

Syringes

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“*Technical assistance is always very thorough.*”

Sherri Tapp
Symbiotic Research LLC

The opinions stated herein are solely those of the speaker and not necessarily those of any company or organization.

GC Syringes




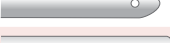

Technical Information

Needle Gauge Dimensions

Gauge	OD	ID
26	0.018 in. 0.46 mm	0.0102 in. 0.26 mm
26s	0.019 in. 0.47 mm	0.0050 in. 0.13 mm
25	0.021 in. 0.51 mm	0.0102 in. 0.26 mm
23s	0.025 in. 0.64 mm	0.0060 in. 0.15 mm
23	0.025 in. 0.64 mm	0.0132 in. 0.34 mm
22s	0.028 in. 0.72 mm	0.0060 in. 0.15 mm
22	0.028 in. 0.72 mm	0.0162 in. 0.41 mm



Needle Point Styles

Style	Description	Advantage
	AS/Cone	Exclusively for Agilent® autosamplers
	2, BV (Beveled tip)	Optimal septum piercing for reduced septum coring
	3, LD (Blunt tip)	General sample pipetting and HPLC injectors
	5 (Conical with side hole)	Side hole for sample filling and dispensing, headspace
	H (Dome with side hole)	Side hole for sample filling and dispensing. Dome tip minimizes septum coring.

Needle / Needle Connection Styles

Style	Description	Manufacturer	Advantage
ASN	Autosampler Needle	Hamilton®	For use with autosamplers
ASRN	Autosampler Removable Needle	Hamilton	For use with autosamplers
RN	Removable Needle	Hamilton	Allows freedom to change needle style or replace broken needles
N	Cemented Needle	Hamilton	Low dead volume, for low-volume syringes
KH	Knurled Hub	Hamilton	Able to handle pressure up to 6000 psig
LTN	Luer Tip Cemented Needle	Hamilton	Fixed needle with Luer Tip, for mid-volume syringes
TLL	PTFE (Teflon®) Luer Lock	Hamilton	Luer Lock with locking hub for use with syringe filters
F	Fixed Needle	SGE®	Economical and more reproducible
R	Removable Needle	SGE	Allows freedom to change needle style or replace broken needles
FLL	Fixed Luer Lock	SGE	Allows use with syringe filters
LL	Luer Lock	SGE	Allows use with syringe filters



GC Autosampler Syringes

for Agilent® GC 7673, 7683, 7693, and 6850 Autosampler Systems

Ordering Information

Hamilton Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.	
Microliter Syringes										
5	ASN	23s	1.71 in.	Agilent	75	87987	9301-0892	20168	ea	AS0-4386
5	ASN	23s	1.71 in.	Agilent	75	87990	20170	6/pk	AS0-7641	
5	ASN	26s	1.71 in.	Agilent	75	87989	21230	6/pk	AS0-8683	
5	ASN	23s-26s	1.71 in.	Agilent	75	87993	24593	ea	AS0-8380	
10	ASRN	23s	1.71 in.	Agilent	701	80357	24795	ea	AS0-8836	
10	ASN	23s	1.71 in.	Agilent	701	80387	9301-0713	20167	ea	AS0-4387
10	ASN	23s	1.71 in.	Agilent	701	80390	9301-0725	20169	6/pk	AS0-4388
10	ASN	26s	1.71 in.	Agilent	701	80389	24599	6/pk	AS0-4389	
10	ASN	23s-26s	1.71 in.	Agilent	701	80393	24596	ea	AS0-8684	
10	ASN	23s-26s	1.71 in.	Agilent	701	80391	24600	6/pk	AS0-8685	
Teflon Tip Gastight® Syringes										
10	ASN	23s-26s	1.71 in.	Agilent	1701	80079	n/a	ea	AS0-8837	
10	ASN	23s	1.71 in.	Agilent	1701	80080	n/a	ea	AS0-9079	



*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Syringes

GC Autosampler Syringes (cont'd)

for Agilent® GC 7673, 7683, 7693, and 6850 Autosampler Systems (cont'd)

SGE® Syringes									
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
5	F	23	42 mm	Cone	SK-5F-HP-0.63	001814	24783	6/pk	ASO-8687
5	F	26	42 mm	Cone	SK-5F-HP-0.47	001804	24782	6/pk	ASO-8688
5	F	23s-26s	42 mm	Cone	SK-5F-HP-0.63/0.47	001822	21214	6/pk	ASO-8689
5	F	23-26	42 mm	Cone	5F-HP-0.63*0.47	001821	5181-1273 21210	ea	ASO-5208
10	F	26	42 mm	Cone	SK-10F-HP-47	002804	24786	6/pk	ASO-7637
10	R	23	42 mm	Cone	10RHP-0.63	002815	24795	ea	ASO-8690
10	F	23	42 mm	Cone	10F-HP-0.63	002810	24785	ea	ASO-8691
10	F	26	42 mm	Cone	SK-10F-HP-0.47	002804	24786	6/pk	ASO-7637
10	F	23	42 mm	Cone	SK-10F-HP-0.63	002814	24787	6/pk	ASO-8692
10	F	23s-26s	42 mm	Cone	10F-HP-0.63/0.47	002821	21212	ea	ASO-8693
10	F	23s-26s	42 mm	Cone	SK-10F-HP-0.63/0.47	002822	21215	6/pk	ASO-8694
Teflon® Tip Gastight® Syringes									
10	F	23	42 mm	Cone	HF-HP-GT-0.63	002812	24789	ea	ASO-8695
10	F	23-26	42 mm	Cone	10F-HP-GT-0.63/0.47	002826	5181-1267	ea	ASO-5209
10	F	23-26	42 mm	Cone	SK10F-HP-FT-0.63/0.47	002827	5181-3361	6/pk	ASO-5210

for PerkinElmer® AutoSystem™ and Clarus® 500 GC Systems

Ordering Information

SGE Syringes									
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
0.5	R	23	70 mm	Cone	0.5BR-PE-0.63	000478	24811	ea	ASO-8697
5	F	23	70 mm	Cone	5F-PE-0.63	001954	24813	ea	ASO-8698

for Varian® 8000 Series GC Systems

Ordering Information

SGE Syringes									
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	R	25	53 mm	Side Hole	10R-VA8X-II	002924	24852	ea	ASO-8699
10	F	26	50 mm	Cone	10F-C/F-5/0.47C	002980	24922	ea	ASO-8700
10	F	26	50 mm	Bevel	10F-VA8400-5/0.47	002950	21202	ea	ASO-8701

for Shimadzu® AOC 9GC Systems

Ordering Information

Hamilton Syringes									
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
5	RN	26s	2 in. /51 mm	2	75RN	87930	24617	ea	ASO-8702
5	N	26s	2 in. /51 mm	2	75N	87900	24938	ea	ASO-4390
10	RN	26s	2 in. /51 mm	2	701RN	80330	24530	ea	ASO-0100

Ordering Information

SGE Syringes									
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	R	23	42 mm	Cone	10R-S-0.63	002898	24845	ea	ASO-8703



*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Autosampler Syringes continued on next page.

GC Syringes

GC Autosampler Syringes (cont'd)

for Thermo Scientific® GC Systems

Ordering Information

SGE® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	F	26	80 mm	Cone	10F-C/F-8/0.47C	002992	24924	ea	ASO-8704
10	R	26	80 mm	Cone	10R-C/F-8/0-0.47C	002993	24934	ea	ASO-8705

for CTC/LEAP GC Systems

Ordering Information

Hamilton® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
1.2	N	26	2 in./51 mm	Cone	7701.2N	203185	22755	ea	ASO-8706

Ordering Information

SGE Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microliter Syringes									
10	F	23	50 mm	Cone	10F-C/F-5/0.63	002981	24923	ea	ASO-7638
10	R	23	50 mm	Cone	10R-C/F-5/0.63	002984	24932	ea	ASO-8709
10	F	26	50 mm	Cone	10F-C/F-5/0.47C	002980	24922	ea	ASO-8700
10	F	26	50 mm	Cone	SK10F-C/F-5/0.47C	002986	24925	6/pk	ASO-8711
10	R	26	50 mm	Cone	10R-C/F-5/0.47C	002982	24930	ea	ASO-8712



*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Manual Syringes

Ordering Information

Hamilton Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microvolume Syringes									
5	N	26s	2 in./51 mm	2	75N	87900	24938	ea	ASO-4390
5	RN	26s	2 in./51 mm	2	75RN	87930	24617	ea	ASO-8702
10	N	26s	2 in./51 mm	2	701N	80300	20174	ea	ASO-0077
10	N	26s	2 in./51 mm	2	701N	80366	20175	6/pk	ASO-0016
10	RN	26s	2 in./51 mm	2	701RN	80330	24530	ea	ASO-0100
25	N	22s	2 in./51 mm	2	702N	80400	24531	ea	ASO-0078
10	N	26s	2 in./51 mm	5	701NPT5	80339	24967	ea	ASO-0094
Positive Displacement Syringes									
0.5	KH	25	2.75 in./70 mm	2	7000.5	86259	24545	ea	ASO-8715
1.0	KH	22	2.75 in./70 mm	2	7101	86211	24549	ea	ASO-8716
1.0	KH	25s	2.75 in./70 mm	2	7001	80135	24547	ea	ASO-1918
1.0	KH	25s	2.75 in./70 mm	3	7001	80100	24548	ea	ASO-8717
2.0	KH	25	2.75 in./70 mm	2	7002	88411	24551	ea	ASO-8718
5.0	KH	24	2.75 in./70 mm	2	7105	88011	24555	ea	ASO-8719
Teflon Tip Gastight Syringes									
10	N	26s	2 in./51 mm	2	1701	80000	24557	ea	ASO-4391
10	RN	26s	2 in./51 mm	2	1701	80030	24558	ea	ASO-1898
25	N	22s	2 in./51 mm	2	1702	80200	24559	ea	ASO-8720
25	RN	22s	2 in./51 mm	2	1702	80230	24560	ea	ASO-1899
50	N	22s	2 in./51 mm	2	1705	80900	24561	ea	ASO-0061
50	RN	22s	2 in./51 mm	2	1705	80930	24562	ea	ASO-1900
100	N	22s	2 in./51 mm	2	1710	81000	24563	ea	ASO-0062
100	RN	22s	2 in./51 mm	2	1710	81030	24564	ea	ASO-1901
250	N	22s	2 in./51 mm	2	1725	81100	24567	ea	ASO-0063

GC Syringes

GC Manual Syringes (cont'd)

Ordering Information

Hamilton® Syringes (continued)

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Teflon® Tip Gastight® Syringes (continued)									
250	RN	22s	2 in./51 mm	2	1725	81130	24568	ea	ASO-1902
500	LTN	22	2 in./51 mm	2	1750	81217	24571	ea	ASO-0064
500	RN	22	2 in./51 mm	2	1750	81230	24572	ea	ASO-1903
1 mL	LTN	22	2 in./51 mm	2	1001	81317	24575	ea	ASO-0065
1 mL	RN	22	2 in./51 mm	2	1001	81330	24576	ea	ASO-8721
1 mL	TLL	–	–	w/o slots	1001	81320	24578	ea	ASO-1907
2.5 mL	TLL	–	–	w/o slots	1002	81420	24584	ea	ASO-1908
2.5 mL	RN	22	2 in./51 mm	2	1002	81430	24582	ea	ASO-8722
2.5 mL	N	22	2 in./51 mm	2	1002	81417	24581	ea	ASO-8723
10 mL	TLL	–	–	w/o slots	1010	81620	20179	ea	ASO-1910

Ordering Information

SGE® Syringes

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
Microvolume Syringes									
5	F	26	50 mm	2	5F	001000	24700	ea	ASO-8725
5	R	26	50 mm	2	5R	001050	24701	ea	ASO-8726
10	F	26	50 mm	2	10F	002000	24702	ea	ASO-8727
10	F	26	50 mm	2	SK-10F	002030	24715	6/pk	ASO-8728
10	R	26	50 mm	2	10R	002050	24703	ea	ASO-8729
Positive Displacement Syringes									
1.0	R	23	70 mm	2	1BR-7BV	000506	24775	ea	ASO-8738
1.0	R	26	70 mm	Cone	1BR-7/0.47	000570	24776	ea	ASO-8739
Teflon Tip Gastight Syringes									
10	F	26	50 mm	2	10F-GT	002200	24725	ea	ASO-8741
25	F	25	50 mm	2	25F-GT	003200	24727	ea	ASO-8743
50	F	25	50 mm	2	50F-GT	004200	24729	ea	ASO-8744
50	R	25	50 mm	2	50R-GT	004250	24730	ea	ASO-8745
100	F	25	50 mm	2	100F-GT	005200	24734	ea	ASO-8746
100	R	25	50 mm	2	100R-GT	005250	24735	ea	ASO-8747
250	F	25	50 mm	2	250F-GT	006200	24738	ea	ASO-8748
250	R	25	50 mm	2	250R-GT	006250	24739	ea	ASO-8749
500	F	25	50 mm	2	500F-GT	007200	24742	ea	ASO-8750
1 mL	RN	23	50 mm	Bevel	1MDR-GT	008100	24750	ea	ASO-8845
1 mL	LL	–	–	–	1MDF-LL-GT	008025	24752	ea	ASO-0120
2.5 mL	R	23	50 mm	Bevel	MDR-GT	008500	–	ea	ASO-8752
5 mL	LL	–	–	–	5MDR-LL-GT	008760	24757	ea	ASO-0121
10 mL	LL	–	–	–	10MDR-LL-GT	008960	24759	ea	ASO-0122



*Similar to but not always an exact equivalent to the original manufacturer's product.

GC Syringes

VICI® Series A-2 Gas Syringes

- Push-button valve and smaller volumes
- Pressure-Lok® design offers gas-tight injections
- Inject without carrier backflushing to sharpen peaks and improve separations
- Leak-tight to 250 psi - liquids and gases
- No plunger "blow out" at elevated pressures

The A-2 features a push-button valve, which allows sample storage up to 250 psi in syringes as small as 25 µL. This is useful with small liquid samples containing low-boiling components that would be lost through evaporation using ordinary syringes.

The positive rear stop (in 100 µL and larger sizes) prevents plunger blowout at elevated pressures, protecting against sample loss or operator injury. Like the Series A gas syringe, the A-2 has all the standard Pressure-Lok features such as a PTFE plunger tip, PTFE-sealed needle and ultra-smooth bore. Replacement components are available for easy repair.



Ordering Information

VICI Precision Sampling Syringes

Part No.	Mfr. No.	Description	Capacity (µL)	Unit
ASO-4739	050023	Series A-2 Syringe	25	ea
ASO-4740	050024	Series A-2 Syringe	50	ea
ASO-4741	050025	Series A-2 Syringe	100	ea
ASO-4742	050031	Series A-2 Syringe	250	ea
ASO-4743	050032	Series A-2 Syringe	500	ea
ASO-4744	050033	Series A-2 Syringe	1000 (1 mL)	ea
ASO-4745	050034	Series A-2 Syringe	2000 (2 mL)	ea
ASO-4746	050035	Series A-2 Syringe	5000 (5 mL)	ea

Notes: (1) All other VICI Precision Sampling products not listed are available.
 (2) Removable needle: 0.028 in. x 0.005 in. x 2.00 in., bevel, open end on 25, 50 and 100 µL (p/n 943050, 3/pk); 0.029 in. x 0.012 in. x 2.00 in., bevel, open end on all others (p/n 943051, 3/pk).

Phenex™ Syringe Filters

- Increase column lifetime and save money!
- Ensure more accurate, consistent results
- Eliminate damaging microparticulates



Particulates can damage expensive equipment, valves, columns and pumps. They can also lead to erratic analytical results. Pre-filtering samples prior to analysis is critical in preventing column and frit blockage, undue wear on valve seals, and abnormally high operating pressures.

Sample or Mobile Phase Volume (mL)	Filter Membrane (diameter, mm)	Format
≤ 2	4	Syringe filter
2 to 10	15	Syringe filter
10 to 100	25-28	Syringe filter
> 100	47	Membrane disk
> 1000	90	Membrane disk

Ordering Information¹

Part No.	Pore Size (µm)	Phenex Membrane
4 mm Diameter (500/pk)		
AF0-3103-52	0.45	RC
AF0-3102-52	0.45	PTFE ⁶
AF3-3107-52	0.45	NY
AF0-3203-52	0.20	RC
AF0-3202-52	0.20	PTFE ⁶
AF3-3207-52	0.20	NY
15 mm Diameter (500/pk)		
AF0-2103-52	0.45	RC
AF0-2102-52	0.45	PTFE ⁶
AF0-2107-52	0.45	NY
AF0-2203-52	0.20	RC
AF0-2202-52	0.20	PTFE ⁶
AF0-2207-52	0.20	NY
17 mm Diameter (500/pk)		
AF6-5106-52	0.45	PVDF
25–28 mm Diameter (500/pk)		
AF0-8103-52 ⁵	0.45	RC
AF0-8108-52 ⁷	0.45	PES ³
AF0-1102-52	0.45	PTFE ⁶
AF0-1107-52	0.45	NY
AF0-8B09-52 ⁷	0.45	GF/CA ^{2,3,4}
AF0-8203-52 ⁵	0.20	RC
AF0-8208-52 ⁷	0.20	PES ³
AF0-1202-52	0.20	PTFE ⁶
AF0-1207-52	0.20	NY
AF0-8A09-52 ⁷	0.20	GF/CA ^{2,3,4,7}
AF0-8515-52 ⁷	1.20	GF ^{2,3}
30 mm Diameter (500/pk)		
AF6-6106-52	0.45	PVDF

Housing is made of medical-grade polypropylene (PP), unless otherwise indicated. Above syringe filters are non-sterile.

- Additional membrane types available.
- Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90% of all particles >1.2 µm.
- Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.
- Cellulose acetate is surfactant-free.
- 26 mm diameter.
- Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
- 28 mm diameter.



For additional Phenex Syringe Filters and a useful Membrane Selection Guide, see pp. 8-10

HPLC Syringes

for Rheodyne®, Altex and Valco® (VISF-2) Injectors



Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
5	RN	22s	2 in./51 mm	3	65	87943		ea	ASO-3353
10	N	22s	2 in./51 mm	3	701	80365	21250	ea	ASO-0022
25	N	22s	2 in./51 mm	3	702	80465	21251	ea	ASO-0023
50	N	22s	2 in./51 mm	3	705	80565	21252	ea	ASO-0024
100	N	22s	2 in./51 mm	3	710	80665	21253	ea	ASO-0025
250	N	22	2 in./51 mm	3	725	80765	21254	ea	ASO-0026
500	N	22	2 in./51 mm	3	750	80865		ea	ASO-0027

for Waters® U6K Injector, Removable Needle



Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	25s	1.97 in./50 mm	3	801	84815	21255	ea	ASO-0028
25	RN	25s	1.97 in./50 mm	3	802	84816	21256	ea	ASO-0029
50	RN	25s	1.97 in./50 mm	3	805	84817	21257	ea	ASO-0030
100	RN	25s	1.97 in./50 mm	3	810	84818	21258	ea	ASO-0031

Hamilton® 10 mL Gastight® Priming Syringe, for Waters HPLC Pumps (Models 6000, 6000A, 501, 510, 610 and 610E)



Ordering Information

Hamilton Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	W	-	-	-	1010	81610	21265	ea	ASO-1906

Replacement Needles

Point Style #2 (Beveled Tip)



Ordering Information

Hamilton Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
2.5-100	RN	26	2 in./51 mm	2	RN NDL	7758-04		6/pk	ASO-1904
25-100	RN	26	2 in./51 mm	2	RN NDL	7758-02	24939	6/pk	ASO-4392
25-100	RN	22s	2 in./51 mm	2	RN NDL	7758-03	24940	6/pk	ASO-4393
0.250-10 mL	RN	22s	2 in./51 mm	2	RN NDL	7779-03	24944	6/pk	ASO-4398

Point Style #3 (Blunt Tip)



Ordering Information

Hamilton Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
2.5-100	RN	22s	2 in./51 mm	3	RN NDL	7770-01	24941	6/pk	ASO-4394
0.250-10 mL	RN	22	2 in./51 mm	3	RN NDL	7780-04	24945	6/pk	ASO-4397
0.250-10 mL	RN	22s	2 in./51 mm	3	RN NDL	7780-03		6/pk	ASO-4400



Needle point #2 (22 ° bevel) is used for GC and most applications that require the puncturing of a septum.



Needle point style #3 (90 °) is appropriate for HPLC applications.



*Similar to but not always an exact equivalent to the original manufacturer's product.



For Rheodyne HPLC Sample Injectors, see pp. 428-431

HPLC Syringes continued on next page.



Removable Needle (RN, R)



Cemented Needle (N, F)

HPLC Syringes

Replacement Needles (cont'd)

for Rheodyne®, Valco® HPLC Injectors, 2 in. Fixed Needles

Ordering Information

SGE® Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	F	22	2 in./51 mm	LD	10F-LC	002301	24860	ea	ASO-0142
25	F	22	2 in./51 mm	LD	25F-LC	003300	24861	ea	ASO-0143
50	F	22	2 in./51 mm	LD	50F-LC	004300	24862	ea	ASO-0144
100	F	22	2 in./51 mm	LD	100F-LC	005300	24863	ea	ASO-0145
250	F	22	2 in./51 mm	LD	250F-LC	006300	24864	ea	ASO-0146
500	F	22	2 in./51 mm	LD	500F-LC	007300	24865	ea	ASO-0147

for Rheodyne, Valco HPLC Injectors, 2 in. Removable Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	R	22	2 in./51 mm	LD	10R-GT-LC-SS	002313	24866	ea	ASO-4370
25	R	22	2 in./51 mm	LD	25R-GT-LC-SS	003312	24867	ea	ASO-4371
100	R	22	2 in./51 mm	LD	100R-GT-LC-SS	005312	24869	ea	ASO-4373
500	R	22	2 in./51 mm	LD	500R-GT-LC-SS	007312	24871	ea	ASO-4375

for PerkinElmer®, Fixed Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
5	F	23	2.76 in./70 mm	Cone	-	001957	ea	ASO-7636

for CTC/LEAP, Fixed Needles

Ordering Information

SGE Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
10	F	23	1.97 in./50 mm	Cone	-	002981	ea	ASO-7638



Removable Needle (RN, R)



Cemented Needle (N, F)



*Similar to but not always an exact equivalent to the original manufacturer's product.



For Rheodyne HPLC Sample Injectors, see pp. 428-431

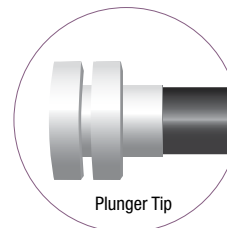
General Use Syringes

General Use Syringes for:

- Pipetting
- Diluting
- Delivering



Gastight syringes have a polymer tipped plunger, often PTFE, which essentially wipes the interior of the syringe barrels. This reduces the risk of deposition on the barrel which may cause cross-contamination or plunger seizing



Hamilton® 1700 Series Gastight® Syringes, Needle Point Style 2 (Beveled)

Ordering Information

Hamilton Syringe

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	26s	2 in./51 mm	2	1701	80030	24558	ea	ASO-1898
25	RN	22s	2 in./51 mm	2	1702	80230	24560	ea	ASO-1899
50	RN	22s	2 in./51 mm	2	1705	80930	24562	ea	ASO-1900
100	RN	22s	2 in./51 mm	2	1710	81030	24564	ea	ASO-1901
250	RN	22s	2 in./51 mm	2	1725	81130		ea	ASO-1902
500	RN	22s	2 in./51 mm	2	1750	81230		ea	ASO-1903



Hamilton 1700 Series Gastight Syringes, Needle Point Style 3 (Blunt)

Ordering Information

Hamilton Syringe

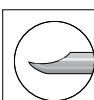
Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
10	RN	22s	2 in./51 mm	3	1701	80065		ea	ASO-4380
25	RN	22s	2 in./51 mm	3	1702	80265	24560	ea	ASO-4381
50	RN	22s	2 in./51 mm	3	1705	80965	24562	ea	ASO-4382
100	RN	22s	2 in./51 mm	3	1710	81065	24564	ea	ASO-4383
250	RN	22s	2 in./51 mm	3	1725	81165	24568	ea	ASO-4384
500	RN	22s	2 in./51 mm	3	1750	81265	24572	ea	ASO-4385

Hamilton 1000 Series Gastight Syringes

Ordering Information

Hamilton Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
1	TLL	-	-	w/o slots	1001	81320	24578	ea	ASO-1907
2.5	TLL	-	-	w/o slots	1002	81420	24584	ea	ASO-1908
5	TLL	-	-	w/o slots	1005	81520	20178	ea	ASO-1909
10	TLL	-	-	w/o slots	1010	81620	20179	ea	ASO-1910
-	TLL	22	2 in./51 mm	2	KF722	90122		6/pk	ASO-1915
-	TLL	16	2 in./51 mm	2	KF716	90116		6/pk	ASO-1916



Needle point #2 (22° bevel) is used for GC and most applications that require the puncturing of a septum.



Needle point style #3 (90°) is appropriate for HPLC applications.



*Similar to but not always an exact equivalent to the original manufacturer's product.

General Use Syringes continued on next page.

General Use Syringes

SGE® Syringes, Gas Tight Luer Lock

Ordering Information

SGE Syringe

Volume (mL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Unit	Part No.
1	F	-	-	-	1 mL GT	008025	ea	ASO-0120
5	R	-	-	-	5 mL GT	008760	ea	ASO-0121
10	R	-	-	-	10 mL GT	008960	ea	ASO-0122

SGE Replacement Needles, Removable, for Gas Tight Luer Lock Syringes

Ordering Information

SGE Replacement Needles

Volume (µL)	Needle/Needle Connection	Gauge	Needle Length	Needle Style	Model	Mfr. No	Similar to Mfr. No.*	Unit	Part No.
-	R	23	1.97 in./50 mm	BV	NLL-5/23	039802	24763	5/pk	ASO-2016
-	R	23	1.97 in./50 mm	H	NLL-5/23H	039803		2/pk	ASO-2017



*Similar to but not always an exact equivalent to the original manufacturer's product.

Phenex™ Syringe Filters

- Increase column lifetime and save money!
- Ensure more accurate, consistent results
- Eliminate damaging microparticulates

Ordering Information¹

Part No.	Pore Size (µm)	Phenex Membrane
4 mm Diameter (500/pk)		
AF0-3103-52	0.45	RC
AF0-3102-52	0.45	PTFE ⁶
AF3-3107-52	0.45	NY
AF0-3203-52	0.20	RC
AF0-3202-52	0.20	PTFE ⁶
AF3-3207-52	0.20	NY
15 mm Diameter (500/pk)		
AF0-2103-52	0.45	RC
AF0-2102-52	0.45	PTFE ⁶
AF0-2107-52	0.45	NY
AF0-2203-52	0.20	RC
AF0-2202-52	0.20	PTFE ⁶
AF0-2207-52	0.20	NY
17 mm Diameter (500/pk)		
AF6-5106-52	0.45	PVDF
25–28 mm Diameter (500/pk)		
AF0-8103-52 ⁵	0.45	RC
AF0-8108-52 ⁷	0.45	PES ³
AF0-1102-52	0.45	PTFE ⁶
AF0-1107-52	0.45	NY
AF0-8B09-52 ⁷	0.45	GF/CA ^{2,3,4}
AF0-8203-52 ⁵	0.20	RC
AF0-8208-52 ⁷	0.20	PES ³
AF0-1202-52	0.20	PTFE ⁶
AF0-1207-52	0.20	NY
AF0-8A09-52 ⁷	0.20	GF/CA ^{2,3,4,7}
AF0-8515-52 ⁷	1.20	GF ^{2,3}
30 mm Diameter (500/pk)		
AF6-6106-52	0.45	PVDF

Housing is made of medical-grade polypropylene (PP), unless otherwise indicated. Above syringe filters are non-sterile.

1. Additional membrane types available.
2. Glass fiber filters are 28 mm diameter and made of borosilicate. They will remove 90% of all particles >1.2µm.
3. Housing material is methacrylate butadiene styrene (MBS) polymerisate. Also known as Cyrolite®.
4. Cellulose acetate is surfactant-free.
5. 26 mm diameter.
6. Hydrophobic membrane. Can be made hydrophilic by pre-wetting with IPA.
7. 28 mm diameter.



All-Plastic Disposable Syringes

- Use for all syringe filter applications
- Luer-lock outlet makes connection easy
- Capacities ranging from 3 to 20 mL
- Made of ultra-clean, high-purity plastics

Ordering Information

All-Plastic Disposable Syringes

Part No.	Description	Capacity (mL)*	Unit
ASO-8408	Plastic Disposable Syringes, Luer-lock	3	100/pk
ASO-8409	Plastic Disposable Syringes, Luer-lock	5	100/pk
ASO-8410	Plastic Disposable Syringes, Luer-lock	10	100/pk
ASO-8411	Plastic Disposable Syringes, Luer-lock	20	100/pk

*Choose larger volume syringe to reduce force on syringe filter membrane. 10 mL syringe is recommended.



Recommended Plastic Syringes for use with Phenex Syringe Filters

Part No. [ASO-8410](#):
10 mL Plastic Disposable Syringes, Luer-Lock 100/pk
Part No. [ASO-8411](#):
20 mL Plastic Disposable Syringes, Luer-Lock 100/pk



Pressure Forces Generated from Plastic Syringes:

20 mL can generate 2.0 bar
10 mL can generate 3.4 bar
5 mL can generate 5.2 bar
3 mL can generate 6.9 bar



For additional Phenex Syringe Filters and a useful Membrane Selection Guide, see pp. 8-10