


FLOM Products Catalog



VER. 7.0
SPRING 2019

Fluid Control Systems and Parts

(for HPLC and Industrial Use)

Plunger pumps

Valves

Degassing units

Liquid Level Sensor

Plumbing
(Fittings, Joints and Tubings)



Message to Our Customers

Inception	Our company started in October 1990 as a developer and manufacturer of components for liquid flow control, particularly as it applied to liquid chromatography. At first we focused on supplying the large OEMs involved in analytical instrumentation with high-pressure valves and related products.
Growth	The next year we began selling our GASTORR line of super-compact, high performance degassing systems to the OEM, general, and overseas markets. In 1992 we reached another milestone with the development of the super-compact non-pulsatile feedback control pump. We were highly gratified to see this pump, embodying a revolutionary feedback system, become a major hit widely used in a multitude of analytical applications.
Expansion	We have introduced many new products to the market since our inception, and in every instance we have focused on our core mission as a component maker, always striving to develop and manufacture products with ever high performance and quality. As part of our international sales effort, we aggressively market our components in the US, Europe, Australia, and many parts of Asia, exhibiting not only at Pittcon, the world's largest analytical fair, but in many other venues throughout the world as well. And every year we announce and demo our latest creations to manufacturers and distributors throughout the industrialized world.
Our Mission	Current analytical applications demand not only ever higher performance and precision, but also demand products with minimal environmental impact (which includes resource recycling). In line with this new realities, we at FLOM have rededicated ourselves to providing high performance, compact, light, and low cost components that amply comply with the latest environmental regulations and recycling initiatives. As good corporate citizens we take pride in developing new products that contribute to the growth of the analytical market, and to the greater benefit of human society as well.

Table of contents

1. Pumps	
Guide for Plunger Pump Selection	P 1
Plunger Pump Design and Features.....	P 2
Linear Drive Pumps	<i>Intelligent Pump UI Series</i>P 3
Automatic Back Pressure Regulator	<i>Auto BPR BP-11 Series</i>
Medium to High Pressure Pumps	<i>Dual Pump KP Series</i> P 4
Single Plunger Pumps	<i>PCS Pump SP Series</i> P 5
Gradient Controller	<i>Gradient Controller GE</i> P 6
Pump Accessories	P 7
Materials Abbreviations	P 8
2. Valves	
Guide for Valve Selection	P 9
Examples of Valve Switching Configurations	P10
Manual Sample Injectors	<i>Manual Sample Injector VI Series</i> P11
Manual Micro-injectors for Ultra High Pressure	<i>UHPLC Micro Injector MI-11</i> P12
Manual Valves	<i>Manual Valve V Series</i>P13
Automatic Valve	<i>Valve Unit VA-11 Series</i> P14
Automatic Valves for OEM Systems	<i>Auto Valve VA-11A/VA-12A Series</i> P15
High Speed Auto Valves for OEM Systems	<i>Auto Valve VF-01/VF-02 Series</i> P16
Pneumatic Drive Valves	<i>Air Valve 415 Series</i> P17
3. Degassing units	
Solvent Degassing Systems	<i>Gastorr AG Series</i> P18
Solvent Degassing Systems	<i>Gastorr BG Series</i> P19
Solvent Degassing for Fractionating Applications	<i>Gastorr PG Series</i> P20
Reactors	RT SeriesP21
4. Liquid Level Sensor	
Liquid Level Sensor	<i>Sonic Reservoir Sensor SR-13</i> P22
(Fittings, Joints and Tubings)	
5. Plumbing	
SS Fittings for 1/16" OD Tubing	P23
SS Unions, Joints, Tubing	P24
PEEK Fittings	P25
PEEK Fittings Double Lock, Flat Seal.....	P26
PEEK and Other Polymer Fittings, for 1/8", ø3, ø2 OD Tubing	P27
Unions and Joints, PEEK and Other Polymers	P28
PEEK, PTFE, ETFE, PFA Tubing	P29
6. Other parts	
Filters	P30
Bottles	P31
Addendum	
Addendum: Fitting and Tubing Sizes	P32

PUMPS

VALVES

DEGASSING UNITS

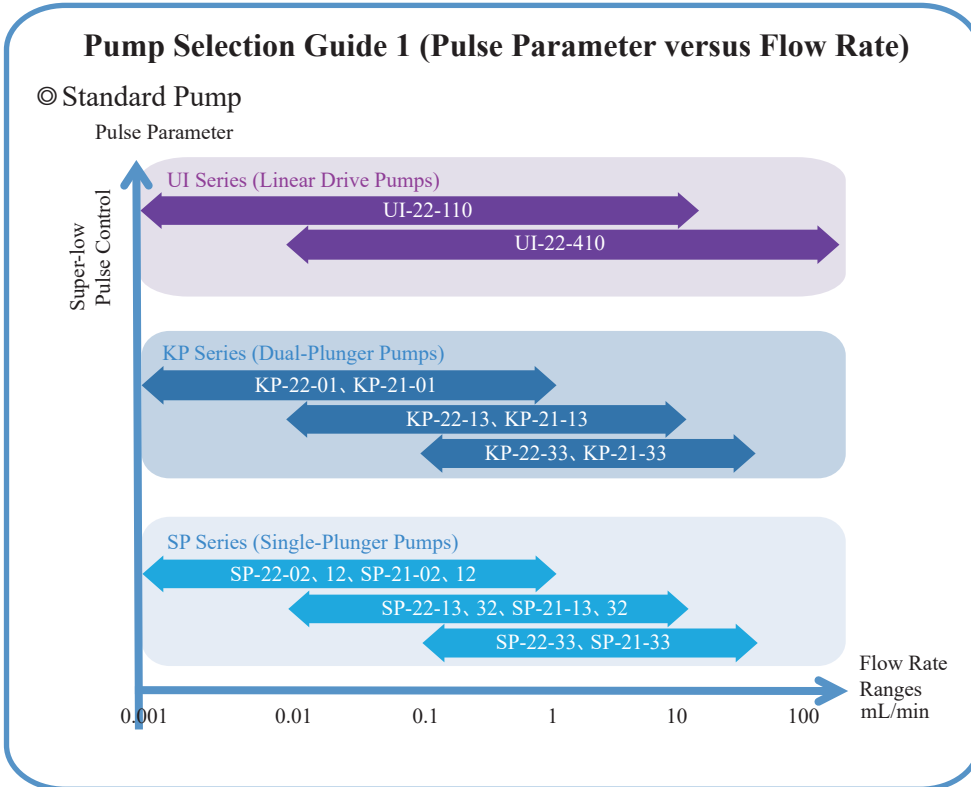
LIQUID LEVEL SENSOR

PLUMBING

OTHER PARTS

Guide for Plunger Pump Selection

FLOM Plunger Pumps are compact and easy to use. Use the guide below to select the pump that is right for your application, whether handling high viscosity solvents, bubble-sensitive situations, super-low pulsation and high throughput or high pressure applications. Also match the pump head material to the application at hand, whether SUS (stainless steel), PEEK (polyetheretherketone), plastic or PCTFE.



Pump Selection Guide 2 (Pump Head Material)

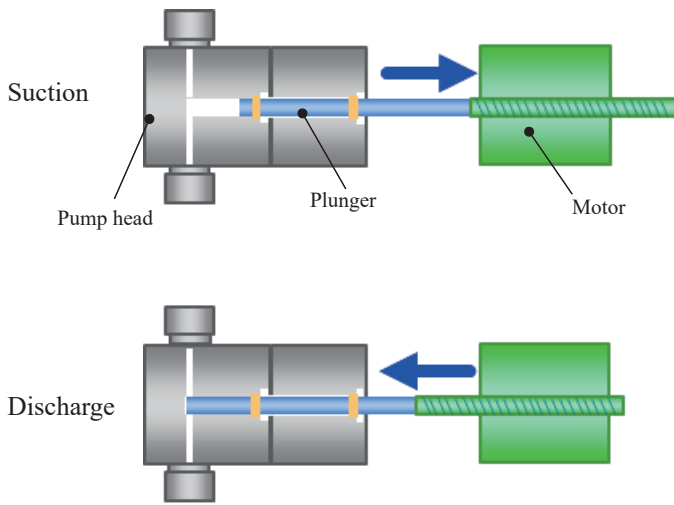
Pump Head Material	PCTFE	PEEK (Polyetheretherketone)	SS (Stainless Steel)
Application	Sulfuric Acid Solutions	Saline Solutions, Ionic Component Analysis	Organic Solvents, etc.
Max Pressure	2 MPa	20 MPa	35 MPa

Plunger Pump Design and Features

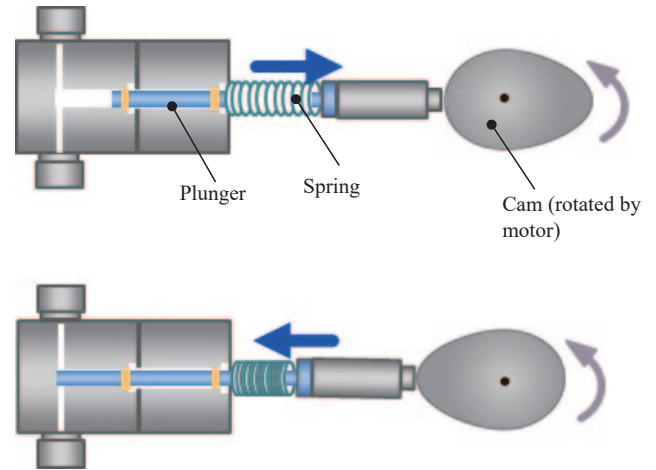
FLOM Plunger Pumps come in two configurations: linear drive and cam drive.

PUMP UNIT

Linear Drive (UI Series)



Cam Drive (AI, KP, SP Series)



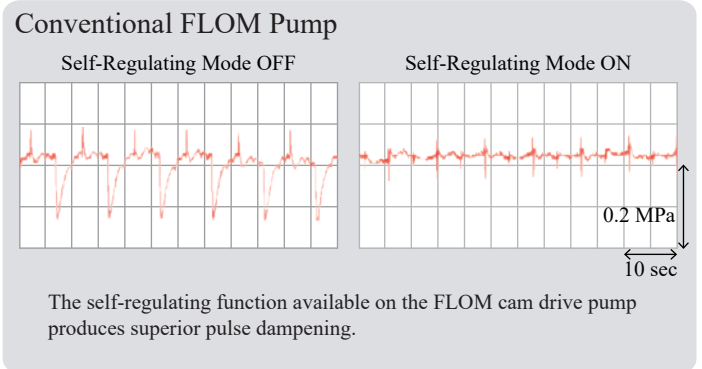
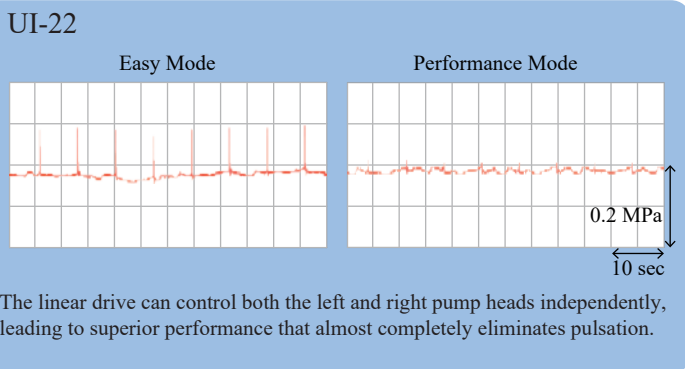
In a linear drive, the plunger moves along the same axis as the motor. In the graph above, the plunger moves left/right.

- Since the stroke is long, suction is greatly increased.
- With the elimination of vertical play, abrasion on the plunger is reduced.
- Highly wear-resistant plunger seals drastically reduce seal leaks even with highly volatile liquids, leading to longer pump life.

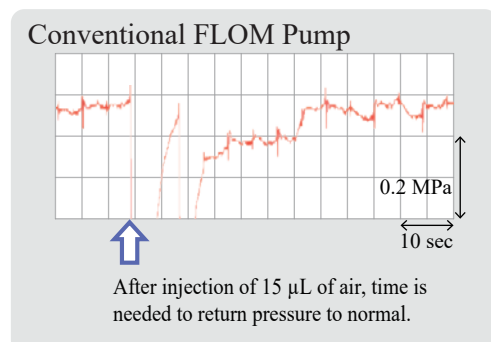
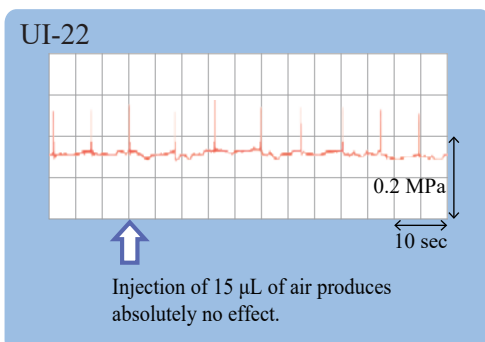
In this configuration, a cam is used to translate the motor's circular motion into linear motion. The forward motion of the cam supplies the energy needed by the spring for the return motion.

- Since a portion of the energy used to push the plunger is needed to compress the spring, a stronger motor is required.
- The movement of the cam produces vertical play causing wear, which requires periodic replacement of the plunger.

Comparison of Pulsation with a Conventional Pump



Air Mixture Tests





Intelligent Pump
UI-22-110, SS, PEEK, PCTFE

Linear Drive Pulse Control Intelligent Pump UI-22 series

Combines High Precision Flow with Ease of Use

Features

- Reduces pulsation to an absolute minimum, making super low pulsation flow possible
- Problems with bubbles greatly reduced
- Plunger seal life extended
- Limit switches for both high and low pressures
- Space-saving compact design
- 2 or more pumps can be externally controlled thru RS-232C interface
- Choose either PEEK or Stainless Steel to match solvent used

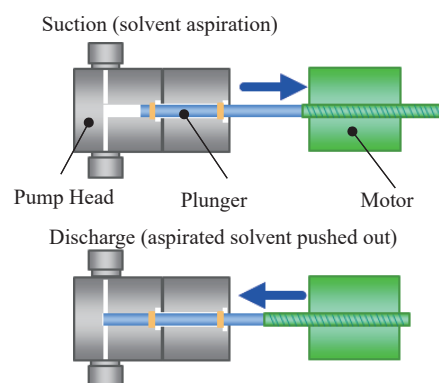
PUMP UNIT

Product name	Intelligent Pump					
Part number	UI-22-110			UI-22-410		
Pump head material	SS	PEEK	PCTFE	SS	PCTFE	
Max pressure *1	35 MPa	20 MPa	2 MPa	5 MPa	2 MPa	
Flow rate range	0.001 ~ 9.999 mL/min			0.01 ~ 99.99 mL/min		
Flow per stroke	80 µL			708 µL		
Plunger stroke	10 mm					
Flow accuracy	< 0.3 %					
Features	Active pulse reduction, Flow volume calibration, Upper and lower pressure limiter					
Pressure accuracy	< 5 %					
Wetted materials	SS type: SS, Sapphire, Ruby, PTFE, PCTFE PEEK type: PEEK, Sapphire, Ruby, PTFE, PCTFE PCTFE type: PCTFE, Sapphire, Ruby, PTFE, ETFE					
Remote control	Input: Pump on/off, Output: Error signal					
Communication	RS232C					
Dimensions	144 (H) x 105 (W) x 240 (D) mm					
Weight	Approx. 5.6 Kg					
Order code	SLP-P509	SLP-P514	SLP-P517	SLP-P511	SLP-P510	

*1: Maximum pressure is only sustained intermittently. Continuous pump operation at maximum pressure cannot be guaranteed.

Note: The specifications and product design may change without prior notice.

Linear Drive Design



The UI-22 pump uses a linear driver mechanism in which the plunger moves in line with the motor's axis. Because aspirated air can be easily discharged, and with the seal suffering almost no wear, tiny leaks from the seal are eliminated, which means that even highly volatile solvents can be efficiently pumped.

NEW Automatic Back Pressure Regulator Auto BPR BP-11 Series For use with UI-22 Series

Features

- Provide consistent pressure with tracking variable pump pressure in real time
- For use with UI-22 Series Intelligent Pump



Auto BPR
BP-11, PCTFE

Product name	Auto BPR	
Part number	BP-11S	BP-11D
Wetted material	SUS, PFA	PCTFE, PFA
Fluid path diameter	0.6mm	
Pressure range	0.10~5.00MPa	
Flow rate	0.1~100ml/min	
Pressure control range*1	0.5~5.00MPa	
Control accuracy	±0.1MPa	
Pressure signal	uses pressure signal from UI-22 [DC1-5V]	
Remote control	RS232C, RS485, START-IN, READY-OUT	
Dimensions	144(W)×79×(H)×240(D) mm excluding protuberances	
Weight	Approx. 2.7kg	
Order Code	SBP-F012	SBP-F019

*1: When using distilled water or methanol, settable pressure is 0.5~5.0MPa, settable flow rate is 0.1~50.0ml/min.
Note: for flow rates outside the 0.1~50.0ml range, contact FLOM.

Dual Pump
KP-22-13, SSDual Pump
KP-22-13, PEEKDual Pump
KP-22-13, PCTFE

Medium to High Pressure Pumps Dual Pump KP-22 Series

A general-use pump with pressure sensor

Features

- High precision and stable flow volumes
- Equipped with pulse control for reduced fluctuations in pressure
- Real-time display of pressure
- Metered flow mode allows setting to desired flow volumes
- Upper and lower pressure limiter
- RS-232C interface for computer control
- Variety of seals to choose from depending on solvent
- Choose from 3 different models to match desired flow ranges
- Choose from 3 different pump head materials

Product name	Dual Pump with pressure sensor								
	KP-22-01		KP-22-13			KP-22-33			
Part number	SS	PEEK	SS	PEEK	PCTFE	SS	PEEK	PCTFE	
Pump head material	SS	PEEK	SS	PEEK	PCTFE	SS	PEEK	PCTFE	
Max pressure *1	30 MPa	20 MPa	30 MPa	20 MPa	2 MPa	5 MPa	5 MPa	2 MPa	
Flow rate range *2	0.001 ~ 1.000 mL/min		0.01 ~ 10.00 mL/min			0.1 ~ 50.0 mL/min			
Flow per stroke	4 µL		32 µL			154 µL			
Flow accuracy	± 0.3 %								
Features	Pulse control *3, Flow volume calibration, Upper and lower pressure limiter Constant pressure flow *4, Set volume dispensing								
Pressure accuracy	± 5 %								
Wetted materials	SS type: SS, Sapphire, Ruby, PTFE, PCTFE PEEK type: PEEK, Sapphire, Ruby, PTFE, PCTFE PCTFE type: PCTFE, Sapphire, Ruby, PTFE, ETFE								
Remote control	Input: Pump on/off, Output: Error signal								
Communication	RS232C								
Dimensions	144 (H) x 79 (W) x 285 (D) mm								
Weight	SS type: 4.3 kg, PEEK and PCTFE type: 3.8 kg								
Order code	SDP-P1081	SDP-P1080	SDP-P1077	SDP-P1076	SDP-P1114	SDP-P1079	SDP-P1078	SDP-P1111	

*1: Maximum pressure is only sustained intermittently. Continuous pump operation at maximum pressure cannot be guaranteed.

*2: The unit cannot run continuously at maximum flow rate.

*3: Pulse control is activated below the flow pressure of 5 MPa.

*4: Constant pressure flow mode adjusts the flow rate in real time to stabilize the pressure at the set range.

Note: The specifications and product design may change without prior notice.

Dual Pump
KP-21-13, SSDual Pump
KP-21-13, PEEK

Medium to High Pressure Pumps Dual Pump KP-21 Series

A general-use pump without pressure sensor

Features

- High precision and stable flow volumes
- RS-232C interface for computer control
- Variety of seals to choose from depending on solvent
- Choose from 3 different models to match desired flow ranges
- Choose from 2 different pump head materials

Product name	Dual Pump without pressure sensor					
	KP-22-01		KP-22-13		KP-22-33	
Part number	SS	PEEK	SS	PEEK	SS	PEEK
Pump head material	SS	PEEK	SS	PEEK	SS	PEEK
Max pressure *1	30 MPa	20 MPa	30 MPa	20 MPa	5 MPa	5 MPa
Flow rate range *2	0.001 ~ 1.000 mL/min		0.01 ~ 10.00 mL/min		0.1 ~ 50.0 mL/min	
Flow per stroke	4 µL		32 µL		154 µL	
Flow accuracy	± 0.3 %					
Features	Flow volume calibration, Set volume dispensing					
Pressure accuracy	-					
Wetted materials	SS type: SS, Sapphire, Ruby, PTFE, PCTFE PEEK type: PEEK, Sapphire, Ruby, PTFE, PCTFE					
Remote control	Input: Pump on/off, Output: Error signal					
Communication	RS232C					
Dimensions	144 (H) x 79 (W) x 285 (D) mm					
Weight	Approx. 3.4 kg					
Order code	SDP-P1087	SDP-P1086	SDP-P1083	SDP-P1082	SDP-P1085	SDP-P1084

*1: Maximum pressure is only sustained intermittently. Continuous pump operation at maximum pressure cannot be guaranteed.

*2: The unit cannot run continuously at maximum flow rate.

Note: The specifications and product design may change without prior notice.



PCS Pump
SP-22-13, SS

PCS Pump
SP-22-13, PEEK

Single Plunger Pumps PCS Pump SP-22 Series

Single plunger pump equipped with pressure sensor

Features

- Low-cost, simple to operate single plunger pump
- Equipped with pulse reduction mechanism (quick return mode)
- Real-time pressure display
- Upper pressure limiter
- Convenient precision metered solvent volume dispensing
- Choose from 5 different models to match desired flow ranges

Product name	PCS Pump with pressure sensor									
Part number	SP-22-02		SP-22-12		SP-22-13		SP-22-32		SP-22-33	
Pump head material	SS	PEEK	SS	PEEK	SS	PEEK	SS	PEEK	SS	PEEK
Max pressure *1	20 MPa	20 MPa	20 MPa	20 MPa	10 MPa	10 MPa	5 MPa	5 MPa	2 MPa	2 MPa
Flow rate range *2	0.001 ~ 1.000 mL/min		0.01 ~ 2.00 mL/min		0.1 ~ 5.0 mL/min		0.1 ~ 10.0 mL/min		0.1 ~ 50.0 mL/min	
Flow per stroke	8 µL		16 µL		32 µL		77 µL		154 µL	
Stroke length	2 mm		2 mm		4 mm		2 mm		4 mm	
Flow accuracy	± 0.5 %									
Features	Pulse reduction *3, Flow volume calibration, Upper and lower pressure limiter, Constant pressure flow *4, Set volume dispensing									
Pressure accuracy	± 5 %									
Wetted materials	SS type: SS, Sapphire, Ruby, PTFE, PCTFE PEEK type: PEEK, Sapphire, Ruby, PTFE, PCTFE									
Remote control	Input: Pump on/off, Output: Error signal									
Communication	RS232C									
Dimensions	144 (H) x 79 (W) x 285 (D) mm									
Weight	Approx. 3.0 kg									
Order code	SSP-P3062	SSP-P3061	SSP-P3064	SSP-P3063	SSP-P3066	SSP-P3065	SSP-P3068	SSP-P3067	SSP-P3070	SSP-P3069

*1: Maximum pressure is only sustained intermittently. Continuous pump operation at maximum pressure cannot be guaranteed.

*2: The unit cannot run continuously at maximum flow rate.

*3: Pulse reduction does not imply that pulses will be eliminated completely.

*4: Constant pressure flow mode adjusts the flow rate in real time to stabilize the pressure at the set range.

Note: The specifications and product design may change without prior notice.



PCS Pump
SP-21-13, SS

PCS Pump
SP-21-13, PEEK

Single Plunger Pumps PCS Pump SP-21 Series

Single plunger pump equipped without pressure sensor

Features

- Low-cost, simple to operate single plunger pump
- Equipped with pulse reduction mechanism (quick return mode)
- Convenient precision metered solvent volume dispensing
- RS-232C interface for computer control
- Choose from 5 different models to match desired flow ranges
- Choose either SS or PEEK pump head materials

Product name	PCS Pump without pressure sensor									
Part number	SP-21-02		SP-21-12		SP-21-13		SP-21-32		SP-21-33	
Pump head material	SS	PEEK	SS	PEEK	SS	PEEK	SS	PEEK	SS	PEEK
Max pressure *1	20 MPa	20 MPa	20 MPa	20 MPa	10 MPa	10 MPa	5 MPa	5 MPa	2 MPa	2 MPa
Flow rate range *2	0.001 ~ 1.000 mL/min		0.01 ~ 2.00 mL/min		0.1 ~ 5.0 mL/min		0.1 ~ 10.0 mL/min		0.1 ~ 50.0 mL/min	
Flow per stroke	8 µL		16 µL		32 µL		77 µL		154 µL	
Stroke length	2 mm		2 mm		4 mm		2 mm		4 mm	
Flow accuracy	± 0.5 %									
Features	Pulse reduction *3, Set volume dispensing *4									
Pressure accuracy	-									
Wetted materials	SS type: SS, Sapphire, Ruby, PTFE, PCTFE PEEK type: PEEK, Sapphire, Ruby, PTFE, PCTFE									
Remote control	Input: Pump on/off, Output: Error signal									
Communication	RS232C									
Dimensions	144 (H) x 79 (W) x 285 (D) mm									
Weight	Approx. 3.0 kg									
Order code	SSP-P3052	SSP-P3051	SSP-P3054	SSP-P3053	SSP-P3056	SSP-P3055	SSP-P3058	SSP-P3057	SSP-P3060	SSP-P3059

*1: Maximum pressure is only sustained intermittently. Continuous pump operation at maximum pressure cannot be guaranteed.

*2: The unit cannot run continuously at maximum flow rate.

*3: Pulse reduction does not imply that pulses will be eliminated completely.

*4: The range of settable volume is 0.01~1000 mL or 0.1~1000 mL, depending on the model.

Note: The specifications and product design may change without prior notice.

PUMP UNIT



Gradient Controller
GE-11

Gradient Controller Gradient Controller GE-11

An easy to program controller for gradient flow applications using 2 or more pumps.
Connects to all FLOM pumps.

Features

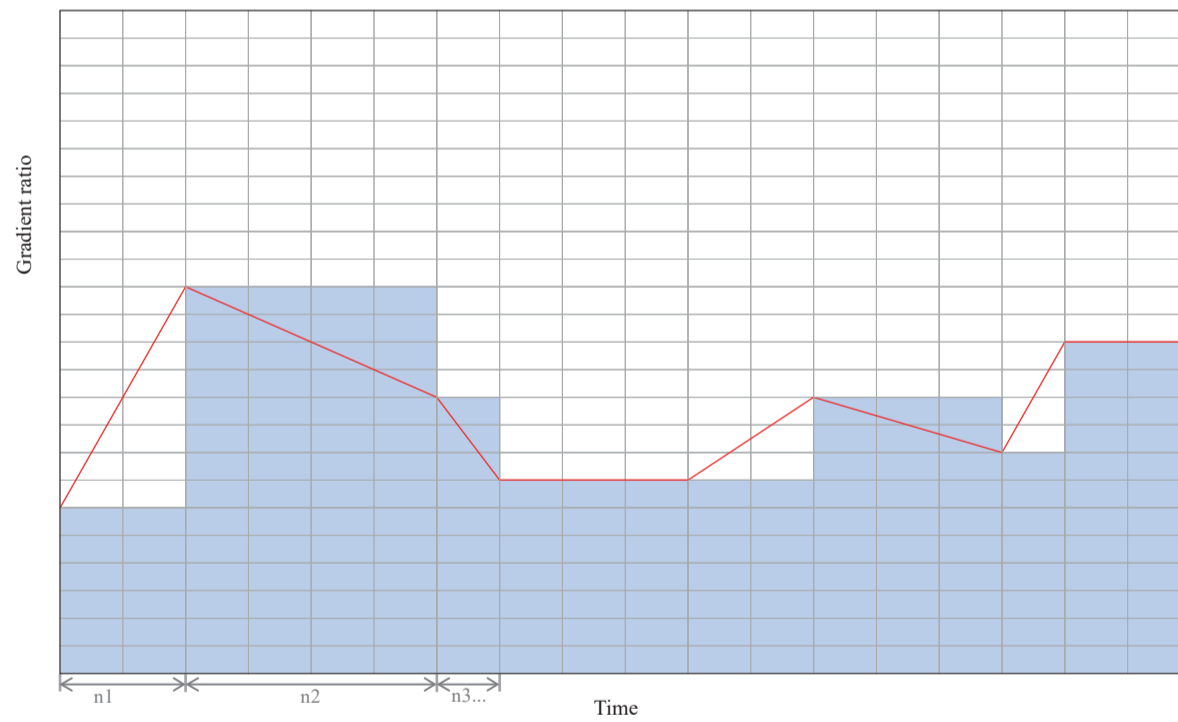
- Easy to operate gradient control
- Connects with all FLOM pumps
- Timer function allows automatic valve switching comes with RS-232C cabling for connection to FLOM pumps
- 2 standard modes: Linear/Step

Product name	Gradient Controller
Part number	GE-11
Max Files	99
Input Signal	Pump Start, Gradient Start
Output Signal	Valve Change, Error
Compatible pumps	154 μ L
Dimensions	UI, AI, KP, SP, CP, HI, HP series
Weight	0.5 kg
Order code	SGC-B201

Note: The specifications and product design may change without prior notice.

Sample Gradient Program

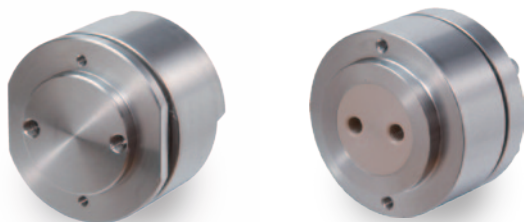
- Step gradient
- Liner gradient
- $\leftarrow n \mid \rightarrow$ Step No.



Pump Accessories

Pulse Dampers

These pulse dampers will improve flow performance on SP and KP type pumps. Choose either high or low pressure types depending on flow pressure.



High Pressure Damper 9810

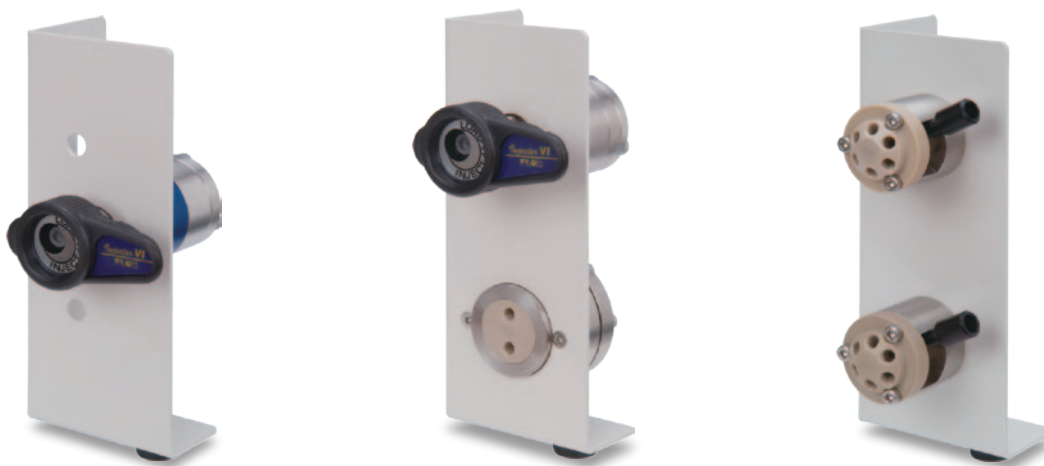
Low Pressure Damper 9800

Product name	High Pressure Damper	Low Pressure Damper
Part number	9810	9800
Max pressure	20 MPa	2MPa
Pulse control range	8~12 MPa	0.1~0.7 MPa
Internal Volume	3.5 mL	0.8 mL
Wetted materials	PEEK, PTFE	PEEK, FEP
Thread size	No.10-32UNF	No.10-32UNF
Dimensions	φ50 x 36.5 mm	φ45 x 33 mm
Weight	0.3 kg	0.3 kg
Order code	PDM-F001	PDM-F002

* The specifications and product design may change without prior notice.
 * For custom specifications, contact FLOM.

Side Panels for Valve Attachment

For attachment of switch valves, sample injectors, and other accessories to pumps. Can be attached to all AI, KP, and SP type pumps.



Side Panel 4512
Injector type

Side Panel 4513
Injector/Damper type

Side Panel 4514
Small manual valve type

Product name	Side panel		
Part number	4512	4513	4514
Pump type	UI-22, KP-22, KP-21, SP-22, SP-21 series		
Attachable parts	VI-11, VI-12, MI-11, V series	9800, 9810, VI-11, VI-12, MI-11, V series	V200 series
Dimensions	144(H) x 60(W) x 44(D) mm (excluding protuberances)		
Order code	PDM-F001	PDM-F002	PDM-F002

* The specifications and product design may change without prior notice.
 * For custom specifications, contact FLOM.

Addendum 1: Material Abbreviations

Throughout this catalog we abbreviate the names of the various materials used. The simple legend below will help you connect the abbreviation with its proper name, and contains a brief description of the properties of each material.

Material Abbreviations	Description
SS	Stainless Steel. “SS” is the prefix used before the number describing the material’s properties. Pronounced “suss”. The material is mainly steel, but is corrosion resistant due to the chromium alloy, which forms a chromium oxide layer on the surface. Since it cannot be corroded by organic solvents and is highly pressure resistant, it is commonly used in HPLC pump heads, columns, tubing, fittings, and valve stators.
PEEK	This is a plastic, polyetheretherketone. Rather expensive, but displays superlative chemical and mechanical resistance properties. It has much higher mechanical resistance than other plastics. In HPLC applications, it is used for pump heads, columns, tubing, fittings, and valve rotor seals, and often employed for systems using strongly acidic solvents, or for applications where SUS might affect the analysis, such as those with ionic components like ion chromatography. For tubes and fittings, PEEK is superior since it is easier to process than SUS, for example when forming bent tubing or making fittings to be hand-tightened, but without the high mechanical resistance of SUS it can only be used in applications up to about 30 MPa.
PCTFE	A fluorocarbon polymer, its full name is Polychlorotrifluoroethylene. Exhibits superior chemical and mechanical resistance. FLOM uses this material in some of our pump heads. Pump heads made with PCTFE can be used to pump concentrated sulfuric acid solvents, which SUS and PEEK cannot handle.
PTFE	Another fluorocarbon polymer, its full name is Polytetrafluoroethylene. Pronounced just as written, “P.T.F.E”, or simply called by its brand name, “Teflon®”. Used in plunger seals and similar components.
ETFE	Yet another fluorocarbon polymer, its full name is Ethylene Tetrafluoroethylene. Pronounced just as written, “E.T.F.E”, or simply called by its brand name, “Tefzel®”. Low pressure resistance but it does offer transparency. Used in tubing and fittings.
PP	This is polypropylene. Used in fittings.
PPS	This is Polyphenylene Sulfide. Used to form the inner chambers in degassing devices.
POM	This plastic is Polyoxymethylene, also known as Polycetal. Used to make fittings.
Teflon AF	As porous Teflon tubing, used in degassing tubing inside degassing devices.
Ceramics	FLOM uses an Al ₂ O ₃ ceramic material for its valve stator faces. This material exhibits high mechanical resistance.
Ruby	Used in the ball of the pump’s check valve.
Sapphire	Used in pump plungers.
β-titanium	Titanium has superb corrosion resistance. Besides titanium the alloy also includes vanadium, aluminum, tin, and chrome. FLOM uses this alloy in our autosampler needles.

2. Valves

We at FLOM have many years developing switching valves and injectors featuring a variety of materials and functionality. The trend in recent years has been to increase our line-up with more compact and high-pressure products. If you don't see what you're looking for here, let us know what you want! We can probably design a product that fits your needs perfectly.

Guide for Valve Selection

FLOM valves come in 3 varieties of drive: manual, automatic, or pneumatic (air-driven). Our automatic drive valves come as either stand-alone or OEM-embeddable types.

Types of FLOM Valves

Manual	Automatic		Pneumatic (anti-explosive)
	Stand-alone	OEM-embeddable	
Injector – VI Series (Standard) Injector – MI-11 (super high pressure) Switching Valve V Series	VA-11 Series (Super high pressure, analytical or fractionation applications, 4 port, rotary, etc.)	VA-11A, 12A Series (Standard) VF-02 Series (Fast switching)	415 Series

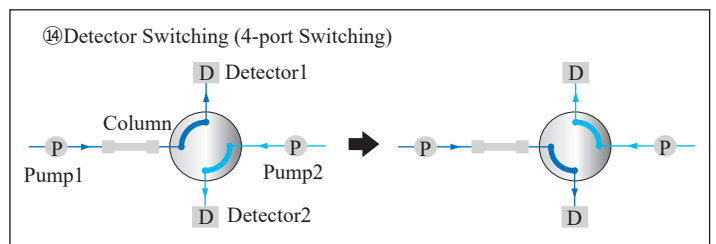
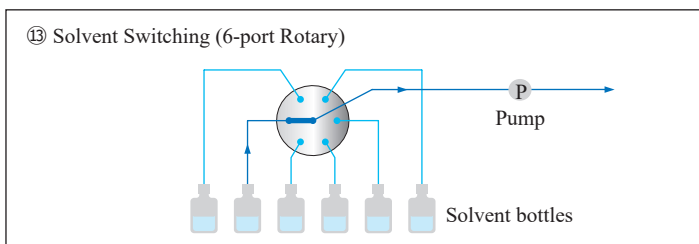
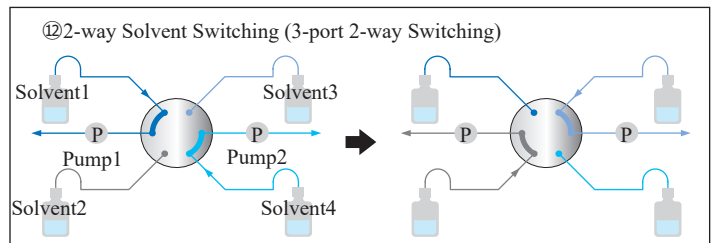
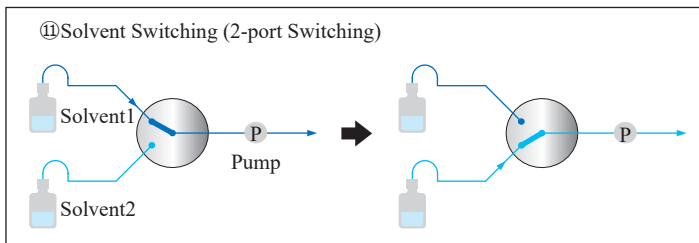
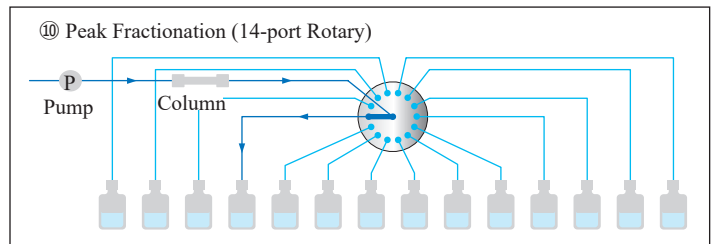
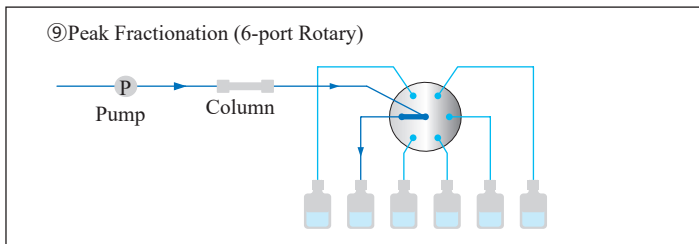
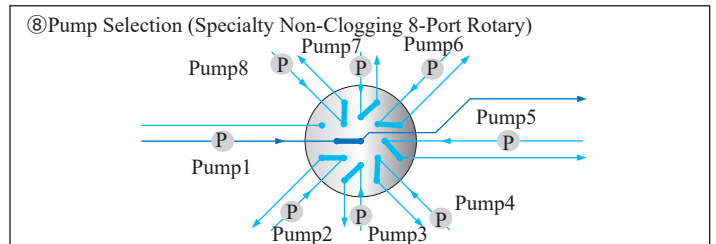
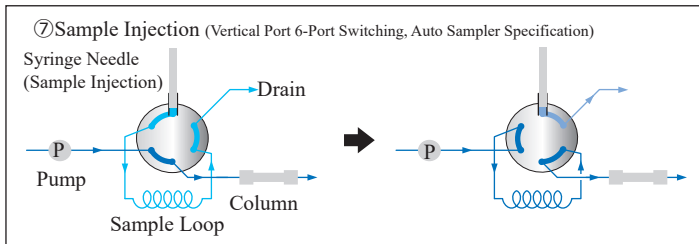
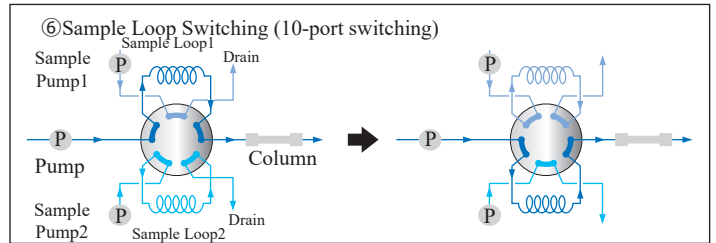
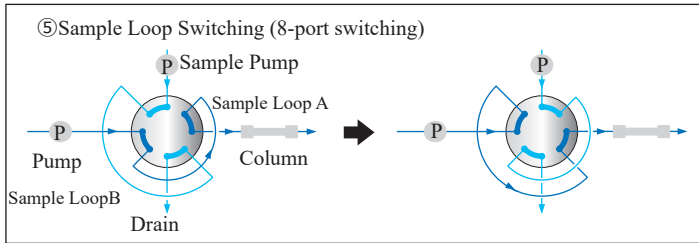
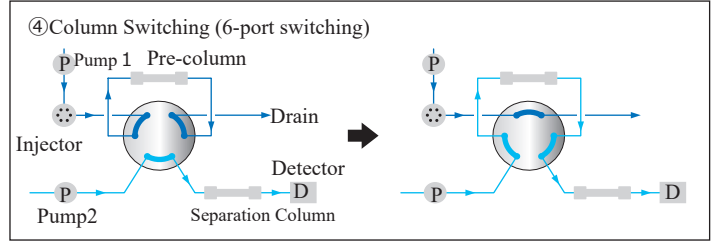
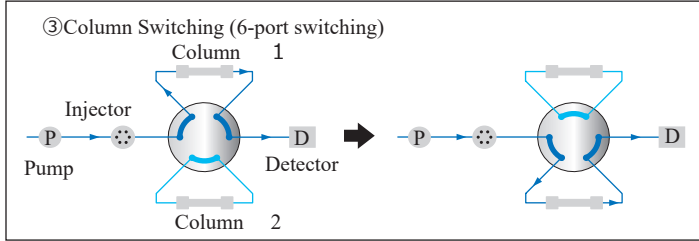
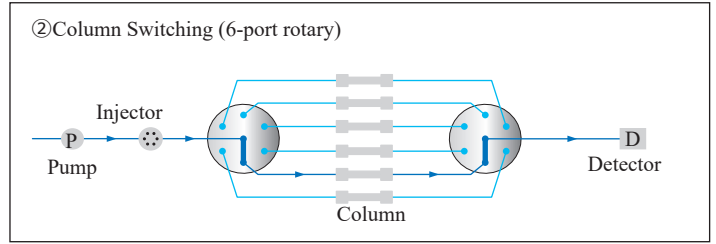
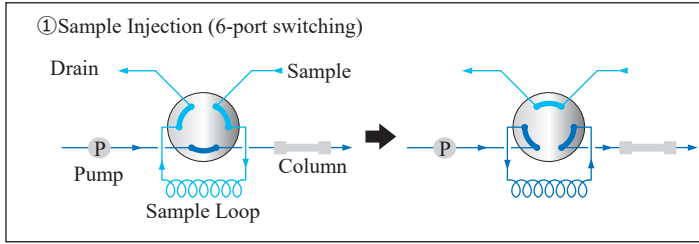
Types of Valve Heads (some examples)



Examples of Valve Switching Configurations

These are only a few representative possibilities – there are countless others. If you don't find the configuration you're looking for here, please contact us directly.

VALVES





Manual Sample Injector VI-11

Manual Sample Injectors Manual Sample Injector VI Series

Equipped with built-in injection marker. Specify either Stainless Steel or PEEK as your fluid path material.

Features

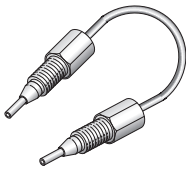
- Choose either Stainless Steel or PEEK for the fluid path
- Maximum pressure 35 MPa
- Equipped with injection marker
- Optional syringe needle made of inert material

Product name	Manual Sample Injector	
Part number	VI-11	VI-12
Wetted materials	SS, PEEK, Ceramic	PEEK, Ceramic
Max Pressure	35 MPa	
Tube OD	1/16"	
Path diameter	0.5 mm (0.02")	
Port thread size	No.10-32UNF	
Sample loop	20 µL (SS, 1/16")	
Injection maker	Built-in (1.5 m lead wire)	
Order code	VH-V271	VH-276

Note: The specifications and product design may change without prior notice.

Optional accessories

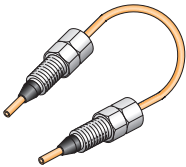
SS, 20 µL loop



Sample loop (1/16" stainless steel)

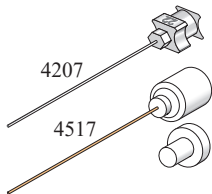
Part No.	Volume
7501	10 µL
7502	20 µL
7503	50 µL
7504	100 µL
7505	200 µL
7506	500 µL
7507	1 mL

PEEK, 20 µL loop



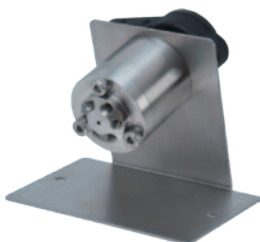
Sample loop (1/16" PEEK)

Part No.	Volume
7201	10 µL
7202	20 µL
7203	50 µL
7204	100 µL
7205	200 µL
7206	500 µL
7207	1 mL



Syringe needle

Part No.	Description
4207	SUS22G (ID 0.5 mm)
4517	PEEK (OD 0.7 mm x ID 0.3 mm)

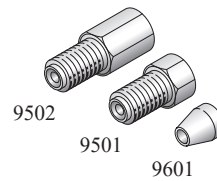


Injector panel *

Part No.	Description
4515	Injector panel

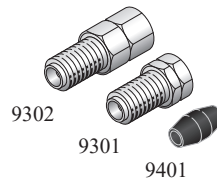
* The valve in the picture is not included and must be purchased separately.

* This cannot be attached to FLOM pumps. See page 9 for side panels for valve attachment to FLOM pumps.



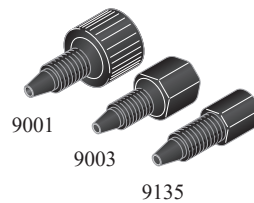
VI-11 Fittings (10/pkg)

Part No.	Description
9502	1/16 Fitting L
9501	1/16 Fitting S
9601	1/16 Ferrule



VI-12 Fittings (10/pkg)

Part No.	Description
9302	1/16 DoubleLock Fitting L
9301	1/16 DoubleLock Fitting S
9401	1/16 DoubleLock Ferrule



PEEK fittings (10/pkg)

Part No.	Description
9001	Easy Fitt
9003	Hex Fitt
9135	Hex Fitt Mini



Specialty fittings (10/pkg)

Part No.	Description
9611	Tri-Fitt Set
9612	Tri-Fitting
9605	Replacement ferrule S
9606	Replacement ferrule P



UHPLC Micro Injector MI-11

Manual Micro-Injectors for Ultra High Pressure UHPLC Micro Injector MI-11

For UHPLC applications (100 MPa). Can also be used for regular micro-analytical applications.

Features

- Ultra high pressure spec (100 MPa) allows sample injection into high pressure fluid pathways
- Ultra high precision minimizes sample loss
- 0.25 mm flowpath reduces sample diffusion
- Micro-switch injection marker prevents errors
- Comes with 5uL sample loop and 10 µL micro-syringe

Product name	UHPLC Micro Injector
Part number	MI-11
Wetted materials	SS, PEEK, Ceramic
Max Pressure	100 MPa (15000 psi)
Tube OD	1/16"
Path diameter	0.25 mm (0.01")
Port thread size	No.10-32UNF
Sample loop	5 µL (SS, 1/16")
Injection maker	Built-in (1.5 m lead wire)
Order code	VH-V340

Note: The specifications and product design may change without prior notice.

Optional accessories

5 µL SS loop



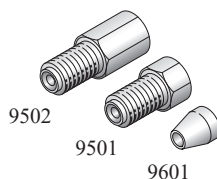
Sample loop (1/16" stainless steel)

Part No.	Volume
7500M	5 µL

Syringe



Part No.	Description
4701	SS26G (ID 0.25 mm)



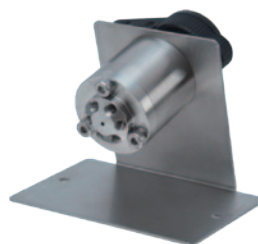
VI-11 Fittings (10/pkg)

Part No.	Description
9502	1/16 Fitting L
9501	1/16 Fitting S
9601	1/16 Ferrule



Specialty fittings (10/pkg)

Part No.	Description
9611	Tri-Fitt Set
9612	Tri-Fitting
9605	Replacement ferrule S
9606	Replacement ferrule P



Injector panel*

Part No.	Description
4515	Injector panel

* The valve in the picture is not included and must be purchased separately.

* This cannot be attached to FLOM pumps. See page 9 for side panels for valve attachment to FLOM pumps.

Manual Valves Manual Valve V Series

A convenient manual valve for high pressure flow applications. Choose from either Stainless Steel or PEEK as your fluid path material.



Features

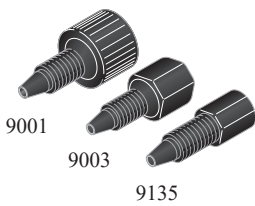
- Low torque design allows low power switching (V05)
- Since handle is placed in front, if panel is installed allows operation from the valvehead side (V200 Series)
- 0.25mm fluid path diameter reduces sample diffusion
- Choose either SUS/PEEK or all PEEK as your fluid path material

Product Name	Manual Valve		
Product Number	V05	V200	V201
Type	Analytical 6 port	Analytical 6 port	Analytical 3 port 2 ways
Feature	High pressure SUS	PEEK	PEEK
Path position	 6 port 2 position		 Dual 3 port 2 ways
Max pressure	35 MPa (5000 psi)	20 MPa (2900 psi)	20 MPa (2900 psi)
Wetted material	SUS, PEEK	PEEK	PEEK
Tube OD	1/16"	1/16"	1/16"
Fluid Path Diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")
Order code	VH-V05	VH-V200	VH-V20 1

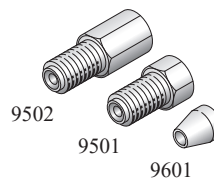
Product Name	Manual Valve		
Product Number	V204	V512	V239
Type	Analytical 1-2 rotary	Analytical 1-2 rotary	Analytical 1-2 rotary
Feature	PEEK	SUS	PEEK
Path position	 1-2 Rotary		
Max pressure	20 MPa (2900 psi)	30MPa (4350 psi)	1 MPa (145 psi)
Wetted material	PEEK	SUS,PEEK	PEEK
Tube OD	1/16"	1/16"	1/8"
Fluid Path Diameter	0.8 mm (0.03")	0.8 mm (0.03")	1.0 mm (0.04")
Order code	VH-V204	VH-V512	VH-V239

Note: Other switching valves besides those shown above are available.

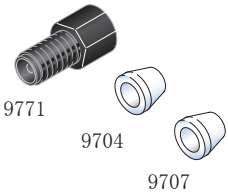
Optional accessories



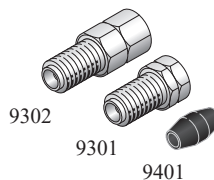
PEEK fittings (10/pkg)	
Part No.	Description
9001	Easy Fitt
9003	Hex Fitt
9135	Hex Fitt Mini



Fittings (10/pkg)	
Part No.	Description
9502	1/16 Fitting L
9501	1/16 Fitting S
9601	1/16 Ferrule



Fittings (10/pkg)	
Part No.	Description
9771	1/8 HEX Flat seal Fitting
9704	Φ3 · M6 Flat seal Ferrule
9707	1/8 · M6 Flat seal Ferrule

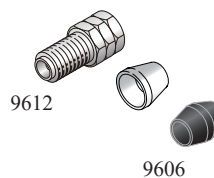


Fittings (10/pkg)	
Part No.	Description
9302	1/16 DoubleLock Fitting L
9301	1/16 DoubleLock Fitting S
9401	1/16 DoubleLock Ferrule



Attachment panel for V series For V200, 201, 204, 239	
Part. No	Description
45150	Attachment panel

Note: Please see page14 about attachment panel for V05



Specialty fittings (10/pkg)	
Part No.	Description
9611	Tri-Fitt Set
9612	Tri-Fitting
9605	Replacement ferrule SS
9606	Replacement ferrule PEEK



Valve Unit VA-11

Valve Unit

Product name	Valve Unit
Part number	VA-11
Automatic control	Direct drive by DC motor
Switching Modes	2 port switching, rotary
Manual Input	Position change, Position reset
Remote Input / Output	Drive Input: Position change, Position selection, Home position reset, CPU reset Status Output: Port position, Error
Voltage range	AC100 ~ 240V 50/60Hz
Dimensions	144 (H) x 79 (W) x 285(D) mm
Weight	2.3 kg

* The specifications and product design may change without prior notice.

* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.

Automatic Valves


Valve Unit VA-11 Series





FLOM's standard automatic valve series for general use. Useful in a variety of applications from general analysis, to fractionating high-speed analytical applications.



Features

- Multiple flow patterns can be adapted to your specific analytical setup
- Can be setup with a variety of flow diameters from micro-analysis to fractionating applications
- Can be configured with inert materials for fluid contact areas
- Useful for UHPLC chromatography
- Over 400 different types of valve heads available *1

Valve Heads (Examples)

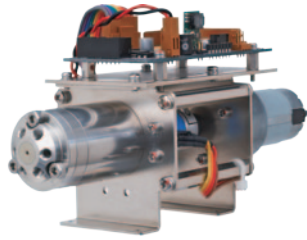
Product number	VA-11-385	VA-11-386	VA-11-65	VA-11-66	VA-11-68	VA-11-381
Feature	Super high pressure SS	Super high pressure PEEK	High pressure PEEK	Standard pressure PEEK	Low pressure SS, M8	Low pressure PEEK, M8
Path position	6 port 2 position 					
Max pressure	100 MPa (14500 psi)	70 MPa (10150 psi)	35 MPa (5000 psi)	20 MPa (2900 psi)	10 MPa (1450 psi)	5 MPa (725 psi)
Wetted materials	SS, High pressure polymer	SS, PEEK, Ceramic	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)
Tube OD	1/16"	1/16"	1/16"	1/16"	3.0 mm, 1/8"	3.0 mm, 1/8"
Path diameter	0.25 mm (0.01")	0.4 mm (0.016")	0.6 mm (0.024")	0.6 mm (0.024")	2.0 mm (0.079")	2.0 mm (0.079")
Order code	SAV-VA-11-385	SAV-VA-11-386	SAV-VA-11-65	SAV-VA-11-66	SAV-VA-11-68	SAV-VA-11-76

Product number	VA-11-213	VA-11-140	VA-11-120	VA-11-127	VA-11-108
Feature	High pressure SS	Standard pressure PEEK	Standard pressure SS	Low pressure PEEK, M8	Standard pressure SS
Path position	4 port 2 position 		Dual 3 port 2 way 	8 port selector (1-8 rotary) 	12 port selector (1-12 rotary) 
Max pressure	35 MPa (5000 psi)	20 MPa (2900 psi)	20 MPa (2900 psi)	5 MPa (725 psi)	15 MPa (2175 psi)
Wetted materials	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	SS, PEEK	SS, PEEK
Tube OD	1/16"	1/16"	1/16"	3.0 mm, 1/8"	1/16"
Path diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	1.4 mm (0.055")	0.6 mm (0.024")
Order code	SAV-VA-11-213	SAV-VA-11-140	SAV-VA-11-120	SAV-VA-11-127	SAV-VA-11-108

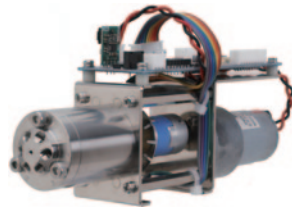
Product number	VA-11-249	VA-11-141	VA-11-67	VA-11-74	VA-11-69	VA-11-77
Feature	Standard pressure SS	Standard pressure PEEK	High pressure SS	Standard pressure PEEK	Low pressure SS, M8	Low pressure PEEK, M8
Path position	4 port selector (1-4 rotary) 		6 port selector (1-6 rotary) 			
Max pressure	20 MPa (2900 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	15 MPa (2175 psi)	5 MPa (725 psi)	5 MPa (725 psi)
Wetted materials	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)
Tube OD	1/16"	1/16"	1/16"	1/16"	3.0 mm, 1/8"	3.0 mm, 1/8"
Path diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	2.0 mm (0.079")	2.0 mm (0.079")
Order code	SAV-VA-11-249	SAV-VA-11-141	SAV-VA-11-67	SAV-VA-11-74	SAV-VA-11-69	SAV-VA-11-77

* The specifications and product design may change without prior notice.

* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.



Auto Valve VA-11A



Auto Valve VA-12A

Automatic Valves for OEM Systems Auto Valve VA-11A / VA-12A Series

This is the VA-11 type auto valve in an embeddable configuration for OEM systems.

Features

- Space-saving compact design
- Can be equipped with large size high torque valveheads for high volume flow applications
- The super-small VA-12A Series takes up even less space and weighs less than the already compact VA-11A series*1

Valve Drive


Product name	Auto Unit	
Part number	VA-11A	VA-12A
Automatic control	Direct drive by DC motor	
Remote Input / Output	Drive Input: Position change, Position selection, Home position reset, CPU reset Status Output: Port position, Error	
Voltage range	DC24V	
Weight	1.0 kg	0.8 kg





* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.



*1 The model VA-12A can only be installed on a limited number of pumps. Contact FLOM for more details

*2 The weigh of each model varies, depending on the valvehead. Contact FLOM for more details.

Valve Heads (Please contact us for any type of valves are not in here)

Product number	VA-11A-385	VA-11A-386	VA-11A-65	VA-11A-66	VA-11A-68	VA-11A-381
Feature	Super high pressure SS	Super high pressure PEEK	High pressure PEEK	Standard pressure PEEK	Low pressure SS, M8	Low pressure PEEK, M8
Path position	6 port 2 position 					
Max pressure	100 MPa (14500 psi)	70 MPa (10150 psi)	35 MPa (5000 psi)	20 MPa (2900 psi)	10 MPa (1450 psi)	5 MPa (725 psi)
Wetted materials	SS, High pressure polymer	SS, PEEK, Ceramic	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)
Tube OD	1/16"	1/16"	1/16"	1/16"	3.0 mm, 1/8"	3.0 mm, 1/8"
Path diameter	0.25 mm (0.01")	0.4 mm (0.016")	0.6 mm (0.024")	0.6 mm (0.024")	2.0 mm (0.079")	2.0 mm (0.079")

Product number	VA-11A-213	VA-11A-140	VA-11A-120	VA-11A-127	VA-11A-108
Feature	High pressure SS	Standard pressure PEEK	Standard pressure SS	Low pressure PEEK, M8	Standard pressure SS
Path position	4 port 2 position 		Dual 3 port 2 way 	8 port selector (1-8 rotary) 	12 port selector (1-12 rotary) 
Max pressure	35 MPa (5000 psi)	20 MPa (2900 psi)	20 MPa (2900 psi)	5 MPa (725 psi)	15 MPa (2175 psi)
Wetted materials	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	SS, PEEK	SS, PEEK
Tube OD	1/16"	1/16"	1/16"	3.0 mm, 1/8"	1/16"
Path diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	1.4 mm (0.055")	0.6 mm (0.024")

Product number	VA-11A-249	VA-11A-141	VA-11A-67	VA-11A-74	VA-11A-69	VA-11A-77
Feature	Standard pressure SS	Standard pressure PEEK	High pressure SS	Standard pressure PEEK	Low pressure SS, M8	Low pressure PEEK, M8
Path position	4 port selector (1-4 rotary) 			6 port selector (1-6 rotary) 		
Max pressure	20 MPa (2900 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	15 MPa (2175 psi)	5 MPa (725 psi)	5 MPa (725 psi)
Wetted materials	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)	SS, PEEK	PEEK, (SS exterior)
Tube OD	1/16"	1/16"	1/16"	1/16"	3.0 mm, 1/8"	3.0 mm, 1/8"
Path diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	2.0 mm (0.079")	2.0 mm (0.079")

* The specifications and product design may change without prior notice.

* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.

* For custom specifications, contact FLOM.



Auto Valve VF-02

High Speed Auto Valves for OEM Systems Auto Valve VF-02 Series

A new generation of automatic valves for high pressure OEM applications, featuring long life and high switching speed. Super compact design that incorporates the control board and the motor drive in one. Also includes detachable valveheads.

Features

- Space-saving super compact design
- High revolving speed (60°, 0.1 second) reduces pressure shock the ceramic type seal improves seal life to 100,000 cycles
- Can switch in valvehead rated to 100 MPa for super high speed analytical applications
- Detachable valvehead permits fast, efficient maintenance

Valve driver

Product name	Auto Unit
Part number	VF-02
Automatic control	Direct drive by stepmotor
Remote Input / Output	Drive Input: Position change, Home position reset Status Output: Port position, Error
Voltage range	DC24V
Weight	1.0 kg


* The specifications and product design may change without prior notice.




* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.



* For custom specifications, contact FLOM.

* Durability data comes from tests performed in-house at FLOM.

Valve heads (Please contact us for any type of valves are not in here)

Product number	VF-02-1002	VF-02-1003	VF-02-1005	VF-02-1103	VF-02-1104	VF-02-1036
Feature	High pressure SS	High pressure PEEK	Standard pressure PEEK	High durability SS	High durability PEEK	Micro analysis SS
Path position	6 port 2 position 					
Max pressure	40 MPa (5800 psi)	40 MPa (5800 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	40 MPa (5800 psi)	40 MPa (5800 psi)
Wetted materials	SS, PEEK	PEEK (SS exterior)	PEEK	SS, PEEK, Ceramic	PEEK, Ceramic	SS, PEEK
Tube OD	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"
Path diameter	0.4 mm (0.016")	0.4 mm (0.016")	0.4 mm (0.016")	0.4 mm (0.016")	0.4 mm (0.016")	0.25 mm (0.01")

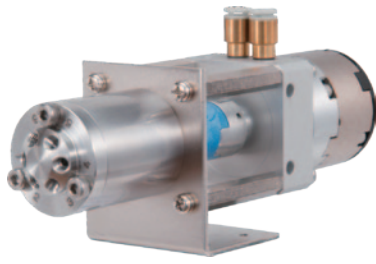
Product number	VF-02-1037	VF-02-1056	VF-02-1010	VF-02-1012	VF-02-1013	VF-02-1015
Feature	Low dead volume High pressure, PEEK	Low dead volume PEEK	High pressure SS	Standard pressure PEEK	High pressure SS	Standard pressure PEEK
Path position	6 port 2 position 		Dual 3 port 2 way 		4 port 2 position 	
Max pressure	40 MPa (5800 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	20 MPa (2900 psi)
Wetted materials	PEEK (SS exterior)	PEEK (SS exterior)	SS, PEEK	PEEK	SS, PEEK	PEEK
Tube OD	1/16"	1/16"	1/16"	1/16"	1/16"	1/16"
Path diameter	0.25 mm (0.01")	0.25 mm (0.01")	0.4 mm (0.016")	0.4 mm (0.016")	0.4 mm (0.016")	0.4 mm (0.016")

Product number	VF-02-1040	VF-02-1058	VF-02-1050	VF-02-1065
Feature	Low dead volume SS	Low dead volume PEEK	High pressure SS	Standard pressure PEEK
Path position	8 port 2 position 		6 port 2 position, Vertical injection port 	
Max pressure	40 MPa (5800 psi)	20 MPa (2900 psi)	40 MPa (5800 psi)	20 MPa (2900 psi)
Wetted materials	SS, PEEK	PEEK	SS, PEEK	PEEK
Tube OD	1/16"	1/16"	1/16"	1/16"
Path diameter	0.25 mm (0.01")	0.25 mm (0.01")	0.4 mm (0.016")	0.4 mm (0.016")

* The specifications and product design may change without prior notice.

* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.

* For custom specifications, contact FLOM.



Valve Unit 415

Pneumatic Drive Valves Air Valve 415 Series

A pneumatic drive valve that safely switches without requiring an electric motor. Of particular use in environments where anti-explosion measures are required.


Features


- Valve switching done pneumatically (no electric power required)
- Compact design allows embedding within larger systems
- High pressure, long life valveheads
- Optional external magnetic switch for monitoring

Valve drive

Product name	Air Valve
Part number	415
Drive method	Pneumatic drive
Air tube OD	1/8", 6.0 mm

Valve heads (Please contact us for any type of valves are not in here)

Product number	415-65	415-66	415-86	415-58
Feature	High pressure SS	Standard pressure PEEK	Standard pressure SS	Low pressure PEEK
Path position	6 port 2 position 			
Max pressure	35 MPa (5000 psi)	20 MPa (2900 psi)	25 MPa (3600 psi)	10 MPa (1450 psi)
Wetted materials	SS, PEEK	PEEK (exterior)	SS, PEEK	PEEK
Tube OD	1/16"	1/16"	1/16"	1/16"
Path diameter	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")	0.6 mm (0.024")

Product number	415-327	415-68	415-381
Feature	High pressure SS	Fractionation SS	Fractionation PEEK
Path position	6 port 2 position 		
Max pressure	40 MPa (5800 psi)	10 MPa (1450 psi)	5 MPa (725 psi)
Wetted materials	SS, PEEK	SS, PEEK	PEEK (exterior)
Tube OD	1/16"	3.0 mm, 1/8"	3.0 mm, 1/8"
Path diameter	0.4 mm (0.016")	2.0 mm (0.079")	2.0 mm (0.079")

* The specifications and product design may change without prior notice.

* Due to continual product improvements, latest models may differ somewhat from the pictures/descriptions in the User's Manual and the FLOM catalog.

* For custom specifications, contact FLOM.

3. Degassing Units

Solvent Degassing Systems Gastorr AG Series

The AG Series is a smaller form-factor, lower-cost system with the same degassing functionality as the BG Series.



Gastorr AG-32

Gastorr AG-34

Features

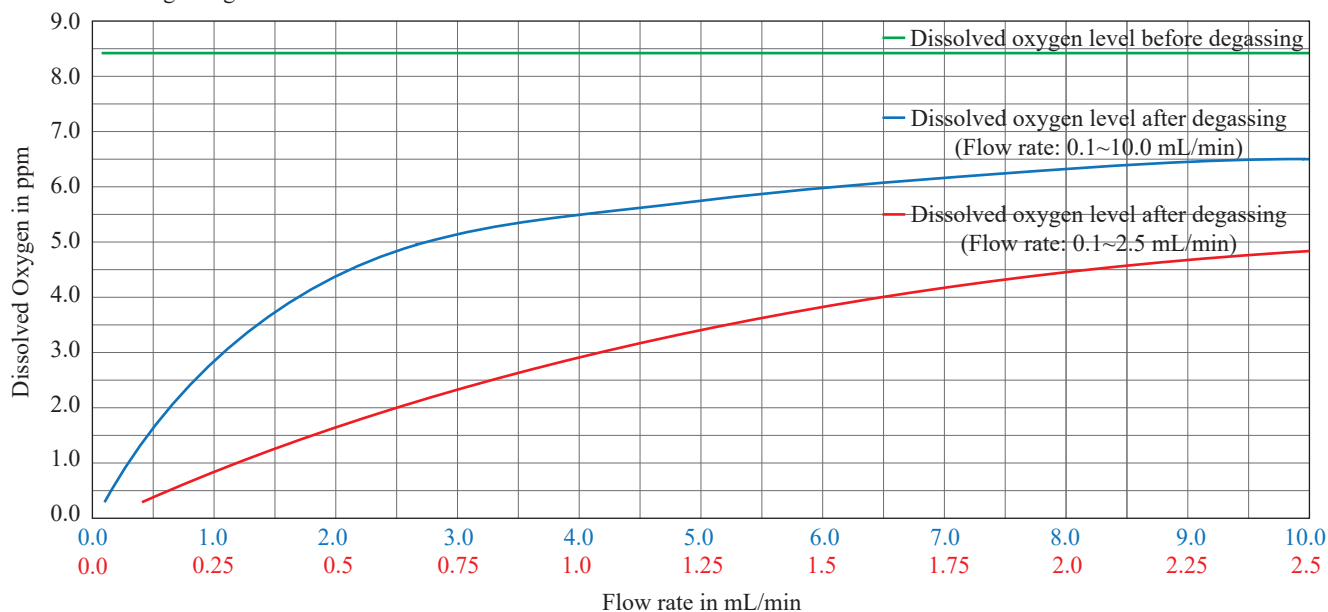
- New chamber design for thorough degassing of even low volumes
- CPU control achieves stable degassing
- Auto cleaning function prevents vacuum pump deterioration
- Independent chamber design prevents solvent contamination
- Error detection alerts user to faulty degassing operation
- Choose from 2 channel or 4 channel configurations

Product name	Gastorr	
Part number	AG-32-01	AG-34-01
Channels	2	4
Internal volume	340 μ L	
Max flow rate	10 mL/min	
Degassing efficiency	Refer to below "Flow Rate and Dissolved Oxygen Level"	
Vacuum level	100 hPa	
Vacuum range	2 hPa	
Thread size	1/4-28UNF	
Wetted materials	Teflon AF $\text{\textcircled{R}}$ ETFE, PPS	
Communication	-	
Dimensions (mm)	108 (H) x 70 (W) x 240 (D) mm (excluding protuberances)	
Weight	1.9 kg	
Power consumption	0.8 A, 80 VA	
Voltage range	AC100~240 V 50/60 Hz	
Order code	SGA-G2008	SGA-G2009

Note: The specifications and product design may change without prior notice.
For custom specifications, contact FLOM.
All trademarks are property of their respective owners.

Flow Rate and Dissolved Oxygen Level

- Solvent: Distilled water 25 $^{\circ}$ C
- Vacuum level: 100 hPa
- Degassing unit: AG-34-01



* The data is the result from experiments performed at our factory. Contact FLOM for details.

Solvent Degassing Systems Gastorr BG Series



Gastorr BG-32

Gastorr BG-34

A degassing system with settable vacuum levels and self-cleaning function.

Features

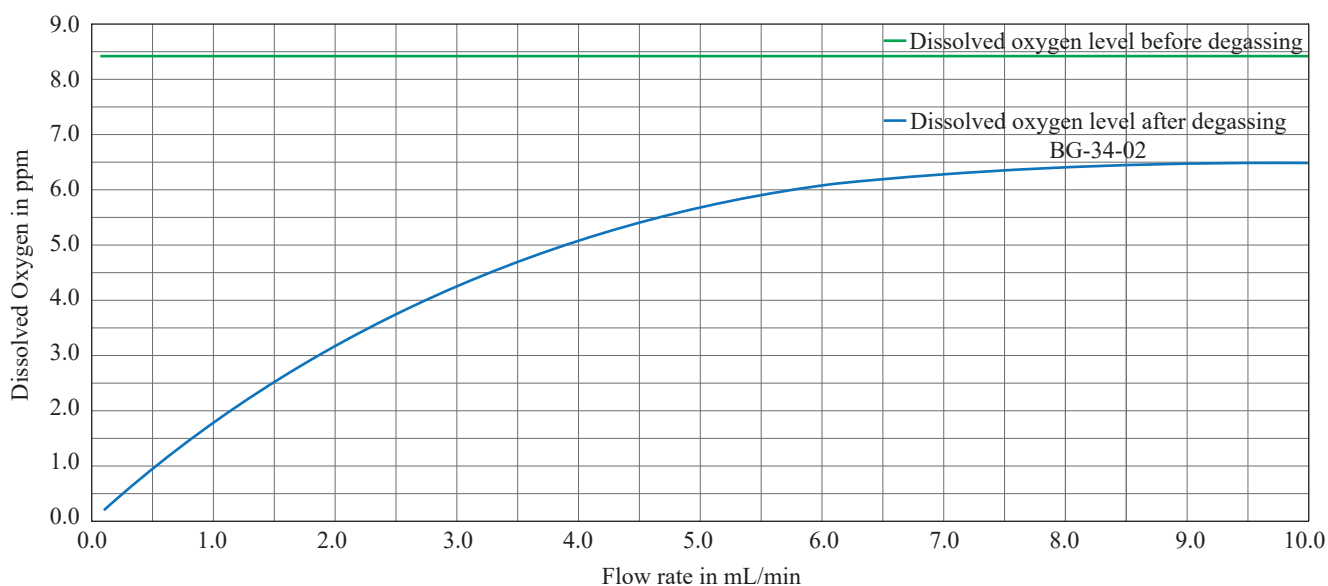
- Complete self-cleaning function with independent chamber and vacuum pump
- Settable vacuum levels to handle specialty solvents
- New chamber design for thorough degassing of even low volumes
- CPU control achieves stable vacuum control
- Real time display of chamber vacuum level
- Independent chamber design prevents solvent contamination
- Error detection alerts user to faulty degassing operation
- RS-232C interface for computer control
- Choose from 2 channel or 4 channel configurations

Product name	Gastorr	
Part number	BG-32-02	BG-34-02
Channels	2	4
Internal volume	510 μ L	
Max flow rate	10 mL/min	
Degassing efficiency	Refer to below "Flow Rate and Dissolved Oxygen Level"	
Vacuum level	Adjustable with Up/Down keys (70~170 hPa)	
Vacuum range	2 hPa	
Thread size	1/4-28UNF	
Wetted materials	Teflon AF [®] , ETFE, PPS	
Communication	RS232C	
Dimensions	130 (H) x 70 (W) x 271 (D) mm (excluding protuberances)	
Weight	2.4 kg	
Power consumption	0.8 A, 80 VA	
Voltage range	AC100~240 V 50/60 Hz	
Order code	SGA-G2001	SGA-G2002

Note: The specifications and product design may change without prior notice.
For custom specifications, contact FLOM.
All trademarks are property of their respective owners.

Flow Rate and Dissolved Oxygen Level

- Solvent: Distilled water 25 $^{\circ}$ C
- Vacuum level: 70 hPa
- Degassing unit: BG-34-02



* The data is the result from experiments performed at our factory. Contact FLOM for details.



Gastorr
PG-31, PEEK

Gastorr
PG-32, SS

Solvent Degassing for Fractionating Applications Gastorr PG Series

Flow rates up to 50 mL/min with these degassing systems for fractionating applications.

Features

- Maximum flow rate of 50 mL/min
- CPU control achieves stable degassing
- Automatic cleaning function prevents vacuum pump deterioration
- Easy to read backlit LCD display
- Real time display of chamber vacuum level
- Choose from either Stainless Steel or PEEK as your fluid path material
- Independent chamber design eliminates solvent contamination
- Error detection alerts user to faulty degassing operation
- Choose from 1 channel or 2 channel configurations

Product name	Gastorr			
Part number	PG-31S	PG-31P	PG-32S	PG-32P
Channels	1		2	
Internal volume	62.0 mL			
Max flow rate	50.0 mL/min			
Vacuum level	150 hPa			
Vacuum range	2 hPa			
Port thread size	No.1/4-28UNF			
Wetted materials	PTFE, ETFE, SUS	PTFE, ETFE, PEEK	PTFE, ETFE, SUS	PTFE, ETFE, PEEK
Dimensions	180 (H) x 90 (W) x 400 (D) mm			
Weight	5.5 kg	5.0 kg	6.5 kg	6.0 kg
Voltage range	AC100~240 V, 50/60 Hz			
Order code	SGA-G2101	SGA-G2103	SGA-G2102	SGA-G2104

Note: The specifications and product design may change without prior notice.
For custom specifications, contact FLOM.

Reactors Reactor RT-11



Reactor RT-11

A chemical reaction chamber settable from 40° to 100° C

Features

- High accuracy temperature regulation
- Real-time display of internal temperature
- Tube cartridge for easy replacement
- Can set up to 10m of 1/16" tubing
- Overheating prevention function
- Error output with RS232 link

Product name	Reactor
Part number	RT-11
Heat Regulation	Block Reactor (Cartridge Style)
Temperature Range	40~100°C (when ambient temp is 25°C)
Accuracy	±1.0°C
Reaction Tube	O.D. 1/16" x 10 m x 1 tube
Safety Feature	Overheating Prevention Function (120°C)
Dimensions	170(H) x 110(W) x 285(D) mm, excluding protuberances
Weight	about 3.5 kg
Voltage Range	AC100V~240 V, 50/60 Hz
Order Code	SOV-K452

Reactors Reactor RT-12



Reactor RT-12

A chemical reaction chamber settable from 40° to 180° C

Features

- High accuracy temperature regulation
- Real-time display of internal temperature
- Tube cartridge for easy replacement
- Can set up to 10m of 1/16" tubing
- Overheating prevention function
- Error output with RS232 link

Product name	Reactor
Part number	RT-12
Heat Regulation	Block Reactor (Cartridge Style)
Temperature Range	40~180°C (when ambient temp is 25°C)
Accuracy	±1.0°C
Reaction Tube	O.D. 1/16" x 10 m x 1 tube
Safety Feature	Overheating Prevention Function (200°C)
Dimensions	170(H) x 110(W) x 285(D) mm, excluding protuberances
Weight	about 4.5 kg
Voltage Range	AC100V~240 V, 50/60 Hz
Order Code	SOV-K451

4. Liquid Level Sensor



Sonic Reservoir Sensor SR-13

Liquid Level Sensor Sonic Reservoir Sensor SR-13

Non-contact liquid level sensor using sound

Features

- Useful to check liquid levels in both solvent bottles and waste tanks
- Liquid level displays
- Alarm sounds when volume falls to about 10%
- Remote control thru RS-232C interface (option)
- Simple, one-touch connections

Product name	Sonic Reservoir Sensor
Model	SR-13
Measurement Method	Reflected Sound Waves
Liquid Volume	Solvent: Specialty Bottle 10-1000 mL
Measurement Method	Waste: specialty waste probe detects liquid level at a distance of 75 mm PTFE, SS (waste probe)
Wetted Materials	PTFE, SS
Remote Output	Output signal: Error
Communications	RS-232C (optional)
Dimensions	115 (H) X 85 (W) X 80 (D) mm
Weight	Approx. 0.7 kg
Power Supply	DC +24V AC adapter comes as standard accessory, connects to 100-240 V, 0.62 A outlet
Product Code	FA007-500

Note: device appearance and/or specifications may change without notice.



Example of the SR-13 connected to both solvent bottle and waste tank

SR-13 Accessories

Product Code	Name
FD007-502	Solvent Probe
FD007-503	Waste Probe
FD007-504	Solvent bottle
FD007-505	Waste Tank
FD007-506	RS-232C Serial Port



Solvent Probe



Waste Probe



Solvent Bottle




Waste Tank

5. Plumbing (Fittings, Joints and Tubings)

○ Stainless Fittings for OD 1/16" Tubing

Ultra high pressure fittings (up to 140 MPa)



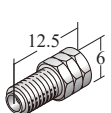
Tri-Fitt

For OD 1/16" tubing
No. 10-32 UNF

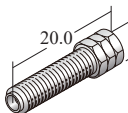
Features

- For super high pressure (100 MPa+) tubing applications
- Reduces tube twisting when fitting is twisted
- Replace only PEEK ferrule for long fitting life

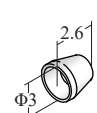
Sealing pressure with different tightening degrees with using wrench			
Tightening degrees	180°	270°	360°
Sealing pressure	60 MPa (600 bar , 8700 psi)	100 MPa (1000 bar , 14500 psi)	140 MPa (1400 bar , 20000 psi)



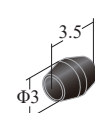
Part name: Tri-Fitt S
P/N: 9612
Material: SS
Quantity: 10/pkg



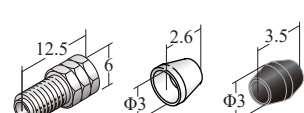
Part name: Tri-Fitt L
P/N: 9613
Material: SS
Quantity: 10/pkg



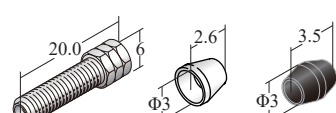
Part name: Replacement Ferrule
P/N: 9605
Material: SS
Quantity: 10/pkg



Part name: Replacement Ferrule
P/N: 9606
Material: PEEK
Quantity: 10/pkg



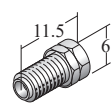
Part name: Tri-Fitt S Set
P/N: P/N: 9611
Quantity: Quantity: 10/pkg



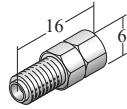
Part name: Tri-Fitt L Set
P/N: 9614
Quantity: 10/pkg

High pressure fittings (up to 60 MPa)

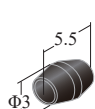
DOUBLE LOCK series (No. 10-32 UNF, For OD 1/16" tubing)



Part name: 1/16 Double Lock Fitting S
P/N: 9301
Material: SS
Quantity: 10/pkg



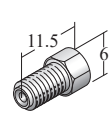
Part name: 1/16 Double Lock Fitting L
P/N: 9302
Material: SS
Quantity: 10/pkg



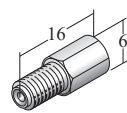
Part Name: 1/16 Double Lock Ferrule
P/N: 9401
Material: PEEK
Quantity: 10/pkg

High pressure fittings (up to 40 MPa)

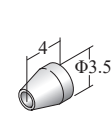
SS Ferule type (No. 10-32 UNF, For OD 1/16" tubing)



Part name: 1/16 Fitting S
P/N: 9501
Material: SS
Quantity: 10/pkg



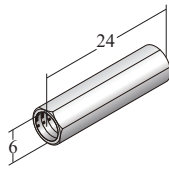
Part name: 1/16 Fitting L
P/N: 9502
Material: SS
Quantity: 10/pkg



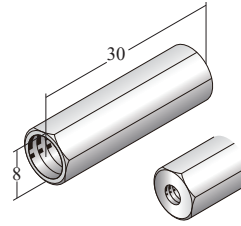
Part name: 1/16 Ferrule
P/N: 9601
Material: SS
Quantity: 10/pkg

○ Stainless Unions, Joints and Tubings

Stainless Union

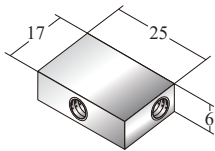


Part name: Union
P/N: 9511
Material: SS
Specification: No. 10-32 UNF
Quantity: 1

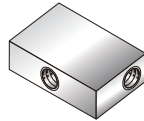


Part name: 1/8-1/16 Reducing Union
P/N: 9309
Material: SS
Specification: M8 × 1.25, No. 10-32 UNF
Quantity: 1

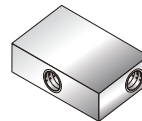
Stainless Tee



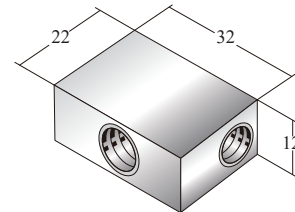
Part name: Tee, Φ 0.3 mm
P/N: 9513-03
Material: SS
Specification: No. 10-32 UNF
Quantity: 1



Part name: Tee, Φ 0.5 mm
P/N: 9513-05
Material: SS
Specification: No. 10-32 UNF
Quantity: 1

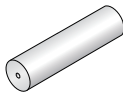


Part name: Tee, Φ 1.0 mm
P/N: 9513-10
Material: SS
Specification: No. 10-32 UNF
Quantity: 1

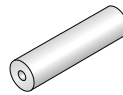


Part name: Tee, 1/8"
P/N: 9313
Material: SS
Specification: M8 × 1
Quantity: 1

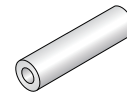
Stainless tube (OD 1/16", 1/8")



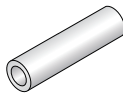
Part name: SS tube, 0.25 mm ID
P/N: 7021
Material: SS
OD: 1/16"
ID: 0.25 mm
Length: 10 m



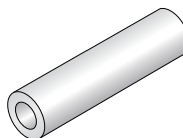
Part name: SS tube, 0.5 mm ID
P/N: 7022
Material: SS
OD: 1/16"
ID: 0.5 mm
Length: 10 m



Part name: SS tube, 0.8 mm ID
P/N: 7023
Material: SS
OD: 1/16"
ID: 0.8 mm
Length: 10 m



Part name: SS tube, 1.0 mm ID
P/N: 7024
Material: SS
OD: 1/16"
ID: 1.0 mm
Length: 10 m

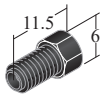


Part name: SS tube, 2.1 mm ID
P/N: 7025
Material: SS
OD: 1/8"
ID: 2.1 mm
Length: 2 m

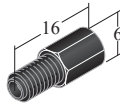
○ PEEK Fittings

Middle pressure fittings (Up to 35 MPa)

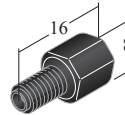
DOUBLE LOCK PEEK Series (No. 10-32 UNF, For OD 1/16" tube)



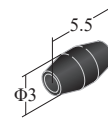
Part name: 1/16 Double Lock Fitting S
P/N: 9411
Material: PEEK
Quantity: 10/pkg



Part name: 1/16 Double Lock Fitting L
P/N: 9412
Material: PEEK
Quantity: 10/pkg



Part name: 1/16 HEX Double Lock Fitting
P/N: 9415
Material: PEEK
Quantity: 10/pkg



Part name: 1/16 Double Lock Ferrule
P/N: 9401
Material: PEEK
Quantity: 10/pkg

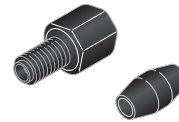
DOUBLE LOCK PEEK Series (with PEEK Ferrule)



Part name: 1/16 Double Lock Fitting S with Ferrule
P/N: 9411-9401
Material: PEEK
Quantity: 10/pkg



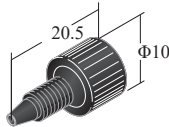
Part name: 1/16 Double Lock Fitting L with Ferrule
P/N: 9412-9401
Material: PEEK
Quantity: 10/pkg



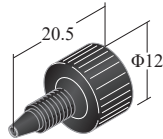
Part name: 1/16 HEX Double Lock Fitting with Ferrule
P/N: 9415-9401
Material: PEEK
Quantity: 10/pkg

Middle pressure fittings (Up to 20 MPa)

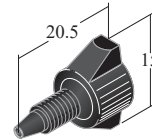
EASY FITT Series (No.10-32UNF, For OD 1/16" tube)



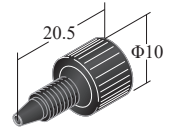
Part name: Easy Fitt 10Φ
P/N: 9001
Material: PEEK
Quantity: 10/pkg



Part name: Easy Fitt 12Φ
P/N: 9002
Material: PEEK
Quantity: 10/pkg

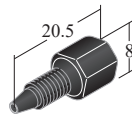


Part name: Easy Fitt Type 2
P/N: 9130
Material: PEEK
Quantity: 10/pkg

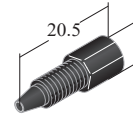


Part name: Stop Fitt
P/N: 9004
Material: PEEK
Quantity: 10/pkg

HEX FITT Series (No. 10-32 UNF, For OD 1/16" tube)

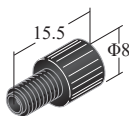


Part name: Hex Fitt
P/N: 9003
Material: PEEK
Quantity: 10/pkg

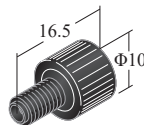


Part name: Hex Fitt Mini
P/N: 9135
Material: PEEK
Quantity: 10/pkg

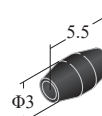
DOUBLE LOCK PEEK Series (No. 10-32 UNF, For OD 1/16" tube)



Part name: 1/16 EASY 8 Double Lock Fitting
P/N: 9416
Material: PEEK
Quantity: 10/pkg



Part name: 1/16 EASY 10 Double Lock Fitting
P/N: 9413
Material: PEEK
Quantity: 10/pkg



Part name: 1/16 Double Lock Ferrule
P/N: 9401
Material: PEEK
Quantity: 10/pkg

DOUBLE LOCK PEEK Series (with PEEK ferrules)



Part name: 1/16 Easy 8 Double Lock Fitting with Ferrule
 P/N: 9416-9401
 Material: PEEK
 Quantity: 10/pkg



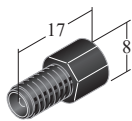
Part name: 1/16 Easy 10 Double Lock Fitting with Ferrule
 P/N: 9413-9401
 Material: PEEK
 Quantity: 10/pkg



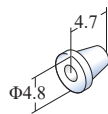
Part name: 1/16 Easy 12 Double Lock Fitting with Ferrule
 P/N: 9414-9401
 Material: PEEK
 Quantity: 10/pkg

○ PEEK and Other Polymer Fittings, for OD 1/8", Φ3, Φ2 Tubing
 Low pressure fittings (Up to 1 MPa)

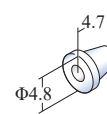
FLAT SEAL Series (No. 1/4-28 UNF, For OD 1/16" or 2 mm tubing)



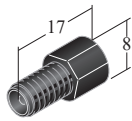
Part name: Φ2 HEX Flat seal Fitting
 P/N: 9772
 Material: PEEK
 Quantity: 10/pkg



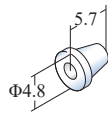
Part name: Φ2·M6 Flat seal Ferrule Penetration
 P/N: 9755
 Material: ETFE
 Quantity: 10/pkg



Part name: Φ2·M6 Flat seal Ferrule Non-Penetration
 P/N: 9705
 Material: ETFE
 Quantity: 10/pkg



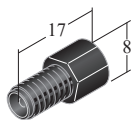
Part name: 1/16 HEX Flat seal Fitting
 P/N: 9773
 Material: PEEK
 Quantity: 10/pkg



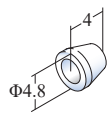
Part name: 1/16 · M6 Flat seal Ferrule
 P/N: 9706
 Material: ETFE
 Quantity: 10/pkg

PLUMBING

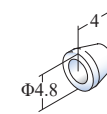
FLAT SEAL Series (No. 1/4-28 UNF, For OD 3.0 mm or 1/8" tubing)



Part name: 1/8 HEX Flat seal Fitting
 P/N: 9771
 Material: PEEK
 Quantity: 10/pkg

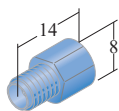


Part name: 1/8 · M6 Flat seal Ferrule
 P/N: 9707
 Material: ETFE
 Quantity: 10/pkg

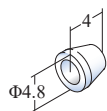


Part name: Φ3 · M6 Flat seal Ferrule
 P/N: 9704
 Material: ETFE
 Quantity: 10/pkg

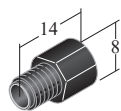
FLAT SEAL Series (No. M6×1, For OD 1/8" or 1/16" tubing)



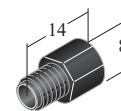
Part name: 1/8·M6 Flat seal Fitting
 P/N: 9760
 Material: PP
 Quantity: 10/pkg



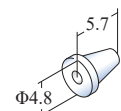
Part name: 1/8·M6 Flat seal Ferrule
 P/N: 9707
 Material: ETFE
 Quantity: 10/pkg



Part name: 1/16·M6 Flat seal Fitting
 P/N: 9753
 Material: PEEK
 Quantity: 10/pkg

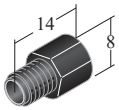


Part name: 1/16·M6 Flat seal Fitting
 P/N: 9734
 Material: POM
 Quantity: 10/pkg

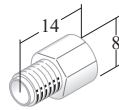


Part name: 1/16·M6 Flat seal Ferrule
 P/N: 9706
 Material: ETFE
 Quantity: 10/pkg

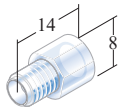
FLAT SEAL Series (M6×1, For OD 2.0 mm tubing)



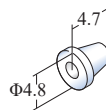
Part name: $\Phi 2 \cdot M6$ Flat seal Fitting
 P/N: 9752
 Material: PEEK
 Quantity: 10/pkg



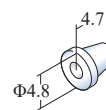
Part name: $\Phi 2 \cdot M6$ Flat seal Fitting
 P/N: 9732
 Material: POM
 Quantity: 10/pkg



Part name: $\Phi 2 \cdot M6$ Flat seal Fitting
 P/N: 9762
 Material: PP
 Quantity: 10/pkg

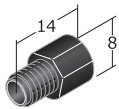


Part name: $\Phi 2 \cdot M6$ Flat seal Ferrule Penetration
 P/N: 9775
 Material: ETFE
 Quantity: 10/pkg

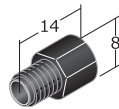


Part name: $\Phi 2 \cdot M6$ Flat seal Ferrule Non-Penetration
 P/N: 9705
 Material: ETFE
 Quantity: 10/pkg

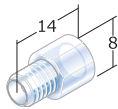
FLAT SEAL Series (M6×1, For OD 3.0 mm tubing)



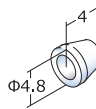
Part name: $\Phi 3 \cdot M6$ Flat seal Fitting
 P/N: 9751
 Material: PEEK
 Quantity: 10/pkg



Part name: $\Phi 3 \cdot M6$ Flat seal Fitting
 P/N: 9731
 Material: POM
 Quantity: 10/pkg

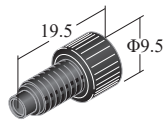


Part name: $\Phi 3 \cdot M6$ Flat seal Fitting
 P/N: 9761
 Material: PEEK
 Quantity: 10/pkg

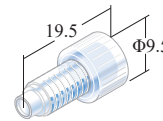


Part name: $\Phi 3 \cdot M6$ Flat seal Ferrule
 P/N: 9704
 Material: ETFE
 Quantity: 10/pkg

FLAT SEAL PLUG

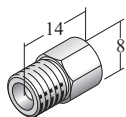


Part name: Flat seal Plug
 P/N: 9720
 Material: PEEK
 Quantity: 10/pkg

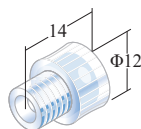


Part name: Flat seal Plug
 P/N: 9720P
 Material: PP
 Quantity: 10/pkg

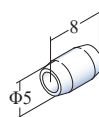
DOUBLE LOCK Series (M8×1, For OD 3.0 mm or 1/8" tubing)



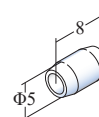
Part name: 1/8 Double Lock Fitting
 P/N: 9304
 Material: SS
 Quantity: 10/pkg



Part name: 1/8 Double Lock Fitting
 P/N: 9305
 Material: PP
 Quantity: 10/pkg

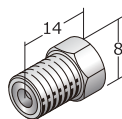


Part name: 1/8 Double Lock Ferrule
 P/N: 9402
 Material: ETFE
 Quantity: 10/pkg

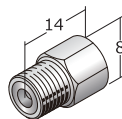


Part name: 1/8 Double Lock Ferrule
 P/N: 9304
 Material: ETFE
 Quantity: 10/pkg

Stainless Fittings (For OD 1/8" tubing)



Part name: 1/8 Fitting
 P/N: 9306
 Material: SS
 Specification: M8×1.25
 Quantity: 10/pkg



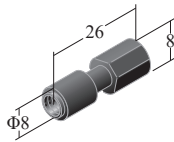
Part name: 1/8 Fitting
 P/N: 9311
 Material: SS
 Specification: M8×1
 Quantity: 10/pkg



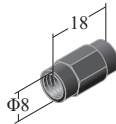
Part name: Ferrule for 1/8 Fitting
 P/N: 9321
 Material: SS
 Specification: OD 1/8"
 Quantity: 10/pkg

○ Union and Joint, PEEK and other polymers

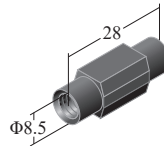
Union



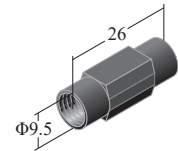
Part name: Union
P/N: 9005
Material: PEEK
Specification: NO. 10-32 UNF
Quantity: 1



Part name: Union
P/N: 9736
Material: POM
Specification: M6×1
Quantity: 1

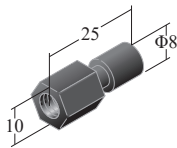


Part name: Union
P/N: 9101
Material: PEEK
Specification: NO. 1/4-28 UNF
Quantity: 1

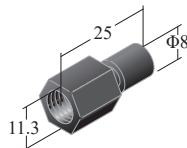


Part name: Union
P/N: 9111
Material: PEEK
Specification: M8×1
Quantity: 1

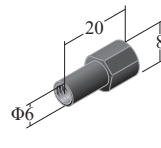
Reducing union



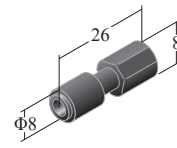
Part name: Reducing Union
P/N: 9110
Material: PEEK
Specification: 1/4-28 UNF
NO. 10-32 UNF
Quantity: 1



Part name: Reducing Union
P/N: 9008
Material: PEEK
Specification: M8×1
NO. 10-32 UNF
Quantity: 1

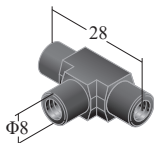


Part name: Reducing Union
P/N: 9737
Material: POM
Specification: M6×1
NO. 10-32 UNF
Quantity: 1

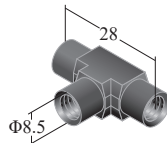


Part name: Reducing Union
P/N: 9112
Material: PEEK
Specification: NO. 10-32 UNF
Syringe port
Quantity: 1

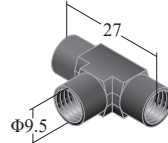
Tee



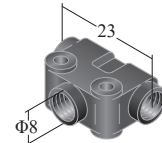
Part name: Tee
P/N: 9006
Material: PEEK
Specification: NO. 10-32 UNF
Quantity: 1



Part name: Tee
P/N: 9131
Material: PEEK
Specification: 1/4-28 UNF
Quantity: 1

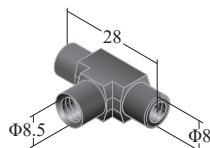


Part name: Tee
P/N: 9121
Material: PEEK
Specification: M8×1
Quantity: 1

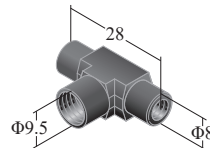


Part name: Tee
P/N: 9738
Material: POM
Specification: M6×1
Quantity: 1

Reducing tee

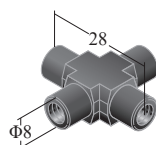


Part name: Reducing Tee
P/N: 9108
Material: PEEK
Specification: NO. 10-32 UNF
1/4-28 UNF
Quantity: 1

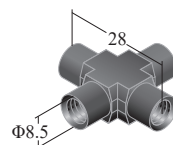


Part name: Reducing Tee
P/N: 9006
Material: PEEK
Specification: NO. 10-32 UNF
M8×1
Quantity: 1

Cross



Part name: Cross
P/N: 9007
Material: PEEK
Specification: NO. 10-32 UNF
Quantity: 1



Part name: Cross
P/N: 9109
Material: PEEK
Specification: 1/4-28 UNF
Quantity: 1

○ PEEK, PTFE, ETFE, PFA Tubing

PEEK tubing (OD 1/16")



Part name: PEEK tube
P/N: 5999
Indication: Red-striped
OD: 1/16"
ID: 0.13 mm
Length: 10 m or 5 m



Part name: PEEK tube
P/N: 6001
Indication: Blue-striped
OD: 1/16"
ID: 0.25 mm
Length: 10 m or 5 m



Part name: PEEK tube
P/N: 6002
Indication: Orange-striped
OD: 1/16"
ID: 0.50 mm
Length: 10 m or 5 m

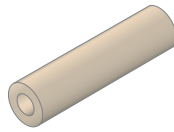


Part name: PEEK tube
P/N: 6003
Indication: Orange-striped
OD: 1/16"
ID: 0.75 mm
Length: 10 m or 5 m

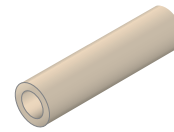


Part name: PEEK tube
P/N: 60031
Indication: Gray-striped
OD: 1/16"
ID: 1.0 mm
Length: 10 m or 5 m

PEEK tubing (OD 1/8")

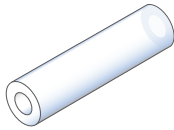


Part name: PEEK tube
P/N: 6004
OD: 1/8"
ID: 1/16"
Length: 5 m

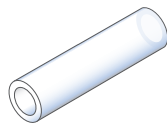


Part name: PEEK tube
P/N: 60042
OD: 1/8"
ID: 2.0 mm
Length: 5 m

PTFE tubing



Part name: PTFE tube
P/N: 7213
OD: 1/8"
ID: 1/16"
Length: 10 m



Part name: PTFE tube
P/N: 7005
OD: 3.0 mm
ID: 2.0 mm
Length: 10 m



Part name: PTFE tube
P/N: 7211
OD: 1/16"
ID: 0.25 mm
Length: 10 m



Part name: PTFE tube
P/N: 7210
OD: 1/16"
ID: 0.50 mm
Length: 10 m



Part name: PTFE tube
P/N: 7212
OD: 1/16"
ID: 0.80 mm
Length: 10 m



Part name: PTFE tube
P/N: 7215
OD: 1/16"
ID: 1.0 mm
Length: 10 m

ETFE tubing



Part name: ETFE tube
P/N: 7009
OD: 1/16"
ID: 0.20 mm
Length: 10 m



Part name: ETFE tube
P/N: 7010
OD: 1/16"
ID: 0.30 mm
Length: 10 m



Part name: ETFE tube
P/N: 7011
OD: 1/16"
ID: 0.50 mm
Length: 10 m

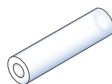


Part name: ETFE tube
P/N: 7212
OD: 1/16"
ID: 0.80 mm
Length: 10 m

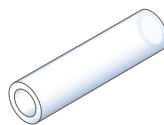


Part name: ETFE tube
P/N: 7213
OD: 1/16"
ID: 1.0 mm
Length: 10 m

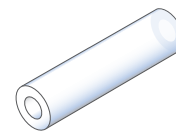
PFA tubing



Part name: PFA tube
P/N: 7103
OD: 2.0 mm
ID: 1.0 mm
Length: 10 m



Part name: PFA tube
P/N: 7104
OD: 3.0 mm
ID: 2.0 mm
Length: 10 m

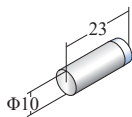


Part name: PFA tube
P/N: 7105
OD: 1/8"
ID: 1/16"
Length: 10 m

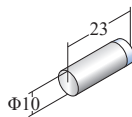
6. Other Parts

○ Filters

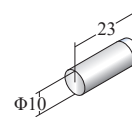
Solvent filters



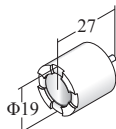
Part name: Suction filter
 P/N: 8805
 Pore size: 40 μm
 Specification: For OD 1/16" tube
 Material:: SS, PCTFE
 Quantity: 1



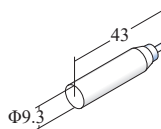
Part name: Suction filter
 P/N: 8806
 Pore size: 10 μm
 Specification: For OD 1/16" tube
 Material:: SS, PCTFE
 Quantity: 1



Part name: Suction filter
 P/N: 8807
 Pore size: 10 μm
 Specification: For ID 1/8" tube
 Material:: SS, PCTFE
 Quantity: 1

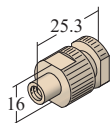


Part name: Suction filter
 P/N: 8802
 Pore size: 10 μm
 Specification: For ID 2.0 mm tube
 Material:: SS, PTFE, ETFE
 Quantity: 1

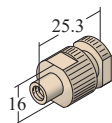


Part name: Suction filter
 P/N: 8800
 Pore size: 20 μm
 Specification: For ID 2.0 mm tube
 Material:: SS, PCTFE
 Quantity: 1

In-line solvent filters



Part name: PEEK in-line filter
 P/N: 8502
 Pore size: 5 μm
 Specification: No.10-32 UNF
 Material:: PEEK
 Quantity: 1



Part name: PEEK in-line filter
 P/N: 8501
 Pore size: 10 μm
 Specification: No.10-32 UNF
 Material:: PEEK
 Quantity: 1



Part name: PEEK frits for
 8502 in-line filter
 P/N: 8512
 Pore size: 5 μm
 Material: PEEK
 Quantity: 5



Part name: PEEK frits for
 8501 in-line filter
 P/N: 8512
 Pore size: 10 μm
 Material: PEEK
 Quantity: 5

○ Bottles

Solvent bottles



Part name: Solvent bottle
P/N: 9841
Volume: 1000 mL
Quantity: 1
Note: 9851 bottle cap is sold separately



Part name: Solvent bottle
P/N: 9842
Volume: 500 mL
Quantity: 1
Note: 9851 bottle cap is sold separately

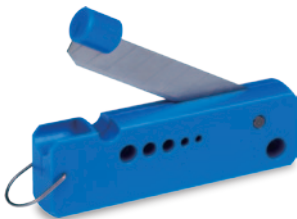
Solvent bottle cap



Part name: Bottle cap
P/N: 9851
Specification: GL45 (Schott)
Tube IDs: 3.2 mm, 2.0 mm 1/16"
Quantity: 1

○ Tube Cutters

Tube cutters



Part name: Tube cutter for polymer tube
P/N: 9830
Quantity: 1

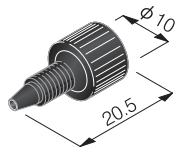


Part name: Tube cutter for SS tube
P/N: 9831
Quantity: 1

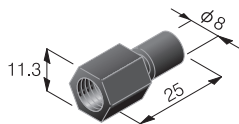
Addendum. Fitting and Tubing Sizes

In catalogs about fittings and tubing for analytical instrumentation, you will run across many unfamiliar and little-used values and units, such as inches, No.10-32 UNF, 1/16, 1/8, and so on. Each country may use different units (inches or millimeters) or have different standards in screw threads, and since these different units and standards have a long history behind them, achieving a unified standard is not possible at this time. Since many of our customers have noted the difficulties in understanding the sizing terms used in HPLC fittings and tubing, we have prepared the explanation below to help clarify matters.

Fittings and Union Sizes



Product: Easy Fitt 100
Model Number: 9001
Material: PEEK
Size: 1/16"(inch) tubing
Standard: **No.10-32UNF**



Product: Reducing Union
Model Number: 9008
Material: PEEK
Standard: **M8, No.10-32UNF**

The picture on the left shows a typical fitting and reducing union (union between tubes of different diameters).

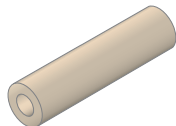
“Standard” refers to the type of screw thread standard, either No.10-32UNF or M8. “UNF” stands for “Unified Fine Thread” (a thread standard in inches), and the “M” in “M8” stands for “Metric Screw Thread”.

Also, the symbol “Ø” in the picture on the left indicates “diameter”.

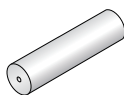
- No.10-32UNF : Diameter 4.826 mm, Thread number is 32 threads in 25.4 mm (1 inch)
- M8 : Diameter is 8 mm screw threads*

* for more details, consult Industry Standards JIS B0208, B0209.

Tube Sizes



Product: PEEK tubing
Model Number: 6004
Outer Diameter: **1/8"**
Inner Diameter: **1/16"**



Product: SS tubing
Model Number: 7021
Outer Diameter: **1/16"**
Inner Diameter: **0.25 mm**

The tubing pictured on the left have inner and outer diameters of 1/8" and 1/16". 1/16" means “one-sixteenth of an inch”, indicating the outer diameter value and units. 1 inch is approximately 25.4 mm.

- 1/8" : This is about 3.175 mm. 1/8" tubing is often used to connect the solvent bottle to the device inlet, or used in the drainage line.
- 1/16" : This is about 1.5875 mm. Often used to connect the pump outlet to the detector inlet.



You can view this catalog as well as find the latest information on these products over the internet. Visit our home page at <http://www.flom.co.jp> for details.



FLOM Corp.

5-32-10 Shinmachi, Ome City,
Tokyo, Japan 198-0024

TEL: +81-428-30-7451
FAX: +81-428-30-7452