



CONSUMABLES AND SUPPLIES

GC ACCESSORIES

- Leak Detector LD239 . . . 258
- Digital Flowmeter GF1010 . . . 259
- Inlet Liners & O-rings . . . 260~264
- Ferrules . . . 265~269
- Inlet Septa . . . 270~271
- Cutter . . . 272
- Connectors . . . 273
- Unions . . . 274~275
- Tools . . . 276~278
- Fittings . . . 279~283
- Fittings & Connectors . . . 284~286
- Tubing . . . 287~292
- Accessories for Gas Tubing . . . 293
- Gas Filters . . . 294~300

Leak Detector LD239 (Not available in Taiwan, Australia or Russia)

Gas Leak Detector LD239



LD239

Gas leaks can cause detector noise and baseline instability, shorten column life and waste expensive carrier gas. GL Sciences' LD239 leak detector is an easy way to quickly identify leaks in your system.

LD239 provides the most sensitive He leak detection inexpensively. LD239 is compact, USB rechargeable and easy-to-use.



Specifications

Detector: Thermal Conductivity

Sensitivity: Selectable in two ranges

Standard Range: Helium 0.005 mL/min in atmosphere

High Range: Helium 0.0005 mL/min in atmosphere

Target Gases: Helium, CO₂, Ar, Ne, etc.

(gases that are largely different from referential gas)

※ Nonflammable and noncorrosive atmosphere is inevitable.

Display: LCD display with 8 bar graphs, 8 LED lamps,

LCD display for Parameter setting

Operating Temp. Range : 10 to 40 °C

Dimension: 50 (W) x 20 (D) x 111 (H) mm

Weights: Approx. 95 g

Battery and Recharger: Rechargeable lithium-ion battery, USB cable

Charging Time: Max. 2.5 hours

Continues Operation: Approx. 5 hours (with a new, fully charged batteries, Std.

Range, Buzzer OFF, LED OFF, LCD Backlight OFF)

- The lithium-ion battery used in the LD239 does not comply with battery regulations in Taiwan, Australia or Russia.

Description	Cat.No.
Gas Leak Detector LD239	2702-19340

Description	Details	Cat.No.
Battery for LD239		2702-19341
Sample Filter	For Replacing Sample Prove	2702-19333
Reference Filter	For Replacing Reference Port	2702-19334
USB Cable	For Battery Charging	2702-19331

■ Digital Flowmeter GF1010



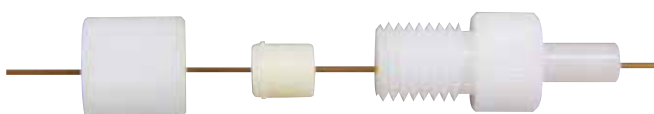
Silicone cover (Option)

Digital Flowmeter GF1010

The new compact portable GF1010 gas flow meter makes gas flow measurements easier and more accurate, helping to eliminate user errors. The GF1010 is an essential tool for troubleshooting and routine maintenance of your gas chromatograph. The LCD display with back light makes flow rate legible. Silicone cases are available to protect the flowmeter from shock.

Column Adaptors (Option)

It is used when the flow rate of a capillary column is measured. The tube is connected to GF1010 and tightened with a nut. 0.25 – 0.53 mm I.D. columns can be connected.



TCD Vent Adaptor (Option)

1/8 in. SL type TCD Vent Adaptor can be inserted to TCD vent to connect with GF 1010.



● Specifications

Measurable Flow Range: 0.5 – 1200 mL/min (Display range: -0.1 – 1400 mL/min)

Accuracy: $\pm 3\%$ or ± 0.3 mL/min. whichever is greater (Calibration gas: N₂)

Operating Temp. Range: 10 – 40 °C (Operating Temp. range where the accuracy is guaranteed: 15 – 30 °C)

Tube: 3 mm I.D., 7 mm O.D. (Operating Temp.: up to 200 °C)

Measurable Gases: N₂, Air, He, Ar, H₂ or etc.

Caution) Do not use the flowmeter to measure corrosive and humid gas

Battery: 2 AA

Standard: WEEE, RoHS, CE

Dimensions: 76 (W) x 135 (D) x 35 (H) mm

Weight: Approx. 240 g (without battery)

Description	Cat.No.
Gas Flow Meter GF1010	2709-10100
GF1010 Silicone Tube (Replacement)	2709-10102
Silicone Case (Navy Blue)	2709-10110
TCD Vent Adaptor (1/8 in.)	2709-10103
Column Adaptor	2709-55015

Inlet Liners & O-rings

■ Inlet Liners for Agilent GCs



To avoid scratches and contamination from air, liners for Agilent are packed in blister packs used for the medical tablets. Due to the deactivation treatment under 420 °C, the liners avoid sample adsorption and degradation, and are effective for highly sensitive analyses.

Type		Details	Deactivated	Qty.	Agilent P/N	Cat.No.
Split		Single Tapered Quartz Wool (fixed) Focus Liner	Yes	5 pcs	5183-4712	3001-41237
				25 pcs	5183-4713	3001-41257
		Straight Quartz Wool	Yes	5 pcs	5183-4691	3001-41229
				25 pcs	5183-4692	3001-41233
Splitless		Single Tapered Quartz Wool	Yes	5 pcs	5183-4693	3001-41260
				25 pcs	5183-4694	3001-41261
		Single Tapered	Yes	5 pcs	5183-4695	3001-41248
				25 pcs	5183-4696	3001-41258
FocusLiner		Quartz Wool (fixed)	Yes	5 pcs	210-4004-5	3001-41235
				25 pcs	-	3001-41236



Graphite O-rings














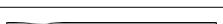








O-Rings for Agilent Liners

Description	Material	Max. temp.	Qty.	Cat.No.
Graphite O-ring for Split Liners	Graphite	450 °C	10 pcs	3007-41505

■ Inlet Liners for Shimadzu GCs



These liners are treated under 420 °C for deactivation treatment and packed in the blister packs (except for some liners). It is effective for the analyses of adsorptive and degradable samples.

Type	GC Model	Deactivated	Shimadzu P/N	Qty.	Cat.No.
Split	 GC-17A/2010/2014	–	221-41444-01	1 pc	3001-16138*
	 GC-17A/2010/2014	–	221-41444	1 pc	3001-16320*
	 GC-14A • 14B/2014	–	221-41444-84	5 pcs	3001-16312*
Splitless	 GC-14A • 14B/2014	–	221-32544-01	1 pc	3001-16120*
	 GC-17A/2010/2014	–	221-48355-01	1 pc	3001-16139*
	 GC-17A/2010/2014	–	–	5 pcs	3001-16140*
	 GC-17A/2010/2014	–	–	25 pcs	3001-16141*
	 GC-17A/2010/2014 with Quartz Wool	Yes	221-48876-05	5 pcs	3001-16327
	 GC-17A/2010/2014	Yes	221-48876-03	5 pcs	3001-16329
	 GC-17A/2010/2014	–	221-41544	1 pc	3001-16321*
Split/Splitless	 GC-17A/2010/2014	–	221-41544-84	5 pcs	3001-16315*
	 GC-14A/14B/2014	–	221-32544	1 pc	3001-16121*
	 GC-17A/2010/2014	Yes	20955	1 pc	3001-16400*
Direct	 GC-17A	Yes	20956	5 pcs	3001-16401*
	 GC-9A/12A/15A/16A for WBC Attachment	Yes	20957	25 pcs	3001-16402*
	 GC-2010/2014 for Connectite Attachment	–	221-41599	1 pc	3001-16319*
FocusLiner	 GC-2010/2014 for Connectite Attachment	–	221-38107	1 pc	3001-16129*
	 GC-17A/2014 with Quartz Wool	Yes	–	5 pcs	3001-16404
	 GC-2010 with Quartz Wool	Yes	–	5 pcs	3001-16322
Tapered FocusLiner	 GC-2010 with Quartz Wool	Yes	–	25 pcs	3001-16324
	 GC-2010 with Quartz Wool	Yes	–	25 pcs	3001-16326
	 GC-2010 with Quartz Wool	Yes	–	5 pcs	3001-16406


*: Not in blister pack

Inlet Liners & O-rings

Inlet Liners for Thermo Scientific GCs










To avoid scratches and contamination from air, liners for Thermo Scientific are packed in blister packs used for the medical tablets. Due to the deactivation treatment under 420 °C, the liners avoid sample adsorption and degradation, and are effective for highly sensitive analytes.

Type	Size	Deactivated	Thermo Scientific P/N	Qty.	Cat.No.
Splitless	 5 × 8 × 105 mm	Yes	45350033	5 pcs	3001-41104

Inlet Liners for Bruker / Agilent GCs



Type	Details	Deactivated	Bruker P/N	Qty.	Cat.No.
Split/ Splitless		Yes	SG092003	5 pcs	3001-41237
			SG092011	25 pcs	3001-41257
Split		Yes	SG092002	5 pcs	3001-41235
			SG092219	25 pcs	3001-41236
Split		Yes	392611937	5 pcs	3001-41229
			-	25 pcs	3001-41233
Split		Yes	392911928	5 pcs	3001-41260
			-	25 pcs	3001-41261
Splitless		Yes	392611927	5 pcs	3001-41248
			-	25 pcs	3001-41258
		Yes	SG092018	5 pcs	3001-41262
SG092230			25 pcs	3001-41263	
Direct		Yes	-	5 pcs	3001-41264








O-ring for Bruker / Agilent Liners

Description	Material	Size I.D. x Thickness	Qty.	Cat.No.
O-ring (High Temp.)	Fluoro-rubber	5.8 × 1.9 mm	5 pcs	2701-22703

Inlet Liners for GL Sciences GCs



Description	Shape	Deactivated	Qty.	Cat.No.
FocusLiner		Yes	5 pcs	3001-35353
Cup Splitter		Yes	1 pc	3001-35350
Splitless (2 mm I.D., Quartz)		Yes	1 pc	3001-35351
Liner for Auto Sampler (4 mm I.D.)		Yes	1 pc	3001-35352
Direct Injection Liner (wide bore)		-	1 pc	2701-26550



O-ring for GL Sciences Liners

Description	Material	I.D. x Thickness	Qty.	Cat.No.
O-ring (High Temp.)	Fluoro-rubber	5.8 x 1.9 mm	5 pcs	2701-22703

■ Inlet Liners for GL Sciences B.V (.OPTIC-4)

Description	Type	Deactivated	Qty.	Cat.No.
2414-1001 Fritted Liner frit on 15 mm		–	5 pcs	3001-25610
2414-1002 Silanized Fritted Liner frit on 15 mm		Yes	5 pcs	3001-25611
2414-1003 Single-necked Liner for Split Inj		–	5 pcs	3001-25616
2414-1005 Splitless Liner 1 mm I.D.		–	5 pcs	3001-25612
2414-1006 Splitless Liner 1 mm I.D., silanized		Yes	5 pcs	3001-25613
2414-1009 Baffled Liner for Splitless Injections		–	5 pcs	3001-25620
2414-1011 Fritted Liner with Taper, frit on 20 mm		–	5 pcs	3001-25625
2414-1027 Packed Liner with Tenax TA, 60/80		–	5 pcs	3001-25614
2414-1021 Packed Liner with Tenax GR, 80/100		–	5 pcs	3001-25623
2414-1007 Sintered Glass Liner with Taper		–	5 pcs	3001-25621
2414-1008 Sintered Glass Liner with Taper silanized		Yes	5 pcs	3001-25622
2414-1013 LINEX DMI Tapered Liner		–	5 pcs	3001-25627
2414-1014 LINEX DMI Tapered Liner, silanized		Yes	5 pcs	3001-25628
2414-1015 Glass needle guide for DMI		–	5 pcs	3001-25629
2406-1010 DMI micro vial 30 µL		–	100 pcs	3001-25630
MonoTrap TD Liner for OPTIC/LINEX		–	1 pc	1003-75001

Inlet Liners & O-rings

■ Accessories for GL Sciences B.V (.OPTIC-4)



O-ring



Ferrule

O-ring for GL Sciences B.V (.OPTIC-4) Liners

Description	Material	I.D. x Thickness	Qty.	Cat.No.
2406-1008 OPTIC O-ring	Fluoro-rubber (black)	4.5 x 2.0 mm	50 pcs	3001-25633

GL Sciences B.V (.OPTIC-4) Ferrule

Description	Qty.	Cat.No.
2406-1003 Graphite Ferrule for 0.53 mm I.D. column	10 pcs	3001-25631
2406-1004 Graphite Ferrule for 0.1-0.32 mm I.D. column	10 pcs	3001-25632
Ferrules G I -1/4-5 for connecting sampling tubing	10 pcs	3007-14001
Ferrules GV-1/4-5 for connecting sampling tubing	10 pcs	3007-31001

■ Accessories for DMI



Micro-Vial and Liner Block

Micro-vial / Liner Block

Description	Qty.	Cat.No.
2406-2290 Microvial and Liner Block	1 pc	3001-25650

Liner Cap Assembly

Description	Details	Qty.	Cat.No.
2411-4107 CDGS Liner Cap Assembly	Liner Cap for CDC	50 pcs	3001-25649



Liner Cap Assembly

SAMPLE PREPARATION

LIFE SCIENCE

LC ACCESSORIES

SAIR SAMPLING

GC CAPILLARY COLUMNS

GC PACKED COLUMNS

GC ACCESSORIES

CELLS

VIALS

Ferrules

It is important to select a proper material and GC connection ferrules depending on the analytical conditions. GL Sciences offers extensive line up of ferrules for various analytical scenes.



Graphite Ferrule



15 % Graphite / 85 % Vespel Ferrule



SiITite Metal Ferrule



SiITite FingerTite Ferrule

	Graphite	Super Graphite	15 % Graphite / 85 % Vespel	SiITite Metal	SiITite FingerTite
Mechanical Strength	Soft	Soft	Hard	Hard	Hard
Max. Operating Temp.	450 °C	450 °C	350 °C	450 °C and more	450 °C and more
Reuse	Possible	Possible	Not Possible	Not Possible	Not Possible
Strength of Tightening	Week	Week	Middle	Strong	Strong
Retightening	No Need	No Need	Need	No Need	No Need
GC-MS	Not Available	Not Available	Available	Available	Available
Original Conditioning	–	Yes	–	Yes	–
Mechanical Strength	Soft	Soft	Hard	Hard	Hard
Max. Operating Temp.	450 °C	450 °C	350 °C	450 °C and more	450 °C and more
Reuse	Possible	Possible	Not Possible	Not Possible	Not Possible
Strength of Tightening	Week	Week	Middle	Strong	Strong



What is Blister pack?

It is widely used for packing of tablets to avoid getting scratched, damp and contamination.

Ferrules

■ Capillary Ferrules



The graphite Vespel ferrule performs well under vacuum and the applicability to high pressure applications is suitable for GC/MS. The graphite ferrule is for general GC. Both types have excellent stability at high temperatures and chemical resistance. Blister pack is used for packing graphite Vespel ferrules in.

For Agilent GCs

Description	Model	Purpose	Column	Qty.	Agilent P/N	Cat.No.
15 % Graphite/ 85 % Vespel Ferrule (Short Ferrule)	GVS-0.4	GC Injector/Detector	0.10 – 0.25 mm	10 pcs	5181-3323	3007-41140
	GVS-0.5		0.32 mm	10 pcs	5062-3514	3007-41150
15 % Graphite/ 85 % Vespel Ferrule (Long Ferrule)	GVL-0.4	GC/MS Interface	0.10 – 0.25 mm	10 pcs	5062-3508	3007-31144
	GVL-0.5		0.32 mm	10 pcs	5062-3506	3007-31145
	GVL-0.8		0.53 mm	10 pcs	5062-3538	3007-31148
Graphite Ferrule GF-0.5 (Short Ferrule)	GF-0.5	GC Injector/Detector	0.1 – 0.32 mm	10 pcs	5062-8853	3007-31305
	GF-0.8		0.53 mm	10 pcs	5080-3538	3007-31308
Supper Graphite Ferrule	SGF-0.5	One Ring Ferrule	0.1 – 0.32 mm	6 pcs	500-2118	3007-31405

For Shimadzu GCs

Description	Model	Purpose	Column	Qty.	Cat.No.
15 % Graphite/ 85 % Vespel Ferrule	GVL-0.4	GCMS_QP2010	0.10 – 0.25 mm	10 pcs	3007-31144
	GVL-0.5	Injector- MS Interface QP5000/5050	0.32 mm	10 pcs	3007-31145
	GVL-0.8	Wide bore MS Interface	0.53 mm	10 pcs	3007-31148
Graphite Ferrule	G-0.5	GC 14A, GC 17A, GC2010, GC2014	0.10 – 0.25 mm	10 pcs	3007-14005*
	G-0.8	Injector-Detector	0.53 mm	10 pcs	3007-14008*
Supper Graphite Ferrule	SG-0.5	for 0.10 - 0.32 mm I.D. column, Special Type	0.1 – 0.32 mm	6 pcs	3007-14055
	SG-0.8	for 0.53 mm I.D. column, Special Type	0.53 mm	6 pcs	3007-14058

*: Not in the blister package

For Thermo Scientific GCs

Description	Model	Purpose	Column	Qty.	Cat.No.
15 % Graphite/ 85 % Vespel Ferrule	GVL-0.4	GC/MS Interface	0.10 – 0.25 mm	10 pcs	3007-31144
	GVL-0.5		0.32 mm	10 pcs	3007-31145
	GVL-0.8		0.53 mm	10 pcs	3007-31148
15 % Graphite/ 85 % Vespel Ferrule	Trace/Focus 0.5	Trace/Focus GC Injector/Detector	0.32 mm	10 pcs	3007-41155*
Special Brass Nut	–	Trace GC Injector/Detector	–	2 pcs	3001-24371

*: Please use with 3001-24371 Special brass nut

For Bruker GCs

Description	Model	Purpose	Column	Qty.	Cat.No.
15 % Graphite/ 85 % Vespel Ferrule	GVL-0.4	GC Injector/Detector	0.10 – 0.25 mm	10 pcs	3007-31144
	GVL-0.5	GC/MS Interface	0.32 mm	10 pcs	3007-31145
	GVL-0.8		0.53 mm	10 pcs	3007-31148

For GL Sciences GCs

Description	Model	Purpose	Column	Qty.	Cat.No.
15 % Graphite/ 85 % Vespel Ferrule	GVL-0.4	GC Injector/Detector	0.10 – 0.25 mm	10 pcs	3007-31144
	GVL-0.5		0.32 mm	10 pcs	3007-31145
	GVL-0.8		0.53 mm	10 pcs	3007-31148
Graphite Ferrule	GF-0.5	GC Injector/Detector	0.10 – 0.32 mm	10 pcs	3007-31305
	GF-0.8		0.53 mm	10 pcs	3007-31308
Supper Graphite Ferrule	SGF-0.5	One Ring Ferrule	0.1 – 0.32 mm	6 pcs	3007-31405

Conventional Ferrules



- A GI-5S ferrule contains a side ring and a washer.
- Indicate GC model No. when ordering.

Type : A · One Ring Ferrule Type C · 1/8 in. One Ring Ferrule Type
 B · Double Ring Front Type D · Special Type

Super Graphite Ferrules

Model	I.D.	Type	Used for	Qty.	Cat.No.
SGL-0.5	0.5 mm	A	0.10 – 0.32 mm I.D. Capillary Column	6 pcs	3007-14205
Graphite-805	0.5 mm	C	G-3000, G-5000 0.10 – 0.32 mm I.D. Capillary Column	6 pcs	3007-15222
Graphite-808	0.8 mm	C	G-3000, G-5000 0.53 mm I.D. Capillary Column	6 pcs	3007-15223
Graphite-3	3.0 mm	C	G-3000 Packed Column	6 pcs	3007-15225
Graphite-6	6.0 mm	A	G-3000 Split/Splitless	6 pcs	3007-15224
SGL-1/4	1/4 in.	A		6 pcs	3007-14264
SGL-0.8	0.8 mm	D		6 pcs	3007-14208

Graphite Ferrules

Model	I.D.	Type	Used for	Qty.	Cat.No.
GF-0.5	0.5 mm	A	GLS/Agilent 0.10 – 0.32 mm I.D. Capillary Column	10 pcs	3007-31305
G-0.5	0.5 mm	D	Shimadzu 0.10 – 0.32 mm I.D. Capillary Column	10 pcs	3007-14005
GI-0.5	0.5 mm	A	0.10 – 0.32 mm I.D. Capillary Column	10 pcs	3007-14105
Graphite-805	0.5 mm	C	G-3000, G-5000 0.10 – 0.32 mm I.D. Capillary Column	10 pcs	3007-15212
GF-0.8	0.8 mm	A	GLS/Agilent 0.53 mm I.D. Capillary Column	10 pcs	3007-31308
G-0.8	0.8 mm	D	Shimadzu 0.53 mm I.D. Capillary Column	10 pcs	3007-14008
GI-0.8	0.8 mm	A	0.53 mm I.D. Capillary Column	10 pcs	3007-14108
Graphite-808	0.8 mm	C	G-3000, G-5000 0.53 mm I.D. Capillary Column	10 pcs	3007-15213
GI-1.0	1.0 mm	A		10 pcs	3007-14110
GI-1/16	1/16 in.	A		10 pcs	3007-14116
GI-5S	5.0 mm	–	Inlet splitter	10 pcs	3007-14152
Graphite-3	3 mm	C	G-3000 Packed Column	10 pcs	3007-15215
GI-3.0	3 mm	A		10 pcs	3007-14130
GI-1/8	1/8 in.	A		10 pcs	3007-14132
Graphite-6	6 mm	A	G-3000 Split/Splitless	10 pcs	3007-15214
GI-6.0	6 mm	B		10 pcs	3007-14160
GI-1/4	1/4 in.	A		10 pcs	3007-14164

15 % Graphite / 85 % Vespel Ferrules

Model	I.D.	Type	Used for	Qty.	Cat.No.
GVL-0.4	0.4 mm	A	0.25 mm I.D. Capillary Column	10 pcs	3007-31144
GVL-0.5	0.5 mm	A	0.32 mm I.D. Capillary Column	10 pcs	3007-31145
GVL-0.8	0.8 mm	A	0.53 mm I.D. Capillary Column	10 pcs	3007-31148
GV-09	0.9 mm	A		10 pcs	3007-31109
GV-10	1.0 mm	A		10 pcs	3007-31110
GV-1/16	1/16 in.	A		10 pcs	3007-31116
GV-24	0.4 mm	A	2 hole type	10 pcs	3007-31124
GV-00	Holeless	A	Make a hole with a pin vice dollirle	10 pcs	3007-31100
GV-1/8	1/8 in.	A		10 pcs	2703-34100
GV-6	6.0 mm	A		10 pcs	3007-31134
GV-1/4	1/4 in.	A		10 pcs	3007-31135

Ferrules

■ SiITite Metal Ferrule

SiITite Metal Ferrule enables easy and leak-free installation of capillary columns without the use of any tools. It is packed in Blister Pack which is widely used for packing of tables to avoid getting scratched, damp and contamination.



Note) When using SiITite Metal Ferrule, please use the nut included in the SiITite Metal Ferrule Kit. It cannot be used for Agilent VF column because its O.D. is slightly different than other common columns. When using 0.25 mm I.D. of Ultra ALLOY manufactured by Frontier Laboratories, please use SiITite Metal Ferrule for 0.32 mm I.D. column.

For Agilent

Description	Specification	Applicable Column's I.D.	Ferrule I.D.	Reference P/N	Qty.	Cat.No.
Starter Kit SiITite Metal Ferrule Kit	For Agilent MS Interface	0.1 – 0.25 mm	0.4 mm	–	2pcs x Nut,	3007-19010
		0.32 mm	0.5 mm	–	10pcs x Ferrule	3007-19011
0.1 – 0.25 mm		0.4 mm	5188-5361	10 pcs	3007-19020	
0.32 mm		0.5 mm	5188-5362	10 pcs	3007-19021	

For Shimadzu

Description	Specification	Applicable Column's I.D.	Ferrule I.D.	Reference P/N	Qty.	Cat.No.
Starter Kit SiITite Metal Ferrule Kit	For QP2010 Series Injection Port & MS Interface	0.1 – 0.25 mm	0.4 mm	073200	2pcs x Nut,	3007-19010
		0.32 mm	0.5 mm	073201	10pcs x Ferrule	3007-19011
0.1 – 0.25 mm		0.4 mm	073220	10 pcs	3007-19020	
0.32 mm		0.5 mm	073221	10 pcs	3007-19021	

■ SilTite FingerTite



SilTite Finger Tite enables easy and leak-free installation of capillary columns by finger tightening without any tools. It is composed of special nut and SilTite Metal Ferrule, and no need to re-tighten after any oven program.



For Agilent

Description	Applicable Column's I.D.	Ferrule I.D.	P/N	Qty.	Cat.No.
Kit for Split/splitless Injection & FID Detector	0.1 – 0.25 mm	0.4 mm	073610	1 pc	3015-14001
Kit for Split/splitless Injection & MS Detector			073612	1 pc	3015-14002
Split/splitless Injection Base Seal Adaptor	–	–	073640	2 pcs	3015-14003

For Shimadzu

Description	Specification	Applicable Column's I.D.	Ferrule I.D.	P/N	Qty.	Cat.No.
Kit for Split/splitless Injection & FID Detector	for GC2010	0.1 – 0.25 mm	0.4 mm	073620	1 pc	3015-14004
	for GC17A			073628		3015-14005
Kit for Split/splitless Injection & MS Detector	for QP2010			073621		3015-14006
	for QP5050			073629		3015-14007

■ Conventional Septa



Plug type



11 mm

The most versatile silicone septa. Indicate a GC model when ordering.

Size	Material	Color	Qty.	Cat.No.
Plug type	Silicon	Buff	20 pcs	3007-16101
			100 pcs	3007-16110
			1000 pcs	3007-16115
11 mm	Red Septa	Red	25 pcs	2701-25003

Septa

Selection Guide



Plug type

All Shimadzu GCs



10 mm

Hitachi
G-3000, G-5000
GL Sciences
GC-380



11 mm

Agilent
5880, 5890, 6850
6890, 7890
GL Sciences
GC-4000,
GC-3200, GC-390,
GC-353, GC-323



17 mm

Thermo
Scientific
Trace GC

GL Sciences provides with septa for various manufacturers' GCs, from conventional to low bleed types.

Premium Septa Selection Guide

Type	Features	Max. Operating Temp.	Center Guide	Hardness*	Application
BTO	Low Bleed Plasma Coating	400 °C	Yes	48	High Temp. Analysis High Sensitivity Analysis
Advanced Green	Plasma Coating	400 °C	Yes	51	General Analysis
Marathon Long Life	Long Life Plasma Coating	400 °C	Yes	46	For Auto Sampler Long Injection Life

*: Shore hardness Scales

Note: Max. Operating Temp. means Injection Temp.

Conventional Septa Selection Guide

Type	Features	Max. Operating Temp.	Center Guide	Low Bleed
Conventional	General (Silicone)	230 °C	No	No
	General (Red)	250 °C	No	No

■ Premium Septa

Premium septa are precision-molded with a recess on the injection side, to guide the syringe needle to the same point with every injection. The CenterGuide design requires less force for initial penetration for a smoother feel. Septum life may be enhanced in some applications by minimizing tearing and coring.

BTO Septa

- Ultra Low-bleed
- Usable to 400 °C inlet temperature
- Preconditioned
- Ideal for demanding GC & GC-MS applications



BTO Septa

Size	Max. Operating Temp.	Thickness	Qty.	Cat.No.
Plug type	400 °C	-	25 pcs	3007-16128
			50 pcs	3007-16129
11 mm	400 °C	3 mm	25 pcs	3007-41002
			50 pcs	3007-41003
17 mm	330 °C	3 mm	25 pcs	3007-41008
			50 pcs	3007-41009

Advanced Green 3 Septa

- Low-bleed
- Usable to 350 °C inlet temperature
- General analysis



Advanced Green 3 septa

Size	Max. Operating Temp.	Thickness	Qty.	Cat.No.
Plug type	350 °C	-	25 pcs	3007-16126
			50 pcs	3007-16127
11 mm	350 °C	3 mm	25 pcs	3007-41000
			50 pcs	3007-41001
17 mm	300 °C	3 mm	25 pcs	3007-41006
			50 pcs	3007-41007

Marathon Long Life Septa

- Low-bleed
- Usable to 350 °C inlet temperature
- Long Life
- Softer than the others, ideal for autosampler injection



Marathon Long Life Septa

Size	Max. Operating Temp.	Thickness	Qty.	Cat.No.
Plug type	350 °C	-	25 pcs	3007-16130
			50 pcs	3007-16131
11 mm	350 °C	3 mm	25 pcs	3007-41004
			50 pcs	3007-41005
17 mm	300 °C	3 mm	25 pcs	3007-41010
			50 pcs	3007-41011

Capillary Tubing Cutter

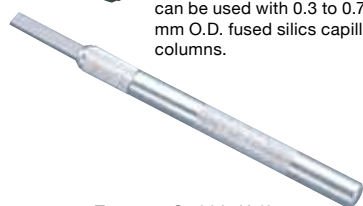


Ceramic Tube Cutter



Close up

Capillary Fine Cutter for GC/LC (Note) Capillary Fine Cutter can be used with 0.3 to 0.78 mm O.D. fused silica capillary columns.



Tungsten Carbide Knife

Ceramic Tube Cutter

This ceramic tube cutter gives clean and safe cuts on fused silica capillary tubing.

Description	Qty.	Cat.No.
Ceramic Tube Cutter	4 pcs	1010-41100

Capillary Fine Cutter

A rotary type diamond blade consistently makes precise, clean, square cuts on fused silica capillary tubing. A magnifier is built-in to verify square cut the cut surface.

Description	Cat.No.
Capillary Fine Cutter for GC/LC (Black)	3001-31020
Replacement Cutting Wheels for Capillary Fine Cutter	3001-31021

Tungsten Carbide Knife

Designed for cutting fused silica capillary tubing with lightweight aluminum handle. The tungsten carbide blade has double-edged sides and is replaceable.

Description	Cat.No.
Tungsten Carbide Knife	3001-24622

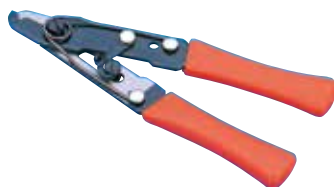
Tubing Cutter



Mini Tubing Cutter



Tubing Cutter for SS



Plier-Type Tubing Cutter



Rotary Tubing Cutter

Mini Tubing Cutter

This small tubing cutter is designed for use in tight quarters and cuts 4 mm to 5/8 in. (15.875 mm) O.D. stainless steel, aluminum, nickel and copper tubing.

Description	Qty.	Cat.No.
Mini Tubing Cutter	1 pc	3001-31451
Replacement Cutting Wheels for Mini Tubing Cutter	3 pcs	3001-31312

Tubing Cutter for Stainless Steel

Works for cutting 4 mm to 9/8 in. (28.575 mm) O.D. stainless steel tubing.

Description	Qty.	Cat.No.
Tubing Cutter for SUS (with cutting wheel 1 pc)	1 set	3001-31501
Replacement Cutting Wheels for Tubing Cutter for SUS	3 pcs	3001-31513

Plier-Type Tubing Cutter

This tubing cutter makes clean cuts on 1/16 in. O.D. stainless steel tubing and ideal for cutting tubing in tight places.

Description	Qty.	Cat.No.
Plier Type Tubing Cutter	1 pc	6010-81230

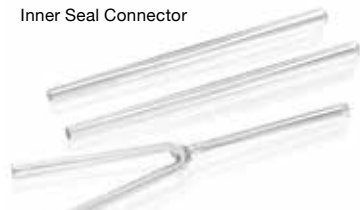
Rotary Tubing Cutter

This tubing cutter cuts 1/16 in. and 1/8 in. O.D. tubing Burr-Free leaving tubing I.D. open and also works with Glass-Lined tubing.

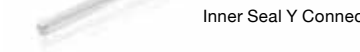
Description	Qty.	Cat.No.
Rotary Tubing Cutter	1 pc	3001-31701
Replacement Cutting Wheels for Rotary Tubing Cutter	3 pcs	3001-31712

Inner Seal Connectors

Inner Seal Connector



Inner Seal Y Connector



Inner Seal Connectors

Inner Seal Connectors are most often used to connect a guard column to an analytical column and columns with different stationary phases. Fused silica capillary tubing has polyimide resin outside which makes an adequate seal. To achieve optimum performance from these connectors, begin with a square cut of the tubing.

Heating at 250 °C for 1 h melts the outer polyimide resin and improves the sealing of a connection.

Description	Column I.D.	Column O.D.	Qty.	Cat.No.
Inner Seal Connector	0.15-0.53 mm	0.35-0.7 mm	5 pcs	1010-45026
Y - Inner Seal Connector	0.15-0.53 mm	0.35-0.7 mm	1 pc	1010-45030

SilTite μ-Union



Specifications

- Chemically deactivated stainless steel ferrules enables inert connection.
- Easy connection by the attached tool.
- Excellent leak-tight for both high temperatures and pressures.
- Zero dead volume giving you optimized peak shapes.
- Small and light: 9 mm in length and 0.5 g in weight.



SilTite μ-Union Kits

Description		Column O.D.	Column I.D.	Qty.	Cat.No.
Union	Ferrule				
①	④	0.4 & 0.4 mm	0.10-0.25 mm & 0.10-0.25 mm	2 unions, 5 ferrules and the necessary tools	3001-26110
①	⑤	0.4 & 0.5 mm*	0.10-0.25 mm & 0.32 mm		3001-26111
①	⑥	0.5 & 0.5 mm	0.32 mm & 0.32 mm		3001-26112
②	⑦	0.4 & 0.8 mm*	0.10-0.25 mm & 0.53 mm		3001-26113
②	⑧	0.5 & 0.8 mm*	0.32 mm & 0.53 mm		3001-26114
③	⑨	0.8 & 0.8 mm	0.53 mm & 0.53 mm		3001-26115

*: Reducing union

Replacement SilTite μ-Union (no ferrules)

Column O.D.	Column I.D.	Qty.	Cat.No.
① 0.4-0.5 & 0.4-0.5 mm	0.10-0.32 mm & 0.10-0.32 mm	5 pcs	3001-26116
② 0.4-0.5 & 0.8 mm*	0.10-0.32 mm & 0.53 mm	5 pcs	3001-26117
③ 0.8 & 0.8 mm	0.53 mm & 0.53 mm	5 pcs	3001-26118

*: Reducing union

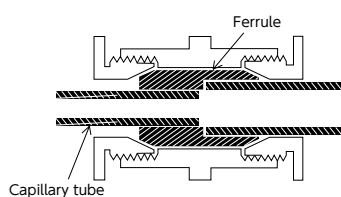
Replacement SilTite μ-Union Ferrules

Column O.D.	Column I.D.	Qty.	Cat.No.
④ 0.4 & 0.4 mm	0.10-0.25 mm & 0.10-0.25 mm	10 pcs	3001-26119
⑤ 0.4 & 0.5 mm	0.10-0.25 mm & 0.32 mm	10 pcs	3001-26120
⑥ 0.5 & 0.5 mm	0.32 mm & 0.32 mm	10 pcs	3001-26121
⑦ 0.4 & 0.8 mm	0.10-0.25 mm & 0.53 mm	10 pcs	3001-26122
⑧ 0.5 & 0.8 mm	0.32 mm & 0.53 mm	10 pcs	3001-26123
⑨ 0.8 & 0.8 mm	0.53 mm & 0.53 mm	10 pcs	3001-26124

Note: SILTite μ-Union is not compatible with VF columns.

For Ultra ALLOY of FRONTIER LABORATORIES LTD., please contact us.

Capillary Unions



Structure of Micro-reducing union
Insert capillary tubes in both sides of a ferrule
and then wrench to connect.



Two open-end wrenches for Micro-unions &
Micro-reducing unions

Micro-Unions-Micro-Reducing Unions

Zero dead volume unions are designed to connect a guard column to a fused silica capillary column and such columns with different stationary phases.

Thermally and chemically stable ferrules made of polyimide do not cause sample desorption or degradation.

Cat.No.3001-25803 to 25858 sets contains 1 union, 2 fittings and 2 ferrules.

Cat.No.3001-25881 to 25896 Replacement Ferrule contains replacement 2 ferrules.

Micro-Unions

Column O.D.	Column I.D.	Cat.No.	Replacement Ferrule Cat.No.
0.2-0.3 mm	0.10 mm	3001-25803	3001-25881
0.3-0.4 mm	0.25 mm	3001-25804	3001-25882
0.4-0.5 mm	0.32 mm	3001-25805	3001-25883
0.7-0.8 mm	0.53 mm	3001-25808	3001-25884

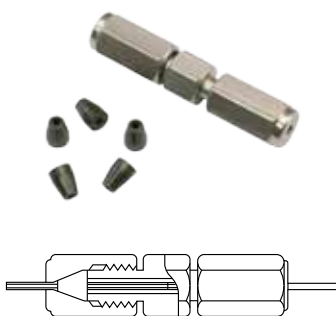
Micro-Reducing Unions

Column O.D.	Column I.D.	Cat.No.	Replacement Ferrule Cat.No.
0.3-0.4 mm	0.10-0.25 mm	3001-25834	3001-25891
0.3-0.5 mm	0.10-0.32 mm	3001-25835	3001-25892
0.3-0.8 mm	0.10-0.53 mm	3001-25838	3001-25893
0.4-0.5 mm	0.25-0.32 mm	3001-25845	3001-25894
0.4-0.8 mm	0.25-0.53 mm	3001-25848	3001-25895
0.5-0.8 mm	0.32-0.53 mm	3001-25858	3001-25896

Open-end Wrenches for Micro-Unions & Micro-Reducing Unions

Description	For Screw Size	Qty.	Cat.No.
Open-end wrench Hex.6x Hex.7	6 mm x 7 mm	2 pcs	3001-25860

Capillary Unions



Structure of mini-unions

Capillary mini-Unions

These unions are used for connection of capillary columns with different stationary phases or film thicknesses. Glass lined inner surface is adopted for Capillary mini-Unions not to cause sample adsorption or degradation.

Mini-Unions

Column Dimension	Capillary Mini-Union		
	Model	Qty.	Cat.No.
I.D. 0.10 – O.D. 0.30 mm	MVSU/003	1 union and 5 Graphite ferrules	3001-25950
I.D. 0.25 – O.D. 0.40 mm	MVSU/004		3001-25951
I.D. 0.32 – O.D. 0.50 mm	MVSU/005		3001-25952
I.D. 0.53 – O.D. 0.80 mm	MVSU/008		3001-25953

Graphite ferrule: MOGF/005 can be used for < 0.5 mm O.D. (<0.32 mm I.D.) capillary tubing.

Replacement Ferrules

Column Dimension	Graphite Ferrule			Graphite Vespel Ferrule		
	Model	Qty.	Cat.No.	Model	Qty.	Cat.No.
I.D. 0.10 – O.D. 0.30 mm	MOGF/005	10 pcs	3001-25965	MGVF/003	10 pcs	3001-25973
I.D. 0.25 – O.D. 0.40 mm				MGVF/004	10 pcs	3001-25974
I.D. 0.32 – O.D. 0.50 mm				MGVF/005	10 pcs	3001-25975
I.D. 0.53 – O.D. 0.80 mm	MOGF/008	10 pcs	3001-25968	MGVF/008	10 pcs	3001-25978



Spare Ferrule



Spanner for mini-Union

Open-end Wrench for Mini-Union

Description	For Screw Size	Qty.	Cat.No.
Open-end wrench for mini-Union	3/16 in. x 1/4 in.	2 pcs	3001-25954

Bulkhead Unions

Glass Lined Unions

Ferrule I.D.	Nut I.D.	Available Tubing I.D.	Available Tubing O.D.	Qty.	Cat.No.
0.4 mm	1/16 in.	0.1-0.25 mm	0.32-0.36 mm	Ferrule x 2 pcs Nut x 2 pcs	3001-25903
0.5 mm		0.32 mm	0.43 mm		3001-25904
0.8 mm		0.53 mm	0.68 mm		3001-25905

Ferrule: Graphite/ Vespel ferrule (%) = 15 /85

Replacement Ferrules

Ferrule I.D.	Available Tubing I.D.	Model	Qty.	Cat.No.
0.4 mm	0.1-0.25 mm	GVL-0.4	10 pcs	3007-31144
0.5 mm	0.32 mm	GVL-0.5	10 pcs	3007-31145
0.8 mm	0.53 mm	GVL-0.8	10 pcs	3007-31148

Ferrule: Graphite/ Vespel ferrule (%) = 15 /85



Bulk Head Union

Replacement Nuts

Description	Available Tubing O.D.	Qty.	Cat.No.
Stainless-steel nut 1/16 in.	1/16 in.	5 pcs	3001-25940
Stainless-steel nut 1/16 in.	Less than 1.2 mm	5 pcs	3001-25941

Ferrule Removal Kits



Ferrule removal Kit

Ferrule Removal Kit

These tapered tools have teeth designed to grip and remove fused silica adaptor ferrules if they get stuck in a fitting. Each kit has two sizes of tools: one for removing 1/32 in. adaptor ferrules and the other one for 1/16 in. adaptor ferrules.

Description	Cat.No.
Ferrule Remover	3001-12740



GL VespeL Ferrule remover

GL VespeL Ferrule Remover

This tool easily removes a VespeL ferrule stuck in a nut.

Description	Cat.No.
GL VespeL Ferrule Remover	3001-12745



Pin Vice Drill Set



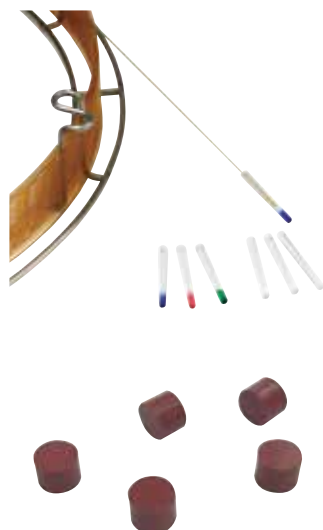
Pin Vice Drill Set

Pin Vice Drill Set

Pin Vice Drill is used for broadening ferrule I.D. narrowed by tightening especially for solid material like graphite VespeL. This set contains 3 sizes of drills: 0.4 mm, 0.5 mm and 0.8 mm.

Description	Cat.No.
Pin Vice Drill Set	3001-24625

Capillary Column Caps



Capillary Column Caps

Preventing moisture, airborne contaminants and air from entering the column during storage prolongs the column lifetime. Capillary Column Caps are made of fused silica, the same material as the capillary. These caps are highly inert and can be used repeatedly. Capillary columns can be easily distinguished by varying the cap color with the column I.D.

Description	Color	Qty.	Cat.No.
Fused Silica Capillary Column Cap for 0.15 mm - 0.53 mm I. D. (0.35 mm - 0.66 mm O. D.)	Red	5 pcs	1010-41140
	Green	5 pcs	1010-41141
	Blue	5 pcs	1010-41142

Silicon capillary column caps work with any type of capillary columns.

Description	Color	Qty.	Cat.No.
Silicon Capillary Column Cap	Red	20 pcs	3001-24624

■ Cleaning Tools for Injection Port



Septum Pick

By using this septum pick, the septum can be replaced easily without contamination by hands.

Description	Cat.No.
Septum Pick	3001-12720

■ Column Tag and Pen



Column Tag

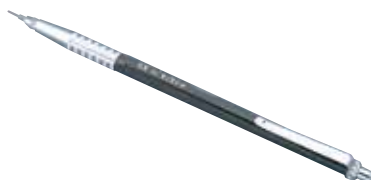
Column Tag

With GL Sciences' embossed aluminum tag, the column specs can be directly tagged to the column. Use a ion pen or an ballpoint pen to write on the tag.

● Specifications

Write-in Space: 50 x 18 mm Max. Temp.: 450 °C

Description	Qty.	Cat.No.
Column Tag	50 pcs	3001-13001



Ion Pen for Column Tag

Ion Pen for Column Tag

This is used to write on column tag, and also can be used for writing on a hard surface.

Description	Cat.No.
Iron Pen for Column Tag	3001-13401

Soapfilm Flow Meters



Soap film Flow Meters

Soapfilm Flow Meters

The soapfilm flow meter is designed to accurately measure gas flow rate. No unnecessary bubbling and no sticky liquid remain attached to the rubber. Bubble leaking is avoided due to the tray positioned on the top. There is no fear of spill soapfilm over the surroundings, due to the form tray at the upper part.

Full Scale	Min. Scale	Attachment	Cat.No.
1.5 mL	0.5 mL	Stand, Special Soap Solution, Clip	3001-11001
15 mL	5 mL	Stand, Special Soap Solution, Clip	3001-11002
50 mL	10 mL	Stand, Special Soap Solution, Clip	3001-11003



Soapfilm Multi-Flow Meter

Soapfilm Multi-Flow Meter

The soapfilm multi-flow meter provides 1, 10, 100 mL and it can be used for capillary, packed column and FID Air.

Description	Attachment	Cat.No.
Soapfilm Multi-Flow Meter	Stand, Special Soap Solution, Clip	3001-11004



Special Soap solution

Soap Solution for Soapfilm Flow Meter

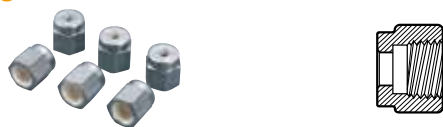
The soap solution is designed to be used with the soapfilm flow meter. It does not absorb dust and does not remain attached inside the tube. It generates a good foam and it is not toxic. The color is green in order to facilitate the visibility. and produces no clouds in the measuring tube to disturb visibility. The solution creates foam well.

Description	Qty.	Cat.No.
Soap Solution for Soapfilm Flow Meter	50 mL x 2 pcs	3001-11102

Swagelok Type Fittings (SUS 316)

Swagelok type manufactured by GL Sciences are available worldwide. The screw thread of nuts are treated with silver plating.

Nuts



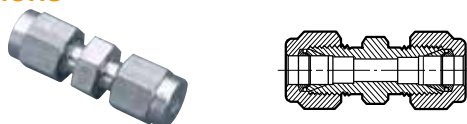
Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16N	1/16 in.	10 pcs	3006-42610
1/8N	1/8 in.	10 pcs	3006-42620
1/4N	1/4 in.	10 pcs	3006-42640
3/8N	3/8 in.	10 pcs	3006-42660

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
3N	3 mm	10 pcs	3006-41130
6N	6 mm	10 pcs	3006-41160

Unions



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16U	1/16 in.	1 pc	3006-42911
1/8U	1/8 in.	1 pc	3006-42921
1/4U	1/4 in.	1 pc	3006-42941
3/8U	3/8 in.	1 pc	3006-42961

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
3U	3 mm	1 pc	3006-41431
4U	4 mm	1 pc	3006-41441
6U	6 mm	1 pc	3006-41461

Tees



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16TTT	1/16 in.	1 pc	3006-43310
1/8TTT	1/8 in.	1 pc	3006-43320
1/4TTT	1/4 in.	1 pc	3006-43340
3/8TTT	3/8 in.	1 pc	3006-43360

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
2TTT	2 mm	1 pc	3006-41820
3TTT	3 mm	1 pc	3006-41830
4TTT	4 mm	1 pc	3006-41840
6TTT	6 mm	1 pc	3006-41860
8TTT	8 mm	1 pc	3006-41880

Ferrules



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16F	1/16 in.	10 pcs	3006-42710
1/8F	1/8 in.	10 pcs	3006-42720
1/4F	1/4 in.	10 pcs	3006-42740
3/8F	3/8 in.	10 pcs	3006-42760

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
2F	2 mm	10 pcs	3006-41220
3F	3 mm	10 pcs	3006-41230
4F	4 mm	10 pcs	3006-41240
6F	6 mm	10 pcs	3006-41260
8F	8 mm	10 pcs	3006-41280

Reducing Unions



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/8RU1/16	1/8 in. x 1/16 in.	1 pc	3006-43222
1/4RU1/16	1/4 in. x 1/16 in.	1 pc	3006-43244
1/4RU1/8	1/4 in. x 1/8 in.	1 pc	3006-43245
3/8RU1/16	3/8 in. x 1/16 in.	1 pc	3006-43265
3/8RU1/8	3/8 in. x 1/8 in.	1 pc	3006-43266
3/8RU1/4	3/8 in. x 1/4 in.	1 pc	3006-43267

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
3RU2	3 x 2 mm	1 pc	3006-41733
4RU2	4 x 2 mm	1 pc	3006-41744
4RU3	4 x 3 mm	1 pc	3006-41745
6RU2	6 x 2 mm	1 pc	3006-41765
6RU3	6 x 3 mm	1 pc	3006-41766
6RU4	6 x 4 mm	1 pc	3006-41767
8RU3	8 x 3 mm	1 pc	3006-41787
8RU4	8 x 4 mm	1 pc	3006-41788
8RU6	8 x 6 mm	1 pc	3006-41789
10RU6	10 x 6 mm	1 pc	3006-41799

Swagelok Type Fittings (SUS 316)

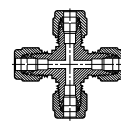
Bulkhead Unions



Inch Sizes

Model	Tubing O.D.	Panel Hole Diameter	Qty.	Cat.No.
1/16BU	1/16 in.	5.2 mm	1 pc	3006-43510
1/8BU	1/8 in.	8.4 mm	1 pc	3006-43520
1/4BU	1/4 in.	11.5 mm	1 pc	3006-43540

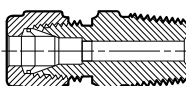
Cross



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16C	1/16 in.	1 pc	3006-43410
1/8C	1/8 in.	1 pc	3006-43420
1/4C	1/4 in.	1 pc	3006-43440

Male Connectors



ISO Type (PT Type)

Inch Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
1/16CM2	1/16 in.	1/8 in.	1 pc	3006-43011
1/8CM2	1/8 in.	1/8 in.	1 pc	3006-43021
1/8CM4	1/8 in.	1/4 in.	1 pc	3006-43022
1/4CM2	1/4 in.	1/8 in.	1 pc	3006-43041
1/4CM4	1/4 in.	1/4 in.	1 pc	3006-43042
3/8CM4	3/8 in.	1/4 in.	1 pc	3006-43062

Millimeter Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
2CM2	2 mm	1/8 in.	1 pc	3006-41521
3CM2	3 mm	1/8 in.	1 pc	3006-41531
3CM4	3 mm	1/4 in.	1 pc	3006-41532
4CM2	4 mm	1/8 in.	1 pc	3006-41541
4CM4	4 mm	1/4 in.	1 pc	3006-41542
6CM2	6 mm	1/8 in.	1 pc	3006-41561
6CM4	6 mm	1/4 in.	1 pc	3006-41562
8CM4	8 mm	1/4 in.	1 pc	3006-41582

NPT Threads (National pipe threads)

Inch Sizes

Model	Tubing O.D.	NTP Thread	Qty.	Cat.No.
1/16CM2N	1/16 in.	1/8 in.	1 pc	3006-43016
1/8CM2N	1/8 in.	1/8 in.	1 pc	3006-43026
1/8CM4N	1/8 in.	1/4 in.	1 pc	3006-43027
1/4CM2N	1/4 in.	1/8 in.	1 pc	3006-43046
1/4CM4N	1/4 in.	1/4 in.	1 pc	3006-43047

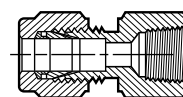
Millimeter Sizes

Model	Tubing O.D.	NTP Thread	Qty.	Cat.No.
3CM2N	3 mm	1/8 in.	1 pc	3006-41536
3CM4N	3 mm	1/4 in.	1 pc	3006-41537
6CM2N	6 mm	1/8 in.	1 pc	3006-41566
6CM4N	6 mm	1/4 in.	1 pc	3006-41567

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
3C	3 mm	1 pc	3006-41930
6C	6 mm	1 pc	3006-41960

Female Connectors



ISO Type (PT Type)

Inch Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
1/16CF2	1/16 in.	1/8 in.	1 pc	3006-43111
1/8CF2	1/8 in.	1/8 in.	1 pc	3006-43121
1/8CF4	1/8 in.	1/4 in.	1 pc	3006-43122
1/4CF2	1/4 in.	1/8 in.	1 pc	3006-43141
1/4CF4	1/4 in.	1/4 in.	1 pc	3006-43142

Millimeter Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
3CF2	3 mm	1/8 in.	1 pc	3006-41631
3CF4	3 mm	1/4 in.	1 pc	3006-41632
4CF2	4 mm	1/8 in.	1 pc	3006-41641
4CF4	4 mm	1/4 in.	1 pc	3006-41642
6CF2	6 mm	1/8 in.	1 pc	3006-41661
6CF4	6 mm	1/4 in.	1 pc	3006-41662

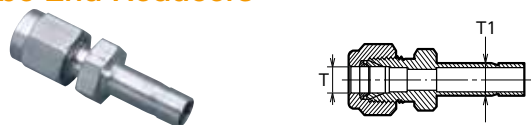
NPT Threads (National pipe threads)

Inch Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
1/16CF2N	1/16 in.	1/8 in.	1 pc	3006-43116
1/8CF2N	1/8 in.	1/8 in.	1 pc	3006-43126
1/8CF4N	1/8 in.	1/4 in.	1 pc	3006-43127
1/4CF2N	1/4 in.	1/8 in.	1 pc	3006-43146
1/4CF4N	1/4 in.	1/4 in.	1 pc	3006-43147

Swagelok Type Fittings (SUS 316)

Tube End Reducers



Inch Sizes

Model	Tubing O.D.		Qty.	Cat.No.
	T	T1		
1/16RE1/8	1/16 in.	1/8 in.	1 pc	3006-43701
1/16RE1/4	1/16 in.	1/4 in.	1 pc	3006-43704
1/8RE1/16	1/8 in.	1/16 in.	1 pc	3006-43705
1/8RE1/4	1/8 in.	1/4 in.	1 pc	3006-43702
1/8RE3/8	1/8 in.	3/8 in.	1 pc	3006-43706
1/4RE1/8	1/4 in.	1/8 in.	1 pc	3006-43707
1/4RE3/8	1/4 in.	3/8 in.	1 pc	3006-43703
3/8RE1/4	3/8 in.	1/4 in.	1 pc	3006-43708

Male Elbows



Inch Sizes

Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
1/8ME2	1/8 in.	1/8 in.	1 pc	3006-43921
1/4ME2	1/4 in.	1/8 in.	1 pc	3006-43941
1/4ME4	1/4 in.	1/4 in.	1 pc	3006-43942

Use seal tape for taper screw. Make sure to see P290.

Plugs



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16P	1/16 in.	5 pcs	3006-43750
1/8P	1/8 in.	5 pcs	3006-43751
1/4P	1/4 in.	5 pcs	3006-43752
3/8P	3/8 in.	5 pcs	3006-43753

Caps



Inch Sizes

Model	Tubing O.D.	Qty.	Cat.No.
1/16CP	1/16 in.	1 pc	3006-43611
1/8CP	1/8 in.	1 pc	3006-43621
1/4CP	1/4 in.	1 pc	3006-43641
3/8CP	3/8 in.	1 pc	3006-43661

Millimeter Sizes

Model	Tubing O.D.	Qty.	Cat.No.
3CP	3 mm	1 pc	3006-42131
4CP	4 mm	1 pc	3006-42141
6CP	6 mm	1 pc	3006-42161
8CP	8 mm	1 pc	3006-42181

PTFE Ferrules for Swagelok Type Fittings

Use the following ferrules to connect PTFE and glass tubing.

Front and Back PTFE Ferrule Sets



Inch Sizes

Tubing O.D.	Qty.	Cat.No.
1/8 in.	10 sets	3006-67720
1/4 in.	10 sets	3006-67740

Millimeter Sizes

Tubing O.D.	Qty.	Cat.No.
2 mm	10 sets	3006-66220
3 mm	10 sets	3006-66230
4 mm	10 sets	3006-66240
5 mm	10 sets	3006-66250
6 mm	10 sets	3006-66260

PTFE Ferrules



Inch Sizes

Tubing O.D.	Qty.	Cat.No.
1/16 in.	10 pcs	6010-41210
1/8 in.	10 pcs	3006-67725
1/4 in.	10 pcs	3006-67745

Millimeter Sizes

Tubing O.D.	Qty.	Cat.No.
2 mm	10 pcs	3006-66225
3 mm	10 pcs	3006-66235
4 mm	10 pcs	3006-66245
5 mm	10 pcs	3006-66255
6 mm	10 pcs	3006-66265

Other Fittings

Hose Connector in Female



304 Stainless Steel

Model	Thread	Qty.	Cat.No.
GNH-1	8 mm	1 pc	3006-22465

Use O-ring as a seal.

Hexagon Nipples

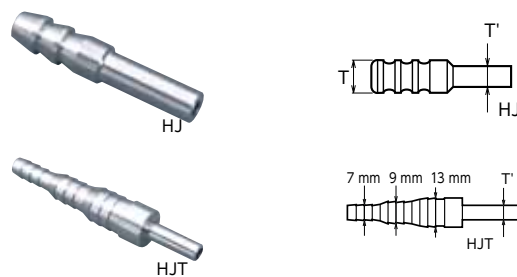


304 Stainless Steel

Description	Threads	Qty.	Cat.No.
Hexagon Nipples	R1/8-R1/8	1 pc	3006-33911
	R1/4-R1/4	1 pc	3006-33922
	R1/8-R1/4	1 pc	3006-33912
	1/8NPT-R1/8	1 pc	3006-33966
	1/4NPT-R1/8	1 pc	3006-33917

R: Tapered Male

Hose Connectors



316 Stainless Steel

Model	Hose I.D.	T Dimension	T' Dimension	Qty.	Cat.No.
HJ1	6 mm	8 mm	1/4 in.	1 pc	3006-43801
HJ2	8 mm	10 mm	1/4 in.	1 pc	3006-43802
HJT	6 – 12 mm	7 – 13 mm	1/4 in.	1 pc	3006-43803
HJ3	6 mm	8 mm	6 mm	1 pc	3006-43804
HJ4	8 mm	10 mm	6 mm	1 pc	3006-43805

Hose Connectors in Female with a Ferrule

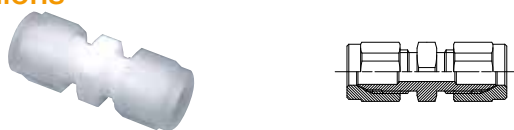


316 Stainless Steel

Model	Hose I.D.	T Dimension	T' Dimension	Qty.	Cat.No.
HJN1	6 mm	8 mm	1/4 in.	1 pc	3006-43806
HJN2	8 mm	10 mm	1/4 in.	1 pc	3006-43807
HJTN	6 – 12 mm	7 – 13 mm	1/4 in.	1 pc	3006-43808
GF-N1	6 mm	8 mm	6 mm	1 pc	3006-43809
GF-N2	8 mm	10 mm	6 mm	1 pc	3006-43810

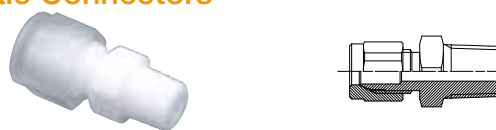
PTFE Connectors

Unions



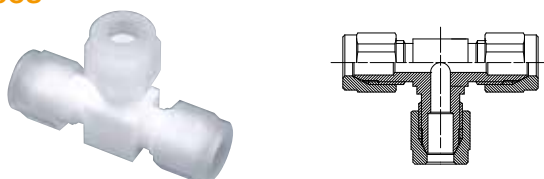
Model	Tubing O.D.	Qty.	Cat.No.
2UT	2 mm	1 pc	3006-28120
3UT	3 mm, 1/8 in.	1 pc	3006-28130
4UT	4 mm	1 pc	3006-28140
6UT	6 mm, 1/4 in.	1 pc	3006-28160
8UT	8 mm, 5/16 in.	1 pc	3006-28180

Male Connectors



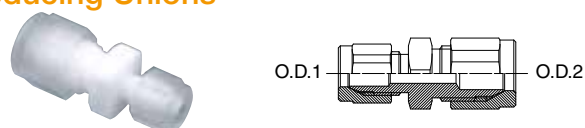
Model	Tubing O.D.	Tapered Male	Qty.	Cat.No.
3CM2T	3 mm, 1/8 in.	1/8	1 pc	3006-28231
3CM4T		1/4	1 pc	3006-28232
6CM2T	6 mm, 1/4 in.	1/8	1 pc	3006-28261
6CM4T		1/4	1 pc	3006-28262
8CM2T	8 mm, 5/16 in.	1/8	1 pc	3006-28281
8CM4T		1/4	1 pc	3006-28282

Tees



Model	Tubing O.D.	Qty.	Cat.No.
2TUT	2 mm	1 pc	3006-28420
3TUT	3 mm, 1/8 in.	1 pc	3006-28430
4TUT	4 mm	1 pc	3006-28440
6TUT	6 mm, 1/4 in.	1 pc	3006-28460
8TUT	8 mm, 5/16 in.	1 pc	3006-28480

Reducing Unions



Model	Tubing O.D.1	Tubing O.D.2	Qty.	Cat.No.
2RU3T	2 mm	3 mm, 1/8 in.	1 pc	3006-28323
2RU4T		4 mm	1 pc	3006-28324
2RU6T		6 mm, 1/4 in.	1 pc	3006-28326
3RU4T	3 mm, 1/8 in.	4 mm	1 pc	3006-28334
3RU6T		6 mm, 1/4 in.	1 pc	3006-28336
4RU6T	4 mm	6 mm, 1/4 in.	1 pc	3006-28346
4RU8T		8 mm, 5/16 in.	1 pc	3006-28348
6RU8T	6 mm, 1/4 in.	8 mm, 5/16 in.	1 pc	3006-28368
6RU10T		10 mm, 3/8 in.	1 pc	3006-28370

Bulk Head Unions



Model	Tubing O.D.	Panel Hole Diameter	Qty.	Cat.No.
3BUT	3 mm, 1/8 in.	7.0 mm	1 pc	3006-28630
6BUT	6 mm, 1/4 in.	11.5 mm	1 pc	3006-28660

Fittings & Connectors

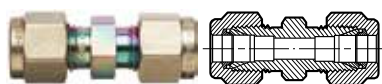
■ Sulfinert Fittings

The Sulfinert fittings are original fittings for which Silicosteel deactivation technology has been further improved.



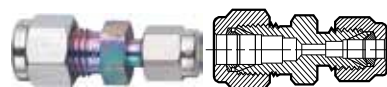
Plugs

Model	Tubing O.D.	Qty.	Cat.No.
1/8PS	1/8 in.	1 pc	3006-50055
1/4PS	1/4 in.	1 pc	3006-50056



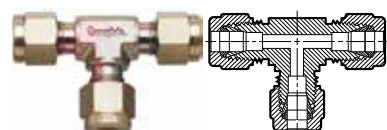
Unions

Model	Tubing O.D.	Qty.	Cat.No.
1/16US	1/16 in.	1 pc	3006-50040
1/8US	1/8 in.	1 pc	3006-50041
1/4US	1/4 in.	1 pc	3006-50042



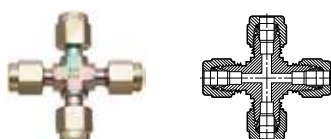
Reducing Unions

Model	Tubing O.D.	Qty.	Cat.No.
1/8RU1/16S	1/8 in. x 1/16 in.	1 pc	3006-50046
1/4RU1/16S	1/4 in. x 1/16 in.	1 pc	3006-50047
1/4RU1/8S	1/4 in. x 1/8 in.	1 pc	3006-50048



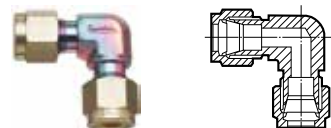
Tees

Model	Tubing O.D.	Qty.	Cat.No.
1/16TTTS	1/16 in.	1 pc	3006-50043
1/8TTTS	1/8 in.	1 pc	3006-50044
1/4TTTS	1/4 in.	1 pc	3006-50045



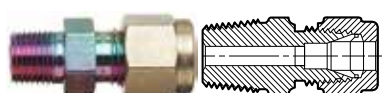
Crosses

Model	Tubing O.D.	Qty.	Cat.No.
1/8CS	1/8 in.	1 pc	3006-50057
1/4CS	1/4 in.	1 pc	3006-50058



Elbows

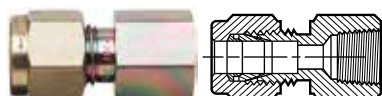
Model	Tubing O.D.	Qty.	Cat.No.
1/8LS	1/8 in.	1 pc	3006-50049
1/4LS	1/4 in.	1 pc	3006-50050



Male Connectors

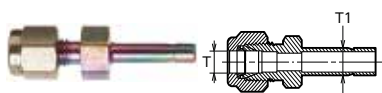
Model	Tubing O.D.	NPT Thread	Qty.	Cat.No.
1/16CM2NS	1/16 in.	1/8	1 pc	3006-50061
1/8CM2NS	1/8 in.	1/8	1 pc	3006-50059
1/8CM4NS	1/8 in.	1/4	1 pc	3006-50062
1/4CM2NS	1/4 in.	1/8	1 pc	3006-50063
1/4CM4NS	1/4 in.	1/4	1 pc	3006-50060

Use seal tape for taper screw. Make sure to see P290.



Female Connectors

Model	Tubing O.D.	NPT Tread	Qty.	Cat.No.
1/8CF2NS	1/8 in.	1/8	1 pc	3006-50064
1/8CF4NS	1/8 in.	1/4	1 pc	3006-50067
1/4CF2NS	1/4 in.	1/8	1 pc	3006-50066
1/4CF4NS	1/4 in.	1/4	1 pc	3006-50065



Reducers

Model	Tubing O.D.		Qty.	Cat.No.
	T	T1		
1/16RE1/8S	1/16 in.	1/8 in.	1 pc	3006-50051
1/16RE1/4S	1/16 in.	1/4 in.	1 pc	3006-50052
1/4RE1/8S	1/4 in.	1/8 in.	1 pc	3006-50053
1/8RE1/4S	1/8 in.	1/4 in.	1 pc	3006-50054

SAMPLE PREPARATION

LIFE SCIENCE

LC ACCESSORIES

SAIR SAMPLING

GC CAPILLARY COLUMNS

GC PACKED COLUMNS

GC ACCESSORIES

CELLS

VIALS

One-Touch Fittings

Specifications

Gasket design threads are used. Due to this design, the time to fix the pipe thread is reduced by 2/3.

Other standard threads (Rc, G, NPT, NPTF) are also used.

Available Tube: FEP, PFA, Nylon, Soft Nylon *1

Fluid: Air, Water *2

Maximum Pressure: 3 MPa (30 Bar)

Minimum Pressure: -0.1 MPa (-1 Bar)

Ambient & Fluid Temperature: -5 to 60 °C *3

Parts Material

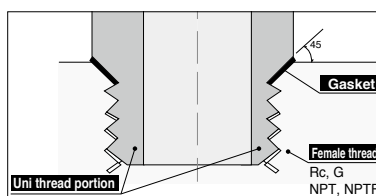
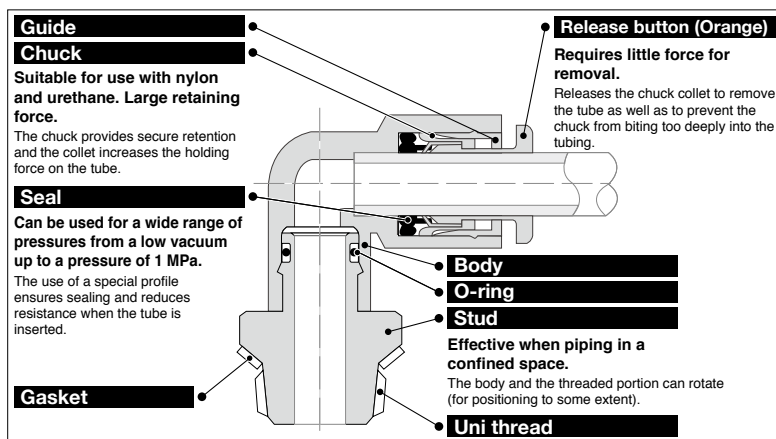
Body	: C3604, PBT
Stud	: C3604 (Thread portion)
Chuck	: SUS304
Guide 1	: SUS304, C3604, PBT
Guide 2	: POM
Release button	: POM
Seal, O-Ring	: NBR
Gasket	: SUS304, NBR

*1: In case of using Soft Nylon, do not use water.

*2: In case of flowing water, do not use under maximum pressure.

*3: In case of flowing water, available temperature is 0 to 40 °C without freezing.

Do not use the fittings with a leak tester or for vacuum retention.



Half Unions



Model	Tubing O.D.	Thread	Qty.	Cat.No.
KQ-4CM2Uni	4 mm	Uni 1/8	5 pcs	3006-81415
KQ-4CM4Uni		Uni 1/4	5 pcs	3006-81425
KQ-6CM2Uni	6 mm	Uni 1/8	5 pcs	3006-81615
KQ-6CM4Uni		Uni 1/4	5 pcs	3006-81625
KQ-8CM2Uni	8 mm	Uni 1/8	5 pcs	3006-81815
KQ-8CM4Uni		Uni 1/4	5 pcs	3006-81825
KQ-1/8CM2Uni	1/8 in.	Uni 1/8	5 pcs	3006-81115
KQ-1/8CM4Uni		Uni 1/4	5 pcs	3006-81125
KQ-1/4CM2Uni	1/4 in.	Uni 1/8	5 pcs	3006-81215
KQ-1/4CM4Uni		Uni 1/4	5 pcs	3006-81225
KQ-4CM2	4 mm	R 1/8	5 pcs	3006-82415
KQ-4CM4		R 1/4	5 pcs	3006-82425
KQ-6CM2	6 mm	R 1/8	5 pcs	3006-82615
KQ-6CM4		R 1/4	5 pcs	3006-82625
KQ-8CM2	8 mm	R 1/8	5 pcs	3006-82815
KQ-8CM4		R 1/4	5 pcs	3006-82825
KQ-1/8CM2	1/8 in.	R 1/8	5 pcs	3006-82115
KQ-1/8CM4		R 1/4	5 pcs	3006-82125
KQ-1/4CM2	1/4 in.	R 1/8	5 pcs	3006-82215
KQ-1/4CM4		R 1/4	5 pcs	3006-82225

Reducing Unions



Model	Tubing O.D.	Qty.	Cat.No.
KQ-4RU6	4 x 6 mm	5 pcs	3006-84465
KQ-6RU8	6 x 8 mm	5 pcs	3006-84685
KQ-8RU10	8 x 10 mm	5 pcs	3006-84805
KQ-1/8RU4	3.2 x 4 mm	5 pcs	3006-84145
KQ-1/8RU1/4	1/8 in. x 1/4 in.	5 pcs	3006-84125
KQ-1/4RU3/8	1/4 in. x 3/8 in.	5 pcs	3006-84235

Unions



Model	Tubing O.D.	Qty.	Cat.No.
KQ-4U	4 mm	5 pcs	3006-83445
KQ-6U	6 mm	5 pcs	3006-83665
KQ-8U	8 mm	5 pcs	3006-83885
KQ-1/8U	1/8 in.	5 pcs	3006-83115
KQ-1/4U	1/4 in.	5 pcs	3006-83225

Fittings & Connectors

One-Touch Fittings

SAMPLE PREPARATION

LIFE SCIENCE

LC ACCESSORIES

SAMPLE SAMPLING

GC CAPILLARY COLUMNS

GC PACKED COLUMNS

GC ACCESSORIES

CELLS

VIALS



Uni Thread



Tapered Male Thread: R

Elbows

Model	Tubing O.D.	Thread	Qty.	Cat.No.
KQ-4ME2Uni	4 mm	Uni 1/8	5 pcs	3006-85415
KQ-4ME4Uni		Uni 1/4	5 pcs	3006-85425
KQ-6ME2Uni	6 mm	Uni 1/8	5 pcs	3006-85615
KQ-6ME4Uni		Uni 1/4	5 pcs	3006-85625
KQ-8ME2Uni	8 mm	Uni 1/8	5 pcs	3006-85815
KQ-8ME4Uni		Uni 1/4	5 pcs	3006-85825
KQ-1/8ME2Uni	1/8 in.	Uni 1/8	5 pcs	3006-85115
KQ-1/8ME4Uni		Uni 1/4	5 pcs	3006-85125
KQ-1/4ME2Uni	1/4 in.	Uni 1/8	5 pcs	3006-85215
KQ-1/4ME4Uni		Uni 1/4	5 pcs	3006-85225
KQ-4ME2	4 mm	R 1/8	5 pcs	3006-86415
KQ-4ME4		R 1/4	5 pcs	3006-86425
KQ-6ME2	6 mm	R 1/8	5 pcs	3006-86615
KQ-6ME4		R 1/4	5 pcs	3006-86625
KQ-8ME2	8 mm	R 1/8	5 pcs	3006-86815
KQ-8ME4		R 1/4	5 pcs	3006-86825



Gaskets for Uni Threads

Model	Thread	Qty.	Cat.No.
KQ-Uni 1/8	Uni 1/8	10 pcs	3006-89119
KQ-Uni 1/4	Uni 1/4	10 pcs	3006-89219



Elbow Unions

Model	Tubing O.D.	Qty.	Cat.No.
KQ-4EU	4 mm	5 pcs	3006-87445
KQ-6EU	6 mm	5 pcs	3006-87665
KQ-8EU	8 mm	5 pcs	3006-87885
KQ-1/8EU	1/8 in.	5 pcs	3006-87115
KQ-1/4EU	1/4 in.	5 pcs	3006-87225

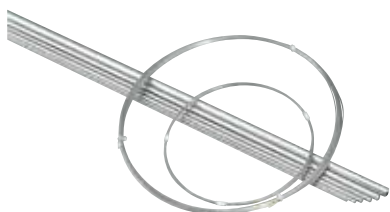


Tees

Model	Tubing O.D.	Qty.	Cat.No.
KQ-4TTT	4 mm	5 pcs	3006-88445
KQ-6TTT	6 mm	5 pcs	3006-88665
KQ-8TTT	8 mm	5 pcs	3006-88885
KQ-1/8TTT	1/8 in.	5 pcs	3006-88115
KQ-1/4TTT	1/4 in.	5 pcs	3006-88225

Stainless Steel Tubing

Other dimensions available upon request.



316 Stainless Steel Tubing (Bright Annealed)

Millimeter Size Coiled Tubing

Tubing Dimension		5 m	10 m	20 m	50 m	100 m
O.D.	I.D.	Cat.No.	Cat.No.	Cat.No.	Cat.No.	Cat.No.
0.8 mm	0.25 mm	3004-21031	3004-21032	3004-21034	3004-21037	3004-21038
1.0 mm	0.5 mm	3004-21131	3004-21132	3004-21134	3004-21137	3004-21138
2.0 mm	1.0 mm	3004-21251	3004-21252	3004-21254	3004-21257	3004-21258
3.0 mm	2.0 mm	3004-21371	3004-21372	3004-21374	3004-21377	3004-21378
4.0 mm	3.0 mm	3004-21481	3004-21482	3004-21484	3004-21487	3004-21488

Millimeter Size Straight Tubing

Tubing Dimension			Length	1 – 10 pcs	11 – 49 pcs	50 pcs –
O.D.	I.D.	Thickness		Cat.No.	Cat.No.	Cat.No.
2.0 mm	1.0 mm	0.5 mm	2 m	3004-21243	3004-21244	3004-21245
3.0 mm	1.0 mm	1.0 mm	2 m	3004-21313	3004-21314	3004-21315
3.0 mm	2.0 mm	0.5 mm	2 m	3004-21323	3004-21324	3004-21325
3.0 mm	2.0 mm	0.5 mm	3 m	3004-21333	3004-21334	3004-21335
4.0 mm	3.0 mm	0.5 mm	1 m	3004-21413	3004-21414	3004-21415
4.0 mm	3.0 mm	0.5 mm	2 m	3004-21423	3004-21424	3004-21425
6.0 mm	3.0 mm	1.5 mm	2 m	3004-21633	3004-21634	3004-21635
6.0 mm	4.0 mm	1.0 mm	2 m	3004-21643	3004-21644	3004-21645
6.0 mm	4.0 mm	1.0 mm	4 m	3004-21683	3004-21684	3004-21685
8.0 mm	6.0 mm	1.0 mm	2 m	3004-21863	3004-21864	3004-21865
8.0 mm	6.0 mm	1.0 mm	4 m	3004-21875	3004-21876	3004-21877
10.0 mm	8.0 mm	1.0 mm	2 m	3004-22043	3004-22044	3004-22045
10.0 mm	8.0 mm	1.0 mm	4 m	3004-22083	3004-22084	3004-22085

■ Stainless Steel Tubing

316 Stainless Steel Tubing (Bright Annealed)

Inch Size Coiled Tubing

Tubing Diameter		5 m	10 m	20 m	50 m	100 m
O.D.	I.D.	Cat.No.	Cat.No.	Cat.No.	Cat.No.	Cat.No.
1/16 in. (1.58 mm)	0.25 mm	3004-28021	3004-28022	3004-28024	3004-28027	3004-28028
1/16 in. (1.58 mm)	0.5 mm	3004-28041	3004-28042	3004-28044	3004-28047	3004-28048
1/16 in. (1.58 mm)	0.8 mm	3004-28061	3004-28062	3004-28064	3004-28067	3004-28068
1/16 in. (1.58 mm)	1.0 mm	3004-28081	3004-28082	3004-28084	3004-28087	3004-28088
1/8 in. (3.18 mm)	2.17 mm	3004-28181	3004-28182	3004-28184	3004-28187	3004-28188

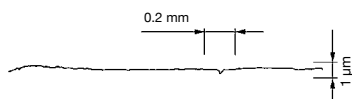
Inch Size Straight Tubing

Tubing Diameter			Length	1 – 10 pcs	11 – 49 pcs	50 pcs –
O.D.	I.D.	Thickness		Cat.No.	Cat.No.	Cat.No.
1/8 in. (3.18 mm)	2.17 mm	0.5 mm	2 m	3004-28136	3004-28137	3004-28138
1/4 in. (6.35 mm)	2.09 mm	2.13 mm	2 m	3004-28343	3004-28344	3004-28345
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	2 m	3004-28423	3004-28424	3004-28425
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	4 m	3004-28443	3004-28444	3004-28445
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	2 m	3004-28523	3004-28524	3004-28525
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	4 m	3004-28543	3004-28544	3004-28545

316L Stainless Steel Tubing (Electrolytically Polished)

Compatible with clean gas piping for ultrahigh sensitivity analyses.

R_{max}. Less than 0.7 μm.



Surface roughness of electrolytically polished 316 stainless steel tubing.

Tubing Diameter			Length	Cat.No.
O.D.	I.D.	Thickness		
1/8 in. (3.18 mm)	1.73 mm	0.72 mm	2 m	3004-32342
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	2 m	3004-32352
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	4 m	3004-32354
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	2 m	3004-32562
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	4 m	3004-32564

304 Stainless Steel Tubing (Bright Annealed)

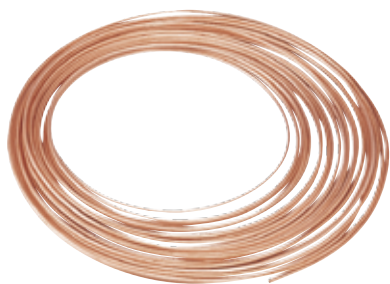
Millimeter Size Straight Tubing

Tubing Diameter			Length	1 – 10 pcs	11 – 49 pcs	50 pcs –
O.D.	I.D.	Thickness		Cat.No.	Cat.No.	Cat.No.
6.0 mm	4.0 mm	1.0 mm	2 m	3004-11673	3004-11674	3004-11675
6.0 mm	4.0 mm	1.0 mm	4 m	3004-11683	3004-11684	3004-11685
8.0 mm	6.0 mm	1.0 mm	2 m	3004-11863	3004-11864	3004-11865
8.0 mm	6.0 mm	1.0 mm	4 m	3004-11883	3004-11884	3004-11885
10.0 mm	8.0 mm	1.0 mm	2 m	3004-12043	3004-12044	3004-12045
10.0 mm	8.0 mm	1.0 mm	4 m	3004-12083	3004-12084	3004-12085

Inch Size Straight Tubing

Tubing Diameter			Length	1 – 10 pcs	11 – 49 pcs	50 pcs –
O.D.	I.D.	Thickness		Cat.No.	Cat.No.	Cat.No.
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	2 m	3004-18383	3004-18384	3004-18385
1/4 in. (6.35 mm)	4.35 mm	1.0 mm	4 m	3004-18393	3004-18394	3004-18395
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	2 m	3004-19203	3004-19204	3004-19205
3/8 in. (9.53 mm)	7.53 mm	1.0 mm	4 m	3004-19213	3004-19214	3004-19215

■ Copper Tubing



Tubing Diameter			10 m coil	20 m Coil
O.D.	I.D.	Thickness	Cat.No.	Cat.No.
3.0 mm	2.0 mm	0.5 mm	3004-35362	3004-35364
4.0 mm	3.0 mm	0.5 mm	3004-35472	3004-35474
6.0 mm	4.0 mm	1.0 mm	3004-35672	3004-35674
8.0 mm	6.0 mm	1.0 mm	3004-35862	3004-35864
1/8 in. (3.18 mm)	1.57 mm	0.8 mm	3004-38112	3004-38114
1/4 in. (6.35 mm)	4.75 mm	0.8 mm	3004-38312	3004-38314

■ Treated Tubing for Inert



Sulfinert Treated 304 Stainless Steel Tubing

The ultimate passivation of treated surfaces, from glass to high nickel alloy of steel which is ideal for sulfurs, automotive exhaust testing, or stack gas sampling is adopted. Sulfinert is a required treatment for metal components when analyzing for parts-per-billion levels of organo-sulfur compounds.

304 Stainless Steel Sulfinert-Treated (Coiled)

Tubing Diameter		Length	Cat.No.
O.D.	I.D.		
0.029 in. (0.74 mm)	0.021 in. (0.53 mm)	7.5 m	3004-50041
1/16 in. (1.59 mm)	0.020 in. (0.51 mm)	7.5 m	3004-50043
1/16 in. (1.59 mm)	0.030 in. (0.76 mm)	7.5 m	3004-50044
1/16 in. (1.59 mm)	0.040 in. (1.02 mm)	7.5 m	3004-50045
1/8 in. (3.18 mm)	0.085 in. (2.16 mm)	7.5 m	3004-50046
1/4 in. (6.35 mm)	0.210 in. (5.33 mm)	1.8 m (straight)	3004-50047

■ PFA Tubing (Tetrafluoroethylene-perfluoroalkyl vinyl ether)



PFA has similar chemical resistance like Teflon but is harder than Teflon, resulting in tight sealing. Because it is translucent, the liquid flow is visible.

Maximum Operating Temp.: 260 °C

Millimeter Size Tubing (Coiled)

Tubing Dimension		Length	Cat.No.
O.D.	I.D.		
2.0 mm	1.0 mm	10 m	3004-32121
3.0 mm	2.0 mm	10 m	3004-32132
4.0 mm	2.0 mm	10 m	3004-32142
4.0 mm	3.0 mm	10 m	3004-32143
6.0 mm	4.0 mm	10 m	3004-32164

Inch Size Tubing (Coiled)

Tubing Diameter		Length	Cat.No.
O.D.	I.D.		
1/8 in. (3.18 mm)	1.58 mm	10 m	3004-32231
1/4 in. (6.35 mm)	3.18 mm	10 m	3004-32263
1/4 in. (6.35 mm)	4.35 mm	10 m	3004-32264

■ PTFE Tubing (Polytetrafluoroethylen)



PTFE is chemically inert and ideal for mobile phase inlet lines.

Millimeter Size Tubing (Coiled)

Tubing Diameter		5 m	10 m
O.D.	I.D.	Cat.No.	Cat.No.
1.0 mm	0.5 mm	3004-31131	3004-31132
1.5 mm	0.25 mm	3004-31151	3004-31152
1.5 mm	0.5 mm	3004-31171	3004-31172
2.0 mm	0.5 mm	3004-31231	3004-31232
2.0 mm	1.0 mm	3004-31251	3004-31252
3.0 mm	1.0 mm	3004-31341	3004-31342
3.0 mm	2.0 mm	3004-31371	3004-31372
4.0 mm	2.0 mm	3004-31441	3004-31442
4.0 mm	3.0 mm	3004-31451	3004-31452
5.0 mm	3.0 mm	3004-31541	3004-31542
5.0 mm	4.0 mm	3004-31561	3004-31562
6.0 mm	4.0 mm	3004-31661	3004-31662
8.0 mm	6.0 mm	3004-31861	3004-31862
10.0 mm	8.0 mm	3004-32061	3004-32062

Inch Size Tubing (Coiled)

Tubing Diameter		5 m	10 m
O.D.	I.D.	Cat.No.	Cat.No.
1/16 in. (1.58 mm)	1.00 mm	6010-35609	6010-35610
1/8 in. (3.18 mm)	1.58 mm	6010-35701	6010-35702
1/4 in. (6.35 mm)	3.17 mm	3004-31000	3004-31001
1/4 in. (6.35 mm)	4.35 mm	3004-31002	3004-31003
3/8 in. (9.52 mm)	7.52 mm	3004-31006	3004-31007

Nylon Tubing



Nylon has mechanical and bending strength and is superior in oil resistance and chemical resistance (Particularly, Alkali resistance). There are 2 types of Nylon, hard and soft.

Operation Temp. Range :

Hard Nylon Air : -20 – 70°C Water : 0 – 60°C

Soft Nylon Air : -20 – 60°C Water : 0 – 60°C

Hard Tubing

Model	O.D. x I.D.	Max Operating Pressure (23 °C)	Minimum Bending Radius	Color	10 m	20 m
					Cat.No.	Cat.No.
HNY-4	4 x 2.5 mm	2.4 MPa	12 mm	Black	3004-71441	3004-71451
				White	3004-71442	3004-71452
				Red	3004-71444	3004-71454
HNY-6	6 x 4 mm	2.1 MPa	24 mm	Black	3004-71651	3004-71661
				White	3004-71652	3004-71662
				Red	3004-71654	3004-71664
HNY-8	8 x 6 mm	1.4 MPa	48 mm	Black	3004-71851	3004-71861
				White	3004-71852	3004-71862
				Red	3004-71854	3004-71864
HNY-1/8	3.18 x 2.36 mm	1.5 MPa	12 mm	Black	3004-71011	3004-71021
				White	3004-71012	3004-71022
HNY-1/4	6.35 x 4.57 mm	1.7 MPa	22 mm	Black	3004-71111	3004-71121
				White	3004-71112	3004-71122

Soft Tubing

Model	O.D. x I.D.	Max Operating Pressure (20 °C)	Minimum Bending Radius	Color	10 m	20 m
					Cat.No.	Cat.No.
SNY-4	4 x 2.5 mm	1.0 MPa	12 mm	Black	3004-72441	3004-72451
				White	3004-72442	3004-72452
				Red	3004-72444	3004-72454
SNY-6	6 x 4 mm	1.0 MPa	15 mm	Black	3004-72651	3004-72661
				White	3004-72652	3004-72662
				Red	3004-72654	3004-72664
SNY-8	8 x 6 mm	1.0 MPa	23 mm	Black	3004-72851	3004-72861
				White	3004-72852	3004-72862
SNY-1/8	3.18 x 2.18 mm	1.0 MPa	12 mm	Black	3004-72011	3004-72021
				White	3004-72012	3004-72022
SNY-1/4	6.35 x 4.57 mm	1.0 MPa	23 mm	Black	3004-72111	3004-72121
				White	3004-72112	3004-72122

■ Polyurethane Tubing



This Polyurethane tube is softer than nylon tube, and offers smaller minimum bending radius. As O.D. accuracy is -0.2 mm, $+0.05$ mm, it can be used without any leak with One-Touch Fittings. It can also be used as vacuum tubing.

● Application

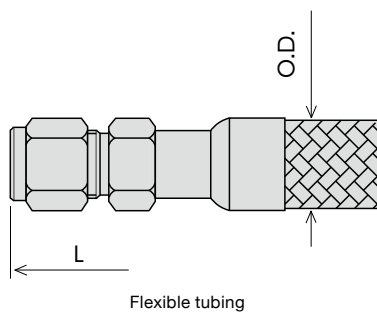
Air pressure piping used in Machines

● Vacuum Instrument

Piping for Cooling Water

Model	O.D. x I.D.	Minimu Bending Radius	Color	10 m	20 m
				Cat.No.	Cat.No.
PU-4	4 x 2 mm	5 mm	Black	3004-73431	3004-73441
			White	3004-73432	3004-73442
			Red	3004-73434	3004-73444
PU-6	6 x 4 mm	12 mm	Black	3004-73651	3004-73661
			White	3004-73652	3004-73662
			Red	3004-73654	3004-73664
PU-8	8 x 5 mm	15 mm	Black	3004-73841	3004-73851
			White	3004-73842	3004-73852
			Red	3004-73844	3004-73854

■ Flexible Stainless Steel Tubing



This is a flexible tube of 100 mm in Minimum bending radius and can be used for taking out the liquid nitrogen from the reservoir or as a flexible tubes which absorbs vibration.

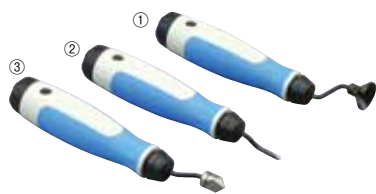
● Specifications

Both connection size: 1/4 in. Swagelok or 1/8 in. Swagelok.

Hose O.D.	Model	Flexiible Tubing O.D.	Length	Max Operating Pressure (20 °C)	Cat.No.
1/4 in.	MHM4-4D4D-1-L1000	10.7 mm	1 m	12.6 MPa	3004-40000
1/4 in.	MHM4-4D4D-1-L2000	10.7 mm	2 m	12.6 MPa	3004-40001
3/8 in.	MHM6-6D6D-1-L1000	16.5 mm	1 m	10.9 MPa	3004-40002
3/8 in.	MHM6-6D6D-1-L2000	16.5 mm	2 m	10.9 MPa	3004-40003

Accessories for Gas Tubing

Reamers for Stainless Steel Tubing



Inner and Outer Reamers

Reamers for fast, clean, inner reaming and outer deburring/beveling.

Outer Reamer for Stainless Steel

Description	Applicable tubing I.D.	Qty.	Cat.No.
Outer Reamer	6 – 16 mm	1 pc	3001-32260

Inner Reamer for Stainless Steel

Description	Applicable tubing I.D.	Qty.	Cat.No.
Inner Reamer	0.5 – 3 mm	1 pc	3001-32270
	1 – 10 mm	1 pc	3001-32280

Tool for Finish After Cuts



This is a tool for beautiful finish after cuts of stainless steel.

Description	Qty.	Cat.No.
Tool for Finish after Cuts 1/16 in. Stainless Steel	1 pc	3001-31704
Tool for Finish after Cuts 1/8 in. Stainless Steel	1 pc	3001-31705

Tubing Benders



These benders can be used to bend stainless steel and copper tubes without any kink and crush.

Description	Qty.	Cat.No.
Tubing Bender for 3 mm & 1/8 in. O.D. Tubing	1 pc	3001-32001
Tubing Bender for 4 mm & 3/16 in. O.D. Tubing	1 pc	3001-32002
Tubing Bender for 6 mm O.D. Tubing	1 pc	3001-32003
Tubing Bender for 8 mm O.D. Tubing	1 pc	3001-32004
Tubing Bender for 1/4 in. O.D. Tubing	1 pc	3001-32007
Tubing Bender for 3/8 in. O.D. Tubing	1 pc	3001-32008

PTFE Tape



It is useful to seal pipe threads.

Description	Thickness	Width	Length	Qty.	Cat.No.
Seal Tape	0.1 mm	13 mm	5 m	10 pcs	3001-33501

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Gas Purifiers

Maximum concentration of impurities in carrier gas should contain less than 1 ppm of oxygen, moisture, or other trace contaminants, to prevent column degradation, increase column lifetime, and decrease stationary phase bleed. The expense of using high-purity gases in combination with carrier gas line purifiers will be offset by longer column lifetime and less GC maintenance.

Contaminants cause ghost peaks to appear during temperature programming and degrade the validity of analytical data. Make-up gas also should be contaminant-free, or baseline fluctuations and excessive detector noise can occur. Detector gases should be free of water and hydrocarbons, or excessive baseline noise can result. Gas purifiers remove these contaminants from gas sources, thereby improving system performance.



Super Clean Gas Filters

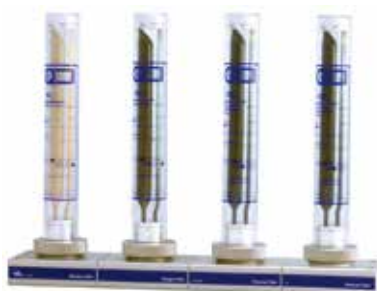
Cartridge systems make changing gas filters quick and easy. A base plate allows cartridges to be exchanged without introducing oxygen. Spring-loaded check valves seal when a filter is removed and open only when a new filter has been locked in place. There is no longer a need for loosening and tightening fittings every time a trap is changed and your system will not become contaminated during the process.



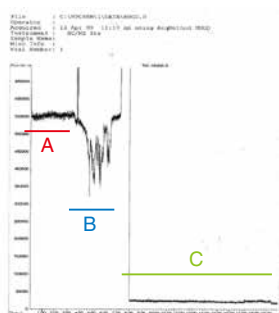
Click-on Super Clean Trap

Click-On Super-Clean Traps are inline traps designed with Click-On adaptor connectors which allows inline cartridges to be exchanged without introducing oxygen. Spring loaded check valves seal when a filter is removed and open only when a new filter has been locked in place. There is no need for loosening and tightening fittings every time a trap is changed and your system will not become contaminated during the process.

Super Clean Gas Filters



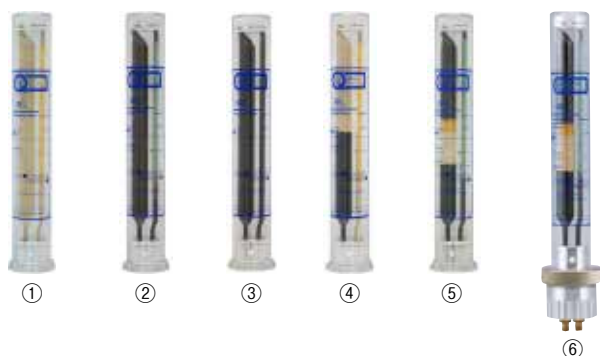
Super Clean Gas Filters ensure >99.9999 % outlet pure gas. Connecting unit with inlet and outlet connectors for the gas line and two spring-loaded check valves that automatically start the flow of gas once filter is installed. The filter cartridges are made of glass to prevent diffusion, and protected by a plastic housing for safety. The PTFE seals at the base of the filter will only be punctured during installation on the base plate.



A : Without super clean gas filters
 B : Just after super clean gas filters installed (Oxygen/Moisture/Hydrocarbon filters)
 C : After installation of gas filters



Super Clean Replacement filters



Specifications:

Outlet Gas Quality : >99.9999 % (Flow Rate <2 L/min)
 Maximum Pressure : 1 Mpa
 Maximum Flow : 7 L/min
 Dimensions : 38.5 x 258 mm
 Weight : 0.26 kg

Description	Usable For	Moisture filter*	Oxygen Filter*	Hydrocarbon Filter	Cat.No.
		H ₂ O Capacity	O ₂ Capacity	Hydrocarbon (n-butane) Capacity	
① Moisture Filter	He, H ₂ , N ₂ , Ar, Air	7.2 g	-	-	3001-18350
② Oxygen Filter	He, H ₂ , N ₂ , Ar	-	150 mL	-	3001-18351
③ Hydrocarbon Filter	He, H ₂ , N ₂ , Ar	-	-	12 g	3001-18352
④ Moisture / Hydrocarbon Filter	He, H ₂ , N ₂ , Ar, Air	3.5 g	-	6 g	3001-18353
⑤ Oxygen / Moisture / Hydrocarbon Filter	He, H ₂ , N ₂ , Ar	1.8 g	75 mL	4 g	3001-18354
⑥ Oxygen / Moisture / Hydrocarbon Filter (has been purged with Helium)	Carrier gas (for GC/MS) He	1.8 g	75 mL	4 g	3001-18355
3 pcs unit ④ Moisture / Hydrocarbon Filter x 2, ⑤ Oxygen / Moisture / Hydrocarbon Filter x 1	④ He, H ₂ , N ₂ , Ar, Air ⑤ He, H ₂ , N ₂ , Ar	3.5 g 1.8 g	- 75 mL	6 g /pc 4 g	3001-18359
4 pcs unit ① Moisture Filter x 1, ② Oxygen Filter x 1, ③ Hydrocarbon Filter x 2	① He, H ₂ , N ₂ , Ar, Air ② He, H ₂ , N ₂ , Ar ③ He, H ₂ , N ₂ , Ar	7.2 g - -	- 150 mL -	- - 12 g /pc	3001-18360

*: Moisture filter and Oxygen filter include Indicator . Base plat is not included.

Gas Filters

■ Super Clean Gas Filter Kit



Description	Moisture filter*	Oxygen Filter*	Hydrocarbon Filter	Base Plate Qty.	P/N	Cat.No.
	H ₂ O Capacity	O ₂ Capacity	Hydrocarbon (n-butane) Capacity			
Oxygen / Moisture / Hydrocarbon Filter Kit	1.8 g	75 mL	4 g	1 pc	B1010	3001-18313
Oxygen / Moisture / Hydrocarbon Filter Kit (has been purged with Helium)	1.8 g	75 mL	4 g	1 pc	B1011	3001-18314
For GC-FID Fuel Gas Filter Kit Moisture / Hydrocarbon Filter x 2	3.5 g / pc	–	6 g / pc	2 pcs	B1020	3001-18315
For GC-FID Filter Kit Moisture / Hydrocarbon Filter x 2, Oxygen / Moisture / Hydrocarbon Filter x 1 pc	3.5 g / pc	–	6 g / pc	3 pcs	B1030	3001-18318
	1.8 g	75 mL	4 g			
For GC-FID Filter Kit, Moisture Filter x 1 pc	7.2 g	–	–	4 pcs	B1040	3001-18319
Oxygen Filter x 1	–	150 mL	–			
Hydrocarbon Filter x 2	–	–	12 g / pc			

*: Moisture filter and Oxygen filter include indicator. Each kit includes 1/8 inch connection brass base plate.

■ Base Plate / Other Accessories



Base Plate



Stainless Steel Tube End Connector

Description	Application	P/N	Qty.	Cat.No.
Super Clean GC Base Plate 1/8 in. brass	1 position	B0010	1 set	3001-18300
	2 position	B0020	1 set	3001-18301
	3 position	B0030	1 set	3001-18303
	4 position	B0040	1 set	3001-18304
Base Plate O-ring Replacement Set for Super Clean Filter (two types)	–	B0110	20 pcs	3001-18306
Stainless Steel Tube End Connector 1/8 in. - Shimadzu (Length 30 mm, SMM type)	–	–	2 pcs	3001-17971
Stainless Steel Tube End Connector 1/4 in. - Shimadzu (Length 30 mm, SMM type)	–	–	2 pcs	3001-17970
Brass Tube End Connector 1/8RE1/4	–	–	2 pcs	3001-17950
Brass Tube End Connector 1/4RE1/8	–	–	2 pcs	3001-17951

Click-On Super Clean Traps

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GC CAPILLARY COLUMNS

GC PACKED COLUMNS

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CELLS

VALVES



With Indicator

Click-On Super Clean Filter

A Click-on Super Clean Trap is designed to purify carrier gas and offers >99.9999 % purity. As a precaution, we highly recommend installing a moisture trap before hydrocarbon and oxygen traps in every carrier gas line. Spring loaded check valves seal when a filter is removed and open only when a new filter has been locked in place. There is no need for loosening and tightening fittings every time a trap is changed and your system will not become contaminated during the process.

Specifications

- Outlet Gas Quality : >99.9999 %
- Maximum Pressure: 1 MPa (11 Bar, 160 psi)
- Maximum Flow : 25 L/min
- Dimensions : 32 x 200 mm
- Weight : 0.6 kg
- Weight of the traps with an indicator are 0.25 kg.

Description	Usable for	Moisture Filter	Oxygen Filter	Hydrocarbon Filter	P/N	Cat.No.
		H ₂ O capacity	O ₂ capacity	Hydrocarbon (n-butane) capacity		
Moisture Trap	He, H ₂ , N ₂ , Ar, Air	21 g	-	-	CO1001	3001-18331
Oxygen Trap	He, H ₂ , N ₂ , Ar	-	450 mL	-	CO1002	3001-18332
Hydrocarbon Trap*	He, H ₂ , N ₂ , Ar, Air	-	-	36 g	CO1003	3001-18333
Oxygen / Moisture Trap	He, H ₂ , N ₂ , Ar	10 g	225 mL	-	CO1004	3001-18334
Moisture / Hydrocarbon Trap	He, H ₂ , N ₂ , Ar, Air	10 g	-	18 g	CO1007	3001-18336
Oxygen / Moisture / Hydrocarbon Trap	He, H ₂ , N ₂ , Ar	6 g	150 mL	12 g	CO1005	3001-18335
Oxygen / Moisture / Hydrocarbon Trap (Has been purged with He)	He (for GC-MS)	6 g	150 mL	12 g	CO1006	3001-18338
Oxygen / Moisture / Hydrocarbon Trap With an indicator (Has been purged with He)	He (for GC-MS)	2 g	32 mL	1.5 g	CO1051	3001-18337

*: The above Trap products do not include Click-On Connectors. Select suitable Click-On Connectors for the tubing size.

Click-On Connectors



Description	Material	P/N	Qty.	Cat.No.
① Click-On Connector 1/4 in.	Brass	CO2001	2 pcs	3001-18339
	Stainless Steel	CO2010	2 pcs	3001-18341
② Click-On Connector 1/8 in.	Brass	CO2002	2 pcs	3001-18340
	Stainless Steel	CO2011	2 pcs	3001-18342
③ Click-On Direct Connector	Stainless Steel	CO2020	1 pc	3001-18343
④ Click-On Wall-mounting Clamp Set	-	CO3002	4 pcs	3001-18345
⑤ Stainless Steel Tube End Connector 1/8 in.- Shimadzu (Length 30 mm, SMM Type)	Stainless Steel	-	2 pcs	3001-17971
O- Ring	fluorine resin	CO3001	10 sets	3001-18344

High Performance Indicator Kit



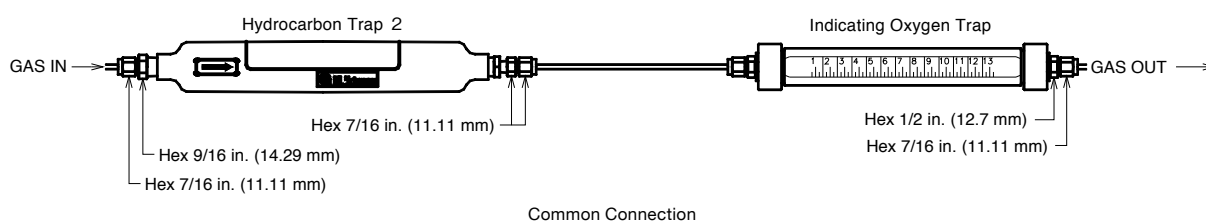
High Performance Indicator Kit consists of a Hydrocarbon Trap 2 and Indicating Oxygen Trap and is used for purification of carrier gas. Connector size of the High performance Indicator Kit which is adopted to AquaPT 6000 is 1/8 in.

Description	Indicating Oxygen Trap* ²	Hydrocarbon Trap 2
Maximum Pressure	0.68 MPa (6.8 bar, 100 psi)	1.7 MPa (17 bar, 247 psi)
Usable Temperature	to 100°C	
Dimensions	35 x 288 mm	31.5 x 241 mm
Packed materials	Mixture of Oxidized metals	Activated Carbon
Usable Volume	50 mL	100 mL
Connector Size	1/8 in. SWL	

Description	Cat.No.
High Performance Indicator Kit * ¹	3001-17919
Indicating Oxygen Trap* ²	3001-17921
Hydrocarbon Trap 2	3001-17922

*1: The kit includes 1 Indicating Oxygen Trap, 1 Hydrocarbon Trap 2, 4 brass ferrules and a copper tubing (1/8 x 200 mm).

*2: Indicating Oxygen Trap should be changed when the color of indicator changes from green to brown.



Big Trap Gas Filters



Oxygen Big Trap / Indicating Oxygen Trap

Oxygen is column killer. It is present even in UHP gases, as minutes leaks at fittings allow oxygen to influx a gas line at any fitting or during gas bottle exchange, the oxygen trap should be the last connection before the gas line enters the chromatograph.

Description	Oxygen Big Trap	Indicating Oxygen Trap
Bottle material	Ni	Body : Glass (attached with polymer cover)
Packed Material	Activated Al mixture	-
Connection Size	1/8 in.	1/8 in.
Oxygen Adsorption Capacity	2.5 L	40 mL
Maximum Pressure	6.8 MPa (68 bar, 1,000 psi)	0.68 MPa (6.8 bar, 100 psi)

Description	Cat.No.
Indicating Oxygen Big Trap Set	3001-17901
Oxygen Big Trap	3001-17905
Indicating Oxygen Big Tap	3001-17928



Hydrocarbon Big Trap

When observing gas ghost peaks, remove a potential source of hydrocarbon contaminants as oil and hydrocarbon. Connection size is 1/8 in.

Description	Cat.No.
Hydrocarbon Big Trap 1/8 in.	3001-17915

Gas Filters



Carrier Gas Drier for High Sensitivity Analysis

Carrier Gas Drier (for High Sensitivity Analysis)

This Carrier Gas Drier is designed to remove moisture from carrier gas for high sensitivity analysis with ECD/ MSD.

Specifications

Packed Material : Molecular Sieve 4A 100 g
 Maximum Pressure : 0.9 MPa (9 bar, 130 psi) Maximum Flow : 4 L/min
 Material : Stainless Steel 304
 Dimensions : 34 x 266 mm (1/8 in.) ; 34 x 303 mm (1/4 in.)
 Connection size : 1/8 in. SWL; 1/4 in. SWL

Description	Connection Size	Cat.No.
Carrier Gas Drier (for high sensitivity analysis)	1/8 in.	3001-17002
	1/4 in.	3001-17003



Carrier Gas Drier for General Analysis

Carrier Gas Drier (for General Analysis)

This Carrier Gas Drier is designed to remove moisture from carrier gas for general analysis and dry up 10 cylinders' (7 m³, 150 kg/cm³) carrier gas with dew point -40°C to that of -70°C. PTFE seal tape is used for sealing of connection.

Specifications

Packed Material : Molecular Sieve 5A (1/16 pellet 100 g)
 Maximum Pressure : 0.9 MPa (9 bar, 130 psi) Maximum Flow : 4 L/min
 Material : Stainless Steel 304 Outlet gas dew point : < -70 °C
 Dimensions : 34 x 210 mm
 Connection size : Rc1/4 (1/4PT female)

Description	Qty.	Cat.No.
Carrier Gas Drier for General analysis	1 pc	3001-17001
Replacement Molecular Sieve 5A	500 g	3001-17080



Air Drier Packed with Cobalt Free Silica Gel

Air Drier (Packed with Cobalt Free Silica Gel)

This Air Drier is designed to dry air for FID analysis and packed with cobalt free silica gel which is not subject to PRTR (Pollutant Release and Transfer Register) regulation. When the color has changed, replace the silica gel.

Specifications

Packed Material : Cobalt Free Silica Gel
 Body Material : Polyvinyl Chloride, Stainless Steel 304
 Maximum Pressure : 0.8 MPa (8 bar, 116 psi) Maximum Flow : 4 L/min
 Dimensions : 48 x 212 mm Connection size : Rc1/4 (1/4PT female)
 Usable Temperature. : 5 °C – 40 °C

Description	Qty.	Cat.No.
Air Drier	1 pc	3001-17111
Replacement Cobalt Free Silica Gel	1 kg	3001-17190



Organic Remover

Organic Remover (Packed with Activated Carbon)

This Organic Remover is designed to remove organic substances from gasses. PTFE seal tape is used for sealing of connection.

Use seal tape for tightening.

Specifications

Packed Material : Activated Carbon
 Body Material : Polyvinyl Chloride, Stainless Steel 304
 Maximum Pressure : 0.8 MPa (8 bar, 116 psi) Maximum Flow : 4 L/min
 Dimensions : 48 x 212 mm Connection size : Rc1/4 (1/4PT female)
 Usable Temperature. : 5 °C – 40 °C

Description	Qty.	Cat.No.
Organic Remover	1 pc	3001-17201
Activated Carbon (for replacement)	200 g	3001-17280

Gas Filters

Connectors for Gas Filter



1/8CM4



1/4CM4



R1/4-SMM

Connectors

Model	Available Size	Qty.	Cat.No.
1/8CM4	1/8SWL Type of Tapered Male	1 pc	3006-43022
1/4CM4	1/4SWL Type of Tapered Male	1 pc	3006-43042
R1/4-SMM	R1/4 Half Union for Shimadzu Tubing	2 pcs	3001-66902

SAMPLE PREPARATION

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