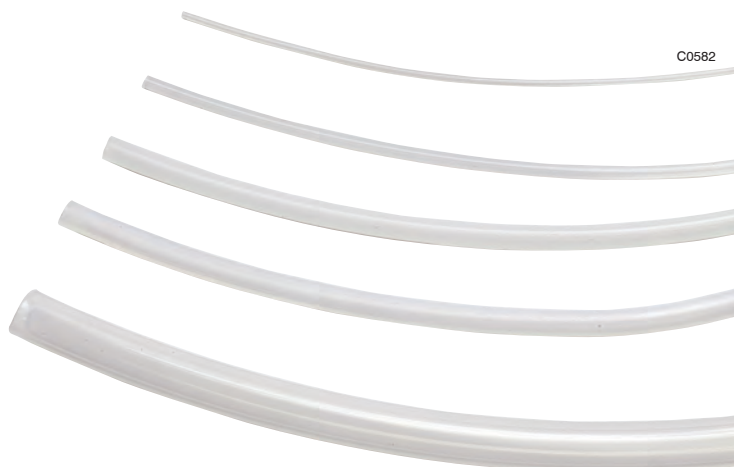
For easy identification of the ID and to differentiate the transfer lines, PTFE tubing is available in a color-coded version.

Maximum continuous operating temperature is 100°C.

#### black PTFE tubing

PTFE is too translucent and for certain light sensitive applications the use of black PTFE tubing is recommended. Typical applications:

- light sensitive enzymatic reactions
- luminescent reactions
- connections to the flow-cell
- radioactive HPLC



## SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**  
360  $\mu\text{m}$  (0.014") OD tubing  
OD:  $\pm 0.013$  mm (.0005")  
ID:  $\pm 0.013$  mm (.0005")

1/32" OD tubing  
OD:  $\pm 0.013$  mm (.0005")  
ID:  $\pm 0.013$  mm (.0005")

1/16" OD tubing  
OD:  $\pm 0.05$  mm (.002")  
ID:  $\pm 0.05$  mm (.002")

1/8" OD tubing  
OD:  $\pm 0.10$  mm (.004")  
ID:  $\pm 0.10$  mm (.004")

3/16" OD tubing  
OD:  $\pm 0.10$  mm (0.004")  
ID:  $\pm 0.10$  mm (0.004")

1/4" OD tubing  
OD:  $\pm 0.10$  mm (0.004")  
ID:  $\pm 0.10$  mm (0.004")

**Pressure rating**  
See chart on page 19

**Chemical resistance**  
See chart on page 118, ff

**Special Info**  
Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**  
The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63

## FEP Tubing

## FEP tubing natural 1/16" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6704-M3  | 0.10    | 3 m     |
| JR-T-6704-M10 | 0.10    | 10 m    |
| JR-T-6704-M25 | 0.10    | 25 m    |
| JR-T-6705-M3  | 0.13    | 3 m     |
| JR-T-6705-M10 | 0.13    | 10 m    |
| JR-T-6705-M25 | 0.13    | 25 m    |
| JR-T-6706-M3  | 0.15    | 3 m     |
| JR-T-6706-M10 | 0.15    | 10 m    |
| JR-T-6706-M25 | 0.15    | 25m     |
| JR-T-6707-M3  | 0.18    | 3 m     |
| JR-T-6707-M10 | 0.18    | 10 m    |
| JR-T-6707-M25 | 0.18    | 25 m    |
| JR-T-6708-M3  | 0.20    | 3 m     |
| JR-T-6708-M10 | 0.20    | 10 m    |
| JR-T-6708-M25 | 0.20    | 25 m    |
| JR-T-6812-M3  | 0.25    | 3 m     |
| JR-T-6812-M10 | 0.25    | 10 m    |
| JR-T-6812-M25 | 0.25    | 25 m    |
| JR-T-6802-M3  | 0.50    | 3 m     |
| JR-T-6802-M10 | 0.50    | 10 m    |
| JR-T-6802-M25 | 0.50    | 25 m    |
| JR-T-6803-M3  | 0.75    | 3 m     |
| JR-T-6803-M10 | 0.75    | 10 m    |
| JR-T-6803-M25 | 0.75    | 25 m    |
| JR-T-6806-M3  | 1.00    | 3 m     |
| JR-T-6806-M10 | 1.00    | 10 m    |
| JR-T-6806-M25 | 1.00    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**

## Polymeric Tubing

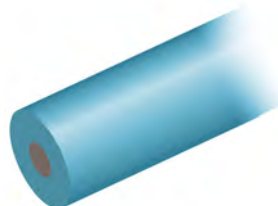
## FEP tubing – Solid Color-Coded 1/16" OD

NEW

| Part No.       | ID (mm) | Color  | Qty/pkg |
|----------------|---------|--------|---------|
| JR-T-6704C-M3  | 0.10    | black  | 3 m     |
| JR-T-6704C-M10 | 0.10    | black  | 10 m    |
| JR-T-6704C-M25 | 0.10    | black  | 25 m    |
| JR-T-6705C-M3  | 0.13    | red    | 3 m     |
| JR-T-6705C-M10 | 0.13    | red    | 10 m    |
| JR-T-6705C-M25 | 0.13    | red    | 25 m    |
| JR-T-6706C-M3  | 0.15    | purple | 3 m     |
| JR-T-6706C-M10 | 0.15    | purple | 10 m    |
| JR-T-6706C-M25 | 0.15    | purple | 25 m    |
| JR-T-6707C-M3  | 0.18    | yellow | 3 m     |
| JR-T-6707C-M10 | 0.18    | yellow | 10 m    |
| JR-T-6707C-M25 | 0.18    | yellow | 25 m    |
| JR-T-6812C-M3  | 0.25    | blue   | 3 m     |
| JR-T-6812C-M10 | 0.25    | blue   | 10 m    |
| JR-T-6812C-M25 | 0.25    | blue   | 25 m    |
| JR-T-6802C-M3  | 0.50    | orange | 3 m     |
| JR-T-6802C-M10 | 0.50    | orange | 10 m    |
| JR-T-6802C-M25 | 0.50    | orange | 25 m    |
| JR-T-6803C-M3  | 0.75    | green  | 3 m     |
| JR-T-6803C-M10 | 0.75    | green  | 10 m    |
| JR-T-6803C-M25 | 0.75    | green  | 25 m    |
| JR-T-6806C-M3  | 1.00    | black  | 3 m     |
| JR-T-6806C-M10 | 1.00    | black  | 10 m    |
| JR-T-6806C-M25 | 1.00    | black  | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**



## SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**

360  $\mu$ m (0.014") OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

## 1/32" OD tubing

OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

## 1/16" OD tubing

OD:  $\pm$  0.05 mm (.002")  
ID:  $\pm$  0.05 mm (.002")

## 1/8" OD tubing

OD:  $\pm$  0.10 mm (.004")  
ID:  $\pm$  0.10 mm (.004")

## 3/16" OD tubing

OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

## 1/4" OD tubing

OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

**Pressure rating**

See chart on page 19

**Chemical resistance**

See chart on page 118, ff

**Special Info**

Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63



## SPECS

### Material

FEP

### Dimensions

See chart

### Tolerances

360 µm (0.014") OD tubing

OD: +/- 0.013 mm (.0005")

ID: +/- 0.013 mm (.0005")

1/32" OD tubing

OD: +/- 0.013 mm (.0005")

ID: +/- 0.013 mm (.0005")

1/16" OD tubing

OD: +/- 0.05 mm (.002")

ID: +/- 0.05 mm (.002")

1/8" OD tubing

OD: +/- 0.10 mm (.004")

ID: +/- 0.10 mm (.004")

3/16" OD tubing

OD: +/- 0.10 mm (0.004")

ID: +/- 0.10 mm (0.004")

1/4" OD tubing

OD: +/- 0.10 mm (0.004")

ID: +/- 0.10 mm (0.004")

### Pressure rating

See chart on page 19

### Chemical resistance

See chart on page 118, ff

### Special Info

Low pressure applications:

Check carefully for gas

permeability

### Spares & Tools

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications

Fingertight page 35–40

Flangeless page 59–63

## FEP tubing natural 1/32" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6794-M1  | 0.10    | 1 m     |
| JR-T-6794-M3  | 0.10    | 3 m     |
| JR-T-6794-M10 | 0.10    | 10 m    |
| JR-T-6605-M1  | 0.13    | 1 m     |
| JR-T-6605-M3  | 0.13    | 3 m     |
| JR-T-6605-M10 | 0.13    | 10 m    |
| JR-T-6606-M1  | 0.15    | 1 m     |
| JR-T-6606-M3  | 0.15    | 3 m     |
| JR-T-6606-M10 | 0.15    | 10 m    |
| JR-T-6607-M1  | 0.18    | 1 m     |
| JR-T-6607-M3  | 0.18    | 3 m     |
| JR-T-6607-M10 | 0.18    | 10 m    |
| JR-T-6610-M1  | 0.25    | 1 m     |
| JR-T-6610-M3  | 0.25    | 3 m     |
| JR-T-6610-M10 | 0.25    | 10 m    |
| JR-T-6615-M1  | 0.38    | 1 m     |
| JR-T-6615-M3  | 0.38    | 3 m     |
| JR-T-6615-M10 | 0.38    | 10 m    |
| JR-T-6620-M1  | 0.50    | 1 m     |
| JR-T-6620-M3  | 0.50    | 3 m     |
| JR-T-6620-M10 | 0.50    | 10 m    |

Other pack sizes and tubing lengths are available on request.

Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**

**Minimum Order Quantity 30 m.**

## Recommended maximum working pressure FEP tubing

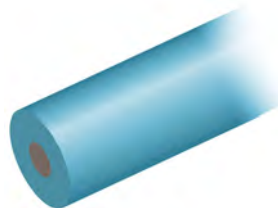
| OD      | ID      | bar     | psi  | OD      | ID      | bar     | psi  |     |
|---------|---------|---------|------|---------|---------|---------|------|-----|
| 1/32"   | 0.10 mm | 82      | 1200 | 1/8"    | 1.59 mm | 69      | 1000 |     |
|         | 0.13 mm | 78      | 1100 |         | 2.10 mm | 41      | 600  |     |
|         | 0.15 mm | 78      | 1100 | 2.40 mm | 30      | 345     |      |     |
|         | 0.18 mm | 72      | 1050 |         |         |         |      |     |
| 1/16"   | 0.25 mm | 68      | 980  | 3/16"   | 3.18 mm | 41      | 600  |     |
|         | 0.38 mm | 51      | 750  |         |         |         |      |     |
|         | 0.50 mm | 35      | 500  | 1/4"    | 4.35 mm | 45      | 650  |     |
|         |         |         |      |         |         |         |      |     |
|         | 1/16"   | 0.10 mm | 124  | 1800    | 1 mm    | 0.50 mm | 62   | 900 |
|         |         | 0.13 mm | 124  | 1800    |         |         |      |     |
| 0.15 mm |         | 117     | 1700 | 2 mm    | 1.00 mm | 62      | 900  |     |
| 0.18 mm |         | 117     | 1700 |         |         |         |      |     |
| 0.20 mm |         | 117     | 1700 | 3 mm    | 1.00 mm | 82      | 1200 |     |
| 0.25 mm |         | 117     | 1700 |         | 2.00 mm | 41      | 600  |     |
| 0.50 mm | 96      | 1400    |      |         |         |         |      |     |
| 0.75 mm | 76      | 1400    |      |         |         |         |      |     |
| 1.00 mm | 52      | 750     |      |         |         |         |      |     |

## Polymeric Tubing

### FEP tubing – Solid Color-Coded 1/32" OD

**NEW**

| Part No.       | ID (mm) | Color  | Qty/pkg |
|----------------|---------|--------|---------|
| JR-T-6604C-M3  | 0.10    | black  | 3 m     |
| JR-T-6604C-M10 | 0.10    | black  | 10 m    |
| JR-T-6604C-M25 | 0.10    | black  | 25 m    |
| JR-T-6605C-M3  | 0.13    | red    | 3 m     |
| JR-T-6605C-M10 | 0.13    | red    | 10 m    |
| JR-T-6605C-M25 | 0.13    | red    | 25 m    |
| JR-T-6606C-M3  | 0.15    | purple | 3 m     |
| JR-T-6606C-M10 | 0.15    | purple | 10 m    |
| JR-T-6606C-M25 | 0.15    | purple | 25 m    |
| JR-T-6607C-M3  | 0.18    | yellow | 3 m     |
| JR-T-6607C-M10 | 0.18    | yellow | 10 m    |
| JR-T-6607C-M25 | 0.18    | yellow | 25 m    |
| JR-T-6610C-M3  | 0.25    | blue   | 3 m     |
| JR-T-6610C-M10 | 0.25    | blue   | 10 m    |
| JR-T-6610C-M25 | 0.25    | blue   | 25 m    |
| JR-T-6620C-M3  | 0.50    | orange | 3 m     |
| JR-T-6620C-M10 | 0.50    | orange | 10 m    |
| JR-T-6620C-M25 | 0.50    | orange | 25 m    |



### SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**

360  $\mu$ m (0.014") OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/32" OD tubing

OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/16" OD tubing

OD:  $\pm$  0.05 mm (.002")  
ID:  $\pm$  0.05 mm (.002")

1/8" OD tubing

OD:  $\pm$  0.10 mm (.004")  
ID:  $\pm$  0.10 mm (.004")

3/16" OD tubing

OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

1/4" OD tubing

OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

**Pressure rating**

See chart on page 19

**Chemical resistance**

See chart on page 118, ff

**Special Info**

Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63

### FEP tubing natural 1/8" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6804-M3  | 1.59    | 3 m     |
| JR-T-6804-M10 | 1.59    | 10 m    |
| JR-T-6804-M25 | 1.59    | 25 m    |
| JR-T-6813-M3  | 2.1     | 3 m     |
| JR-T-6813-M10 | 2.1     | 10 m    |
| JR-T-6813-M25 | 2.1     | 25 m    |
| JR-T-6814-M3  | 2.4     | 3 m     |
| JR-T-6814-M10 | 2.4     | 10 m    |
| JR-T-6814-M25 | 2.4     | 25 m    |

### FEP tubing natural 3/16" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6835-M3  | 3.18    | 3 m     |
| JR-T-6835-M10 | 3.18    | 10 m    |
| JR-T-6835-M25 | 3.18    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**

## SPECS

### Material

FEP

### Dimensions

See chart

### Tolerances

360  $\mu\text{m}$  (0.014") OD tubing  
 OD:  $\pm 0.013$  mm (.0005")  
 ID:  $\pm 0.013$  mm (.0005")

1/32" OD tubing  
 OD:  $\pm 0.013$  mm (.0005")  
 ID:  $\pm 0.013$  mm (.0005")

1/16" OD tubing  
 OD:  $\pm 0.05$  mm (.002")  
 ID:  $\pm 0.05$  mm (.002")

1/8" OD tubing  
 OD:  $\pm 0.10$  mm (.004")  
 ID:  $\pm 0.10$  mm (.004")

3/16" OD tubing  
 OD:  $\pm 0.10$  mm (0.004")  
 ID:  $\pm 0.10$  mm (0.004")

1/4" OD tubing  
 OD:  $\pm 0.10$  mm (0.004")  
 ID:  $\pm 0.10$  mm (0.004")

### Pressure rating

See chart on page 19

### Chemical resistance

See chart on page 118, ff

### Special Info

Low pressure applications:  
 Check carefully for gas permeability

### Spares & Tools

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
 Fingertight page 35–40  
 Flangeless page 59–63

### FEP tubing natural 1/4" OD

| Part No.  | ID (mm) | Qty/pkg |
|-----------|---------|---------|
| JR-T-6809 | 4.35    | per m   |

### FEP tubing natural 1 mm OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6105-M3  | 0.50    | 3 m     |
| JR-T-6105-M10 | 0.50    | 10 m    |
| JR-T-6105-M25 | 0.50    | 25 m    |

### FEP tubing natural 2 mm OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6210-M3  | 1.0     | 3 m     |
| JR-T-6210-M10 | 1.0     | 10 m    |
| JR-T-6210-M25 | 1.0     | 25 m    |

### FEP tubing natural 3 mm OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-6310-M3  | 1.0     | 3 m     |
| JR-T-6310-M10 | 1.0     | 10 m    |
| JR-T-6310-M25 | 1.0     | 25 m    |
| JR-T-6320-M1  | 2.0     | 1 m     |
| JR-T-6320-M3  | 2.0     | 3 m     |
| JR-T-6320-M10 | 2.0     | 10 m    |

Other pack sizes and tubing lengths are available on request.  
 Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.  
 Minimum Order Quantity 30 m.**

## Polymeric Tubing

### ETFE Tubing

#### ETFE tubing 1/32" OD

| Part No.     | ID (mm) | Qty/pkg |
|--------------|---------|---------|
| JR-T-084-M3  | 0.25    | 3 m     |
| JR-T-084-M10 | 0.25    | 10 m    |
| JR-T-084-M25 | 0.25    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

#### ETFE tubing 1/16" OD

| Part No.     | ID (mm) | Qty/pkg |
|--------------|---------|---------|
| JR-T-078-M3  | 0.17    | 3 m     |
| JR-T-078-M10 | 0.17    | 10 m    |
| JR-T-078-M25 | 0.17    | 25 m    |
| JR-T-080-M3  | 0.25    | 3 m     |
| JR-T-080-M10 | 0.25    | 10 m    |
| JR-T-080-M25 | 0.25    | 25 m    |
| JR-T-082-M3  | 0.50    | 3 m     |
| JR-T-082-M10 | 0.50    | 10 m    |
| JR-T-082-M25 | 0.50    | 25 m    |
| JR-T-083-M3  | 0.75    | 3 m     |
| JR-T-083-M10 | 0.75    | 10 m    |
| JR-T-083-M25 | 0.75    | 25 m    |
| JR-T-085-M3  | 1.00    | 3 m     |
| JR-T-085-M10 | 1.00    | 10 m    |
| JR-T-085-M25 | 1.00    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**

### SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**  
360  $\mu$ m (0.014") OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/32" OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/16" OD tubing  
OD:  $\pm$  0.05 mm (.002")  
ID:  $\pm$  0.05 mm (.002")

1/8" OD tubing  
OD:  $\pm$  0.10 mm (.004")  
ID:  $\pm$  0.10 mm (.004")

3/16" OD tubing  
OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

1/4" OD tubing  
OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

**Pressure rating**  
See chart on page 26

**Chemical resistance**  
See chart on page 118, ff

**Special Info**  
Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**  
The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63



## SPECS

**Material**  
FEP**Dimensions**  
See chart**Tolerances**

360  $\mu\text{m}$  (0.014") OD tubing  
 OD:  $\pm 0.013$  mm (.0005")  
 ID:  $\pm 0.013$  mm (.0005")

1/32" OD tubing  
 OD:  $\pm 0.013$  mm (.0005")  
 ID:  $\pm 0.013$  mm (.0005")

1/16" OD tubing  
 OD:  $\pm 0.05$  mm (.002")  
 ID:  $\pm 0.05$  mm (.002")

1/8" OD tubing  
 OD:  $\pm 0.10$  mm (.004")  
 ID:  $\pm 0.10$  mm (.004")

3/16" OD tubing  
 OD:  $\pm 0.10$  mm (0.004")  
 ID:  $\pm 0.10$  mm (0.004")

1/4" OD tubing  
 OD:  $\pm 0.10$  mm (0.004")  
 ID:  $\pm 0.10$  mm (0.004")

**Pressure rating**

See chart on page 26

**Chemical resistance**

See chart on page 118, ff

**Special Info**

Low pressure applications:  
 Check carefully for gas  
 permeability

**Spares & Tools**

The VICI Jour Clean-Cut  
 tubing cutter JR-797 gives  
 you burr-free perpendicular  
 cuts (see page 30)

We recommend fingertight  
 and flangeless fittings  
 for your applications  
 Fingertight page 35–40  
 Flangeless page 59–63

**ETFE tubing 1/8" OD**

| Part No.     | ID (mm) | Qty/pkg |
|--------------|---------|---------|
| JR-T-086-M3  | 1.59    | 3 m     |
| JR-T-086-M10 | 1.59    | 10 m    |
| JR-T-086-M25 | 1.59    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
 Please contact your local distributor or VICI directly

**ETFE tubing metric OD**

| Part No.    | OD mm | ID (mm) | Qty/pkg |
|-------------|-------|---------|---------|
| JR-T-087-M1 | 3.0   | 1.0     | 1 m     |
| JR-T-087-M3 | 3.0   | 1.0     | 3 m     |
| JR-T-088-M1 | 6.0   | 4.0     | 1 m     |
| JR-T-088-M3 | 6.0   | 4.0     | 3 m     |

Other pack sizes and tubing lengths are available on request.  
 Please contact your local distributor or VICI directly.

**Customized tubing on request! Please specify OD and ID.**  
**Minimum Order Quantity 30 m.**

**Recommended maximum working pressure ETFE tubing**

| OD     | ID      | bar | psi  |
|--------|---------|-----|------|
| 1/32"  | 0.25 mm | 152 | 2200 |
| 1/16"  | 0.17 mm | 200 | 2900 |
|        | 0.25 mm | 186 | 2700 |
|        | 0.50 mm | 152 | 2200 |
|        | 0.75 mm | 117 | 1700 |
|        | 1.00 mm | 83  | 1200 |
| 1/8"   | 1.59 mm | 110 | 1600 |
| 3.0 mm | 1.00 mm | 138 | 2000 |
| 6.0 mm | 4.00 mm | 69  | 1000 |

## Polymeric Tubing

### PFA Tubing

#### PFA tubing natural 360 µm OD

**NEW**

| Part No.       | ID     | Qty/pkg |
|----------------|--------|---------|
| JR-T-43650-M1  | 50 µm  | 1 m     |
| JR-T-43650-M3  | 50 µm  | 3 m     |
| JR-T-43675-M1  | 75 µm  | 1 m     |
| JR-T-43675-M3  | 75 µm  | 3 m     |
| JR-T-436100-M1 | 100 µm | 1 m     |
| JR-T-436100-M3 | 100 µm | 3 m     |
| JR-T-436150-M1 | 150 µm | 1 m     |
| JR-T-436150-M3 | 150 µm | 3 m     |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

#### PFA tubing natural 1/16" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-4001-M3  | 0.50    | 3 m     |
| JR-T-4001-M10 | 0.50    | 10 m    |
| JR-T-4001-M25 | 0.50    | 25 m    |
| JR-T-4002-M3  | 0.75    | 3 m     |
| JR-T-4002-M10 | 0.75    | 10 m    |
| JR-T-4002-M25 | 0.75    | 25 m    |
| JR-T-4007-M3  | 1.00    | 3 m     |
| JR-T-4007-M10 | 1.00    | 10 m    |
| JR-T-4007-M25 | 1.00    | 25 m    |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

#### PFA tubing natural 1/8" OD

| Part No.      | ID (mm) | Qty/pkg |
|---------------|---------|---------|
| JR-T-4003-M3  | 1.59    | 3 m     |
| JR-T-4003-M10 | 1.59    | 10 m    |
| JR-T-4003-M25 | 1.59    | 25 m    |
| JR-T-4005     | 1.70    | per m   |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

#### PFA tubing natural 3/16" and 1/4" OD

| Part No.  | OD    | ID (mm) | Qty/pkg |
|-----------|-------|---------|---------|
| JR-T-4009 | 3/16" | 3.20    | per m   |
| JR-T-4004 | 1/4"  | 4.35    | per m   |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

### SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**

360 µm (0.014") OD tubing  
OD: +/- 0.013 mm (.0005")  
ID: +/- 0.013 mm (.0005")

1/32" OD tubing  
OD: +/- 0.013 mm (.0005")  
ID: +/- 0.013 mm (.0005")

1/16" OD tubing  
OD: +/- 0.05 mm (.002")  
ID: +/- 0.05 mm (.002")

1/8" OD tubing  
OD: +/- 0.10 mm (.004")  
ID: +/- 0.10 mm (.004")

3/16" OD tubing  
OD: +/- 0.10 mm (0.004")  
ID: +/- 0.10 mm (0.004")

1/4" OD tubing  
OD: +/- 0.10 mm (0.004")  
ID: +/- 0.10 mm (0.004")

**Pressure rating**

See chart on page 26

**Chemical resistance**

See chart on page 118, ff

**Special Info**

Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35-40  
Flangeless page 59-63

## SPECS

Material  
FEPDimensions  
See chart

## Tolerances

360  $\mu$ m (0.014") OD tubing  
OD: +/- 0.013 mm (.0005")  
ID: +/- 0.013 mm (.0005")

1/32" OD tubing  
OD: +/- 0.013 mm (.0005")  
ID: +/- 0.013 mm (.0005")

1/16" OD tubing  
OD: +/- 0.05 mm (.002")  
ID: +/- 0.05 mm (.002")

1/8" OD tubing  
OD: +/- 0.10 mm (.004")  
ID: +/- 0.10 mm (.004")

3/16" OD tubing  
OD: +/- 0.10 mm (0.004")  
ID: +/- 0.10 mm (0.004")

1/4" OD tubing  
OD: +/- 0.10 mm (0.004")  
ID: +/- 0.10 mm (0.004")

Pressure rating  
See chart on page 26Chemical resistance  
See chart on page 118, ff

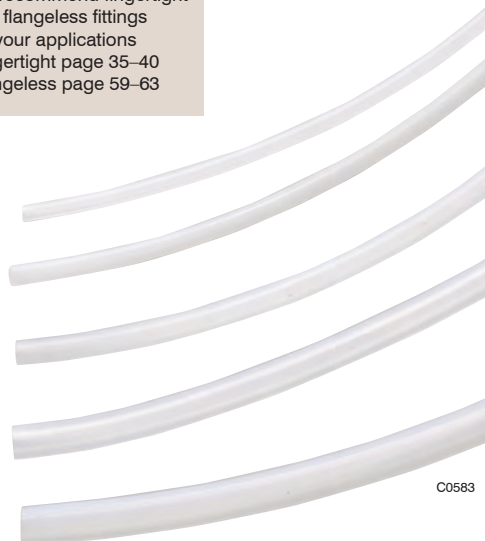
## Special Info

Low pressure applications:  
Check carefully for gas permeability

## Spares &amp; Tools

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63



C0583

## PTFE Tubing

## PTFE tubing – natural

| Part No.      | OD      | ID (mm) | Qty/pkg |
|---------------|---------|---------|---------|
| JR-T-6805-M3  | 1/16"   | 0.18    | 3 m     |
| JR-T-6805-M5  | 1/16"   | 0.18    | 5 m     |
| JR-T-6805-M10 | 1/16"   | 0.18    | 10 m    |
| JR-T-6805-M25 | 1/16"   | 0.18    | 25 m    |
| JR-T-4011-M3  | 1/16"   | 0.25    | 3 m     |
| JR-T-4011-M5  | 1/16"   | 0.25    | 5 m     |
| JR-T-4011-M10 | 1/16"   | 0.25    | 10 m    |
| JR-T-4011-M25 | 1/16"   | 0.25    | 25 m    |
| JR-T-4183-M3  | 1/16"   | 0.50    | 3 m     |
| JR-T-4183-M5  | 1/16"   | 0.50    | 5 m     |
| JR-T-4183-M10 | 1/16"   | 0.50    | 10 m    |
| JR-T-4183-M25 | 1/16"   | 0.50    | 25 m    |
| JR-T-4036-M3  | 1/16"   | 0.75    | 3 m     |
| JR-T-4036-M5  | 1/16"   | 0.75    | 5 m     |
| JR-T-4036-M10 | 1/16"   | 0.75    | 10 m    |
| JR-T-4036-M25 | 1/16"   | 0.75    | 25 m    |
| JR-T-6807-M3  | 1/16"   | 1.00    | 3 m     |
| JR-T-6807-M5  | 1/16"   | 1.00    | 5 m     |
| JR-T-6807-M10 | 1/16"   | 1.00    | 10 m    |
| JR-T-6807-M25 | 1/16"   | 1.00    | 25 m    |
| JR-T-6800-M3  | 1/8"    | 1.59    | 3 m     |
| JR-T-6800-M5  | 1/8"    | 1.59    | 5 m     |
| JR-T-6800-M10 | 1/8"    | 1.59    | 10 m    |
| JR-T-6800-M25 | 1/8"    | 1.59    | 25 m    |
| JR-T-4037-M3  | 1/8"    | 2.40    | 3 m     |
| JR-T-4037-M5  | 1/8"    | 2.40    | 5 m     |
| JR-T-4037-M10 | 1/8"    | 2.40    | 10 m    |
| JR-T-4037-M25 | 1/8"    | 2.40    | 25 m    |
| JR-T-6810     | 1/4"    | 4.75    | per m   |
| JR-T-6801-M3  | 2.00 mm | 1.70    | 3 m     |
| JR-T-6801-M10 | 2.00 mm | 1.70    | 10 m    |
| JR-T-6801-M25 | 2.00 mm | 1.70    | 25 m    |
| JR-T-4039-M3  | 4.00 mm | 3.00    | 3 m     |
| JR-T-4039-M5  | 4.00 mm | 3.00    | 5 m     |
| JR-T-4041     | 4.76 mm | 3.76    | per m   |

Other pack sizes and tubing lengths are available on request.  
Please contact your local distributor or VICI directly.

## Polymeric Tubing

### PTFE tubing – Solid Color-Coded

| Part No.       | OD    | ID (mm) | Qty/pkg | color  |
|----------------|-------|---------|---------|--------|
| JR-T-4011C-M3  | 1/16" | 0.25    | 3 m     | blue   |
| JR-T-4011C-M10 | 1/16" | 0.25    | 10 m    | blue   |
| JR-T-4011C-M25 | 1/16" | 0.25    | 25 m    | blue   |
| JR-T-6808-M3   | 1/16" | 0.25    | 3 m     | black  |
| JR-T-6808-M10  | 1/16" | 0.25    | 10 m    | black  |
| JR-T-6808-M25  | 1/16" | 0.25    | 25 m    | black  |
| JR-T-4183C-M3  | 1/16" | 0.50    | 3 m     | orange |
| JR-T-4183C-M10 | 1/16" | 0.50    | 10 m    | orange |
| JR-T-4183C-M25 | 1/16" | 0.50    | 25 m    | orange |
| JR-T-6811-M3   | 1/16" | 0.50    | 3 m     | black  |
| JR-T-6811-M10  | 1/16" | 0.50    | 10 m    | black  |
| JR-T-6811-M25  | 1/16" | 0.50    | 25 m    | black  |
| JR-T-4036C-M3  | 1/16" | 0.75    | 3 m     | green  |
| JR-T-4036C-M10 | 1/16" | 0.75    | 10 m    | green  |
| JR-T-4036C-M25 | 1/16" | 0.75    | 25 m    | green  |

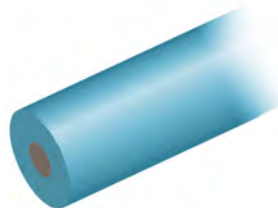
Other pack sizes and tubing lengths are available on request. Please contact your local distributor or VICI directly.

### Recommended maximum working pressure PFA tubing

| OD          | ID          | bar | psi  | OD    | ID      | bar | psi  |
|-------------|-------------|-----|------|-------|---------|-----|------|
| 360 $\mu$ m | 50 $\mu$ m  | 103 | 1500 | 1/8"  | 1.59 mm | 72  | 1050 |
|             | 75 $\mu$ m  | 96  | 1400 |       | 1.70 mm | 65  | 940  |
|             | 100 $\mu$ m | 90  | 1300 |       |         |     |      |
|             | 150 $\mu$ m | 75  | 1100 | 3/16" | 3.20 mm | 41  | 600  |
| 1/16"       | 0.50 mm     | 100 | 1450 | 1/4"  | 4.35 mm | 45  | 650  |
|             | 0.75 mm     | 76  | 1100 |       |         |     |      |
|             | 1.00 mm     | 55  | 800  |       |         |     |      |

### Recommended maximum working pressure PTFE tubing

| OD      | ID      | bar | psi |
|---------|---------|-----|-----|
| 1/16"   | 0.18 mm | 62  | 900 |
|         | 0.25 mm | 55  | 800 |
|         | 0.50 mm | 48  | 700 |
|         | 0.75 mm | 37  | 550 |
|         | 1.00 mm | 25  | 350 |
| 1/8"    | 1.59 mm | 35  | 500 |
|         | 4.75 mm | 18  | 250 |
| 1/4"    | 4.75 mm | 17  | 250 |
| 2 mm    | 1.70 mm | 10  | 150 |
| 4 mm    | 3.00 mm | 17  | 250 |
| 4.76 mm | 3.76 mm | 14  | 200 |



### SPECS

**Material**  
FEP

**Dimensions**  
See chart

**Tolerances**

360  $\mu$ m (0.014") OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/32" OD tubing  
OD:  $\pm$  0.013 mm (.0005")  
ID:  $\pm$  0.013 mm (.0005")

1/16" OD tubing  
OD:  $\pm$  0.05 mm (.002")  
ID:  $\pm$  0.05 mm (.002")

1/8" OD tubing  
OD:  $\pm$  0.10 mm (.004")  
ID:  $\pm$  0.10 mm (.004")

3/16" OD tubing  
OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

1/4" OD tubing  
OD:  $\pm$  0.10 mm (0.004")  
ID:  $\pm$  0.10 mm (0.004")

**Pressure rating**

See chart on page 26

**Chemical resistance**

See chart on page 118, ff

**Special Info**

Low pressure applications:  
Check carefully for gas permeability

**Spares & Tools**

The VICI Jour Clean-Cut tubing cutter JR-797 gives you burr-free perpendicular cuts (see page 30)

We recommend fingertight and flangeless fittings for your applications  
Fingertight page 35–40  
Flangeless page 59–63



## SPECS

### Material

Tubing: FEP + PVDF  
Insert: PCTFE  
Ferrule: ETFE  
Fitting: PPS

### Dimensions

OD: 1/8"  
ID: 1.65 mm

### Tolerances

OD: +/- 0.05 mm (.002")  
ID: +/- 0.05 mm (.002")

### Pressure rating

Low pressure only

### Special info

Use the special designed PCTFE insert (P/N JR-6141-10) to prevent solvent contact of the PVDF layer

Due to the limited chemical resistance of PVDF, the impermeable tubing should not be used inside a solvent reservoir; use a FEP or PFA tubing

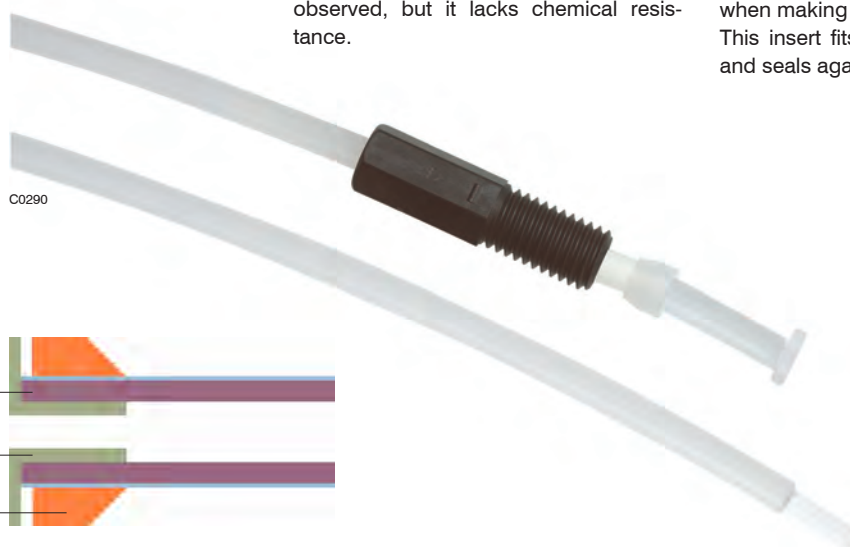
## Impermeable Tubing

- Prevents 're-gassing'
- Excellent chemical resistance

Do you have problems with gas-bubbles in your low pressure mobile phase transfer lines, even after your degasser?

Very probably you are using PTFE tubing for these transfer lines. PTFE has a very good chemical resistance but has micro pores which allow gases to diffuse freely. We therefore created the Impermeable Tubing. A FEP (PTFE like) tubing is coated on the outside with PVDF tubing. FEP has excellent chemical resistance, but micro pores are present in the tubing wall (like PTFE). PVDF on the other hand is a very tight polymer, no micro pores can be observed, but it lacks chemical resistance.

Co-extruded Impermeable Tubing will combine the two features of FEP and PVDF in the most positive manner, ensuring that degassed solvent will stay degassed until it reaches the HPLC pump. The PVDF-layer can easily be removed (using e.g. VICI Jour P/N 797 Clean-Cutter or a razor blade) and stripped from the FEP so only FEP will be in contact with solvent i.e. in the solvent reservoir. For connecting the Impermeable Tubing we also designed a special PCTFE (KEL-F) tubing insert (P/N 6141) to prevent solvent contact of the PVDF layer at the end when making connections. This insert fits into the ID of the tubing and seals against the bottom of the port.



### Impermeable tubing

| Part No.      | Description   | Qty/pkg |
|---------------|---|---------|
| JR-T-6130-M3  | Tubing, impermeable 1/8" x 1.65 mm ID   | 3 m     |
| JR-T-6130-M10 | Tubing, impermeable 1/8" x 1.65 mm ID   | 10 m    |
| JR-6140       | Impermeable fitting kit<br>contains: 2 pcs PCTFE inserts, 2 pcs PPS nuts<br>and 2 pcs ETFE ferrules | 1       |

### Spare Parts

| Part No.    | Description                            | Qty/pkg |
|-------------|--|---------|
| JR-6141-10  | Insert, PCTFE, for impermeable tubing  | 10      |
| JR-55071-10 | Nut, flangeless 1/8", 1/4"-28          | 10      |
| JR-55083-10 | Adapter, PP, fingertight sleeve, black | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                    | 10      |



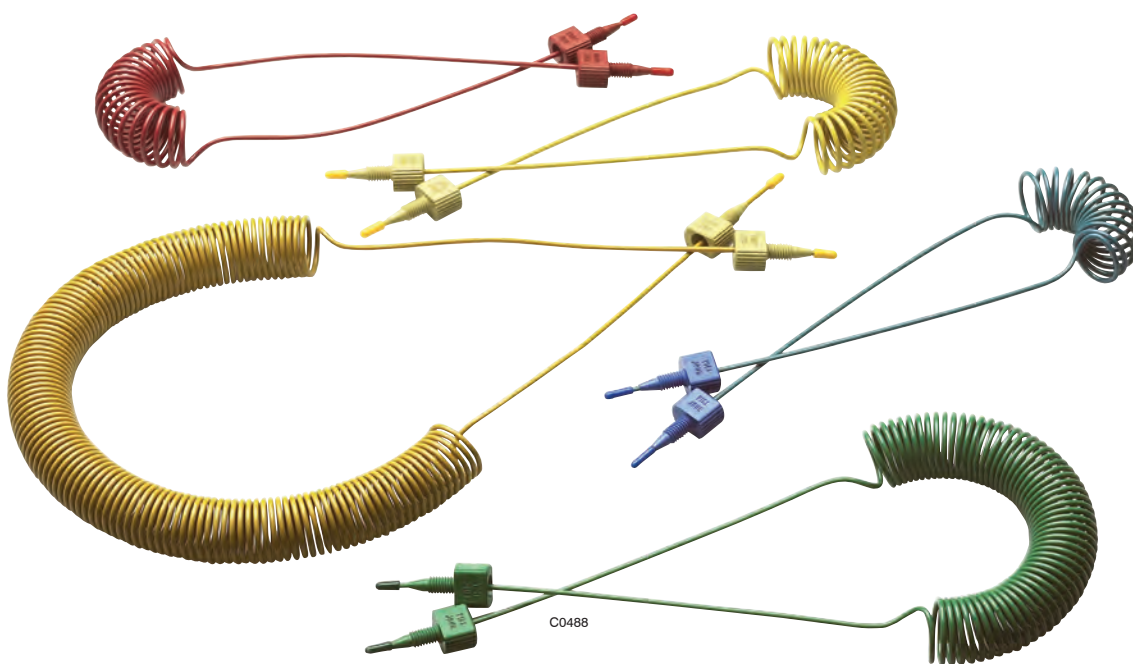
## Thermo-Formed Polymeric Tubing

### Thermo-Formed Polymeric Tubing

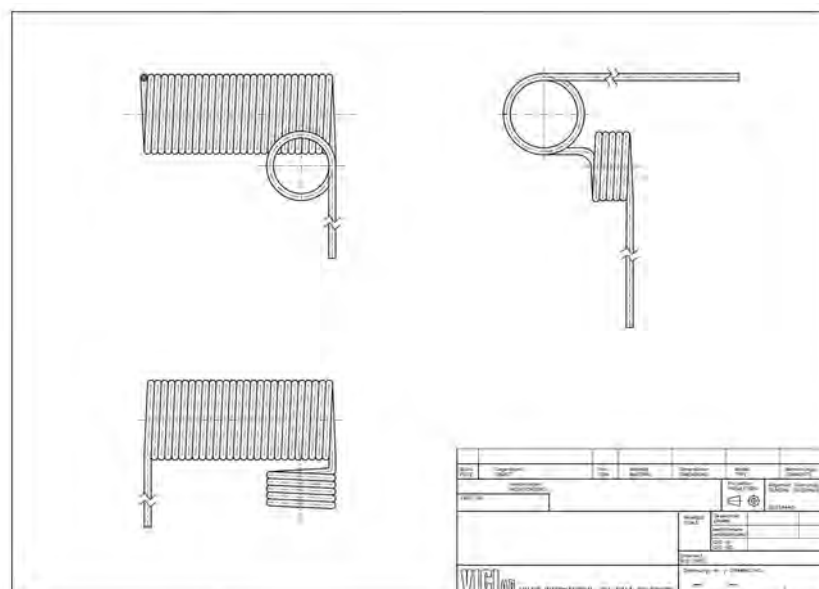
- Various polymeric tubing
- Telephone cables and customer specific items
- Axial flexibility

VICI offers thermoformed tubing in various geometric shapes. Straight tubing, spirals or even more complex forms, just define form and material on a drawing.

The form maintains shape if the temperature does not exceed 100°C. Contact your local distributor or VICI directly for a quotation.



810 000



## PEEK Tubing Elbows &amp; Tubing Clip – The LC Tubing Organizer

## SPECS

**Material**  
Polypropylene

**Dimension**  
For OD 1/16" PEEK tubing

## PEEK Tubing Elbows

- Ideal for routing 1/16" OD PEEK tubing
- For optimum radius, prevents kinking
- 90° and 180° elbows

## PEEK Tubing Elbows

| Part No.  | Description       |
|-----------|-------------------|
| JR-357090 | Tubing Elbow 90°  |
| JR-357180 | Tubing Elbow 180° |



## SPECS

**Material**  
Polypropylene and Stainless Steel spring

**Dimensions**  
For OD 1/16" and 1/8" tubing

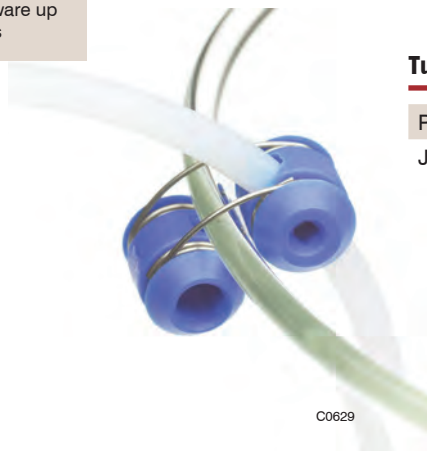
**Special Info**  
Clip fitted with a SS spring suitable for glassware up to 4 mm thickness

## Tubing Clip – The LC Tubing Organizer

- Fixes 1/16" and 1/8" to beakers, flasks or bottles

Here is a convenient small device for the busy chromatographer. The Tubing Clip, which holds both your 1/16" and 1/8" polymer tubing precisely where they should be in your beakers, flasks and bottles etc. up to 4 mm wall thickness.

The stainless steel spring keeps your Tubing Clip working for a long period of time and helps you keep your solvent line in the solvent.



## Tubing Clip

| Part No. | Description |
|----------|-------------|
| JR-9001  | Tubing Clip |

## Stainless Steel Tubing Cutter & Stainless Steel Tubing Pliers

### Clean-Cut Polymer Tubing Cutter

- Cuts PEEK, PTFE, ETFE and other polymeric tubing
- No distortion of OD or closing of ID
- Safety lock secures the blade

It is difficult to obtain burr-free perpendicular cuts on polymeric tubing. The Clean-Cut is a tool for the most demanding LC applications which will do the job without distorting the outside diameter and or closing the inside diameter of the tubing.

It is designed to cut PTFE, ETFE and polymers in general and PEEK capillary tubing in particular. The compact design allows every chromatographer to have it in his pocket. A unique safety locking mechanism secures the blade when not in use. Right angles and clean cuts are essential in LC to avoid leaks and dead volume.

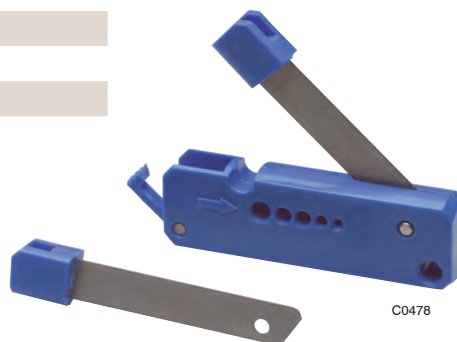
#### SPECS

##### Use

Insert the tubing into the cutter, press the blade on the tubing, rotate the tubing while pressing the blade to get a clean cut

### Clean-Cut Polymer Tubing Cutter

| Part No. | Description                  |
|----------|------------------------------|
| JR-797   | Clean-Cut Tubing Cutter      |
| JR-798   | Replacement blade for JR-797 |

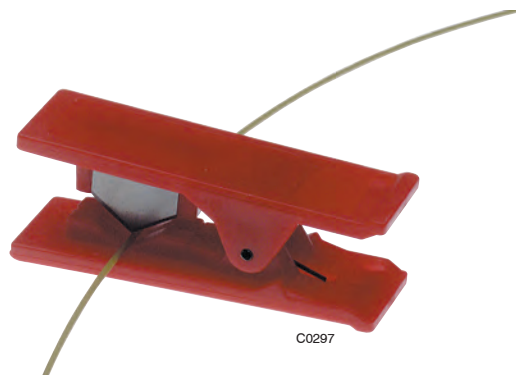


### Guillotine Polymer Tubing Cutter

- Cuts PEEK, PTFE, ETFE and other polymeric tubing

### Guillotine Polymer Tubing Cutter

| Part No. | Description                          |
|----------|--------------------------------------|
| JR-794   | Guillotine Cutter for polymer tubing |
| JR-795   | Replacement blade for JR-794         |



## Stainless Steel Tubing Cutter & Stainless Steel Tubing Pliers

### SPECS

#### Tech Tip

Between sample injector, column and detector electrolytically cut and steam cleaned SS tubing should be used

SS Pre-Cut tubing  
(see page 14–15)

Use The File JR-802  
to deburr the cuts  
(see page 56)



### Stainless Steel Tubing Cutter

- For 1/16" an 1/8" SS tubing
- Leaves smooth, uniform cuts
- Minimum deburring and/or reaming required
- Easy replacement of the cutting wheel

This is the ideal tool for cutting 1/16" and 1/8" stainless steel tubing, leaving smooth, uniform cuts with a minimum of deburring and/or reaming. The easily replaced cutting wheel scores tubing. The result are cuts which allow tube-to-tube and tube-to-frit connections.

### Stainless Steel Tubing Cutter

| Part No. | Description                         |
|----------|-------------------------------------|
| JR-792   | Tubing Cutter for metal tubing      |
| JR-793   | Replacement cutter wheel for JR-792 |

### Stainless Steel Tubing Pliers

- For easy cutting 1/16" OD SS tubing off a coil
- Reaches "Hard-To-Get" places in a HPLC-system
- Delivered in a plastic sheath

The pliers type of cutter can be used for quick cuts for non-critical applications or at 'hard to get' places. However for scientific equipment the use of Pre-Cut and clean tubing is strongly recommended.

### Stainless Steel Tubing Pliers

| Part No. | Description                    |
|----------|--------------------------------|
| JR-796   | Tubing Pliers for metal tubing |



C0294

## Easy-Flange & Easy-Flange Combi-Kits

### Easy-Flange & Easy-Flange Combi-Kits

- Handy tool for perfect flanges
- No heat or electricity required
- No contamination

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 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 tub-

ing by heat and because the specially designed negative conical profile of the flange forming part gives a shape ideal for maximum sealing properties. The Easy-Flange-Combi Kit is an upgraded version of our standard Easy-Flange Kit, which comes complete with PTFE tubing, PPS nuts and Polypropylene O-rings.

#### SPECS

##### Spares & Tools

Flanged fittings  
see pages 60 and 64  
Polymeric tubing  
see pages 17–27



### Easy-Flange Kit

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



## Easy-Flange &amp; Easy-Flange Combi-Kits

## SPECS

## Spares &amp; Tools

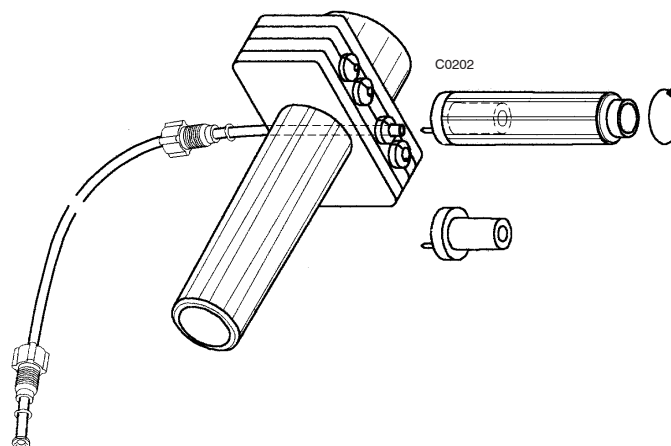
Flanged fittings  
see pages 60 and 64  
Polymeric tubing  
see pages 17–27

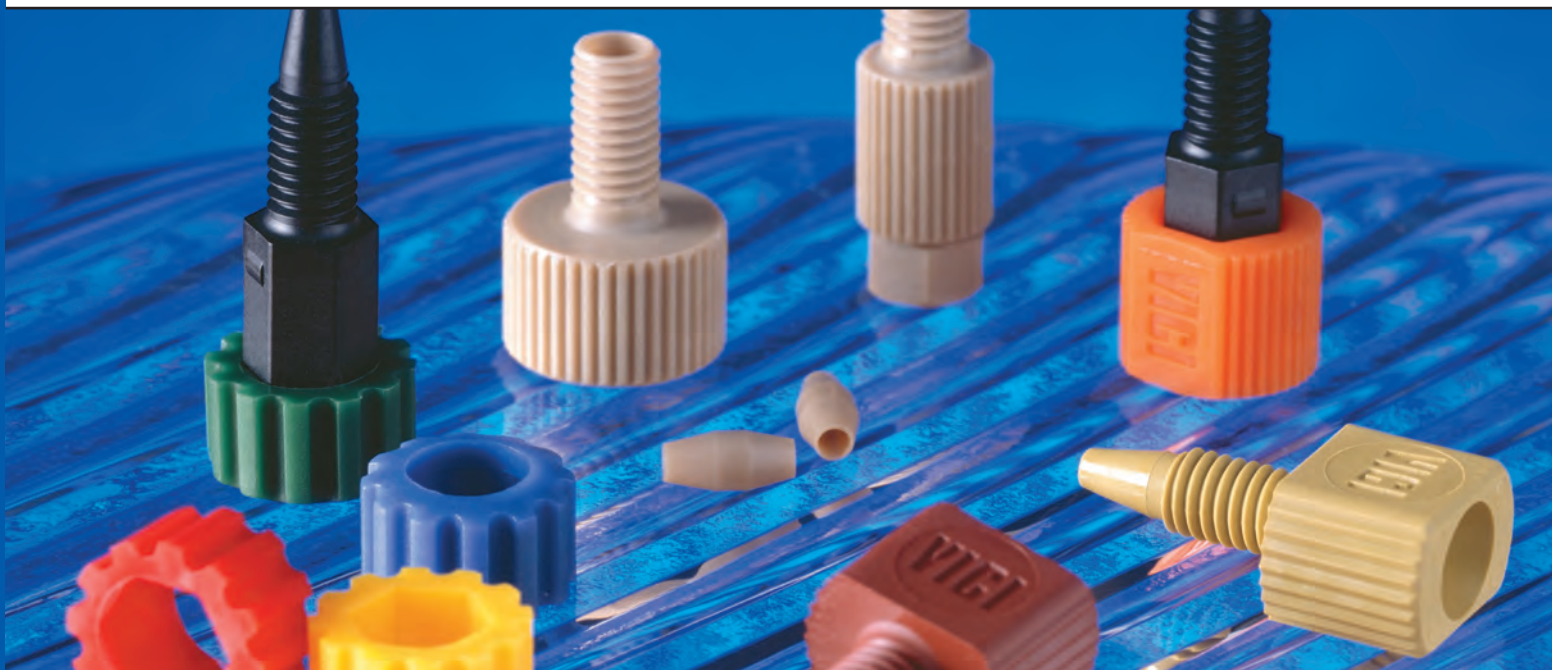
## Easy-Flange Combi Kit

| Part No.     | Description   | Qty   |
|--------------|---|-------|
| JR-201539    | Easy-Flange, combi kit in plastic case complete with the following parts: |       |
| JR-202235    | Flanging disc with 0.5 mm SS pin for PEEK tubing                          | 1 pc  |
| JR-201541    | Flanging disc with 0.8 mm polymer pin                                     | 1 pc  |
| JR-201554    | Flanging disc with 0.8 mm Titanium pin                                    | 1 pc  |
| JR-201536    | Flanging disc with 1.3 mm polymer pin                                     | 1 pc  |
| JR-201537    | Flanging disc with 1.3 mm Titanium pin                                    | 1 pc  |
| JR-797       | Tool, Clean-Cut tubing Cutter   | 1 pc  |
| JR-55060-10  | Nut, PPS, flanged 1/16", 1/4"-28, 10/pkg                                  | 1 pkg |
| JR-201926-10 | Ring, PP, flanged 1/16", 10/pkg   | 1 pkg |
| JR-55061-10  | Nut, PPS, flanged 1/8", 1/4"-28, 10/pkg                                   | 1 pkg |
| JR-201928-10 | Ring, PP, flanged 1/8", 10/pkg  | 1 pkg |
| JR-5508X-24  | Adapter, PP, fingertight sleeve, assorted 2 pcs. per color, 24/pkg        | 1 pkg |
| JR-T4036-M3  | Tubing, PTFE, 1/16" x 0.75 mm ID, 3 m/pkg                                 | 1 pkg |
| JR-T6800-M3  | Tubing, PTFE, 1/8" x 1/16" ID, 3 m/pkg                                    | 1 pkg |

## Easy-Flange Spare Parts &amp; Options

| Part No.  | Description                                      |
|-----------|--|
| JR-201541 | Flanging disc with 0.8 mm polymer pin            |
| JR-201554 | Flanging disc with 0.8 mm Titanium pin           |
| JR-201662 | Flanging disc with 1.0 mm polymer pin            |
| JR-202235 | Flanging disc with 0.5 mm SS pin for PEEK tubing |
| JR-201536 | Flanging disc with 1.3 mm polymer pin            |
| JR-201537 | Flanging disc with 1.3 mm Titanium pin           |
| JR-201663 | Flanging disc with 1.5 mm polymer pin            |
| JR-201531 | Flanging clamp pair                              |
| JR-797    | Tool, Clean-Cut tubing Cutter                    |





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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## PPS One-Piece Hex-Head/Fingertight Fitting

## Specs

## Material

PPS – PolyPhenylene Sulphide, black

Adapter: Polypropylene

## Chemical Resistance

| Chemical Class   | Resistance |
|------------------|------------|
| Acids, organic   | A          |
| Acids, inorganic | B/C*       |
| Aldehydes        | A          |
| Alcohols         | A          |
| Bases            | B          |
| Esters           | A          |
| Halogenated Org. | A/B        |
| Hydrocarbons     | A          |
| Ketones          | A          |

\*conc. Halogen Acids

A = suitable

B = marginal – dependant on application

C = not recommended

Detailed chemical resistance chart see page 118, ff

## Dimensions

For 1/16" OD Tubing

## Threads

10-32

## Tolerances

ID +/- 0.05 mm (.002")

## Pressure Rating

< 350 bar (< 5000 psi)

Varies with tubing material and ID

## Spares &amp; Tools

We offer 1/16" OD tubing for high pressure applications in various materials (see pages 5–15)

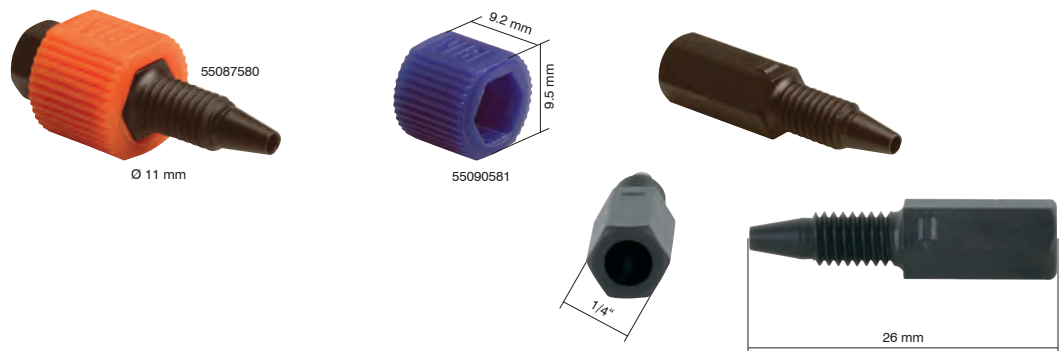
## PPS One-Piece Hex-Head/Fingertight Fitting

- Economically priced alternative to PEEK
- Excellent chemical resistance
- One-Piece – no ferrule required
- Slim design – fingertight with adapter

The VICI Jour PPS One-Piece Hex-Head/Fingertight Fitting offers excellent chemical and pressure resistance.

## PPS One-Piece Hexhead/Fingertight Fitting

| Part No.   | Description                                   | Qty/pkg |
|------------|---|---------|
| JR-58000-5 | Fitting, PPS, hexhead one-piece, black, 10-32 | 5       |



## Color-Sleeve – fingertight adapter

This adapter is useful to color code different solvent lines and it turns the new VICI Jour low pressure nut into a fingertight fitting in an instant. The Color-Sleeve is available in 12 colors.

## Color-Sleeve – fingertight adapter

| Part No.    | Description  | Qty/pkg |
|-------------|--|---------|
| JR-55080-5  | Adapter, PP, fingertight sleeve, natural   | 5       |
| JR-55081-5  | Adapter, PP, fingertight sleeve, white   | 5       |
| JR-55082-5  | Adapter, PP, fingertight sleeve, dark grey   | 5       |
| JR-55083-5  | Adapter, PP, fingertight sleeve, black   | 5       |
| JR-55084-5  | Adapter, PP, fingertight sleeve, lavender  | 5       |
| JR-55085-5  | Adapter, PP, fingertight sleeve, red   | 5       |
| JR-55086-5  | Adapter, PP, fingertight sleeve, yellow  | 5       |
| JR-55087-5  | Adapter, PP, fingertight sleeve, orange  | 5       |
| JR-55088-5  | Adapter, PP, fingertight sleeve, brown   | 5       |
| JR-55089-5  | Adapter, PP, fingertight sleeve, green   | 5       |
| JR-55090-5  | Adapter, PP, fingertight sleeve, blue  | 5       |
| JR-55091-5  | Adapter, PP, fingertight sleeve, purple  | 5       |
| JR-5508X-24 | Adapter, PP, fingertight sleeve, assorted 2 pcs. per color                                   | 24      |
| JR-5508X-12 | Adapter, PP, fingertight sleeve, assorted 2 pcs. each blue, red, green, yellow, black, white | 12      |

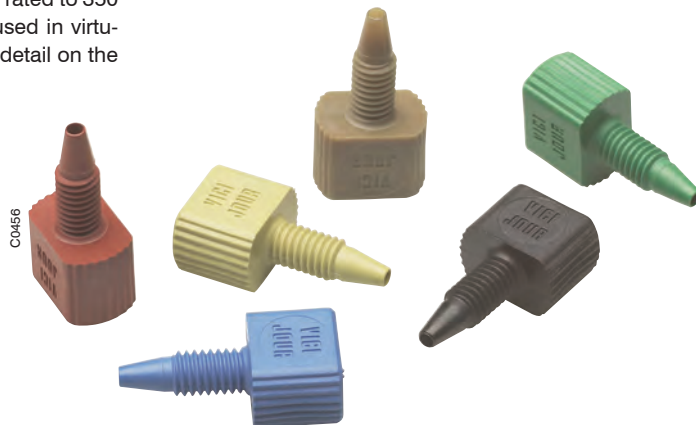


## PEEK Color Coded &amp; natural One-Piece Fingertight Fittings

## PEEK Color Coded &amp; natural One-Piece Fingertight Fittings

- Fingertight up to 350 bar (5000 psi)
- Excellent chemical resistance
- Biocompatible

To identify various tubing lines the PEEK fingertight fittings are available in six colors. PEEK fingertights are rated to 350 bar (5000 psi) and can be used in virtually any type of HPLC fitting detail on the market with 10-32 thread.



## SPECS

**Material**  
PEEK

**Threads**  
10-32

**Dimensions**  
For OD 1/16" Tubing

**Tolerances**  
ID +/- 0.05 mm (.002")

**Pressure rating**  
< 350 bar (< 5000 psi)

**Special Info**  
Fingertight Fittings – works with all 1/16" OD tubing and female 10-32 ports

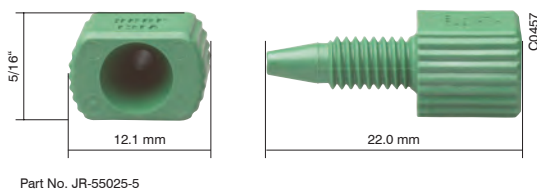
Color Coded – six colors to identify tubing lines

Biocompatible

The coloration pigments are carefully chosen not to contain any heavy metals and hazardous chemicals

## PEEK Color Coded One-Piece Fingertight Fittings-molded version

| Part No.   | Description                             | Qty/pkg |
|------------|---|---------|
| JR-55020-5 | Fitting, PEEK, one-piece natural, 10-32 | 5       |
| JR-55021-5 | Fitting, PEEK, one-piece black, 10-32   | 5       |
| JR-55022-5 | Fitting, PEEK, one-piece red, 10-32     | 5       |
| JR-55023-5 | Fitting, PEEK, one-piece yellow, 10-32  | 5       |
| JR-55024-5 | Fitting, PEEK, one-piece blue, 10-32    | 5       |
| JR-55025-5 | Fitting, PEEK, one-piece green, 10-32   | 5       |



Part No. JR-55025-5

## PEEK Color Coded &amp; natural One-Piece Fingertight Fittings

## SPECS

**Material**  
PEEK

**Threads**  
10-32

**Dimensions**  
For OD 1/16" Tubing

**Tolerances**  
ID +/- 0.05 mm (.002")

**Pressure rating**  
< 350 bar (< 5000 psi)

**Special Info**  
Fingertight Fittings – works with all 1/16" OD tubing and female 10-32 ports

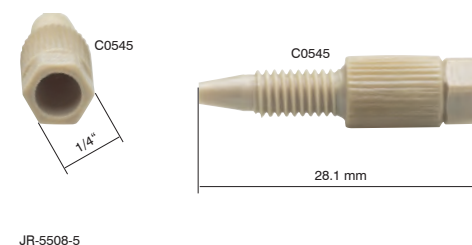
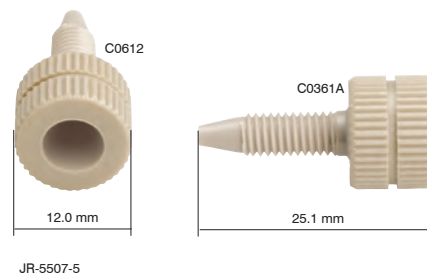
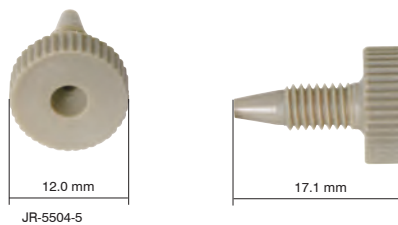
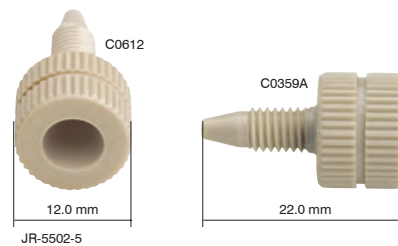
Color Coded – six colors to identify tubing lines

Biocompatible

The coloration pigments are carefully chosen not to contain any heavy metals and hazardous chemicals

## PEEK natural One-Piece Fingertight Fittings-machined version

| Part No.  | Description   | Qty/<br>pkg |
|-----------|---|-------------|
| JR-5502-5 | Fitting, PEEK, one-piece, 10-32                             | 5           |
| JR-5504-5 | Fitting, PEEK, one-piece fingertight short head, 10-32      | 5           |
| JR-5507-5 | Fitting, PEEK, one-piece fingertight long, 10-32            | 5           |
| JR-5508-5 | Fitting, PEEK, one-piece fingertight narrow hex-head, 10-32 | 5           |





## PEEK One-Piece Hex-Head Fittings &amp; PEEK Nuts for use with Double Ferrule

## PEEK One-Piece Hex-Head Fittings

- Ideal for use with PEEK tubing
- Withstand pressures up to 350 bar (5000 psi)
- For any high pressure fittings

PEEK one-piece hex-head fittings are convenient with their integrated ferrule and easy to use with the ValvTool and the Color-It Color-Coded Fingertight Adapters. The 10-32 thread will fit virtually all standard high-pressure female connec-

tions. Connections with the reusable PEEK one-piece hex-head will withstand pressures of up to 350 bar (5000 psi). PEEK one-piece hex-head are available both in a short and long version.



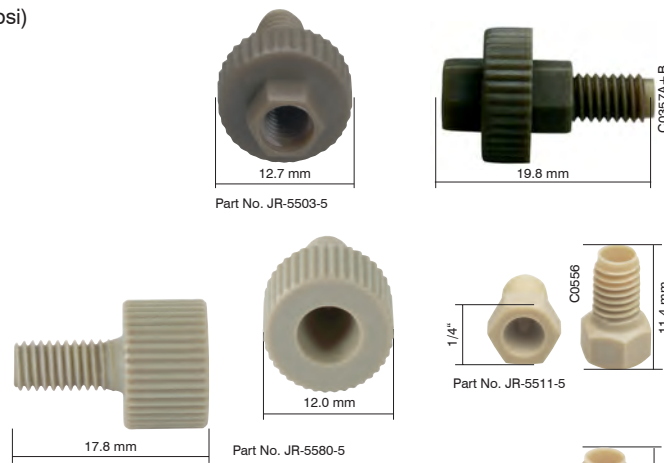
## PEEK One-Piece Hex-Head Fittings

| Part No.   | Description                                    | Qty/pkg |
|------------|--|---------|
| JR-55100-5 | Fitting, PEEK, one-piece hex-head short, 10-32 | 5       |
| JR-55110-5 | Fitting, PEEK, one-piece hex-head long, 10-32  | 5       |

## PEEK Nuts for use with Double Ferrule

- High-pressure rating up to 420 bar (6000 psi)
- Ideal for work with 1/16" PEEK tubing
- Fits any 10-32 port

These hex-head nuts are for use with VICI Jour Double Ferrules. The fingertight version may be hand-tightened for operation at up to 420 bar (6000 psi). The hex-head version can be used for connections that are difficult to reach or closely spaced. These fittings fit virtually any female 1/16" fitting.



## PEEK Nuts with Double Ferrule

| Part No.  | Description                             | Qty/pkg |
|-----------|---|---------|
| JR-5511-5 | Nut, PEEK, hex-head short, 10-32        | 5       |
| JR-5510-5 | Nut, PEEK, hex-head long, 10-32         | 5       |
| JR-5580-5 | Nut, PEEK, fingertight, 10-32           | 5       |
| JR-5503-5 | Nut, PEEK, universal fingertight, 10-32 | 5       |
| JR-5004-5 | Ferrule, PEEK, double 1/16"             | 5       |

## SPECS

**Material**  
PEEK

**Threads**  
10-32

**Dimensions**  
For OD 1/16" tubing

**Pressure rating**  
< 350 bar (< 5000 psi)

**Tech Tip**  
For tightening hex-head fittings, we recommend our ValvTool JR-800 (see page 56)

## SPECS

**Material**  
PEEK

**Threads**  
10-32

**Dimensions**  
For OD 1/16" Tubing

**Pressure rating**  
< 420 bar (< 6000 psi)  
Varies with tubing material and ID

**Special Info**  
Double-Ferrule grips tubing twice

Works with all 1/16" OD tubing

Fits any 10-32 fitting

Fits all female compression fittings  
Ideal for use with PEEK tubing

## PEEK Nuts with Single Ferrule &amp; Color-It Fingertight Adapters

## SPECS

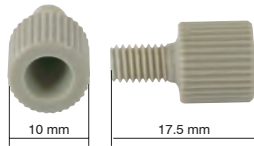
**Material**  
PEEK

**Threads**  
See chart

**Dimensions**  
For 1/32", 1/16", 1/8"  
tubing

**Tolerances**  
ID +/- 0.05 mm (.002")

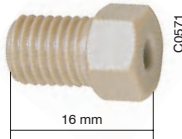
**Pressure rating**  
< 280 bar (< 4000 psi)  
Varies with tubing material  
and ID



Part No. JR-5570-5



Part No. JR-5003-5



Part No. JR-ZN2PK-5



Part No. JR-ZF2PK-5

## PEEK Nuts with Single Ferrule

- Reuseable nut, replaceable ferrule
- For 1/32", 1/16" and 1/8" OD tubing
- Suitable for high pressure 6-40, 10-32 and 5/16"-24 ports

Fingertight nuts have a knurled surface designed to allow sufficient sealing force to be applied to the ferrule without wrenches. Hex style nuts allow wrench

tightening; however, since they are polymeric, they can break and are recommended for use only when space is limited and fingers will not fit.

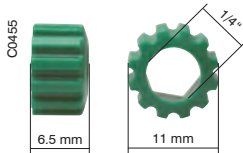
## Fingertight Nuts with Single Ferrule

| Part No.     | Description                          | Qty/pkg |
|--------------|--------------------------------------|---------|
| JR-ZN.5FPK-5 | Nut, PEEK, fingertight, 1/32"        | 5       |
| JR-ZF.5PK-5  | Ferrule, PEEK, 1/32"                 | 5       |
| JR-5570-5    | Nut, PEEK, fingertight, 1/16", 10-32 | 5       |
| JR-5003-5    | Ferrule, single, PEEK, 1/16"         | 5       |
| JR-ZN2PK-5   | Nut, PEEK, hex-head, 1/8", 5/16"-24  | 5       |
| JR-ZF2PK-5   | Ferrule, PEEK, 1/8"                  | 5       |

## SPECS

**Material**  
Polypropylene

**Dimensions**  
For 1/4" Hex-head nuts



## Color-It Fingertight Adapters

- For easy solvent line identification
- Fits all Hex-Head PEEK and SS fittings for 1/16" OD tubing
- Six different colors available

We recommend the Color-It Snap-On fingertight-extension for color coding our 1/4" hex-head nuts. Color-It is useful to color code different solvent lines and it turns your hex-head nuts into a fingertight fitting in an instant. Color-It finger-

tight adapters are available in six different colors (blue, yellow, green, black, white and red). They can be used in connection with our PEEK and Stainless Steel hex-head nuts for 1/16" OD tubing (see pages 38 and 50)



## Color-It Fingertight Adapters

| Part No.    | Description                             | Qty/pkg |
|-------------|---|---------|
| JR-55010-5  | Color-It blue                           | 5       |
| JR-55011-5  | Color-It yellow                         | 5       |
| JR-55012-5  | Color-It green                          | 5       |
| JR-55013-5  | Color-It black                          | 5       |
| JR-55014-5  | Color-It white                          | 5       |
| JR-55015-5  | Color-It red                            | 5       |
| JR-55016-12 | Color-It multi-color, 2 pcs. each color | 12      |

## No twist “One-Piece” Fittings

## No twist “One-Piece” Fittings

These fittings offer the convenience of a one-piece fitting while solving a problem inherent to such designs.

In other one-piece designs, the ferrule rotates against the fitting detail, creating particulates. The no twist design has a separate ferrule that snaps into the nut, so it's attached but still free to avoid rotation during tightening.

Since the ferrule is not machined onto the nut, it can be made from a different material. PEEK nut with CTFE ferrule, or PEEK nut with PEEK ferrule or glass-filled PEEK ferrule.



## SPECS

## Material

Nut: PEEK  
Ferrule: PEEK, CTFE, glass-filled PEEK

## Threads

10-32

## Dimensions

For OD 1/16" tubing

## Pressure rating

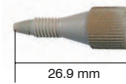
< 350 bar (< 5000 psi)

## Tech Tip

For tightening hex-head fittings, we recommend our ValvTool JR-800 (see page 56 and 115)

## No twist “One-Piece” fittings\*

| Part No.      | Description                                       | Qty/pkg |
|---------------|---|---------|
| JR-ZNF1FPK-5  | Nut, PEEK, fingertight, PEEK ferrule              | 5       |
| JR-ZNF1FPKG-5 | Nut, PEEK, fingertight, glass-filled PEEK ferrule | 5       |
| JR-ZNF1FKF-5  | Nut, PEEK, fingertight, CTFE ferrule              | 5       |
| JR-ZNF1PK-5   | Nut, hex, short, PEEK, PEEK ferrule               | 5       |
| JR-ZNF1PKG-5  | Nut, hex, short, PEEK, glass-filled PEEK ferrule  | 5       |
| JR-ZNF1KF-5   | Nut, hex, short, PEEK, CTFE ferrule               | 5       |
| JR-MZNF1PK-5  | Nut, hex, medium, PEEK, PEEK ferrule              | 5       |
| JR-MZNF1PKG-5 | Nut, hex, medium, PEEK, glass-filled PEEK ferrule | 5       |
| JR-MZNF1KF-5  | Nut, hex, medium, PEEK, CTFE ferrule              | 5       |
| JR-LZNF1PK-5  | Nut, hex, long, PEEK, PEEK ferrule                | 5       |
| JR-LZNF1PKG-5 | Nut, hex, long, PEEK, glass-filled PEEK ferrule   | 5       |
| JR-LZNF1KF-5  | Nut, hex, long, PEEK, CTFE ferrule                | 5       |



## Spare Parts

|                |  |   |
|----------------|--|---|
| JR-ZNF1PK-F-5  | Ferrule, PEEK, for no twist one-piece fitting              | 5 |
| JR-ZNF1PKG-F-5 | Ferrule, glass-filled PEEK, for no twist one-piece fitting | 5 |
| JR-ZNF1KF-F-5  | Ferrule, CTFE, for no twist one-piece fitting              | 5 |

\*Patent No. 7.316.777

## SPECS

**Material**  
PEEK

**Dimensions**

For 1/16", 1/32" to 1/16"  
and 1/16" to 1/8" OD  
tubing  
Others: see illustrations

**Threads**

6-40 for 1/32" OD tubing  
10-32 for 1/16" OD tubing  
5/16"-24 for 1/8" OD  
tubing

**Pressure rating**

< 350 bar (< 5000 psi)  
Varies with tubing material  
and ID

**Note**

Complete unions will be  
supplied with PEEK one-  
piece fittings

PEEK unions have the  
standardized Valco fitting  
details with smooth transi-  
tion of the taper into the  
threaded part

**Tech Tip**

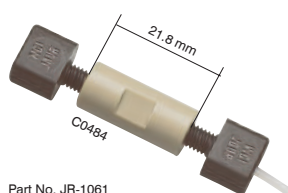
Bulkhead Unions require a  
min. 10 mm panel hole

## PEEK Unions

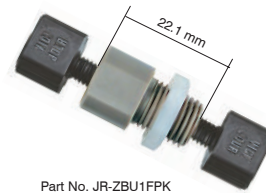
- Easy connection of transfer / solvent lines
- Low dead volume
- Completely inert and biocompatible

VICI Jour PEEK unions are usable with most common HPLC solvents (organic and inorganic) without risking corrosion, metal contamination, or protein degradation that might occur with stainless steel. Small diameter bores are used to insure low dead volume connections. Connections to these PEEK unions can be made

with any 10-32 fitting that uses polymeric ferrules. PEEK unions are available in "body only" versions as well as complete with our PEEK One-Piece Fingertight Fittings ready to connect to any 1/16" OD tubing (PEEK, stainless steel, PTFE, ETFE, etc.).



Part No. JR-1061



Part No. JR-ZBU1FPK

## PEEK Unions

| Part No. | Description                          |
|----------|--------------------------------------|
| JR-1061  | Union, PEEK, 0.25 mm bore, complete  |
| JR-1066  | Union, PEEK, 0.50 mm bore, complete  |
| JR-1067  | Union, PEEK, 0.75 mm bore, complete  |
| JR-061   | Union, PEEK, 0.25 mm bore, body only |
| JR-066   | Union, PEEK, 0.50 mm bore, body only |
| JR-067   | Union, PEEK, 0.75 mm bore, body only |

## PEEK Bulkhead Unions

| Part No.    | Description                                  |
|-------------|--|
| JR-ZBU1CFPK | Bulkhead Union, PEEK, 0.25 mm bore, complete |
| JR-ZBU1MFPK | Bulkhead Union, PEEK, 0.50 mm bore, complete |
| JR-ZBU1FPK  | Bulkhead Union, PEEK, 0.75 mm bore, complete |

## Spare Parts

| Part No.   | Description                                | Qty/pkg |
|------------|--|---------|
| JR-55021-5 | Fitting, PEEK, one-piece black, 10-32      | 5       |
| JR-CBN     | JAM-Nut, Hex, replacement for all JR-ZBU1X | 1       |

## PEEK Unions



Part No. JR-ZRU21FPK

## PEEK reducing Union

| Part No.     | Description   |
|--------------|---|
| JR-ZRU21FPK  | Union, PEEK, reducing, 1/8" to 1/16", 0.75 mm bore, complete  |
| JR-ZRU1.5FPK | Union, PEEK, reducing, 1/16" to 1/32", 0.25 mm bore, complete |

## Spare Parts

| Part No.   | Description  | Qty/pkg |
|------------|--|---------|
| JR-55021-5 | Fitting, PEEK, one-piece black, 10-32                            | 5       |
| JR-ZN2PK-5 | Nut, PEEK, hex-head, 1/8", 5/16"-24, replacement for JR-ZRU21FPK | 5       |
| JR-ZF2PK-5 | Ferrule, PEEK, 1/8", replacement for JR-ZRU21FPK                 | 5       |
| JR-ZN.5FPK | Nut, PEEK, fingertight, 1/32", replacement for JR-ZRU1.5FPK      | 1       |
| JR-ZF.5PK  | Ferrule, PEEK, 1/32", replacement for JR-ZRU1.5FPK               | 1       |

## SPECS

**Material**  
PEEK

**Dimensions**

For 1/32" to 1/16" and  
1/16" to 1/8" OD tubing  
Others: see illustrations

**Threads**

6-40 for 1/32" OD tubing  
10-32 for 1/16" OD tubing  
5/16"-24 for 1/8" OD  
tubing

**Pressure rating**

< 350 bar (< 5000 psi)  
Varies with tubing material  
and ID

**Note**

Complete unions will be  
supplied with PEEK one-  
piece fittings

PEEK unions have the  
standardized Valco fitting  
details with smooth transi-  
tion of the taper into the  
threaded part

**Tech Tip**

Bulkhead Unions require a  
min. 10 mm panel hole



## PEEK Tees, Crosses High Pressure

## SPECS

**Material**  
PEEK

**Dimensions**

Tees and Crosses  
Diameter (body): 25.0 mm  
Thickness = 12.0 mm

**Threads**

10-32  
For OD 1/16" tubing

**Pressure rating**

< 350 bar (< 5000 psi)  
Varies with tubing material and ID

**Special info**

100% PEEK flowpath for inertness and biocompatibility

Available with or without fingertight fittings

**Tech Tip**

Use our color coded one-piece fingertight fittings for easy solvent line identification (see page 36)

PEEK unions have the standardized Valco fitting details with smooth transition of the taper into the threaded part

## PEEK Tees, Crosses High Pressure

- For easy connection of solvent lines
- Low dead volume
- Completely inert and biocompatible

VICI Jour PEEK tees and crosses are usable with most common HPLC solvents (organic and inorganic) without risking corrosion, metal contamination, or protein degradation that might occur with stainless steel. Small diameter thru-holes are used to insure low dead volume connections. Connections to these PEEK

tees, crosses can be made with any 10-32 fitting that uses polymeric ferrules. PEEK tees, crosses and manifolds are available in "body only" versions as well as complete with our PEEK One-Piece Fingertight Fittings ready to connect to any 1/16" OD tubing (PEEK, stainless steel, PTFE, ETFE, etc.).



C0485

## PEEK Tees High Pressure

| Part No. | Description   |
|----------|---|
| JR-1030  | Tee, PEEK, HP, 0.25 mm bore, complete with one piece fittings |
| JR-1032  | Tee, PEEK, HP, 0.50 mm bore, complete with one piece fittings |
| JR-1033  | Tee, PEEK, HP, 0.75 mm bore, complete with one piece fittings |
| JR-2030  | Tee, PEEK, HP, 0.25 mm bore, body only                        |
| JR-2032  | Tee, PEEK, HP, 0.50 mm bore, body only                        |
| JR-2033  | Tee, PEEK, HP, 0.75 mm bore, body only                        |

## PEEK Crosses High Pressure

| Part No. | Description   |
|----------|---|
| JR-1040  | Cross, PEEK, HP, 0.25 mm bore, complete with one piece fittings |
| JR-1042  | Cross, PEEK, HP, 0.50 mm bore, complete with one piece fittings |
| JR-1043  | Cross, PEEK, HP, 0.75 mm bore, complete with one piece fittings |
| JR-2040  | Cross, PEEK, HP, 0.25 mm bore body only                         |
| JR-2042  | Cross, PEEK, HP, 0.50 mm bore body only                         |
| JR-2043  | Cross, PEEK, HP, 0.75 mm bore body only                         |

## Spare Parts

| Part No.   | Description                           | Qty/pkg |
|------------|---------------------------------------|---------|
| JR-55021-5 | Fitting, PEEK, one-piece black, 10-32 | 5       |

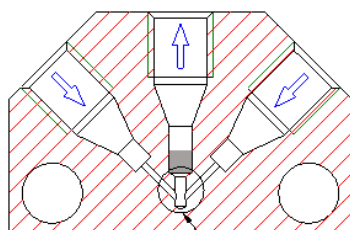
## PEEK Biocompatible Mixing Tee

## PEEK Biocompatible Mixing Tee

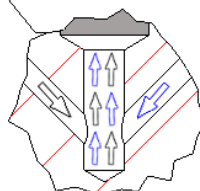
- High-pressure gradient mixing
- Post column reactions
- Completely biocompatible

A unique mixing is the result of the turbulence generated by the introduction angle of the solvents as well as the flow through our titanium filter element – the two solvent streams mix more thoroughly than with a conventional tee.

The biocompatible tee can be used for high-pressure gradient mixing as well as for post column reactions.



The two solvent streams are perfectly mixed in the vortex mixing chamber



## SPECS

**Material**  
PEEK, titanium

**Dimensions**  
Width (body): 25.4 mm  
Thickness = 9.5 mm

**Tolerances**  
+/- 0.05 mm (.002")

**Threads**  
10-32  
For OD 1/16" tubing

**Pressure rating**  
< 350 bar (< 5000 psi)

**Special info**  
For analytical gradient  
HPLC

Built-in protein friendly  
titanium filter

Porosity 10  $\mu$ m

Internal volume incl. frit  
 $\leq 4 \mu$ L

## PEEK Biocompatible Mixing Tee

| Part No.     | Description                               |
|--------------|---|
| JR-9000-0670 | Tee, PEEK, mixing, complete with fittings |

## SPECS

**Material**  
PEEK

**Dimensions**  
See chart

**Pressure rating**

M6- 1/4"-28:  
< 70 bar (< 1000 psi)  
Male and female luer:  
< 3.5 bar (< 509 psi)  
Varies with tubing material  
and ID

**Special Info**

PEEK Port Adapters  
These adapters connect  
standard LC fittings to  
standard LC ports

They are available with  
1/4"-28, M6 or 10-32  
threads (configured for  
VALCO)

**PEEK Luer Adapters**

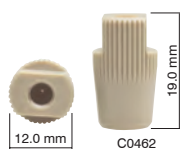
Male and female luer  
adapters connect luer fit-  
tings, 10-32, 1/4"-28 and  
M6 threaded  
fittings

Luer Adapters not availa-  
ble as luer lock

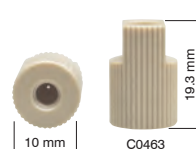
Thru-hole = 0.40 mm

## PEEK Adapters

- Easy connection of solvent lines
- Low dead volume
- Completely inert and biocompatible



Part No. JR-062



Part No. JR-5595



Part No. JR-5505

## PEEK Adapters

| Part No. | Description                     |
|----------|---------------------------------|
| JR-062   | Adapter, PEEK, 10-32 to 1/4"-28 |
| JR-5595  | Pharmacia Adapter M6 to 10-32   |
| JR-5505  | Adapter, PEEK, M6 to 10-32      |

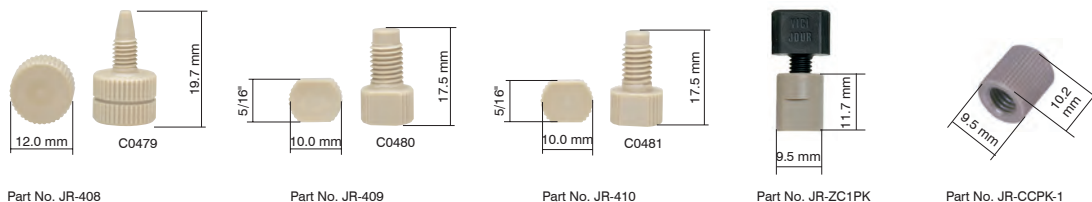
## PEEK Port and Luer Adapters

| Part No. | Inlet          |   | Outlet       |
|----------|----------------|---|--------------|
| JR-0611  | Waters Female  |    | 10-32 Male   |
| JR-0612  | 1/4"-28 Female |  | 10-32 Male   |
| JR-0622  | 1/4"-28 Female |    | M6 Male      |
| JR-0625  | 1/4"-28 Female |           | Female Luer  |
| JR-0626  | 1/4"-28 Female |   | Male Luer    |
| JR-0617  | 10-32 Female   |    | 1/4"-28 Male |
| JR-0623  | 10-32 Female   |    | Female Luer  |

## PEEK Plugs &amp; Caps &amp; PEEK Starter Kit

## PEEK Plugs &amp; Caps

- Plugging ports
- Capping solvent lines
- All common thread sizes available



## SPECS

**Material**  
PEEK

**Threads**  
See chart

**Pressure rating**  
< 350 bar (< 5000 psi)  
Varies with tubing material  
and ID

## PEEK Plugs &amp; Caps

| Part No.   | Description               |
|------------|---------------------------|
| JR-ZP5FPK  | Plug, PEEK, 6-40          |
| JR-408     | Plug, PEEK, 10-32         |
| JR-409     | Plug, PEEK, 1/4"-28       |
| JR-410     | Plug, PEEK, M6            |
| JR-ZC.5FPK | Cap, PEEK, female, 6-40   |
| JR-ZC1PK   | Cap, PEEK, female 10-32   |
| JR-CCPK-1  | Cap, PEEK, female 1/4"-28 |

## 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 environment is created for samples and mobile phase.

The PEEK Starter Kit is a collection of items, which is a good start for everybody working in the field of bio-chromatography.

The kit consists of fittings, ferrules, tubing and mobile-phase filters as well as a union, our Clean-Cut Tubing cutter and other useful tools like our Tubing Elbows. All together for a very competitive price!

## PEEK Starter Kit

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

## PEEK Starter Kit Content

| Part  | Qty |
|---|-----|
| Union, PEEK, HP body only, 10-32                | 1   |
| Filter, PEEK, In-Line, complete                 | 1   |
| Filter, PTFE, Last Drop 5 um                    | 1   |
| Tubing Elbow 90°                                | 2   |
| Tubing Elbow 180°                               | 2   |
| Nut, PEEK, hex-head long, 10-32                 | 5   |
| Nut, PEEK, hand-tight, 10-32                    | 5   |
| Fitting, PEEK, one-piece natural, 10-32         | 10  |
| Ferrule, PEEK, double 1/16"                     | 20  |
| Tubing, PEEK, 1/16" x 0.25 mm ID                | 3 m |
| Tubing, PEEK, 1/16" x 0.50 mm ID, orange stripe | 3 m |
| Tool, Clean-Cut Tubing Cutter                   | 1   |
| Tool, Tweezers                                  | 1   |

## SPECS

**Material**  
PEEK

**Dimensions**  
See illustrations

**Threads**  
Nuts: 6-40  
Ext. Nuts 1/16": 10-32  
Ext. Nuts 1/32": 8-36

**Tolerances**  
+/- 0.05 mm (.002")

**Pressure rating**  
< 350 bar (< 5000 psi)

**Note**  
Nanovolume® Unions will be supplied with PEEK one-piece fingertight fittings, ext. nuts and ferrules for 1/32" OD tubing (see chart Nanovolume® Nuts & Ferrules)

The Nanovolume® reducing Union will additionally be supplied with a PEEK ext. nut and ferrule for 1/16" OD tubing (see chart Nanovolume® Nuts & Ferrules)

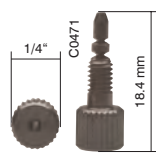
## Nanovolume® Fittings

- 100 and 150 µm bores available
- Nuts, Ferrules, Unions
- For PEEK Tubing

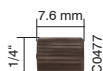
VICI Nanovolume® Fittings are designed for Capillary LC used in HTS techniques, Proteomics, Genomics and other newer developments in industrial routine research. Small sample size, reduction of analysis time and higher expectations on instrumentation as well as on accessories are required. VICI Nanovolume® con-

nectors include our one-piece fingertight fittings for 1/32 OD tubing with a collapsible ferrule.

The VICI Nanovolume® Fittings are as easy to handle as our standard analytical fittings and unions. The only difference is their size.



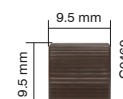
Part No. JR-C-NNFFPK



Part No. JR-C-EN.5FPKB



Part No. JR-ZGF.5PK



Part No. JR-EN1FPKB



Part No. JR-ZGF1PK

## Nanovolume® Nuts & Ferrules

| Part No.      | Description                                  |
|---------------|--|
| JR-C-NNFFPK   | Nut, PEEK, one-piece, grooved ferrule, 1/32" |
| JR-C-EN.5FPKB | Nut, PEEK, External, 1/32"                   |
| JR-ZGF.5PK    | Ferrule, PEEK, grooved, 1/32"                |
| JR-EN1FPKB    | Nut, PEEK, External, 1/16"                   |
| JR-ZGF1PK     | Ferrule, PEEK, grooved, 1/16"                |



Part No.  
JR-C-NEU.5XFPK, JR-C-NEU.5FPK



Part No. JR-C-NERU1FPK

## Nanovolume® Unions

| Part No.       | Description  |
|----------------|--|
| JR-C-NERU1FPK  | Union, PEEK, 150 µm bore, reducing, Ext.1/16" – Int. 1/32" |
| JR-C-NEU.5XFPK | Union, PEEK, 100 µm bore, Int. 1/32" – Ext. 1/32" ZDVF     |
| JR-C-NEU.5FPK  | Union, PEEK, 150 µm bore, Int. 1/32" – Ext. 1/32" ZDVF     |

## 360 µm Nanovolume Fittings, Unions, Tees, Crosses

## 360 µm Nanovolume Fittings, Unions, Tees, Crosses

UHPLC

- For direct connection of 360 µm tubing
- Works with metal, fused silica or PEEK
- Snap-in rotating ferrule for “one-piece” fitting with no tubing twist
- Up to 20,000 psi with metal tubing

Our new high pressure fittings permit direct connection of 360 µm OD fused silica, PEEK or stainless steel tubing without the use of liners. The ferrule snaps into the nut so that the fitting is “one-piece”, but the ferrule remains free to rotate as

the nut is tightened so that the tube doesn't twist.

360 µm fittings are dedicated for use with either fused silica, metal or PEEK tubing; components cannot be mixed or used with a different tubing material.

## SPECS

**Material**  
PEEK

**Threads**  
Nuts: 2-56

**Pressure rating**  
< 1379 bar (< 20000 psi)

## For PEEK or fused silica tubing – up to 10,000 psi

## 360 µm Nut, Ferrule, Cap, Plug, Tightening Tool

| Part No.     | Description               |
|--------------|---------------------------|
| JR-C360NFPKG | Nut/ferrule, PEEK, 360 µm |
| JR-C360CPKG  | Cap, PEEK, 360 µm         |
| JR-C360PPK   | Plug, PEEK, 360 µm        |
| JR-C360ET    | Tightening tool           |



## 360 µm Unions and reducing Unions

| Part No.      | Description                                 |
|---------------|---|
| JR-C360QUPKG2 | Union, quick mount, 50 µm bore              |
| JR-C360QUPKG4 | Union, quick mount, 100 µm bore             |
| JR-C360QUPKG6 | Union, quick mount, 150 µm bore             |
| JR-C360UPKG2  | Union, 50 µm bore                           |
| JR-C360UPKG4  | Union, 100 µm bore                          |
| JR-C360UPKG6  | Union, 150 µm bore                          |
| JR-C360RU1PK6 | reducing union 1/16" to 360 µm, 150 µm bore |



## 360 µm Tees and Crosses

| Part No.      | Description                     |
|---------------|---------------------------------|
| JR-C360QTPKG2 | Tee, quick mount, 50 µm bore    |
| JR-C360QTPKG4 | Tee, quick mount, 100 µm bore   |
| JR-C360QTPKG6 | Tee, quick mount, 150 µm bore   |
| JR-C360QXPKG2 | Cross, quick mount, 50 µm bore  |
| JR-C360QXPKG4 | Cross, quick mount, 100 µm bore |
| JR-C360QXPKG6 | Cross, quick mount, 150 µm bore |





360  $\mu$ m Nanovolume Fittings, Unions, Crosses

## For fused silica tubing – 10,000 psi and above

UHPLC

360  $\mu$ m Nut, Ferrule, Cap

| Part No.    | Description                  |
|-------------|------------------------------|
| JR-C360NFFS | Nut/ferrule, SS, 360 $\mu$ m |
| JR-C360CFS  | Cap, SS, 360 $\mu$ m         |

360  $\mu$ m Unions and reducing Unions (complete with nut and ferrule)

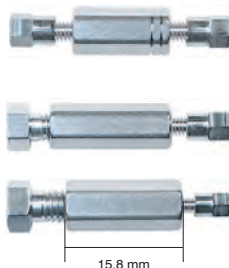
| Part No.       | Description   |
|----------------|---|
| JR-C360UFS2    | Union, SS, 50 $\mu$ m bore                                |
| JR-C360UFS4    | Union, SS, 100 $\mu$ m bore                               |
| JR-C360UFS6    | Union, SS, 150 $\mu$ m bore                               |
| JR-C360RU.5FS2 | reducing union 1/32" to 360 $\mu$ m, SS, 50 $\mu$ m bore  |
| JR-C360RU.5FS4 | reducing union 1/32" to 360 $\mu$ m, SS, 100 $\mu$ m bore |
| JR-C360RU.5FS6 | reducing union 1/32" to 360 $\mu$ m, SS, 150 $\mu$ m bore |
| JR-C360RU1FS6  | reducing union 1/16" to 360 $\mu$ m, SS, 150 $\mu$ m bore |

## For metal tubing – up to 20,000 psi

UHPLC

360  $\mu$ m Nut, Ferrule, Cap

| Part No.    | Description                  |
|-------------|------------------------------|
| JR-C360NFS6 | Nut/ferrule, SS, 360 $\mu$ m |
| JR-C360C    | Cap, SS, 360 $\mu$ m         |

360  $\mu$ m Unions and reducing Unions (complete with nut and ferrule)

| Part No.       | Description   |
|----------------|---|
| JR-C360US62    | Union, SS, 50 $\mu$ m bore                                |
| JR-C360US64    | Union, SS, 100 $\mu$ m bore                               |
| JR-C360US66    | Union, SS, 150 $\mu$ m bore                               |
| JR-C360RU.5S62 | reducing union 1/32" to 360 $\mu$ m, SS, 50 $\mu$ m bore  |
| JR-C360RU.5S64 | reducing union 1/32" to 360 $\mu$ m, SS, 100 $\mu$ m bore |
| JR-C360RU.5S66 | reducing union 1/32" to 360 $\mu$ m, SS, 150 $\mu$ m bore |
| JR-C360RU1S66  | reducing union 1/16" to 360 $\mu$ m, SS, 150 $\mu$ m bore |

## Valco Stainless Steel Nuts and Ferrules

## Valco Stainless Steel Nuts and Ferrules

UHPLC

- Excellent fit to Valco fitting details
- Different lengths available
- For 1/32", 1/16" and 1/8" OD tubing

These nuts are for use with all standard Valco internal fittings and most valves. They may be used with fittings from other manufacturers as well. The medium and long types are ideal for metal Valco and

Cheminert valves with more than 8 ports. In using nuts with different length more space is created for easier access with a wrench.



Part No. JR-ZN.5-5



Part No. JR-ZF.5S6-5



Part No. JR-ZN1-5



Part No. JR-MZN1-5



Part No. JR-LZN1-5



Part No. JR-ZF1S6



Part No. JR-ZN2-5



Part No. JR-ZF2S6-5

## Valco Stainless Steel Nuts and Ferrules

| Part No.    | Description                  | Qty/pkg |
|-------------|------------------------------|---------|
| JR-ZN.5-5   | Nut, SS, 1/32", 6-40         | 5       |
| JR-ZF.5S6-5 | Ferrule, SS, 1/32"           | 5       |
| JR-ZN1-5    | Nut, SS, 1/16", 10-32        | 5       |
| JR-MZN1-5   | Nut, SS, 1/16" Medium, 10-32 | 5       |
| JR-LZN1-5   | Nut, SS, 1/16" Long, 10-32   | 5       |
| JR-ZF1S6-5  | Ferrule, SS, 1/16"           | 5       |
| JR-ZN2-5    | Nut, SS, 1/8", 5/16"-24      | 5       |
| JR-ZF2S6-5  | Ferrule, SS, 1/8"            | 5       |

## SPECS

## Material

Nuts: SS303  
Ferrules: SS316

## Dimensions

OD 1/32", 1/16", 1/8"

## Threads

See chart

## Pressure rating

< 1375 bar (< 20000 psi)  
Varies with tubing material and ID

## Spares &amp; Tools

We recommend our Valv-Tool and wrenches for tightening SS Nuts (see page 56)

Stainless Steel Tubing  
see pages 12–15

## Stainless Steel Nuts and Ferrules Rheodyne® Type

## SPECS

**Material**  
SS316

**Dimensions**  
For OD 1/16" tubing

**Threads**  
See chart

**Pressure rating**  
< 500 bar (< 7250 psi)  
Varies with tubing material  
and ID

**Spares & Tools**  
We recommend our Valv-  
Tool and wrenches for  
tightening SS Nuts (see  
page 56)

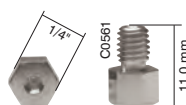
Stainless Steel Tubing  
see pages 12–15

## Stainless Steel Nuts and Ferrules Rheodyne® Type

- Excellent fit to Rheodyne® fitting details
- Different lengths available
- For 1/16" OD tubing

These nuts and ferrules are for use with metal Rheodyne® valves. Three different lengths are available in order to accommodate any possible connecting situation. The standard nut is suitable for easy

accessible connections (couplers, detectors, columns etc.). For very tight and difficult to reach areas we recommend the long and extra long nut.



Part No. JR-56-5



Part No. JR-57-5



Part No. JR-58-5



Part No. JR-59-5



Part No. JR-60-5

## Stainless Steel Nuts and Ferrules Rheodyne® Type

| Part No. | Description                               | Qty/pkg |
|----------|---|---------|
| JR-56-5  | Nut, SS, short, Rheodyne® type, 10-32     | 5       |
| JR-57-5  | Nut, SS, long head, Rheodyne® type, 10-32 | 5       |
| JR-58-5  | Nut, SS, x-long, Rheodyne® type, 10-32    | 5       |
| JR-59-5  | Ferrule, SS, 1/16"                        | 5       |
| JR-60-5  | Ferrule, SS, 1/16", 2-step Rheodyne® type | 5       |

## Stainless Steel Unions

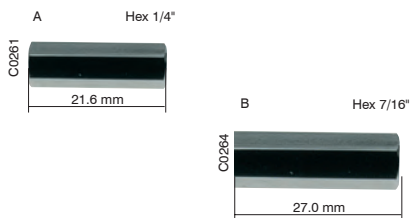
## Stainless Steel Unions

UHPLC

- Easy connection of solvent lines
- Low dead volume
- Different bores available
- For 1/16" and 1/8" OD SS tubing

VICI Stainless Steel Unions are made for joining two pieces of 1/16" OD tubing or 1/8" with 1/16" OD tubing. They are precision machined with a focus on the concentricity of the bore as well as on the finish of the surfaces to give an absolute leak-free connection.

VICI SS Unions have internal threads, which we recommend for most applications. Internal threads make stronger connections and internal fitting details provide the lowest dead volume for high performance instrumentation.



## SPECS

## Material

Unions: SS 316  
Nuts: SS303  
Ferrules: SS316

## Dimensions

See illustrations

## Pressure rating

< 1375 bar (< 20000 psi)  
Varies with tubing material and ID

## Stainless Steel Unions

| Part No.   | Description  | Drawing |
|------------|--|---------|
| JR-ZU1XCS6 | Union, SS, bore 0.15 mm, 1/16", 10-32, complete                            | A       |
| JR-ZU1CS6  | Union, SS, bore 0.25 mm, 1/16", 10-32, complete                            | A       |
| JR-ZU1MS6  | Union, SS, bore 0.50 mm, 1/16", 10-32, complete                            | A       |
| JR-ZU1S6   | Union, SS, bore 0.75 mm, 1/16", 10-32, complete                            | A       |
| JR-ZRU21   | Union, SS, reducing 0.75 mm bore, 1/8" – 1/16", 5/16"-24 – 10-32, complete | B       |

(All above SS Unions are shipped complete with nuts and ferrules.)

## Spare Parts

| Part No.   | Description  | Qty/pkg |
|------------|--|---------|
| JR-ZN1-5   | Nut, SS, 1/16", 10-32, repl. for JR-ZU1x series + JR-ZRU21 | 5       |
| JR-ZF1S6-5 | Ferrule, SS, 1/16", repl. for JR-ZU1 series + JR-ZRU21     | 5       |
| JR-ZN2-5   | Nut, SS, 1/8", 5/16"-24, repl. for JR-ZRU21                | 5       |
| JR-ZF2S6-5 | Ferrule, SS, 1/8", repl. for JR-ZRU21                      | 5       |

## Stainless Steel Tees &amp; Crosses

## SPECS

**Material**

Tees & Crosses: SS316  
Nuts: SS303  
Ferrules: SS316

**Dimensions**

Diameter (body): 23.4 mm  
Thickness: 12.7 mm

**Threads**

See chart

**Pressure rating**

< 1375 bar (< 20000 psi)  
Varies with tubing material  
and ID

## Stainless Steel Tees &amp; Crosses

UHPLC

- Easy connection of solvent lines
- Low dead volume
- Different bores
- For 1/16" OD tubing

VICI Stainless Steel Tees & Crosses are made for joining solvent lines. They are precision machined with a focus on the concentricity of the bore as well as on the finish of the surfaces to give an absolute leak free connection.

VICI Stainless Steel Tees & Crosses have internal threads, which we recommend for most applications. Internal threads make stronger connections and internal fitting details provide the lowest dead volume for high performance instrumentation.



## Stainless Steel Tees

| Part No. | Description                                   |
|----------|---|
| JR-ZT1C  | Tee, SS, 0.25 mm bore, 1/16", 10-32, complete |
| JR-ZT1M  | Tee, SS, 0.50 mm bore, 1/16", 10-32, complete |
| JR-ZT1   | Tee, SS, 0.75 mm bore, 1/16", 10-32, complete |

(All above SS Tees are complete with nuts and ferrules.)

## Stainless Steel Tees &amp; Crosses

| Part No. | Description                                     |
|----------|---|
| JR-ZX1C  | Cross, SS, 0.25 mm bore, 1/16", 10-32, complete |
| JR-ZX1M  | Cross, SS, 0.50 mm bore, 1/16", 10-32, complete |
| JR-ZX1   | Cross, SS, 0.75 mm bore, 1/16", 10-32, complete |

(All above SS Crosses are complete with nuts and ferrules.)

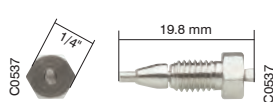
## Spare Parts

| Part No.   | Description           | Qty/pkg |
|------------|-----------------------|---------|
| JR-ZN1-5   | Nut, SS, 1/16", 10-32 | 5       |
| JR-ZF1S6-5 | Ferrule, SS, 1/16"    | 5       |

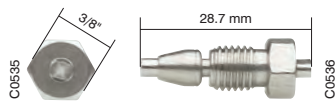
## Stainless Steel Plugs &amp; Caps &amp; Stainless Steel Starter Kit

## Stainless Steel Plugs &amp; Caps

- Plugging ports
- Capping solvent lines
- For 1/16" and 1/8" OD tubing



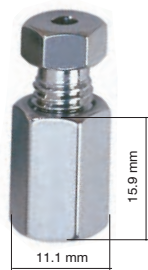
Part No. JR-ZP1



Part No. JR-ZP2



Part No. JR-ZC1



Part No. JR-ZC2

## SPECS

## Material

Plug 1/16": SS316  
 Plug 1/8": SS303  
 Caps: SS303

## Dimensions

See illustration

## Thread size

Plug & Cap 1/16": 10-32  
 Plug & Cap 1/8": 5/16"-24

## Spares &amp; Tools

We recommend our Valv-Tool and wrenches for tightening SS Plugs & Caps (see page 56)

## Stainless Steel Plugs &amp; Caps

| Part No. | Description           |
|----------|-----------------------|
| JR-ZP1   | Plug, SS, 1/16"       |
| JR-ZP2   | Plug, SS, 1/8"        |
| JR-ZC1   | Cap, SS, female 1/16" |
| JR-ZC2   | Cap, SS, female 1/8"  |

## Stainless Steel Starter Kit

- The ideal kit for HPLC users
- For high pressure applications

The kit consists of fittings, ferrules, tubing and solvent filters as well as a union, our Stainless Steel Tubing Cutter and other useful tools like our Valvtool. All together for a very competitive price!



## Stainless Steel Starter Kit

| Part No. | Description                 |
|----------|-----------------------------|
| JR-35S   | Stainless Steel Starter Kit |



## ChromBox Kit

– For start-up and standard use in all HPLC systems

The ChromBox is an all-purpose analytical spare part kit for all our customers using HPLC. It contains the most often used spare parts made both of high quality SS 316L as well as PEEK and Teflon. All together for a very competitive price!



### ChromBox Kit

| Part No. | Description  |
|----------|--------------|
| JR-34N   | ChromBox Kit |

### SS Starter Kit Content

| Part  | Qty |
|---|-----|
| Filter, SS, mobile phase 2 $\mu$ m, 1/8" pipe OD  | 1   |
| Filter, SS, Last Drop 10 $\mu$ m                  | 1   |
| Nut, SS, 1/16", standard                          | 10  |
| Nut, SS, 1/16", 19 mm long                        | 10  |
| Ferrule, SS, 1/16"                                | 20  |
| Filter, SS, In-Line ID 0.25 mm, complete          | 1   |
| Union, SS, bore 0.25 mm                           | 1   |
| Tubing, SS, 1/16" x 0.25 mm ID                    | 3 m |
| Tubing, SS, 1/16" x 0.50 mm ID                    | 3 m |
| Tubing, SS, pre-cut 1/16" OD x 0.18 mm ID, 100 mm | 2   |
| Tubing, SS, pre-cut 1/16" OD x 0.25 mm ID, 200 mm | 2   |
| Tool, Tubing Cutter for metal tubing              | 1   |
| Tool, ValvTool 1/4" and 5/16" open wrench         | 1   |
| Tool, wrench 1/4" x 5/16"                         | 1   |
| Tool, Tweezers                                    | 1   |

### ChromBox Kit Content

| Part  | Qty | Part                                      | Qty |
|---|-----|---|-----|
| Fitting, PEEK, one-piece natural, 10-32         | 5   | Tubing, SS, 1/16" x 0.25 mm ID            | 3 m |
| Nut, PEEK, fingertight, 10-32                   | 5   | Tubing, SS, 1/16" x 0,50 mm ID            | 3 m |
| Nut, PEEK, hex-head long, 10-32                 | 5   | Tool, Clean-Cut Tubing Cutter             | 1   |
| Ferrule, PEEK, double 1/16"                     | 10  | Tool, ValvTool 1/4" and 5/16" open wrench | 1   |
| Union, PEEK, 0.25 mm bore, body only            | 1   | Tubing Plier for metal tubing             | 1   |
| Tubing Elbow 90°                                | 1   | Tubing Clip                               | 2   |
| Tubing Elbow 180°                               | 1   | Union, 316SS, bore 0.50 mm, 10-32         | 1   |
| Filter, PEEK, In-Line, complete                 | 1   | Nut, SS, 1/16", 13 mm long                | 5   |
| Filter, SS, Last Drop 2 $\mu$ m                 | 1   | Nut, SS, 1/16", 19 mm long                | 5   |
| Tubing, PEEK, 1/16" x 0,25 mm ID, blue stripe   | 3 m | Ferrule, SS, 1/16"                        | 10  |
| Tubing, PEEK, 1/16" x 0,50 mm ID, orange stripe | 3 m | Tool, wrench 1/4" x 5/16"                 | 2   |
| Tubing, PTFE, 1/8" x 1/16" ID                   | 3 m | Tool, File                                | 1   |
|   |     | Tool, Tweezers                            | 1   |

## ValvTool & File & Wrench

### ValvTool

- For making connections in 'hard-to-reach' areas
- Ideal for nuts with 1/4" hex and 5/16" heads

The ValvTool is a time-saving device, which will provide easy access to many hard-to-reach areas. The unique design with its slotted wrench allows to tighten nuts where a loop or a capillary may oth-

erwise make it difficult. The ValvTool is the ideal for Rheodyne® and Valco valves and fittings as well as for most of the HPLC and PEEK fittings on the market with 1/4" and 5/16" heads.

#### ValvTool

| Part No. | Description                          |
|----------|--------------------------------------|
| JR-800   | Tool, ValvTool 1/4" and 5/16" wrench |



### File

- Standard file

#### File

| Part No. | Description |
|----------|-------------|
| JR-802   | Tool, File  |



### Wrench

- Open wrenches for nuts with 1/4", 5/16", 3/8" or 7/16" heads

#### Wrench

| Part No. | Description                             |
|----------|---|
| JR-804   | Tool, Wrench 1/4" and 5/16" open wrench |
| JR-805   | Tool, Wrench 3/8" and 7/16" open wrench |

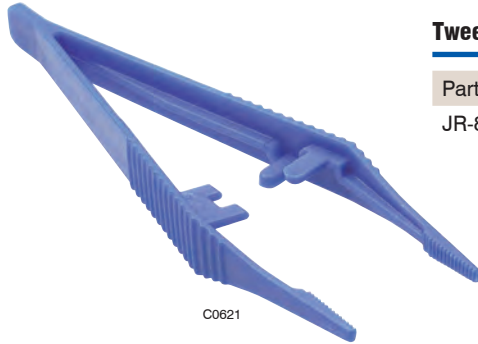


## Tweezer &amp; Ferrule Removal Kit &amp; Hex Key Set

### Tweezer

---

– Ideal for picking small fittings etc.



### Tweezers

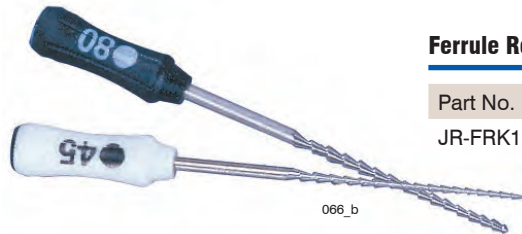
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| Part No. | Description    |
|----------|----------------|
| JR-806   | Tool, Tweezers |

### Ferrule Removal Kit

---

– Remove polymeric ferrule stuck inside a fitting detail  
 – Two tools for different ferrule sizes  
 – For 1/32" and 360  $\mu$ m ferrules



### Ferrule Removal Kit

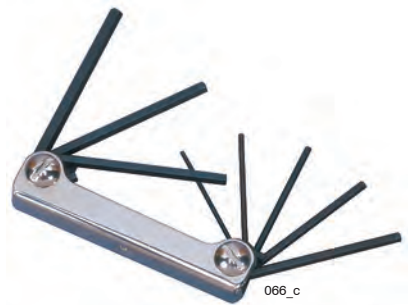
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| Part No. | Description         |
|----------|---------------------|
| JR-FRK1  | Ferrule Removal Kit |

### Hex Key Set

---

– Fits any socket head screw on any VICI valve or -actuator  
 – Key Sizes: 0.050", 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32"



### Hex Key Set

---

| Part No. | Description |
|----------|-------------|
| JR-HKS   | Hex Key Set |



## INDEX

|  |    |
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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## PPS Nuts for 1/4"-28 Flat Bottom Fitting Details

## Specs

## Material

Nuts: PPS – PolyPhenylene Sulphide, black  
Collapsible ferrules: CTFE  
Inverted ferrules: ETFE  
Washers: polypropylene  
Sleeves: polypropylene

## Chemical Resistance of PPS

| Chemical Class   | Resistance |
|------------------|------------|
| Acids, organic   | A          |
| Acids, inorganic | B/C*       |
| Aldehydes        | A          |
| Alcohols         | A          |
| Bases            | B          |
| Esters           | A          |
| Halogenated Org. | A/B        |
| Hydrocarbons     | A          |
| Ketones          | A          |

\*conc. Halogen Acids

A = suitable

B = marginal – dependant on application

C = not recommended

Detailed chemical resistance chart see page 118, ff

## Dimensions

For 1/16" and 1/8" OD tubing

Others: see illustration

## Threads

1/4"-28

## Pressure Rating

collapsible ferrule:  
1/16" up to 105 bar  
(1500 psi)

1/8" up to 35 bar (500 psi)

Ferrule/bushing 1/16":  
480 bar (7000 psi)

Ferrule/bushing 1/32":  
175 bar (2500 psi)

Varies with tubing material and ID

## Tech Tip

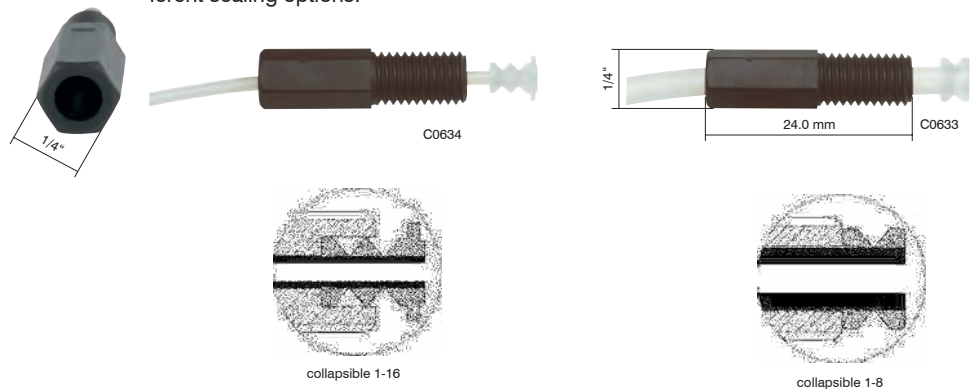
For flanging tubing we recommend the VICI Jour Easy Flange Kit (see page 32–33)

## PPS Nuts for 1/4"-28 Flat Bottom Fitting Details

- Economically priced alternative to PEEK
- Excellent chemical resistance
- Fits 1/16" or 1/8" OD tubing
- Slim design – fingertight with adapter

The VICI Jour PPS 1/4"-28 fitting series offers excellent chemical and pressure resistance. There is a choice of three different sealing options:

collapsible ferrule, inverted ferrule or flanged with washer.



## Flangeless type: Collapsible ferrule\* connection

Very effective sealing on narrow areas without distortion of the tubing.  
No flanging tools required.

| Part No.     | Description                                      | Qty/pkg |
|--------------|--|---------|
| JR-55050-10  | Nut, PPS, for collapsible ferrule 1/16", 1/4"-28 | 10      |
| JR-55051-10  | Nut, PPS, for collapsible ferrule 1/8", 1/4"-28  | 10      |
| JR-CFL-CB1KF | Ferrule, CTFE, collapsible, 1/16"                | 10      |
| JR-CFL-CB2KF | Ferrule, CTFE, collapsible, 1/8"                 | 10      |

\*collapsible ferrule (see glossary): Patent No. 6,575,501



Use the PEEK ferrule and bushing as follows:  
First place the nut on the tubing, than the bushing, than the PEEK ferrule.

## Flangeless type: ferrule and bushing

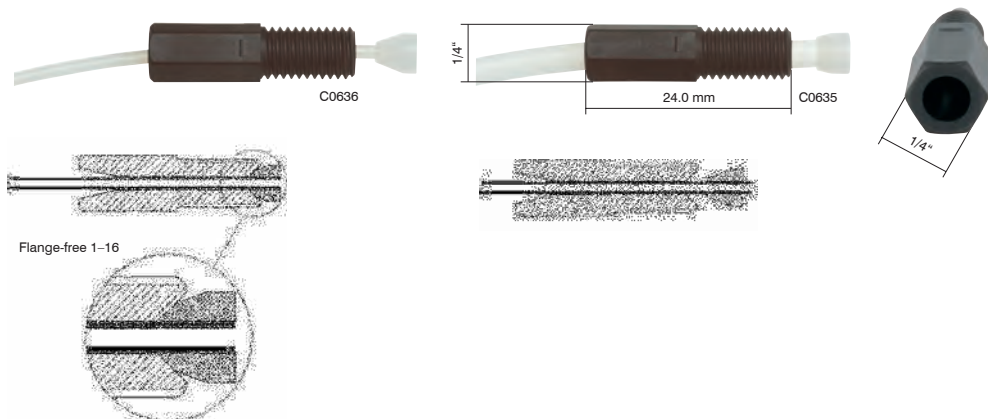
With the PEEK ferrule and the SS bushing you get a high pressure connection in a 1/4"-28 port. Should be used with Nut JR-55050.

| Part No.    | Description                                      | Qty/pkg |
|-------------|--|---------|
| JR-55050-10 | Nut, PPS, for collapsible ferrule 1/16", 1/4"-28 | 10      |
| JR-FPKBSS.5 | Bushing, SS and ferrule, PEEK, package 1/32"     | 10      |
| JR-FPKBSS1  | Bushing, SS and ferrule, PEEK, package 1/16"     | 10      |

For Color-Sleeve fingertight adapters see page 61.



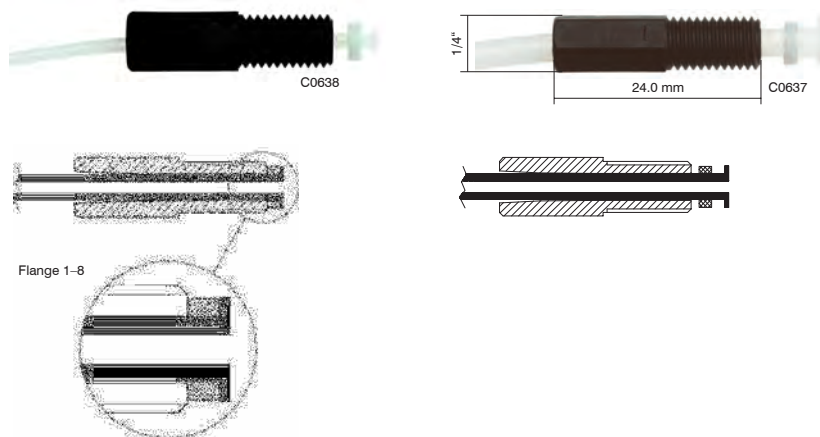
## PPS Nuts for 1/4"-28 Flat Bottom Fitting Details



## Flangeless type: Inverted ferrule connection

No flanging tools required.

| Part No.    | Description                         | Qty/pkg |
|-------------|-------------------------------------|---------|
| JR-55070-10 | Nut, PPS, flangeless 1/16", 1/4"-28 | 10      |
| JR-55071-10 | Nut, PPS, flangeless 1/8", 1/4"-28  | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                 | 10      |



## Flanged type: Flange/washer connection

Solvent comes into contact only with the tubing.

| Part No.     | Description                      | Qty/pkg |
|--------------|----------------------------------|---------|
| JR-55060-10  | Nut, PPS, flanged 1/16", 1/4"-28 | 10      |
| JR-55061-10  | Nut, PPS, flanged 1/8", 1/4"-28  | 10      |
| JR-201926-10 | Washer, PP, flanged, 1/16"       | 10      |
| JR-201928-10 | Washer, PP, flanged, 1/8"        | 10      |

## Specs

## Material

Nuts: PPS – PolyPhenylene Sulphide, black  
Collapsible ferrules: CTFE  
Inverted ferrules: ETFE  
Washers: polypropylene  
Sleeves: polypropylene

## Chemical Resistance of PPS

| Chemical Class   | Resistance |
|------------------|------------|
| Acids, organic   | A          |
| Acids, inorganic | B/C*       |
| Aldehydes        | A          |
| Alcohols         | A          |
| Bases            | B          |
| Esters           | A          |
| Halogenated Org. | A/B        |
| Hydrocarbons     | A          |
| Ketones          | A          |

\*conc. Halogen Acids

A = suitable

B = marginal – dependant on application

C = not recommended

Detailed chemical resistance chart see page 118, ff

## Dimensions

For 1/16" and 1/8" OD tubing

Others: see illustration

## Threads

1/4"-28

## Pressure Rating

1/16" up to 105 bar (1500 psi)

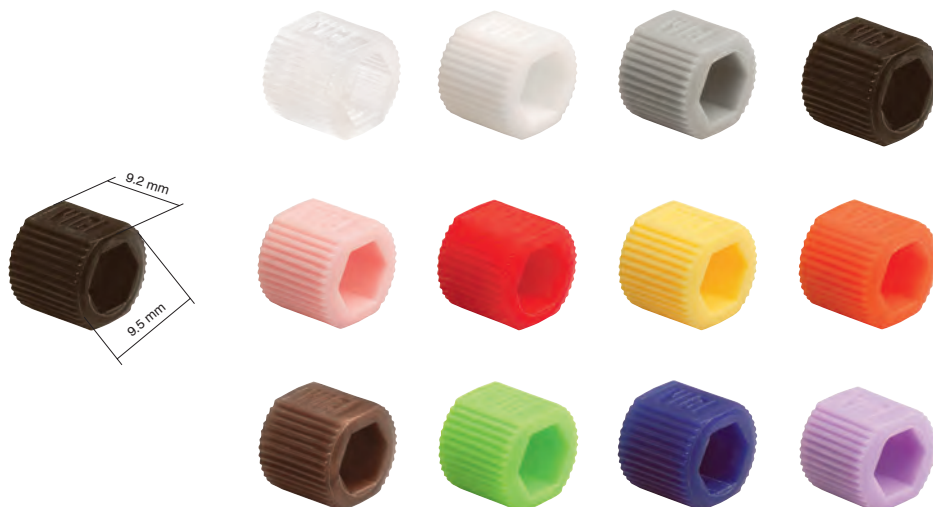
1/8" up to 35 bar (500 psi)  
Varies with tubing material and ID

## Tech Tip

For flanging tubing we recommend the VICI Jour Easy Flange Kit (see page 32-33)



## PPS Nuts for 1/4”-28 Flat Bottom Fitting Details

**Color-Sleeve – fingertight adapter**

This sleeve is useful to color code different solvent lines and it turns the new VICI Jour low pressure nut into a fingertight fitting in an instant. The Color-Sleeve is available in 12 colors.

| Part No.    | Description  | Qty/pkg |
|-------------|--|---------|
| JR-55080-10 | Adapter, PP, fingertight sleeve, natural   | 10      |
| JR-55081-10 | Adapter, PP, fingertight sleeve, white   | 10      |
| JR-55082-10 | Adapter, PP, fingertight sleeve, dark grey   | 10      |
| JR-55083-10 | Adapter, PP, fingertight sleeve, black   | 10      |
| JR-55084-10 | Adapter, PP, fingertight sleeve, lavender  | 10      |
| JR-55085-10 | Adapter, PP, fingertight sleeve, red   | 10      |
| JR-55086-10 | Adapter, PP, fingertight sleeve, yellow  | 10      |
| JR-55087-10 | Adapter, PP, fingertight sleeve, orange  | 10      |
| JR-55088-10 | Adapter, PP, fingertight sleeve, brown   | 10      |
| JR-55089-10 | Adapter, PP, fingertight sleeve, green   | 10      |
| JR-55090-10 | Adapter, PP, fingertight sleeve, blue  | 10      |
| JR-55091-10 | Adapter, PP, fingertight sleeve, purple  | 10      |
| JR-5508X-24 | Adapter, PP, fingertight sleeve, assorted 2 pcs. per color                                   | 24      |
| JR-5508X-12 | Adapter, PP, fingertight sleeve, assorted 2 pcs. each blue, red, green, yellow, black, white | 12      |

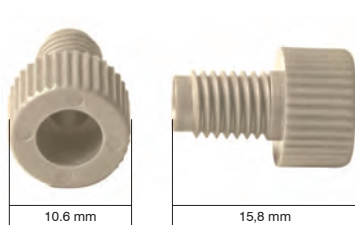
## PEEK Flangeless Nuts

### PEEK Flangeless Nuts

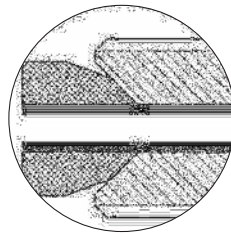
- Flange-free
- Compatible with all 1/4"-28 flat bottom ports
- Excellent chemical resistance
- Fits 1/16" or 1/8" OD tubing
- True fingertight – no tools required

PEEK Flangeless Nuts in combination with the inverted ferrule do not require flanging tools. A hand tightening procedure makes leak free seals. The inert

ETFE ferrule is the only part, besides the tubing, which is in contact with the fluid – the nut is never in contact with the fluid stream (see illustration).



Flange-free 1-16



Part No. JR-041-10



Part No. JR-051-10

### PEEK Flangeless Nuts

| Part No.    | Description                           | Qty/pkg |
|-------------|---------------------------------------|---------|
| JR-20124-10 | Nut, PEEK, flangeless, natural, 1/16" | 10      |
| JR-20116-10 | Nut, PEEK, flangeless, natural, 1/8"  | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                  | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                   | 10      |

### SPECS

#### Material

Nuts: PEEK  
Ferrules: ETFE

#### Dimensions

For 1/16" and 1/8" OD tubing  
Others: see illustration

#### Threads:

1/4"-28

#### Pressure rating

1/16" up to 105 bar (1500 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material and ID

## Polyacetal Color Coded Flangeless Nuts

## SPECS

## Material

Nuts: Polyacetal  
Ferrules: ETFE

## Dimensions

For 1/16" and 1/8" OD tubing  
Others: see illustration

## Threads

1/4"-28

## Pressure rating

1/16" up to 70 bar  
(1000 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material  
and ID

## Note

Flangeless fittings for 1/4"  
OD tubing available: see  
spare parts for unions on  
page 66

## Polyacetal Color Coded Flangeless Nuts

- Value for money alternative to PEEK
- Flange-free – compatible with all 1/4"-28 flat bottom ports
- Fits 1/16" or 1/8" OD tubing
- True fingertight – no tools required

Polyacetal Flangeless Nuts in combination with the inverted ferrule do not require flanging tools. A hand tightening procedure makes leak free seals. The inert ETFE ferrule is the only part, besides

the tubing, which is in contact with the fluid – the nut is never in contact with the fluid stream (see illustration) Six colors are available.

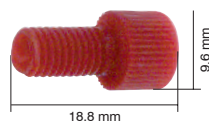
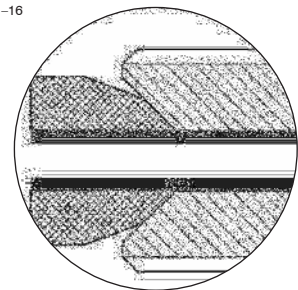


Part No. JR-041-10



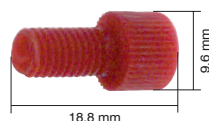
Part No. JR-051-10

Flange-free 1-16



## Polyacetal Color Coded Flangeless fingertight Nuts 1/16"

| Part No.    | Description                          | Color  | Qty/pkg |
|-------------|--------------------------------------|--------|---------|
| JR-040GR-10 | Nut, Polyacetal, flangeless          | green  | 10      |
| JR-040BL-10 | Nut, Polyacetal, flangeless          | blue   | 10      |
| JR-040YL-10 | Nut, Polyacetal, flangeless          | yellow | 10      |
| JR-040RE-10 | Nut, Polyacetal, flangeless          | red    | 10      |
| JR-040WH-10 | Nut, Polyacetal, flangeless          | white  | 10      |
| JR-040BK-10 | Nut, Polyacetal, flangeless          | black  | 10      |
| JR-040WL-10 | Nut, Polyacetal, flangeless, 1" long | white  | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                 |        | 10      |



## Polyacetal Color Coded Flangeless fingertight Nuts 1/8"

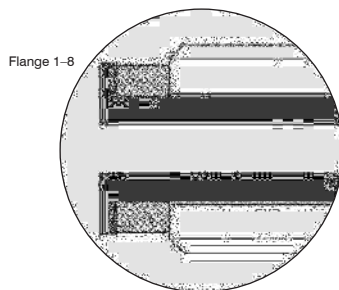
| Part No.    | Description                          | Color  | Qty/pkg |
|-------------|--------------------------------------|--------|---------|
| JR-050GR-10 | Nut, Polyacetal, flangeless          | green  | 10      |
| JR-050BL-10 | Nut, Polyacetal, flangeless          | blue   | 10      |
| JR-050YL-10 | Nut, Polyacetal, flangeless          | yellow | 10      |
| JR-050RE-10 | Nut, Polyacetal, flangeless          | red    | 10      |
| JR-050WH-10 | Nut, Polyacetal, flangeless          | white  | 10      |
| JR-050BK-10 | Nut, Polyacetal, flangeless          | black  | 10      |
| JR-050WL-10 | Nut, Polyacetal, flangeless, 1" long | white  | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                  |        | 10      |

## Polypropylene Flanged Fingertight Nuts

## Polypropylene Flanged Fingertight Nuts

- For flanged connections
- Compatible to all 1/4"-28 flat bottom ports
- For 1/16" or 1/8" OD tubing
- Fiber glass reinforced PP with PP washers

A number of chromatography systems still require or prefer flanged connections. Consequently, we offer a series of such nuts. By flanging the tubing, the washer never comes in contact with the mobile phase.



## SPECS

## Material

Nuts: fiberglass reinforced polypropylene  
Washers: polypropylene

## Dimensions

For OD 1/16", 1/8" tubing  
Others: see illustration

## Threads

1/4"-28

## Pressure rating

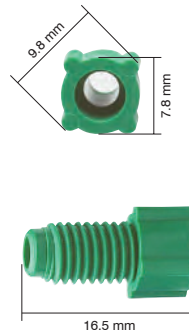
< 30 bar (435 psi)  
Varies with tubing material and ID

## Tech Tip

We recommend our Easy Flange Kit for flanging tubing (see page 32-33)

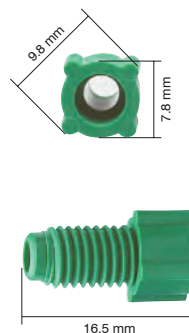
## Flanged Fingertight Nuts 1/16"

| Part No.       | Description                | Color  | Qty/pkg |
|----------------|----------------------------|--------|---------|
| JR-201094BK-10 | Nut, PP, flanged           | black  | 10      |
| JR-201094WH-10 | Nut, PP, flanged           | white  | 10      |
| JR-202118-10   | Nut, PP, flanged x-long 1" | black  | 10      |
| JR-202120-10   | Nut, PP, flanged x-long 1" | white  | 10      |
| JR-202122-10   | Nut, PP, flanged           | blue   | 10      |
| JR-202123-10   | Nut, PP, flanged           | green  | 10      |
| JR-202124-10   | Nut, PP, flanged           | yellow | 10      |
| JR-202125-10   | Nut, PP, flanged           | red    | 10      |
| JR-201926-10   | Washer, PP, flanged 1/16"  |        | 10      |



## Flanged Fingertight Nuts 1/8"

| Part No.       | Description              | Color  | Qty/pkg |
|----------------|--------------------------|--------|---------|
| JR-201580BK-10 | Nut, PP, flanged         | black  | 10      |
| JR-201580WH-10 | Nut, PP, flanged         | white  | 10      |
| JR-202119-10   | Nut, PP, flanged x-long  | white  | 10      |
| JR-202121-10   | Nut, PP, flanged x-long  | black  | 10      |
| JR-202142-10   | Nut, PP, flanged         | blue   | 10      |
| JR-202143-10   | Nut, PP, flanged         | green  | 10      |
| JR-202144-10   | Nut, PP, flanged         | yellow | 10      |
| JR-202145-10   | Nut, PP, flanged         | red    | 10      |
| JR-201928-10   | Washer, PP, flanged 1/8" |        | 10      |



## SPECS

## Materials

Unions: PEEK, polyamide  
Nuts: PPS  
Ferrules: ETFE, CTFE  
Sleeves: polypropylene

## Dimensions

See illustrations

## Threads

Unions: 1/4"-28  
reducing Union:  
1/2"-20 to 1/4"-28

## Pressure rating

of PEEK unions  
1/16" up to 105 bar  
(1500 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material  
and ID

## Note

Complete versions are  
supplied with PPS flange-  
less nuts and ETFE fer-  
rules for 1/16" OD tubing  
(see page 60)

## Tech Tip

VICI Unions have 1/4"-28  
flat bottom ports

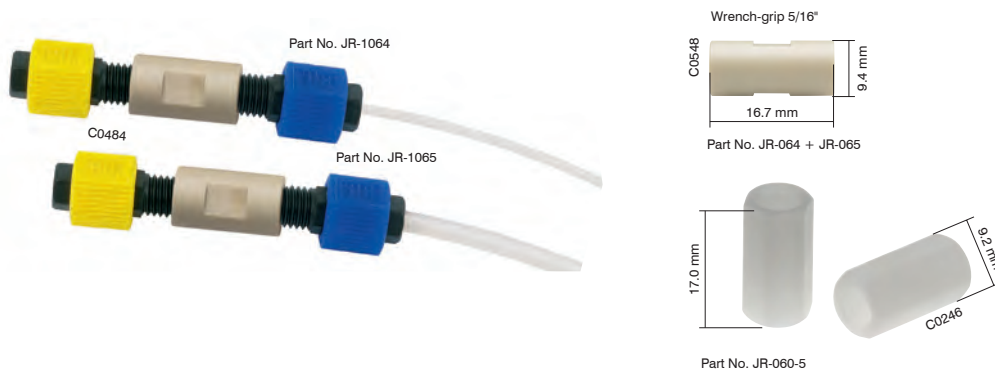
All of our three different  
sealing options (collapsi-  
ble ferrule, inverted ferrule  
or flanged with washer)  
can be used (see pages  
59-64)

To avoid diffusion of gases  
in your solvent line use our  
Impermeable tubing on  
page 27

## Unions

- For easy connection of low pressure solvent lines
- Low dead volume
- Completely inert and biocompatible

These unions allow the connection of two  
pieces of 1/16", 1/8" or 1/8" to 1/4" OD  
tubing quickly and reliably. The unions  
are inert and biocompatible.



## Union polyamide

| Part No. | Description   | Qty/pkg |
|----------|---|---------|
| JR-060-5 | Union, polyamide, through bore LP body only, 1/4"-28, for flanged tubing only | 5       |

For nuts and washers see page 60 and 64.

## Unions PEEK

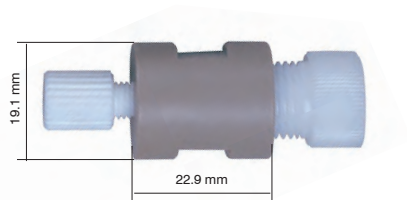
| Part No. | Description  | Qty/pkg |
|----------|--|---------|
| JR-1064  | Union, PEEK, LP 0.5 mm bore, complete, 1/16" tubing  | 1       |
| JR-1068  | Union, PEEK, LP 0.75 mm bore, complete, 1/16" tubing | 1       |
| JR-1065  | Union, PEEK, LP 1.3 mm bore, complete, 1/8" tubing   | 1       |
| JR-064   | Union, PEEK, LP 0.5 mm bore, body only               | 1       |
| JR-068   | Union, PEEK, LP 0.75 mm bore, body only              | 1       |
| JR-065   | Union, PEEK, LP 1.3 mm bore, body only               | 1       |

## Spare Parts

| Part No.    | Description                                 | Qty/pkg |
|-------------|---|---------|
| JR-55070-10 | Nut, PPS, flangeless, 1/16", 1/4"-28, black | 10      |
| JR-55071-10 | Nut, PPS, flangeless, 1/8", 1/4"-28, black  | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                        | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                         | 10      |
| JR-55086-10 | Adapter, PP, fingertight sleeve, yellow     | 10      |
| JR-55090-10 | Adapter, PP, fingertight sleeve, blue       | 10      |

Adapters available in different colors (see page 61).

## Unions



## reducing Union

| Part No.  | Description   | Qty/pkg |
|-----------|---|---------|
| JR-CU4LPK | reducing Union, PEEK, LP 1.5 mm bore, 1/4" to 1/8" complete | 1       |

## Spare Parts

| Part No.       | Description                      | Qty/pkg |
|----------------|----------------------------------|---------|
| JR-CFL-4D      | Nut, polyacetal, flangeless 1/4" | 1       |
| JR-CFL-CB4KF-S | Ferrule, CTFE, 1/4"              | 1       |
| JR-CFL-2W-S    | Nut, PP, flangeless 1/8", white  | 1       |
| JR-CFL-CB2KF-S | Ferrule, CTFE, 1/8"              | 1       |

## SPECS

## Materials

Union: PEEK  
Nuts: PP, polyacetal  
Ferrules: CTFE

## Dimensions

See illustrations

## Threads

reducing Union:  
1/2"-20 to 1/4"-28

## Pressure rating

1/8" up to 35 bar (500 psi)  
Varies with tubing material and ID

## Note

The reducing Union is supplied with PP and polyacetal flangeless nuts and ferrules (CTFE) for 1/8" and 1/4" OD tubing

## Tech Tip

VICI Unions have 1/4"-28 flat bottom ports

All of our three different sealing options (collapsible ferrule, inverted ferrule or flanged with washer) can be used (see pages 59-64)

To avoid diffusion of gases in your solvent line use our Impermeable tubing on page 27



## SPECS

### Materials

Unions: PEEK  
Nuts: PPS  
Ferrules: ETFE  
Sleeves: polypropylene

### Dimensions

See illustration

### Threads

Unions: 1/4"-28

### Pressure rating

1/16" up to 105 bar  
(1500 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material  
and ID

### Note

0.75 mm bore version is  
supplied with PPS flange-  
less fittings and ETFE fer-  
rules for 1/16" OD tubing  
(see page 60)

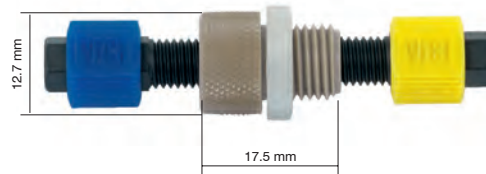
1.50 mm bore version is  
supplied with PPS flange-  
less fittings and ETFE fer-  
rules for 1/8" OD tubing  
(see page 60)

### Tech Tip

Bulkhead Unions require a  
min. 10 mm panel hole

## Bulkhead Unions

- Panel mounting
- For easy connection of low pressure solvent lines
- Low dead volume
- Completely inert and biocompatible



## Bulkhead Unions

| Part No.  | Description                                     |
|-----------|---|
| JR-CBUMPK | Bulkhead Union, PEEK, LP 0.75 mm bore, complete |
| JR-CBULPK | Bulkhead Union, PEEK, LP 1.50 mm bore, complete |

## Spare Parts

| Part No.    | Description                             | Qty/pkg |
|-------------|---|---------|
| JR-55070-10 | Nut, PPS, flangeless 1/16"              | 10      |
| JR-55071-10 | Nut, PPS, flangeless 1/8"               | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                    | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                     | 10      |
| JR-55086-10 | Adapter, PP, fingertight sleeve, yellow | 10      |
| JR-55090-10 | Adapter, PP, fingertight sleeve, blue   | 10      |

Adapters available in different colors (see page 61)

## PEEK Tees, Crosses and Manifolds Low Pressure

## PEEK Tees, Crosses and Manifolds Low Pressure

- Biocompatible
- Different bore sizes available
- For 1/16" and 1/8" OD tubing
- 1/4"-28 ports

VICI Tees, Crosses and Manifolds for low pressure applications are machined from PEEK. The bodies have 1/4"-28 female ports which accept any flanged or flangeless fitting for 1/8" or 1/16" OD tubing. Choose 0.80 mm and smaller thru-holes

for applications where low flow rate or low dead volume is required. Tees, Crosses and Manifolds with 1.50 mm thru-holes are preferred for high-flow rate applications.



## PEEK Tees

| Part No. | Description                          |
|----------|--------------------------------------|
| JR-6029  | Tee, PEEK, LP bore 0.50 mm, complete |
| JR-6030  | Tee, PEEK, LP bore 0.80 mm, complete |
| JR-6031  | Tee, PEEK, LP bore 1.50 mm, complete |



## PEEK Crosses

| Part No. | Description                            |
|----------|--|
| JR-6039  | Cross, PEEK, LP bore 0.50 mm, complete |
| JR-6040  | Cross, PEEK, LP bore 0.80 mm, complete |
| JR-6041  | Cross, PEEK, LP bore 1.50 mm, complete |

## SPECS

## Material

Body: PEEK  
Fittings: PPS  
Ferrules: ETFE  
Sleeves: Polypropylene

## Dimensions

Tees and Crosses  
Diameter (body): 25.0 mm  
Thickness (body): 17.1 mm

Manifolds 5 ports  
Diameter (body): 22.2 mm  
Thickness (body): 17.1 mm

Manifolds 9 ports  
Diameter (body): 22.2 mm  
Thickness (body): 28.6 mm

## Threads

1/4"-28

## Pressure Rating

1/16" up to 105 bar  
(1500 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material and ID

## Note

Complete versions with 0.50, 0.75 and 0.80 mm bore are supplied with PPS flangeless nuts and ETFE ferrules for 1/16" OD tubing (see page 60)

Complete versions with 1.50 mm bore are supplied with PPS flangeless nuts and ETFE ferrules for 1/8" OD tubing (see page 60)

## Tech Tip

VICI PEEK Tees, Crosses & Manifolds have 1/4"-28 flat bottom ports

All of our three different sealing options (collapsible ferrule, inverted ferrule or flanged with washer) can be used (see pages 59-64)

To avoid diffusion of gases in your solvent line use our Impermeable tubing on page 27

## PEEK Tees, Crosses and Manifolds Low Pressure

## SPECS

**Material**

Body: PEEK  
 Fittings: PPS  
 Ferrules: ETFE  
 Sleeves: Polypropylene

**Dimensions**

Tees and Crosses  
 Diameter (body): 25.0 mm  
 Thickness (body): 17.1 mm

Manifolds 5 ports  
 Diameter (body): 22.2 mm  
 Thickness (body): 17.1 mm

Manifolds 9 ports  
 Diameter (body): 22.2 mm  
 Thickness (body): 28.6 mm

**Threads**

1/4"-28

**Pressure Rating**

1/16" up to 105 bar  
 (1500 psi)  
 1/8" up to 35 bar (500 psi)  
 Varies with tubing material  
 and ID

**Note**

Complete versions with  
 0.50, 0.75 and 0.80 mm  
 bore are supplied with PPS  
 flangeless nuts and ETFE  
 ferrules for 1/16" OD tub-  
 ing (see page 60)

Complete versions with  
 1.50 mm bore are supplied  
 with PPS flangeless nuts  
 and ETFE ferrules for 1/8"  
 OD tubing (see page 60)

**Tech Tip**

VICI PEEK Tees, Crosses &  
 Manifolds have 1/4"-28 flat  
 bottom ports

All of our three different  
 sealing options (collapsi-  
 ble ferrule, inverted ferrule  
 or flanged with washer)  
 can be used (see pages  
 59-64)

To avoid diffusion of gases  
 in your solvent line use our  
 Impermeable tubing on  
 page 27

**PEEK Manifolds**

| Part No.  | Description                                  |
|-----------|--|
| JR-C5M1PK | Manifold, PEEK, 5 ports LP 0.75 mm, complete |
| JR-C5M2PK | Manifold, PEEK, 5 ports LP 1.50 mm, complete |
| JR-C9M1PK | Manifold, PEEK, 9 ports LP 0.75 mm, complete |
| JR-C9M2PK | Manifold, PEEK, 9 ports LP 1.50 mm, complete |

**Spare Parts**

| Part No.    | Description                                   | Qty/pkg |
|-------------|---|---------|
| JR-6034     | Tee, PEEK, LP bore 0.50 mm, body only         | 1       |
| JR-6032     | Tee, PEEK, LP bore 0.80 mm, body only         | 1       |
| JR-6033     | Tee, PEEK, LP bore 1.50 mm, body only         | 1       |
| JR-6044     | Cross, PEEK, LP bore 0.50 mm, body only       | 1       |
| JR-6042     | Cross, PEEK, LP bore 0.80 mm, body only       | 1       |
| JR-6043     | Cross, PEEK, LP bore 1.50 mm, body only       | 1       |
| JR-B-C5M1PK | Manifold, PEEK, 5 ports LP 0.75 mm, body only | 1       |
| JR-B-C5M2PK | Manifold, PEEK, 5 ports LP 1.50 mm, body only | 1       |
| JR-B-C9M1PK | Manifold, PEEK, 9 ports LP 0.75 mm, body only | 1       |
| JR-B-C9M2PK | Manifold, PEEK, 9 ports LP 1.50 mm, body only | 1       |
| JR-55070-10 | Nut, PPS, flangeless 1/16", 1/4"-28           | 10      |
| JR-55071-10 | Nut, PPS, flangeless 1/8", 1/4"-28            | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                          | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                           | 10      |

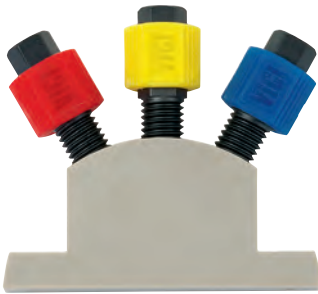
Color-Sleeves – fingertight adapters: see page 61.

## PEEK Biocompatible Mixing Tees – Low Pressure

## PEEK Biocompatible Mixing Tees – Low Pressure

- For low pressure mixing
- Completely biocompatible
- Mountable

A unique mixing is the result of the turbulence generated by the introduction angle of the solvents, the streams mix more thoroughly than with a conventional tee.



## PEEK Biocompatible Mixing Tees – Low Pressure

| Part No.  | Description                              |
|-----------|--|
| JR-CM1XPK | Mixing Tee, PEEK, 0.75 mm bore, complete |
| JR-CM2XPK | Mixing Tee, PEEK, 1.50 mm bore, complete |

## Spare Parts

| Part No.    | Description                                  | Qty/pkg |
|-------------|--|---------|
| JR-B-CM1XPK | Mixing Tee, PEEK, LP bore 0.75 mm, body only | 1       |
| JR-B-CM2XPK | Mixing Tee, PEEK, LP bore 1.50 mm, body only | 1       |
| JR-55070-10 | Nut, PPS, flangeless 1/16", 1/4"-28          | 10      |
| JR-55071-10 | Nut, PPS, flangeless 1/8", 1/4"-28           | 10      |
| JR-041-10   | Ferrule, ETFE, 1/16"                         | 10      |
| JR-051-10   | Ferrule, ETFE, 1/8"                          | 10      |

Color-Sleeves – fingertight adapters: see page 61.

## SPECS

## Material

Body: PEEK  
Fittings: PPS  
Ferrules: ETFE

## Dimensions

See illustrations

## Threads

1/4"-28

## Pressure rating

1/16" up to 105 bar  
(1500 psi)  
1/8" up to 35 bar (500 psi)  
Varies with tubing material  
and ID

## Note

0.75 bore version is supplied with PPS flangeless fittings and ferrules for 1/16" OD tubing (see page 60)

1.50 mm bore version is supplied with PPS flangeless fittings and ferrules for 1/8" OD tubing (see page 60)

## Micro Valves for GC and LC

## SPECS

## Material

Wetted parts: PEEK, PTFE  
 Body: PEEK  
 Fittings: PPS  
 Ferrule: ETFE

## Threads

1/4"-28

## Dimensions

Bore: 1.5 mm

## Pressure rating

200 psi gas<sup>1</sup>  
 500 psi liquid<sup>2</sup>  
 .060" bore

<sup>1</sup>Tested with helium using  
 1/16" OD x 0.84 mm ID  
 PTFE tubing with PEEK  
 collapsible ferrules

<sup>2</sup>Tested with isopropanol  
 using 1/8" OD x 0.75 mm  
 ID PTFE tubing with CTFE  
 collapsible ferrules

## Note

Complete versions are  
 supplied with PPS flangeless  
 nuts and CTFE ferrules for  
 1/8" OD tubing

## Tech Tip

VICI Jour Micro Valves  
 have 1/4"-28 flat bottom  
 ports

All of our three different  
 sealing options (collapsible  
 ferrule, inverted ferrule  
 or flanged with washer)  
 can be used (see pages  
 59–64)

To avoid diffusion of gases  
 in your solvent line use  
 our Impermeable tubing  
 on page 27

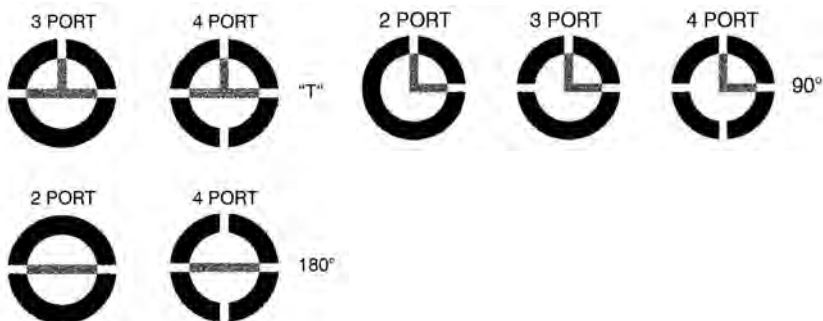
## Micro Valves for GC and LC

NEW

- Compact 1" design
- Biocompatible and inert
- Convenient panel mount, hole diameter 8 mm (0.3125")

VICI Jour Micro Valves are the ideal tools for flow selection. The valves are mountable and are pre-fitted with the VICI Jour

PPS, flangeless 1/4"-28 fittings and CTFE collapsible ferrules for 1/8" OD tubing.



## Micro Valves

| Part No.  | Description                               |
|-----------|---|
| JR-660100 | Valve, 3-port, manual, "T-flow", complete |
| JR-660110 | Valve, 4-port, manual, "T-flow", complete |
| JR-660200 | Valve, 2-port, manual, "180°", complete   |
| JR-660210 | Valve, 4-port, manual, "180°", complete   |
| JR-660300 | Valve, 2-port, manual, "90°", complete    |
| JR-660310 | Valve, 3-port, manual, "90°", complete    |
| JR-660320 | Valve, 4-port, manual, "90°", complete    |

## Spare Parts

| Part No.     | Description                                       | Qty/pkg |
|--------------|---|---------|
| JR-55071-10  | Nut, PPS, flangeless 1/8", 1/4"-28                | 10      |
| JR-CFL-CB2KF | Ferrule, CTFE, collapsible, 1/8"                  | 10      |
| JR-55050-10  | Nut, PPS, for collapsible ferrule, 1/16", 1/4"-28 | 10      |
| JR-CFL-CB1PK | Ferrule, PEEK, collapsible, 1/16"                 | 10      |

Color-Sleeves – fingertight adapters: see page 61.

## Peristaltic Tubing Adapter Set

### Peristaltic Tubing Adapter Set

- For connecting soft tubing to PTFE & PTFE like tubing
- Works with peristaltic tubing up to 4.50 mm OD
- For 1/16" and 1/8" PTFE & PTFE like tubing
- Biocompatible
- Low dead volume

The "One-Fits-All" set consists of everything to connect 1/16" or 1/8" OD PTFE & PTFE like tubing to soft tubing like silicone up to 4.50 mm OD. The adapter

comes with three different bushings (for the different soft tubing ODs) and two fittings/ferrules (one each for 1/16" and 1/8" OD tubing).



### Peristaltic Tubing Adapter Set

| Part No. | Description   |
|----------|---|
| JR-PTAS  | Adapter, PEEK, for Peristaltic to PTFE tubing connections, complete |

#### Specs

##### Material

Body and Bushings: PEEK  
Fittings: PPS  
Ferrules: ETFE

##### Dimensions

Bore: 0.50 mm  
Length: 28 mm  
(without fitting)  
Diameter: 12 mm

##### Threads

Barbed to 1/4"-28

##### Tech Tip

The set is equipped with fittings and ferrules for inverted ferrule connections. The adapter also works with our other sealing options (see page 59–60)








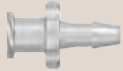











## Low-Pressure Polypropylene Adapters

## SPECS

Material  
Polypropylene

## Low-Pressure Polypropylene Adapters

## Low-Pressures Polypropylene Adapters

| Part No.     | Description                               |   | Qty/pkg |
|--------------|---|---|---------|
| JR-070211-10 | Adapter, PP, male Luer to 1/16" barbed    |    | 10      |
| JR-070212-10 | Adapter, PP, male Luer to 3/32" barbed    |    | 10      |
| JR-070213-10 | Adapter, PP, male Luer to 1/8" barbed     |    | 10      |
| JR-070111-10 | Adapter, PP, female Luer to 1/16" barbed  |    | 10      |
| JR-070112-10 | Adapter, PP, female Luer to 3/32" barbed  |    | 10      |
| JR-070113-10 | Adapter, PP, female Luer to 1/8" barbed   |    | 10      |
| JR-070101-10 | Adapter, PP, female to female Luer        |   | 10      |
| JR-070124-10 | Adapter, PP, female Luer to 10-32 male    |  | 10      |
| JR-070123-10 | Adapter, PP, female Luer to 1/4"-28 male  |  | 10      |
| JR-071123-10 | Adapter, PP, 1/4"-28 male to 1/16" barbed |  | 10      |
| JR-071323-10 | Adapter, PP, 1/4"-28 male to 1/8" barbed  |  | 10      |
| JR-072350-10 | Adapter, PP, plug 1/4" -28 male           |  | 10      |
| JR-071124-10 | Adapter, PP, 10-32 male to 1/16" barbed   |  | 10      |
| JR-071324-10 | Adapter, PP, 10-32 male to 1/8" barbed    |  | 10      |
| JR-072450-10 | Adapter, PP, plug 10-32 male              |  | 10      |
| JR-070224-10 | Adapter, PP, male Luer to 10-32 male      |  | 10      |
| JR-070225-10 | Adapter, PP, male Luer to 1/4"-28 female  |  | 10      |



## INDEX

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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## Last Drop Mobile Phase Filter

## SPECS

## Materials

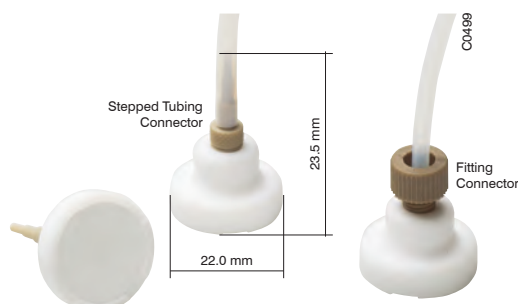
Body: PTFE  
 Frits: PTFE, SS316  
 (see chart)  
 Stepped: PEEK  
 Fitting: PEEK  
 Ferrule: ETFE

## Dimensions

Fitting: 1/4"-28 for 1/8" OD tubing  
 Stepped: for 1.5, 2.2 and 3.5 mm ID tubing.  
 Others: see illustration

## Spares &amp; Tools

For spare parts see page 76



## Last Drop Mobile Phase Filter

- No loss of mobile phase
- Biocompatible PTFE frits or SS frits
- Three different porosities
- Two connector types

The Last Drop Mobile Phase Filter utilizes a flat filter element which sits parallel to the bottom of the reservoir. This design allows the filter to draw all but the last 2 % of the mobile phase from the reservoir without drawing air into the system. Conventional cylindrical mobile phase filters

begin to draw air into the system when less than 10 % of the solvent remains in the reservoir. We recommend the metal free PTFE version for sensitive biochromatography applications where metal surfaces may corrode or interact with samples.

## Last Drop Mobile Phase Filters

| Part No.       | Description  | max. flow rate* |
|----------------|--|-----------------|
| JR-9000-0520   | Filter, PTFE, Last Drop 2.5 $\mu\text{m}$ , stepped tubing connector             | 1.2 ml/min      |
| JR-9000-0520F  | Filter, PTFE, Last Drop 2.5 $\mu\text{m}$ , fitting connector                    | 1.2 ml/min      |
| JR-9000-0521   | Filter, PTFE, Last Drop 5 $\mu\text{m}$ , stepped tubing connector               | 2.6 ml/min      |
| JR-9000-0521F  | Filter, PTFE, Last Drop 5 $\mu\text{m}$ , fitting connector                      | 2.6 ml/min      |
| JR-9000-0522   | Filter, PTFE, Last Drop 10 $\mu\text{m}$ , stepped tubing connector              | 3.5 ml/min      |
| JR-9000-0522F  | Filter, PTFE, Last Drop 10 $\mu\text{m}$ , fitting connector                     | 3.5 ml/min      |
| JR-9000-0522H  | Filter, PTFE, hydrophobic, Last Drop 10 $\mu\text{m}$ , stepped tubing connector | 11 ml/min       |
| JR-9000-0522HF | Filter, PTFE, hydrophobic, Last Drop 10 $\mu\text{m}$ , fitting tubing connector | 11 ml/min       |
| JR-9000-0530   | Filter, SS, Last Drop 2 $\mu\text{m}$ , stepped tubing connector                 | 28 ml/min       |
| JR-9000-0530F  | Filter, SS, Last Drop 2 $\mu\text{m}$ , fitting connector                        | 28 ml/min       |
| JR-9000-0531   | Filter, SS, Last Drop 5 $\mu\text{m}$ , stepped tubing connector                 | 30 ml/min       |
| JR-9000-0531F  | Filter, SS, Last Drop 5 $\mu\text{m}$ , fitting tubing connector                 | 30 ml/min       |
| JR-9000-0532   | Filter, SS, Last Drop 10 $\mu\text{m}$ , stepped tubing connector                | 30 ml/min       |
| JR-9000-0532F  | Filter, SS, Last Drop 10 $\mu\text{m}$ , fitting connector                       | 30 ml/min       |

\* flowrate measured with methanol/water (1:1), ultrasonic degassing, helium sparging to prevent regassing

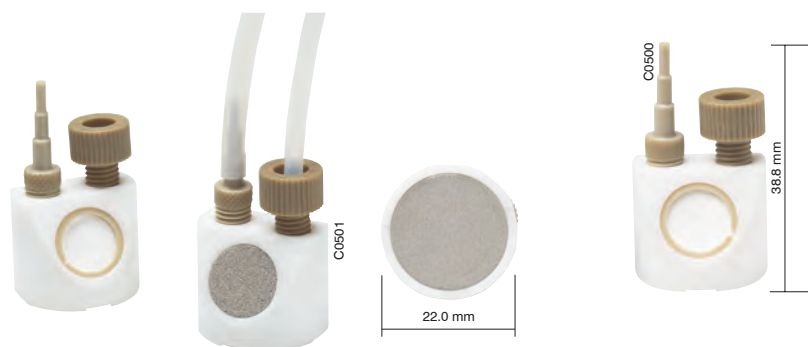
## Last Drop Filter/Spargers

### Last Drop Filter/Spargers

- Parallel filtering and sparging
- Biocompatible PTFE frits or SS frits
- Three different porosities

This Filter/Sparger filter combines filtration and sparging in one single unit. The PTFE housing contains, a mobile phase filter, either a stainless steel or a PTFE fil-

ter element. The PEEK stepped connector is for connecting the solvent line, nut and ferrule for the sparging line.



### SPECS

#### Materials

Body: PTFE  
Frits: PTFE, SS316  
(see chart)  
Stepped: PEEK  
Fitting: PEEK  
Ferrule: ETFE

#### Dimensions

Fitting: 1/4"-28 for 1/8" OD tubing  
Stepped: for 1.5, 2.2 and 3.5 mm ID tubing.  
Others: see illustration

#### Tech Tip

We recommend our Impermeable tubing to prevent "regassing" of helium degassed solvents (see page 27)

### Last Drop Filter/Spargers

| Part No.      | Description   | max. flow rate* |
|---------------|---|-----------------|
| JR-9000-0602  | Filter/Sparger, PTFE, Last Drop 2.5 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                        | 1.2 ml/min      |
| JR-9000-0603  | Filter/Sparger, PTFE, Last Drop 5 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                          | 2.6 ml/min      |
| JR-9000-0604  | Filter/Sparger, PTFE, Last Drop 10 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                         | 3.5 ml/min      |
| JR-9000-0604H | Filter/Sparger, PTFE, hydrophobic, Last Drop 10 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger <b>NEW</b> | 11 ml/min       |
| JR-9000-0640  | Filter/Sparger, SS, Last Drop 2 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                            | 30 ml/min       |
| JR-9000-0641  | Filter/Sparger, SS, Last Drop 5 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                            | 30 ml/min       |
| JR-9000-0642  | Filter/Sparger, SS, Last Drop 10 $\mu\text{m}$ filter, 10 $\mu\text{m}$ sparger                           | 30 ml/min       |

\* flowrate measured with methanol/water (1:1), ultrasonic degassing, helium sparking to prevent regassing

### Spare Parts

| Part No.     | Description                          | Qty/pkg |
|--------------|--------------------------------------|---------|
| JR-20116-10  | Nut, PEEK, flangeless, 1/8", natural | 10      |
| JR-051-10    | Ferrule, ETFE, 1/8"                  | 10      |
| JR-8000-0485 | Stepped Adapter, PEEK, universal     | 1       |

## Last Drop Mobile Phase Glass Filter, biocompatible, high flowrate

## Specs

## Materials

Body: glass  
Frit: ceramic  
Connector: PTFE

## Dimensions

Connector for 1/8" tubing  
Others: see illustration

## Last Drop Mobile Phase Glass Filter, biocompatible, high flowrate

NEW

- The solution for biocompatibility and high flowrates
- Easy pushing tubing connection

Due to the ceramic frit, the flowrate can be much higher than the PTFE biocompatible mobile phase filters.

The feet of glass allow withdraw nearly all of the mobile phase. Less than 2 % is left in the bottle.



## Last Drop Mobile Phase Glass Filter, biocompatible, high flowrate

| Part No.      | Description   | max. flow rate* |
|---------------|---|-----------------|
| JR-9000-0520G | Glassfilter, ceramic, Last Drop, 2 $\mu\text{m}$ , incl. 1/8" tubing connector JR-9000-0520GC         | 30 ml/min       |
| JR-9000-0526G | Glassfilter, glass-frit, Last Drop, 10-16 $\mu\text{m}$ , incl. 1/8" tubing connector JR-9000-0525GC  | n.a.**          |
| JR-9000-0528G | Glassfilter, glass-frit, Last Drop, 40-100 $\mu\text{m}$ , incl. 1/8" tubing connector JR-9000-0525GC | n.a.**          |

\* flowrate measured with methanol/water (1:1), ultrasonic degassing, helium sparging to prevent regassing

\*\* flowrate test running, when catalog was printed

## Spare Parts

| Part No.       | Description                               | Qty/pkg |
|----------------|---|---------|
| JR-9000-0520GC | Connector, PTFE, 6.35 mm, for 1/8" tubing | 1       |
| JR-9000-0525GC | Connector, PTFE, 6.8 mm, for 1/8" tubing  | 1       |

## Economy Last Drop Mobile Phase Filters

### Economy Last Drop Mobile Phase Filters

- Very competitively priced
- Biocompatible PTFE frits or SS frits
- Three different porosities
- Two diameters

We can offer Economy Mobile Phase Filters in 2 sizes, depending upon the dimension of the bottleneck. The filter body

is made of PTFE which has been specially selected to be resistant against virtually all common mobile phases.



#### SPECS

##### Material

Body: PTFE  
Frits: PTFE/SS316  
(see chart)

##### Dimension

For 1/8" OD tubing  
Others: see illustration

##### Tech Tip

Easy to replace – easy to clean – use ultrasound or replace with new

We recommend our tubing  
JR-T-4003-M3 (1/8" OD x  
1.59 mm ID) or  
JR-T-6800-M3 (1/8" OD x  
1.59 mm ID) for connect-  
ing the filter  
(see page 24–25)

### Economy Last Drop Mobile Phase Filter

| Part No.      | Description  | max. flow rate* |
|---------------|--|-----------------|
| JR-4676-2.5TF | Filter, PTFE, Economy mobile phase 2,5 $\mu\text{m}$ ,<br>OD 19 mm | 1.2 ml/min      |
| JR-4676-5TF   | Filter, PTFE, Economy mobile phase 5 $\mu\text{m}$ ,<br>OD 19 mm   | 2.6 ml/min      |
| JR-4676-10TF  | Filter, PTFE, Economy mobile phase 10 $\mu\text{m}$ ,<br>OD 19 mm  | 3.5 ml/min      |
| JR-4677-2.5TF | Filter, PTFE, Economy mobile phase 2,5 $\mu\text{m}$ ,<br>OD 22 mm | 1.2 ml/min      |
| JR-4677-5TF   | Filter, PTFE, Economy mobile phase 5 $\mu\text{m}$ ,<br>OD 22 mm   | 2.6 ml/min      |
| JR-4677-10TF  | Filter, PTFE, Economy mobile phase 10 $\mu\text{m}$ ,<br>OD 22 mm  | 3.5 ml/min      |
| JR-4676-2     | Filter, SS, Economy mobile phase 2 $\mu\text{m}$ ,<br>OD 19 mm     | 30 ml/min       |
| JR-4676-10    | Filter, SS, Economy mobile phase 10 $\mu\text{m}$ ,<br>OD 19 mm    | 30 ml/min       |
| JR-4677-2     | Filter, SS, Economy mobile phase 2 $\mu\text{m}$ ,<br>OD 22 mm     | 30 ml/min       |
| JR-4677-10    | Filter, SS, Economy mobile phase 10 $\mu\text{m}$ ,<br>OD 22 mm    | 30 ml/min       |

\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing



## No-Met Biocompatible Mobile Phase Filter

## SPECS

## Material

Body: Polyethylene/PTFE  
(see chart)  
Adapter: PEEK  
Fitting: PEEK  
Ferrule: ETFE

## Dimension

See illustration

## Tech Tip

The Polyethylene filter is hydrophobic, therefore it may initially require some priming with methanol or acetonitrile

We recommend our tubing JR-T-4003-M3 (1/8" OD x 1.59 mm ID) or JR-T-6800-M3 (1/8" OD x 1.59 mm ID) for connecting the filter (see page 24–25)

## No-Met Biocompatible Mobile Phase Filter

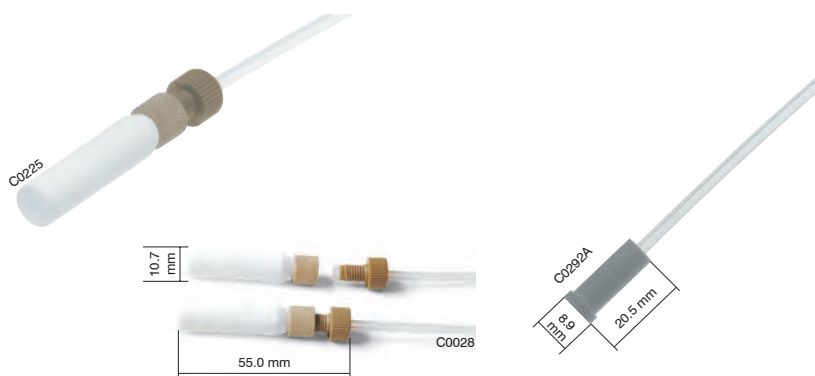
- Very competitively priced
- Inert and biocompatible
- Replacement filters
- Also recommended for IC

Stainless steel is not an acceptable material for a growing number of applications involving the separation of labile macro biomolecules. It is of great importance that all of the biological activity of the samples is retained and that the biological specificity remains unchanged.

High salt buffer concentrations can corrode stainless steel and the metal ions released from these filters may react with

the biomolecules of interest or even contaminate the eluents in Ion chromatography.

The No-met filters are designed from inert polymeric components, which effectively eliminate metal contamination of the fluid path. The economy version can be easily slipped over 1/8" OD tubing, no fitting required.



## No-Met Mobile Phase Filter

| Part No. | Description  | max. flow rate* |
|----------|--|-----------------|
| JR-32171 | Filter, PTFE, mobile phase No-Met 5 $\mu$ m, 1/8"        | 2.2 ml/min      |
| JR-32172 | Filter, PTFE, mobile phase replacement No-Met 5 $\mu$ m  | 2.2 ml/min      |
| JR-32178 | Filter, PE, mobile phase No-Met < 20 $\mu$ m, 1/8"       | 500 ml/min      |
| JR-32179 | Filter, PE, mobile phase replacement No-Met < 20 $\mu$ m | 500 ml/min      |
| JR-32174 | Filter, PE, Economy No-Met 5 $\mu$ m, 1/8"               | 300 ml/min      |

\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

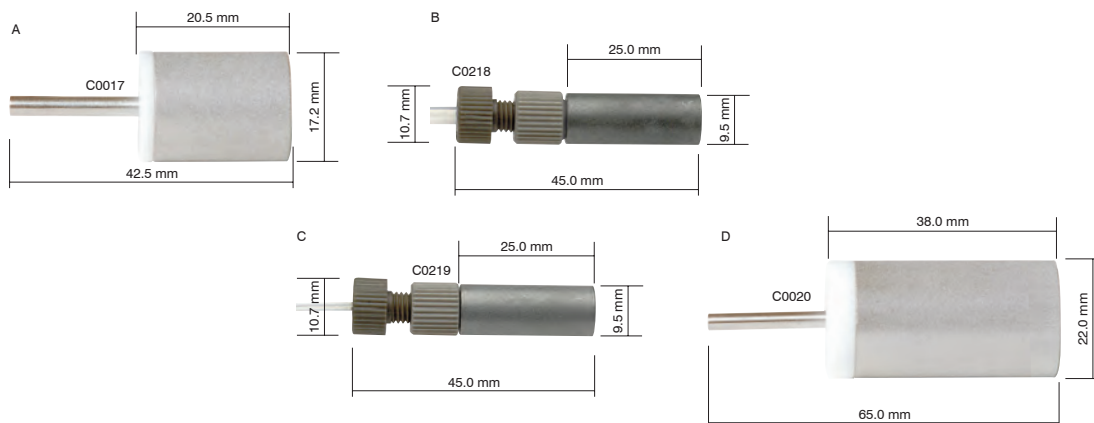
## SS Mobile Phase Filters &amp; Helium Spargers

## SS Mobile Phase Filters &amp; Helium Spargers

- Ideal for helium sparging
- Three different porosities
- Fitting and pipe connectors

VICI Jour Mobile Phase Filters protect HPLC systems from small particles in the mobile phase. These filters are made from SS316 with PEEK or PTFE connectors and are suitable for most solvents. The complete line has versions for both analytical and preparative applications.

VICI Jour Helium Spargers (2  $\mu\text{m}$  versions) offer an inexpensive way to prepare and maintain mobile phases free of dissolved gases. Connected to a regulated supply of Helium gas (0–400 mL/min.) they effectively remove dissolved oxygen, nitrogen and other atmospheric gases from the mobile phase.



## Mobile Phase Filters &amp; Helium Spargers

| Part No.     | Drawing | Porosity         | Fitting/Pipe OD  | max. flow rate* |
|--------------|---------|------------------|------------------|-----------------|
| JR-3675-2    | A       | 2 $\mu\text{m}$  | 1/8" Pipe OD     | 95 mL/min       |
| JR-367008-2  | B       | 2 $\mu\text{m}$  | 1/8" Fitting ID  | 35 mL/min       |
| JR-367008-10 | B       | 10 $\mu\text{m}$ | 1/8" Fitting ID  | 100 mL/min      |
| JR-367008-20 | B       | 20 $\mu\text{m}$ | 1/8" Fitting ID  | 120 mL/min      |
| JR-367016-2  | C       | 2 $\mu\text{m}$  | 1/16" Fitting ID | 35 mL/min       |
| JR-367016-10 | C       | 10 $\mu\text{m}$ | 1/16" Fitting ID | 35 mL/min       |
| JR-367016-20 | C       | 20 $\mu\text{m}$ | 1/16" Fitting ID | 35 mL/min       |
| JR-3678-2    | D       | 2 $\mu\text{m}$  | 1/8" Pipe OD     | 50 mL/min       |
| JR-3678-25   | D       | 25 $\mu\text{m}$ | 1/8" Pipe OD     | 100 mL/min      |

\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

## SPECS

## Material

Body: SS316  
Pipe: SS316  
Pipe Adapter: PTFE  
Fitting Adapter: PEEK  
Fittings: PEEK  
Ferrules: ETFE

## Dimension

See illustration

## Tech Tip

We recommend our Impermeable tubing to prevent "regassing" of helium degassed solvents (see page 27)

## In-Line Low Pressure Filter Cartridges

## SPECS

**Material**

Cartridge: PTFE/CTFE  
Filter Screen: SS316

**Dimensions**

For all 1/4"-28 fitting details  
OD: 5.20 mm  
Thickness: 2.03 mm  
Bore: 0.8 mm  
Filter Surface Diameter  
2 mm

**Tolerances**

+/- 0.05 mm (.002")

**Tech Tip**

We recommend using these Filter Cartridges in combination with the VICI Unions on page 65

They fit as well in any other LP solvent line connector like our Tees, Crosses & Manifolds on page 68-70 or our VICI Micro Valves on page 71

## In-Line Low Pressure Filter Cartridges

- Easy to replace
- Compact design
- Fits All 1/4"-28 fitting details
- Three different porosities

These filters are convenient since they can be simply dropped into any 1/4"-28 fitting detail. Therefore, all LP solvent line connectors like unions, tees, crosses etc. can be used as cartridge holder. The filter

is made of a stainless steel screen pressed in an inert cartridge. The inner design of the cartridge ensures the equal distribution of the solvent to the screen. (Nut and union shown not included)



## In-Line Low/Medium Pressure Filter for LC

| Part No.     | Description                          | Qty/pkg | max. flow rate* |
|--------------|--------------------------------------|---------|-----------------|
| JR-CFE-S2-5  | In-Line Filter Cartridge, 2 $\mu$ m  | 5       | 30 ml/min       |
| JR-CFE-S10-5 | In-Line Filter Cartridge, 10 $\mu$ m | 5       | 30 ml/min       |
| JR-CFE-S75-5 | In-Line Filter Cartridge, 75 $\mu$ m | 5       | 30 ml/min       |

\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

## PEEK In-Line Filter Kit – High Pressure

## PEEK In-Line Filter Kit – High Pressure

- 100 % biocompatible
- Minimal hold-up volume
- Metal free PE-frits and biocompatible Ti-frits
- Different porosities

The VICI Jour In-Line Filter traps fines and other particles from samples and mobile phases before they damage valuable instruments and columns.

This design is made entirely of PEEK for biocompatibility and chemical resist-

ance. Titanium or polyethylene filter elements are used for complete biocompatibility. The design has virtually no hold-up volume and can be used in analytical applications with virtually no band broadening or loss of efficiency.



## In-Line Filter Kit – High Pressure

| Part No.   | Description   | Internal Volume $\mu\text{L}^*$ | max.flow rate** |
|------------|---|---------------------------------|-----------------|
| JR-68257PE | Filter, PEEK, In-Line, PE frit PEEK-encased 10 $\mu\text{m}$  | 13.9                            | 30 ml/min       |
| JR-68253   | Filter, PEEK, In-Line, Ti frit PEEK-encased 2 $\mu\text{m}$   | 11.85                           | 30 ml/min       |
| JR-68247   | Filter, PEEK, In-Line, Ti frit PEEK-encased 0.5 $\mu\text{m}$ | 9.50                            | 25 ml/min       |
| JR-68257   | Filter, PEEK, In-Line, Ti frit PEEK-encased 10 $\mu\text{m}$  | 13.2                            | 30 ml/min       |

\* The internal volume is the total flushed volume between the ends of the connecting tubes, including the frit volume

\*\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

## Replacement Frits

| Part No.      | Description                              | Internal Volume $\mu\text{L}^*$ | Qty/pkg |
|---------------|--|---------------------------------|---------|
| JR-1151-10P-5 | Frit, PE, PEEK-encased 10 $\mu\text{m}$  | 11.31                           | 5       |
| JR-1125-05P-5 | Frit, Ti, PEEK-encased 0.5 $\mu\text{m}$ | 6.87                            | 5       |
| JR-1125-2P-5  | Frit, Ti, PEEK-encased 2 $\mu\text{m}$   | 9.24                            | 5       |
| JR-1125-10P-5 | Frit, Ti, PEEK-encased 10 $\mu\text{m}$  | 10.56                           | 5       |

## SPECS

## Material

Body: PEEK  
Frit: Titanium, polyethylene

## Dimensions

Bore 0.25mm / 0.4mm  
See illustration

## Threads

10-32 female

## Pressure rating

< 350 bar (< 5000 psi)

## Tech Tip

We recommend 2  $\mu\text{m}$  frits for columns with 5  $\mu\text{m}$  or larger particles and 0.5  $\mu\text{m}$  frits for smaller particles

Calculation of frit volume:  
see Tech Info on page 121

## Note

PE frits for single use only

## PEEK Pre-Column Filter Kit – High Pressure

## SPECS

## Material

Body: PEEK  
Frit: Titanium, polyethylene

## Dimensions

Bore 0.25 mm / 0.4 mm  
See illustration

## Threads

10-32 female to 10-32 male

## Pressure rating

< 350 bar (< 5000 psi)

## Tech Tip

We recommend 2  $\mu\text{m}$  frits for columns with 5  $\mu\text{m}$  or larger particles and 0.5  $\mu\text{m}$  frits for smaller particles

Calculation of frit volume:  
see Tech Info on page 121

## Note

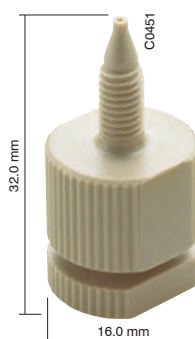
PE frits for single use only

## PEEK Pre-Column Filter Kit – High Pressure

- 100% biocompatible
- Minimal hold-up volume
- Metal free PE-frits and biocompatible Ti-frits
- Different porosities

The VICI Jour Pre-Column Filter Kit has a standard 10-32 fitting and fits direct to most column types without introducing an additional dead volume.

The Filter Kit protects expensive columns against fine particles, which may otherwise accumulate on the column frit, leading to split peaks and high backpressure.



## PEEK Pre-Column Filter Kit – High Pressure

| Part No.   | Description  | Internal volume $\mu\text{L}^*$ | max. flow rate** |
|------------|--|---------------------------------|------------------|
| JR-68264PE | Filter, PEEK, pre-column, PE frit PEEK-encased 10 $\mu\text{m}$  | 15.9                            | 30 ml/min        |
| JR-68258   | Filter, PEEK, pre-column, Ti frit PEEK-encased 0.5 $\mu\text{m}$ | 11.5                            | 30 ml/min        |
| JR-68262   | Filter, PEEK, pre-column, Ti frit PEEK-encased 2 $\mu\text{m}$   | 13.85                           | 30 ml/min        |
| JR-68264   | Filter, PEEK, pre-column, Ti frit PEEK-encased 10 $\mu\text{m}$  | 15.2                            | 30 ml/min        |

\* The internal volume is the hold-up volume between the end of the connecting tube and the filter 10-32 connector outlet, including the frit volume

\*\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

## Replacement Frits

| Part No.      | Description                              | Internal volume $\mu\text{L}^*$ | Qty/pkg |
|---------------|--|---------------------------------|---------|
| JR-1151-10P-5 | Frit, PE, PEEK-encased 10 $\mu\text{m}$  | 11.31                           | 5       |
| JR-1125-05P-5 | Frit, Ti, PEEK-encased 0.5 $\mu\text{m}$ | 6.87                            | 5       |
| JR-1125-2P-5  | Frit, Ti, PEEK-encased 2 $\mu\text{m}$   | 9.24                            | 5       |
| JR-1125-10P-5 | Frit, Ti, PEEK-encased 10 $\mu\text{m}$  | 10.56                           | 5       |

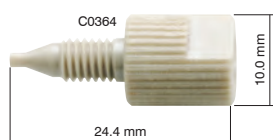
## Sure-Guard

### Sure-Guard

- Minimized hold-up volume
- Disposable filter guard
- Ti-(biocompatible) and SS-frits
- Two different porosities

The VICI Jour Sure-Guard disposable In-Line filter offers an easy and inexpensive way of protecting valuable columns against fines and particles. It is easily

connected directly to any column with an inlet for 1/16" OD tubes and 10-32 threads. The VICI Jour Sure-Guard can be changed in seconds without tools.



### Sure-Guard

| Part No.       | Description  | Frit vol.<br>$\mu\text{L}^*$ | Qty/pkg | max.<br>flow rate** |
|----------------|--|------------------------------|---------|---------------------|
| JR-0611-SS05-3 | Sure-Guard, disposable In-Line filter, SS frit $0.5 \mu\text{m}$ | 0.45                         | 3       | 30 ml/min           |
| JR-0611-SS2-3  | Sure-Guard, disposable In-Line filter, SS frit $2 \mu\text{m}$   | 0.61                         | 3       | 30 ml/min           |
| JR-0611-TI05-3 | Sure-Guard, disposable In-Line filter, Ti frit $0.5 \mu\text{m}$ | 0.45                         | 3       | 30 ml/min           |
| JR-0611-TI2-3  | Sure-Guard, disposable In-Line filter, Ti frit $2 \mu\text{m}$   | 0.61                         | 3       | 30 ml/min           |

\* The internal volume is the total flushed volume between the ends of the connecting tubes, including the frit volume

\*\* flowrate measured with methanol/water (1:1), ultrasonic degassed, helium sparging to prevent regassing

### SPECS

#### Material

Body: PEEK  
Filter: SS316, Titanium  
(see chart)

#### Dimensions

Bore 0.4 mm  
See illustration

#### Threads

10-32 female to 10-32 male

#### Pressure rating

< 350 bar (< 5000 psi)

#### Tech Tip

We recommend  $2 \mu\text{m}$  frits for columns with  $5 \mu\text{m}$  or larger particles and  $0.5 \mu\text{m}$  frits for smaller particles

#### Spares & Tools

We recommend our Dual Layer or striped PEEK tubing for easy identification. (see page 6-10)

Calculation of frit volume:  
see Tech Info on page 121



## SS Ultra-High-Pressure In-Line Filter

## SPECS

## Material

Body: SS316,  
Frit: PEEK encased SS316

## Dimensions

Bores: see chart  
Others: see illustrations

## Filter Dimensions

See page 98

## Threads

10-32 female to 10-32  
female

## Tolerances

+/- 0.05 mm (.002")

## Pressure rating

≤ 1000 bar (≤ 14500 psi)

## Tech Tip

We recommend 2 μm frits for columns with 5 μm or larger particles and 0.5 μm frits for smaller particles

Calculation of frit volume:  
see Tech Info on page 121

## SS Ultra-High-Pressure In-Line Filter

UHPLC

- Qualified for UHPLC
- Minimized hold-up volume
- Ultra-High-pressure applications up to 1000 bar (14500 psi)
- Two different bores for analytical up to semi prep-flow rates
- Three different porosities

The VICI Jour SS In-Line Filter has virtually no hold-up volume and can be used in various applications without significant band broadening or loss of efficiency. The 0.25 mm bore versions are intended for analytical use between autosampler / injection valve and column. The 0.75 mm

bore versions are suitable for higher flow rates in semi prep systems or for solvent supply from pump to autosampler. With minimal dead volume and available frit porosities of 0.5, 2 or 5 μm these in-line filters are the ideal column protectors.



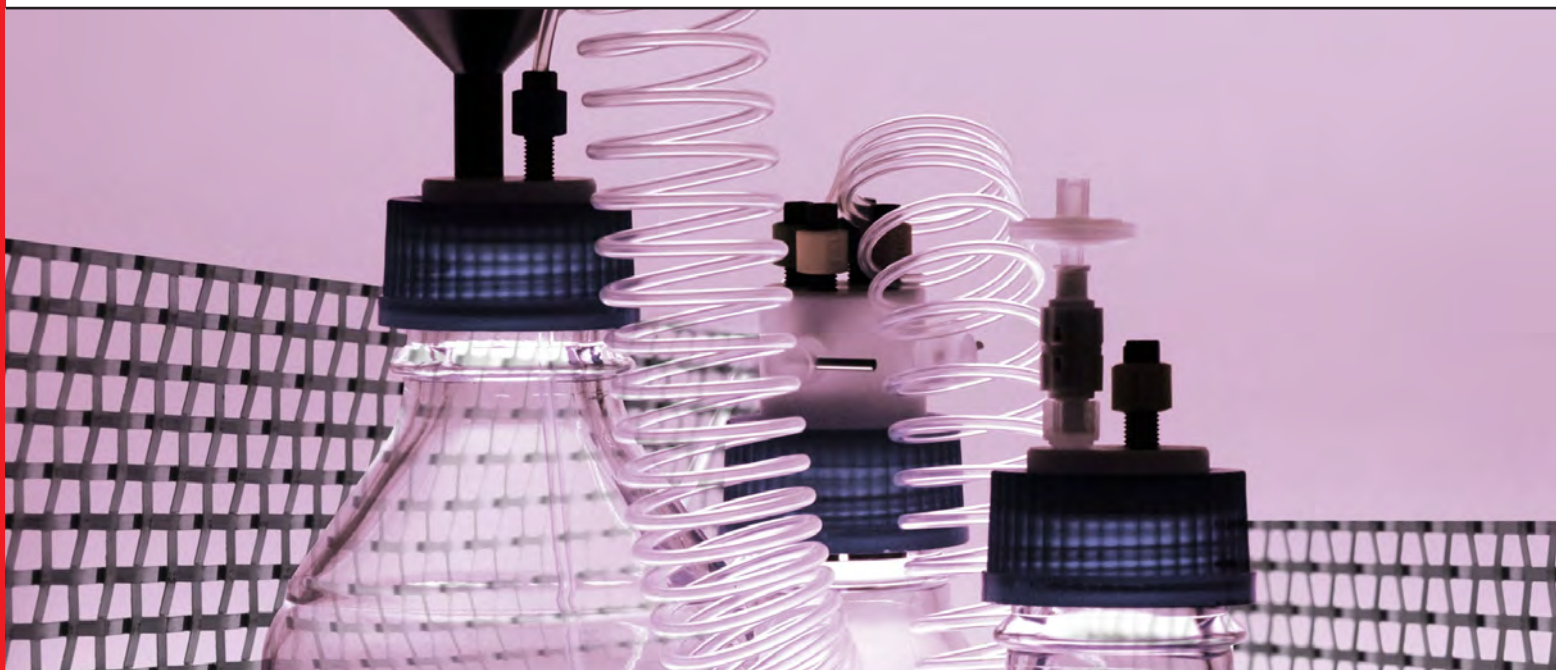
## SS High-Pressure In-Line Filter

| Part No.    | Description                                  | Internal Volume μL* |
|-------------|--|---------------------|
| JR-68230-05 | Filter, SS, In-Line, 0.25 mm bore, SS 0.5 μm | 0.2                 |
| JR-68230-2  | Filter, SS, In-Line, 0.25 mm bore, SS 2 μm   | 0.3                 |
| JR-68230-5  | Filter, SS, In-Line, 0.25 mm bore, SS 5 μm   | 0.3                 |
| JR-68231-05 | Filter, SS, In-Line, 0.75 mm bore, SS 0.5 μm | 1.7                 |
| JR-68231-2  | Filter, SS, In-Line, 0.75 mm bore, SS 2 μm   | 1.9                 |
| JR-68231-5  | Filter, SS, In-Line, 0.75 mm bore, SS 5 μm   | 1.9                 |

\* The internal volume is the flushed volume between the ends of the connecting tubes, including the frit volume

## Replacement Frits

| Part No.      | Description   | Frit volume μL | Qty/pkg |
|---------------|---|----------------|---------|
| JR-1110-05P-5 | Frit, SS, PEEK-encased 0.5 μm, for P/N 68230 series | 0.13           | 5       |
| JR-1110-2P-5  | Frit, SS, PEEK-encased 2 μm, for P/N 68230 series   | 0.18           | 5       |
| JR-1110-5P-5  | Frit, SS, PEEK-encased 5 μm, for P/N 68230 series   | 0.20           | 5       |
| JR-1111-05P-5 | Frit, SS, PEEK-encased 0.5 μm, for P/N 68231 series | 0.55           | 5       |
| JR-1111-2P-5  | Frit, SS, PEEK-encased 2 μm, for P/N 68231 series   | 0.74           | 5       |
| JR-1111-5P-5  | Frit, SS, PEEK-encased 5 μm, for P/N 68231 series   | 0.80           | 5       |



## INDEX

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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## VICI Safety Products **NEW**

VICI strives to provide customers with the best solutions for their problems to make the work better and/or easier, with respect to environment and health.

The benefits of the new VICI Jour Safety products are:

- **Saving costs of solvents**
- **Avoiding hazardous air in the laboratories**
- **Increasing reproducibility of chromatographic analyses**

For that reason VICI Jour developed:

- The VICI Safety Exhaust Filter
- The VICI Safety Air Inlet Filter
- The VICI Safety Caps



## VICI Safety Exhaust Filter

VICI Safety Exhaust Filter **NEW**

## CLEAN LAB AIR WITH THE VICI JOUR SAFETY EXHAUST FILTER

– Universal 1/4"-28 UNF thread

The VICI Safety Exhaust filter is the centre of our Safety program.

The VICI Safety Exhaust Filter is a very competitively priced filter which can be placed on the waste bottle of a HPLC system. The specially treated absorbent filters out nearly all organic solvent vapor evaporating out of the waste solution.

The absorbent has an excellent capacity, is reflecting in a long lifetime of up to 8 months.

The VICI Safety Exhaust Filter can be used either with one of the VICI caps or with one of the VICI Safety Caps. The filter is screwed easily into one of the ports in the insert. The EPDM rubber O-ring seals between the filter and the insert.

**Function:**

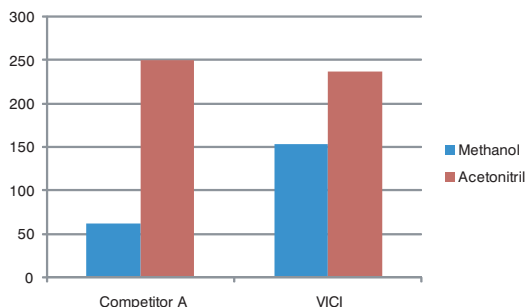
As the bottle fills with waste liquids (e.g. a HPLC-system) the pressure inside will increase. To compensate for this pressure difference, air and solvent vapor will pass through the filter. The absorbent in the filter will remove the volatile vapor preventing it reaching the laboratory air.

Without the VICI Safety Exhaust Filter, the solvent vapor would come into the ambient air.

Solvent vapors in the ambient air can adversely affect the health of the lab-workers.

**SPECS****Materials**

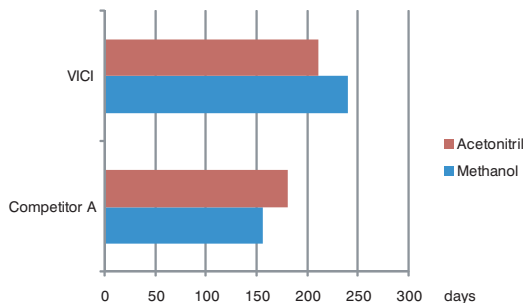
Polyacetal (POM)  
(housing)  
Polyethylene (frits)  
Absorbent (Carbon,  
special treated)  
NBR NT 70.11 (O-ring)

**Filter capacity mg/g absorbent**

Capacity of absorbent of different suppliers for most common used organic solvents in HPLC.

VICI Safety Exhaust Filter

Filter life-time\* (d)



\*calculated, based on results of our tests

The VICI Safety Exhaust Filter can be used with all VICI and all VICI Safety Caps.



Safety Exhaust Filter

| Part No.   | Description           |
|------------|-----------------------|
| JR-S-20002 | Safety Exhaust Filter |

Adapter

| Part No.   | Description                                 |
|------------|---|
| JR-S-40004 | Adapter connecting JR-S-20002 in SCAT® Caps |

## VICI Safety Air Inlet Filter

### VICI Safety Air Inlet Filter **NEW**

- Stabilize the composition of your mobile phases
- Prevent organic solvent vaporizing into the ambient air
- With 0.2  $\mu\text{m}$  filter to keep the mobile phase clean

The VICI Air Inlet Filter is used in combination with a VICI Safety Cap or VICI Cap used for solvent delivery.

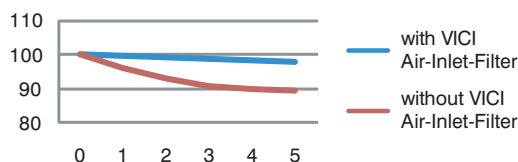
A stable mobile phase is necessary for stable and reproducible analysis.

#### Function:

In operation the check valve remains closed until a certain vacuum is reached

due to the delivery of the mobile phase. Then the check valve opens to allow the pressure in the bottle to equalize. After equalizing the pressure the valve closes again.

The Air Inlet Filter is delivered with a 0.2  $\mu\text{m}$  filter to prevent bacterial contamination of the mobile phase.



Changing of the composition of a Standard HPLC mobile phase



To guarantee correct operation of the checkvalve it is recommended that the Safety Air Inlet Filter is replaced every 7 months.

#### Safety Air Inlet Filter

| Part No.   | Description                       |
|------------|-----------------------------------|
| JR-S-20003 | Safety Air Inlet Filter, complete |

#### Safety Outlet Filter

The VICI Safety Outlet Filter is dedicated for regulating the pressure during helium sparging.

| Part No.   | Description   |
|------------|---|
| JR-S-20004 | Safety Outlet Filter, complete, for helium sparging |

#### SPECS

##### Special Info

The Air Inlet Filter is not suitable when helium sparging is used

“Re-gassing” is prevented by the PFA tubing which is less permeable as PTFE

If you are not satisfied with the permeability of PFA tubing, we recommend the use of Impermeable tubing (see page 18)



## VICI Safety Caps

## SPECS

## Material

Cap: Polypropylene  
 Pouring Ring: Polypropylene  
 Insert: PTFE  
 Nuts: PPS  
 Ferrules: ETFE  
 Tubing: PFA  
 Mobile phase filter: PE  
 Bottles: borosilicate 3.3, safety coated  
 Stopcock-rotor: CTFE

## Threads

1/4"-28

## Pressure rating

5 bar (73 psi)

VICI Safety Caps **NEW**

- Ideal configuration for delivery of mobile phase or collection of waste LC solutions
- Built-in stopcocks for easy interruption of the fluid-stream when removing tubing
- Three different caps available

The VICI Safety Caps are delivered with stopcocks to easily cut off the liquid stream and with colored fittings for easy identification of the different streams.

The VICI Safety Caps contain all the parts necessary to configure your LC solvent system and are compatible with all standard GL45 thread bottles. The PTFE insert has 2, 3, or 4 ports 1/4"-28.

The bore size in the insert is 1.3 mm, so a 1/16" tubing can be mount easily.

All the nuts and ferrules (1 set of 1/16" and up to 3 sets of 1/8") and Color-Sleeve-Fingertight adapters are delivered with the Safety Cap.

The Safety Cap Kits are delivered with a Safety Bottle (1 or 2 liter), tubing (PFA for less re-gassing of the mobile phase) and mobile phase filters (No-Met 5 µm PE), so only 1 part number has to be ordered.



## VICI Safety Caps

| Part No.   | Description                             |
|------------|---|
| JR-S-11011 | VICI Safety Cap GL45, 2 ports, complete |
| JR-S-11012 | VICI Safety Cap GL45, 3 ports, complete |
| JR-S-11013 | VICI Safety Cap GL45, 4 ports, complete |

## VICI Safety Cap Kits

| Part No.   | Description  |
|------------|--|
| JR-S-11111 | VICI Safety Cap GL45, 2 ports, incl. 1L Safety Coated Bottle |
| JR-S-11112 | VICI Safety Cap GL45, 3 ports, incl. 1L Safety Coated Bottle |
| JR-S-11113 | VICI Safety Cap GL45, 4 ports, incl. 1L Safety Coated Bottle |
| JR-S-11211 | VICI Safety Cap GL45, 2 ports, incl. 2L Safety Coated Bottle |
| JR-S-11212 | VICI Safety Cap GL45, 3 ports, incl. 2L Safety Coated Bottle |
| JR-S-11213 | VICI Safety Cap GL45, 4 ports, incl. 2L Safety Coated Bottle |

## Spare Parts

| Part No.     | Description                                    |
|--------------|--|
| JR-55070-10  | Nut, PPS, flangeless 1/16", 10 pcs             |
| JR-55071-10  | Nut, PPS, flangeless 1/8", 10 pcs              |
| JR-041-10    | Ferrule, ETFE, 1/16", 10 pcs                   |
| JR-051-10    | Ferrule, ETFE, 1/8", 10 pcs                    |
| JR-T-4003-M3 | PFA Tubing, 1/8" x 1/16", 3m                   |
| JR-9000-0005 | Bottle, glass, safety-coated 1L with solid cap |
| JR-9000-0010 | Bottle, glass, safety-coated 2L with solid cap |
| JR-32174     | Filter, PE, Economy No-Met 5 µm, 1/8"          |
| JR-409       | Plug, PEEK, 1/4"-28                            |

For Color-Sleeve-Fingertight adapter see page 61.

For other polymeric tubing see page 16-27.

For other bottle sizes see page 93.

For other mobile phase filter see page 75-80.

## VICI Caps

## VICI Caps

NEW

Based on the very popular VICI Cap, VICI now offers also caps with 2 and 4 ports. The VICI Caps Kits are delivered with a Safety Bottle (1 or 2 liter), tubing (PFA for

less re-gassing of the mobile phase) and mobile phase filters (No-Met, 5  $\mu$ m PE), so only 1 part number has to be ordered.



## SPECS

## Material

Cap: Polypropylene  
Pouring Ring: Polypropylene  
Insert: PTFE  
Nuts: PPS  
Ferrules: ETFE  
Tubing: PFA  
Mobile phase filter: PE  
Bottles: borosilicate 3.3, safety coated

## Threads

1/4"-28

## VICI Caps

| Part No.   | Description                      |
|------------|----------------------------------|
| JR-S-11001 | VICI Cap GL45, 2 ports, complete |
| JR-S-11002 | VICI Cap GL45, 3 ports, complete |
| JR-S-11003 | VICI Cap GL45, 4 ports, complete |

## VICI Cap Kits

| Part No.   | Description   |
|------------|---|
| JR-S-11101 | VICI Cap GL45, 2 ports, incl. 1L Safety Coated Bottle |
| JR-S-11102 | VICI Cap GL45, 3 ports, incl. 1L Safety Coated Bottle |
| JR-S-11103 | VICI Cap GL45, 4 ports, incl. 1L Safety Coated Bottle |
| JR-S-11201 | VICI Cap GL45, 2 ports, incl. 2L Safety Coated Bottle |
| JR-S-11202 | VICI Cap GL45, 3 ports, incl. 2L Safety Coated Bottle |
| JR-S-11203 | VICI Cap GL45, 4 ports, incl. 2L Safety Coated Bottle |

## Spare Parts

| Part No.     | Description                                    |
|--------------|--|
| JR-55070-10  | Nut, PPS, flangeless 1/16", 10 pcs             |
| JR-55071-10  | Nut, PPS, flangeless 1/8", 10 pcs              |
| JR-041-10    | Ferrule, ETFE, 1/16", 10 pcs                   |
| JR-051-10    | Ferrule, ETFE, 1/8", 10 pcs                    |
| JR-T-4003-M3 | PFA Tubing, 1/8" x 1/16", 3m                   |
| JR-9000-0005 | Bottle, glass, safety-coated 1L with solid cap |
| JR-9000-0010 | Bottle, glass, safety-coated 2L with solid cap |
| JR-32174     | Filter, PE, Economy No-Met 5 $\mu$ m, 1/8"     |
| JR-409       | Plug, PEEK, 1/4"-28                            |

For Color-Sleeve-Fingertight adapter see page 61.

For other polymeric tubing see page 16-27.

For other bottle sizes see page 93.

For other mobile phase filter see page 75-80.

## Safety-Coated Glass Bottles

## SPECS

## Material

Bottle:  
Borosilicate 3.3 glass  
Cap: Polypropylene  
Pouring Ring:  
Polypropylene

## Pressure Rating

0.8 bar (11.6 psi)

## Special Info

The Bottles are not suitable to be stressed with pressures above 0.8 bar (11.6 psi), but only for continuous helium sparging

The safety coating is not intended to replace safe working conditions and precautions in laboratories

## Safety-Coated Glass Bottles

- Special design for helium sparging of LC mobile phases
- Safety coating to minimize risk of injury

VICI Jour Safety-Coated Glass Bottles are available in 0.25, 0.5, 1 and 2 L volume sizes.

These glass bottles with GL45 screw threading are made of chemical resistant Borosilicate 3.3 and coated on the outside with a layer of sturdy polymer. The chances of breaking the bottle, when dropping it, will decrease. Even if the bottle breaks, glass fragments will be kept

within the polymer coating. Solvents will be kept within the coating for a short while.

The coating also protects solvents against UV light up to 385 nm.

These safety-coated glass bottles can't be autoclaved.



## Safety-Coated Glass Bottles

| Part No.     | Description   |
|--------------|---|
| JR-9000-0011 | Bottle, Glass, safety-coated, 0.25 L with solid cap |
| JR-9000-0012 | Bottle, Glass, safety-coated, 0.5 L with solid cap  |
| JR-9000-0005 | Bottle, Glass, safety-coated, 1 L with solid cap    |
| JR-9000-0010 | Bottle, Glass, safety-coated, 2 L with solid cap    |

NEW

## Eco-Cap

### Eco-Cap

- Competitively priced alternative to sparge and deliver mobile phases
- Also available as bottle kit

The Eco-Cap is made of ETFE insert with polyethylene collar and has three holes for tubing insertion.

The Eco-Cap has no threading on the inside of the tubing ports – tubing can easily be inserted.



### Eco-Cap

| Part No.     | Description                                |
|--------------|--|
| JR-9000-0007 | Eco-Cap, GL45, inkl. 1 x male luer plug    |
| JR-9000-0013 | Eco-Cap Kit, incl. 1L Safety Coated Bottle |
| JR-9000-0014 | Eco-Cap Kit, incl. 2L Safety Coated Bottle |

### Spare parts

| Part No.     | Description         | Qty/pkg |
|--------------|---------------------|---------|
| JR-070350-10 | Plug, PP, male luer | 10      |

For polymeric tubing see pages 16–27.

### SPECS

#### Material

Screw collar: Polyethylene  
Pouring ring: Polypropylene  
Eco-Cap insert: ETFE  
O-Rings: EPDM  
Plugs: PEEK  
Luer Plugs: Polypropylene  
Others: see charts

#### Dimensions

For GL45 or S40 threads  
(see chart)

#### Bores

Eco-Cap: 2 x 1/8", 1 x luer

#### Special Info

These caps are not usable for building up a helium atmosphere within in the solvent bottle, but only for continuous helium sparging

#### Tech Tip

Once the mobile phase is degassed, we recommend our Impermeable tubing between bottle cap and pump to prevent "regassing" of helium degassed solvents (see page 18)

**SPECS****Material (wetted parts)**

Tubing: PFA  
 Filter: PE  
 Ferrules: ETFE

**Dimension**

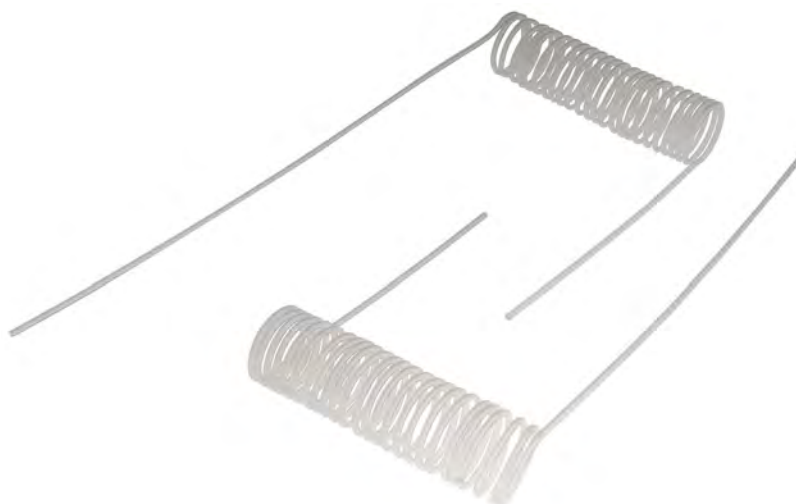
1/8" Tubing OD

**SolviFlex**

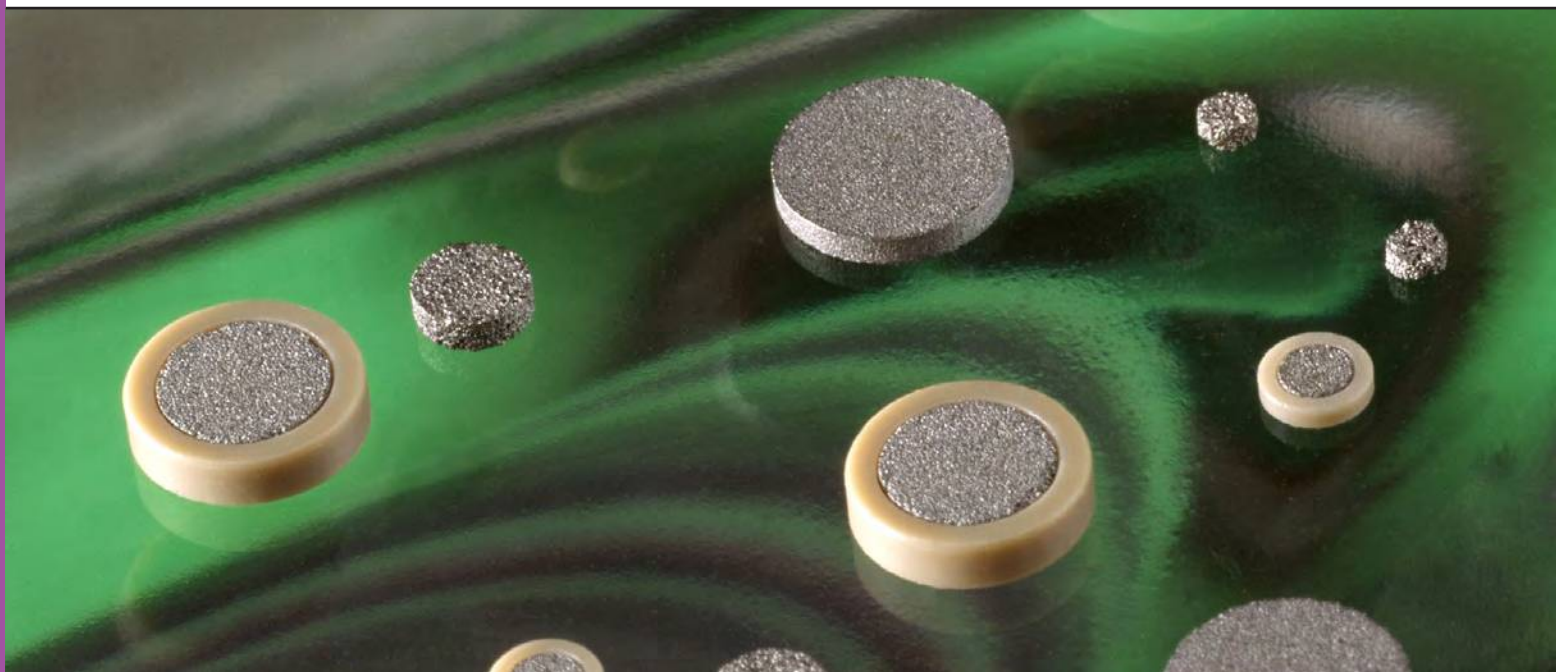
- Be 'mobile' with mobile phase bottles
- Ideal for use together with the VICI Safety Caps or VICI Caps
- Customized versions on request

The SolviFlex has a flexible telephone cable like PFA tubing which expands and contracts and consequently gives the flexibility to move mobile phase bottles on the bench. All SolviFlex assemblies consist of a biocompatible mobile phase

filter and all the required parts to connect it to any 1/4"-28 port.

**SolviFlex**

| Part No.      | Description                     |
|---------------|---------------------------------|
| JR-6120-50030 | Solviflex, assembly without cap |



## INDEX

|                                       |     |
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| Polymer Frits                         | 101 |

### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.



## Stainless Steel Frits – Unidense Type

## SPECS

## Material

Stainless Steel SS316L  
(sintered)

## Dimensions

See chart

## Tolerances

OD <5mm, +/- 0.05 mm  
(.002")

OD 5-12.5mm, +/- 0.08  
mm (.003")

OD 12.5-25.4mm, +/- 0.20  
mm (.008")

## Special Info

Standard frits are without  
chamfers – chamfered frits  
are available on request

## Note

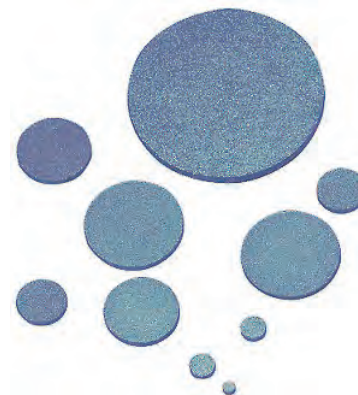
Frit volumes are theoretical  
and are calculated by multi-  
plying overall frit volume  
times the porosity propor-  
tion. Porosity proportions  
of SS Frits: see chart on  
page 121

Stated frit porosities are  
only nominal and do not  
reflect the maximum pore  
size of a frit

The chart on page 121 will  
help to choose the right frit  
for your application

## Stainless Steel Frits – Unidense Type

For both standard frits and those pro-  
duced to custom specifications, the frits  
offer unexcelled reproducibility and pre-  
cision. Proprietary manufacturing pro-  
cesses ensure uniformity and precise, re-  
peatable dimensional control. VICI Jour  
Stainless Steel Frits are manufactured of  
SS316L material which has extra low car-  
bon content. The sintering process used  
results in a strong bonding of the sinter  
metal particles. Depending upon the  
grade of powder used, the porosity of the  
frit can be precisely tuned.



## Stainless Steel Frits – Unidense Type

| Part No.    | Diameter<br>inches | Diameter<br>mm | Thickness<br>inches | Thickness<br>mm | Porosity $\mu\text{m}$ | Frit volume<br>$\mu\text{L}$ | Qty/pkg |
|-------------|--------------------|----------------|---------------------|-----------------|------------------------|------------------------------|---------|
| JR-.5FR1-5  | 1/16"              | 1.59           | 0.030               | 0.76            | 0.5                    | 0.39                         | 5       |
| JR-1FR1-5   | 1/16"              | 1.59           | 0.030               | 0.76            | 1                      | 0.45                         | 5       |
| JR-2FR1-5   | 1/16"              | 1.59           | 0.030               | 0.76            | 2                      | 0.53                         | 5       |
| JR-10FR1-5  | 1/16"              | 1.59           | 0.030               | 0.76            | 10                     | 0.60                         | 5       |
| JR-.5FR2-5  | 1/8"               | 3.18           | 0.040               | 1.02            | 0.5                    | 2.10                         | 5       |
| JR-1FR2-5   | 1/8"               | 3.18           | 0.040               | 1.02            | 1                      | 2.43                         | 5       |
| JR-2FR2-5   | 1/8"               | 3.18           | 0.040               | 1.02            | 2                      | 2.83                         | 5       |
| JR-10FR2-5  | 1/8"               | 3.18           | 0.040               | 1.02            | 10                     | 3.24                         | 5       |
| JR-.5FR4-5  | 1/4"               | 6.35           | 0.040               | 1.02            | 0.5                    | 8.39                         | 5       |
| JR-2FR4-5   | 1/4"               | 6.35           | 0.040               | 1.02            | 2                      | 11.30                        | 5       |
| JR-10FR4-5  | 1/4"               | 6.35           | 0.040               | 1.02            | 10                     | 12.91                        | 5       |
| JR-.5FR6-5  | 3/8"               | 9.53           | 0.040               | 1.02            | 0.5                    | 18.91                        | 5       |
| JR-2FR6-5   | 3/8"               | 9.53           | 0.040               | 1.02            | 2                      | 25.45                        | 5       |
| JR-10FR6-5  | 3/8"               | 9.53           | 0.040               | 1.02            | 10                     | 29.09                        | 5       |
| JR-.5FR8-5  | 1/2"               | 12.70          | 0.040               | 1.02            | 0.5                    | 33.58                        | 5       |
| JR-2FR8-5   | 1/2"               | 12.70          | 0.040               | 1.02            | 2                      | 45.20                        | 5       |
| JR-10FR8-5  | 1/2"               | 12.70          | 0.040               | 1.02            | 10                     | 51.66                        | 5       |
| JR-2FR1K-5  | 1"                 | 25.40          | 0.060               | 1.52            | 2                      | 269.43                       | 5       |
| JR-10FR1K-5 | 1"                 | 25.40          | 0.060               | 1.52            | 10                     | 307.92                       | 5       |

Other dimensions and porosities are available on request.  
Minimum order quantity: 100 pcs.

Please contact your local distributor or VICI directly.

## Stainless Steel Frits – PEEK Encased

### Stainless Steel Frits – PEEK Encased

- For HPLC columns or in-line filters
- Low dead volume
- Various porosities and dimensions available

VICI Jour PEEK encased frits with 0.118" or 1/4" ring OD are intended for HPLC columns with ID's of 3.2, 3.9 and 4.6 mm. By surrounding the frit with a PEEK ring the actual porous surface is reduced to the column ID. The compressed PEEK

ring forms a seal between the bottom of the fitting and the column end preventing the mobile phase and the sample entering the previously accessible poorly swept areas.



#### SPECS

**Material**  
Frits: SS316L  
Ring: PEEK

**Dimensions**  
See chart

**Tolerances**  
+/- 0.05 mm (.002")

**Special Info**  
Eliminates Poorly Swept Volume - Improves Peak Symmetry

**Note**  
Stated frit porosities are only nominal and do not reflect the maximum pore size of a frit

The chart on page 121 will help to choose the right frit for your application

### Stainless Steel Frits – PEEK Encased

| Part No.      | Ring OD<br>inches | Ring OD<br>mm | Frit OD<br>inches | Frit OD<br>mm | Thickness<br>inches | Thickness<br>mm | Porosity<br>μm | Frit volume<br>μl | Qty/pkg |
|---------------|-------------------|---------------|-------------------|---------------|---------------------|-----------------|----------------|-------------------|---------|
| JR-1110-05P-5 | 0.118             | 3.00          | 0.038             | 0.97          | 0.028               | 0.70            | 0.5            | 0.13              | 5       |
| JR-1110-2P-5  | 0.118             | 3.00          | 0.038             | 0.97          | 0.028               | 0.70            | 2              | 0.18              | 5       |
| JR-1110-5P-5  | 0.118             | 3.00          | 0.038             | 0.97          | 0.028               | 0.70            | 5              | 0.20              | 5       |
| JR-1111-05P-5 | 0.118             | 3.00          | 0.077             | 1.96          | 0.028               | 0.70            | 0.5            | 0.55              | 5       |
| JR-1111-2P-5  | 0.118             | 3.00          | 0.077             | 1.96          | 0.028               | 0.70            | 2              | 0.74              | 5       |
| JR-1111-5P-5  | 0.118             | 3.00          | 0.077             | 1.96          | 0.028               | 0.70            | 5              | 0.80              | 5       |
| JR-1104-05P-5 | 1/4               | 6.35          | 0.078             | 2.00          | 0.062               | 1.59            | 0.5            | 1.30              | 5       |
| JR-1104-2P-5  | 1/4               | 6.35          | 0.078             | 2.00          | 0.062               | 1.59            | 2              | 1.74              | 5       |
| JR-1103-05P-5 | 1/4               | 6.35          | 0.181             | 4.60          | 0.032               | 0.80            | 0.5            | 3.46              | 5       |
| JR-1103-2P-5  | 1/4               | 6.35          | 0.181             | 4.60          | 0.032               | 0.80            | 2              | 4.65              | 5       |
| JR-1102-05P-5 | 1/4               | 6.35          | 0.125             | 3.20          | 0.062               | 1.59            | 0.5            | 3.32              | 5       |
| JR-1102-2P-5  | 1/4               | 6.35          | 0.125             | 3.20          | 0.062               | 1.59            | 2              | 4.47              | 5       |
| JR-1101-05P-5 | 1/4               | 6.35          | 0.153             | 3.90          | 0.062               | 1.59            | 0.5            | 4.94              | 5       |
| JR-1101-2P-5  | 1/4               | 6.35          | 0.153             | 3.90          | 0.062               | 1.59            | 2              | 6.64              | 5       |
| JR-1100-05P-5 | 1/4               | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 0.5            | 6.87              | 5       |
| JR-1100-2P-5  | 1/4               | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 2              | 9.24              | 5       |

Other dimensions and porosities are available on request.  
Minimum order quantity: 100 pcs.  
Please contact your local distributor or VICI directly.

## Titanium Frits – Unidense Type

## SPECS

## Material

Titanium (sintered)

## Dimensions

See chart

## Tolerances

OD <5mm,  
 +/- 0.05 mm (.002")  
 OD 5-12.5mm,  
 +/- 0.08 mm (.003")  
 OD 12.5-25.4mm,  
 +/- 0.20 mm (.008")

## Special Info

Standard frits are without chamfers – chamfered frits are available on request

## Note

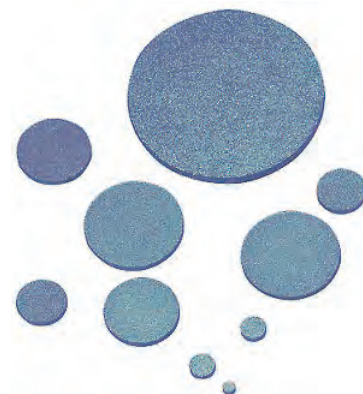
Stated frit porosities are only nominal and do not reflect the maximum pore size of a frit

The chart on page 121 will help to choose the right frit for your application

## Titanium Frits – Unidense Type

- Biocompatible
- Recommended for protein analysis
- Higher corrosion resistance
- Various pore sizes and dimensions

Titanium is preferred over stainless steel for applications related to the analysis of sensitive substances in general and large biomolecules in particular. Evidently proteins have a tendency to adsorb on the stainless steel (Iron) frit and consequently reduce recovery or may even decompose. Titanium also offers higher corrosion resistance and can be used with solvents containing halides.



## Titanium Frits – Unidense Type

| Part No.     | Diameter inches | Diameter mm | Thickness inches | Thickness mm | Porosity $\mu\text{m}$ | Frit volume $\mu\text{L}$ | Qty/pkg |
|--------------|-----------------|-------------|------------------|--------------|------------------------|---------------------------|---------|
| JR-.5FR1TI-5 | 1/16"           | 1.59        | 1/16"            | 1.59         | 0.5                    | 0.82                      | 5       |
| JR-2FR1TI-5  | 1/16"           | 1.59        | 0.040            | 1.02         | 2                      | 0.71                      | 5       |
| JR-2FR2TI-5  | 1/8"            | 3.18        | 0.040            | 1.02         | 2                      | 2.83                      | 5       |
| JR-2FR4TI-5  | 1/4"            | 6.35        | 0.040            | 1.02         | 2                      | 11.30                     | 5       |
| JR-2FR6TI-5  | 3/8"            | 9.53        | 0.040            | 1.02         | 2                      | 25.45                     | 5       |
| JR-2FR8TI-5  | 1/2"            | 12.70       | 0.040            | 1.02         | 2                      | 45.20                     | 5       |
| JR-10FR8TI-5 | 1/2"            | 12.70       | 0.040            | 1.02         | 10                     | 51.66                     | 5       |
| JR-2FR1KTI-5 | 1"              | 25.40       | 0.040            | 1.02         | 2                      | 180.80                    | 5       |

Other dimensions and porosities are available on request.

Minimum order quantity: 100 pcs.

Please contact your local distributor or VICI directly.

## Titanium Frits – PEEK Encased

### Titanium Frits – PEEK Encased

- For HPLC columns or in-line filters
- Low dead volume
- Biocompatible – recommended for protein analysis
- Higher corrosion resistance
- Various pore sizes and dimensions

In terms of “biocompatibility” the frit is the critical spot for contributing metal ions to the mobile phase and interaction with protein samples. VICI Jour PEEK encased frits with 1/5” or 1/4” ring OD are intended for HPLC columns with ID’s of 3.2 and 4.6 mm. By surrounding the frit with a PEEK ring the actual porous surface is reduced to the column ID. The

compressed PEEK ring forms a seal between the bottom of the fitting and the column end prevents the mobile phase and the sample from entering the previously accessible poorly swept areas. These frits can also be used as spare parts frits for the PEEK In-Line Filter Kit (see page 82).



#### SPECS

**Material**  
Frit: Titanium  
Ring: PEEK

**Dimensions**  
See chart

**Tolerances**  
+/- 0.05 mm (.002")

**Special Info**  
Eliminates poorly swept volume – improves peak symmetry

**Note**  
Stated frit porosities are only nominal and do not reflect the maximum pore size of a frit

The chart on page 121 will help to choose the right frit for your application

### Titanium Frits – PEEK Encased

| Part No.      | Ring OD<br>inches | Ring OD<br>mm | Frit OD<br>inches | Frit OD<br>mm | Thickness<br>inches | Thickness<br>mm | Porosity<br>μm | Frit vol. μ | Qty/ pkg |
|---------------|-------------------|---------------|-------------------|---------------|---------------------|-----------------|----------------|-------------|----------|
| JR-1127-05P-5 | 1/4"              | 6.35          | 0.125             | 3.20          | 0.062               | 1.59            | 0.5            | 3.32        | 5        |
| JR-1127-2P-5  | 1/4"              | 6.35          | 0.125             | 3.20          | 0.062               | 1.59            | 2              | 4.47        | 5        |
| JR-1125-05P-5 | 1/4"              | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 0.5            | 6.87        | 5        |
| JR-1125-2P-5  | 1/4"              | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 2              | 9.24        | 5        |
| JR-1125-5P-5  | 1/4"              | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 5              | 10.04       | 5        |
| JR-1125-10P-5 | 1/4"              | 6.35          | 0.181             | 4.60          | 0.062               | 1.59            | 10             | 10.56       | 5        |
| JR-1128-5P-5  | 1/5"              | 5.08          | 0.102             | 2.60          | 0.062               | 1.59            | 5              | 3.21        | 5        |

Other dimensions and porosities are available on request.  
Minimum order quantity: 100 pcs.  
Please contact your local distributor or VICI directly.

## Polymer Frits

## SPECS

## Material

UHMWPE, PEEK

## Dimensions

See chart

## Tolerances

OD < 5 mm,  
+/- 0.05 mm (.002")  
OD 5-12.5 mm,  
+/- 0.08 mm (.003")

## Note

Stated frit porosities are only nominal and do not reflect the maximum pore size of a frit

The chart on page 121 will help to choose the right frit for your application

For single use only

## Polyethylene Frits

NEW

- Biocompatible
- Metal free
- Unidense
- PEEK encased

Our polymer frits are made of UHMWPE (Ultra High Molecular Weight PolyEthylene).

They are a competitively priced alternative to titanium and completely metal free.

These PE frits can be used in combination with our PEEK In-Line Filter JR-68247 /JR-68253 for pressure ratings up to 210 bar (3000 psi) or as spare frits for our PEEK columns.



## Polyethylene Frits – Unidense

| Part No.            | Diameter inches | Diameter mm | Thickness inches | Thickness mm | Porosity $\mu\text{m}$ | Frit volume $\mu\text{L}$ | Qty/pkg |
|---------------------|-----------------|-------------|------------------|--------------|------------------------|---------------------------|---------|
| JR-F-255-079-10PE-5 | 0.255           | 6.50        | 0.079            | 2.00         | 10                     | 26.5                      | 5       |

Other dimensions and porosities are available on request.

Minimum order quantity: 100 pcs.

Please contact your local distributor or VICI directly.

## Polyethylene Frits – PEEK Encased

| Part No.      | Ring OD inches | Ring OD mm | Frit OD inches | Frit OD mm | Thickness inches | Thickness mm | Porosity $\mu\text{m}$ | Frit vol. $\mu\text{l}$ | Qty/pkg |
|---------------|----------------|------------|----------------|------------|------------------|--------------|------------------------|-------------------------|---------|
| JR-1150-10P-5 | 1/5"           | 5.08       | 0.098          | 2.50       | 0.059            | 1.50         | 10                     | 2.94                    | 5       |
| JR-1151-10P-5 | 1/4"           | 6.35       | 0.193          | 4.90       | 0.059            | 1.50         | 10                     | 11.31                   | 5       |

Other dimensions and porosities are available on request.

Minimum order quantity: 100 pcs.

Please contact your local distributor or VICI directly.



## INDEX

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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.



## SPECS

## Material

PEEK, black and natural  
Titanium

## Dimensions

See chart

## Tolerances

+/- 0.05 mm (.002")

## Pressure rating

For 2.1 mm ID columns:  
210 bar (3000 psi)

For 4.0 mm ID columns:  
350 bar (5000 psi)

## PEEK Columns

- Biocompatible
- High pressure applications
- Packing devices available

## PEEK Columns 2.1 mm ID

We have designed this column for narrow-bore applications and where only limited amounts of sample are available for analysis. Because 2.1 mm ID columns operate at 1/5<sup>th</sup> of the flow rate of their 4.6 mm counterparts, the same sample mass injected on a 2.1 mm column will produce five times the detector signal. This greater mass sensitivity provides the same analysis as on a 4.6 mm column with only 20% of the sample. These columns are delivered with 2  $\mu$ m titanium frits.

Wetted Surfaces: PEEK, Titanium

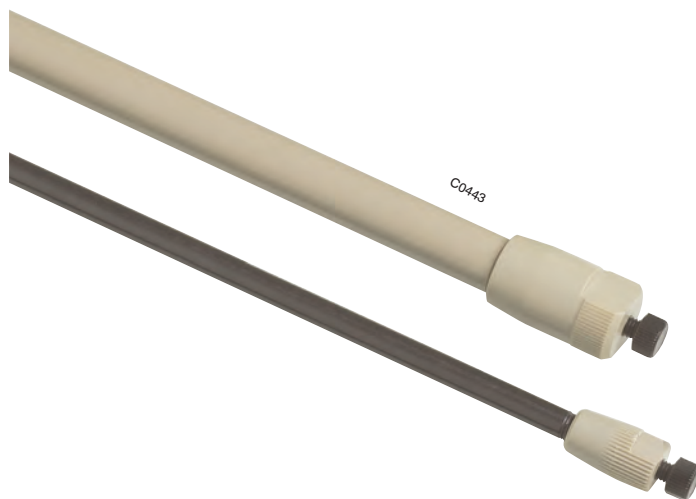
Pressure rating: max. 210 bar (3000 psi), during packing 350 bar (5000 psi) using the VICI Jour Packing Kit JR-67-250-2A

## PEEK Columns 4.0 mm ID

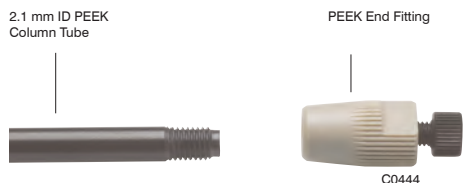
Today's HPLC and IC applications are more demanding than ever. The limitations of traditional stainless steel pose significant problems for a growing number of important biotechnology and ion chromatography applications. These columns are delivered with 2  $\mu$ m titanium - PEEK encased frits.

Wetted Surfaces: PEEK and Titanium

Pressure Rating: max. 350 bar (5000 psi), during packing max. 560 bar (8000 psi) using the VICI Jour Packing Kit JR-67-250-4

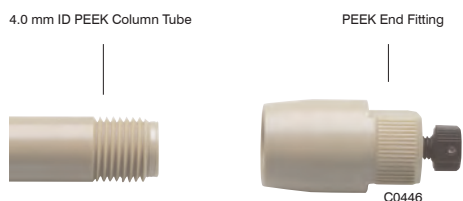


## PEEK Columns &amp; Packing Devices



## PEEK Columns 2.1 mm ID

| Part No.   | Description                   |
|------------|-------------------------------|
| JR-65001NF | Column, PEEK, 30 x 2.1 mm ID  |
| JR-65002NF | Column, PEEK, 50 x 2.1 mm ID  |
| JR-65003NF | Column, PEEK, 100 x 2.1 mm ID |
| JR-65005NF | Column, PEEK, 150 x 2.1 mm ID |
| JR-65006NF | Column, PEEK, 250 x 2.1 mm ID |



## PEEK Columns 4.0 mm ID

| Part No.   | Description                   |
|------------|-------------------------------|
| JR-68181NF | Column, PEEK, 50 x 4.0 mm ID  |
| JR-68182NF | Column, PEEK, 100 x 4.0 mm ID |
| JR-68183NF | Column, PEEK, 125 x 4.0 mm ID |
| JR-68184NF | Column, PEEK, 150 x 4.0 mm ID |
| JR-68185NF | Column, PEEK, 250 x 4.0 mm ID |
| JR-68186NF | Column, PEEK, 300 x 4.0 mm ID |

## Packing Devices

Our Packing Kits are "ready-to-use" tools to pack our PEEK columns.

## Packing devices

| Part No.     | Description  |
|--------------|--|
| JR-67-250-2A | Packing Kit, PEEK, for 2.1 mm ID columns, complete |
| JR-67-250-4  | Packing Kit, PEEK, for 4.0 mm ID columns, complete |

## SPECS

**Material**  
PEEK, black and natural  
Titanium

**Dimensions**  
See chart

**Tolerances**  
+/- 0.05 mm (.002")

**Pressure rating**  
For 2.1 mm ID columns:  
210 bar (3000 psi)  
For 4.0 mm ID columns:  
350 bar (5000 psi)

## SPECS

**Material**  
PEEK

**Pressure rating**  
For 2.1 mm ID columns:  
210 bar (3000 psi)  
For 4.0 mm ID columns:  
350 bar (5000 psi)

**Special note**  
Further technical support  
material is available on our  
webpage

## Packing Devices & Column Coupler One-Piece Fingertight

### Spare Parts

| Part No.      | Description   | Qty/pkg |
|---------------|---|---------|
| JR-062        | Endfitting, PEEK, for 2.1 mm ID columns                             | 1       |
| JR-66140      | Endfitting, PEEK, for 4.0 mm ID columns                             | 1       |
| JR-1125-2P-5  | Frit, Titanium, PEEK-encased, 2 $\mu\text{m}$ for 4.0 mm ID columns | 5       |
| JR-1125-5P-5  | Frit, Titanium, PEEK-encased, 5 $\mu\text{m}$ for 4.0 mm ID columns | 5       |
| JR-1128-5P-5  | Frit, Titanium, PEEK-encased, 5 $\mu\text{m}$ for 2.1 mm ID columns | 5       |
| JR-1150-10P-5 | Frit, PE, PEEK-encased, 10 $\mu\text{m}$ for 2.1 mm ID columns      | 5       |
| JR-1151-10P-5 | Frit, PE, PEEK-encased, 10 $\mu\text{m}$ for 4.0 mm ID columns      | 5       |
| JR-67140-1A   | Packing adapter, PEEK, for 2.1 mm ID columns                        | 1       |
| JR-67140-2B   | Packing adapter, PEEK, for 4.0 mm ID columns                        | 1       |
| JR-65011      | Replacement packing seal, PEEK, for 2.1 mm ID columns               | 1       |
| JR-66158      | Replacement packing seal, PEEK, for 4.0 mm ID columns               | 1       |

### SPECS

#### Material

Tubing: PEEK  
Fittings: PEEK  
Sleeve: Polypropylene

#### Threads

10-32 male to 10-32 male

#### Pressure rating

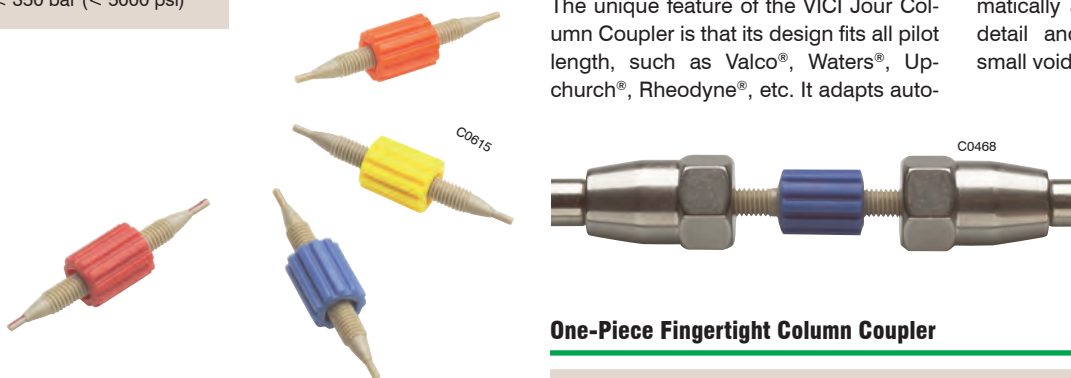
< 350 bar (< 5000 psi)

### Column Coupler One-Piece Fingertight

- Zero dead volume connections
- Fits all column designs
- Biocompatible
- Self adjusting
- Four bore sizes
- Various pore sizes and dimensions

The unique feature of the VICI Jour Column Coupler is that its design fits all pilot length, such as Valco®, Waters®, Upchurch®, Rheodyne®, etc. It adapts auto-

atically and bottoms out in any fitting detail and consequently creates only small void volumes.



### One-Piece Fingertight Column Coupler

| Part No. | Description                                 |
|----------|---|
| JR-26501 | Coupler, PEEK, universal 0.13 mm ID, red    |
| JR-26502 | Coupler, PEEK, universal 0.17 mm ID, yellow |
| JR-26503 | Coupler, PEEK, universal 0.25 mm ID, blue   |
| JR-26504 | Coupler, PEEK, universal 0.50 mm ID, orange |

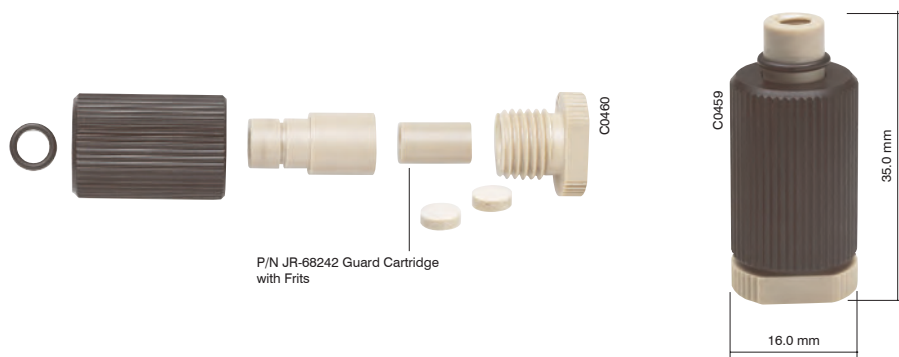
## In-Line Biocompatible Guard Column

### In-Line Biocompatible Guard Column

- Biocompatible
- Easy to fill
- Packing device for self packing available

VICI Jour In-Line PEEK Guard Column System extends the life of valuable analytical columns by trapping contaminants from the sample and mobile phase, thereby preventing loss of retention. Only PEEK and Titanium contact the mobile phase and sample. This system is ideal for use with proteins or other biopoly-

mers that may be contaminated or absorbed by steel surfaces. VICI Jour Guard Columns can be easily dry packed or slurry packed. Guard columns may be changed in minutes without the use of tools – all connections may be made by hand.



### SPECS

**Material**  
PEEK, Titanium

**Dimensions**  
See illustrations

**Pressure rating**  
< 350 bar (< 5000 psi)

**Special note**  
Our Packing Kit is a 'ready-to-use' tool to pack our PEEK guard cartridges. Every Kit consists of the needed slurry reservoir, packing adapter, packing seals etc.

Further technical support material is available on our webpage

### In-Line PEEK Guard Column

| Part No.    | Description   |
|-------------|---|
| JR-68252TI  | In-Line guard cartridge holder, PEEK, complete with 1 guard cartridge JR-68242Ti  |
| JR-68252TI2 | In-Line guard cartridge holder, PEEK, complete with 1 guard cartridge JR-68242Ti2 |
| JR-68242TI  | Column, PEEK, guard cartridge 8.0 x 3.0 mm ID, complete 2 pcs Ti-frit 5 $\mu$ m   |
| JR-68242TI2 | Column, PEEK, guard cartridge 8.0 x 3.0 mm ID, complete 2 pcs Ti-frit 2 $\mu$ m   |

### Packing Device

| Part No. | Description   |
|----------|---|
| JR-27305 | Packing Kit, PEEK, for In-Line guard cartridge system, complete |

### Spare Parts

| Part No.           | Description   |
|--------------------|---|
| JR-F-197-062-5TI   | Replacement frit, Titanium, 5 $\mu$ m for guard cartridge |
| JR-F-197-062-2TINC | Replacement frit, Titanium, 2 $\mu$ m for guard cartridge |
| JR-9               | Packing seal, CTFE  |

## Column End Plugs &amp; Column End Plugs, Logotype

## SPECS

**Material**  
Nylon

**Dimensions**  
For 10-32 fitting details  
Others: see illustration

**Tolerances**  
+/- 0.05 mm (.002")

## Column End Plugs

- Seals analytical columns
- One Size - fits all
- With wrench flats

The column end plugs have a fingertight design. One size fits all columns with 10-32 threads. Easy handling is guaranteed by additional 5/16" wrench flat, which al-

lows loosening the plug with a wrench in case it should be stuck. The long design and the threading down to the ferrule ensure a safe closing of valuable columns.



## Column End Plugs

| Part No.   | Color                                       | Qty/pkg |
|------------|---|---------|
| JR-4071-10 | Plug, Nylon, column endstopper white, 10-32 | 10      |
| JR-4072-10 | Plug, Nylon, column endstopper black, 10-32 | 10      |
| JR-4073-10 | Plug, Nylon, column endstopper red, 10-32   | 10      |
| JR-4074-10 | Plug, Nylon, column endstopper green, 10-32 | 10      |
| JR-4075-10 | Plug, Nylon, column endstopper blue, 10-32  | 10      |

## SPECS

**Material**  
Nylon

**Dimensions**  
For 10-32 fitting details

**Tolerances**  
+/- 0.05 mm (.002")

Column End Plugs, Logotype **NEW**

- Seals analytical columns
- One size - fits all
- Fingertight
- With wrench flat
- Possibility to place your LOGO on these plugs (OEM version)
- Available in your own color (OEM version)

These new column end plugs have the same function as the type above. Easy handling is guaranteed by the 5/16"

wrench flat. Fit all columns with the 10-32 thread.



Pictures resemble closely.

## Column End Plugs, Logotype

| Part No.   | Color                                | Qty/pkg |
|------------|--------------------------------------|---------|
| JR-4081-10 | Column end plug, Nylon, white, 10-32 | 10      |
| JR-4082-10 | Column end plug, Nylon, black, 10-32 | 10      |
| JR-4083-10 | Column end plug, Nylon, red, 10-32   | 10      |
| JR-4084-10 | Column end plug, Nylon, green, 10-32 | 10      |
| JR-4085-10 | Column end plug, Nylon, blue, 10-32  | 10      |





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### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.



## PEEK Sample Loops for Valco Valves

## SPECS

## Material

Loops: PEEK  
Nuts: PEEK  
Ferrules: PEEK  
Caps: Polyethylene

## Dimensions

See chart

## Tolerances of tube ID

+/- 0.025 mm (.001")

## Note

The tighter ID tolerance of the tubing minimizes the tolerance of the loop volume

All PEEK sample loops will be supplied with PEEK hex-head nuts and PEEK ferrules for reliable connections

This design avoids "twisting" of the tube



C0619

2x JR-5005 + 1 x JR-5510

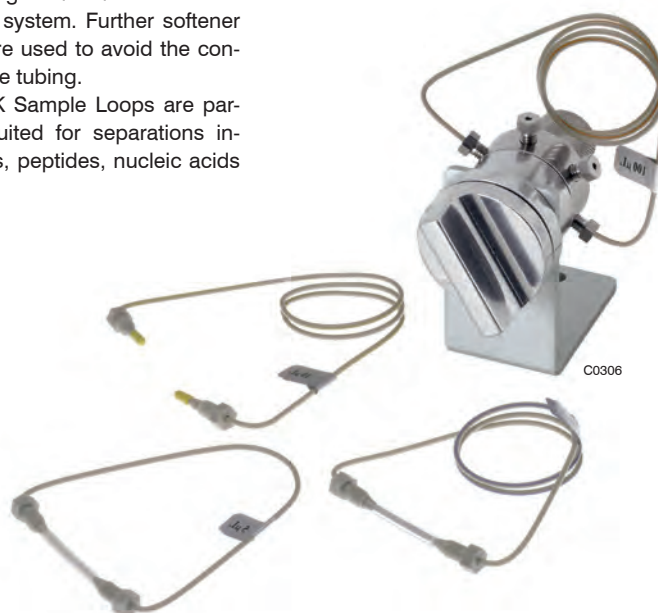
## PEEK Sample Loops for Valco Valves

- Fits all Valco W and UW type valves
- Wide range of volumes available
- Biocompatible

VICI Jour Sample Loops are made from PEEK tubing and fittings. PEEK is a mechanically strong, chemically inert polymer ideal for HPLC applications. Since VICI Jour PEEK Sample Loops contain no metals or other extractable compounds, no foreign materials will be introduced into the system. Further softener free PE caps are used to avoid the contamination of the tubing.

VICI Jour PEEK Sample Loops are particularly well suited for separations involving proteins, peptides, nucleic acids

or other samples of biological origin as well as in IC systems where metal traces may interact with ionic samples or re-lease transition metals that may deactivate ion exchange columns.



## PEEK Sample Loops for Valco Valves 1/16" OD

| Part No.       | Description | bar* | psi* |
|----------------|-------------|------|------|
| JR-SLV-75-5    | 5 µL        | 400  | 5800 |
| JR-SLV-75-10   | 10 µL       | 400  | 5800 |
| JR-SLV-75-20   | 20 µL       | 400  | 5800 |
| JR-SLV-75-50   | 50 µL       | 400  | 5800 |
| JR-SLV-75-100  | 100 µL      | 400  | 5800 |
| JR-SLV-75-250  | 250 µL      | 240  | 3500 |
| JR-SLV-75-500  | 500 µL      | 240  | 3500 |
| JR-SLV-75-1000 | 1 mL        | 240  | 3500 |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

\* = Recommended maximum permanent working pressure

## Spare Parts

| Part No.  | Description                                | Qty/pkg |
|-----------|--|---------|
| JR-5510-5 | Fitting, PEEK, Hex-head long, 10-32, 1/16" | 5       |
| JR-5005-5 | Single Ferrule, PEEK, 1/16"                | 5       |

## Stainless Steel Sample Loops for Valco Valves

### Stainless Steel Sample Loops for Valco Valves

- Fits all Valco W and UW type valves
- Wide range of volumes available

VICI Jour Stainless Steel Sample Loops are made of high quality SS316 and are cut using an electrolytic cutting process, cleaned with ultrasound and high pres-

sure steam to remove contaminants, dried and capped with softener free caps to avoid the recontamination of the tubing.



#### Stainless Steel Loop for Valco Valves 1/16" OD

| Part No.       | Description |
|----------------|-------------|
| JR-SLV-76-5    | 5 $\mu$ L   |
| JR-SLV-76-10   | 10 $\mu$ L  |
| JR-SLV-76-20   | 20 $\mu$ L  |
| JR-SLV-76-50   | 50 $\mu$ L  |
| JR-SLV-76-100  | 100 $\mu$ L |
| JR-SLV-76-250  | 250 $\mu$ L |
| JR-SLV-76-500  | 500 $\mu$ L |
| JR-SLV-76-1000 | 1 mL        |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

#### Spare Parts

| Part No.   | Description           | Qty/pkg |
|------------|-----------------------|---------|
| JR-ZN1-5   | Nut, SS, 10-32, 1/16" | 5       |
| JR-ZF1S6-5 | Ferrule, SS, 1/16"    | 5       |

#### SPECS

##### Material

Loops: SS316  
Nuts: SS303  
Ferrules: SS316  
Caps: Polyethylene

##### Dimensions

See chart

##### Tolerances of tube ID

+/- 0.05 mm (.002")

##### Pressure rating

< 350 bar (5000 psi)

##### Note

All Loops will be supplied with SS Hex-Head nuts and SS ferrules for reliable connections

Not recommended for use with halides

High pressure resistance, low permeability

##### Tech Tip

We offer nuts in three lengths to facilitate wrench access on valves

For loops frequently replaced we recommend the extra long nut – particularly when space is restricted (see page 50)

## PEEK Sample Loops for Cheminert Valves

## SPECS

## Material

Loops: PEEK  
Nuts: PEEK  
Ferrules: PEEK  
Caps: Polyethylene

## Dimensions

See chart

## Tolerances of tube ID

+/- 0.025 mm (.001")

## Note

The tighter ID tolerance of the tubing minimizes the tolerance of the loop volume

All PEEK sample loops will be supplied with PEEK hex-head nuts and PEEK ferrules for reliable connections

This design avoids "twisting" of the tube



2x JR-5005 + 1 x JR-5510

## PEEK Sample Loops for Cheminert Valves

- Fits all Cheminert C1, C2, C2V and C3 type valves
- Wide range of volumes available
- Biocompatible

VICI Jour Sample Loops are made from PEEK tubing and fittings. PEEK is a mechanically strong, chemically inert polymer ideal for HPLC applications. Since VICI Jour PEEK Sample Loops contain no metals or other extractable compounds, no foreign materials will be introduced into the system. Further softener free PE caps are used to avoid the contamination of the tubing.

VICI Jour PEEK Sample Loops are particularly well suited for separations involving proteins, peptides, nucleic acids or other samples of biological origin as well as in IC systems where metal traces may interact with ionic samples or release transition metals that may deactivate ion exchange columns.



## PEEK Sample Loops for Cheminert Valves 1/16" OD

| Part No.       | Description | bar* | psi* |
|----------------|-------------|------|------|
| JR-SLC-85-5    | 5 $\mu$ l   | 400  | 5800 |
| JR-SLC-85-10   | 10 $\mu$ l  | 400  | 5800 |
| JR-SLC-85-20   | 20 $\mu$ l  | 400  | 5800 |
| JR-SLC-85-50   | 50 $\mu$ l  | 400  | 5800 |
| JR-SLC-85-100  | 100 $\mu$ l | 400  | 5800 |
| JR-SLC-85-200  | 200 $\mu$ l | 240  | 3500 |
| JR-SLC-85-250  | 250 $\mu$ l | 240  | 3500 |
| JR-SLC-85-300  | 300 $\mu$ l | 240  | 3500 |
| JR-SLC-85-500  | 500 $\mu$ l | 240  | 3500 |
| JR-SLC-85-1000 | 1 ml        | 240  | 3500 |

Other dimensions are available on request. Please contact your local distributor or VICI directly.  
\* = Recommended maximum permanent working pressure

## Spare Parts

| Part No.  | Description                                | Qty/pkg |
|-----------|--|---------|
| JR-5510-5 | Fitting, PEEK, Hex-head long, 10-32, 1/16" | 5       |
| JR-5005-5 | Single Ferrule, PEEK, 1/16"                | 5       |

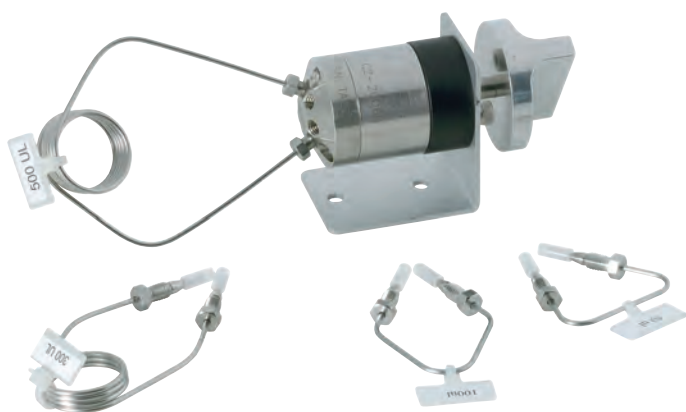
## Stainless Steel Sample Loops for Cheminert Valves

## Stainless Steel Sample Loops for Cheminert Valves

- Fits all Cheminert C1, C2, C2V and C3 type valves
- Wide range of volumes available

VICI Jour Stainless Steel Sample Loops are made of high quality SS316 and are cut using an electrolytic cutting process, cleaned with ultrasound and high pres-

sure steam to remove contaminants, dried and capped with softener free caps to avoid the recontamination of the tubing.



## Stainless Steel Loop for Cheminert Valves 1/16" OD

| Part No.       | Description |
|----------------|-------------|
| JR-SLC-86-5    | 5 µL        |
| JR-SLC-86-10   | 10 µL       |
| JR-SLC-86-20   | 20 µL       |
| JR-SLC-86-50   | 50 µL       |
| JR-SLC-86-100  | 100 µL      |
| JR-SLC-86-250  | 250 µL      |
| JR-SLC-86-500  | 500 µL      |
| JR-SLC-86-1000 | 1 mL        |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

## Spare Parts

| Part No.   | Description           | Qty/pkg |
|------------|-----------------------|---------|
| JR-ZN1-5   | Nut, SS, 10-32, 1/16" | 5       |
| JR-ZF1S6-5 | Ferrule, SS, 1/16"    | 5       |

## SPECS

## Material

Loops: SS316  
Nuts: SS303  
Ferrules: SS316  
Caps: Polyethylene

## Dimensions

See chart

## Tolerances of tube ID

+/- 0.05 mm (.002")

## Pressure rating

< 350 bar (5000 psi)

## Note

All Loops will be supplied with SS Hex-Head nuts and SS ferrules for reliable connections

Not recommended for use with halides

High pressure resistance, low permeability

## Tech Tip

We offer nuts in three lengths to facilitate wrench access on valves

For loops frequently replaced we recommend the extra long nut – particularly when space is restricted (see page 50)

## PEEK Sample Loops for Rheodyne® Valves

## SPECS

## Material

Loops: PEEK  
Nuts: PEEK  
Ferrules: PEEK  
Caps: Polyethylene

## Dimensions

See chart

## Tolerances of tube ID

+/- 0.025 mm (.001")

## Note

The tighter ID tolerance of the tubing minimizes the tolerance of the loop volume

All PEEK sample loops will be supplied with PEEK hex-head nuts and PEEK ferrules for reliable connections

This design avoids "twisting" of the tube



C0619

2x JR-5005 + 1 x JR-5510



C0304

## PEEK Sample Loops for Rheodyne® Valves

- Fits All Rheodyne® Metal and Metal Free Valves
- Wide Range of Volumes Available
- Biocompatible
- Made from Premium Grade PEEK Tubing

VICI Jour Sample Loops are made from PEEK tubing and fittings. PEEK is a mechanically strong, chemically inert polymer ideal for HPLC applications. Since our PEEK Sample Loops contain no metals or other extractable compounds, no foreign materials will be introduced into the system. Further softener free PE caps are used to avoid the contamination of the tubing.

Our PEEK Sample Loops are particularly well suited for separations involving proteins, peptides, nucleic acids or other samples of biological origin as well as in IC systems where metal traces may interact with ionic samples or release transition metals that may deactivate ion exchange columns.

## PEEK Sample Loops for Rheodyne® Valves 1/16" OD

| Part No.    | Description | bar* | psi* |
|-------------|-------------|------|------|
| JR-SLR-2190 | 1 µL        | 435  | 6300 |
| JR-SLR-2191 | 2 µL        | 420  | 6100 |
| JR-SLR-2192 | 3 µL        | 420  | 6100 |
| JR-SLR-2193 | 4 µL        | 420  | 6100 |
| JR-SLR-2194 | 5 µL        | 400  | 5800 |
| JR-SLR-2196 | 10 µL       | 400  | 5800 |
| JR-SLR-2195 | 20 µL       | 386  | 5600 |
| JR-SLR-2200 | 30 µL       | 386  | 5600 |
| JR-SLR-2201 | 40 µL       | 386  | 5600 |
| JR-SLR-2202 | 50 µL       | 350  | 4500 |
| JR-SLR-2204 | 100 µL      | 350  | 4500 |
| JR-SLR-2206 | 200 µL      | 240  | 3500 |
| JR-SLR-2207 | 250 µL      | 240  | 3500 |
| JR-SLR-2210 | 500 µL      | 240  | 3500 |
| JR-SLR-2222 | 1 mL        | 240  | 3500 |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

\* = Recommended maximum permanent working pressure

## Spare Parts

| Part No.  | Description                                | Qty/pkg |
|-----------|--|---------|
| JR-5510-5 | Fitting, PEEK, Hex-head long, 10-32, 1/16" | 5       |
| JR-5005-5 | Single Ferrule, PEEK, 1/16"                | 5       |

## Stainless Steel Sample Loops for Rheodyne® Valves

### Stainless Steel Sample Loops for Rheodyne® Valves

- Fits all Rheodyne valves
- Special loops for valve 7725
- Wide range of volumes available

VICI Jour Stainless Steel Sample Loops are made of high quality SS316 and are cut using an electrolytic cutting process, cleaned with ultrasound and high pres-

sure steam to remove contaminants, dried and capped with softener free caps to avoid the recontamination of the tubing.



#### Stainless Steel Loops for Rheodyne® Valves 1/16" OD

| Part No.   | Description |
|------------|-------------|
| JR-SLR-111 | 5 $\mu$ L   |
| JR-SLR-112 | 10 $\mu$ L  |
| JR-SLR-113 | 20 $\mu$ L  |
| JR-SLR-114 | 50 $\mu$ L  |
| JR-SLR-115 | 100 $\mu$ L |
| JR-SLR-116 | 200 $\mu$ L |
| JR-SLR-117 | 500 $\mu$ L |
| JR-SLR-118 | 1 mL        |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

#### Stainless Steel Loops for Rheodyne® Valves No 7725 1/16" OD

| Part No.      | Description |
|---------------|-------------|
| JR-SLR-111-77 | 5 $\mu$ L   |
| JR-SLR-112-77 | 10 $\mu$ L  |
| JR-SLR-113-77 | 20 $\mu$ L  |
| JR-SLR-114-77 | 50 $\mu$ L  |
| JR-SLR-115-77 | 100 $\mu$ L |
| JR-SLR-116-77 | 200 $\mu$ L |
| JR-SLR-117-77 | 500 $\mu$ L |
| JR-SLR-118-77 | 1 mL        |

Other dimensions are available on request. Please contact your local distributor or VICI directly.

#### Spare Parts

| Part No. | Description  | Qty/pkg |
|----------|--|---------|
| JR-57-5  | Nut, SS, long head, Rheodyne® type, for Valve No. 7725 | 5       |
| JR-58-5  | Nut, SS, x-long, Rheodyne® type,                       | 5       |
| JR-59-5  | Ferrule, SS, 1/16"                                     | 5       |
| JR-60-5  | Ferrule, SS, 1/16", 2-step Rheodyne® type              | 5       |

#### SPECS

**Material**  
 Loops: SS316  
 Nuts: SS316  
 Ferrules: SS316  
 Caps: Polyethylene

**Dimensions**  
 See chart

**Tolerances of tube ID**  
 +/- 0.05 mm (.002")

**Pressure rating**  
 < 350 bar (5000 psi)

**Note**  
 All loops will be supplied with Rheodyne® type SS hex-head nuts and SS ferrules for reliable connections

Not recommended for use with halides

High pressure resistance, low permeability

**Tech Tip**  
 We offer nuts in three lengths to facilitate wrench access on valves

For loops frequently replaced we recommend the extra long nut – particularly when space is restricted (see page 51)

All SS loops for Rheodyne® are available with the 2-step SS Ferrule Rheodyne® type on request



## ValvTool

## SPECS

## Dimensions

For nuts with 1/4" and 5/16" head

## ValvTool

- Handy tool for the lab
- Tighten nuts with a tube or loop installed
- Fits nuts with 1/4" or 5/16" heads

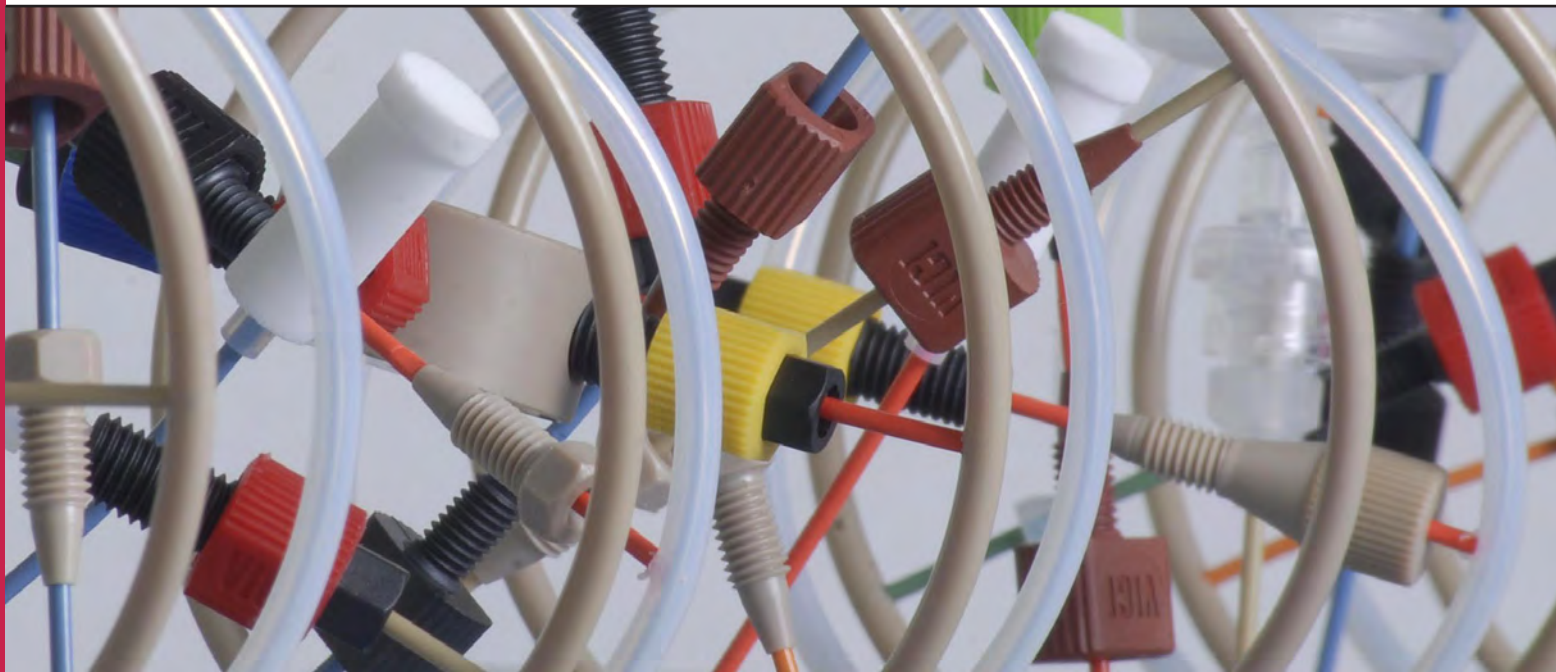
The new ValvTool is a time-saving device, which will provide easy access to many hard-to-reach areas. The unique design with its slotted wrench allows tightening nuts where a loop or a capillary may otherwise

make it difficult. The ValvTool is the ideal for Valco and Cheminert valves and fittings as well as for most of the SS and PEEK fittings on the market with 1/4" and 5/16" heads.



## ValvTool

| Part No. | Description                          |
|----------|--------------------------------------|
| JR-800   | ValvTool, 1/4" and 5/16" open wrench |



## INDEX

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Backpressure Regulators 117

### Disclaimer

The maximum holding pressure for any type of connection involving tubing and a ferrule, varies considerably with the tubing material, the ferrule material, the clearance between tubing OD and ferrule ID and the shape of the fitting detail.

## Backpressure Regulators

## SPECS

**Wetted parts**

Housing: PEEK  
Membrane: polyimide

**Dimensions**

For OD 1/16" Tubing

**Threads**

10-32

**Tolerances**

+/- 0.05 mm (.002")

**Pressure rating**

See Chart

**Special Info**

May be used between detector and other devices without affecting the performance

**Dead volume**

0.25  $\mu$ m (theoretical)

**Backpressure Regulators****NEW**

- Improves baseline stability by preventing bubble formation in flow cell
- Adjustable backpressure without disconnecting
- Low dead volume
- Biocompatible
- Easy mounting, panel hole 17 mm

Even properly degassed mobile phases may contain some dissolved gases that can release bubbles in the detector flow cell resulting in baseline noise and drift. The Backpressure Regulator provides a quick and convenient way to improve the stability of detector baseline by providing a constant backpressure on the flow cell which stops the release of dissolved gases from the mobile phase. A spring-loaded diaphragm provides the force that generates the backpressure. Spring tension may be adjusted using the backpressure adjustment screw on the top of

the regulator to vary the backpressure without disconnecting.

Because of the unique design, the Backpressure Regulator has a very small internal volume. Installed between two detectors in a multi-detector system, or between a detector and fraction collector system, or between a detector and fraction collector it will not affect the peak shape. Typically, 90 % or more of a given component's efficiency will be retained upon passing through the regulator. And the fluid path is completely biocompatible!

**Backpressure Regulators**

| Part No. | Description                                |
|----------|--|
| JR-BPR1  | Variable between 1-20 bar (15-300 psi)     |
| JR-BPR2  | Variable between 20-103 bar (300-1500 psi) |

## PEEK &amp; Polymer Chemical Resistance

## PEEK &amp; Polymer Chemical Resistance

PEEK exhibits excellent resistance to a wide range of organic and inorganic chemicals. The compatibility of PEEK with many chemicals at 20°C (68°F) has been investigated and the results for unreinforced grades are given in the table below.

PEEK is compatible with almost any of the solvents used in HPLC. The only solvent which will attack PEEK are

concentrated nitric acid and sulphuric acids. However, PEEK tubing can safely withstand 20–30% nitric acid when passivating a system.

Methylene Chloride, DMSO and THF may cause swelling in PEEK. The highest temperature we recommend for PEEK is 100°C. Up to this temperature the tubing will maintain the pressure rating stated.

A = suitable

B = marginal-dependent on application

C = not recommended

## PEEK and Polymer chemical resistance

| Resistance at 20°C    | PEEK | PE | PP | PPS | FEP | ETFE | PFA | PTFE |
|-----------------------|------|----|----|-----|-----|------|-----|------|
| Acetaldehyde          | A    |    |    |     | A   |      | A   |      |
| Acetic acid (20%)     | A    | A  | A  | A   | A   | A    | A   | A    |
| Acetic acid (80%)     | A    | A  | A  | A   | A   |      | A   | A    |
| Acetic acid (glacial) | A    | A  | A  | A   | A   | A    | A   | A    |
| Acetone               | A    | B  | A  | A   | A   | A    | A   | A    |
| Acetonitrile          | A    |    |    | A   | A   | A    | A   | A    |
| Acrylic acid          | A    |    |    | A   | A   |      | A   |      |
| Ammonia, anhydrous    | A    |    |    | A   | A   |      | A   |      |
| Ammonia (10%)         | A    | B  | A  | A   | A   | A    | A   | A    |
| Ammonia (Liquid)      | B    |    |    | A   | A   |      | A   |      |
| Ammonium hydroxide    | A    | A  | A  | A   | A   | A    | A   | A    |
| Aqua regia            | C    |    |    | C   | A   |      | A   |      |
| Aromatic hydrocarbons | A    | B  | C  | A   | A   |      | A   |      |
| Benzene               | A    | B  | C  | A   | A   | A    | A   | A    |
| Benzoic acid          | A    |    |    | A   | A   |      | A   |      |
| Benzaldehyde          | A    |    |    | A   | A   |      | A   |      |
| Bromine/dibromoethane | C    |    |    | C   | A   |      | A   |      |
| Bromine (dry)         | C    |    |    | C   | A   |      | A   |      |
| Bromine (wet)         | C    |    |    | C   | A   |      | A   |      |
| Boric acid            | A    |    |    | A   | A   |      | A   |      |
| Butanol               | A    | A  | A  | A   | A   | A    | A   | A    |
| Calcium hydroxide     | A    |    |    | A   | A   |      | A   |      |
| Carbon tetrachloride  | A    |    |    | A   | A   |      | A   |      |
| Chlorine (gas)        | A    |    |    | C   | A   |      | A   |      |
| Chlorine (liquid)     | C    |    |    | C   | A   |      | A   |      |
| Chloroacetic acid     | A    | B  | B  | A   | A   | A    | A   | A    |
| Chlorobenzene         | A    |    |    | A   | A   |      | A   |      |
| Chloroform            | A    | B  | B  | A   | A   | A    | A   | A    |
| Cyclohexane           | A    | B  | C  | A   | A   | A    | A   | A    |
| Cyclohexanone         | A    | C  | C  | A   | A   | A    | A   | A    |
| Diethylamine          | A    | C  | A  |     | A   | A    | A   | A    |
| Diethylether          | A    |    |    | A   | A   |      | A   |      |
| Diethylformamide      | A    | A  | A  | A   | A   | A    | A   | A    |
| Dioxane               | A    |    |    | A   | A   | A    | A   |      |
| Ethanol               | A    | B  | A  | A   | A   | A    | A   | A    |
| Ether                 | A    | B  | C  | A   | A   | A    | A   | A    |
| Ethyl acetate         | A    | B  | A  | A   | A   | A    | A   | A    |
| Ethylene chloride     |      | B  | B  | A   | A   | A    | A   | A    |
| Ethylene glycol       | A    | A  | A  | A   | A   | A    | A   | A    |
| Heptane               | A    | B  | B  | A   | A   | A    | A   | A    |

## PEEK &amp; Polymer Chemical Resistance

| Resistance at 20 °C          | PEEK | PE | PP | PPS | FEP | ETFE | PFA | PTFE |
|------------------------------|------|----|----|-----|-----|------|-----|------|
| Hexane                       | A    | B  | B  | A   | A   | A    | A   | A    |
| Hydrobromic acid (100%)      | C    | B  | B  | A   | A   |      | A   | A    |
| Hydrobromic acid (20%)       | C    | B  | A  |     | A   | A    | A   | A    |
| Hydrochloric acid (100%)     | A    |    | B  | C   | A   | A    | A   | A    |
| Hydrochloric acid (20%)      | A    | A  | B  | C   | A   | A    | A   | A    |
| Hydrofluoric acid (100%)     | C    |    | B  | C   | A   | A    | A   | A    |
| Hydrofluoric acid (20%)      |      | A  | A  | A   | A   | A    | A   | A    |
| Hydrogen peroxide (100%)     | A    | B  | B  | C   | A   |      | A   | A    |
| Hydrogen peroxide (50%)      | A    | B  | B  |     | A   | A    | A   | A    |
| Hydrogen peroxide (10%)      | A    | A  | A  | A   | A   | A    | A   | A    |
| Iso-octane                   | A    |    | A  | A   | A   |      | A   | A    |
| Isopropanol                  | A    | A  | A  | A   | A   |      | A   | A    |
| Isopropyl ether              |      | A  | B  |     | A   |      | A   | A    |
| Ketones                      | A    | B  | B  | A   | A   |      | A   | A    |
| Methanol                     | A    | A  | A  | A   | A   | A    | A   | A    |
| Methyl dichloride            |      |    | C  |     | A   |      | A   |      |
| Methyl ethylketone           | A    | B  | B  | A   | A   | A    | A   | A    |
| Methylene chloride           | B    | B  | B  | A   | A   | A    | A   | A    |
| Nitric acid (100%)           | C    | B  | C  | C   | A   | A    | A   | A    |
| Nitric acid (20%)            | A    | B  | A  | C   | A   | A    | A   | A    |
| Pentane                      | A    | C  | C  |     | A   |      | A   | A    |
| Perchloric acid              | A    | B  | B  |     | B   |      | B   | A    |
| Phenol (dilute)              | A    |    |    | A   | A   |      | A   |      |
| Phenol (conc.)               | C    |    |    | A   | A   |      | A   |      |
| Phosphoric acid (100%)       | A    | B  | A  | A   | A   | A    | A   | A    |
| Phosphoric acid (40%)        | A    | A  | A  | A   | A   | A    | A   | A    |
| Potassium hydroxide (dilute) | A    |    |    | A   | A   |      | A   |      |
| Potassium hydroxide (70%)    | A    |    |    | A   | A   |      | A   |      |
| Propanol                     | A    |    |    |     | A   |      | A   |      |
| Pyridine                     | A    | B  | A  | A   | A   | A    | A   | A    |
| Sodium hydroxide (80%)       | A    | B  | A  | A   | A   |      | A   | A    |
| Sodium hydroxide (20%)       | A    | A  | A  | A   | A   | A    | A   | A    |
| Sulphuric acid (100%)        | C    | B  | B  | A   | A   | A    | A   | A    |
| Sulphuric acid (75%)         | C    | A  | A  | A   | A   | A    | A   | A    |
| Sulphuric acid (40%)         | A    | A  | A  | A   | A   | A    | A   | A    |
| Tetrahydrofuran              | B    | B  | B  | A   | A   | A    | A   | A    |
| Toluene                      | A    | B  | B  | A   | A   | A    | A   | A    |
| Trichloroacetic acid         | A    | A  | A  | A   | A   | A    | A   | A    |
| Trichloroethane              | A    |    | B  |     | A   |      | A   | A    |
| Trichloroethylene            | A    |    |    | A   | A   |      | A   |      |
| Triethylamine                |      |    | C  |     | A   | A    | A   | A    |
| Water                        | A    | A  | A  | A   | A   | A    | A   | A    |
| Water (distilled)            | A    | A  | A  | A   | A   | A    | A   | A    |
| Xylene                       | A    |    |    | A   | A   |      | A   |      |

## The chemical resistance of PEEK at high temperature

| Chemical              | Temperature     | Rating | Chemical                  | Temperature     | Rating |
|-----------------------|-----------------|--------|---------------------------|-----------------|--------|
| Acetic acid           | 200 °C (420 °F) | B      | Methane                   | 200 °C (420 °F) | A      |
| Ammonia gas           | 200 °C (420 °F) | A      | Methylethylketone         | 200 °C (420 °F) | C      |
| Carbon monoxide gas   | 200 °C (420 °F) | A      | Nitrobenzene              | 200 °C (420 °F) | C      |
| Ethylene glycol       | 200 °C (420 °F) | B      | Phosphoric acid (50%)     | 200 °C (420 °F) | A      |
| Ethylene glycol (50%) | 140 °C (284 °F) | A      | Sodium hydroxide solution | 200 °C (420 °F) | A      |
| Hydrogen sulphide gas | 200 °C (420 °F) | A      | Sulphuric acid (50%)      | 200 °C (420 °F) | B      |
| Liquid ammonia        | 200 °C (420 °F) | B      | Sulphur dioxide gas       | 200 °C (420 °F) | A      |

## Conversions

## General Conversion Factors

|                |                       |
|----------------|-----------------------|
| inches to mm:  | inches x 25.4 = mm    |
| feet to meter: | feet x 0.3048 = meter |
| meter to feet: | meter x 3.28 = feet   |
| bar to psi:    | bar x 14.5 = psi      |
| psi to bar:    | psi x 0.069 = bar     |
| psi to kPa:    | psi x 6.9 = kPa       |

## Pressure Conversions

| bar  | psi   | kPa    | MPa  |
|------|-------|--------|------|
| 0.1  | 1.5   | 10     | 0.01 |
| 0.2  | 2.9   | 20     | 0.02 |
| 0.3  | 4.4   | 30     | 0.03 |
| 0.4  | 5.8   | 40     | 0.04 |
| 0.5  | 7.3   | 50     | 0.05 |
| 0.6  | 8.7   | 60     | 0.06 |
| 0.7  | 10.2  | 70     | 0.07 |
| 0.8  | 11.6  | 80     | 0.08 |
| 0.9  | 13.1  | 90     | 0.09 |
| 1    | 14.5  | 100    | 0.1  |
| 2    | 29.0  | 200    | 0.2  |
| 3    | 43.5  | 300    | 0.3  |
| 4    | 58.0  | 400    | 0.4  |
| 5    | 72.5  | 500    | 0.5  |
| 6    | 87.0  | 600    | 0.6  |
| 7    | 101.5 | 700    | 0.7  |
| 8    | 116.0 | 800    | 0.8  |
| 9    | 130.5 | 900    | 0.9  |
| 10   | 145   | 1000   | 1    |
| 20   | 290   | 2000   | 2    |
| 30   | 435   | 3000   | 3    |
| 40   | 580   | 4000   | 4    |
| 50   | 725   | 5000   | 5    |
| 60   | 870   | 6000   | 6    |
| 70   | 1015  | 7000   | 7    |
| 80   | 1160  | 8000   | 8    |
| 90   | 1305  | 9000   | 9    |
| 100  | 1450  | 10000  | 10   |
| 200  | 2900  | 20000  | 20   |
| 300  | 4350  | 30000  | 30   |
| 400  | 5800  | 40000  | 40   |
| 500  | 7250  | 50000  | 50   |
| 600  | 8700  | 60000  | 60   |
| 700  | 10150 | 70000  | 70   |
| 800  | 11600 | 80000  | 80   |
| 900  | 13050 | 90000  | 90   |
| 1000 | 14500 | 100000 | 100  |
| 1100 | 15950 | 110000 | 110  |
| 1200 | 17400 | 120000 | 120  |
| 1300 | 18850 | 130000 | 130  |

## Dimension Conversions

| mm    | inches  | mm    | inches | inches | mm    | ft | mm    |
|-------|---------|-------|--------|--------|-------|----|-------|
| 0.050 | 0.002"  | 1.50  | 0.059" | 1/32"  | 0.79  | 1  | 304.8 |
| 0.064 | 0.0025" | 2.00  | 0.079" | 1/16"  | 1.59  |    |       |
| 0.075 | 0.003"  | 3.00  | 0.118" | 3/32"  | 2.38  |    |       |
| 0.100 | 0.004"  | 4.00  | 0.157" | 1/8"   | 3.17  |    |       |
| 0.13  | 0.005"  | 4.60  | 0.181" | 1/4"   | 6.35  |    |       |
| 0.17  | 0.007"  | 6.00  | 0.236" | 5/16"  | 7.94  |    |       |
| 0.20  | 0.008"  | 6.35  | 0.250" | 1/2"   | 12.70 |    |       |
| 0.25  | 0.010"  | 6.40  | 0.252" | 1"     | 25.40 |    |       |
| 0.38  | 0.015"  | 7.00  | 0.276" |        |       |    |       |
| 0.50  | 0.020"  | 10.00 | 0.394" |        |       |    |       |
| 0.75  | 0.030"  | 12.70 | 0.500" |        |       |    |       |
| 1.00  | 0.039"  |       |        |        |       |    |       |

## Temperature Conversions

| °C  | °F  | °C  | °F  | °C  | °F  | °C   | °F   |
|-----|-----|-----|-----|-----|-----|------|------|
| -40 | -40 | 100 | 212 | 235 | 455 | 450  | 842  |
| -35 | -31 | 105 | 221 | 240 | 464 | 475  | 887  |
| -30 | -22 | 110 | 230 | 245 | 473 | 500  | 932  |
| -25 | -13 | 115 | 239 | 250 | 482 | 525  | 977  |
| -20 | -4  | 120 | 248 | 255 | 491 | 550  | 1022 |
| -15 | 5   | 125 | 257 | 260 | 500 | 575  | 1067 |
| -10 | 14  | 130 | 266 | 265 | 509 | 600  | 1112 |
| -5  | 23  | °C  | °F  | 270 | 518 | 625  | 1157 |
| 0   | 32  | 135 | 275 | 275 | 527 | 650  | 1202 |
| 5   | 41  | 140 | 284 | 280 | 536 | 675  | 1247 |
| 10  | 50  | 145 | 293 | 285 | 545 | 700  | 1292 |
| 15  | 59  | 150 | 302 | 290 | 554 | 725  | 1337 |
| 20  | 68  | 155 | 311 | 295 | 563 | 750  | 1382 |
| 25  | 77  | 160 | 320 | 300 | 572 | 775  | 1427 |
| 30  | 86  | 165 | 329 | 305 | 581 | 800  | 1472 |
| 35  | 95  | 170 | 338 | °C  | °F  | 825  | 1517 |
| 40  | 104 | 175 | 347 | 310 | 590 | 850  | 1562 |
| 45  | 113 | 180 | 356 | 315 | 599 | 875  | 1607 |
| 50  | 122 | 185 | 365 | 320 | 608 | 900  | 1652 |
| 55  | 131 | 190 | 374 | 325 | 617 | 925  | 1697 |
| 60  | 140 | 195 | 383 | 330 | 626 | 950  | 1742 |
| 65  | 149 | 200 | 392 | 335 | 635 | 975  | 1787 |
| 70  | 158 | 205 | 401 | 340 | 644 | 1000 | 1832 |
| 75  | 167 | 210 | 410 | 345 | 653 |      |      |
| 80  | 176 | 215 | 419 | 350 | 662 |      |      |
| 85  | 185 | 220 | 428 | 375 | 707 |      |      |
| 90  | 194 | 225 | 437 | 400 | 752 |      |      |
| 95  | 203 | 230 | 446 | 425 | 797 |      |      |



## Conversions

## Length Conversions

|       |         |       |        |        |       |
|-------|---------|-------|--------|--------|-------|
| mm    | inches  | mm    | inches | inches | mm    |
| 0.064 | 0.0025" | 3.00  | 0.118" | 1/32"  | 0.79  |
| 0.13  | 0.005"  | 4.00  | 0.157" | 1/16"  | 1.59  |
| 0.17  | 0.007"  | 4.60  | 0.181" | 3/32"  | 2.38  |
| 0.25  | 0.010"  | 6.00  | 0.236" | 1/8"   | 3.17  |
| 0.50  | 0.020"  | 6.35  | 0.250" | 1/4"   | 6.35  |
| 0.75  | 0.030"  | 6.40  | 0.252" | 5/16"  | 7.94  |
| 1.00  | 0.039"  | 7.00  | 0.276" | 1/2"   | 12.70 |
| 1.50  | 0.059"  | 10.00 | 0.394" | 1"     | 25.40 |
| 2.00  | 0.079"  | 12.70 | 0.500" |        |       |

## Volume Chart

| ID/mm | ID/inch | $\mu$ l/cm | $\mu$ l/inch | ID/mm | ID/inch | $\mu$ l/cm | $\mu$ l/inch |
|-------|---------|------------|--------------|-------|---------|------------|--------------|
| 0.050 | .002"   | 0.02       | 0.05         | 1.00  | .040"   | 7.85       | 20.59        |
| 0.064 | .0025"  | 0.03       | 0.08         | 1.40  | .055"   | 15.39      | 38.93        |
| 0.075 | .003"   | 0.04       | 0.12         | 1.52  | .060"   | 18.15      | 46.33        |
| 0.10  | .004"   | 0.08       | 0.21         | 1.59  | .062"   | 19.86      | 49.47        |
| 0.13  | .005"   | 0.13       | 0.32         | 1.65  | .065"   | 21.38      | 54.38        |
| 0.17  | .0067"  | 0.23       | 0.58         | 1.70  | .067"   | 22.70      | 57.78        |
| 0.18  | .007"   | 0.25       | 0.63         | 1.78  | .070"   | 24.88      | 63.06        |
| 0.25  | .010"   | 0.49       | 1.29         | 2.00  | .079"   | 31.42      | 80.32        |
| 0.38  | .015"   | 1.13       | 2.90         | 2.10  | .083"   | 34.64      | 88.66        |
| 0.50  | .020"   | 1.96       | 5.15         | 2.16  | .085"   | 36.64      | 92.99        |
| 0.75  | .030"   | 4.42       | 11.58        | 2.40  | .094"   | 45.24      | 113.72       |

This chart is only a guideline. Because of ID tolerances for our tubing (+/-0.025mm (.001") for premium grade tubing and +/- 0.050 mm (.002") for standard tubing) volumes have to be measured to get an exact result.

## Frit Volume

Internal frit volumes are theoretical and calculated by multiplying the total frit volume by the proportion of the pores in the frit (porosity proportion). Stated frit porosi-

ties are only nominal and do not reflect the maximum pore size of a frit. The chart below will help you in selecting the right frit for your application.

## SS and Titanium Frits &amp; Polymer Frits

| Porosity in $\mu$ m                | Max. pore size in $\mu$ m | Particles retained in $\mu$ m | Porosity in % |
|------------------------------------|---------------------------|-------------------------------|---------------|
| 0.2<br>(for 360 $\mu$ m OD tubing) | 1                         | 1.0                           | 22            |
| 0.5                                | 2                         | 1.5                           | 26            |
| 1                                  | 3                         | 3.0                           | 30            |
| 2                                  | 5                         | 3.5-5.0                       | 35            |
| 5                                  | 15                        | 15.0                          | 38            |
| 10                                 | 30                        | 30                            | 40            |

## Standard Threads

Place fitting on the fitting detail below to identify the thread size.

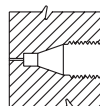
2-56  
(for 360  $\mu$ m OD tubing)



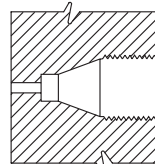
6-40  
(for 1/32" OD tubing)



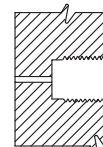
10-32  
(for 1/16" OD tubing)



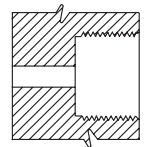
5/16"-24  
(for 1/8" OD tubing)



1/4"-28  
(for 1/16" and 1/8" OD tubing)



1/2"-20  
(for 1/4" OD tubing)



## Properties of Metals

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### **Stainless steel, type 316**

This is the standard tubing material for chromatography, suitable for a wide variety of applications. It is cold drawn seamless, not welded, with close tolerances held on both ID and OD. We neither recommend nor offer Type 304 stainless steel for analytical applications.

Austenitic stainless steels may be used for most chromatographic applications. Type 316 is most commonly used for HPLC because of its superior chloride ion resistance.

### **Stainless steel, type 303**

Recommended for GC use and general purpose connections. It combines excellent machining characteristics with good resistance to corrosion and high temperature oxidation. However, it is susceptible to attack by chlorides, iodides, and bromides.

### **Titanium**

Although it is more difficult to machine than common alloys containing aluminum and vanadium, Valco uses Grade 2 pure titanium in order to avoid possible contamination of the sample stream with these metals. Good for organic and inorganic salts except aluminum and calcium chlorides, and all alkalis except boiling concentrated potassium hydroxide.

Good with dilute, low temperature formic, lactic, sulfuric, hydrochloric, and phosphoric acids, but rapidly attacked by hydrofluoric acid. Good with dilute nitric acid at low temperatures; corrodes at high concentrations and temperatures. Can ignite with fuming nitric acid. Attacked by oxalic acid, concentrated phosphoric acid, hot trichloroacetic acid, and zinc chloride.

## Properties of Polymers

### CTFE

Chlorotrifluoroethylene, is the generic name for the material produced as Kel-F®. It is very resistant to all chemicals except THF and some halogenated solvents, and is resistant to all inorganic corrosive liquids, including oxidizing acids. CTFE can be used at temperatures up to 100°C. Swells in ketones.

### EPDM

Ethylene Propylene Diene Monomer. Ethylene-propylene synthetic rubbers offer excellent heat resistance, oxidation, ozone and weather aging due to their stable, saturated polymer backbone structure. As non-polar elastomers, they have good electrical resistivity, as well as resistance to polar solvents, such as water, acids, alkalies, phosphate esters and many ketones and alcohols.

### ETFE

Ethyltrifluoroethylene is the generic name for the material such as Tefzel®. A fluoropolymer used for sealing surfaces, it is resistant to most chemical attack; however, some chlorinated chemicals will cause a physical swelling of ETFE tubing.

### FEP

Fluorinated ethylene propylene is another member of the fluorocarbon family with similar chemical properties. It is generally more rigid than PTFE, with somewhat increased tensile strength. It is typically more transparent than PTFE, slightly less porous, and less permeable to oxygen. FEP is not as subject to compressive creep at room temperature as PTFE, and because of its slightly higher coefficient of friction is easier to retain in a compression fitting.

### FFKM (Perfluorinated rubber)

FFKM (Perfluorinated rubber) is a Perfluoroelastomer. This is a class of materials such as Kalrez®. It is chemically resistant to polar solvents, organic solvents, inorganic and organic acids and bases, fuels, oils, lubricants, inorganic salts, aldehydes, metal halogen compounds, chlorine, sodium hydroxide, aromatics, alcohols, steam, and strong oxidizing agents. The normal temperature service range is -40°C to 315°C and up to 343°C in intermittent service.

### PEEK

Considered relatively inert and biocompatible, polyetheretherketone tubing can withstand temperatures up to 100°C. Under the right circumstances, .005" – .020" ID tubing can be used up to 5000 psi for a limited time, and .030" to 3000 psi. Larger IDs are typically good to 500 psi. These limits will be substantially reduced at elevated temperatures and in contact with some solvents or acids. Its mechanical properties allow PEEK to be used instead of stainless in many situations and in some environments where stainless would be too reactive. However, PEEK can be somewhat absorptive of solvents and analytes, notably methylene chloride, DMSO, THF, and high concen-

trations of sulfuric and nitric acid. This tubing is highly prone to "kinking", or sealing off, if held in a sharp bend over time.

### PFA

Perfluoroalkoxy is a fluorocarbon with chemical and mechanical properties similar to FEP. More rigid than either PTFE or FEP. Commonly used for injection molded parts.

### PPS

Polyphenylene sulphide is the generic name for the material produced as Fortron®, Ryton®, and Techtron®. It is very resistant to all solvents, acids, and bases.

### PTFE

Polytetrafluoroethylene is the generic name for the class of materials such as Teflon®. It offers superior chemical resistance but is limited in pressure and temperature capabilities. Because it's so easy to handle, it is often used in low pressure situations where stainless steel might cause adsorption. PTFE tubing is relatively porous, and compounds of low molecular weight can diffuse through the tubing wall.

### Polyacetal

Polyacetal or Polyoxymethylene (POM) is the generic name for the material produced as Delrin®. It is an engineering polymer with high mechanical strength and rigidity, excellent dimensional stability and excellent resistance to moisture and solvents. It has a wide useful temperature range in air of -50°C to +90°C. It is not suitable for use with acids, alkalis and oxidizing agents and has limited resistance to dichloromethane and methyl ethyl ketone.

### Polyamide

Polyamide is a thermoplastic polymer also known as Nylon. Nylon has very good physical properties but moisture can have a significant effect. It exhibits very good heat resistance and excellent chemical and wear resistance.

### Polyethylene

Polyethylene is a semi-crystalline material with excellent chemical resistance, and good fatigue and wear resistance. Polyethylenes provide good resistance to organic solvents, staining, and have low moisture absorption rates.

### Polypropylene

Widely used polymer for non-wetted parts. Attacked by strong oxidizers, aromatic and chlorinated hydrocarbons.

### PVDF

PVDF, polyvinylidene fluoride, has excellent resistance to most mineral and organic acids, aliphatic and aromatic hydrocarbons, and halogenated solvents. Poor resistance to acetone, MEK, THF, and potassium and sodium hydroxide. Often supplied as Kynar®.

## Glossary

### A

#### Adapter

A type of fitting which provides a method of joining two components of differing thread types or systems.

#### Analytical column

A long narrow tube packed or coated with one of many available chemically diverse compounds that can separate the components in a sample according to their boiling point, polarity, molecular size, or combination thereof. A column of some kind is used with most chromatographic techniques.

### B

#### Backflush

The use of valving to reverse the flow through a column in order to "backflush" or purge heavier components from the column. See application demonstrating backflush.

#### Biocompatibility

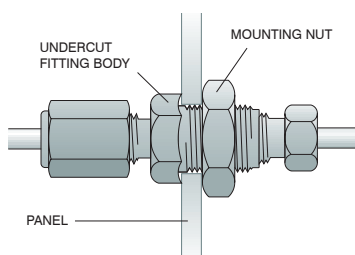
Defines the materials used in a system (i.e. fittings, tubing, and valves) that do not change the bioactivity of the biological substances that come into contact with the surface of these materials. Note that in chromatographic systems, the tubing and column (frits, packing material and wall) contribute over 99% of the surface area and the valves and fittings are insignificant.

#### Bore

The diameter of the orifice through the fitting. See capillary bore, through-type bore, and large bore.

#### Bulkhead fitting

A type of fitting in which the fitting body is inserted through an instrument panel or mounting bracket, to which it is affixed with a mounting nut. The Valco fitting body is uniquely undercut so that it "bites" into the panel when the mounting nut is tightened, eliminating the need for a lock washer.



#### Butt connection

A type of connection in which the two tube ends are directly and squarely in contact, usually effected with a through-type union. Typically used with fused silica connections, or small bore metal tubing.

### C

#### Cap

A cap is used to dead-end a piece of tubing with a nut and ferrule attached.

#### Capillary bore

The smallest available standard orifice in a given fitting design (usually 0.25 mm). Typically denoted by suffix "C" in the product number.

#### Collapsible ferrule

A one-piece ferrule engineered to collapse as it is tightened. The collapse takes place in two very narrow areas, and results in a very effective seal with virtually no distortion of the tubing ID and no dead volume. \*Patent No. 6,575,501

#### Compression fitting

A style of fitting in which a threaded nut compresses a tapered ferrule onto tubing as the nut is tightened. Valco metal ferrules cut a ring into the tubing wall while polymer types rely on surface compression to form a seal and hold the tube by friction.

#### Connecting volume

The volume between two or more connections. This may be cleanly swept, thus not contributing to peak distortion, or may be "dead volume" such as that found in fittings with larger bores than the connecting tubing.

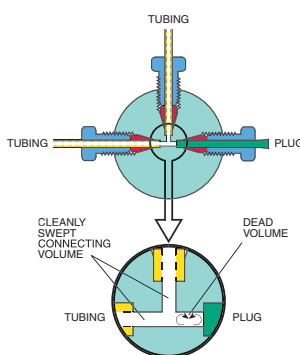
#### Cross

A type of distribution fitting which connects four pieces of tubing, arranging them in the pattern of a cross.

### D

#### Dead volume

Any volume which a component introduces to a system that is not cleanly swept and relies on diffusion to clear the space. See connecting volume.



#### Detail

See fitting detail.

**Distribution fitting**

A generic term for tees, crosses, and manifolds, used to provide multiple access points to "distribute" a gas or liquid through a system. CAUTION! Using a distribution fitting in reverse to merge multiple streams may create dead volume. Special manifolds are available for this application.

**F****Female Nut**

A type of compression fitting in which the nut has female threads.

**FIA**

Flow Injection Analysis. A simple and versatile analytical technique for automating wet chemical analyses based on the manipulation of a sample zone formed from the injection of the sample into a continuous stream of fluid used as a carrier.

**Ferrule**

One of the components of a compression fitting; the conical piece of metal or plastic that compresses onto the tube as it is forced into a tapered seat. Valco metal ferrules are unique in that they attach to and seal at the tube by cutting a shallow ring into it, instead of by actually swaging it. This is preferable since it introduces no flow restriction.

**Filter**

A type of union or reducing union which traps the particulates in a stream. The filtering element is typically a mesh screen or sintered frit.

**Fingertight Fitting**

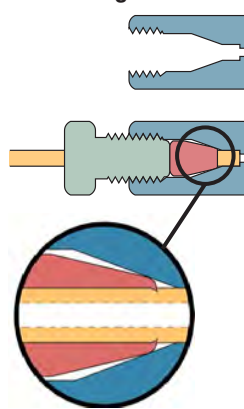
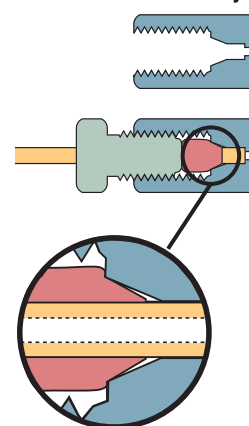
A fingertight fitting is a knurled or winged the nut which is hand tightened to compress the ferrule. Note: Polymer type ferrules rely on surface compression to form a seal and hold the tube by friction.

**Fitting**

A One-Piece combination of ferrule and nut with male threads.

**Fitting detail**

A fitting detail has the thread to accept the nut, a tapered ferrule seat and a pilot for the tube, thus the counterpart where the nut, ferrule and tube make the seal and are held in place. The Valco fitting details have the perfect shape, with a smooth transition from the ferrule seat into the cylindrical and threaded part. Many other fitting details are poor in design where the ferrule is forced in a too shallow ferrule seat. The result is a "knicked" ferrule which cannot apply its sealing force anymore to the front of the ferrule.

**Valco Design****Other Style****Flanged fitting**

A type of fitting used with fluoropolymer tubing (PTFE, FEP) in which a flange is made at the tube end. Connections are made at the flange either by compressing the flange into a flat detail (typically 1/4"-28 threaded) or by butting two flanges together. A special flanging tool forms the flanges.

**Flangeless fitting**

Similar in application to the flanged fitting, but the flange is not required. A ferrule system (collapsible ferrule or inverted ferrule) is used which grips/compresses the tube. This fitting type can be used with virtually any polymeric tubing since the tube end does not have to be formed, but simply square cut. Typically used in 1/4"-28 threaded fittings, it is usually interchangeable with flanged fittings.

**Frit**

A filter element typically made of stainless, Hastelloy, Titanium, or polymers, usually 0.75 mm or 1 mm thick. Frits may provide better filtration than screens, but because they are thicker there is greater mixing potential, and they typically result in increased pressure drop.

**G****GC**

Gas Chromatography. An analytical method incorporating an injection system, analytical column, controlled temperature zone, and detector. An inert carrier gas moves the sample through the column, which separates the sample components into discrete bands which are measured as they pass through the detector.

**Guard column**

A column used in series between the injector and analytical column to prevent certain types of components from entering the analytical column.

**H****HPLC**

High Performance Liquid Chromatography. An analytical system consisting of an injector, pump, analytical column, and detector. Using a liquid mobile phase, the sample is pumped through the column, where it is separated into discrete sample component bands which are detected and measured as the bands elute from the column.

**I****ID**

Internal diameter.

**Inert**

Technically, unreactive with other substances; however, in the instrumentation field, "inert" is a relative term. Often polymers are termed inert but are soluble in some fluids and can react with some compounds.

**L****LC**

Liquid Chromatography. Any of a variety of low to medium pressure techniques which use a liquid mobile phase as the carrier to move sample. Similar to HPLC.

**Large bore**

A bore that is larger than the standard for a given fitting; a fitting ordered with a large bore will have a larger flow orifice than the standard or capillary bore fitting of the same design.

**Luer adapter**

An adapter that connects a tapered luer fitting (square nib) of a syringe to a tube or tube fitting.

**M****Male Nut**

A type of compression fitting in which the nut has male threads.

**Make up**

The point at which a ferrule, nut, and tube are assembled in the fashion which will effect a leak-free seal. In most compression fittings, that is accomplished by compressing the tube with the small end of the ferrule. With Valco metal ferrules, the ferrule usually makes up on the tube by cutting a shallow ring in it.

**Manifold**

A type of distribution fitting in which a single source is directed to multiple outlets, or vice versa. Caution! Using a common distribution fitting in reverse to merge multiple streams may create dead volume. Special manifolds are available for this application.

**Microbore column**

A liquid chromatography column of narrow bore (typically 2 mm or less) for improved resolution.

**N****Nanovolume**

Nanovolume fittings and valves are designed for minimum system volume, have typically bores of 100  $\mu\text{m}$  and are used in applications with extreme low flows e.g. 200 nL/min.

**NPT**

National Pipe Thread; a standardized tapered pipe fitting. See pipe thread.

**Nut**

The tensioning component of a compression fitting. As the threaded nut is tightened into the fitting detail, it pushes the ferrule forward into the tapered ferrule seat, causing it to make up on the tube.

**O****OD**

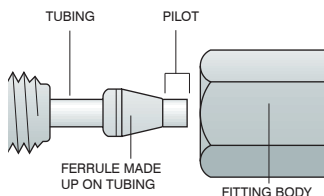
Outside diameter.

**One Piece Fingertight**

A one-piece fingertight fitting is a knurled or winged nut with integrated ferrule. It is convenient to use since the ferrule is retrieved together with the nut from a port. Note: Polymer type ferrules rely on surface compression to form a seal and hold the tube by friction.

**P****Pilot**

The tubing which extends beyond a ferrule in a made-up Fitting. See also "Pilot depth", and "Zero dead volume" below.

**Pilot depth**

The length of the tubing diameter cavity beyond the tapered ferrule seat within a fitting detail. Valco fitting pilot depths are tightly controlled which allows interchanging of components without the risk of leaks or dead volume.

**Pipe thread**

The external or internal threads of a fitting designed to effect a metal-to-metal seal on the conical thread faces. This type of fitting does not "bottom out" in the detail. Typically used with Teflon tape or other compound to



lubricate the threads; however, since the diffusion rate of air components through the Teflon tape is considerable, pipe fittings should not be used in systems where leakage rates are critical.

#### Plug

A plug is used to block a fitting detail in a union, Tee, cross or valve.

### S

#### Screen

A replaceable filter element generally made of Type 316 stainless steel, usually 0.003" thick. Screens clog less frequently than frits but they are less effective filters. Because they are thinner there is less hold-up volume and thus less mixing.

#### Port

The connection, orifice, seal, or septum, etc. through which sample, mobile phase or eluents may be added or withdrawn.

### R

#### reducing ferrule

A ferrule which allows a smaller tube to be used in a fitting detail designed for a larger tube. Caution should be taken if standard reducing ferrules without integral pilots are used, since dead volume may be created in the fitting pilot depth.

#### reducing union

A fitting which joins two tubes of different ODs. The bore of the fitting should typically match the ID of the smaller tube.

### T

#### Tee

A type of distribution fitting which connects three pieces of tubing, arranging them in the pattern of a "T".

#### Through-type bore

A bore which is slightly larger than the OD of the tubing which is used with the given fitting. A union with a through-type bore allows the tube ends to butt directly together, or for one tube to run completely through the fitting. Denoted by suffix "T" in the product number. In order to assure correct pilot lengths, we recommend that ferrules be made up on the tubing in a standard union.

### U

#### Union

A fitting for connecting two pieces of tubing of the same OD, or different OD's (see reducing Union).

**Female Union** – A type of compression fitting in which the fitting body has female threads. Also referred to as internal union.

**Male Union** – A type of compression fitting in which the fitting body has male threads. Also referred to as external union.

#### Unswept volume

The volume of any portion of a fitting which is in the flow-path but which is a different diameter than the primary flow orifice through the tubing/fitting assembly, or any area not directly swept by the fluid flow. This can also be known as "dead volume" if it is very poorly swept.

### W

#### Wetted surfaces

The surfaces which are contacted by the sample stream.

### Y

#### Y

A type of distribution fitting which connects three pieces of tubing, arranging them in the pattern of a "Y". Occasionally referred to as a "wye".

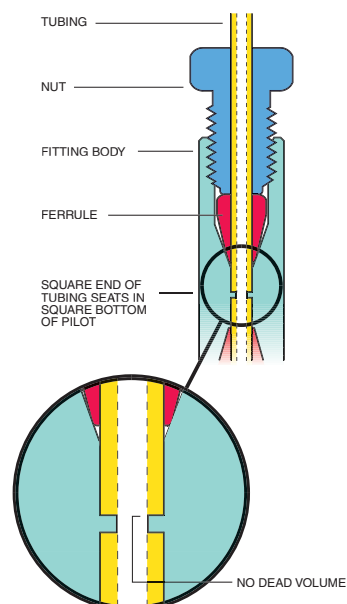
### Z

#### ZDV

Zero dead volume. See definition below.

#### Zero dead volume (ZDV)

Describes a connection which does not add volume to the system beyond what an extension of tubing would in its place.



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### GERMANY

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### NETHERLANDS

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Fizlabpribor Ltd.  
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### SWEDEN

Scantec Lab AB, Box 238  
SE-43324 Partille  
Phone: +46 31 336 90 00  
Fax: +46 31 336 90 36  
Email: scantec.info@scanteclab.se  
Web: www.scanteclab.se

### SWITZERLAND

BGB Analytik AG  
Rohrmattstrasse 4  
CH-4461 Böckten  
Phone: +41 61 991 00 46  
Fax: +41 61 991 00 25  
Email: sales@bgb-analytik.ch  
Web: www.bgb-analytik.ch

### THAILAND

AMANI CORPORATION LIMITED  
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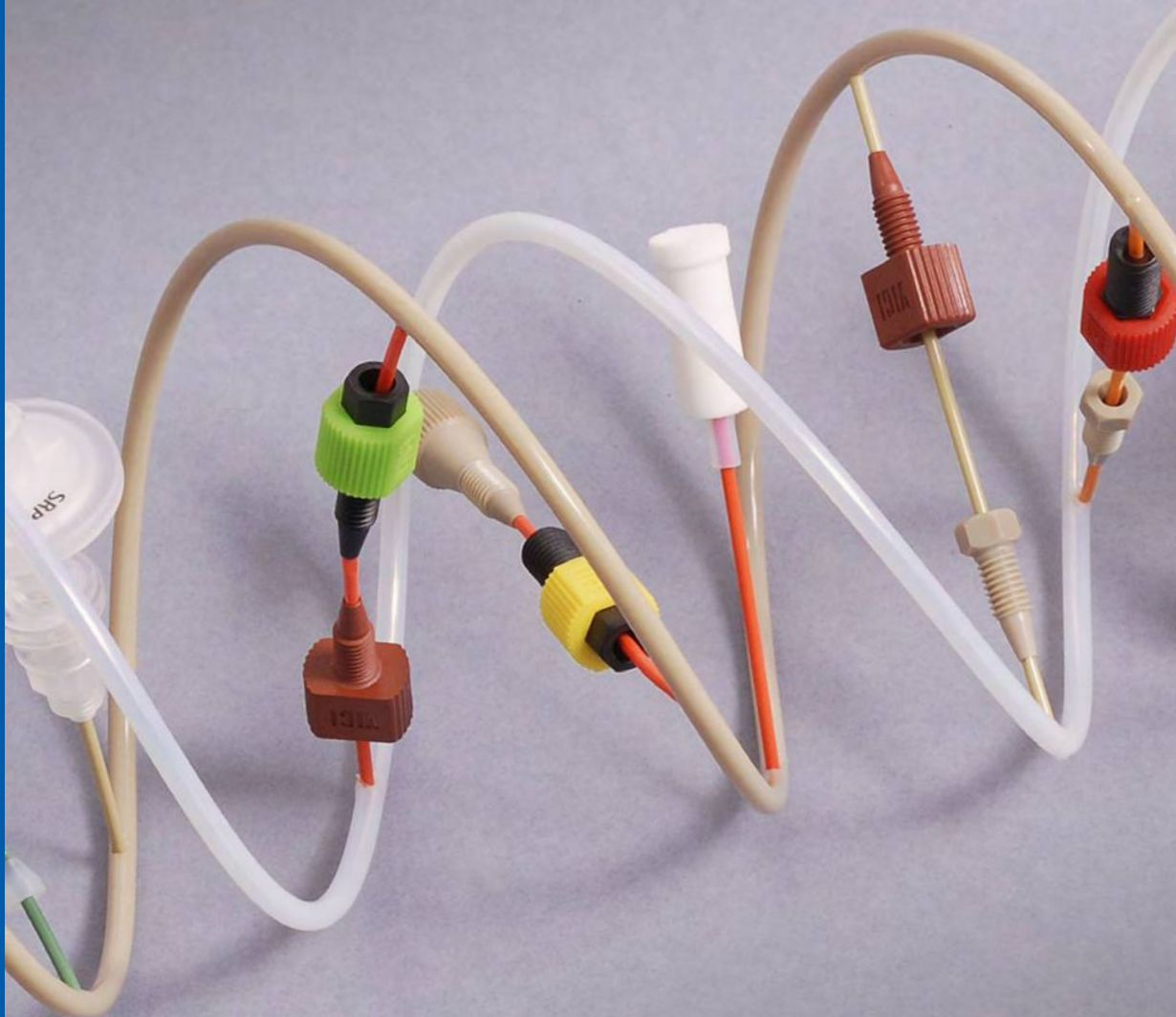
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