

# GC Accessories

## Leak Detector LD239



LD239 is a pocket-sized gas leak detector. It detects gas leaks by taking advantage of the difference between air and thermal conductivity. LD239 detects gas leaks instantly when changing capillary columns as well as at other occasions. Leaks are indicated on the LCD monitor and by an alarming sounds. There is no need to worry about contamination of the pipes or columns as may be the case if using gas leak detection liquid.

While an aspiration pump and rechargeable battery are being installed, you can easily carry the handy sized LD239 and detect gas leaks even in narrow places.

### <Specifications>

Detector	: Thermal conductivity cell
Battery	: Rechargeable Lithium Ion batteries
Operating temperature range	: 10 - 40°C (non-condensing)
Target gases	: Helium, Hydrogen, CO <sub>2</sub> , Argon, Neon and other non-corrosive gases. For safety reasons, LD239 should not be used: 1) in places with a risk of fire, explosion or large flammable gas leaks; 2) in places with insufficient ventilation when attempting to detect trace amounts of flammable gases; 3) in places that are contaminated with dust or combustible fumes.
Sensitivity	: Standard range - minimum 0.005 ml/min (He) High range - minimum 0.0005 ml/min (He)
Overall size	: 50(W) x 19.5(D) x 111(H) mm
Net weight	: Approx. 95 g

\*The sensitivity should be dependent on the difference between the thermal conductivities of gas and air, and a large difference results in a high sensitivity. Also, the kinds of gas and humidity should influence the sensitivity.

Description	Cat.No.
Leak Detector LD239	2702-19340

## Capillary Fineness Cutter



A diamond blade finely cuts the silica capillary tube vertically. The built-in magnifier is to check how the tube is cut, and the diamond blades can be replaced.

Description	Cat.No.
Capillary Fine Cutter GC/LC (Black)	3001-31020
Capillary Fine Cutter GC/LC replacement blade	3001-31021

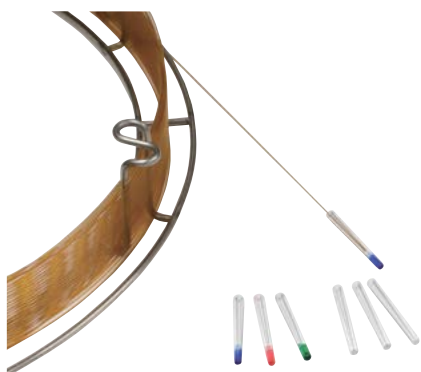
## Ceramic Tube Cutter



The ceramic tube cutter cuts a silica capillary column safely and firmly.

Description	Unit (pcs)	Cat.No.
Ceramic Tube cutter	5	1010-41136

## Fused Silica End Cap



Description	Color	Cat.No.	Unit (set)
Fused Silica End Cap (I.D. 0.15 mm~0.53 mm)	Red	1010-41140	5
	Green	1010-41141	5
	Blue	1010-41142	5

# GC Accessories

## Inner Seal Connector



A quartz union for connecting the fused silica capillary tubes. also convenient for connecting guard column to an analytical column, and splitting sample flow onto two detectors.

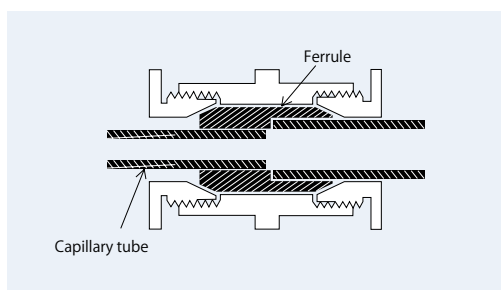
Description	Column ID (mm)	Column OD (mm)	Unit(pcs)	Cat.No.
Inner Seal Connector	0.10~0.25	0.15~0.4	5	1010-45025
	0.25~0.53	0.35~0.7	5	1010-45026
Inner Seal Y Connector	0.25~0.53	0.35~0.7	1	1010-45030

## Micro Unions



This is the micro union with zero dead volume. Polyimide resin is adapted for the ferrule for better heat resistance and chemical resistance.

1 set (Cat.No.3001-25803~25858) ⇒ Body 1 pcs, Male Screw 2 pcs, Ferrule 2 pcs  
 Ferrule (Cat.No.3001-25881~25896) ⇒ Replacement ferrule 2 pcs



### 【Micro Union】

Column ID (mm)	Column OD (mm)	1 set Cat.No.	Ferrule Cat.No.
0.10	0.2-0.3	3001-25803	3001-25881
0.25	0.3-0.4	3001-25804	3001-25882
0.32	0.4-0.5	3001-25805	3001-25883
0.53	0.7-0.8	3001-25808	3001-25884

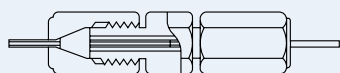
### 【Micro Reducing Union】

Column ID (mm)	Column OD (mm)	1 set Cat.No.	Ferrule Cat.No.
0.10-0.25	0.3-0.4	3001-25834	3001-25891
0.10-0.32	0.3-0.5	3001-25835	3001-25892
0.10-0.53	0.3-0.8	3001-25838	3001-25893
0.25-0.32	0.4-0.5	3001-25845	3001-25894
0.25-0.53	0.4-0.8	3001-25848	3001-25895
0.32-0.53	0.5-0.8	3001-25858	3001-25896

### 【Screw Wrench】

Description	Unit (pcs)	Cat.No.
Screw Wrench	2	3001-25860

## Capillary Mini Unions



Mini Union Structure

This capillary mini union offers least active spots and dead volume. Graphite ferrule MOGF/005 is for capillary tubes below O.D. 0.5 mm (I.D. 0.32 mm)

Mini Union			Graphite Ferrule (10 pcs)		Graphite Vespel Ferrule (10 pcs)	
Model	Column size (mm)	Cat.No.	Model	Cat.No.	Model	Cat.No.
MVSU/003	I.D.0.1 O.D.~0.3	3001-25950			MGVF/003	3001-25973
MVSU/004	I.D.0.25 O.D.~0.4	3001-25951	MOGF/005	3001-25965	MGVF/004	3001-25974
MVSU/005	I.D.0.32 O.D.~0.5	3001-25952			MGVF/005	3001-25975
MVSU/008	I.D.0.53 O.D.~0.8	3001-25953	MOGF/008	3001-25968	MGVF/008	3001-25978

Description	Cat.No.
Screw wrench for mini union 3/16×1/4 (2 pcs)	3001-25954

## Pin Vice Drill Set



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

## Septum Puller



Clean injection port septum is a must for high sensitivity analysis. Replacing it with bare hands can severely influence the analysis result. With Septum Puller, septum can be replaced easily without touching it by hand. Septum Puller can also be used for removing pieces of the broken septa from the injection port.

Description	Cat.No.
Septum Puller	3001-12720

# GC Accessories

## Ferrule Removal Kit



Each kit has two tools: one for removing 0.4 mm adaptor ferrules and one for removing 0.8 mm adaptor ferrules.

Description	Cat.No.
Ferrule Removal Kit	3001-12740

## Ferrule Removal Tool

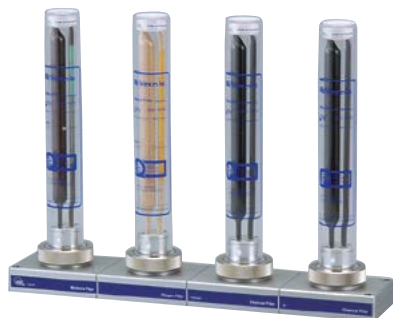


This tool helps you getting the ferrule out of the nut.

Description	Cat.No.
Ferrule Removal Tool	3001-12745



## Carrier Gas Purifier



3001-18319

## Super Clean™ Filter and Base Plate Kits

Description	qty	Cat.No.
1 Triple Filter Kit - 1/8 inch Brass Includes (1) 1 position base plate with 1/8 inch Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	3001-18313
1 Triple Helium Specific Filter Kit - 1/8 inch Brass Includes (1) 1 position base plate with 1/8 inch Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Helium Specific Trap	Kit	3001-18314
2 Combi Filter Kit - 1/8 inch Brass Includes (1) 2 position base plate with 1/8 inch Brass inlet/outlet fittings and (2) Hydrocarbon/Moisture Trap	Kit	3001-18315
4 Filters Kit - 1/8 inch Brass Includes (1) 4 position base plate with 1/8 inch Brass inlet/outlet fittings and (1) Moisture Trap, (1) Oxygen Trap, and (2) Hydrocarbon Traps	Kit	3001-18319



3001-18350



3001-18355

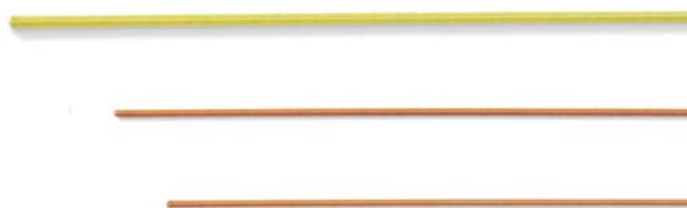
## Super Clean™ Replacement Filters

Description	qty	Cat.No.
Moisture Filter	ea.	3001-18350
Oxygen Filter	ea.	3001-18351
Hydrocarbon Filter	ea.	3001-18352
Combi (Hydrocarbon/Moisture) Filter	ea.	3001-18353
Triple (Oxygen/Moisture/Hydrocarbon) Filter	ea.	3001-18354
Triple (Oxygen/Moisture/Hydrocarbon) Helium-Specific Filter	ea.	3001-18355

## Super Clean™ Filters Base Plates

Description	qty	Cat.No.
Base Plate 1 Position - 1/8 inch Brass	ea.	3001-18300
Base Plate 2 Position - 1/8 inch Brass	ea.	3001-18301
Base Plate 3 Position - 1/8 inch Brass	ea.	3001-18303
Base Plate 4 Position - 1/8 inch Brass	ea.	3001-18304

# Guard Column • Retention Gap Column (Fused Silica Capillary Tube)



## Purpose

### Guard Column

Injecting samples with contamination or nonvolatile compounds directly to a column causes active spots and/or degeneration of the column. Even with on-column methods, splitless and split injection can not prevent a column from degeneration and damage.

To protect a column from such damages, it is effective to connect a 2 m fused silica capillary tube to the inlet of the analytical column and replace them as the contamination gets accumulated.

### Retention Gap Column

A retention gap column prevents GC analyses from broad peak band or multiple peaks of one compound.

### Transfer Line

A transfer line can be used for GC/MS, LC/MS, GC/FTIR, LC/GC, Multi - Dimensional GC, or sniffer adaptors.

## 【Deactivated Fused Silica Capillary Tube】

ID (mm)	OD (mm)	10 m	25 m	50 m
		Cat.No.	Cat.No.	Cat.No.
0.005	0.150	1010-35102	1010-35105	—
	0.375	1010-35142	1010-35145	—
0.010	0.150	1010-35202	1010-35205	—
	0.375	1010-35242	1010-35245	—
0.015	0.150	1010-35302	1010-35305	—
	0.375	1010-35342	1010-35345	—
0.020	0.150	1010-35402	1010-35405	—
	0.375	1010-35442	1010-35445	—
0.025	0.150	1010-35502	1010-35505	—
	0.375	1010-35542	1010-35545	—
0.030	0.150	1010-35602	1010-35605	—
	0.375	1010-35642	1010-35645	—
0.040	0.150	1010-35702	1010-35705	—
	0.375	1010-35742	1010-35745	—
0.050	0.150	1010-35802	1010-35805	—
	0.375	1010-35842	1010-35845	—
0.075	0.150	1010-35902	1010-35905	—
	0.375	1010-35942	1010-35945	—
0.100	0.200	1010-36012	1010-36015	1010-36017
	0.375	1010-36042	1010-36045	1010-36047
0.150	0.375	1010-36132	1010-36135	1010-36137
0.180	0.350	1010-36172	1010-36175	1010-36177
0.200	0.350	1010-36222	1010-36225	1010-36227
0.250	0.350	1010-36322	1010-36325	1010-36327
0.320	0.450	1010-36452	1010-36455	1010-36457
0.530	0.660	1010-36682	1010-36685	—

## 【Undeactivated Fused Silica Capillary Tube】

ID (mm)	OD (mm)	10 m	25 m	50 m
		Cat.No.	Cat.No.	Cat.No.
0.005	0.150	1010-31102	1010-31105	—
	0.375	1010-31142	1010-31145	—
0.010	0.150	1010-31202	1010-31205	—
	0.375	1010-31242	1010-31245	—
0.015	0.150	1010-31302	1010-31305	—
	0.375	1010-31342	1010-31345	—
0.020	0.150	1010-31402	1010-31405	—
	0.375	1010-31442	1010-31445	—
0.025	0.150	1010-31502	1010-31505	—
	0.375	1010-31542	1010-31545	—
0.030	0.150	1010-31602	1010-31605	—
	0.375	1010-31642	1010-31645	—
0.040	0.150	1010-31702	1010-31705	—
	0.375	1010-31742	1010-31745	—
0.050	0.150	1010-31802	1010-31805	—
	0.375	1010-31842	1010-31845	—
0.075	0.150	1010-31902	1010-31905	—
	0.375	1010-31942	1010-31945	—
0.100	0.200	1010-32012	1010-32015	1010-32017
	0.375	1010-32042	1010-32045	1010-32047
0.150	0.375	1010-32132	1010-32135	1010-32137
0.180	0.350	1010-32172	1010-32175	1010-32177
0.200	0.350	1010-32222	1010-32225	1010-32227
0.250	0.350	1010-32322	1010-32325	1010-32327
0.320	0.450	1010-32452	1010-32455	1010-32457
0.530	0.660	1010-32682	1010-32685	—

# GC Accessories

## Agilent Consumables

### Inlet liners



To avoid scratches and contamination from air, liners for Agilent adapt blister package used for all the medical tablets. Due to the inertness treatment under 420 °C, the liners avoid sample adsorption and dissolve, and are effective for highly sensitive analyses.

Type	Shape	Details	Deactivated	Unit (pcs)	Agilent P/N	Cat.No.
Split		Single taper Quartz wool (fixed) Focus liner	Yes	5	5183-4712	3001-41237
				25	5183-4713	3001-41257
		Straight Quartz wool	Yes	5	5183-4691	3001-41229
				25	5183-4692	3001-41233
Splittless		Single taper Quartz wool	Yes	5	5183-4693	3001-41260
				25	5183-4694	3001-41261
		Single taper	Yes	5	5183-4695	3001-41248
				25	5183-4696	3001-41258
		Double taper	Yes	5	5183-4705	3001-41262
				25	5183-4706	3001-41263
Focus liner		Quartz wool (fixed)	Yes	5	210-4004-5	3001-41235
				25	—	3001-41236

### O-ring for liner

Description	Material	ID (mm) x Thickness (mm)	Unit (pcs)	Cat.No.
O-ring for liner	Viton	4.8 × 1.9	20	3007-11205

### Ferrules



The graphite vespel ferrule is suitable for GC/MS with mechanical strength and the graphite ferrule for general GC. Both types have excellent stability when the temperature increases and chemical resistance. Blister package is adapted for graphite vespel ferrule.

Description	Model	Purpose	Column	Unit(pcs)	Agilent P/N	Cat.No.
15% Graphite/85% Vespel Ferrule (Short ferrule)	GVS-0.4	GC Injector · Detector	0.10~0.25 mm	10	5181-3323	3007-41140
	GVS-0.5		0.32 mm	10	5062-3514	3007-41150
	GVS-0.8		0.53 mm	10	5062-3512	3007-41180
15% Graphite/85% Vespel Ferrule (Long ferrule)	GVL-0.4	MS Interface connection	0.10~0.25 mm	10	5062-3508	3007-31144
	GVL-0.5		0.32 mm	10	5062-3506	3007-31145
	GVL-0.8		0.53 mm	10	5062-3538	3007-31148
Graphite ferrule (Short ferrule)	GF-0.5	GC Injector · Detector	0.10~0.32 mm	10	5080-8853	3007-31305
	GF-0.8		0.53 mm	10	500-2118	3007-31308

## Septa



There are ultra low bleed septum, LB·S types, that takes up to 350 °C at the injection port and general purpose gray septum.

Description	Size (mm)	Purpose	Agilent P/N	Material	Unit (pcs)	Cat.No.
LB·S Septa	11 (7/16 inch)	High temperature/ sensitivity	—	Bronze silicon	25	3007-41135
Gray Septa		General purpose	5080-8896	Grey silicon	24	3007-41523

## Autosampler syringes

● For Agilent 7673,7683,7693A,6850ALS



### [SGE]

Needle type	Volume	Model	Needle length (mm)	Needle gauge	Needle OD (mm)	SGE P/N	Agilent P/N	Cat.No.
Fixed	5 µL	5F-HP-0.47	42	26	0.47	001800	9301-0891	4065-47302
		5F-HP-0.63	42	23	0.63	001810	9301-0892	4065-47303
		5F-HP-0.63/0.47	42	23/26	0.63/0.47	001821	5181-1273	4065-47304
	10 µL	10F-HP-0.47	42	26	0.47	002800	9301-0714	4065-47408
		10F-HP-0.63	42	23	0.63	002810	9301-0713	4065-47409
		10F-HP-0.63/0.47	42	23/26	0.63/0.47	002821	5181-1267	4065-47412
Removable	0.5 µL	0.5BR-HP-0.47	42	26	0.47	000400	—	4065-47004
		0.5BR-HP-0.63	42	23	0.63	000410	—	4065-47005
	10 µL	10R-HP-0.47	42	26	0.47	002805	—	4065-47410
		10R-HP-0.63	42	23	0.63	002815	—	4065-47411

### [Hamilton]

Needle type	Volume	Model	Needle length (mm)	Needle gauge	Hamilton P/N	Agilent P/N	Minimum scale	Cat.No.
Fixed	10 µL	701ASN 26s	43	26s	80388	9301-0714	0.1 µL	4015-11711
		701ASN 23s	43	23s	80387	9301-0713	0.1 µL	4015-11701
		701ASN 23s/26s	43	23s/26s	80393	5181-1267	0.1 µL	4015-11712
		701ASN 23s 6pcs	43	23s	80390	9301-0725	0.1 µL	4015-11761
		701ASN 23s/26s 6pcs	43	23s/26s	80391	5181-3360	0.1 µL	4015-11763

# GC Accessories

## Shimadzu Consumables

### Inlet liners



Some of these liners are treated under 420 °C for inertness treatment and in the blister package. It is effective for the analyses of adsorptive samples.

Type	Shape	GC model	Deactivated	Unit(pcs)	Shimadzu P/N	Cat.No.
Split		GC-2010/GC-2014	No	1	221-41444-01	3001-16138*
		GC-17A	No	1	221-41444	3001-16320*
				5	221-41444-84	3001-16312*
		GC-14A·14B/GC-2014	No	1	221-32544-01	3001-16120*
Splitless		GC-2010/GC-2014	No	1	221-48335-01	3001-16139*
				5	—	3001-16140*
				25	—	3001-16141*
		GC-17A	No	1	221-41544	3001-16321*
			No	5	221-41544-84	3001-16315*
		GC-14A/14B/GC-2014	No	1	221-32544	3001-16121*
Direct		GC-17A	No	1	221-41599	3001-16319*
		GC-9A/12A/15A/16A (Attachment)	No	1	221-38107	3001-16129*
Focus Liner		GC-14A/14B Quartz Wool fixed	Yes	5	—	3001-16323
		GC-17A Quartz Wool fixed	Yes	5	—	3001-16322
		GC-2010 Quartz Wool fixed	Yes	5	—	3001-16324
			Yes	25	—	3001-16326

\*Not in the blister package

### O-ring for liner

Description	Material	ID (mm) × Thickness (mm)	Unit (pcs)	Cat.No.
O-ring for liner	Viton	3.8 × 1.9	20	3007-11204

### Ferrules



The graphite vespel ferrule is suitable for GC/MS with mechanical strength and the graphite ferrule for general GC.

Both types have excellent stability when the temperature increases and chemical resistance. Blister package is adapted for graphite vespel ferrule.

Description	Model	Purpose	Column ID	Unit (pcs)	Cat.No.
15 % Graphite/85 % Vespel Ferrule	GVL-0.4	GCMS_QP2010	0.10~0.25 mm	10	3007-31144
	GVL-0.5	Injector·MS Interface QP5000/5050	0.32 mm	10	3007-31145
	GVL-0.8	Wide bore MS Interface	0.53 mm	10	3007-31148
Graphite Ferrule	G-0.5	GC14A,GC17A,GC2010,GC2014	0.10~0.32 mm	10	3007-14005*
	G-0.8	Injector·Detector	0.53 mm	10	3007-14008*

\*Not in the blister package

## Septa



Description	Shape	Purpose	Material	Unit (pcs)	Cat.No.
LB • S Septa	Cap type	High temperature/sensitivity	Bronze silicon	25	3007-16105
Septa for high temperature		Mid-High temperature	Bronze silicon	25	3007-16103
Septa for heat resistance		Mid-High temperature	Pink silicon	25	3007-16102
Standard Septa		General analyses	Yellow silicon	20	3007-16101

## Autosampler syringes (SGE)

- For AOC14,AOC17,AOC20



Needle type	Volume	Model	Needle length(mm)	Needle gauge	Needle OD (mm)	SGE P/N	Cat.No.
Fixed	5 $\mu$ L	5F-S-0.47	42	26	0.47	001987	4065-47300
		5F-S-0.63	42	23	0.63	001988	4065-47301
Removable	0.5 $\mu$ L	0.5BR-S-0.47	42	26	0.47	000440	4065-47002
		0.5BR-S-0.63	42	23	0.63	000445	4065-47003
	10 $\mu$ L	10R-S-0.47	42	26	0.47	002897	4065-47406
		10R-S-0.63	42	23	0.63	002898	4065-47407

# GC Accessories



## Thermo Scientific Consumables

### Inlet liners

- For Trace GC, Focus GC



To avoid scratches and contamination from air, liners for Thermo Scientific adapt blister package used for all the medical tablets. Due to the inertness treatment under 420 °C, the liners avoid sample adsorption and dissolve, and are effective for highly sensitive analyses.

Type	Shape	Size (mm) I.D.×O.D.×Length	Deactivated	Unit (pcs)	Thermo Scientific P/N	Cat.No.
Splitless		3×8×105	Yes	5	45350032	3001-41102
		5×8×105	Yes	5	45350033	3001-41104

### Ferrules

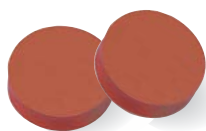


The graphite vespel ferrule is mechanically strong when the temperature is increasing. Blister package is adapted for all types.

Description	Model	Purpose	Column ID	Unit (pcs)	Cat.No.
15 %Graphite/85 % Vespel Ferrule	GVL-0.4	MS Interface	0.10~0.25 mm	10	3007-31144
	GVL-0.5		0.32 mm	10	3007-31145
	GVL-0.8		0.53 mm	10	3007-31148
15 %Graphite /85 % Vespel Ferrule	Trace/Focus 0.4	Trace/Focus GC Injector-Detector	0.10~0.25 mm	10	3007-41154
	Trace/Focus 0.5		0.32 mm	10	3007-41155
	Trace/Focus 0.8		0.53 mm	10	3007-41158
Brass nut for injector port	—	Trace GC Injector	—	2	3001-24371

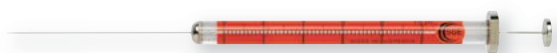
## Septa

These are ultra low bleed septum that takes up to 350 °C at the injection port.



Description	Size (mm)	Purpose	Material	Unit (pcs)	Cat.No.
LB · S Septa	17	High temperature/sensitivity	Bronze silicon	25	3007-41136

## Autosampler syringe (SGE)



### ● For TriPlus, AS3000, AS2000, AS200/800

Needle type	Volume	Model	Needle length (mm)	Needle gauge	Needle OD (mm)	SGE P/N	Cat.No.
Fixed	10 µL	10F-C/F-5/0.47C	50	26	0.47	002980	4065-47420
		10F-C/F-5/0.63C	50	23	0.63	002981	4065-47421

### ● For TriPlus, AS2000

Needle type	Volume	Model	Needle length (mm)	Needle gauge	Needle OD (mm)	SGE P/N	Cat.No.
Fixed	10 µL	10F-C/F-8/0.47C	80	26	0.47	002992	4065-47422
		10F-C/F-8/0.63C	80	23	0.63	002989	4065-47423

# GC Accessories

## Varian Consumables

### Inlet liners



To avoid scratches and contamination from air, liners for Varian adapt blister package used for all the medical tablets. Due to the inertness treatment under 420 °C, the liners avoid sample adsorption and dissolve, and are effective for highly sensitive analyses.

Type	Shape	Details	Deactivated	Unit (pcs)	Varian P/N	Cat.No.
Split/ Splitless		Single taper with Quartz wool (fixed) Focus liner	Yes	5	SG092003	3001-41237
				25	SG092011	3001-41257
		Quartz wool (fixed) Focus liner	Yes	5	SG092002	3001-41235
				25	SG092219	3001-41236
Split		Straight with Quartz wool	Yes	5	392611937	3001-41229
				25	—	3001-41233
Splitless		Single taper with Quartz wool	Yes	5	392611928	3001-41260
				25	—	3001-41261
		Single taper	Yes	5	392611927	3001-41248
				25	—	3001-41258
		Double taper	Yes	5	SG092018	3001-41262
				25	SG092230	3001-41263

### O-ring for liner

Description	Material	ID (mm) × Thickness (mm)	Unit (pcs)	Cat.No.
O-ring for liner	Viton	4.8 × 1.9	20	3007-11205

### Ferrules



Description	Model	Purpose	Column ID	Unit (pcs)	Cat.No.
15 % Graphite /85 % Vespel Ferrule	GVL-0.4	GC Injector-Detector	0.10~0.25 mm	10	3007-31144
	GVL-0.5	MS Inetrface	0.32 mm	10	3007-31145
	GVL-0.8		0.53 mm	10	3007-31148

### Autosampler syringe(SGE)

● For Varian 8035, 8100, 8200, CP8400, CP8410



Needle type	Volume	Model	Needle length (mm)	Needle gauge	Needle OD (mm)	Needle Point	SGE P/N	Cat.No.
Fixed	10 µL	10F-VA8400-5/0.47	50	26	0.47	Bevel	002950	4065-47424
		10F-C/F-5/0.63	50	23	0.63	Corn	002981	4065-47421