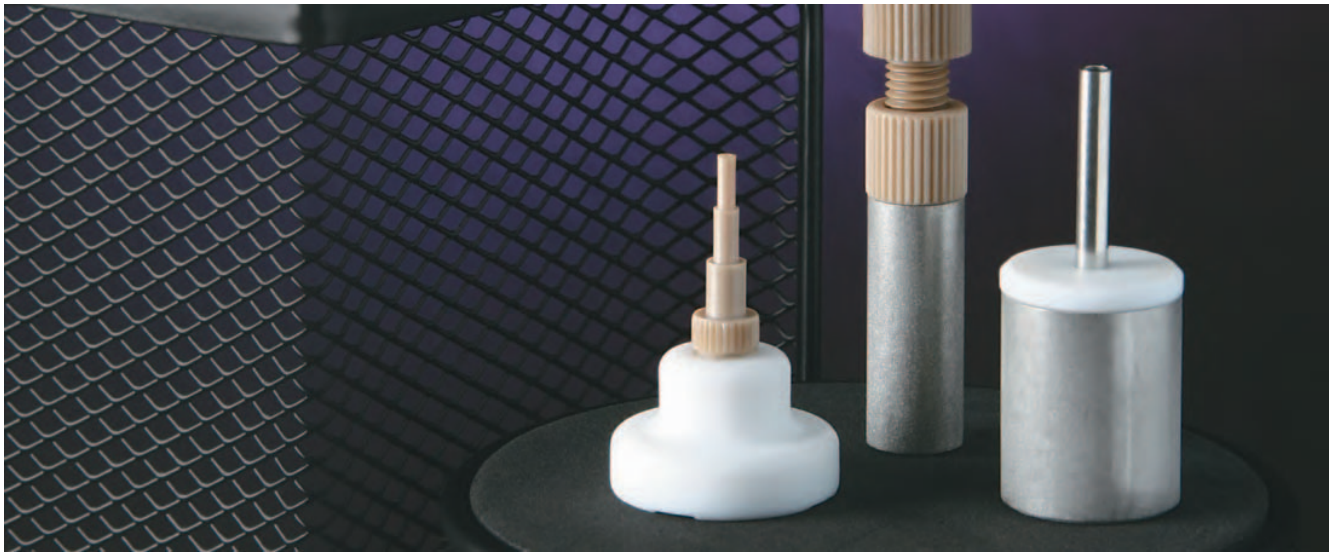
FILTERS



METAL AND POLYMERIC

Filters trap foreign particulates from sample and mobile phase streams before they can damage valuable columns and instruments.

FILTERS INDEX

In-line filter cartridges

LOW PRESSURE

- Easy to replace
- Compact design
- Fit all 1/4-28 fitting details
- Three porosity options

These convenient-to-use filters can be simply dropped into any 1/4-28 fitting detail, such as in a union. The filters are constructed of PTFE and PCTFE, with a Type 316 stainless low-pressure-drop screen. The inner design of the cartridge ensures the equal distribution of the solvent to the screen.

	Pore size	*Maximum flow rate **	*Product No.*
(Package/5)	2 µm	30 ml/min	JR-CFE-S2-5
	10 µm	30 ml/min	JR-CFE-S10-5
	75 µm	30 ml/min	JR-CFE-S75-5

SPECIFICATIONS

MATERIALS

Cartridge	PTFE/ PCTFE
Filter screen:	316 SS

DIMENSIONS

1/4-28 detail

OD	5.20 mm
Thickness	2.03 mm
Bore	0.8 mm
Filter surface diameter	2 mm

TOLERANCES

±0.05 mm (.002")

NOTES

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

TECH TIP

We recommend using these in-line filter cartridges in combination with our low pressure fittings:

DISCLAIMER

The maximum holding pressure for any type of connections 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 filters

LOW PRESSURE

SPECIFICATIONS

MATERIALS

Body PTFE
Frits PTFE/ 316 SS/PE

CONNECTIONS

Stepped tubing version is for 1.5, 2.2, and 3.5 mm ID tubing

Fitting version (for 1/8" OD tubing) includes PEEK 1/4-28 nut with ETFE ferrule

- No loss of mobile phase
- Biocompatible PTFE frits or stainless steel frits
- Three porosity options
- Two connector types: stepped tubing and 1/4-28 fitting

The Last Drop mobile phase filter allows more analyses per batch of mobile phase and helps reduce hazardous waste. The flat filter element sits parallel to the bottom of the reservoir, allowing the Last Drop to filter all but the last 2% of the mobile phase from the reservoir without drawing air into the system. Compare this with conventional cylindrical filters that can begin to draw air into the system when nearly 10% of the solvent remains in the reservoir.

The Last Drop mobile phase filter consists of a 316 stainless steel, PTFE 2.5 µm, or a hydrophobic PE filter element pressed into an inert PTFE housing. The top of the housing has a 1/4-28 nut and ferrule or a stepped PEEK fitting connector which slips into 1.5, 2.2, or 3.5 mm ID pump inlet lines.

Connector type:			**Stepped tubing connector**	**Fitting connector**
Filter material	*Pore size*	*Maximum flow rate **	*Product No.*	*Product No.*
PTFE	2.5 µm	1.2 ml/min	JR-9000-0520	JR-9000-0520F
	5 µm	2.6 ml/min	JR-9000-0521	JR-9000-0521F
	10 µm	3.5 ml/min	JR-9000-0522	JR-9000-0522F
Polyethylene	10 µm	11 ml/min	JR-9000-0522H	JR-9000-0522HF
Stainless	2 µm	28 ml/min	JR-9000-0530	JR-9000-0530F
	5 µm	30 ml/min	JR-9000-0531	JR-9000-0531F
	10 µm	30 ml/min	JR-9000-0532	JR-9000-0532F

NOTES

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

TECH TIPS

- Economy Last Drop mobile phase filters are easy to replace - easy to clean. Use ultrasound or replace with a new filter.
- Connect the Economy Last Drop filter with 1/8" OD tubing:
  ETFE tubing. 13
  FEP tubing… 16
  PFA tubing. 13
  PTFE tubing 14-15
- We recommend metal-free PTFE or glass filters for sensitive biochromatography applications where metal surfaces may corrode or interact with samples.

SEE ALSO

Last Drop mobile phase filter/spargers 60

Economy Last Drop mobile phase filters

LOW PRESSURE

SPECIFICATIONS

MATERIALS

Body PTFE
Frits PTFE/316 SS

TUBING OD

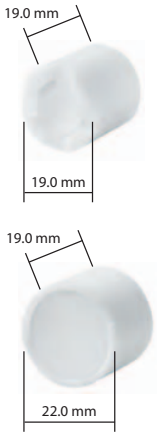
For 1/8" OD tubing

- Very competitively priced
- Biocompatible PTFE frits or stainless steel frits
- Three porosity options
- Two diameters

Economy mobile phase filters come in two body diameters, for various dimensions of bottle necks.

The filter body is made of PTFE, which is resistant to virtually all common mobile phases.

Frit material	*Body OD*	*Pore size*	*Maximum flow rate **	*Product No.*
PTFE	19 mm	2.5 µm	1.2 ml/min	JR-4676-2.5TF
		5 µm	2.6 ml/min	JR-4676-5TF
		10 µm	3.5 ml/min	JR-4676-10TF
	22 mm	2.5 µm	1.2 ml/min	JR-4677-2.5TF
		5 µm	2.6 ml/min	JR-4677-5TF
		10 µm	3.5 ml/min	JR-4677-10TF
Stainless steel	19 mm	2 µm	30 ml/min	JR-4676-2
		10 µm	30 ml/min	JR-4676-10
	22 mm	2 µm	30 ml/min	JR-4677-2
		10 µm	30 ml/min	JR-4677-10



FILTERS

Last Drop biocompatible glass mobile phase filters LOW PRESSURE

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

Because it has a glass frit, the flowrate can be much higher with this filter than with PTFE mobile phase filters. The glass foot allows withdrawal of nearly all of the mobile phase – less than 2% is left in the bottle.

Includes 1/8" tubing connector.

Frit material	*Pore size*	*Maximum flow rate **	*Product No.*
Glass	1.0 - 1.6 µm	30 ml/min	JR-9000-0520B
	10-16 µm	50 ml/min	JR-9000-0526G
	40-100 µm	200 ml/min	JR-9000-0528G

For tubing	*Size*	*Qty/pkg*	*Product No.*	
Replacement connectors				
1/8" OD	6.8 mm	1	JR-9000-0525GC	

SPECIFICATIONS

MATERIALS

Body	Glass
Frit	Glass

TUBING OD

For use with 1/8" tubing

NOTES

- * Flowrate measured with methanol/ water (1:1), ultrasonic degassed, helium sparging to prevent regassing.

TECH TIPS

- Because they are hydrophobic, No-Met filters may initially require some priming with methanol or acetonitrile.
- Connect the No-Met filter with 1/8" OD tubing:

No-Met biocompatible mobile phase filters

LOW PRESSURE

SPECIFICATIONS

MATERIALS

Body	PTFE/ Polyethylene
Adapter	PEEK
Fitting	PEEK
Ferrule	ETFE

TUBING OD

For 1/8" OD tubing

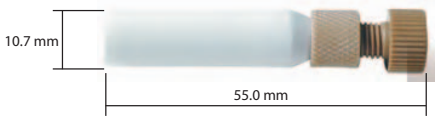
- Very competitively priced
- Inert and biocompatible
- Replacement filters
- Also recommended for IC

Stainless steel in the flowpath is not acceptable in a growing number of applications involving the separation of biomolecules. High salt buffers can corrode stainless steel, and the metal ions released from metallic filters may contaminate or otherwise react with the biomolecules of interest.

The No-Met polyethylene filter is designed for these applications, with inert polymeric fittings for 1/8" tubing and a 20 µm filter effectively eliminating metal contamination from the fluid path. Use them for IC and biochromatography applications.

No-Met filters can be used at flow rates up to 500 ml/min, measured with methanol/water (1:1), ultrasonically degassed. Flow rates can vary with solvent and tubing ID.

The economy version can easily be slipped over 1/8" OD tubing, with no fitting required.



Connection	*Filter material*	*Pore size*	*Maximum flow rate **	*Product No.*	
1/4-28 nut and ferrule	PTFE	5 µm	2.2 ml/min	JR-32171	
	Polyethylene	<20 µm	500 ml/min	JR-32178	
Economy slip-on connection	Polyethylene	20 µm	300 ml/min	JR-32174	

Filter material	*Pore size*	*Maximum flow rate **	*Product No.*
Replacement element			
PTFE	20 µm	2.2 ml/min	JR-32172
Polyethylene	<20 µm	500 ml/min	JR-32179

FILTERS

Last Drop filter/sparger

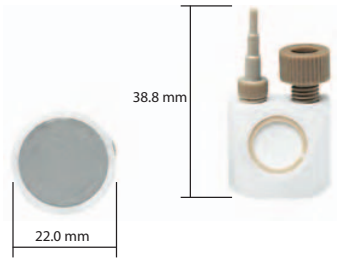
LOW PRESSURE

The Last Drop filter/sparger combines filtration and sparging in a single unit. The PTFE housing contains a mobile phase filter with a stainless steel, PTFE, or hydrophobic PE filter element.

Spargers have a porosity of 10 microns.

The filter/sparger includes:
- PEEK stepped connector which slips into 1.5, 2.2, or 3.5 mm ID solvent lines
- 1/4-28 nut and ferrule for the sparging line

Filter material	*Pore size*	*Maximum flow rate **	*Product No.*
PTFE	2.5 µm	1.2 ml/min	JR-9000-0602
	5 µm	2.6 ml/min	JR-9000-0603
	10 µm	3.5 ml/min	JR-9000-0604
Polyethylene	10 µm	11 ml/min	JR-9000-0604H
Stainless	2 µm	28 ml/min	JR-9000-0640
	5 µm	30 ml/min	JR-9000-0641
	10 µm	30 ml/min	JR-9000-0642



SPECIFICATIONS

MATERIALS

Body	PTFE
Frits	PTFE/ 316 SS/PE
Stepped tubing connector	PEEK
Nut	PEEK
Ferrule	ETFE

CONNECTIONS

Stepped tubing connector for 1.5, 2.2, and 3.5 mm ID tubing

PEEK 1/4-28 nut with ETFE ferrule for 1/8" OD tubing

Stainless steel mobile phase filter/helium sparger

LOW PRESSURE

SPECIFICATIONS

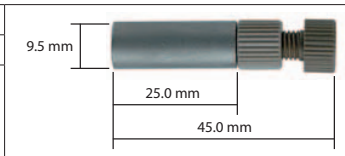
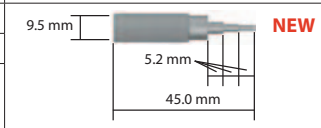
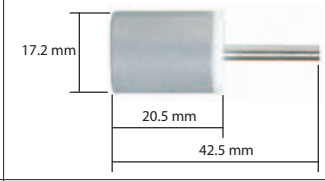
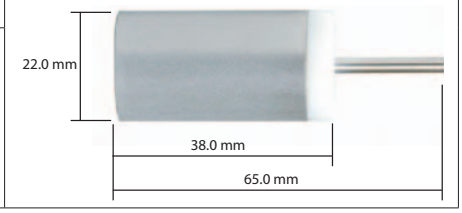
MATERIALS

Body	SS316
Pipe	SS316
Pipe adapter	PTFE
Fitting adapter	PEEK
Fittings	PEEK
Ferrules	ETFE

- Ideal for helium sparging
- Different porosity options
- 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 µm 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.

Fitting type	*Tubing/ pipe size*	*Pore size*	*Maximum flow rate **	*Product No.*	
1/4-28	1/16"	2 µm	35 ml/min	JR-367016-2	
		10 µm	35 ml/min	JR-367016-10	
		20 µm	35 ml/min	JR-367016-20	
	1/8"	2 µm	35 ml/min	JR-367008-2	
		10 µm	100 ml/min	JR-367008-10	
		20 µm	120 ml/min	JR-367008-20	
Stepped	1/16", 3/32", and 3.76 mm tubing ID	2 µm		JR-8000-0495-2	 NEW
		10 µm		JR-8000-0495-10	
		20 µm		JR-8000-0495-20	
Pipe	1/8"	2 µm	95 ml/min	JR-3675-2	
	1/8"	2 µm	50 ml/min	JR-3678-2	
		25 µm	100 ml/min	JR-3678-25	

TECH TIPS

- We recommend metal free PTFE filters for sensitive biochromatography applications where metal surfaces may corrode or interact with samples.
- We recommend our impermeable tubing to prevent "regassing" of helium-degassed solvents.

SEE ALSO

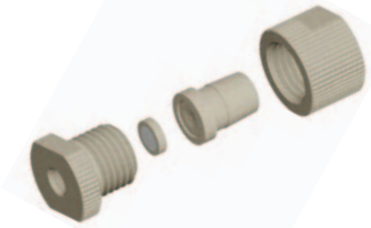
Last Drop mobile phase filters 57

FILTERS

PEEK in-line filter kit

HPLC

- Replaceable metal-free polyetheylene frits and biocompatible titanium frits
- 100% biocompatible
- Minimal hold-up volume
- Different porosity options

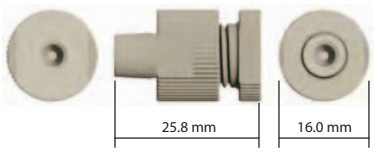


The PEEK in-line filter traps fines and other particles from samples and mobile phases before they damage valuable instruments and columns.

This female-to-female design is made entirely of PEEK, with PEEK-encased titanium or polyethylene filter elements, for biocompatibility and chemical resistance. The design has virtually no hold-up volume and can be used in analytical applications with virtually no band broadening or loss of efficiency.

Sold individually.

Frit material	*Pore size*	*Internal volume (µL) **	*Maximum flow rate ***	*Product No.*
Titanium	0.5 µm	9.50	25 ml/min	JR-68247
	2 µm	11.85	30 ml/min	JR-68253
	5 µm	12.7	30 ml/min	JR-68256
	10 µm	13.2	30 ml/min	JR-68257
Polyethylene	10 µm	13.9	30 ml/min	JR-68257PE



SPECIFICATIONS

MATERIALS
Body PEEK
Frit Titanium, Polyethylene

BORE
0.25/0.4 mm

TUBING OD / THREADS
1/16" 10-32

PRESSURE RATING
<350 bar (< 5000 psi)

Sure-Guard in-line filter kit

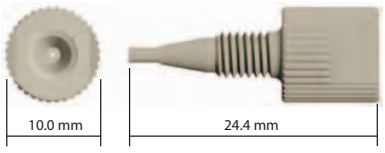
HPLC

- Disposable filter guard
- Minimal hold-up volume
- Titanium (biocompatible) and stainless steel frits, permanently pressed in place
- Two porosity options

The VICI Jour Sure-Guard disposable in-line filter offers an easy and inexpensive way to protect 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.

Sold in packages of three. Waters type filter kits are sold individually.

Frit material	*Pore size*	*Internal volume (µL) **	*Maximum flow rate ***	*Product No.*	**Waters type** *Product No.*
Stainless steel	0.5 µm	0.45 µL	30 ml/min	JR-0611-SS05-3	JR-0641-SS05
	2 µm	0.61 µL	30 ml/min	JR-0611-SS2-3	JR-0641-SS2
Titanium	0.5 µm	0.45 µL	30 ml/min	JR-0611-TI05-3	JR-0641-TI05
	2 µm	0.61 µL	30 ml/min	JR-0611-TI2-3	JR-0641-TI2



SPECIFICATIONS

MATERIALS
Body: PEEK
Frit: Stainless, Titanium

BORE
0.4 mm

THREADS
10-32 female to 10-32 male

PRESSURE RATING
<350 bar (< 5000 psi)

NOTES / TECH TIPS

See facing page.

PEEK precolumn filter kit

HPLC

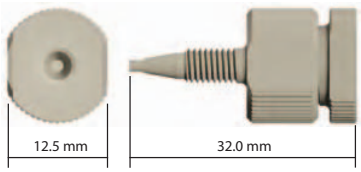
- 100% biocompatible
- Minimal hold-up volume
- Replaceable metal-free polyetheylene frits and biocompatible titanium frits encased in PEEK
- Different porosity options

The VICI Jour precolumn filter kit has a standard 10-32 fitting and fits direct to most column types without introducing additional dead volume.

The filter kit protects expensive columns against fine particles, which may otherwise accumulate on the column frit and lead to split peaks and high backpressure.

Sold individually.

Frit material	*Pore size*	*Internal volume (µL) **	*Maximum flow rate ***	*Product No.*
Titanium	0.5 µm	11.5	30 ml/min	JR-68258
	2 µm	13.85	30 ml/min	JR-68262
	5 µm	14.7	30 ml/min	JR-68263
	10 µm	15.2	30 ml/min	JR-68264
Polyethylene	10 µm	15.9	30 ml/min	JR-68264PE



Replacement frits

FOR PEEK IN-LINE AND PRECOLUMN FILTER KITS

Replacement frits for PEEK precolumn filter kit and PEEK in-line filter kit (*see facing page*).

Frit material	*Pore size*	*Internal volume (µL) **	*Qty/pkg*	*Product No.*
Titanium	0.5 µm	6.87	5	JR-1125-05P-5
	2 µm	9.24	5	JR-1125-2P-5
	5 µm	10.04	5	JR-1125-5P-5
	10 µm	10.56	5	JR-1125-10P-5
Polyethylene	10 µm	11.31	5	JR-1151-10P-5

SPECIFICATIONS

MATERIALS

Body	PEEK
Frit	Titanium, Polyethylene

BORE
0.25/0.4 mm

TUBING OD / THREADS

1/16"	10-32

PRESSURE RATING
<350 bar (< 5000 psi)

NOTES

* 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.

TECH TIP

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

NOTE

Polyethylene frits are for single use only.

SEE ALSO

Calculation of frit volume 109
PEEK-encased stainless frits. 88

FILTERS

Stainless steel precolumn filter

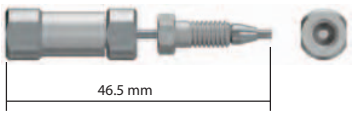
UHPLC

- (U)HPLC
- Mimimized hold-up volume
- Four porosity options
- Fewer connections compared to in-line filters
- Works with 1/16" column connections from all manufacturers

VICI Jour's new stainless steel precolumn filter is based on our well-known in-line filter. The design of this precolumn filter reduces the number of connections compared to a standard in-line filter, increasing the stability and reducing the potential of leakage.

The small bore sizes (0.15 mm in the nut/body and 0.13 mm in the tubing) guarantee a very small (virtually zero) hold-up volume.

With minimal dead-volume and available with four porosities, these filters are the best column protectors.

Bore size	*Pore size*	*Internal volume*		*Product No.*
0.13/0.15 mm	0.2 µm	0.59 µL		JR-69230-02
	0.5 µm	0.61 µL		JR-69230-05
	2 µm	0.66 µL		JR-69230-2
	5 µm	0.68 µL		JR-69230-5

SPECIFICATIONS

MATERIALS

Body 316 SS
Frit PEEK-encased SS

THREADS

10-32 Female for inlet
Male for outlet

PRESSURE RATING

With ZN1 nut and ZF1S6 ferrule:
up to 1375 bar (20,000 psi)

Replacement PEEK-encased SS frits

	Pore size	*Frit volume*	*Product No.*
(Package/5)	0.2 um	0.11 uL	JR-1110-02P-5
	0.5 um	0.13 uL	JR-1110-05P-5
	2 um	0.18 uL	JR-1110-2P-5
	5 um	0.20 ul	JR-1110-5P-5

Stainless steel in-line filter

UHPLC

SPECIFICATIONS

MATERIALS
Body 316 SS
Frit PEEK-encased SS

BORE
0.25 or 0.75 mm

THREADS
10-32 female to 10-32 male

PRESSURE RATING
With ZN1 nut and ZF1S6 ferrule:
up to 1375 bar (20,000 psi)

- (U)HPLC
- Minimized hold-up volume
- Two bores for analytical and semi-prep flow rates
- Four porosity options

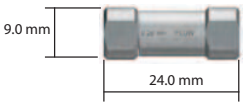
The stainless steel in-line filter has virtually no hold-up volume and can be used in various applications without significant band broadening or loss of efficiency.

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 0.2, 0.5, 2 or 5 µm, these in-line filters are the ideal column protectors.

Sold individually.

Bore size	*Pore size*	*Internal volume*	*Product No.*
0.25 mm	0.2 µm	0.2 µL	JR-68230-02
	0.5 µm	0.2 µL	JR-68230-05
	2 µm	0.3 µL	JR-68230-2
	5 µm	0.3 µL	JR-68230-5
0.75 mm	0.5 µm	1.7 µL	JR-68231-05
	2 µm	1.9 µL	JR-68231-2
	5 µm	1.9 µL	JR-68231-5



Replacement PEEK-encased SS frits

FOR FILTER ABOVE

	Bore size	*Pore size*	*Frit volume*	*Product No.*
(Package/5)	0.25 mm	0.2 µm	0.11 µL	JR-1110-02P-5
		0.5 µm	0.13 µL	JR-1110-05P-5
		2 µm	0.18 µL	JR-1110-2P-5
		5 µm	0.20 µL	JR-1110-5P-5
	0.75 mm	0.5 µm	0.55 µL	JR-1111-05P-5
		2 µm	0.74 µL	JR-1111-2P-5
		5 µm	0.80 µL	JR-1111-5P-5
		10 µm	0.87 µL	JR-1111-10P-5

NOTES

* 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.