

**7489-22**

7489 C.A.R.B.* OCTOPUS GLASS AIR SAMPLING SYSTEM ♠

These new vertical systems fit more easily into air sampling stations, trailers and cabinets, and provide a more efficient methodology of sample collection. All the inner surfaces that are exposed to the air are either inert borosilicate glass or inert PTFE. Thanks to our convenient Ace-Threds®, the systems can be safely and easily disassembled for cleaning or replacing parts.

Both canes offer a PTFE sampling port outside for spot sampling or EPA auditing. The heavy duty #7 Ace-Thred ports on the manifolds can be fitted to any type of tubing, and can be sealed with ferrules and bushings to facilitate connection to air sampling instrumentation and monitors. Choose between four- or eight-port manifolds with either a glass sampling cane with an inverted glass cone or a straight glass cane with a polyethylene inverse funnel on top.

Approximate I.D. of sampling tube is 25mm (1 inches). Approximate overall height of four-port system is 150 cm (60 inches). Approximate overall height of eight-port system is 155 cm (62 inches).

4-Port Octopus System

	Order Code	Each
Complete system with PE hood top	7489-20	684.36
Complete system with glass funnel top	7489-22	863.92
Glass manifold only	7489-04	333.12

8-Port Octopus System

	Order Code	Each
Complete with glass cane and PE hood top	7489-24	804.84
Complete with glass cane and glass funnel top	7489-26	984.40
Glass manifold only	7489-08	444.16

Components for Both Systems

	Order Code	Each
Sampling cane with glass hood and sample port	7493-22	380.11
Sampling cane with PTFE hood and sample port	7494-35	200.55
250mL glass collection bottle	7501-11	55.27
#25 nylon bushing w/CAPFE O-Ring	7506-11	20.50
#7 nylon bushing	5029-12	2.36
PTFE ferrule for #7 bushing (Pk./12)	11710-07	23.46
#7 PTFE plug with w/CAPFE O-Ring	5846-45	19.16
Sampling cane without sample port — glass hood	7493-12	352.09
Sampling cane without sample port — PE hood	7494-25	172.39

*California Air Resources Board

**7489-04****7489-08**

New

**7494-35**

Air Sampling Glassware for mobile or stationary installation

The glassware and accessories listed here have been designed for the purpose of sampling air in air pollution studies. By the use of either a bushing type (Figure 2) or a coupling type (Figure 3) connection, the Ace-Thred glass connectors are instantly and easily installed by hand, without the use of a wrench.

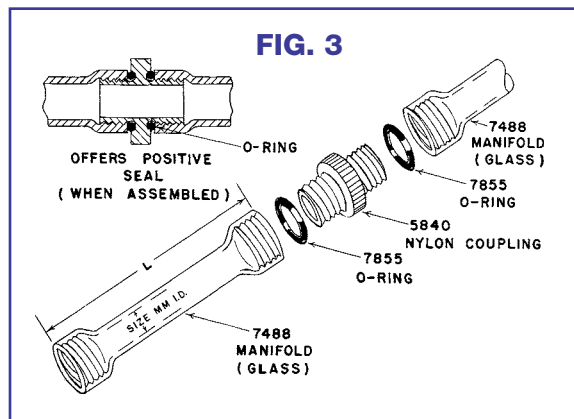
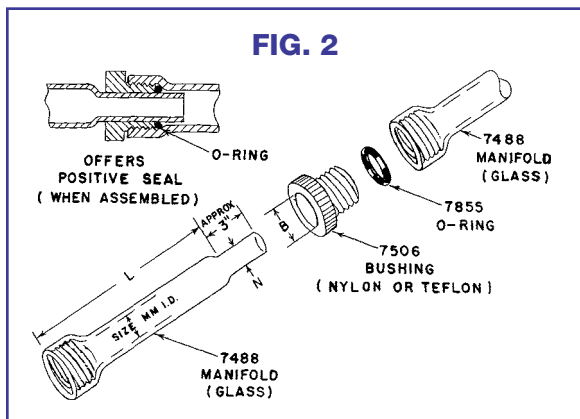
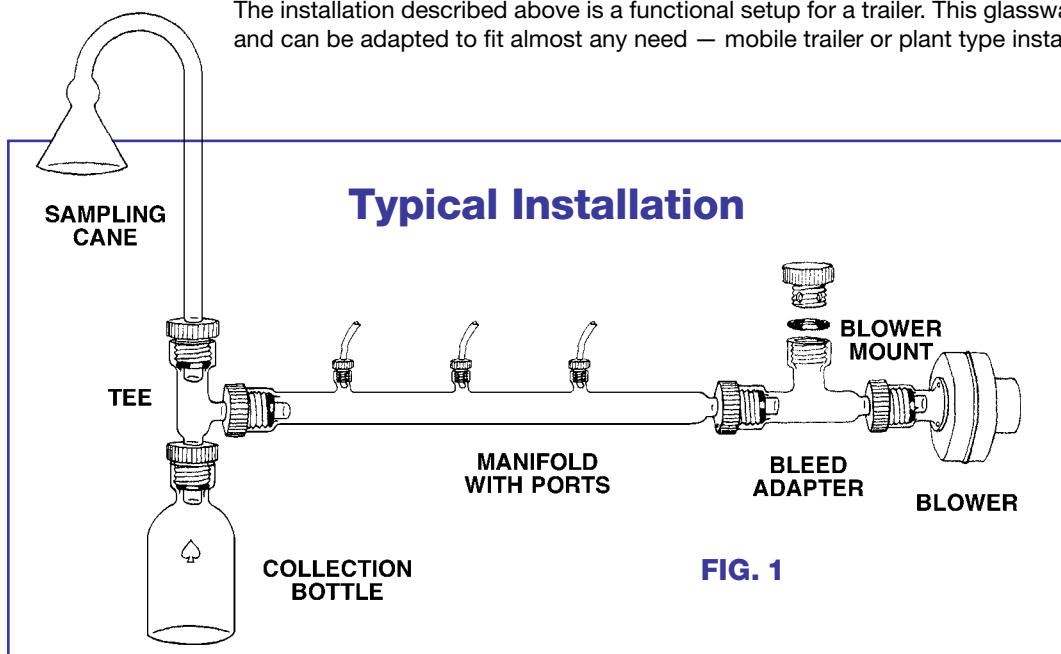
A typical installation (Figure 1) in a portable trailer van would be as follows:

A sampling cane would be secured through the roof by means of the roof attachment 7508. Below the ceiling, the cane would then be connected by means of a bushing into either a sweep elbow, 7490, or a tee, 7495, which in both cases would turn the manifold line to the horizontal and, in the latter case, allow for the addition of a collection bottle, 7501. At this point additional lengths of manifold sections would be added with and without ports, depending on the need. The ports would be used to connect to the measuring instruments. At the end of the line a blower, 7511, with a blower mount, 7509, would be added. The addition of 7499 Bleed Adapter may be necessary to reduce air flow. Exhaust would be either to the outside or into the trailer.

The installation described above is a functional setup for a trailer. This glassware is versatile and can be adapted to fit almost any need — mobile trailer or plant type installation.

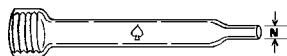
NOTE!!

Air Sampling Glassware with reduced ends, i.e. Fig. 2, is recommended versus thread to thread, Fig. 3, to assure ports can be positioned in the desired direction.



7488 AIR SAMPLING MANIFOLD *with Reduced End* ♠

Straight sampling manifold, one end threaded, the other end reduced for use with 7506 (page 204) bushing. **Code identifies I.D. only; length must be stated.**



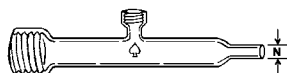
7488-04

Order Code	I.D., mm	N mm	Per One Foot Length	Each Additional Foot, Add
7488-04	25	24	76.08	5.84
7488-05	50	49	195.59	9.73

Note: As listed, this item is NOT for extending 7493, or 7494 Canes. Extenders must be ordered as a special.

7488 AIR SAMPLING MANIFOLD *with Reduced End and Ports* ♠

Straight sampling manifold, one end threaded, the other end reduced to use with 7506 (page 204) bushing. With adjustable depth, threaded sampling ports for use with up to 7mm O.D. tube. **Code identifies I.D. only; length must be stated.** 5029 bushings for ports are included.



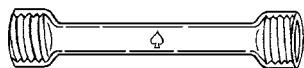
7488-14

Order Code	I.D., mm	N mm	Per One* Foot Length	Each Additional Foot, Add
7488-14	25	24	164.34	5.84
7488-15	50	49	354.85	9.73

**Prices per single port; each additional port add \$28.00.*

7488 AIR SAMPLING MANIFOLD ♠

Straight sampling manifold with thread at both ends for use with either 7506 (page 204) bushing or 5841 coupling. **Code identifies I.D. only; length must be stated.**

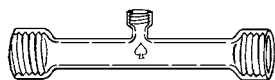


7488-24

Order Code	I.D., mm	Per One Foot Length	Each Additional Foot, Add
7488-24	25	51.05	5.84
7488-25	50	174.12	9.73

7488 AIR SAMPLING MANIFOLD *with Ports* ♠

Straight sampling manifold with threads at both ends for use with either 7506 (page 204) bushing or 5841 (page 205) coupling. With adjustable depth, threaded sampling ports for use with up to 7mm O.D. tube. **Code identifies I.D. only; length must be stated.** 5029 bushings for ports are included.



7488-34

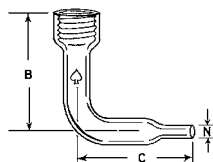
REMEMBER!! If connecting thread to thread, you cannot be sure ports will be positioned in the desired direction.

Order Code	I.D., mm	Per One Foot Length	Each Additional Foot, Add
7488-34	25	123.22	5.84
7488-35	50	232.44	9.73

**Prices per single port; each additional port add \$28.00.*

7490 AIR SAMPLING SWEEP ELBOW *with Reduced End* ♠

Sweep elbow with one end threaded, the other end reduced for use with 7506 (page 204) bushing.

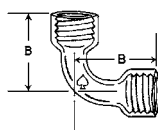


7490-14

I.D., mm	B mm	C mm	N mm	Order Code	Each
25	76	102	24	7490-14	135.51

7490 AIR SAMPLING SWEEP ELBOW ♠

Sweep elbow with both ends threaded for use with either 7506 (page 204) bushing or 5841 (page 205) coupling.



7490-37

I.D., mm	B mm	Order Code	Each
25	76	7490-37	138.78

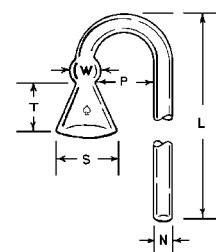
7493 AIR SAMPLING CANE with Funnel ♦

Air sampling cane with funnel at one end to avoid water droplets from collecting at edge and being sucked into manifold train. Bulge above the funnel is for glass wool or similar material to allow for filtering of particulates. This piece is normally installed outside the van, etc. and is connected at the roof with 7508 (page 205) roof attachment. Inside the van it is then connected to the manifold train with 7506 (page 204) bushing. See 7503 (page 204) Filter Screen for funnel.

Important: If cane need be mounted higher above roof than "L" measurement will allow, order 7488-sp. (page 202) Identify I.D., "N" length and identify as extension cane.

For Size	L cm	N mm	P mm	S mm	T mm	W mm	Order Code	Each
25	122	24	152	152	152	51	7493-12	352.09
25	122	24	152	152	152	51	7493-22	380.11
50	152	49	254	229	254	76	7493-16	502.34

**Due to the difficulty of shipping and the costs of additional packing materials necessary to prevent breakage, Size 50 carries a \$78.80 surcharge per cane. This charge is net, while the basic price of the item qualifies for ACE dollar value discount.*



7493

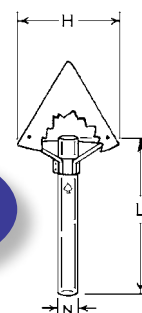
New — 7493-22 now with side sample port!

7494 AIR SAMPLING CANE Modified ♦

Economical sampling cane which eliminates the bend and funnel of the 7493. More stable in windy conditions. Consists of a length of glass pipe and a polyethylene hood with stainless steel brackets.

For Size	L cm	H cm	N mm	Order Code	Complete
25mm	120	12.7	24	7494-25	172.39
25mm	120	12.7	24	7494-35	200.55
50mm	120	25.4	49	7494-27	319.99

Hood Only, with Brackets	Order Code	Each
For 25mm	7494-89	135.56
For 50mm	7494-96	251.25



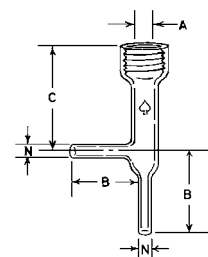
7494

New — 7494-35 now with side sample port!

7495 AIR SAMPLING TEE with Reduced Ends ♦

Sampling tee with top threaded, side and bottom tubes reduced for use with 7506 (page 204) bushing.

A mm	B mm	C mm	N mm	Order Code	Each
25	76	76	24	7495-06	55.69
50	102	102	49	7495-08	194.42

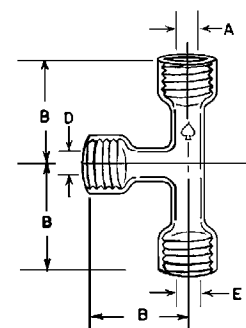


7495-06

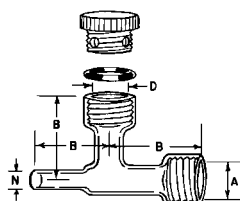
7495 AIR SAMPLING TEE ♦

Sampling tee with threads on all three arms for use with either 7506 (page 204) bushing or 5841 (page 205) coupling.

A mm	B mm	D mm	E mm	Order Code	Each
25	76	25	25	7495-27	136.91



7495-27

**7499****7499 AIR SAMPLING BLEED ADAPTER** ♦

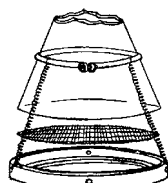
Adjustable bleed adapter used for reducing air flow in the Air Sampling Manifold to prevent a pressure drop across the sampling ports. Normally installed in front of the 7511 (page 205) blower, in line with the manifold. Positioning of holes in threaded Nylon plug controls the volume of air flow. Plug supplied with O-Ring. For nylon plug only, order 7499-33.

A mm	B mm	D mm	N mm	Order Code	Glass Only	Order Code	Complete
25	76	25	24	7499-12	127.32	7499-21	198.36
50	102	25	49	7499-15	211.72	7499-23	282.76

**7501****7501 AIR SAMPLING COLLECTION BOTTLE** ♦

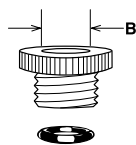
Collection bottle, usually connected to the bottom arm of the 7495 (page 203) tee with reduced ends, to collect heavy particulates before they enter the manifold train.

A mm	Cap., mL	Order Code	Each
25	250	7501-11	55.27
50	250	7501-15	113.88

**7503****7503 FILTER SCREEN** ♦

PTFE filter screen, 6.4 mm mesh, for use on the funnel end of a 7493 (page 203). Screen is held on the bottom of the funnel by a stainless steel yoke retainer and three springs. Available for the 25 size sampling cane.

For Funnel Size	Screen Size, mm	Order Code	Screen Only	Order Code	Retainer Only	Order Code	Complete
25	152	7503-05	27.29	7503-15	86.57	7503-25	113.86

**7506****7506 BUSHING** ♦

Bushing connector for joining a threaded end to a reduced end tube in the air sampling glassware. Available in either Nylon or PTFE. One FETFE O-Ring supplied with each bushing. For extra O-Rings, see 7855, page 205.

For Size	B mm	O-Ring Size	Order Code	Nylon	Order Code	PTFE
11	10	-012	7506-02	9.31	7506-23	30.89
25	26	-212	7506-10	17.29	7506-31	43.59
50	49	-225	7506-14	59.84	7506-35	94.93

**5029
5846****5029/5846 BUSHING/PLUG** *Nylon or PTFE* ♦

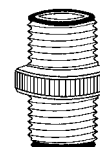
Machine threaded Nylon or PTFE bushing with hole in center or solid. Used in threaded ports of Air Sampling Manifolds and other apparatus with similar internal threads. One FETFE O-Ring supplied with each bushing. For extra O-Rings, see 7855-704.

	Order Code	Nylon	Order Code	PTFE
With hole	5029-10	2.27	5029-35	10.98
Solid	5846-04	7.68	5846-44	17.56

5841 COUPLING *Nylon or PTFE* ♠

For coupling manifolds in leak-tight engagement with hand pressure and no significant size reduction in I.D. Size listed refers to inside diameter of threads and corresponds to 7488 manifold diameter. Supplied with two FETFE O-Rings. For extra O-Rings, see 7855 (page 205).

For Thread Size, mm	Order Code	Nylon	Order Code	PTFE
11	5841-06	22.23	5841-46	42.12
25	5841-16	40.43	5841-50	79.26
50	5841-22	91.79	5841-52	162.85



5841

7855 REPLACEMENT O-RINGS *FETFE* ♠

Replacement O-Rings for the 7506 (page 204) bushing.

For Bushing Size	O-Ring Size	Quantity Per Pkg.	Order Code	Per Pkg.
11	-012	12	7855-708	13.84
25	-212	6	7855-734	18.05
50	-225	3	7855-744	18.13

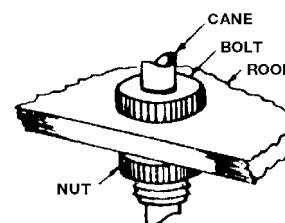


7855

7508 ROOF ATTACHMENT *Nylon* ♠

Roof attachment for securing sampling cane to roof of van. Fabricated of Nylon with two O-Rings that make a watertight seal. Threaded length is 20.3cm (8 inches).

For Size	Roof Hole Size, mm (In.)	Order Code	Each
25	38 (1-1/2)	7508-06	199.95
50	64 (2-1/2)	7508-08	249.55

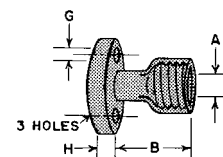


7508

7509 BLOWER MOUNT ♠

Aluminum blower mount for connecting 7511 (page 205) blower to glass manifold. With threaded stock.

A, mm	B, mm	G, mm	H, mm	Order Code	Each
25	60.5	5	3	7509-09	159.75
50	76	5	3	7509-13	189.00

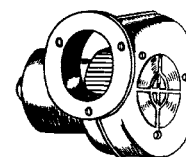


7509

7511 BLOWER ♠

Shaded pole blower used to pull air through the air sampling manifold. Blower has air delivery of 1.7cmm (60 CFM) at 0.0 meters of water static pressure which assures a minimum pressure drop across each port in the manifold train. Free air rpm is 3030. Operates on 115 volts, 50/60 cycles. A 230 volt, 50 cycle version (for foreign use) is available via special order.

Blower Capacity	Order Code	Each
1.7cmm	7511-10	111.08

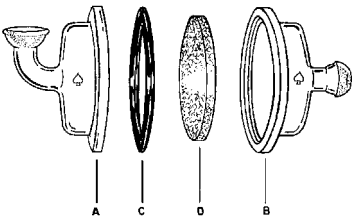


7511

7519 FILTER SUPPORT ASSEMBLY ♠

Filter support assembly for collecting dust particles in a stack sampling system. Available in either 51mm (2-inch), 76mm (3-inch) or 102mm (4-inch) (illustrated) size.

Consists of: PART A, with $\text{S } 28/15$ outer joint bent perpendicular to flow path; PART B, with seat for fritted disc and $\text{S } 28/15$ inner joint; PART C, neoprene gasket used to seal filter paper and prevent leakage around filter; PART D, porosity B fritted disc. Use 7669-22 to clamp 51mm size, 6509-03 for 76mm size, and 6509-05 for the 102mm size.



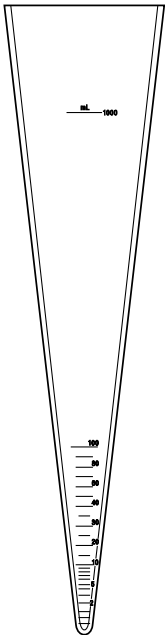
7519

	51mm		76mm		102mm	
	Order Code	Each	Order Code	Each	Order Code	Each
Part A	7519-04	105.64	7519-05	128.81	7519-06	256.86
Part C	7519-08	6.60	7519-09	7.57	7519-10	10.06
Part D	7519-11	33.75	7519-12	46.65	7519-13	63.78
Part B $\text{S } 28/15$	7519-22	96.00	7519-25	109.20	7519-30	187.76

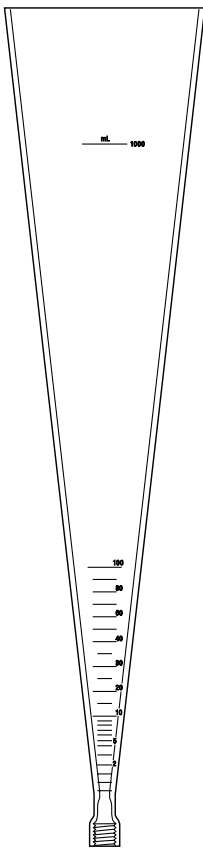
7525 IMHOFF SEDIMENTATION CONES ♠

Used in determination of settleable matter in water and wastewater in accordance with procedures given in *Standard Methods for Examination of Water and Wastewater*, Twentieth Edition, 1999. Made from clear, inert borosilicate heavier-walled glass that will maintain clarity over long use. With one liter permanent fill mark and sedimentation graduations at tip. Graduations 0-2mL in 0.1mL divisions, 2-10mL in 0.5mL divisions, 10-40mL in 1mL divisions and 40-100mL in 2mL divisions. Two versions: Blunt tip and Ace-Thred end. Ace-Thred version has a PTFE plug at bottom that can be easily removed to facilitate draining and cleanout.

Style	Order Code	Each
Blunt Tip	7525-20	83.56
Ace-Thred End	7525-44	155.91



7525-20



7525-44

New

11969 FILTER PAPER *Glass Fiber*

A very efficient glass fiber paper that retains the finest particles and microorganisms, as much as 99.99% of 0.3 micron smoke.

Recommended for use with 7519 Filter Assembly. 100 circles per box.

Diameter, cm	For Use With	Order Code	Per Box
7.0	7519-11	11969-62	59.77
11.0	7519-12	11969-66	104.09
12.5	7519-13	11969-70	136.95

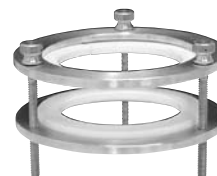


11969

6509 CLAMP ★

Positive, two-piece clamp with PTFE liner for securing the 76mm or 102mm size, 7519 filter support assembly. Bolt head is flanged to secure top half as bolt is threaded into bottom half.

Size	Order Code	Each
76mm	6509-03	113.33
102mm	6509-05	113.33



6509

7666 CLAMP *Spherical Joint, Union Type* ♠

Aluminum clamp for spherical joints offering positive, uniform clamping pressure.

For S Joint	Order Code	Each	Spanner Wrench Order Code	Each
18/9	7666-10	34.29	7666-50	4.99
28/15	7666-15	33.36		

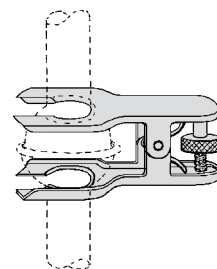


7666

7669 CLAMP *Pinch Type* ★

Spherical joint clamps made of stainless steel. With strong spring-closed, forked jaws.

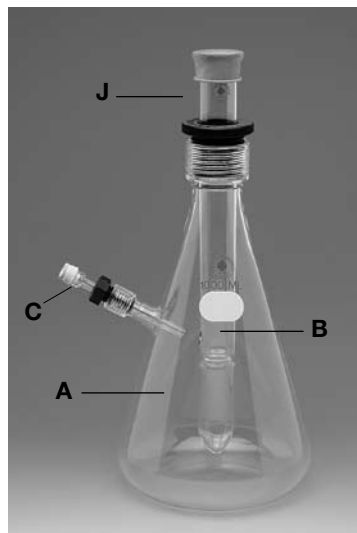
Size No.	For S Joint	Order Code	Each
12	12/5	7669-03	6.95
18	18/9	7669-10	12.75
75	75/50	7669-22	65.00



7669

14205 SHAKE FLASK ASSEMBLY CO_2 , Gledhill*, Modified ♠

Used for determining CO_2 evolution to assess biodegradability by soil and sewerage microorganisms. Shake flask, (A), containing culture medium, fits standard laboratory shakers. #7 Ace-Thred side port with Nylon bushing and FETFE O-Ring holds a glass septum adapter, (C). Insertion of this septum allows easier sampling or aeration while system is closed. Adapter can be easily be removed for septum change. Inner well, (B), contains culture material (Barium Hydroxide, etc.) and has a capacity of 10mL plus head space. Side hole in well permits good interface of vapors. Well is held securely in #25 Ace-Thred with Nylon bushing and FETFE O-Ring that permits variable depth positioning. Well top is flared to accept septum, (J), and can be removed or pierced to permit venting for aerating of culture media. One well fits all size vessels. Complete item consists of flask, well, septum adapter, septa for adapter and well, #7 and #25 bushings with FETFE O-Rings.

**14205**

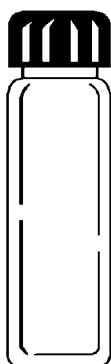
Flask Cap., mL	Order Code	Complete
500	14205-40	135.81
1000	14205-44	140.71
2000	14205-50	146.62

Replacement Parts

	Order Code	Each
Flask, #25, 500mL, only	14205-07	69.35
Flask, #25, 1000mL, only	14205-09	74.25
Flask, #25, 2000mL, only	14205-13	80.16
Well, only	14205-25	37.78
Septum Adapter, only	14205-28	6.49
Bushing, Nylon #7	5029-10	2.27
Bushing, Nylon #25	7506-10	17.29
O-Rings, FETFE for #7	7855-704	12.27/doz.
O-Rings, FETFE for #25	7855-734	18.05/½ doz.
Septum, Side port	9096-32	13.44/doz
Septum, Well	9096-56	18.10/doz

*Dr. William E. Gledhill, Monsanto Company, as described in "Journal of Applied Microbiology," December 1975, pp 922-929.

Note! Other size flasks available, contact ACE for details.

**8781****8781 VIALS** EPA, Screw Cap, 40mL ★

Vials, fabricated from low extractable borosilicate glass, for use in water sampling according to EPA 40CFR136 *Guidelines for Establishing Test Procedures for the Analysis of Pollutants*. Vials are offered clear or ambered, NOT PRE-CLEANED. Supplied assembled with Open-Top Screw Caps and specially designed septum of 10 mils of PTFE facing on 90 mils of silicone. Packed 36 pieces per tray, 72 pieces per case. 40mL capacity, only. Vials measure 27.75mm O.D. x 98mm high with cap on. Cap size is 24-400.

NOT PRE-CLEANED

Vial Type	Case Qty.	Order Code	Case Price
Clear	72	8781-20	172.31
Ambered	72	8781-25	186.16
Replacement Caps, only, Cs/200		8781-40	62.77
Replacement Septa, only, Cs/100		8781-45	256.06

Some of the apparatus in this section has been referred to in one or more of the publications listed here. Please check references for further information on the apparatus in which you are interested. You are invited to call on ACE for your custom requirements — we specialize in fabrication to your specifications.

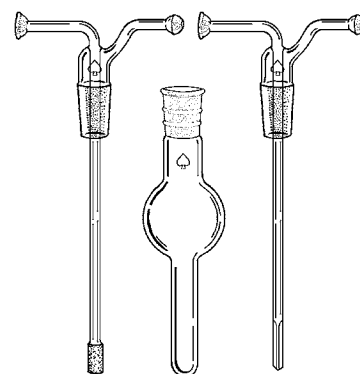
REFERENCES:

1. *Selection Methods for the Measurement of Air Pollutants*. Public Health Service Publication No. 999-AP-11 (May 1965).
2. *Sampling Microbiological Aerosols*. Public Health Service Monograph No. 60.
3. *The Chemical Analysis of Air Pollutants* by Morris B. Jacobs, Ph.D. (Interscience Publishers).

7529 BUBBLER *Smog* ♦

Bubbler with either fritted tip or plain orifice tube. Bottle has 24/40 joint and 10cm tube below bulge. Tube has 12/5 outer joint on inlet arm and 12/5 inner on outlet arm. Fritted tip is porosity C (25-50 micron). Orifice tip is 1mm capillary with end tapered. Approximate capacity, with tube inserted, 200mL.

	Order Code	Each		Order Code	Each
Bottle	7529-07	34.78	Bottle	7529-07	34.78
Tube-Fritted	7529-10	89.51	Tube-Orifice	7529-14	90.85
Complete	7529-12	124.29	Complete	7529-16	125.63

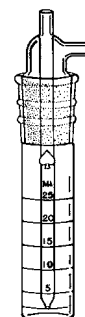


7529

7531 MIDGET IMPINGER ♦

Used for sampling small air volumes at a low jet velocity. Bottle has encircling graduations from 0 to 25mL, or 0 to 30mL in 5mL divisions. Nozzle is calibrated to deliver 0.09 to 0.11 CFM at 30.5cm (12-inch) H₂O vacuum. Used in determination of oxidants: Alkaline Potassium Method. Joint is 24/40. Inlet/outlet are 7mm O.D.

	Order Code	Each		Order Code	Each
Bottle (0-25mL)	7531-02	22.23	Bottle (0-30mL)	7531-04	21.17
Tube	7531-06	35.43	Tube	7531-06	35.43
Complete	7531-10	57.66	Complete	7531-12	56.60



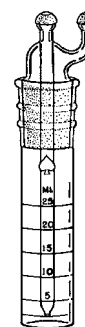
7531-10,-12

7531 MIDGET IMPINGER *Modified* ♦

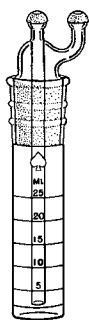
Used for sampling air volumes at a low jet velocity. Bottle joint is 24/40. Tube is modified with 12/5 joints, both vertical (use 7669-08 Clamp, page 207). Nozzle is calibrated to deliver 0.09 to 0.11 CFM at 30.5cm H₂O vacuum. Bottle is graduated 0 to 25mL in 5mL divisions.

Inlet 1/2 Joint	Outlet 1/2 Joint	Order Code	Tube Only	Order Code	Complete
12/5 Ball	12/5 Ball	7531-24	50.17	7531-25	72.40
12/5 Socket	12/5 Ball	7531-28	62.37	7531-29	84.60

	Order Code	Each
Bottle Only	7531-02	22.23

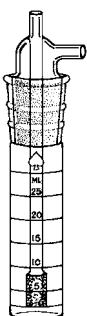


7531-25

**7531-33****7531 MIDGET IMPINGER** *Modified* ♠

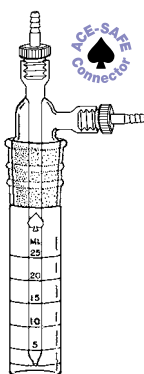
Tube is modified with $\frac{1}{2}$ 12/5 joints, both vertical (use 7669-08 Clamp, page 207). With plain nozzle. Bottle joint is $\frac{1}{2}$ 24/40, with graduations from 0 to 25mL in 5mL divisions.

Inlet $\frac{1}{2}$ Joint	Outlet $\frac{1}{2}$ Joint	Order Code	Tube Only	Order Code	Complete
12/5 Ball	12/5 Ball	7531-32	52.75	7531-33	74.98
12/5 Socket	12/5 Ball	7531-36	52.75	7531-37	74.98
		Order Code	Each		
Bottle Only		7531-02	22.23		

**7532-10, -20****7532 MIDGET BUBBLER** ♠

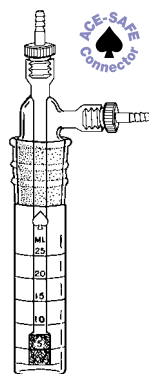
Identical to 7531-10 with the exception that the nozzle is replaced by a sintered glass filter, porosity A (145-175 microns). Used in determination of Acrolein: 4-Hexylresorcinol Method #1. Bottle has encircling graduations from 0 to 25mL or 0 to 30mL in 5mL divisions. Inlet/outlet are 7mm O.D.

	Order Code	Each		Order Code	Each
Bottle (0-25mL)	7531-02	22.23	Bottle (0-30mL)	7531-04	21.17
Tube	7532-06	42.68	Tube	7532-06	42.68
Complete	7532-10	64.91	Complete	7532-20	63.85

**7533-15, -23****7533 MIDGET IMPINGER** *with Ace-Threds on Inlet/Outlet* ♠

Used for sampling air volumes at low jet velocity. Bottle joint is $\frac{1}{2}$ 24/40. Tube uses #7 "Ace-Safe" removable hose connections for easy connect/disconnect. Nozzle is calibrated to deliver 0.09 to 0.11 CFM at 30.5cm (12 inches) H₂O vacuum. Bottle has encircling graduations from 0 to 25mL or 0 to 30mL in 5mL divisions. Complete item supplied with connectors and bushings.

	Order Code	Each		Order Code	Each
Bottle (0-25mL)	7531-02	22.23	Bottle (0-30mL)	7531-04	21.17
Tube	7533-08	77.06	Tube	7533-08	77.06
Complete	7533-15	99.29	Complete	7533-23	98.23

**7533-19, -28****7533 MIDGET BUBBLER** *with Ace-Threds on Inlet/Outlet* ♠

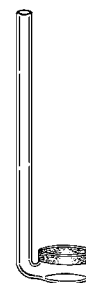
Used for sampling air volumes at low jet velocity. Bottle joint is $\frac{1}{2}$ 24/40. Stopper uses #7 "Ace-Safe" removable hose connections for easy connect/disconnect. Nozzle has sintered glass filter, porosity A (145-175 microns) or porosity B (70-100 micron). Bottle has encircling graduations from 0 to 25mL or 0 to 30mL in 5mL divisions. Complete item supplied with connectors and bushings.

	Order Code	Each		Order Code	Each
Bottle (0-25mL)	7531-02	22.23	Bottle (0-30mL)	7531-04	21.17
Tube, Por. A	7533-11	79.97	Tube, Por. A	7533-11	79.97
Complete, Por. A	7533-18	102.20	Complete, Por. A	7533-27	101.14
Tube, Por. B	7533-13	79.97	Tube, Por. B	7533-13	79.97
Complete, Por. B	7533-19	102.20	Complete, Por. B	7533-28	101.14

7198 TUBE *Gas Dispersion* ♦

Supplied with 6, 7 or 8mm O.D. stem tubing, 150mm in length. Maximum O.D. of stem and filter disc is 20mm. Filter disc is 10mm diameter, porosity B (70-100 micron).

Stem O.D.	Order Code	Each
6	7198-06	43.05
7	7198-07	43.05
8	7198-08	43.05



7198

7536 IMPINGER *Greenburg-Smith* ♦

A high velocity impinger for the determination of dust concentration in air or other gases. A glass plate is located at a distance of 5mm below the orifice tip so that incoming particles are impinged onto the plate and are momentarily arrested, after which they are washed into the liquid. Total volume is approximately 500mL. Bottle joint is $\$$ 45/50. Inlet/outlet are both 12.5mm O.D.

	Order Code	Each
Bottle	7536-04	76.05
Tube	7536-06	112.64
Complete	7536-10	188.69



7536-10

7536 IMPINGER *Greenburg-Smith, Modified* ♦

Same as 7536-10, previous page, except tube is modified with spherical joints, both vertical, for connecting in series. Use Clamp 7669-10 for $\$$ 18/9; 7669-12 for $\$$ 28/15. For connecting adapters, see 5065 (page 213) and 5072 (page 213). Bottle joint is $\$$ 45/50.

Inlet $\$$ Joint	Outlet $\$$ Joint	Order Code	Tube Only	Order Code	Complete
18/9 Ball	18/9 Ball	7536-25	130.29	7536-26	206.34
28/15 Socket	28/15 Ball	7536-31	143.03	7536-32	219.08

	Order Code	Each
Bottle Only	7536-04	76.05

* $\$$ 28/15 is interchangeable with $\$$ 28/12 and $\$$ 28/11.



7536-26

7536 IMPINGER *Greenburg-Smith, Modified* ♦

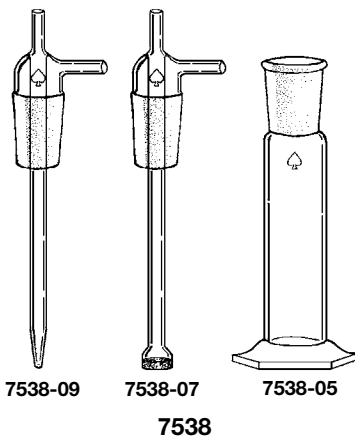
A high velocity impinger for the determination of dust concentration in air or other gases. Tube is modified with spherical joints, both vertical. Stem without impinging plate, cut flat. Bottle is ungraduated, joint is $\$$ 45/50.

Inlet $\$$ Joint	Outlet $\$$ Joint	Order Code	Tube Only	Order Code	Complete
18/9 Ball	18/9 Ball	7536-12	136.92	7536-13	212.97
28/15 Socket	28/15 Ball	7536-15	127.82	7536-16	203.87

	Order Code	Each
Bottle Only	7536-04	76.05

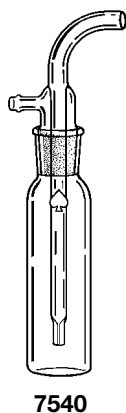


7536-13

**7538 IMPINGER** *Sherer* ♠

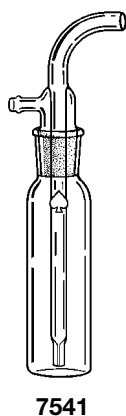
Consists of bottle with hex base and $\text{\textcircled{S}}$ 45/50 joint, SO_2 bubbler tube with 25 mm diameter Por. C (25-50 micron) fritted disc, and impinger stopper. Capacity, 275mL. Inlet/outlet are 8mm.

	Order Code	Each		Order Code	Each
Bottle	7538-05	72.65	Bottle	7538-05	72.65
Bubbler Tube	7538-07	122.76	Impinger Tube	7538-09	115.27
Complete	7538-27	195.41	Complete	7538-29	187.92

**7540 IMPINGER** *Air Sampling* ♠

A high velocity impinger (*Ref. AGI-30*) which passes 12.3 to 12.6L/min. (corrected to engineering standard gas conditions) when the pressure drop across the orifice is 41cm Hg. or greater. Tip of capillary stem is 30mm from the flask bottom which provides an increase in the collection of viable vegetative cells. Joint is $\text{\textcircled{S}}$ 24/25. Capacity approximately 125mL. Center tube is 11mm O.D.; side is 8mm O.D. with bulge.

	Order Code	Each
Bottle	7540-04	22.18
Tube	7540-06	58.23
Complete	7540-10	80.41

**7541 IMPINGER** *Air Sampling* ♠

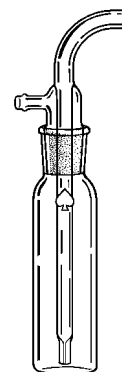
A high velocity impinger which passes 6L/min. (corrected to engineering standard gas conditions) when the pressure drop across the orifice is 41cm Hg. or greater. Tip of capillary stem is 4mm from the flask bottom. Joint is $\text{\textcircled{S}}$ 24/25. Capacity approximately 125mL. Center tube is 11mm O.D.; side is 8mm O.D. with bulge.

	Order Code	Each
Bottle	7540-04	22.18
Tube	7541-06	59.49
Complete	7541-10	81.67

7542 IMPINGER *Air Sampling* ♠

A high velocity impinger (Ref. AGI-4) which passes 12.3 to 12.6L/min. (corrected to engineering standard gas conditions) when the pressure drop across the orifice is 41cm Hg. or greater. Tip of capillary tube is 4mm from the flask bottom. Joint is $\frac{1}{4}$ 24/25. Capacity approximately 125mL. Center tube is 11mm O.D.; side is 8mm O.D. with bulge.

	Order Code	Each
Bottle	7540-04	22.18
Tube	7542-06	60.92
Complete	7542-10	83.10

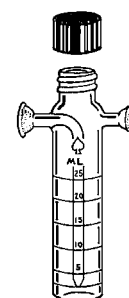


7542

7544 MIDGET IMPINGER *Modified* ♠

Unique impinger designed to be more economical when connecting in series — eliminates need for connecting tubes. The $\frac{1}{4}$ 12/5 joints are perpendicular and come directly off bottle 180° apart. Screw cap on bottle has PTFE liner. Each bottle has one ball and one socket joint. Capacity 25mL. Bottle is dimensionally the same as 7531. Use 7669-08 (page 207) Clamps.

Joint Style	Order Code	Each
180°	7544-35	91.35



7544

5065 ADAPTER *"U"* ♠

Connecting adapter, U-shaped, with spherical joints at both ends.

$\frac{1}{4}$ Joint Combinations	A, mm	Order Code	Each
12/5 Socket – 12/5 Socket	31	5065-22	35.40
18/11 Socket – 18/11 Socket	75	5065-29	38.30
28/15 Socket – 28/15 Socket	75	5065-32	41.92



5065

5072 ADAPTER *90° Angle* ♠

A

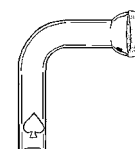
Adapter with spherical ball joint at one end, other end plain.

$\frac{1}{4}$ Joint	Order Code	Each
12/5	5072-20	19.62
18/9	5072-22	20.30
28/15	5072-24	20.30

B

Adapter with spherical socket at one end, other end plain. (Not Illustrated)

$\frac{1}{4}$ Joint	Order Code	Each
12/5	5072-28	20.30
18/9	5072-30	21.21
28/15	5072-34	22.90

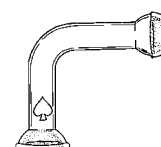


5072-20

5072 ADAPTER *90° Angle* ♠

With spherical joint at both ends.

$\frac{1}{4}$ Joint Combinations	Order Code	Each	$\frac{1}{4}$ Joint Combinations	Order Code	Each
12/5 Ball – 12/5 Socket	5072-37	37.52	28/15 Ball – 28/15 Socket	5072-43	43.30
12/5 Socket – 12/5 Socket	5072-38	38.06	28/15 Socket – 28/15 Socket	5072-45	46.44



5072-37

**5605****5605 TCLP EXTRACTION BOTTLES ★**

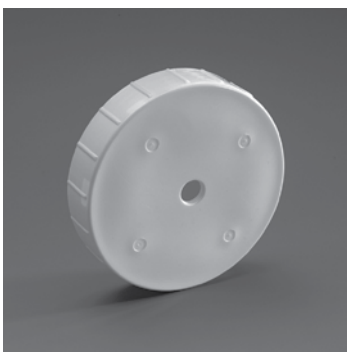
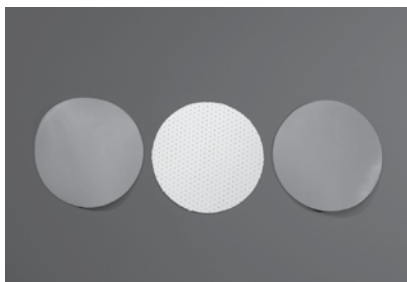
These bottles are used in sampling and in determining if any of 40 different contaminants are in waste material. Fabricated with heavy wall borosilicate glass as described in. Toxicity Characteristic Leaching Procedure, (TCLP) EPA method 1311, 1310 Extraction Procedure and 1312 Synthetic Precipitation Leaching Procedure, (SPLP), for those substances subject to regulation under Subtitle C of Resource Conservation and Recovery Act (RCRA). All bottles have GPI 100-400 thread finish. See 5606 for caps and liners. 5605-03 has both ends open with threads for caps.

Capacity, L	O.D., mm	x Length, mm	Order Code	Each
2.2	110	325	5605-01	101.93
2.2	110	334	5605-03	79.64
3.2	110	450	5605-05	123.02

**5606-01****5606 CAPS for TCLP Bottles ★**

White heavy duty Polypropylene caps. Heavy duty extra thick and resilient to mechanical and chemical attack. Caps are either solid or with center hole for venting or injection.

	Size/GPI-Thread	Order Code	Case/4
Solid Cap	100-400	5606-01	44.60
Center Hole Cap	100-400	5606-03	48.32

**5606-03****5606-11, 13****5606 LINERS for TCLP Bottle Caps ★**

This liner is used for venting and consists of a laminate that combines Zitex with a porous form of PTFE that has unique venting properties, to a resilient foam backing. Also provides a chemical resistance and a hydrophobic barrier that prevents pressure build-up in the container.

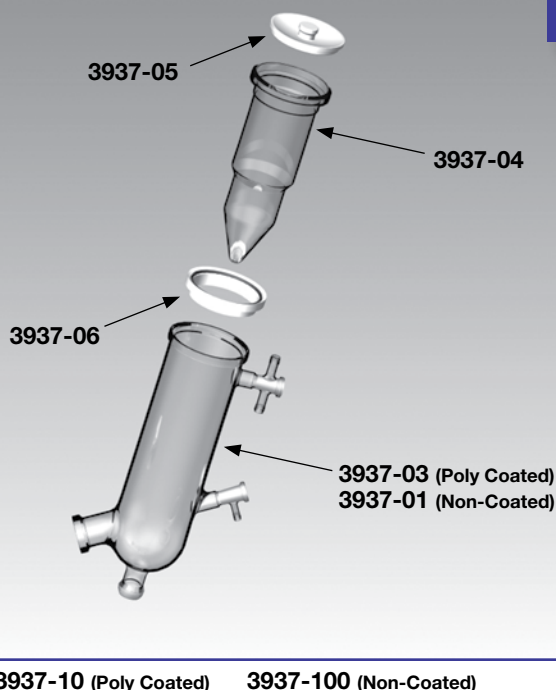
O.D., mm	Order Code	Case/4
100	5606-11	13.54

Standard PTFE/ Silicone cap liner used more for injecting or pulling out material via a syringe.

O.D., mm	Order Code	Case/4
100	5606-13	35.04

Replacement Glassware for Buchi Rotary Evaporators

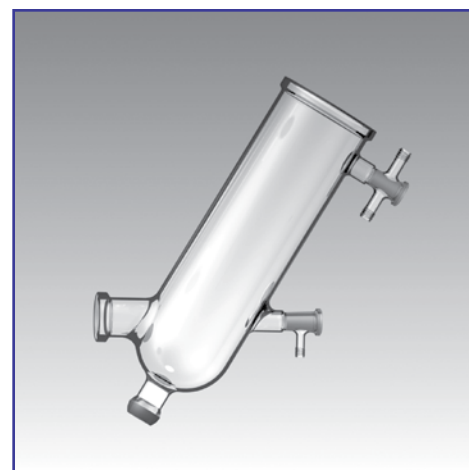
3937 Condenser "C" Assembly for Buchi Rotary Evaporators ★



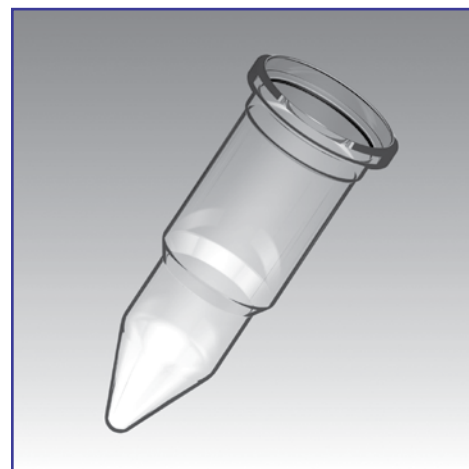
Fits Buchi Models 200/205 and Series 114-144

Glassware can be ordered either poly coated or standard non-coated. The "C" Assembly contains the main glass outer trap body with a 35/20 inner ball joint bottom connection that attaches to the receiver flasks (which are sold separately). Features standard top and side flange that connects directly to the Buchi rotary evaporator. Assembly "C" also includes the glass cold trap inner body, Buchi Part #00672, PTFE sealing ring with Viton O-Rings, PTFE lid or cap, PTFE hose barbs and GL threaded caps.

New



3937-03 (Poly Coated)
3937-01 (Non-Coated)



3937-04

"C" Assembly Poly Coated ★

Description	Buchi Part #	Order Code	Each
Complete "C" Assembly	40646	3937-10	1,006.72
Complete "C" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40642	3937-12	1,094.13

Poly Coated Components

Outer trap body only	40643	3937-03	611.82
----------------------	-------	---------	--------

"C" Assembly Non-Coated ★

Complete "C" Assembly	40645	3937-100	995.60
Complete "C" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40640	3937-112	1,052.25

Individual Components — Non-Coated

Outer trap body only	40641	3937-01	578.45
Cold trap inner body	00672	3937-04	177.98
PTFE Lid	27479	3937-05	139.05
PTFE seal ring with Viton O-Ring	27462	3937-06	120.14
Stopcock (Bottom)	40627	13295-08	66.74
Stopcock (Top)	40628	13295-10	84.85
29/32 joint adapter (without clip)	40615	3954-04	95.16
Stainless steel clamp	03275	7669-14	16.50
Glass steam tube (part of Buchi #40016)	40610	3958-02	67.28

See page 219 for individual flask listings.

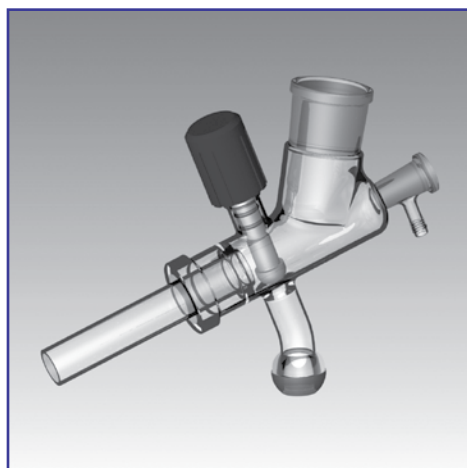
Replacement Glassware for Buchi Rotary Evaporators

3938 Condenser "CR" Assembly for Buchi Rotary Evaporators ★

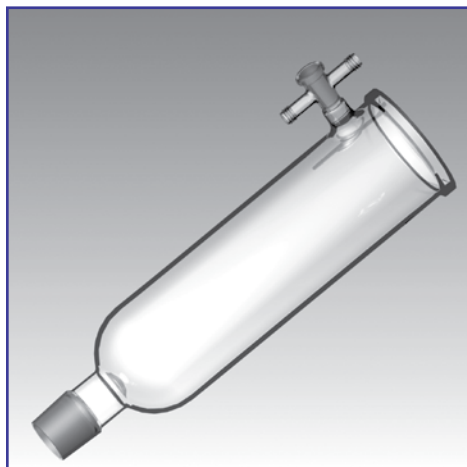
Fits Buchi Models 200/205 and Series 114-144

Assembly is very similar to "C" Assembly except that the bottom joint is 3/4 45/50 inner to fit into separate distribution head. Complete "CR" Assembly includes main glass cold trap outer body, glass cold trap inner body, PTFE cap, PTFE seal ring with Viton O-Rings, GL thread caps and hose barbs.

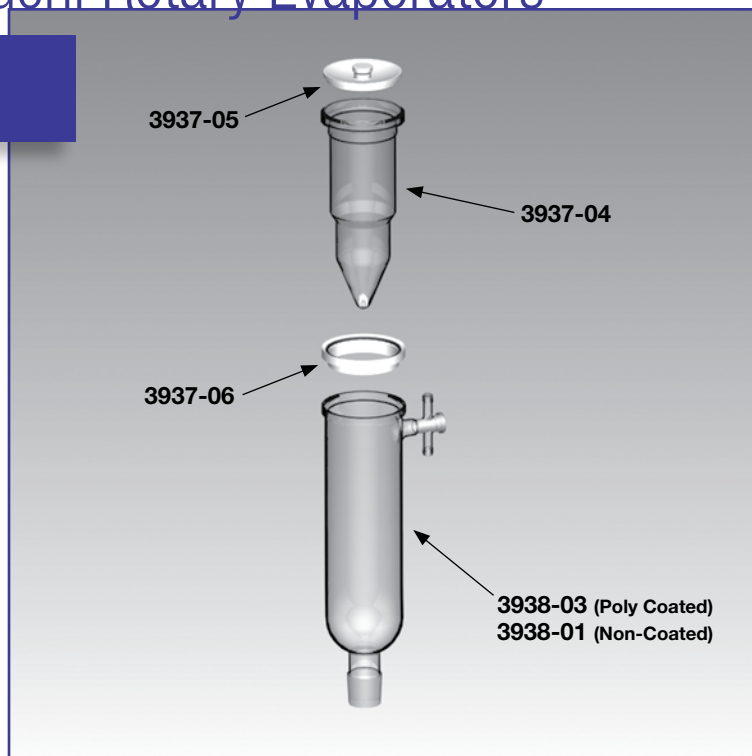
New



3955-03 (Poly Coated)
3955-08 (Non-Coated)



3938-03 (Poly Coated)
3938-01 (Non-Coated)



3938-10 (Poly Coated) **3938-100 (Non-Coated)**

"CR" Assembly Poly Coated ★

Description	Buchi Part #	Order Code	Each
Complete "CR" Assembly	33478	3938-10	1,110.18
Complete "CR" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40672	3938-07	1,197.59

Poly Coated Components

Cold trap condenser body only	25614	3938-03	661.88
Lower distribution head with shut-off valve	40658	3955-03	498.41

"CR" Assembly Non-Coated ★

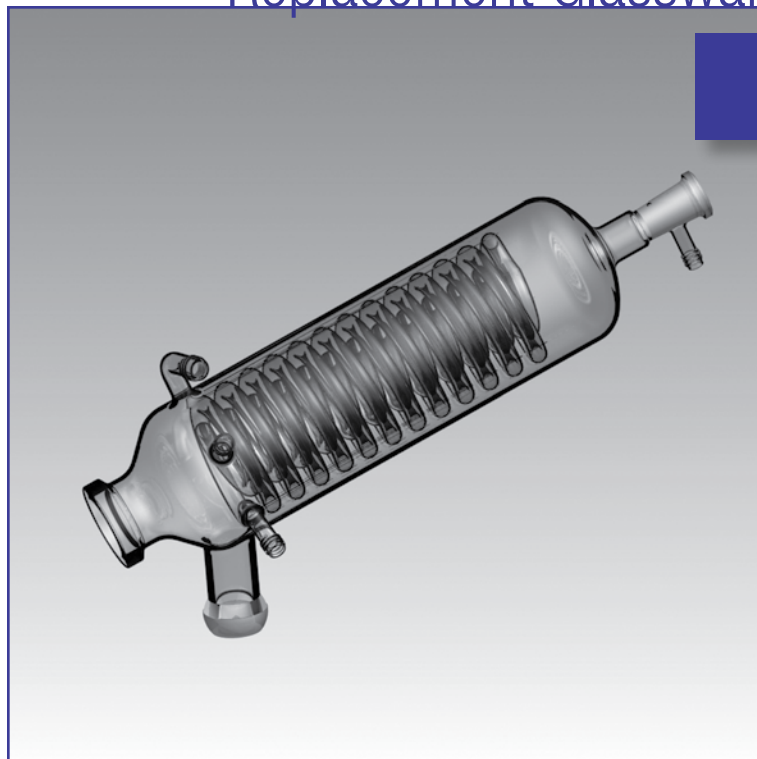
Complete "CR" Assembly	11511	3938-100	1,023.41
Complete "CR" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40670	3938-110	1,080.06

Individual Components — Non-Coated

Cold trap condenser body only	11228	3938-01	611.82
Lower distribution head with shut-off valve	40657	3955-08	486.95
Cold trap inner body	00672	3937-04	177.98
PTFE Lid	27479	3937-05	139.05
PTFE seal ring with Viton O-Ring	27462	3937-06	120.14
Stopcock (Bottom)	40627	13295-08	66.74
Stopcock (Top)	40628	13295-10	84.85
29/32 joint adapter (without clip)	40615	3954-04	95.16
Stainless steel clamp	03275	7669-14	16.50
Glass steam tube (part of Buchi #40016)	40610	3958-02	67.28

See page 219 for individual flask listings.

Replacement Glassware for Buchi Rotary Evaporators



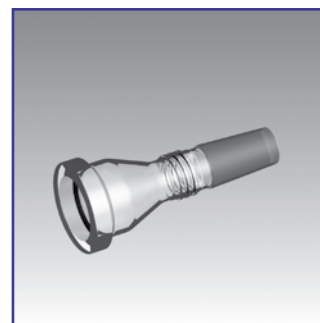
3950 Condenser "A" Assembly for Buchi Rotary Evaporators ★

Fits Buchi Models 200/205 and Series 114-144

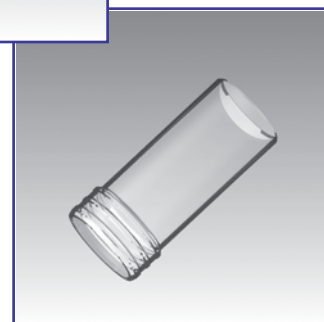
Complete "A" Assembly includes main glass condenser body with inner coil for angled installation, O-Ring, GL thread caps and hose barbs. Bottom joint is $\text{\textcircled{S}}$ 35/20.

3950-01 (Poly Coated) 3950-03 (Non-Coated)

New



3954



3958-02

"A" Assembly Poly Coated ★

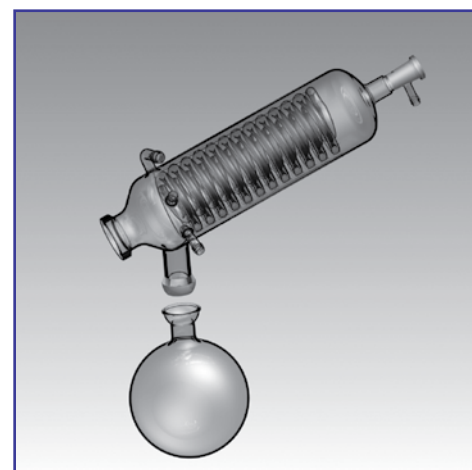
Description	Buchi Part #	Order Code	Each
Complete "A" Assembly	40633/32304	3950-01	594.83
Complete "A" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40632	3950-10	682.24

"A" Assembly Non-Coated ★

Complete "A" Assembly	40631	3950-03	566.50
Complete "A" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40630	3950-07	623.15

Individual Components — Non-Coated

29/32 joint adapter (without clip)	40615	3954-04	95.16
Stopcock	40627	13295-08	66.74
Stainless steel clamp	03275	7669-14	16.50
Glass steam tube (part of Buchi #40016)	40610	3958-02	67.28



3950-10 (Poly Coated)
3950-07 (Non-Coated)

See page 219 for individual flask listings.

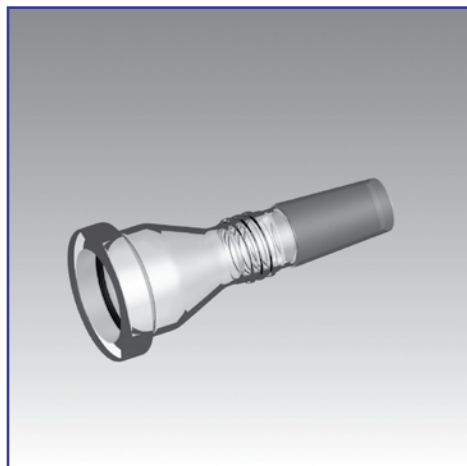
Replacement Glassware for Buchi Rotary Evaporators

3951 Condenser "V" Assembly for Buchi Rotary Evaporators ★

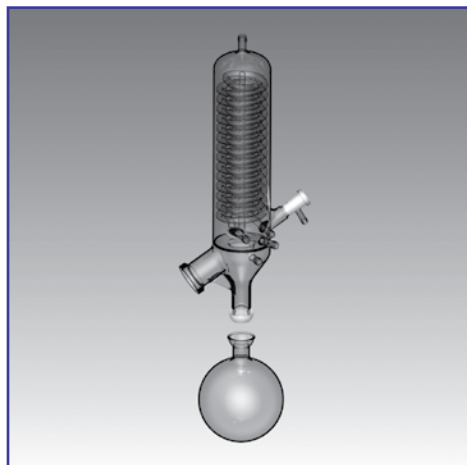
Fits Buchi Models 200/205 and Series 114-144

Complete "V" Assembly includes main glass vertical condenser body with inner coil, O-Ring, GL thread caps and hose barbs. Bottom joint is $\frac{3}{8}$ 35/20.

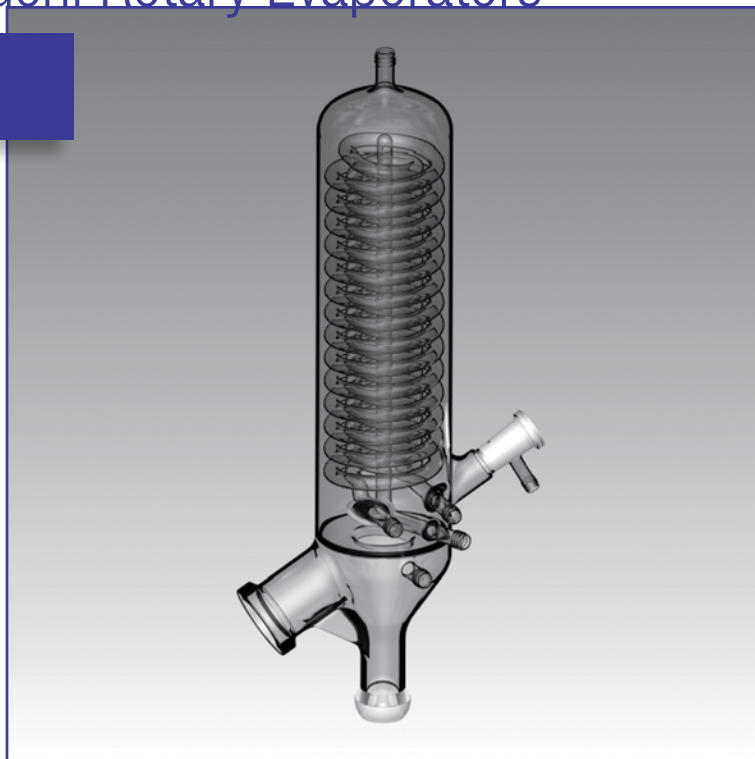
New



3954



3951-10 (Poly Coated)
3951-05 (Non-Coated)



3951-01 (Poly Coated) 3951-03 (Non-Coated)

"V" Assembly Poly Coated ★

Description	Buchi Part #	Order Code	Each
Complete "V" Assembly	40603/32304	3951-01	586.33
Complete "V" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40602	3951-10	673.74

"V" Assembly Non-Coated ★

Complete "V" Assembly	40601	3951-03	562.64
Complete "V" Assembly. Also includes 1 x 1000mL receiving flask, stainless steel clamp	40600	3951-05	619.29

Individual Components — Non-Coated

29/32 joint adapter (without clip)	40615	3954-04	95.16
Stopcock	40627	13295-08	66.74
Stainless steel clamp	03275	7669-14	16.50
Glass steam tube (part of Buchi #40016)	40610	3958-02	67.28

See page 219 for individual flask listings.

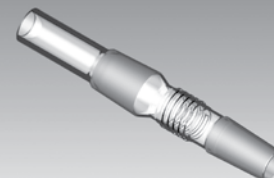
Replacement Glassware for Buchi Rotary Evaporators

13285 VAPOR DUCT TUBES *Without Combi Clip* ★

Joint	Fits Buchi Models	Length, mm	For Assy.	Buchi Part #	Order Code	Each
29/32	210-215	160	A	46964	13285-04*	73.53
24/40	210-215	160	A	48068	13285-06*	73.53
29/32	210-215	54	V	46962	13285-08*	73.53
24/40	210-215	54	V	48067	13285-10*	73.53
29/32	R114-R144	165	A	32001	13285-20**	73.53
24/40	R114-R144	165	A	32336	13285-22**	73.53
29/42	R114-R144	165	A	32338	13285-24**	73.53
29/32	R114-R144	55	V	32002	13285-26**	73.53
24/40	R114-R144	55	V	32335	13285-28**	73.53
29/42	R114-R144	55	V	32337	13285-30**	73.53

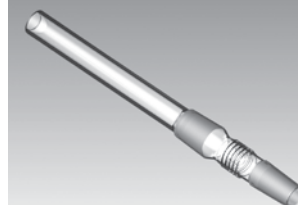
*Same as Buchi part numbers 48160, 48161, 48165 and 48164, except the above are without clip.

**Same as Buchi part numbers 32340, 32342, 32344, 32339, 32341, 32343, except the above are without clip.



13285 Short

NEW



13285 Long

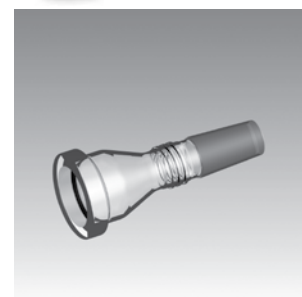
3954 JOINT — FLASK ADAPTERS *Without Combi Clip* ★

Joint	Fits Buchi Models	Buchi Part #	Order Code	Each
29/32	200-205	40615	3954-04	95.16
24/40	200-205	40616	3954-06	95.16
29/42	200-205	40617	3954-08	95.16
24/40	114-144	23747	3954-11	120.79

Stopcocks

	Buchi Part #	Order Code	Each
Stopcock (Bottom)	40627	13295-08	66.74
Stopcock (Top)	40628	13295-10	84.85

NEW



3954

3996/6902 RECEIVING FLASK *Single Neck, Round Bottom, Heavy Wall* ♦

Poly Coated

Joint	Size, mL	Buchi Part #	Order Code	Each
35/20	1000mL	40775/20728	3996-20	70.91
35/20	2000mL	40776/25265	3996-22	81.37
35/20	3000mL	40777/25266	3996-24	96.87

Non-Coated

Joint	Size, mL	Buchi Part #	Order Code	Each
35/20	1000mL	00425	6902-227	40.93
35/20	2000mL	00426	6902-228	67.66
35/20	3000mL	00427	6902-229	83.37



3996/6902

3990/6892 EVAPORATING FLASK Pear Shaped with Joints, Heavy Wall ♦




3990/6892

Poly Coated

Joint	Size, mL	Buchi Part #	Order Code	Each
29/32	500mL	25322	3990-104	55.54
29/32	1000mL	20729	3990-106	63.29
29/32	2000mL	25323	3990-108	76.20
29/42	500mL	—	3990-120	55.54
29/42	1000mL	25517	3990-122	71.03
29/42	2000mL	—	3990-124	119.55
24/40	500mL	25261	3990-132	55.54
24/40	1000mL	20730	3990-134	90.29
24/40	2000mL	25262	3990-136	119.55

Non-Coated

29/32	500mL	00434	6892-213	40.19
29/32	1000mL	00435	6892-231	50.62
29/32	2000mL	00436	6892-243	89.03
29/42	500mL	08739	6892-293	51.53
29/42	1000mL	08762	6892-232	63.12
29/42	2000mL	08769	6892-242	89.03
24/40	500mL	08758	6892-212	50.04
24/40	1000mL	00440	6892-230	63.12
24/40	2000mL	08765	6892-240	89.03



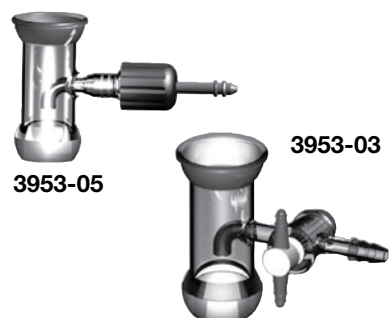

3994

3994 DRYING FLASK Pear Shaped with Side Indents,
 3 Neck Joint, Heavy Wall ♦
Poly Coated

Joint	Size, mL	Buchi Part #	Order Code	Each
29/32	500mL	—	3994-110	114.36
29/32	1000mL	—	3994-112	128.37
29/32	2000mL	—	3994-114	140.04
24/40	500mL	—	3994-120	114.36
24/40	1000mL	—	3994-124	128.37
24/40	2000mL	—	3994-126	140.04

Non-Coated

29/32	500mL	00452	3994-10	87.53
29/32	1000mL	00453	3994-12	99.20
29/32	2000mL	00454	3994-14	114.36
24/40	500mL	11579	3994-20	91.02
24/40	1000mL	00424	3994-22	102.69
24/40	2000mL	11580	3994-23	117.86


3953 PURGE ADAPTER Rotary Evaporator ♦

Glass purge adapter for use with Rotary Evaporators. Top has a 35/20 socket joint for joining to the condenser or trap and the bottom has a 35/30 ball joint for joining to the receiver flask. Middle tube has either a 4mm PTFE stopcock or a 2mm valve to allow for purging of the vapor from the receiver flask or for adding purge gas into the flask. Overall length is 75 mm.

Description	Order Code	Each
with 4mm PTFE stopcock	3953-03	59.40
with 2mm valve	3953-05	69.75

Replacement Flasks for Buchi Large-Scale Evaporators

**Easy replacement —
select the size and capacity you need**

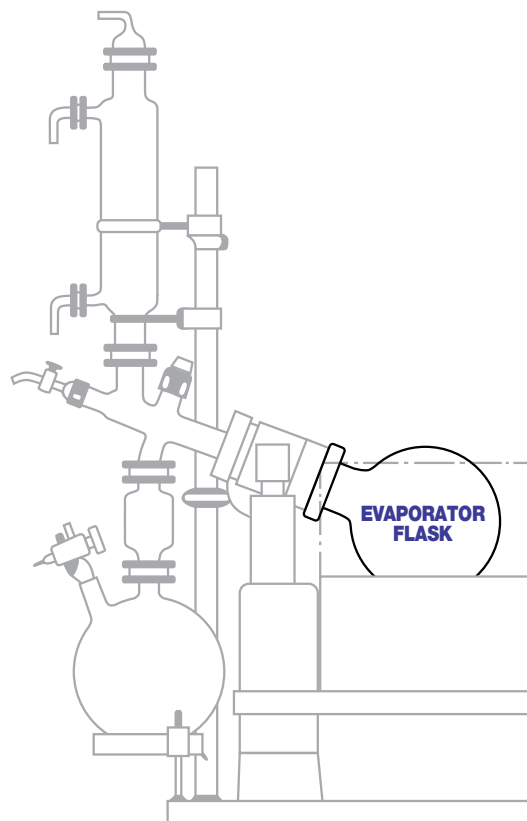
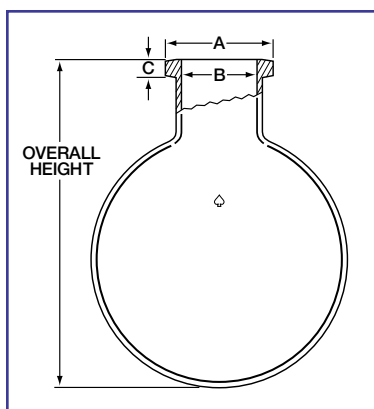
6702 LARGE EVAPORATOR FLASKS

These large flasks are from blanks selected for balance and quality. Necks are carefully welded to prevent “rotational whip.”

Flasks can be plastic coated upon request.*

Easy Order Instructions

1. Determine flange size (A) O.D., (B) I.D., (C) thickness (see diagram).
2. Match flask capacity with overall height and flange size.



1. Select Flange Size.

Flange Size Designation	A O.D., mm (Inches)	B I.D., mm (Inches)	C Thickness (mm)
S (Small)	90 (3.5)	67 (2.7)	18
M (Medium)	100 (3.9)	72 (2.8)	19
L (Large)	110 (4.3)	83 (3.3)	23
EL (Extra Large)	149.5 (5.9)	118.8 (4.7)	21

2. Select Flask Capacity and match with Flange Size.

Capacity, Liters	Overall Height, mm	Flange Size	Order Code	Each
5	300	S	6702-05	171.57
5	325	M	6702-07	180.88
5	380	M	6702-10	180.88
5	295	L	6702-15	221.94
5	380	L	6702-17	229.36
5	351	EL	6702-19	238.23
10	350	S	6702-20	269.47
10	335	M	6702-25	285.09
10	413	M	6702-27	290.17
10	410	L	6702-30	322.62
10	380	EL	6702-33	357.18
20	375	M	6702-35	431.88
20	435	M	6702-37	422.60
20	435	L	6702-40	442.79
20	413	EL	6702-44	493.29
5	380	M	6702-110*	228.58

* Plastic coated flasks are transparent, and will withstand temperatures up to 100°C.

The coating is resistant to the occasional laboratory solvent or acid “splash,” but should not be soaked in them.

Avoid prolonged contact.

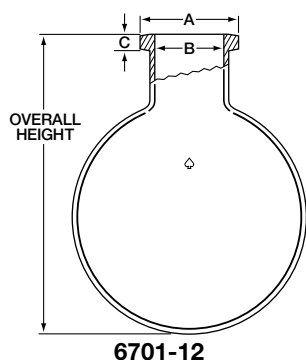
Plastic Coated →

**Special sizes
can be made
to order.**

**Call
ACE GLASS
for more
information.**

Replacement Items for Use with Heidolph Rotary Evaporators

(Turn to page 574 for Rotary Evaporators)

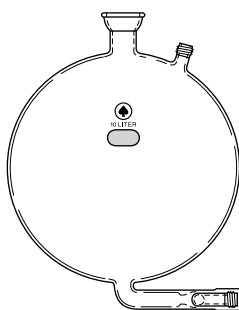


6701-12

6701 LARGE EVAPORATOR FLASKS

Used with **Heidolph 20 Liter Rotary Evaporators**. These large flasks are from blanks selected for balance and quality. Necks are carefully welded to prevent “rotational whip.” Flasks can be plastic coated upon request.

Cap., Liters	Overall Height, mm	Flange			Order Code	Each
		A O.D., mm	B I.D., mm	C mm		
10	345	143	118	18	6701-12	354.41
20	383	143	118	18	6701-22	455.06

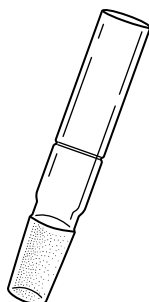


6701-44

6701 LARGE RECEIVER FLASKS

Used with **Heidolph 20 Liter Rotary Evaporators**. This receiver flask is fabricated from blanks selected for balance and quality. Center neck is a polished $\$$ 40/25 joint, side neck is a GL-18 thread, supplied with solid cap. At bottom is a 0-10mm Easy action stopcock with a GL-18 side arm, supplied with a 3/8-inch hose connection tube. Flasks can be plastic coated upon request.

Cap., Liters	Overall Hght., mm	Center Neck	Side Neck	Bottom Outlet	Order Code	Each
10	355	$\$$ 40/25	GL18	0-10mm/GL-18	6701-44	771.84



13286-30

13286 VAPOR TUBE for Heidolph 4000 Series

Used as replacements with **Heidolph 4000 Series Rotary Evaporators**. Tube is secured in rotary drive with low-stress plastic clip that seats into groove behind $\$$ joint. Available plain or with Fire-stone “Splash Guard” to protect against splash-up. Code -30 is supplied with Evaporator.

Type	$\$$ Joint	Order Code	Each
Plain	24/25	13286-28	69.21
Plain	24/40	13286-30	69.21
Plain	29/42	13286-32	71.34
Plain	45/50	13286-34	82.57
w/Splash Guard	24/40	13286-37	89.86
w/Splash Guard	29/42	13286-39	91.99

13295



13295 STOPCOCK with Inlet Feed Tube

Used in **Heidolph 4000 Series Rotary Evaporator** condensers and other popular brand Rotary Evaporator condensers as inlet feed tube to allow continuous feed of volumes exceeding capacity of evaporating flask. Size is $\$$ 19/38 with 6mm O.D. feed tube.

Order Code	Each
13295-20	36.92

6703 TRAP *Rotary Evaporator, Boulanger, Self Washing* ♦

Self-washing rotary evaporator trap designed by William A. Boulanger. Unique design incorporates an inverted, straight, heavy-walled expansion chamber that allows for flow-back of bumped materials. Condensation of evaporated solvent on walls of trap continuously rinses trap during operation. Vacuum stem has two opposing holes, flush with bottom of stem, to allow solvent vapor to rapidly flow out, while allowing condensed solvent to return to flask. This feature means the evaporator shaft is also continuously rinsed and the material returned to the flask. To prevent pooling of the condensate in the shaft trap, the end of the trap has a center hole for complete drainage. When solids are bumped onto the sides of the trap toward the end of solvent evaporation, introduction of a small amount of solvent at top of trap with a swirling motion effectively rinses the material back into the flask.

Capacity, mL	Top Outer § Joint	Bottom Inner § Joint	Order Code	Each
100	24/40	14/20	6703-05	109.48
100	24/40	24/40	6703-10	109.11
250	24/40	14/20	6703-15	118.53
250	24/40	24/40	6703-20	116.73
250	29/42	29/42	6703-25	118.94

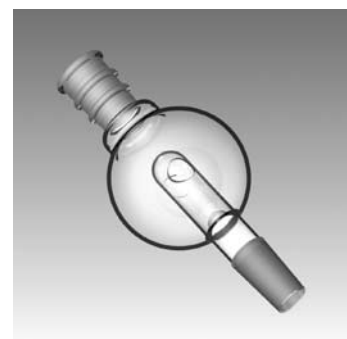


6703

6704 TRAP *Rotary Evaporator, Anti-Splash* ♦

Greatly reduces carry-over from foaming or bumping.

Capacity, mL	Top Outer § Joint	Bottom Inner § Joint	Approx. Overall Height, mm	Order Code	Each
100	24/40	14/20	145	6704-04	93.47
100	24/40	24/40	175	6704-08	94.16
100	29/42	14/20	145	6704-12	107.51
250	14/20	14/20	200	6704-14	87.09
250	24/40	24/40	200	6704-16	96.60
250	29/42	29/42	200	6704-20	115.08
500	24/40	24/40	215	6704-24	97.97

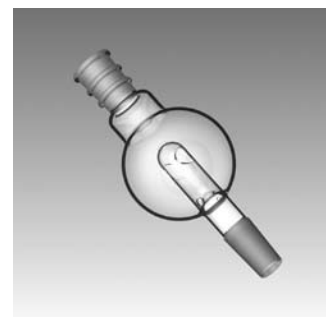


6704

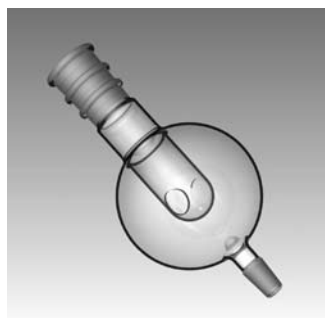
6705 TRAP *Rotary Evaporator, Anti-Splash, Improved* ♦

Greatly reduces carry-over from foaming or bumping. Two drain holes, close to base of the inner tube, allow solvent to drain back into evaporator flask.

Capacity, mL	Top Outer § Joint	Bottom Inner § Joint	Approx. Overall Height, mm	Order Code	Each
100	24/40	14/20	145	6705-06	96.20
100	24/40	24/40	175	6705-10	96.87
250	14/20	14/20	200	6705-12	90.63
250	24/40	24/40	200	6705-14	99.32
250	29/42	29/42	200	6705-22	115.08
500	24/40	24/40	215	6705-26	100.69



6705

**6706****6706 TRAP Rotary Evaporator, Anti-Climb** ♠

Upper tubulation prevents migration of film and foam directly into the condenser.

Capacity, mL	Top Outer \$ Joint	Bottom Inner \$ Joint	Approx. Overall Height, mm	Order Code	Each
100	24/40	14/20	160	6706-05	103.14
100	24/40	24/40	190	6706-09	106.09
250	24/40	14/20	180	6706-13	105.59
250	24/40	24/40	215	6706-17	110.65
250	29/42	29/42	215	6706-21	116.90

**6893****6893 RECEIVING BOTTLE/FLASK** ♠

Graduated, round bottom receiving flasks for use as replacement receivers on all glassware sets supplied with Heidolph LR4000 Series Rotary Evaporators or with other evaporators. 250 mL size graduated in 10 mL increments; 1000 mL and 2000 mL in 100 mL increments. Joint is \$ 35/20.

Cap., mL	\$ Joint	O.D., mm	Lgth. below joint, mm	Order Code	Each
250	35/20	75	120	6893-05	116.31
500	35/20	85	170	6893-15	135.71
1000	35/20	100	220	6893-21	165.01
2000	35/20	125	275	6893-27	200.57

**8387****8387 RECEIVING TUBE/CYLINDER** ♠

Graduated, tapered bottom receiving tube for use as replacement receivers on all glassware sets supplied with Heidolph LR4000 Series Rotary Evaporators or with other evaporators. 100 mL size graduated in 0.5 mL increments from 0-10 mL; 5 mL increments from 10-100 mL. Joint is \$ 35/20.

Cap., mL	\$ Joint	O.D., mm	Lgth. below joint, mm	Order Code	Each
100	35/20	38	225	8387-04	104.55

Rotary Evaporators are located on pages 574-583.

13290 ADAPTER *Conversion* ♦

Glass Adapter with 24/40 or 29/42 joint to #15 or #25. #15 is used with 13290-11 through -22 or 13290-121 through -134; #25 is used with 13290-26 or 13290-136 Connecting Adapter to connect vials or flasks to Rotary Evaporator. Suitable for vacuum work. Order each item separately.

Joint	Ace-Thred	Order Code	Each
24/40	#15	13290-34	19.16
24/40	#25	13290-37	67.98
29/42	#15	13290-44	20.63
29/42	#25	13290-47	69.46



13290 ADAPTER *Connecting, PTFE* ★

PTFE Adapter with #15 or #25 Ace-Thred and GPI thread to connect 13290-34, -37, -44 or -47 Conversion Adapter to mating vial for use in Rotary Evaporator. Suitable for vacuum work. Order separately.

Note! FETFE not suitable for use with methylene chloride or acetone, use Chemraz.

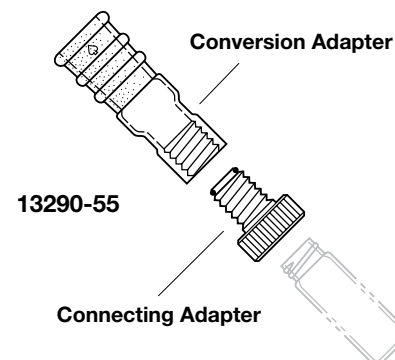
GPI Thread	Ace-Thred	With <i>FETFE</i> O-Ring		With <i>Chemraz</i> O-Ring	
		Order Code	Each	Order Code	Each
8-425	#15	13290-11	16.75	13290-121	55.87
13-425	#15	13290-13	16.75	13290-123	55.87
15-425	#15	13290-15	16.75	13290-125	55.87
18-400	#15	13290-18	16.75	13290-128	55.87
20-400	#15	13290-20	16.75	13290-130	55.87
22-400	#15	13290-22	16.75	13290-132	55.87
24-410	#15	13290-24	16.75	13290-134	55.87
24-410	#25	13290-26	48.18	13290-136	130.35



13290 MULTIPACK CONNECTING ADAPTER KIT ★

Convenience kit with several PTFE Ace-Thred to GPI thread adapters to fit various vial sizes. 13290-55 version includes the -11 through -24 PTFE adapters listed above. 13290-59 version includes the -121 through -134 PTFE adapters listed above. The kit also includes one 13290-34 #15 glass conversion adapter.

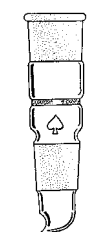
Order Code	Per Kit
13290-55	136.41
13290-59	410.25



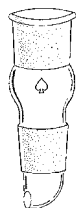
5257 ADAPTER *"Splash Guard," with Fritted Disc, Firestone** ♦

Medium length joints, top and bottom, that will accept full length joints, plus a coarse porosity A (145-174 micron) fritted disc that assures no carry-over in the event of pot splash-up. Overall length is kept to a minimum to effect best distillation.

Top Outer Joint	Bottom Inner Joint	Order Code	Each
14/20	14/20	5257-43	67.50
24/25	24/25	5257-49	73.12
24/25	29/26	5257-53	76.09
24/25	45/35	5257-62	112.09



5257-43

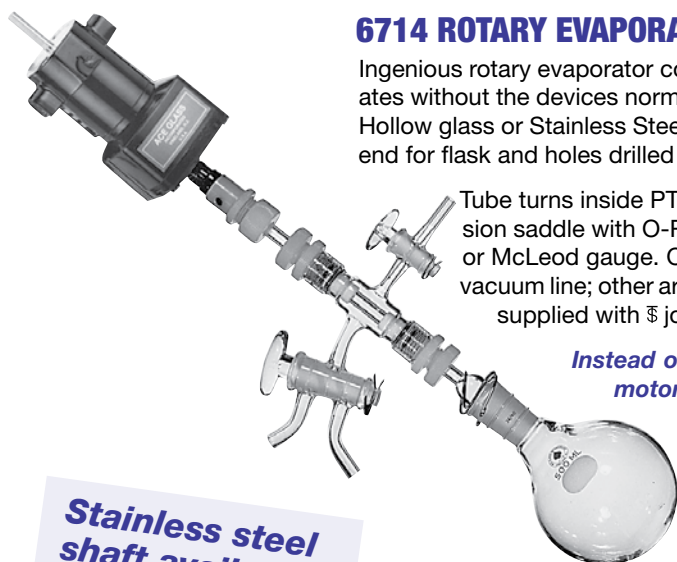

5258-12

5258 ADAPTER "Splash Guard," Firestone* ♠

♠ medium length joints, top and bottom, that will accept full length ♠ joints. When inserted into flask, splash guard combines with flask neck to give best protection against pot splash up. Overall height is kept to a minimum to effect best distillation.

Top Outer ♠ Joint	Bottom Inner ♠ Joint	Order Code	Each
14/20	14/20	5258-06	52.48
24/25	24/25	5258-12	53.66

**Designed by Dr. Raymond Firestone (U.S. Patent No. 4,267,150)*



6714 ROTARY EVAPORATOR Firestone*

Ingenious rotary evaporator constructed of glass or stainless steel, PTFE and glass-filled PTFE that operates without the devices normally associated with this type of equipment. Use with any lab stirring motor. Hollow glass or Stainless Steel (for larger capacity flasks) 10mm O.D. tube, with ♠ 14/20 or ♠ 24/40 at one end for flask and holes drilled near center for vacuum, attaches to laboratory stirring motor.

Tube turns inside PTFE bearing held in #15 Ace-Threds by glass-filled PTFE bushing, compression saddle with O-Ring and lock nut. 2mm straight bore stopcock attaches to drying tube and/or McLeod gauge. One arm of 4mm bore double oblique stopcock attaches to dry ice trap and vacuum line; other arm is for easy vacuum release and can be connected to a trap. Complete item supplied with ♠ joint clamp; does NOT include stirring motor, chuck, flask or splash guard.

Instead of connecting motor directly, use ACE 8081 Flexible Shaft, to get heavy motor out of the way. Optional.

**Stainless steel
shaft available
for heavier
flasks**

For Flask
Joint
14/20
24/40

Glass Shaft

Order Code	Complete
6714-36	♠ 403.06
6714-40	♠ 404.03

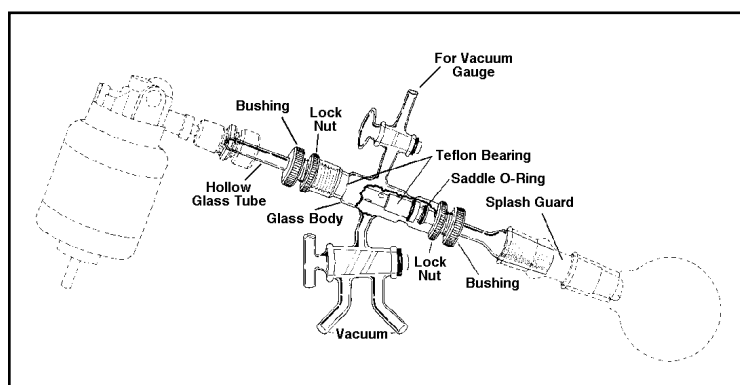
Stainless Steel Shaft

Order Code	Complete
6714-55	★ 803.58
6714-58	★ 816.57

Replacement Parts

	Order Code	Each
Glass Body, only	6714-04	♠ 206.40
Glass/PTFE Bushing, with O-Ring, only (2)	8066-12	♠ 24.87
Glass/PTFE Lock Nut, only (2)	8066-13	♠ 8.11
Compression Saddle with O-Ring, only (2)	8066-15	♠ 9.59
PTFE Bearing, only (2)	6714-06	♠ 28.33
Hollow Glass Tube, ♠14/20	6714-07	♠ 53.89
Hollow Glass Tube, ♠24/40	6714-08	♠ 54.86
Hollow S-S Tube, ♠14/20	6714-22	★ 454.40
Hollow S-S Tube, ♠24/40	6714-24	★ 464.10
Splash Guard, ♠14/20	5258-06	♠ 52.48
Splash Guard, ♠24/25	5258-12	♠ 53.66
Flexible Shaft, 91.4cm, Complete	8081-30	★ 166.22

(Additional size and information listed under 8081.)



**Designed by Dr. Raymond Firestone (U.S. Patent #4,569,724).*

**Can be all glass
and PTFE**

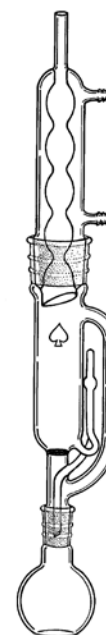
Specifications for ACE Extractor Bodies

Size	A	C	D	E
Use Thimble Size, mm	25 x 80	33 x 80	33 x 94	43 x 123
Extractor Cap., mL	50	85	145	200
Extractor I.D., mm	30	38	45	50
Length of Siphon, mm	70	75	88	113
Extractor Top ♂ Joint	34/45	45/50	50/50	55/50
Extractor Bottom ♂ Joint	24/40	24/40	24/40	24/40

6716 EXTRACTION APPARATUS *Soxhlet Improved Design* ♦

The improved design of ACE extractor condensers permits greater condensing capacity, cycling rates may be doubled over conventional style extractors. All items feature ♂ 24/40 Extractor Bottom Joint.

Size	Flask Cap, mL	Extractor Top ♂ Joint	Order Code	Condenser	Order Code	Extractor	Order Code	Flask	Order Code	Complete
A	125	34/45	6740-02	98.55	6730-02	130.05	6895-22	28.37	6716-12	256.97
C	250	45/50	6740-06	113.73	6730-06	150.52	6895-24	28.37	6716-16	292.62
D	300	50/50	6740-08	148.52	6730-08	171.15	6895-25	28.37	6716-18	348.04
E	300	55/50	6740-10	136.46	6730-10	167.36	6895-25	28.37	6716-20	332.19

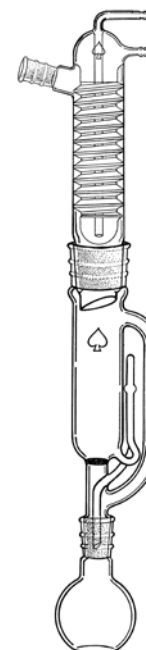


6716

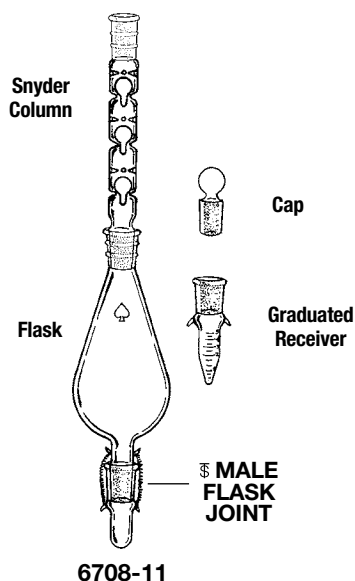
6718 EXTRACTION APPARATUS *Soxhlet, with Friedrichs Condenser* ♦

Improved design of ACE extractor with Friedrichs Condenser in place of Allihn Condenser. All items feature ♂ 24/40 Extractor Bottom Joint.

Size	Flask Cap, mL	Extractor Top ♂ Joint	Order Code	Condenser	Order Code	Extractor	Order Code	Flask	Order Code	Complete
A	125	34/45	5971-20	181.03	6730-02	130.05	6895-22	28.37	6718-15	339.45
C	250	45/50	5971-23	187.67	6730-06	150.52	6895-24	28.37	6718-23	366.56
E	300	55/50	5971-27	198.04	6730-10	167.36	6895-25	28.37	6718-29	393.77



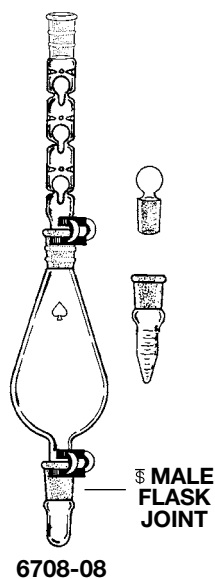
6718



6708 KUDERNA-DANISH EVAPORATIVE CONCENTRATOR ♦

For concentration of materials in volatile solvents. Combines rapidity, simplicity and quantitative efficiency including minimization of entrainment escape and transfer losses. With a $\text{¥} 19/22$ inner joint on bottom of flask, $\text{¥} 24/40$ on top. Supplied with springs. For replacement springs, see 8030-04. *Please specify type of column, flask and receiver or order by code.*

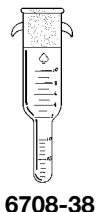
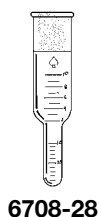
FLASK			UNGRADUATED RECEIVER		
Cap., mL	Order Code	Each	Cap., mL	Order Code	Each
250	6708-11	61.12	10	6708-13	24.52
500	6708-03	66.13	15	6708-15	24.52
			20	6708-17	24.98
			Graduations x Subdivisions, mL	Order Code	Each
Snyder Column, $\text{¥}24/40$			—	6575-02	90.25
Graduated Receiver 5 mL, $\text{¥}19/22$			0-2x0.1; 3-5x0.2	6708-35	47.13
Graduated Receiver 10 mL, $\text{¥}19/22$			0-10 x 0.1	6708-37	42.20
Protective Stopper, $\text{¥}19/22$			—	8255-12	17.19



6708 KUDERNA-DANISH EVAPORATIVE CONCENTRATOR ♦

Same apparatus for concentration of materials in volatile solvents as described above except each flask is supplied with (1) $\text{¥} 24/40$ and (1) $\text{¥} 19/22$ Delrin clamp in place of hooks and springs. See 7598 for additional clamps.

FLASK			UNGRADUATED RECEIVER		
Cap., mL	Order Code	Each	Cap., mL	Order Code	Each
250	6708-08	52.82	15	6708-13	24.52
500	6708-09	57.80			
1000	6708-10	68.89			
			Graduations x Subdivisions, mL	Order Code	Each
Snyder Column, $\text{¥}24/40$			—	6575-02	90.25
Graduated Receiver 5 mL, $\text{¥}19/22$			0-2x0.1; 3-5x0.2	6708-26	39.24
Graduated Receiver 10 mL, $\text{¥}19/22$			0-10 x 0.1	6708-27	40.80
Protective Stopper, $\text{¥}19/22$			—	8255-12	17.19



6708 RECEIVER Graduated ♦

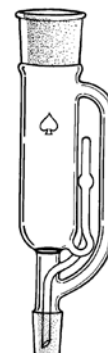
Graduated receiver for use with Kuderna-Danish or similar evaporative concentrators. Capacity 10mL, graduated 0-1 in 0.1mL subdivisions and 2-10 in 1.0mL subdivisions. Joint is $\text{¥} 19/22$. Available with or without glass hooks.

	Graduations x Subdivisions, mL	Order Code	Each
Receiver with hooks	0-1 x 0.1 2-10 x 1.0	6708-38	52.05
Receiver without hooks	0-1 x 0.1 2-10 x 1.0	6708-28	50.15

6730 EXTRACTOR *Soxhlet* ♦

Extractor body only. All items feature $\text{\textcircled{R}}$ 24/40 Extractor Bottom Joint.

Size	Extractor Top $\text{\textcircled{R}}$ Joint	Order Code	Each
A	34/45	6730-02	130.05
C	45/50	6730-06	150.52
D	50/50	6730-08	171.15
E	55/50	6730-10	167.36

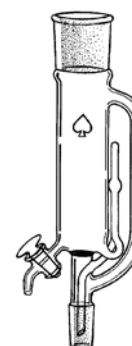


6730

6735 EXTRACTOR *Soxhlet* ♦

Extractor body only, with stopcock for withdrawing samples from extraction chamber. Can be used interchangeably with the standard Soxhlet extraction apparatus. All items feature $\text{\textcircled{R}}$ 24/40 Extractor Bottom Joint.

Size	Extractor Top $\text{\textcircled{R}}$ Joint	Order Code	Each
C	45/50	6735-06	215.62
E	55/50	6735-10	241.54

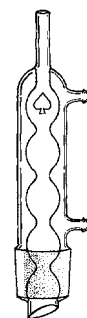


6735

6740 EXTRACTION CONDENSER *Allihn, Improved Design* ♦

Bulb type for use with regular extraction apparatus. Improved design permits greater condensing capacity. Jacket lengths approximately 250mm with one bulb per 50mm. See page 5 for more detailed Hose Connection information.

Size	Extractor Top $\text{\textcircled{R}}$ Joint	Tubing Size (Inches)	Order Code	Each
A	34/45	3/8 (D)	6740-02	98.55
C	45/50	3/8 or 7/16 (E)	6740-06	113.73
D	50/50	3/8 or 7/16 (E)	6740-08	148.52
E	55/50	3/8 or 7/16 (E)	6740-10	136.46



6740

6776 MICRO *Soxhlet, Improved Design* ♦

Designed for small chemical applications. Improved design permits greater condensing capacity. Condenser approximately 139mm jacket length. Joint between condenser and extractor is $\text{\textcircled{R}}$ 24/25. Flask joint is $\text{\textcircled{R}}$ 14/20. Designed to accommodate paper thimble, size 10 x 50mm. Flask is 30mL capacity. Use with 5/16-inch or 3/8-inch I.D. Tubing, Size B. See page 5 for more detailed Hose Connection information.

	Order Code	Each
Condenser	6776-02	61.92
Extractor	6776-04	142.77
Flask	6776-06	30.66
Complete	6776-10	235.35



6776

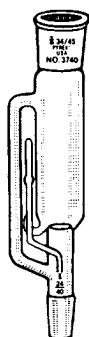


6783

6783 EXTRACTION APPARATUS Soxhlet ★**Corning 3840**

PYREX® brand extractor with ⌘ joints. Tubulation O.D. on condenser are 10mm.

Corning Code	Cap., mL	I.D. x Body Lgth., mm	Thimble Size mm	⌘ Cond. Joint	⌘ Flask Joint	Approx. Hght., mm	Quantity in Case	Order Code	Case Price
3840-S	125	27 x 192	25 x 80	34/45	24/40	655	1	6783-03	316.30
3840-M	250	37 x 250	33 x 80	45/50	24/40	711	1	6783-05	342.78
3840-L	500	46 x 305	43 x 123	55/50	24/40	803	1	6783-07	385.47
3840-XL	1000	64 x 319	43 x 123	71/60	29/42	880	1	6783-11	696.28



4111

4111 EXTRACTOR BODY Soxhlet ★**Corning 3740**

PYREX® brand extractor with ⌘ joints. Tubulation O.D. on condenser are 10mm.

Corning Code	Cap., to Top of Siphon, mL	⌘ Joint Inner-Outer	Approx. Hght., mm	Approx. Siphon to Plate, mm	Chamber I.D. x Hght., mm	Qty. In Case	Order Code	Case Price
3740-S	50	24/40-34/45	295	62	29 x 130	2	4111-24	315.86
3740-M	85	24/40-45/50	303	80	38 x 130	2	4111-27	384.00
3740-L	200	24/40-55/50	350	113	47 x 170	2	4111-31	432.62
3740-XL	500	29/42-71/60	430	130	64 x 220	2	4111-34	760.23

Don't see it? Call ACE Glass or visit www.aceglass.com for your custom glassware needs.

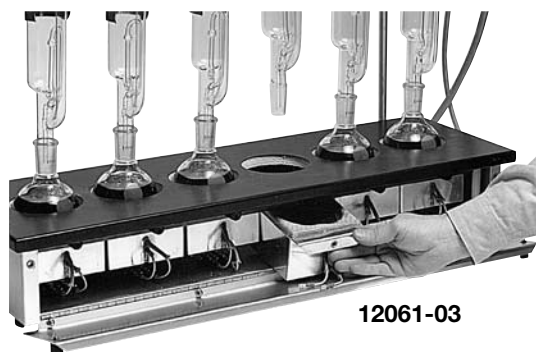
12061 COMBINATION HEATING MANTLE ★

Lower profile, safer, multi-place Combo Mantle that allows user to easily replace an element in a matter of minutes, should that element fail. By unscrewing two captive screws and lowering front panel of cabinet, the disposable element containers can be replaced by detaching the two lead wires and sliding the containers out. A new unit can be installed by reversing the procedure. These elements act as spill containment chambers so a spill does not damage other parts of mantle.

Offered in a six-place unit for 100 to 300mL flasks, and a three-place unit for 500 to 1000mL flasks. The clear anodized aluminum cabinet has a black PTFE coated Stainless Steel top and comes complete with a glassware superstructure consisting of two upright rods, two horizontal rods, and four double-sided, open faced clamps. Six-place mantle comes with six spring-type glassware clamps; three-place model comes with three.

Choice of two three-place controllers: a percentage-timer version that pulses full-line voltage to each position according to dial setting; or proportional-voltage version that supplies a constant, steady-state voltage to each position. Controllers are supplied with 6' (1.8m) multi-conductor interconnect cord to mantle and one 4' (1.2m) long, three-wire power cord with grounding plug. **Note:** Six-place mantle uses two three-place controllers.

To order: select mantle based on flask size and power needed, then select type and number of controller necessary.



12061-03

COMBO MANTLE, Only

SIX-POSITION

For Flask Size, mL	For Flask Bottom	Wattage	Cabinet Dimensions, L x D x H, in.	Order Code	Each
100/125	Flat	85w-120v	29¼ x 10½ x 5¼	12061-03	1,562.00
100/125	Round	85w-120v	29¼ x 10½ x 5¼	12061-05	1,562.00
100/125	Flat	140w-120v	29¼ x 10½ x 5¼	12061-07	1,568.00
100/125	Round	140w-120v	29¼ x 10½ x 5¼	12061-09	1,568.00
250/300	Flat	125w-120v	29¼ x 10½ x 5¼	12061-11	1,576.00
250/300	Round	125w-120v	29¼ x 10½ x 5¼	12061-13	1,576.00
250/300	Flat	125w-240v	29¼ x 10½ x 5¼	12061-19	1,576.00
250/300	Round	125w-240v	29¼ x 10½ x 5¼	12061-21	1,576.00
250/300	Flat	210w-240v	29¼ x 10½ x 5¼	12061-29	1,592.00
250/300	Round	210w-240v	29¼ x 10½ x 5¼	12061-31	1,592.00

COMBO MANTLE, Only

THREE-POSITION

For Flask Size, mL	For Flask Bottom	Wattage*	Cabinet Dimensions, L x D x H, in.	Order Code	Each
500	Flat	180w-120v	24½ x 12½ x 6¼	12061-102	1,308.00
500	Round	180w-120v	24½ x 12½ x 6¼	12061-108	1,308.00
50	Round	200w-120v	24½ x 12½ x 6¼	12061-113	1,327.00
800	Round	225w-120v	24½ x 12½ x 6¼	12061-115	1,348.00
1000	Round	290w-120v	24½ x 12½ x 6¼	12061-117	1,372.00
500	Flat	180w-240v	24½ x 12½ x 6¼	12061-123	1,308.00
500	Round	180w-240v	24½ x 12½ x 6¼	12061-128	1,308.00
650	Round	200w-240v	24½ x 12½ x 6¼	12061-134	1,327.00
800	Round	225w-240v	24½ x 12½ x 6¼	12061-137	1,347.00
1000	Round	290w-240v	24½ x 12½ x 6¼	12061-140	1,372.00

*Larger wattages available



12061-61

COMBO POWER CONTROL, only

Control Type	For Use With	Amps x Volts	Order Code	Each
Percentage Timer	3-Place 120v	12 x 120	12061-61	336.00
Percentage Timer	3-Place 240v	12 x 240	12061-63	372.00
Percentage Timer	6-Place 120v	15 x 120	12061-65	595.00
Percentage Timer	6-Place 240v	15 x 240	12061-67	607.00
Proportional Voltage	3-Place 120v	12 x 120	12061-71	495.00
Proportional Voltage	3-Place 240v	12 x 240	12061-73	530.00
Proportional Voltage	6-Place 120v	15 x 120	12061-75	860.00
Proportional Voltage	6-Place 240v	15 x 240	12061-77	895.00



6810 GIANT EXTRACTION APPARATUS *Soxhlet* ♠

Complete with bulb type condenser and one flask. Cycling rates may be doubled over conventional style extractors. All joints are interchangeable. Size H (illustrated) is supplied with an adapter for connecting the extractor and condenser. This is necessary because of the extremely large top joint on the extractor. Approximate overall height: Size F – 39 inches; Size G – 46 inches; Size H – 82 inches. For extraction thimbles, see **6812**, page 223. Use with 7/16-inch or 1/2-inch I.D. Tubing, Size F. See page 5 for more detailed Hose Connection information.

Dimensions of 6810 Extraction Apparatus

Size (Inches)	Extractor Cap., mL	Extractor I.D., mm	Extractor \$ Top Joint	Extractor \$ Bottom Joint	Condenser \$ Joint	Condenser Length, mm	Flask Cap., mL
F (39)	500	68	71/60	34/45	71/60	340	1000
G (46)	1500	95	103/60	45/50	103/60	460	3000
H (82)	5000	140	145/60	55/50	55/50	730	12000

Size (Inches)	Order Code	Complete
F (39)	6810-10	632.08
G (46)	6810-20	1,308.91
H (82, includes adapter)	6810-30	2,300.84

Size (Inches)	Order Code	Extractor Only	Order Code	Condenser Only	Order Code	Flask Only
F (39)	6810-02	331.45	6810-04	257.37	6885-53	43.26
G (46)	6810-12	746.92	6810-14	479.50	6885-64	82.49
H (82)	6810-22	1,211.05	6810-24	610.05	6885-82	186.91

Adapter for Size H, \$55/50- \$145/60 only

6810-40 292.83

Accessories

For additional items necessary to operate the 6810 Extraction Apparatus, see mantles, numbers 12031–12058, tripods, 12094–12097, and controllers, 12077–12110. Also, for safety, see 12160 Water-Flo Power Cut-Off.

6811 EXTRACTION THIMBLES ★

CELLULOSE FIBER. Good retention. Seamless, high quality extraction thimbles, single thickness.

Readily permeable to the flow of ether and other organic solvents. Packed 25 per box.

Size, ID x H	Order Code	Per Box	Size, ID x H	Order Code	Per Box
9 x 50	6811-02	105.50	30 x 80	6811-20	105.50
27 x 80	6811-08	105.50	33 x 94	6811-22	112.79
27 x 60	6811-14	105.50	40 x 123	6811-24	132.99



6811

6812 EXTRACTION THIMBLES *Giant Size* ★

For the giant 6810 extraction apparatus. Cellulose fiber thimbles possess ample rigidity, good retention, and are readily permeable to the flow of ether and other organic solvents.

I.D. x H	Order Code	Each
60 x 180	6812-02	39.68
68 x 250	6812-04	50.31

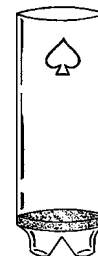


6812

6813 EXTRACTION THIMBLES *Glass*

With an ACE fritted disc sealed in. Can be used in any standard Soxhlet extraction apparatus. The sizes below correspond to the size specifications of extraction bodies and will fit those units. Available in porosities A, B, C, D and E (for micron sizes, turn to page 275). All porosities of a given size are priced the same. Height listed is above disc.

Size, mm	O.D., mm	Height, mm	Cap., mL	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
A	28	85	40	6813-02	6813-04	6813-06	6813-08	6813-10	43.38
C	35	85	70	6813-12	6813-14	6813-16	6813-18	6813-20	44.10
E	45	125	160	6813-22	6813-24	6813-26	6813-28	6813-30	44.75

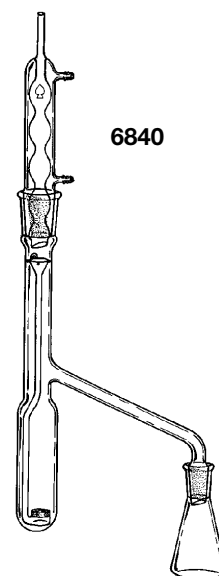


6813

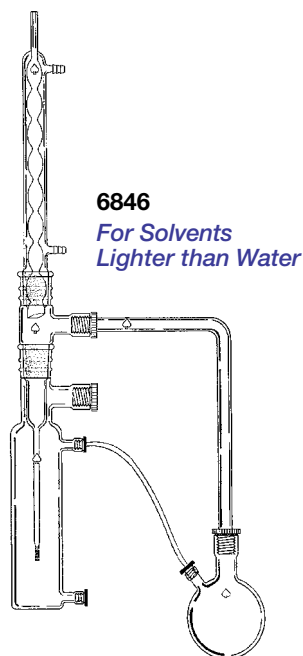
6840 EXTRACTION APPARATUS ♠

Designed for the extracting of liquids with ether. The dispersion of the ether is accomplished by the use of an ACE fritted disc, Por. B (70-100 micron), which is attached to the base of the funnel tube. With ₡ 24/40 and ₡ 40/50 joints. Available in the following sizes.

Capacity, Extraction Chamber, mL	Flask Capacity, mL	Order Code	Flask	Order Code	Condenser	Order Code	Distributor	Order Code	Ext. Chamber	Order Code	Complete
100	125	6965-22	23.96	6740-04	123.64	6840-02	71.02	6840-15	150.41	6840-30	369.03
250	250	6965-24	24.50	6740-04	123.64	6840-04	71.02	6840-17	162.86	6840-35	382.02
500	500	6965-26	25.86	6740-04	123.64	6840-06	71.02	6840-19	194.87	6840-40	415.39
1000	1000	6965-27	29.56	6740-04	123.64	6840-08	84.15	6840-21	223.70	6840-45	461.05
2000	2000	6965-28	39.91	6740-04	123.64	6840-10	84.15	6840-23	226.22	6840-50	473.92



6840

**6846 EXTRACTION APPARATUS***Liquid-Liquid, Heavier- or Lighter-than-Water*

A liquid-liquid extractor for use with lighter- or heavier-than-water extracting solvents. Overflow and boil-up tube uses Ace-Thred Connections, thus allowing easy removal for cleaning to reduce cross-contamination among samples. Joints are $\$45/50$.

FOR SOLVENTS LIGHTER THAN WATER: The glass dispersion tube adapter is inserted into the extractor body and the #25 Ace-Thred on the body and #7 Ace-Thred near the bottom are plugged. Solvent flask is heated and vapors rise to condenser thru glass elbow tube connected by two #25 threads. Condensed solvent fills adapter tube stem and is dispersed upward thru sample from capillary on bottom of stem, thereby increasing solvent surface-area-to-volume ratio. Solvent overflows thru PTFE tubing connected to #7 Ace-Thred on body top to flask. (For JUST lighter-than-water applications, order 6846-08, 6846-11, 6846-15, 6846-24, 6846-30, 6740-26, 5846-04, 5846-16 and two 7506-10.)

FOR SOLVENTS HEAVIER THAN WATER: The dispersion tube adapter is removed and the #7 thread near extractor body is plugged. Solvent is heated in flask, vapors rise thru glass elbow tube connected to #25 thread on flask and extractor body and liquefy in condenser. Solvent droplets pass down thru sample and return to flask via PTFE tube connected to #7 threads near body bottom and flask. (For JUST heavier-than-water applications, order 6846-08, 6846-14, 6846-25, 6846-30, 6740-26, 5846-04 and two 7506-10.)

Complete item consists of Extractor Body (approx. 1300 mL capacity), Dispersion Tube Adapter, Lighter-than-Water and Heavier-than-Water Elbow Tubes, PTFE Solvent Return Tube for Heavier- and Lighter-than-Water, Flask, Condenser, (2) #25 Nylon Bushings with FETFE O-Rings, and one #7 Nylon Bushing with FETFE O-Ring.



	Order Code	Each
Extractor Body, only, $\$45/50$, (1) #25 and (2) #7 Ace-Threds	6846-08	★ 287.41
Dispersion Tube Adapter, $\$45/50$, #25 Ace-Thred	6846-11	★ 293.38
Elbow Tube, Heavier-than-Water, 1-inch O.D.	6846-14	★ 49.18
Elbow Tube, Lighter-than-Water, 1-inch O.D.	6846-15	★ 50.36
Solvent Return Tube, Lighter-than-Water, PTFE, 12-inch x 1/4-inch O.D.	6846-24	★ 3.92
Solvent Return Tube, Heavier-than-Water, PTFE, 12-inch x 1/4-inch O.D.	6846-25	★ 4.48
Flask, 1 liter, RB, #7 and #25 Ace-Threds	6846-30	★ 103.71
Condenser, Allihn, only, $\$45/50$, 390mm length	6740-26	♠ 182.82
Bushing, Nylon, #25 with FETFE O-Ring (2)	7506-10	♠ 17.29
Plug, Nylon, #7 with FETFE O-Ring	5846-04	♠ 7.68
Plug, Nylon, #25 with FETFE O-Ring	5846-16	♠ 30.17
Complete	6846-50	★ 1,047.69

6848 EXTRACTION APPARATUS *Liquid-Liquid*

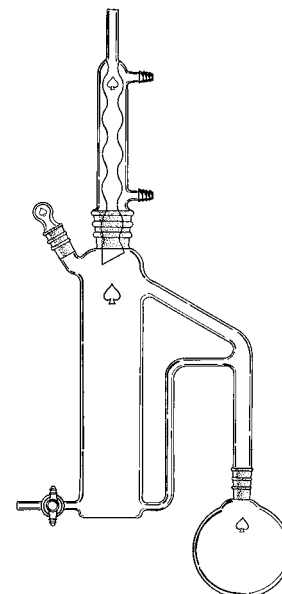
Designed for U.S.E.P.A. "Priority Pollutant" analysis using Method 625 (base neutrals/acid extractables). Accommodates one liter sample and approximately 200mL of a heavier-than-water extracting solvent, such as methylene chloride. Features an extractor body designed to accept a common condenser with a 45/50 joint, a 24/40 opening with a PTFE stopper near top of body for addition of reagents and a 1:5 PTFE 2mm bore stopcock for draining. Flattened body bottom allows use of optional magnetic stirring bar to enhance extraction of compounds from sample. One 24/40 plastic clamp supplied with extractor body.

Reference: Federal Register Vol. 49, No. 209, October 26, 1984.

	Order Code	Each
Extractor Body 45/50, 24/40, only	6848-05	♠ 243.68
Condenser, Allihn, 45/50, only	6740-06	♠ 113.73
Flask, 1-liter, 24/40, only	6887-27	♠ 32.83
PTFE Stopper, 24/25, only	12631-15	★ 15.72
Complete	6848-20	♠ 405.96

Optional items:

Heating Mantle, 115v-380w	12053-19	★ 241.00
Magnetic Stirring Bar, octagonal 25.4mm long x 7.9mm	13654-10	★ 4.06
PTFE Sleeve, 24/40, pkg/3	7643-08	★ 4.10
PTFE Sleeve, 45/50, pkg/3	7643-16	★ 5.84

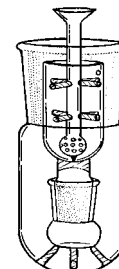


6848

9428 LIQUID-LIQUID EXTRACTOR ♠

For extraction with liquids of lighter density than liquid extracted such as water with ether; 9422 and 9414 are used with extraction flask 9451.

	Order Code	Each		Order Code	Each
Flask	9451-06	247.96	Tube	9414-08	101.32
Chamber	9422-05	34.49	Complete	9428-12	383.77



9428-12



9422-05



9414-08



Reference Guide to ACE Flasks

Capacity, mL	Approx. O.D., mm	Approx. O.D., Inches	Capacity, mL	Approx. O.D., mm	Approx. O.D., Inches
50	50	2.0	2000	160	6.3
100	58	2.25	3000	180	7.0
200	75	3.0	5000	225	8.86
250	82	3.25	12000	285	11.22
300	86	3.385	22000	350	13.78
500	100	4.0	50000	457	18.0
1000	125	5.0	72000	508	20.0

For Heated Flasks, see Instatherm® beginning on page 329.

HEAVY DUTY

**6870 FLASK BLANKS** *Glassblowers, Heavy Duty* ★

Round bottom flask with one unfinished neck. With **heavy wall** approximately 30% heavier than standard wall. Used by glassblowers in fabricating single- or multi-necked flasks.

Cap., mL	Neck O.D., mm	Order Code	Each	Cap., mL	Neck O.D., mm	Order Code	Each
100	26	6870-206	7.26	2000	46	6870-218	65.53
250	34	6870-210	10.17	3000	47	6870-220	71.57
500	34	6870-214	15.24	5000	57	6870-222	101.59
1000	42	6870-216	21.45				

6870 FLASK BLANKS *Glassblowers, Standard Wall* ★

Round bottom flask with one unfinished neck. Used by glassblowers in fabricating single- or multi-necked flasks. Neck O.D. is approximate.

Cap., mL	Neck O.D., mm	Case Qty.	Order Code	Per Case	Cap., mL	Neck O.D., mm	Case Qty.	Order Code	Per Case
50	26	10	6870-04	58.63	3000	47	6	6870-20	276.09
100	26	10	6870-06	60.61	5000	57	6	6870-22	393.05
250	34	10	6870-10	72.32	6000	51	1	6870-21	93.76
300	25	10	6870-12	163.20	12000	60	1	6870-24	157.82
500	34	10	6870-14	97.30	22000	76	1	6870-26	Priced
1000	42	10	6870-16	140.19	50000*	115	1	6870-29	Upon
2000	46	6	6870-18	161.12	72000	115	1	6870-30	Request



6871

6871 FLASK BLANKS *Recovery, Glassblowers* ★

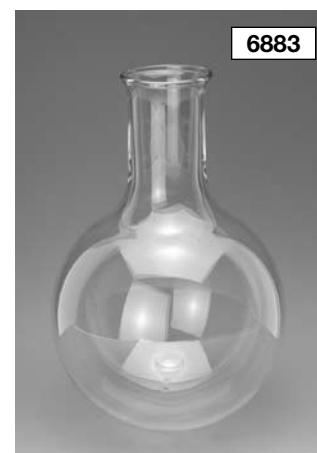
Recovery/Kjeldahl shaped blank with one unfinished neck.

Cap., mL	Order Code	Each
100	6871-07	12.43
250	6871-13	21.46
500	6871-15	25.92
1000	6871-19	39.61
2000	6871-23	57.23

For Heating Mantles, see Catalog Nos. 12031–12053.

6883 FLASK *Boiling, Quartz ★*

Capacity, mL	Neck O.D., mm	Order Code	Each	Capacity, mL	Neck O.D., mm	Order Code	Each
50	22	6883-06	122.69	750	34	6883-18	271.88
100	22	6883-08	124.20	1000	34	6883-20	328.35
250	28	6883-14	136.69	2000	40	6883-24	433.46
500	34	6883-16	226.64				



6887/9458 FLASK *Single Neck, Heavy Duty ♦*

Round bottom with short neck and 3 outer joint. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

Capacity, mL	Joint	Order Code	Each	Capacity, mL	Joint	Order Code	Each
5	14/20	9458-202	19.88	250	29/42	6887-238	29.08
10	14/20	9458-204	19.88	250	45/50	6887-203	47.29
10	19/22	9458-215	20.25	300	24/40	6887-225	29.07
15	14/20	9458-205	19.88	300	29/42	6887-239	29.98
25	14/20	9458-206	19.88	500	14/20	9458-214	22.50
25	19/22	9458-217	20.25	500	19/22	9458-225	25.96
50	14/20	9458-208	19.88	500	24/40	6887-226	30.14
50	19/22	9458-219	20.25	500	29/42	6887-240	32.07
50	24/40	6887-220	19.32	500	45/50	6887-207	50.30
50	29/42	6887-231	25.05	1000	24/40	6887-227	33.47
100	14/20	9458-210	19.88	1000	29/42	6887-241	34.43
100	19/22	9458-221	20.25	1000	34/45	6887-253	41.62
100	24/40	6887-221	19.32	1000	45/50	6887-262	52.69
100	29/42	6887-235	25.22	2000	24/40	6887-228	61.36
125	24/40	6887-232	24.85	2000	29/42	6887-242	63.36
125	29/42	6887-236	26.65	2000	45/50	6887-263	77.56
150	24/40	6887-233	28.65	3000	24/40	6887-229	77.07
150	29/42	6887-234	30.47	3000	29/42	6887-243	84.17
200	24/40	6887-223	25.77	3000	45/50	6887-264	105.00
200	29/42	6887-237	28.57	5000	24/40	6887-230	104.50
250	14/20	9458-212	21.43	5000	29/42	6887-244	108.16
250	19/22	9458-223	22.50	5000	45/50	6887-265	121.92
250	24/40	6887-224	26.42				



6887/9456/9458 FLASK *Single Neck, Standard Wall* ♠

Round bottom with short neck and ⌘ outer joint.



Capacity, mL	⌘ Joint	Order Code	Each	Capacity, mL	⌘ Joint	Order Code	Each
5	14/20	9458-02	19.58	500	14/20	9458-14	22.50
10	14/20	9458-04	19.58	500	19/22	9458-25	25.96
10	19/22	9458-15	20.25	500	24/40	6887-26	29.57
15	14/20	9458-05	19.58	500	29/42	6887-40	31.47
25	14/20	9458-06	19.58	500	45/50	9456-06	59.01
25	19/22	9458-17	20.25	1000	24/40	6887-27	32.83
35	14/20	9458-07	19.88	1000	29/42	6887-41	33.78
50	14/20	9458-08	19.88	1000	34/45	6887-53	40.82
50	19/22	9458-19	20.25	2000	24/40	6887-28	41.46
50	24/40	6887-20	23.83	2000	29/42	6887-42	42.65
50	29/42	6887-31	24.57	2000	45/50	6887-63	68.23
65	14/20	9458-09	19.88	3000	24/40	6887-29	58.10
100	14/20	9458-10	19.88	3000	29/42	6887-43	61.39
100	19/22	9458-21	20.25	5000	24/40	6887-30	68.49
100	24/40	6887-21	23.83	5000	29/42	6887-44	68.54
100	29/42	6887-35	24.73	3000	45/50	6887-64	83.48
125	29/42	6887-36	26.15	5000	45/50	6887-65	99.42
200	24/40	6887-23	25.96	6000	24/40	6887-66	110.90
200	29/42	6887-37	28.02	6000	29/42	6887-68	111.86
250	14/20	9458-12	21.43	6000	45/50	6887-70	142.24
250	19/22	9458-23	22.50	6000	55/50	6887-72	144.64
250	24/40	6887-24	27.18	12000	45/50	6887-67	217.64
250	29/42	6887-38	28.52	12000	55/50	6887-82	229.18
250	45/50	9456-03	53.28	22000	45/50	6887-69	365.58
300	24/40	6887-25	28.51				

4120 FLASK *Boiling, Round Bottom,
Single Short Neck, ⌘ Joint* ★

PYREX® brand, with short ⌘ outer joint neck.

Corning 4320/4320B/4321A

4120

Corning Code	Approx. Cap., mL	⌘ Joint	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf- Pack Price	Case Price
				Shelf- Pack	Case			
4320A-50	50	24/40	49 x 98	—	12	4120-21	—	287.16
4321A-100	100	14/20	65 x 95	1	12	4120-09	32.03	334.20
4320B-100	100	19/22	65 x 95	2	12	4120-13	58.95	307.58
4320-100	100	24/40	65 x 120	2	12	4120-23	52.54	274.13
4320-250	250	24/40	83 x 140	2	12	4120-26	56.90	296.87
4320-500	500	24/40	102 x 160	2	12	4120-29	61.20	319.33
4320-1L	1000	24/40	127 x 189	1	12	4120-33	36.30	378.74
4320-2L	2000	24/40	162 x 215	1	6	4120-36	59.72	311.58

13438 FLASK *Single Neck, ⌘ Joint, PTFE* ★

Round bottom boiling flask, fabricated from PTFE, with outer ⌘ joint. Usable to 280°C.



Capacity, mL	⌘ Joint	Order Code	Each
10	19/38	13438-07	29.40
25	24/40	13438-16	45.61
50	24/40	13438-19	62.54
50	29/42	13438-25	62.54
100	29/42	13438-29	96.33

9477 FLASK *Single Neck, Pear-Shaped, Heavy Wall* ♦

Distilling, pear-shaped with 14/20 outer joint.

Capacity, mL	14/20 Joint	Order Code	Each	Capacity, mL	19/22 Joint	Order Code	Each
5	14/20	9477-02	20.07	5	19/22	9477-23	20.70
10	14/20	9477-04	20.07	10	19/22	9477-25	20.70
15	14/20	9477-05	20.07	25	19/22	9477-27	20.70
25	14/20	9477-06	20.36	50	19/22	9477-29	20.70
50	14/20	9477-08	20.36	100	19/22	9477-31	21.34
100	14/20	9477-10	21.22	250	19/22	9477-33	26.68
250	14/20	9477-12	25.71	50	24/40	9477-34	25.53

9477 FLASK *Single Neck, Pear-Shaped, Polished Joint, Heavy Wall* ♦

Distilling, pear-shaped with polished 14/20 outer joint.

Capacity, mL	Order Code	Each
5	9477-45	26.18
10	9477-47	26.18
25	9477-49	26.18

**HEAVY
DUTY**



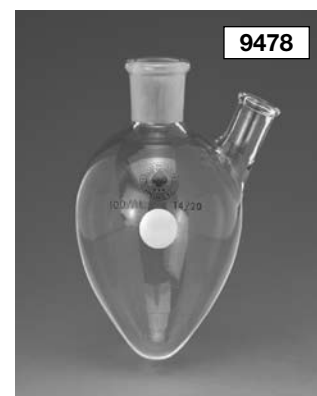
9477

9478 FLASK *Two Necks, Pear-Shaped, Heavy Wall* ♦

Pear-shaped, with side arm for use with 9095 rubber thermometer adapter. Center joint is 14/20 outer.

Capacity, mL	Order Code	Each
5	9478-02	29.20
10	9478-04	29.20
100	9478-10	29.20

**HEAVY
DUTY**



9478

9479/9481 FLASK *Two Necks, Pear-Shaped, Heavy Wall* ♦

Pear-shaped with 14/20 outer joints.

Cap., mL	Center Neck 14/20	14/20 Side Necks	Order Code	Each	Cap., mL	Center Neck 14/20	10/18 Side Necks	Order Code	Each
5	14/20	14/20	9479-03	41.10	10	14/20	10/18	9481-04	39.17
10	14/20	14/20	9479-05	41.10	25	14/20	10/18	9481-06	39.17
25	14/20	14/20	9479-07	41.10	50	14/20	10/18	9481-08	39.17
50	14/20	14/20	9479-09	41.10					
100	14/20	14/20	9479-11	41.10					

**HEAVY
DUTY**



9479/9481


**HEAVY
DUTY**

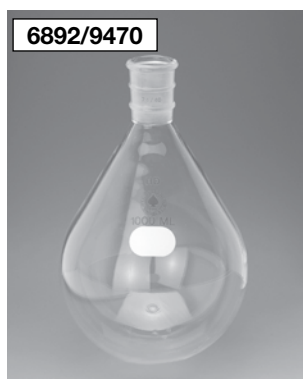
6892/9470 FLASK *Recovery, Rotary Evaporator, Pear Shaped, Heavy Wall* ♦

A multipurpose, pear-shaped flask with modified side for ease in inserting spatula or brush for removing solids or cleaning sides. **Fabricated with heavy walls**, approximately 30% heavier than standard-wall flasks. With ㄩ outer joint.

Capacity, mL	ㄩ Joint	Order Code	Each	Capacity, mL	ㄩ Joint	Order Code	Each
10	14/20	9470-202	19.67	200	24/25	6892-218	34.54
25	14/20	9470-204	19.67	200	24/40	6892-208	34.54
25	19/22	9470-221	19.67	200	29/42	6892-209	38.77
50	14/20	9470-206	19.67	250	29/42	6892-211	34.54
50	19/22	9470-223	20.27	500	24/25	6892-222	50.04
50	24/25	6892-214	24.41	500	24/40	6892-212	50.04
50	24/40	6892-204	25.01	500	29/32	6892-213	40.19
100	14/20	9470-208	20.57	500	29/42	6892-293	51.53
100	19/22	9470-225	20.87	1000	24/40	6892-230	63.12
100	24/25	6892-216	25.01	1000	29/32	6892-231	50.62
100	24/40	6892-206	25.37	1000	29/42	6892-232	63.12
125	19/22	9470-226	25.64	2000	24/40	6892-240	89.03
200	14/20	9470-210	26.83	2000	29/42	6892-242	89.03
200	19/22	9470-227	33.98	2000	29/32	6892-243	89.03

6892/9470 FLASK *Recovery, Rotary Evaporator, Pear Shaped, Standard Wall* ♦

A multipurpose, pear-shaped flask with modified side for ease in inserting spatula or brush for removing solids or cleaning sides. With ㄩ outer joint.



Capacity, mL	ㄩ Joint	Order Code	Each	Capacity, mL	ㄩ Joint	Order Code	Each
10	14/20	9470-02	22.56	200	24/25	6892-18	30.64
25	14/20	9470-04	22.68	200	24/40	6892-08	31.80
25	19/22	9470-21	24.71	200	29/42	6892-09	32.64
50	14/20	9470-06	22.68	250	29/42	6892-11	34.83
50	19/22	9470-23	24.79	250	45/35	6892-51	64.25
50	24/25	6892-14	26.71	500	24/25	6892-22	37.04
50	24/40	6892-04	27.28	500	24/40	6892-12	38.59
50	29/42	6892-05	29.08	500	29/26	6892-13	40.06
100	14/20	9470-08	23.56	500	29/42	6892-15	34.08
100	19/22	9470-25	25.55	500	45/35	6892-53	70.58
100	24/25	6892-16	26.71	1000	24/40	6892-30	49.32
100	24/40	6892-06	27.28	1000	29/42	6892-32	50.59
100	29/42	6892-07	29.08	1000	45/35	6892-55	83.00
125	19/22	9470-26	27.78	2000	24/40	6892-40	60.01
125	45/35	6892-49	60.50	2000	29/42	6892-42	61.16
200	14/20	9470-10	30.54	2000	45/35	6892-57	96.06
200	19/22	9470-27	31.24				

3990 EVAPORATING FLASK *Pear shaped, with ㄩ Joints, Poly Coated, Heavy Duty* ♦


ㄩ Joint	Size, mL	Buchi Part #	Order Code	Each
29/32	500mL	25322	3990-104	55.54
29/32	1000mL	20729	3990-106	63.29
29/32	2000mL	25323	3990-108	76.20
29/42	500mL	—	3990-120	55.54
29/42	1000mL	25517	3990-122	71.03
29/42	2000mL	—	3990-124	119.55
24/40	500mL	25261	3990-132	55.54
24/40	1000mL	20730	3990-134	90.29
24/40	2000mL	25262	3990-136	119.55

3994 DRYING FLASK *Pear shaped with side indents,
\$ Neck Joint, Heavy Duty ♠*

Poly Coated

\$ Joint	Size, mL	Buchi Part #	Order Code	Each
29/32	500mL	—	3994-110	114.36
29/32	1000mL	—	3994-112	128.37
29/32	2000mL	—	3994-114	140.04
24/40	500mL	—	3994-120	114.36
24/40	1000mL	—	3994-124	128.37
24/40	2000mL	—	3994-126	140.04

Non-Coated

\$ Joint	Size, mL	Buchi Part #	Order Code	Each
29/32	500mL	00452	3994-10	87.53
29/32	1000mL	00453	3994-12	99.20
29/32	2000mL	00454	3994-14	114.36
24/40	500mL	11579	3994-20	91.02
24/40	1000mL	00424	3994-22	102.69
24/40	2000mL	11580	3994-23	117.86



3996 RECEIVING FLASK *Single Neck, Round Bottom,
Poly Coated, Heavy Duty ♠*

\$ Joint	Size, mL	Buchi Part #	Order Code	Each
35/20	1000mL	40775/20728	3996-20	70.91
35/20	2000mL	40776/25265	3996-22	81.37
35/20	3000mL	40777/25266	3996-24	96.87



6895 FLASK *Single Neck, Flat Bottom ♠*

With short neck and \$ 24/40 outer joint.

Capacity, mL	Order Code	\$ 24/40
50	6895-20	28.37
100	6895-21	28.37
125	6895-22	28.37
250	6895-24	28.37
300	6895-25	28.37
500	6895-26	31.61
1000	6895-27	41.57
2000	6895-28	52.05



**6897****6897 FLASK** *Boiling, Flat Bottom, Short Neck* ★

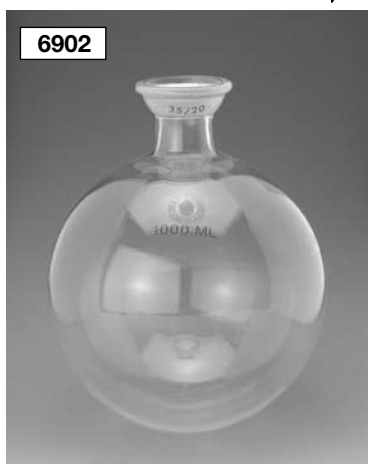
PYREX® brand with 24/40 outer joint.

Corning 4100

Corning Code	Approx. Cap., mL	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
			Shelf-Pack	Case			
4100-50	50	50 x 98	—	1	6897-02	—	31.94
4100-125	125	69 x 120	—	12	6897-04	—	298.31
4100-250	250	82 x 135	6	12	6897-08	170.03	295.70
4100-500	500	103 x 155	6	12	6897-16	189.09	328.85
4100-1L	1000	132 x 185	1	12	6897-18	35.13	366.59

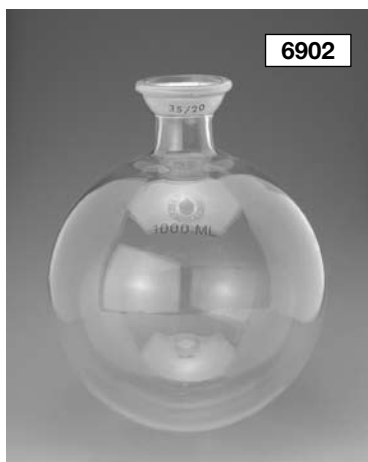
HEAVY DUTY**6902 FLASK** *Single Neck, Spherical, Receiving, Heavy Duty* ♠With short neck and 35 outer joint. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

Cap., mL	Order Code	\$ 35/20	Order Code	\$ 35/25
50	—	—	6902-234	35.34
100	—	—	6902-235	29.70
250	—	—	6902-238	30.12
500	6902-226	35.85	6902-240	33.67
1000	6902-227	40.93	6902-241	41.32
2000	6902-228	67.66	6902-242	68.31
3000	6902-229	83.37	6902-243	84.18
5000	—	—	6902-244	96.59

**6902 FLASK** *Single Neck, Spherical, Standard Wall* ♠

With short neck and 35 outer joint.

Cap., mL	Order Code	\$ 35/20	Order Code	\$ 35/25
50	—	—	6902-34	34.66
250	—	—	6902-38	35.44
300	6902-25	36.13	—	—
500	6902-26	36.39	6902-40	37.29
1000	6902-27	40.15	6902-41	39.39
2000	6902-28	49.09	6902-42	49.54
3000	6902-29	66.60	6902-43	64.72
5000	—	—	6902-44	75.10



6905 FLASK *Single Neck* ♦

With long neck and 24/40 outer joint.

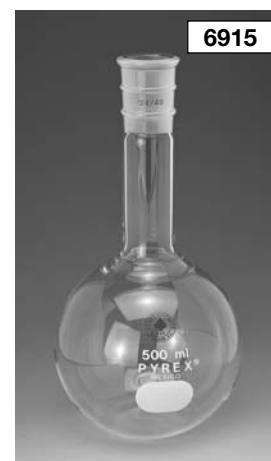
Capacity, mL	Overall Neck Length, mm	Order Code	Each
250	95	6905-24	28.68
500	105	6905-26	30.51
1000	120	6905-27	33.44



6915 FLASK *Single Neck, Flat Bottom* ♦

With long neck and 24/40 outer joint.

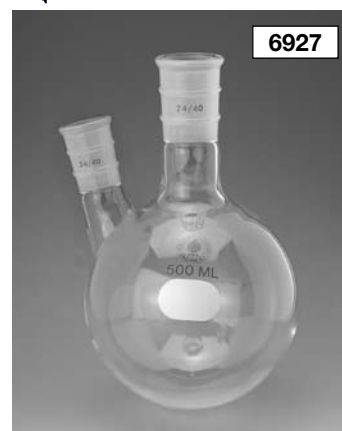
Capacity, mL	Overall Neck Length, mm	Order Code	Each
500	105	6915-25	33.32
1000	120	6915-26	36.39

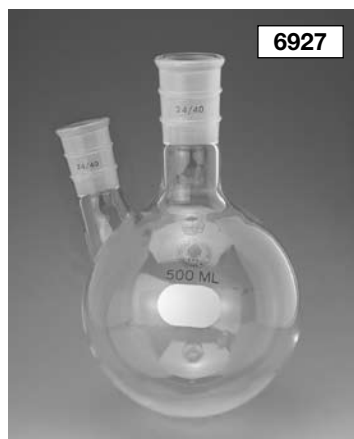


6927/9463/9464 FLASK *Two Necks, Angled, Heavy Duty* ♦

Round bottom with 24/40 outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. With side neck angled.

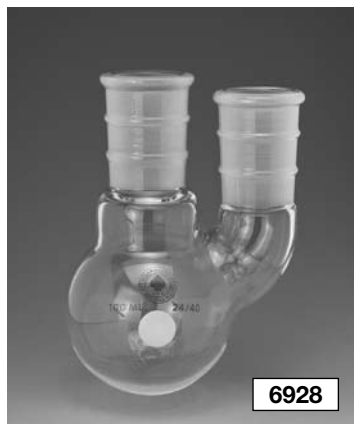
Cap., mL	Center Neck 24/40	Side Neck 24/40	Order Code	Each	Cap., mL	Center Neck 24/40	Side Neck 24/40	Order Code	Each
25	14/20	14/20	9464-206	43.18	250	24/40	24/40	6927-208	65.19
25	19/22	14/20	9463-206	46.00	250	29/42	24/40	6927-226	66.01
50	14/20	14/20	9464-208	43.18	500	24/40	10/30	6927-220	65.18
50	19/22	14/20	9463-208	46.00	500	24/40	24/40	6927-222	67.53
100	14/20	14/20	9464-210	43.18	500	29/42	24/40	6927-229	68.36
100	19/22	14/20	9463-210	46.00	1000	24/40	24/40	6927-232	82.91
100	24/40	14/20	9463-211	45.83	1000	29/42	24/40	6927-239	83.86
250	14/20	14/20	9464-295	46.96	2000	24/40	24/40	6927-244	112.88
250	19/22	14/20	9463-212	49.04	3000	29/42	29/42	6927-258	152.80
250	24/40	10/30	6927-204	65.19	5000	24/40	24/40	6927-262	150.54



**6927****6927/9463/9464 FLASK** *Two Necks, Angled, Standard Wall* ♦

Round bottom with ¢ outer joints. With side neck angled.

Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each	Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each
10	14/20	14/20	9464-04	42.27	500	24/40	24/40	6927-22	67.53
25	14/20	14/20	9464-06	42.27	1000	24/40	24/40	6927-32	82.85
25	19/22	14/20	9463-06	44.66	2000	24/40	24/40	6927-44	96.72
50	14/20	14/20	9464-08	43.18	3000	29/42	29/42	6927-58	133.76
50	19/22	14/20	9463-08	45.55	3000	45/50	24/40	6927-160	138.46
100	14/20	14/20	9464-10	45.52	5000	24/40	24/40	6927-62	132.55
100	19/22	14/20	9463-10	45.92	5000	45/50	24/40	6927-168	149.36
100	24/40	14/20	9463-11	45.83	6000	24/40	24/40	6927-64	176.18
250	19/22	14/20	9463-12	45.97	6000	29/42	29/42	6927-66	177.36
250	24/40	10/30	6927-04	64.93	6000	45/50	24/40	6927-68	192.74
250	24/40	24/40	6927-08	64.93	6000	45/50	29/42	6927-70	193.92
500	24/40	10/30	6927-20	65.18					

HEAVY DUTY**6928****6928 FLASK** *Two Necks, Vertical, Heavy Duty* ♦Round bottom with ¢ outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. With side neck vertical.

Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each	Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each
100	24/40	24/40	6928-207	49.91	1000	24/40	24/40	6928-232	82.91
250	24/40	24/40	6928-208	65.19	2000	24/40	24/40	6928-244	116.45
250	29/42	24/40	6928-211	66.01	2000	29/42	24/40	6928-246	119.50
500	24/40	24/40	6928-222	67.53					

6928 FLASK *Two Necks, Vertical, Standard Wall* ♦

Round bottom with ¢ outer joints. With side neck vertical.

Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each	Cap., mL	Center Neck ¢	¢ Side Neck	Order Code	Each
100	24/40	24/40	6928-07	49.91	1000	24/40	24/40	6928-32	82.91
250	24/40	24/40	6928-08	65.19	1000	29/42	29/42	6928-38	89.00
500	24/40	24/40	6928-22	67.53					

**6930****6930 FLASK** *Two Necks, Vertical, Standard Wall* ♦

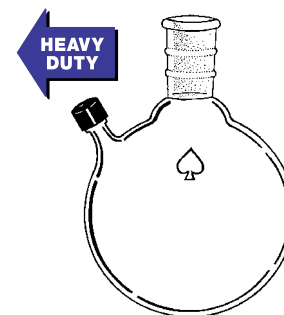
Round bottom with ¢ outer socket joints. 500mL and 1000mL sizes have angled necks, but are available with straight necks as special orders. Simply omit the order code, add "sp" for special, and state the desired flask capacity.

Cap., mL	Center Neck ¢	Side Neck ¢	Order Code	Each
500	35/25	35/25	6930-26	87.59
1000	35/25	35/25	6930-38	100.25
2000	35/25	35/25	6930-48	118.11
5000	35/25	35/25	6930-66	155.89

6933/9461 FLASK with Septum Port, Heavy Duty ♠

Used when handling air-sensitive materials. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. With 24/40 outer joint and septum joint for use with 9096-32 septum. Supplied with septum.

Cap., mL	24/40 Joint	Order Code	Each
50	14/20	9461-210	28.94
100	14/20	9461-212	29.79
250	14/20	9461-214	31.05
250	24/40	6933-224	40.33
500	24/40	6933-226	45.37
1000	24/40	6933-227	52.03



6933-24, 9461-10
6933-224, 9461-210

6933/9461 FLASK with Septum Port, Standard Wall ♠

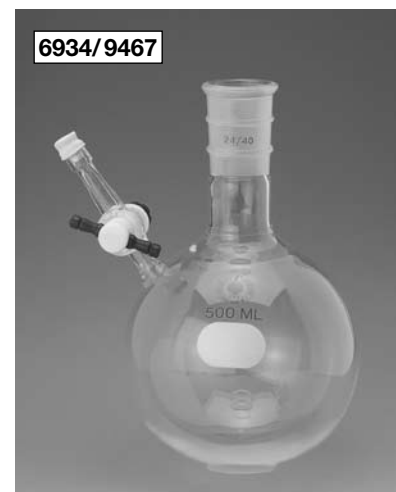
Used when handling air-sensitive materials. With 24/40 outer joint and septum joint for use with 9096-32 septum. Supplied with septum.

Cap., mL	24/40 Joint	Order Code	Each
50	14/20	9461-10	28.94
100	14/20	9461-12	29.79
250	14/20	9461-14	31.05
250	24/40	6933-24	40.33
500	24/40	6933-26	45.37
1000	24/40	6933-27	52.03

6934 FLASK with Stopcock and Septum Inlet, Heavy Duty ♠

Used when handling air-sensitive materials. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. With 24/40 outer joint, 2mm bore 1:5 PTFE stopcock and septum port for use with 9096-32 septum. Supplied with septum.

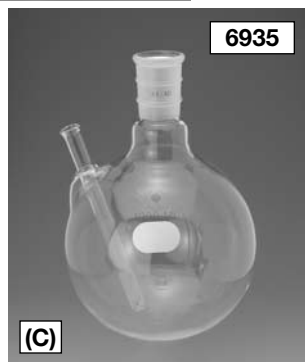
Cap., mL	Order Code	Each
250	6934-225	120.79
500	6934-227	125.45
1000	6934-229	131.96



6934/9467 FLASK with Stopcock and Septum Inlet, Standard Wall ♠

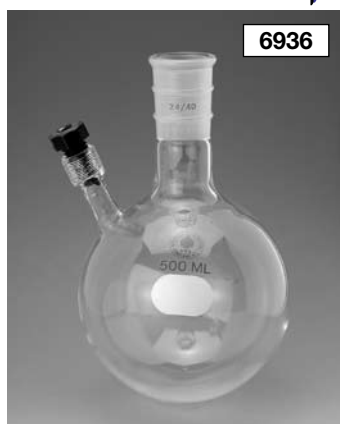
Used when handling air-sensitive materials. With 24/40 outer joint, 2mm bore 1:5 PTFE stopcock and septum port for use with 9096-32 septum. Supplied with septum.

Cap., mL	24/40 Joint	Order Code	Each
50	14/20	9467-11	99.18
100	14/20	9467-13	99.75
250	14/20	9467-15	101.23
250	24/40	6934-25	102.52
500	24/40	6934-27	106.06
1000	24/40	6934-29	108.82

**6935/9460 FLASK** ♦

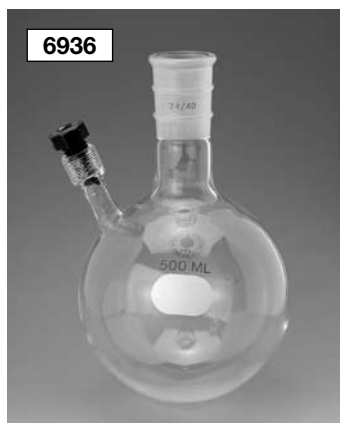
With ⌘ outer joint and side tube. Available in type A with side port, or C with side well, as illustrated.

Capacity, mL	⌘ Joint	Order Code	Style A	Order Code	Style C
5	14/20	9460-02	28.94	—	—
10	14/20	9460-04	28.94	—	—
25	14/20	9460-06	28.94	—	—
50	14/20	9460-08	28.94	—	—
50	24/40	6935-03	35.49	—	—
100	14/20	9460-10	29.79	—	—
100	19/38	6935-04	36.99	—	—
100	24/40	6935-05	35.49	6935-64	40.91
200	24/40	—	—	6935-66	41.22
250	14/20	9460-12	31.31	—	—
250	24/40	6935-09	39.96	6935-68	41.79
300	24/40	—	—	6935-70	50.28
500	24/40	6935-13	44.89	6935-72	53.99
1000	24/40	—	—	6935-74	64.10
2000	24/40	6935-17	66.35	—	—
3000	29/42	—	—	6935-78	107.95

**HEAVY
DUTY**
**6936/9462 FLASK** Threaded Side Arm, #7 Ace-Thred, Heavy Duty ♦

With ⌘ outer joint and side arm which is internally threaded for use with 5029 Nylon Bushing. Will accommodate thermometers or bleed tubes up to 7mm outside diameter. Supplied complete with 5029 Bushing and FETFE O-Ring. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

Cap., mL	Center Neck ⌘	Order Code	Each	Cap., mL	Center Neck ⌘	Order Code	Each
25	14/20	9462-207	45.83	250	29/42	6936-237	67.54
50	14/20	9462-209	45.83	500	24/40	6936-240	65.77
100	14/20	9462-211	46.25	500	29/42	6936-242	71.41
100	24/40	6936-230	60.17	1000	24/40	6936-244	72.40
250	24/40	6936-235	62.38	1000	29/42	6936-246	76.97

**6936/9462 FLASK** Threaded Side Arm, #7 Ace-Thred, Standard Wall ♦

With ⌘ outer joint and side arm which is internally threaded for use with 5029 Nylon Bushing. Will accommodate thermometers or bleed tubes up to 7mm outside diameter. Supplied complete with 5029 Bushing and FETFE O-Ring.

Cap., mL	Center Neck ⌘	Order Code	Each	Cap., mL	Center Neck ⌘	Order Code	Each
25	14/20	9462-07	45.83	250	14/20	9462-13	48.12
50	14/20	9462-09	45.83	250	24/40	6936-35	67.46
100	14/20	9462-11	46.25	500	24/40	6936-40	71.26
100	24/40	6936-30	65.38	1000	24/40	6936-44	76.97

6939 FLASK *Three Necks, Flat Bottom, ¤ Outer Joints ♠*

Flat bottom flask can sit directly on top of heater or stirrer, no other support needed. Illustration is of 1000mL capacity, only; 250 and 500mL sizes have angled side necks. *For straight necks, specify "straight," omit code and add "sp" for special, state capacity.*

Capacity, mL	Center Neck ¤	¤ Side Necks	Order Code	Each
250	24/40	24/40	6939-10	101.18
500	24/40	24/40	6939-15	104.83
1000	24/40	24/40	6939-20	115.99



6940 FLASK ♠

With ¤ outer joint and side well.

Capacity, mL	¤ Joint	Order Code	Each
500	35/25	6940-49	66.51
1000	35/25	6940-51	77.47



6944 FLASK *Three Necks, Vertical, Heavy Duty ♠*

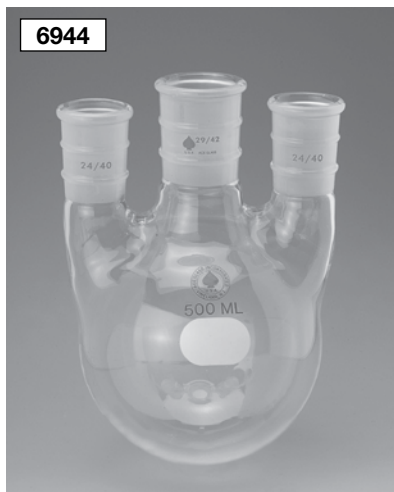
With ¤ outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. The flareout directly below the center joint facilitates cleaning the flask, and enables stirring blades, etc., to be easily removed. With side necks vertical.

Cap., mL	Center Neck ¤	¤ Side Neck	Order Code	Each	Cap., mL	Center Neck ¤	¤ Side Neck	Order Code	Each
100	24/40	24/40	6944-203	89.29	2000	29/42	24/40	6944-242	156.87
200	24/40	24/40	6944-205	89.29	2000	29/42	29/42	6944-244	158.48
250	24/40	24/40	6944-204	89.29	2000	34/45	24/40	6944-246	160.21
250	29/42	24/40	6944-206	89.29	2000	34/45	29/42	6944-247	141.09
250	29/42	29/42	6944-207	89.29	2000	45/50	24/40	6944-249	154.66
300	24/40	24/40	6944-210	89.29	2000	45/50	29/42	6944-245	179.82
500	24/40	24/40	6944-216	91.55	3000	24/40	24/40	6944-248	170.62
500	29/42	24/40	6944-218	91.55	3000	29/42	24/40	6944-250	172.13
500	29/42	29/42	6944-220	91.55	3000	29/42	29/42	6944-254	173.76
500	34/45	24/40	6944-222	96.14	3000	34/45	24/40	6944-256	175.23
500	34/45	29/42	6944-223	96.84	3000	34/45	29/42	6944-257	176.74
500	45/50	24/40	6944-225	105.31	3000	45/50	24/40	6944-258	179.83
500	45/50	29/42	6944-229	105.31	3000	45/50	29/42	6944-259	181.64
1000	24/40	24/40	6944-224	105.31	5000	24/40	24/40	6944-260	187.05
1000	29/42	24/40	6944-226	112.67	5000	29/42	24/40	6944-262	187.05
1000	29/42	29/42	6944-228	113.35	5000	29/42	29/42	6944-264	191.06
1000	34/45	24/40	6944-230	114.83	5000	34/45	24/40	6944-266	196.35
1000	34/45	29/42	6944-231	115.96	5000	45/50	24/40	6944-267	200.41
1000	45/50	24/40	6944-238	116.48	5000	45/50	29/42	6944-268	203.15
2000	24/40	24/40	6944-240	152.72					



6944 FLASK *Three Necks, Vertical, Standard Wall* ♦

With ⌘ outer joints. The flareout directly below the center joint facilitates cleaning the flask, and enables stirring blades, etc., to be easily removed. With side necks vertical.



Cap., mL	Center Neck ⌘	⌘ Side Neck	Order Code	Each	Cap., mL	Center Neck ⌘	⌘ Side Neck	Order Code	Each
100	24/40	24/40	6944-03	89.29	5000	45/50	24/40	6944-67	200.41
200	24/40	24/40	6944-05	89.29	5000	45/50	29/42	6944-68	203.15
250	24/40	24/40	6944-04	89.29	5000	60/40	24/40	6944-167	251.06
250	29/42	24/40	6944-06	90.88	6000	24/40	24/40	6944-107	219.81
300	24/40	24/40	6944-10	89.29	6000	29/42	24/40	6944-109	220.98
500	24/40	24/40	6944-16	91.55	6000	29/42	29/42	6944-111	226.76
500	29/42	24/40	6944-18	91.55	6000	34/45	24/40	6944-113	237.17
500	29/42	29/42	6944-20	93.85	6000	34/45	29/42	6944-115	240.64
500	34/45	24/40	6944-22	96.14	6000	45/50	24/40	6944-117	248.74
500	45/50	24/40	6944-25	106.57	6000	45/50	29/42	6944-119	251.06
1000	24/40	24/40	6944-24	106.57	6000	45/50	45/50	6944-120	283.46
1000	29/42	24/40	6944-26	112.64	6000	60/40	24/40	6944-127	286.91
1000	29/42	29/42	6944-28	112.64	12000	29/42	24/40	6944-69	313.55
1000	34/45	24/40	6944-30	113.35	12000	29/42	29/42	6944-70	316.91
1000	34/45	29/42	6944-31	117.17	12000	34/45	29/42	6944-71	319.82
1000	45/50	24/40	6944-38	116.48	12000	34/45	24/40	6944-72	318.40
2000	24/40	24/40	6944-40	132.80	12000	45/50	45/50	6944-73	350.69
2000	29/42	24/40	6944-42	133.29	12000	55/50	24/40	6944-74	354.66
2000	29/42	29/42	6944-44	135.98	12000	45/50	24/40	6944-75	337.57
2000	34/45	24/40	6944-46	139.30	12000	45/50	29/42	6944-76	340.53
2000	34/45	29/42	6944-47	141.17	12000	55/50	29/42	6944-78	356.91
2000	45/50	24/40	6944-148	162.51	12000	55/50	45/50	6944-79	362.89
2000	45/50	29/42	6944-49	149.61	12000	60/40	24/40	6944-177	370.22
3000	24/40	24/40	6944-48	155.00	12000	71/60	45/50	6944-178	394.29
3000	29/42	24/40	6944-50	156.22	22000	45/50	24/40	6944-80	676.18
3000	29/42	29/42	6944-54	160.64	22000	29/42	29/42	6944-81	670.80
3000	34/45	24/40	6944-56	164.35	22000	45/50	29/42	6944-82	696.67
3000	34/45	29/42	6944-57	166.25	22000	45/50	45/50	6944-83	709.37
3000	45/50	24/40	6944-58	176.00	22000	55/50	24/40	6944-84	715.11
3000	45/50	29/42	6944-59	177.54	22000	55/50	29/42	6944-86	719.49
3000	60/40	24/40	6944-157	204.29	22000	55/50	45/50	6944-88	731.04
5000	24/40	24/40	6944-60	179.32	22000	71/60	55/50	6944-91	759.64
5000	29/42	24/40	6944-62	180.89	22000	71/60	45/50	6944-188	745.53
5000	29/42	29/42	6944-64	185.73	50000	45/50	45/50	6944-294	2,294.82
5000	34/45	24/40	6944-66	196.35	72000	71/60	45/50	6944-297	1,840.60

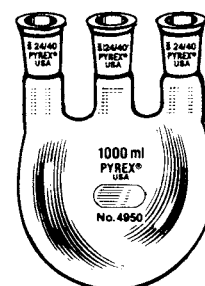
**All ACE outer joints are tooled
with reinforcement rings for added
strength and stability.**

4131 FLASK *Boiling, Round Bottom,
Three Necks, ⌘ Joint Vertica ★*

Corning 4950/4960

PYREX® brand, with three ⌘ outer joints at same height.

Corning Code	Approx. Cap., mL	⌘ Joints Center-Side	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
4960-250	250	24/40-24/40	83 x 140	1	4	4131-13	133.39	463.98
4950-500	500	24/40-24/40	102 x 160	1	4	4131-16	125.99	438.22
4950-1L	1000	24/40-24/40	130 x 185	1	4	4131-22	146.44	509.35
4960-1L	1000	34/45-24/40	130 x 190	1	4	4131-27	158.92	552.78
4950-2L	2000	24/40-24/40	162 x 215	1	4	4131-32	192.67	670.15
4960-2L	2000	45/50-24/40	162 x 228	1	4	4131-35	218.16	758.82
4960-5L	5000	45/50-24/40	221 x 300	1	3	4131-41	372.76	972.43
4960-12L	12000	55/50-29/42	295 x 385	—	1	4131-46	—	495.72



4131

6945 FLASK *Three Necks, Jacketed, Heavy Duty ★*

Round bottom flask with three in-line ⌘ outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. Inlet/outlet connections are 28/15 O-Ring ball joints, sealed tangentially.



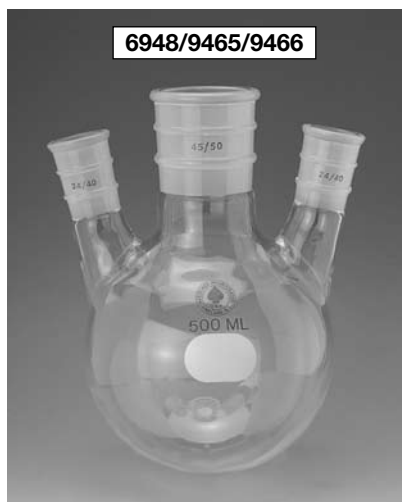
Cap., mL	Center Neck ⌘	⌘ Side Neck	Order Code	Each	Cap., mL	Center Neck ⌘	⌘ Side Neck	Order Code	Each
500	24/40	24/40	6945-217	470.06	5000	29/42	29/42	6945-266	753.06
500	29/42	24/40	6945-219	478.16	5000	34/45	24/40	6945-268	779.56
1000	24/40	24/40	6945-223	542.80	5000	45/50	24/40	6945-270	798.39
1000	29/42	24/40	6945-225	550.92	6000	24/40	24/40	6945-274	827.20
2000	29/42	24/40	6945-245	585.99	6000	29/42	24/40	6945-276	838.77
3000	29/42	24/40	6945-255	657.41	6000	29/42	29/42	6945-278	844.55
3000	29/42	29/42	6945-257	664.09	6000	45/50	24/40	6945-280	885.05
3000	34/45	24/40	6945-259	690.32	6000	45/50	29/42	6945-282	890.83
3000	45/50	24/40	6945-261	715.57	6000	45/50	45/50	6945-284	920.91
5000	29/42	24/40	6945-264	744.95					



6945

 **HEAVY DUTY**
6948/9465/9466 FLASK *Three Necks, Angled, Heavy Duty* ♦

With ⅜ outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. With side necks angled.



Cap., mL	Center Neck ⅜	⅜ Side Neck	Order Code	Each	Cap., mL	Center Neck ⅜	⅜ Side Neck	Order Code	Each
25	14/20	14/20	9465-207	51.90	1000	24/40	24/40	6948-226	106.57
25	19/22	14/20	9466-206	56.14	1000	29/42	24/40	6948-227	112.67
50	14/20	14/20	9465-209	54.95	1000	34/45	24/40	6948-234	114.83
50	19/22	14/20	9466-208	58.56	2000	24/40	24/40	6948-232	159.37
100	14/20	14/20	9465-211	55.09	2000	29/42	24/40	6948-235	161.21
100	19/22	14/20	9466-210	58.55	2000	29/42	29/42	6948-236	163.19
100	24/40	24/40	6948-203	89.29	2000	34/45	24/40	6948-237	167.16
200	24/40	24/40	6948-205	89.29	3000	24/40	24/40	6948-238	170.62
250	14/20	14/20	9465-213	61.15	3000	29/42	24/40	6948-239	172.13
250	19/22	14/20	9466-212	60.32	3000	29/42	29/42	6948-241	173.76
250	24/40	24/40	6948-207	89.29	3000	34/45	24/40	6948-240	175.23
250	29/42	24/40	6948-208	90.07	3000	34/45	29/42	6948-242	176.74
300	24/40	24/40	6948-212	91.81	5000	24/40	24/40	6948-258	187.05
500	19/22	14/20	9466-214	56.08	5000	29/42	24/40	6948-260	190.15
500	24/40	24/40	6948-216	91.81	5000	29/42	29/42	6948-261	192.29
500	29/42	24/40	6948-222	93.85	5000	34/45	24/40	6948-262	193.58
500	29/42	29/42	6948-220	93.85	5000	34/45	29/42	6948-263	197.80
500	34/45	24/40	6948-224	96.14	5000	45/50	24/40	6948-267	199.58

6948/9465/9466 FLASK *Three Necks, Angled, Standard Wall* ♦

With ⅜ outer joints. With side necks angled.

6948-02/9465-05/9466-04


Cap., mL	Center Neck ⅜	⅜ Side Neck	Order Code	Each	Cap., mL	Center Neck ⅜	⅜ Side Neck	Order Code	Each
15	14/20	14/20	9465-05	51.90	3000	34/45	24/40	6948-40	165.19
15	19/22	14/20	9466-04	56.14	5000	24/40	24/40	6948-58	189.60
25	14/20	14/20	9465-07	51.90	5000	45/50	24/40	6948-67	200.28
25	19/22	14/20	9466-06	56.14	6000	24/40	24/40	6948-104	222.13
50	14/20	14/20	9465-09	54.95	6000	29/42	24/40	6948-106	225.61
50	19/22	14/20	9466-08	58.56	6000	29/42	29/42	6948-108	231.38
50	19/22	19/22	9465-23	61.41	6000	34/45	24/40	6948-110	241.81
100	14/20	14/20	9465-11	55.09	6000	34/45	29/42	6948-112	245.26
100	19/22	14/20	9466-10	58.55	6000	45/50	24/40	6948-114	254.53
100	19/22	19/22	9465-25	60.95	6000	45/50	29/42	6948-116	260.31
100	24/40	19/38	6948-02	87.64	12000	29/42	24/40	6948-69	318.27
100	24/40	24/40	6948-03	89.29	12000	29/42	29/42	6948-70	322.08
200	24/40	24/40	6948-05	89.29	12000	34/45	24/40	6948-71	321.25
250	14/20	14/20	9465-13	61.15	12000	34/45	29/42	6948-72	324.04
250	19/22	14/20	9466-12	60.32	12000	45/50	24/40	6948-75	328.64
250	19/22	19/22	9465-27	62.71	12000	45/50	29/42	6948-76	330.92
250	24/40	19/38	6948-10	89.29	12000	45/50	45/50	6948-78	339.91
250	24/40	24/40	6948-07	89.29	12000	55/50	24/40	6948-79	339.91
300	24/40	24/40	6948-12	89.29	12000	55/50	29/42	6948-81	344.09
500	19/22	14/20	9466-14	61.09	12000	55/50	45/50	6948-82	349.23
500	19/22	19/22	9465-29	62.08	12000	71/60	45/50	6948-83	310.04
500	24/40	24/40	6948-16	91.55	22000	29/42	29/42	6948-85	566.41
500	29/42	24/40	6948-22	93.85	22000	45/50	24/40	6948-80	660.42
500	29/42	29/42	6948-20	93.85	22000	45/50	29/42	6948-86	571.61
500	34/45	24/40	6948-24	96.97	22000	45/50	45/50	6948-87	582.53
500	45/50	24/40	6948-25	97.89	22000	55/50	24/40	6948-88	587.43
1000	24/40	24/40	6948-26	106.57	22000	55/50	29/42	6948-89	599.06
1000	34/45	24/40	6948-34	133.72	22000	55/50	45/50	6948-90	605.63
2000	24/40	24/40	6948-32	132.62	22000	71/60	45/50	6948-91	612.40
3000	24/40	24/40	6948-38	156.60	22000	71/60	55/50	6948-92	665.25

9466-23

6950 FLASK *Three Necks, Spherical, Heavy Duty* ♦

With ₤ outer joints vertical. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

Cap., mL	Center ₤ Neck	₤ Side Necks	Order Code	Each	Cap., mL	Center ₤ Neck	₤ Side Necks	Order Code	Each
250	35/25	35/25	6950-208	103.96	2000	35/25	35/25	6950-238	179.32
500	35/25	35/25	6950-222	120.00	3000	35/25	35/25	6950-244	218.37
1000	35/25	35/25	6950-230	144.27	5000	35/25	35/25	6950-250	241.66



6950 FLASK *Three Necks, Spherical, Vertical, Standard Wall*

With ₤ outer joints vertical.

Cap., mL	Center ₤ Neck	₤ Side Necks	Order Code	Each	Cap., mL	Center ₤ Neck	₤ Side Necks	Order Code	Each
250	35/25	35/25	6950-08 ♦	103.96	3000	35/25	35/25	6950-44 ♦	201.13
500	35/25	35/25	6950-22 ♦	120.00	5000	35/25	35/25	6950-50 ♦	214.07
1000	35/25	35/25	6950-30 ♦	144.27	6000	35/25	35/25	6950-54 ♦	267.01
2000	35/25	35/25	6950-38 ♦	159.11	12000	65/40	35/25	6950-60 ★	356.38

6952 FLASK *Four Necks, Heavy Duty* ♦

Round bottom with ₤ outer joints. The fourth neck is at 90° angle to the three in-line necks.

250mL and 500mL sizes have angled side necks, unless ordered special. Illustration represents capacities of 1000mL and larger. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

	Cap., mL	Center Neck ₤	₤ Side Neck	Order Code	Each	Cap., mL	Center Neck ₤	₤ Side Neck	Order Code	Each
Angled	250	24/40	24/40	6952-201	127.49	2000	45/50	29/42	6952-227	210.97
	500	24/40	24/40	6952-202	132.05	3000	24/40	24/40	6952-232	230.17
	500	29/42	24/40	6952-203	133.56	3000	29/42	24/40	6952-236	233.23
	500	29/42	29/42	6952-206	135.10	3000	29/42	29/42	6952-237	234.75
	500	34/45	24/40	6952-204	138.11	3000	34/45	24/40	6952-240	236.41
	1000	24/40	24/40	6952-208	162.64	3000	45/50	24/40	6952-244	239.47
	1000	29/42	24/40	6952-212	164.29	5000	24/40	24/40	6952-248	253.28
	1000	29/42	29/42	6952-213	165.82	5000	29/42	24/40	6952-252	254.82
	1000	34/45	24/40	6952-216	168.86	5000	29/42	29/42	6952-253	256.35
	1000	34/45	29/42	6952-218	170.77	5000	34/45	24/40	6952-256	257.85
	1000	45/50	24/40	6952-217	176.48	5000	34/45	29/42	6952-257	259.86
	1000	45/50	29/42	6952-219	178.48	5000	45/50	24/40	6952-260	270.17
	2000	24/40	24/40	6952-220	185.75	5000	45/50	29/42	6952-263	274.74
	2000	29/42	24/40	6952-224	188.78	5000	45/50	45/50	6952-264	298.11
	2000	34/45	24/40	6952-228	191.83	5000	55/50	24/40	6952-266	318.34
	2000	34/45	29/42	6952-225	193.99	5000	55/50	29/42	6952-267	320.49
	2000	45/50	24/40	6952-229	208.72					





6952/9468/9469 FLASK Four Necks, Standard Wall ♦

Round bottom with ¤ outer joints. The fourth neck is at 90° angle to the three in-line necks.

Illustration represents all capacities except 500mL. *The 50, 100, 250 and 500mL sizes have angled side necks. For straight necks, specify "straight," omit code and add "sp" for special, state capacity and joint size.*

Cap., mL	Center Neck ¤	Side Neck	Order Code	Each	Cap., mL	Center Neck ¤	Side Neck	Order Code	Each
50	14/20	14/20	9468-11	78.58	5000	45/50	24/40	6952-60	270.17
50	19/22	14/20	9469-12	79.11	5000	45/50	29/42	6952-63	274.74
100	14/20	14/20	9468-13	78.58	6000	24/40	24/40	6952-101	301.52
100	19/22	14/20	9469-14	79.11	6000	29/42	24/40	6952-103	305.06
250	14/20	14/20	9468-15	80.90	6000	29/42	29/42	6952-105	309.79
250	19/22	14/20	9469-16	82.38	6000	34/45	24/40	6952-107	314.53
250	24/40	24/40	6952-01	127.49	6000	34/45	29/42	6952-109	315.71
500	24/40	24/40	6952-02	132.05	6000	45/50	24/40	6952-111	319.25
500	29/42	29/42	6952-03	133.07	6000	45/50	29/42	6952-113	322.80
500	34/45	24/40	6952-04	138.11	6000	45/50	45/50	6952-115	340.53
1000	24/40	24/40	6952-08	161.51	6000	55/50	24/40	6952-117	331.07
1000	29/42	24/40	6952-12	164.29	6000	55/50	29/42	6952-119	335.81
1000	29/42	29/42	6952-13	165.82	12000	34/45	24/40	6952-68	383.68
1000	34/45	24/40	6952-16	168.86	12000	45/50	24/40	6952-72	399.03
1000	34/45	29/42	6952-18	170.77	12000	45/50	29/42	6952-75	408.17
1000	45/50	24/40	6952-17	176.48	12000	45/50	45/50	6952-73	419.31
1000	45/50	29/42	6952-19	178.48	12000	55/50	24/40	6952-76	417.32
2000	24/40	24/40	6952-20	185.75	12000	55/50	29/42	6952-77	429.76
2000	29/42	24/40	6952-24	188.78	22000	45/50	24/40	6952-80	713.14
2000	34/45	24/40	6952-28	191.83	22000	45/50	29/42	6952-81	732.21
2000	34/45	29/42	6952-25	193.99	22000	45/50	45/50	6952-78	746.92
2000	45/50	24/40	6952-29	208.72	22000	55/50	24/40	6952-82	732.29
2000	45/50	29/42	6952-27	210.97	22000	55/50	29/42	6952-83	740.62
3000	24/40	24/40	6952-32	230.17	22000	55/50	45/50	6952-84	756.09
3000	29/42	24/40	6952-36	233.24	22000	71/60	24/40	6952-88	775.08
3000	29/42	29/42	6952-37	234.75	22000	71/60	29/42	6952-89	782.08
3000	34/45	24/40	6952-40	236.41	50000	45/50	45/50	6952-79	2,360.93
3000	45/50	24/40	6952-44	240.80	50000	71/60	45/50	6952-95	1,749.95
5000	24/40	24/40	6952-48	253.28	72000	45/50	45/50	6952-96	1,775.47
5000	29/42	24/40	6952-52	254.82	72000	71/60	45/50	6952-97	1,886.67
5000	34/45	24/40	6952-56	257.85					

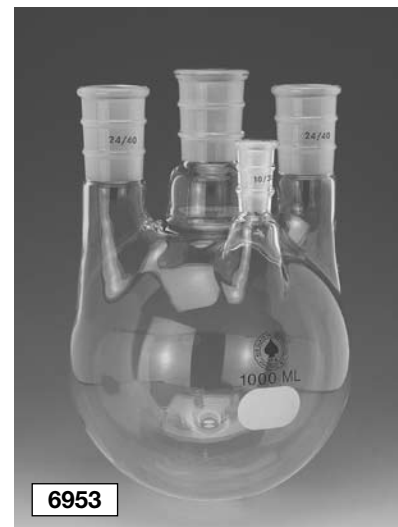
Angled

6953 FLASK Four Necks, Heavy Duty ♠

With four 10/30 outer joints. **Fabricated with heavy walls**, approximately 30% heavier than standard-wall flasks. The 10/30 joint is at a 90° angle to the three in-line joints. Illustration represents all capacities except 500mL. **The 500mL size has angled side necks. For straight necks, specify "straight," omit code and add "sp" for special, state capacity and joint size.**

HEAVY DUTY

	Capacity, mL	Center Neck 10/30	10/30 Side Necks	90° Angle Neck	Order Code	Each
Angled	500	24/40	24/40	10/30	6953-204	138.96
	500	29/42	24/40	10/30	6953-205	140.19
	1000	24/40	24/40	10/30	6953-208	146.87
	1000	29/42	24/40	10/30	6953-212	148.05
	1000	34/45	24/40	10/30	6953-216	149.09
	2000	24/40	24/40	10/30	6953-220	187.20
	2000	29/42	24/40	10/30	6953-224	188.66
	2000	34/45	24/40	10/30	6953-228	189.29
	3000	24/40	24/40	10/30	6953-232	224.06
	5000	45/50	24/40	10/30	6953-260	267.14



6953 FLASK Four Necks, Standard Wall

With four 10/30 outer joints. The 10/30 joint is at a 90° angle to the three in-line joints. Illustration represents all capacities except 500mL. **The 500mL size has angled side necks. For straight necks, specify "straight," omit code and add "sp" for special, state capacity and joint size.**

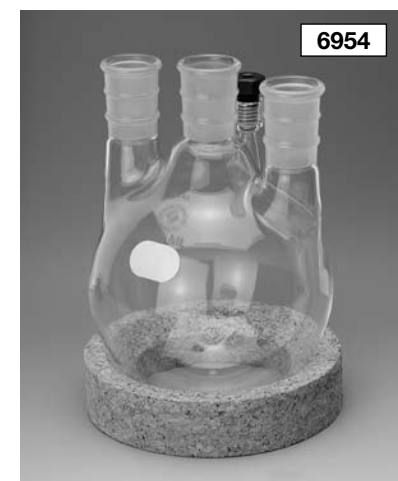
	Capacity, mL	Center Neck 10/30	10/30 Side Necks	90° Angle Neck	Order Code	Each
Angled	500	24/40	24/40	10/30	6953-04	♠ 145.91
	1000	24/40	24/40	10/30	6953-08	♠ 154.21
	1000	29/42	24/40	10/30	6953-12	♠ 155.46
	1000	34/45	24/40	10/30	6953-16	♠ 156.54
	2000	24/40	24/40	10/30	6953-20	♠ 170.69
	2000	29/42	24/40	10/30	6953-24	♠ 191.19
	2000	34/45	24/40	10/30	6953-28	♠ 195.54
	3000	24/40	24/40	10/30	6953-32	♠ 230.75
	3000	34/45	24/40	10/30	6953-40	♠ 236.91
	5000	45/50	24/40	10/30	6953-60	♠ 264.64
	6000	45/50	24/40	10/30	6953-64	♠ 277.81
	6000	45/50	29/42	10/30	6953-66	♠ 281.26
	12000	45/50	24/40	10/30	6953-72	★ 387.47

6954 FLASK Four Necks, One #7 Ace-Thred, Heavy Duty ♠

With three 10/30 outer joints and thermometer neck internally threaded to accept 5029 Nylon Bushing. **Fabricated with heavy walls**, approximately 30% heavier than standard-wall flasks. Supplied complete with bushing and FETFE O-Ring. For extra bushing, see 5029-10. For extra O-Rings, see 7855-704. **250 and 500mL have angled side necks. For straight necks, specify "straight," omit code and add "sp" for special, state capacity and joint size.**

HEAVY DUTY

	Cap., mL	10/30 Joints	Order Code	Each	Cap., mL	10/30 Joints	Order Code	Each
Angled	250	24/40C-24/40S	6954-272	133.89	2000	29/42C-24/40S	6954-283	187.59
	500	24/40C-24/40S	6954-275	135.34	3000	24/40C-24/40S	6954-285	217.79
	500	29/42C-24/40S	6954-276	137.43	3000	29/42C-24/40S	6954-286	225.26
	1000	24/40C-24/40S	6954-277	151.69	3000	34/45C-24/40S	6954-287	233.82
	1000	29/42C-24/40S	6954-278	156.92	3000	45/50C-24/40S	6954-288	235.96
	2000	24/40C-24/40S	6954-282	184.78	5000	24/40C-24/40S	6954-289	249.07



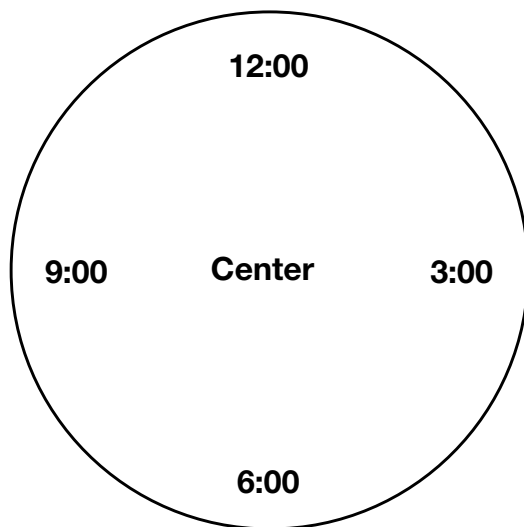
Fax to Ace Glass: 1-800-543-6752

Custom Flasks

A	Style (bottom)	☐ Round ☐ Flat	
B	Capacity	mL	
C	Number of Necks		
D	Neck(s) Configuration		
	Location	Distance From Center Neck	Joint Type/Size*
	Center	mm	
	3:00	mm	
	6:00	mm	
	9:00	mm	
	12:00	mm	
	Other (indicate locaton on diagram)	mm	
E	Bottom Outlet	☐ Yes ☐ No	
F	Bottom Outlet Type		
G	Joint Style	☐ Angled ☐ Straight	

*Joint types available include Ace-Thred, Standard Taper (§), or Spherical Ball/Socket (§). In the case of an Ace-Thred joint, you'll need to indicate the desired size (#7, #15, etc.). In the case of Standard Taper and Spherical joints, please provide desired size, i.e., 24/40, 29/42, 45/50, etc.

You can also order custom flasks on our website at www.aceglass.com



Additional Notes/Specification (please print):

Your contact information:

Name	
Company	
Address	
City, State, Zip	
Phone	
Email Address	

To Order:

Simply copy and complete the form above and fax it to the fax number above. We will be happy to promptly provide pricing and delivery information.

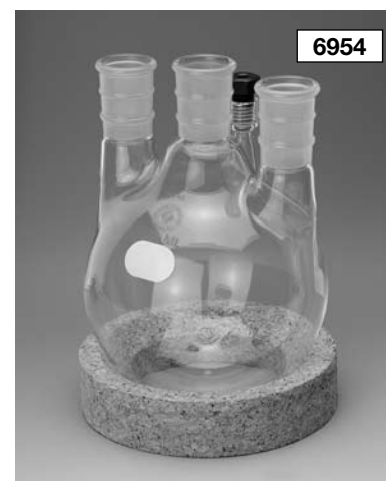
Phone: **1-800-223-4524**
 Fax: **1-856-692-8919**
 Toll-Free Fax: **1-800-543-6752**
 Website: **www.aceglass.com**

6954 FLASK Four Necks, One #7 Ace-Thred, Standard Wall ♦

With three ⌘ outer joints and thermometer neck internally threaded to accept 5029 Nylon Bushing. Supplied complete with bushing and FETFE O-Ring. For extra bushing, see 5029-10. For extra O-Rings, see 7855-704. **250 and 500mL have angled side necks. For straight necks, specify "straight," omit code and add "sp" for special, state capacity and joint size.**

Angled <

Cap., mL	⌘ Joints	Order Code	Each	Cap., mL	⌘ Joints	Order Code	Each
250	24/40C-24/40S	6954-72	133.89	2000	24/40C-24/40S	6954-82	170.82
500	24/40C-24/40S	6954-75	136.40	3000	24/40C-24/40S	6954-85	187.84
1000	24/40C-24/40S	6954-77	154.99	5000	24/40C-24/40S	6954-89	214.64



6955 FLASK Five Necks, One #7 Ace-Thred, Heavy Duty ♦

Round bottom flask with three in-line and one front ⌘ outer joint; the other front neck is a #7 Ace-Thred for use with thermometers, bleed tubes, etc. up to 7mm O.D. **Fabricated with heavy walls**, approximately 30% heavier than standard-wall flasks. Supplied complete with 5029 Nylon Bushing and FETFE O-Ring. For extra bushings, see 5029-10. For extra O-Rings, see 7855-704.

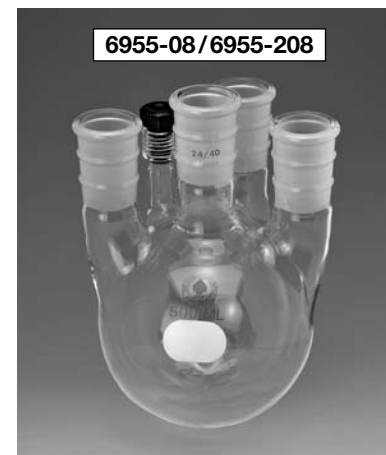
HEAVY DUTY

Capacity, mL	Center Neck ⌘	⌘ Side Necks	Order Code	Each
500	24/40	24/40	6955-208	160.44
1000	24/40	24/40	6955-212	192.82
2000	24/40	24/40	6955-215	234.77

6955 FLASK Five Necks, One #7 Ace-Thred, Standard Wall ♦

Round bottom flask with three in-line and one front ⌘ outer joint; the other front neck is a #7 Ace-Thred for use with thermometers, bleed tubes, etc. up to 7mm O.D. Supplied complete with 5029 Nylon Bushing and FETFE O-Ring. For extra bushings, see 5029-10. For extra O-Rings, see 7855-704.

Capacity, mL	Center Neck ⌘	⌘ Side Necks	Order Code	Each
500	24/40	24/40	6955-08	159.13
1000	24/40	24/40	6955-12	190.33
2000	24/40	24/40	6955-15	230.86



HEAVY DUTY
6957 FLASK *Five Necks, Heavy Duty* ♠

With ⅆ outer joints. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. All five necks are in vertical position. Side necks are 90° apart.

Cap., mL	Center Neck ⅆ	ⅆ Side Neck	Order Code	Each	Cap., mL	Center Neck ⅆ	ⅆ Side Neck	Order Code	Each
1000	24/40	24/40	6957-208	209.44	3000	45/50	24/40	6957-238	293.93
2000	24/40	24/40	6957-220	240.00	5000	24/40	24/40	6957-248	305.67
2000	29/42	24/40	6957-222	251.28	5000	29/42	24/40	6957-252	314.86
3000	24/40	24/40	6957-232	281.98	5000	45/50	24/40	6957-260	325.44
3000	29/42	24/40	6957-236	283.51					

6957 FLASK *Five Necks, Standard Wall* ♠

With ⅆ outer joints. All five necks are in vertical position. Side necks are 90° apart.

Cap., mL	Center Neck ⅆ	ⅆ Side Neck	Order Code	Each	Cap., mL	Center Neck ⅆ	ⅆ Side Neck	Order Code	Each
1000	24/40	24/40	6957-08	215.89	5000	45/50	24/40	6957-60	335.78
2000	24/40	24/40	6957-20	240.00	6000	24/40	24/40	6957-70	357.14
3000	24/40	24/40	6957-32	257.83	6000	29/42	24/40	6957-72	359.48
3000	29/42	24/40	6957-36	283.16	6000	29/42	29/42	6957-74	368.85
3000	45/50	24/40	6957-38	305.02	6000	45/50	24/40	6957-76	392.26
5000	24/40	24/40	6957-48	309.54	6000	45/50	29/42	6957-78	396.95
5000	29/42	24/40	6957-52	314.86	6000	45/50	45/50	6957-80	421.53

HEAVY DUTY
6958 FLASK *Indented Morton Type, ⅆ Outer Joints, Heavy Duty*

Three-neck, indented. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. Not recommended for vacuum distillation use. Illustration represents all capacities except 500mL. *The 500mL size has angled side necks. For straight necks, specify "straight," omit code and add "sp" for special; state capacity and joint size.*

Cap., mL	Center Neck ⅆ	ⅆ Side Necks	Order Code	Each	Cap., mL	Center Neck ⅆ	ⅆ Side Necks	Order Code	Each
500	45/50	24/40	6958-204 ♠	165.17	3000	45/50	29/42	6958-216 ♠	254.92
500	45/50	29/42	6958-205 ♠	147.54	5000	45/50	29/42	6958-220 ♠	281.19
1000	45/50	24/40	6958-206 ♠	188.55	12000	45/50	29/42	6958-228 ★	450.05
2000	45/50	29/42	6958-212 ♠	216.55					

Angled
6958 FLASK *Indented Morton Type, Standard Wall*

Three-neck, indented. Not recommended for vacuum distillation use. Illustration represents all capacities except 500mL. *The 500mL size has angled side necks. For straight necks, specify "straight," omit code and add "sp" for special; state capacity and joint size.*

Cap., mL	Center Neck ⅆ	ⅆ Side Necks	Order Code	Each	Cap., mL	Center Neck ⅆ	ⅆ Side Necks	Order Code	Each
500	45/50	24/40	6958-04 ♠	144.43	5000	45/50	29/42	6958-20 ♠	265.24
1000	45/50	24/40	6958-06 ♠	166.17	6000	45/50	24/40	6958-22 ♠	315.07
1000	45/50	29/42	6958-08 ♠	168.92	6000	45/50	29/42	6958-24 ♠	318.61
2000	45/50	29/42	6958-12 ♠	208.25	6000	45/50	45/50	6958-26 ♠	344.57
3000	45/50	29/42	6958-16 ♠	251.28	12000	45/50	29/42	6958-28 ★	424.83

Angled

9475 FLASK *Morton Type, Standard Wall* ♠

Three necks. With indents to provide for more complete agitation. The capacities referred to are the normal flask capacity without indents. With 14/20 outer joints.

Nominal Capacity, mL	Actual Capacity, mL	Order Code	Each
50	40	9475-08	90.95
100	80	9475-10	95.61
250	200	9475-12	103.31
300	240	9475-14	122.91



Amber Coated Glassware



Ace Glass offers many of our existing glass vessels in an amber coated version. Flasks, Pressure Bottles, Beakers, Bottles and many other items listed in this catalog can be amber coated on request. The coating is a proprietary process and gives excellent UV protection characteristics. Contact Ace for more details and pricing.

New



6959-13

6959 FLASK *European Style, Three Necks, Jacketed* ★

Fully jacketed European style, tapered walls with shallow bottom for more efficient magnetic or mechanical half-moon shaped paddle stirring. Easy to clean. Supplied with ⌘ center neck, two ⌘ side necks.

Capacity, mL	⌘ Center Neck	⌘ Side Necks	Size I.D. Tube for H/C, mm (Inches)	Order Code	Each
125	14/20	14/20	9.5 (3/8)	6959-03	288.70
125	24/40	14/20	9.5 (3/8)	6959-05	288.70
250	14/20	14/20	11.1 (7-3/16)	6959-11	324.05
250	24/40	24/40	11.1 (7-3/16)	6959-13	324.05
500	14/20	14/20	12.7 (1/2)	6959-22	388.86
500	24/40	24/40	12.7 (1/2)	6959-24	388.86
500	29/42	24/40	12.7 (1/2)	6959-26	388.86
1000	24/40	24/40	12.7 (1/2)	6959-30	411.25
1000	29/42	24/40	12.7 (1/2)	6959-33	411.25
2000	24/40	24/40	12.7 (1/2)	6959-36	585.64
2000	29/42	24/40	12.7 (1/2)	6959-38	585.64

New



6959-55

6959 FLASK *European Style, Five Necks, Jacketed* ★

Fully jacketed European style, tapered walls with shallow bottom for more efficient magnetic or mechanical half-moon shaped paddle stirring. Easy to clean. Supplied with ⌘ center neck, two ⌘ side necks, and two Ace-Threads for thermometers, etc., up to 7 mm O.D. Supplied with nylon bushings and FETFE O-Rings.

Capacity, mL	⌘ Center Neck	⌘ Side Necks	Size I.D. Tube for H/C, mm (Inches)	Order Code	Each
125	14/20	⌘14/20-#7	9.5 (3/8)	6959-44	351.14
250	24/40	⌘24/40-#7	11.1 (7-3/16)	6959-48	447.77
250	29/42	⌘24/40-#7	11.1 (7-3/16)	6959-51	447.77
500	24/40	⌘24/40-#7	12.7 (1/2)	6959-55	500.81



6960-35

6960 FLASK *Tapered Wall, Five Necks, Jacketed* ★

Fully jacketed with flask walls tapered toward the bottom. This design allows for continuous operation with smaller volumes. Supplied with ⌘ center neck, two ⌘ side necks, and two #7 Ace-Threads for thermometers, etc., up to 7 mm O.D. Supplied with nylon bushings and FETFE O-Rings.

Capacity, mL	⌘ Center Neck	⌘ Side Necks	Size I.D. Tube for H/C, mm (Inches)	Order Code	Each
50	14/20	⌘14/20-#7	9.5 (3/8)	6960-02	411.25
125	14/20	⌘14/20-#7	9.5 (3/8)	6960-09	411.25
250	24/40	⌘24/40-#7	11.1 (7-3/16)	6960-18	465.45
250	29/42	⌘24/40-#7	11.1 (7-3/16)	6960-20	465.45
500	24/40	⌘24/40-#7	12.7 (1/2)	6960-35	559.72
500	29/42	⌘24/40-#7	12.7 (1/2)	6960-37	559.72



6961-09

6961 FLASK *European Style, ⌘ Outer Joints* ♠

European style, tapered walls with shallow bottom for more efficient magnetic or mechanical half-moon shaped paddle stirring. Easy to clean. Supplied with ⌘ center neck, two ⌘ side necks.

Cap., mL	⌘ Center Neck	⌘ Side Necks	Order Code	Each
125	24/40	14/20	6961-04	101.37
250	24/40	24/40	6961-09	121.24
500	24/40	24/40	6961-16	147.67

6961 FLASK *European Style, with Single #7 Ace-Thred, ¤ Outer Joints ♠*

European style with additional #7 Ace-Thred for thermometers, etc. up to 7mm O.D. Supplied with Nylon bushing and FETFE O-Ring.

Cap., mL	¤ Center Neck	¤ Side Necks	Order Code	Each
125	24/40	14/20	6961-34	120.86
250	24/40	24/40	6961-39	133.01
250	29/42	24/40	6961-40	134.95
500	24/40	24/40	6961-45	164.26



6961-39

6961 FLASK *European Style, with Two #7 Ace-Threds, ¤ Outer Joints ♠*

European style with two #7 Ace-Threds. Supplied complete with Nylon bushings and FETFE O-Rings.

Cap., mL	¤ Center Neck	¤ Side Necks	Order Code	Each
125	24/40	14/20	6961-64	151.61
250	24/40	24/40	6961-69	166.02
250	29/42	24/40	6961-70	192.93
500	24/40	24/40	6961-75	199.44

6961-69



6963/9473 FLASK *Tapered Wall, with Two #7 Ace-Threds, ¤ Outer Joints ♠*

With flask walls tapered inward toward the bottom. This type design allows continuous operation with smaller volumes. Supplied with ¤ outer joint on center and two side necks. The two other necks are #7 Ace-Threds that will accommodate thermometers, miniature electrodes, etc. up to 7mm O.D. Supplied with Nylon bushings and FETFE O-Rings.

Cap., mL	¤ Center Neck	¤ Side Necks	Order Code	Each
50	14/20	14/20	9473-13	142.94
125	14/20	14/20	9473-15	156.20
250	24/40	24/40	6963-17	178.31
500	24/40	24/40	6963-19	189.08
3000	60/40	29/42	6963-60	330.03



**6963-17
9473-13**

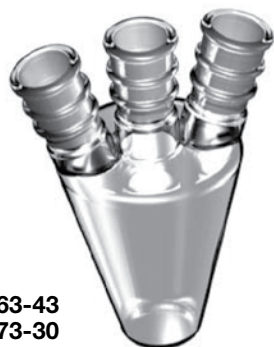
6963/9473 FLASK *Tapered Wall, with Single #7 Ace-Thred, ¤ Outer Joints ♠*

With flask walls tapered inward toward the bottom. This type design allows continuous operation with smaller volumes. Supplied with ¤ outer joint on center and two side necks. With single #7 Ace-Thred that will accommodate thermometers, miniature electrodes, etc. up to 7mm O.D. Supplied with Nylon bushings and FETFE O-Rings.

Capacity, mL	¤ Joints	Order Code	Each
50	14/20	9473-20	123.93
125	14/20	9473-24	137.06
250	24/40	6963-34	163.21
500	24/40	6963-36	166.15



**6963-34
9473-20**

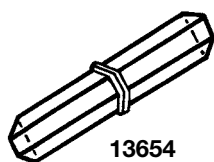


6963-43
9473-30

6963/9473 FLASK *Tapered Wall, 3 Outer Joints* ♦

With flask walls tapered inward toward the bottom. This type design allows continuous operation with smaller volumes. Supplied with 3 outer joint on center and two side necks.

Capacity, mL	3 Joints	Order Code	Each
50	14/20	9473-30	97.08
125	14/20	9473-32	116.00
250	24/40	6963-43	141.82
500	24/40	6963-45	146.78



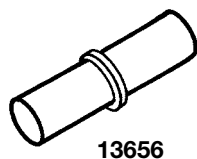
13654

**Complete Stirring
Magnet listing starts
on page 657.**

13654 STIRRER MAGNETS *PTFE, Octagonal*

With pivot ring.

Length, mm (In.)	Dia., mm	Order Code	Each	Length, mm (In.)	Dia., mm	Order Code	Each
12.7 (1/2)	3.2	13654-02	3.29	12.7 (1/2)	9.5	13654-22	4.29
12.7 (1/2)	7.9	13654-04	3.70	15.9 (5/8)	9.5	13654-24	4.80
15.9 (5/8)	7.9	13654-06	3.70	22.2 (7/8)	9.5	13654-26	4.99
22.2 (7/8)	7.9	13654-08	4.00	25.4 (1)	9.5	13654-28	4.99
25.4 (1)	7.9	13654-10	4.06	34.9 (1-3/8)	9.5	13654-30	5.92
28.6 (1-1/8)	7.9	13654-12	4.29	38.1 (1-1/2)	9.5	13654-32	5.92
38.1 (1-1/2)	7.9	13654-14	4.57	47.6 (1-7/8)	9.5	13654-34	7.47
41.3 (1-5/8)	7.9	13654-16	5.27	50.8 (2)	9.5	13654-36	7.94
50.8 (2)	7.9	13654-18	5.61	64.0 (2-1/2)	10.0	13654-38	9.26
63.5 (2-1/2)	7.9	13654-20	8.98	38.1 (1-1/2)	12.7	13654-46	15.00
				76.2 (3)	12.7	13654-48	16.45

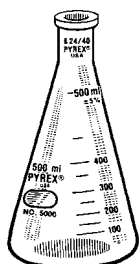


13656

13656 STIRRER MAGNETS *PTFE, Round*

With removable pivot ring on 25.4mm and longer.

Length, mm (In.)	Diameter, mm (In.)	Order Code	Each	Length, mm (In.)	Dia., mm	Order Code	Each
12.7 (1/2)	7.9 (5/16)	13656-06	4.90	31.8 (1-1/4)	9.5	13656-24	7.55
19.1 (3/4)	7.9 (5/16)	13656-08	5.25	38.1 (1-1/2)	9.5	13656-26	8.54
25.4 (1)	7.9 (5/16)	13656-10	5.14	41.3 (1-5/8)	9.5	13656-28	9.55
31.8 (1-1/4)	7.9 (5/16)	13656-12	5.19	44.5 (1-3/4)	9.5	13656-30	9.64
38.1 (1-1/2)	7.9 (5/16)	13656-14	6.73	50.8 (2)	9.5	13656-32	10.50
44.5 (1-3/4)	7.9 (5/16)	13656-16	8.78	54.0 (2-1/8)	9.5	13656-34	11.04
50.8 (2)	7.9 (5/16)	13656-18	8.77	76.2 (3)	9.5	13656-40	19.70
25.4 (1)	9.5 (3/8)	13656-22	6.68				



6964

6964 FLASK *Erlenmeyer* ★

Corning 5000

Pyrex® brand Erlenmeyer flask with narrow mouth and durable white capacity scale.

Corning Code	Cap., mL	Approx. O.D. x Hght., mm	3 Joint	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf- Pack	Case			
5000-125	125	67 x 120	24/40	6	12	6964-23	147.29	256.16
5000-250	250	81 x 161	24/40	6	12	6964-25	150.97	262.56
5000-500	500	101 x 198	24/40	6	12	6964-29	157.58	274.05

6965/9471 FLASK Erlenmeyer, ¤ Outer Joint, Standard Wall ♠

Cap., mL	¤ Joint	Order Code	Each	Cap., mL	¤ Joint	Order Code	Each
5	14/20	9471-02	17.88	500	24/40	6965-26	25.86
10	14/20	9471-04	17.88	500	29/42	6965-40	27.09
15	14/20	9471-06	17.88	500	45/50	6965-61	30.27
25	14/20	9471-08	19.50	1000	24/40	6965-27	29.56
50	14/20	9471-10	19.50	1000	29/42	6965-41	31.19
50	24/40	6965-20	23.54	1000	45/50	6965-62	54.52
100	14/20	9471-12	20.11	2000	24/40	6965-28	39.91
125	24/40	6965-22	23.96	2000	29/42	6965-42	42.24
250	24/40	6965-24	24.50	2000	45/50	6965-63	57.19
250	29/42	6965-38	25.45	4000	45/50	6965-64	90.24
300	24/40	6965-25	24.50				



6967 FLASK Kjeldahl ♠

With ¤ outer joint at top.

Cap., mL	Order Code	¤ 24/40	Order Code	¤ 29/42
100	6967-21	35.85	—	—
300	6967-25	36.13	—	—
500	6967-26	38.80	6967-40	41.20
800	6967-27	44.10	6967-41	44.19

6967



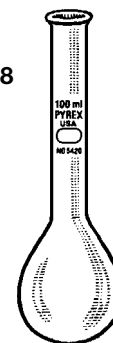
6968 FLASK Kjeldahl ★

Corning 5420

PYREX® brand with long neck and round bottom. Can be used in ASTM E 258 procedure. All sizes have reinforcing beads at the top, and the 100mL and larger sizes have tooled necks to provide accurate fit of stoppers and to reduce possibility of breakage in use.

Corning Code	Cap., mL	Approx. O.D. x Height, mm	Rubber Stopper Number	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
5420-100	100	55 x 210	2	6	24	6968-11	93.27	324.42
5420-300	300	79 x 298	5	6	24	6968-14	191.56	666.30
5420-500	500	101 x 324	6	6	24	6968-17	137.38	477.85
5420-800	800	117 x 365	7	6	18	6968-23	132.78	346.38

6968



6971 FLASK Erlenmeyer, Heavy Duty ♠

With ¤ outer joint. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks.

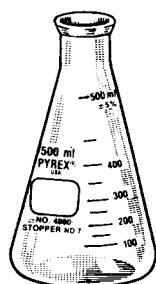
Capacity, mL	¤ Joint	Order Code	Each
250	24/40	6971-24	48.07
500	24/40	6971-26	50.58
1000	24/40	6971-27	63.31
2000	29/42	6971-42	88.36
4000	29/42	6971-44	110.82



**6975 FLASK** Erlenmeyer ♠

With ♂ outer joint.

Capacity, mL	Order Code	♂ Joint 28/15	Order Code	♂ Joint 35/25
125	6975-10	28.05	—	—
300	—	—	6975-39	36.58
500	—	—	6975-40	37.11

**6976**

For Pluro Stoppers,
see 12014, page 745.

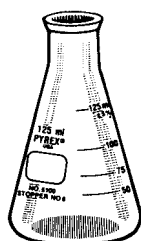
6976 FLASK Erlenmeyer, Narrow Mouth ★**Corning 4980**

PYREX® brand. All flasks have an improved tooled heavy-duty top finish, with thick wall and long tapered outside contour, to minimize chipping when struck or rubbed together. All flasks are graduated with white scales to indicate approximate volumes at various levels.

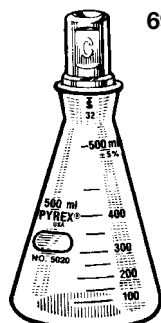
Corning Code	Cap., mL	Grad. Range, mL	Sub-div. mL	Fits Stop. No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Pack Price	Case Price
						Shelf-Pack	Case			
4980-10	10	5-10	5	00	31 x 50	—	12	6976-01	—	91.60
4980-25	25	10-25	5	0	41 x 65	12	48	6976-03	64.95	225.91
4980-50	50	20-50	10	1	51 x 78	12	48	6976-05	63.49	220.84
4980-125	125	50-125	25	5	67 x 114	12	48	6976-07	61.01	212.20
4980-250	250	50-200	25	6	82 x 132	12	48	6976-11	58.33	202.89
4980-300	300	100-300	25	6	89 x 144	12	48	6976-13	70.68	245.85
4980-500	500	100-500	50	7	101 x 176	6	36	6976-15	36.40	189.91
4980-1L	1000	250-1000	50	9	129 x 216	6	24	6976-19	59.17	205.81
4980-2L	2000	600-1800	200	10	160 x 268	1	8	6976-25	23.22	161.53
4980-4L	4000	1000-4000	500	10	206 x 360	1	4	6976-29	73.60	256.01
4980-6L	6000	1500-6000	500	10	241 x 410	1	4	6976-31	135.35	470.77

4138 FLASK Erlenmeyer, Wide Mouth ★**Corning 5100**

PYREX® brand. Graduated Erlenmeyer flask with wide mouth and heavy duty rim.

**4138**

Corning Code	Cap., mL	Grad. Range, mL	Rubber Stopper No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
5100-125	125	50 x 125	6	12	48	4138-06	76.76	266.99
5100-250	250	50 x 200	8	12	48	4138-10	69.37	241.30
5100-500	500	100 x 500	10	6	36	4138-15	43.66	227.81
5100-1L	1000	250 x 1000	11	6	24	4138-19	73.68	256.28
5100-2L	2000	400 x 1800	13	1	8	4138-25	24.59	171.08

**6977****6977 FLASK** Erlenmeyer, with Stopper ★**Corning 5020**

PYREX® brand. Graduated to show approximate capacity. 25, 50 and 100mL capacities are satisfactory for use as weighing bottles. For stoppers, see 8280.

Corning Code	Cap., mL	Approx. O.D. x Hght., mm	Stopper No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
5025-25	25	40 x 92	16	6	—	6977-05	139.83	243.19
5025-50	50	48 x 101	19	—	12	6977-07	—	236.19
5025-125	125	68 x 136	22	6	12	6977-09	161.40	280.70
5025-250	250	81 x 171	27	6	12	6977-11	193.88	337.19
5025-500	500	101 x 215	32	1	8	6977-13	40.06	278.70
5025-1L	1000	129 x 241	32	1	6	6977-15	51.48	268.59

6978 FLASK *Filtrating, Heavy Duty* ♦

With 24/40 outer joint and stopcock on hose connection outlet. Glass stopcock, olive hose connection.

Capacity, mL	Order Code	Each
250	6978-05	135.79
500	6978-10	138.04
1000	6978-15	161.40



6979 FLASK *Filtrating, Heavy Duty* ♦

With 24/40 outer joint at top, and side hose connection.

Capacity, mL	Order Code	Each
250	6979-05	71.67
500	6979-10	81.76
1000	6979-15	105.30
2000	6979-20	141.81



6999 FLASK *Erlenmeyer, Stopper Top* ♦

Erlenmeyer flask with included stopper top. No graduations.

Capacity, mL	Stopper Size	Order Code	Each
25	16	6999-06	20.73
50	19	6999-10	21.12
125	22	6999-14	25.71
250	27	6999-18	30.18
500	32	6999-22	37.45
1000	32	6999-26	45.55

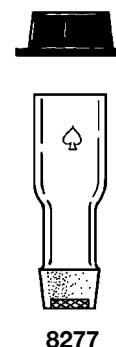


8277 STOPPER* *Firestone Hy-n-Dry* ♦

Hy-n-Dry stopper makes any vessel a desiccator, inexpensively. Allows sample storage for long periods, free from atmospheric moisture, even during overnight temperature changes or when refrigerating. Bottom of stopper has a porosity B (70-100 microns) sintered glass disc sealed in. Fill stopper with drying agent, 10175-21, -31 (10-20 mesh), cover with plastic cap, insert into any jointed vessel, i.e., boiling flask, volumetric flask, cylinder, etc., and you have an inexpensive desiccator. A pinhole in plastic cap allows assembled unit to "breathe" with temperature fluctuations through, not around, the desiccant. A warming trend or trace solvent evaporation does not produce pressure buildup that often causes stopper to pop out. Filled with Drierite, a 24/40 Hy-n-Dry Stopper will absorb up to one gram of water. Supplied with plastic cap. NOT supplied with drying agent, see 10175.

Inner Joint	Height above Joint, mm	Top O.D. mm	Approx. Vol. mL	Order Code	Each
14/10	35	17	6	8277-12	32.77
14/20	35	17	6	8277-14	32.77
24/40	40	28	22	8277-19	39.17
29/42	45	32	30	8277-23	50.73

*Designed by Dr. Raymond Firestone, U.S. Patent # 4,545,492.



ACE-SAFE
Connector



6983 FLASK *Filtering, Heavy Wall, with "Ace-Safe" Thread Hose Connection* ♦

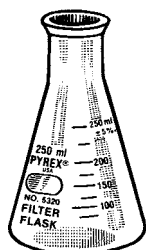
With tooled neck for uniform stopper fit. Side hose connection is #11 Ace-Thred that accepts a PTFE Tubing Connector with silicone O-Ring and Nylon bushing to make an easier, safer, more convenient vacuum hose connection. Simply slide bushing over connector, attach hose to serrated end, insert into Ace-Thred and tighten until O-Ring compresses, making a leak-tight seal. Two connectors are available: one, Code -09, for 1/4-inch I.D. tubing with a bore of .125 inches (3.18mm); and one, Code -10, for 3/8-inch I.D. tubing with a bore of .187 inches (4.75mm). Complete item consists of Flask, Tubing Connector (-09 or -10) and 7506-01 Bushing.

Note! One connector for all capacity flasks.

Approx. Cap., mL	Rubber Stopper Number	Flask, only		COMPLETE For 1/4-inch Tubing		COMPLETE For 3/8-inch Tubing	
		Order Code	Each	Order Code	Each	Order Code	Each
250	6	6983-08	42.16	6983-47	59.61	6983-28	59.61
500	6	6983-12	53.49	6983-49	70.94	6983-32	70.94
1000	8	6983-15	66.66	6983-51	84.11	6983-36	84.11
2000	9	6983-20	91.27	6983-63	108.72	6983-40	108.72

Replacement Parts:

Tubing connector for 1/4-inch I.D. tubing, with O-Ring	5853-09	8.60
Tubing connector for 3/8-inch I.D. tubing, with O-Ring	5853-10	8.60
Nylon Bushing, only	7506-01	8.85
Silicone O-Rings, Pkg./12	7855-206	13.50



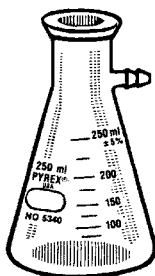
6985

6985 FLASK *Filtering, Heavy Wall, Graduated* ★

Corning 5320

PYREX® brand, without side tubulation. Designed to afford maximum strength. Necks are tooled for uniform stopper fit, with thick flange. Marked "Filter Flask" to avoid confusion with similar sizes of Erlenmeyer flasks.

Corning Code	Approx. Cap., mL	Grad. Range, mL	Grad. Intrvl., mL	Rubber Stopper No.	Approx. O.D. x Hght.,mm	Quantity Per		Order Code	Shelf- Pack Price	Case Price
						Shelf- Pack	Case			
5320-250	250	75-250	25	6	84 x 146	6	18	6985-06	107.95	281.60
5320-500	500	150-500	50	7	106 x 184	6	18	6985-11	248.84	649.14
5320-1L	1000	300-1000	50	8	137 x 238	6	12	6985-16	337.85	587.56
5320-2L	2000	600-2000	200	9	168 x 292	1	12	6985-21	105.00	1,095.66
5320-4L	4000	1500-4000	500	12	198 x 372	1	6	6985-26	137.72	718.53



6986

6986 FLASK *Filtering, Heavy Wall* ★

Corning 5340/5360

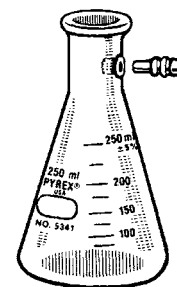
With side hose connection; 50mL is 8mm O. D., 125-1000mL, 10mm, 2-4L, 12.5mm.

Corning Code	Approx. Cap., mL	Grad. Range, mL	Sub- Div., mL	Rubber Stopper No.	Approx. O.D. x Hght.,mm	Quantity Per		Order Code	Shelf- Pack Price	Case Price
						Shelf- Pack	Case			
5360-25	25	—	—	3	40 x 75	6	18	6986-06	144.14	376.03
5360-50	50	—	—	4	51 x 85	6	18	6986-11	145.44	379.41
5360-125	125	—	—	5	70 x 110	6	18	6986-16	151.83	396.07
5340-250	250	75-250	25	6	84 x 146	6	18	6986-21	119.14	310.81
5340-500	500	150-500	50	7	106 x 184	6	18	6986-26	156.29	407.72
5340-1L	1000	300-1000	50	8	137 x 238	6	12	6986-31	314.96	547.75
5340-2L	2000	600-2000	200	9	168 x 292	1	12	6986-36	104.26	1,087.94
5340-4L	4000	500-4000	500	12	198 x 356	1	6	6986-41	148.70	775.82

6987 FLASK *Filtrating, Heavy Wall, Detachable Plastic Side Arm* ★ **Corning 5341**

Standard PYREX® brand heavy wall filtering flask into which is seated a heavy duty 12.5mm tubulation neoprene grommet. With permanent white enamel graduations and marking spots.

Corning Code	Cap., mL	Approx. O.D. x Hght., mm	Rubber Stopper Number	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
5341-500	500	106 x 184	7	—	1	6987-11	—	42.28
5341-1L	1000	137 x 238	8	6	12	6987-16	448.97	780.81
5341-2L	2000	168 x 292	9	1	6	6987-21	138.86	724.51



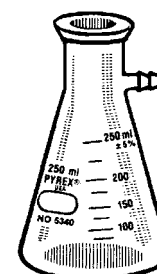
6987

4139 FLASK *Filtrating, Heavy Wall, Coated* ★ **Corning 65340**

PYREXPLUS® brand*, filtering flask with protective polymer coating for longer product life and safety. Graduated. Tubulation is 10mm O.D. up to 1000mL size, 12.5mm on 2L and 4L.

Corning Code	Approx. Cap., mL	Grad. Range, mL	Grad. Interval, mL	Rubber Stopper No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
						Shelf-Pack	Case			
65340-500	500	150-500	50	7	106 x 184	—	6	4139-09	—	182.17
65340-1L	1000	300-1000	50	8	137 x 238	—	6	4139-12	—	390.66
65340-2L	2000	600-2000	200	9	168 x 292	1	4	4139-15	143.47	499.01
65340-4L	4000	1500-4000	500	12	198 x 356	1	2	4139-19	210.73	366.48

*Covered by U.S. Patent #4940613



4139

6989 FLASK *Filtrating, with Removable PP Hose Connection* ★ **Schott**

Heavy wall, bottle shaped, filtering flask with removable Polypropylene hose connection. Offered clear or plastic coated. Plastic coated are steam autoclavable at 135°C. For replacement Hose Connection Assembly, order 6989-40, below.

CLEAR GLASS

Cap., mL	Body O.D., mm	Height, mm	Neck I.D., mm	Order Code	Each
3,000	170	295	60	6989-15	111.19
5,000	185	360	70	6989-18	179.65
10,000	240	420	70	6989-21	268.96
15,000	255	500	75	6989-24	346.06
20,000	290	535	75	6989-27	433.92

PLASTIC COATED

Cap., mL	Body O.D., mm	Height, mm	Neck I.D., mm	Order Code	Each
3,000	170	295	60	6989-115	159.01
5,000	185	360	70	6989-118	241.01
10,000	240	420	70	6989-121	362.98
15,000	255	500	75	6989-124	422.23
20,000	290	535	75	6989-127	499.23

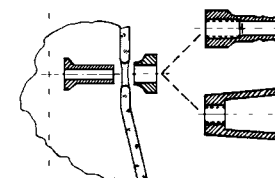


6989

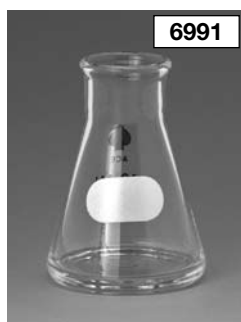
6989-40 REPLACEMENT HOSE CONNECTION SET ★

PP hose connection, straight, and tubulature replacement set.

Package Qty.	Order Code	Per Package
10	6989-40	61.55



6989-40

**6991 FLASK** *Erlenmeyer, Semi-Micro* ♦

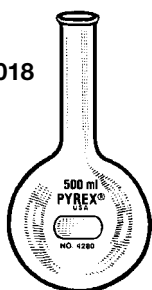
Wide mouth with beaded lip to resist chipping.

Capacity, mL	I.D. of Neck, mm	Order Code	Each
10	13	6991-03	5.21
25	20	6991-05	13.13
50	24	6991-10	15.41

**HEAVY
DUTY****7011 FLASK** *Separatory Funnel Type, 1:5 PTFE Plug,*
‡ *Outer Joints Heavy Duty* ♦With three necks and PTFE plug (6 mm bore on 5000mL, 4mm bore on all other sizes) stopcock outlet. *Fabricated with heavy walls*, approximately 30% heavier than standard-wall flasks. For stopcock plugs, see 8224.

Cap., mL	‡ Joints	Order Code	Each	Cap., mL	‡ Joints	Order Code	Each
500	24/40C-24/40S	7011-244	204.18	2000	45/50C-24/40S	7011-254	285.75
500	29/42C-24/40S	7011-245	208.14	3000	24/40C-24/40S	7011-255	301.32
500	34/45C-24/40S	7011-246	225.64	3000	29/42C-24/40S	7011-256	309.70
1000	24/40C-24/40S	7011-248	234.24	3000	34/45C-24/40S	7011-257	312.45
1000	29/42C-24/40S	7011-247	230.50	3000	45/50C-24/40S	7011-258	315.58
1000	34/45C-24/40S	7011-249	252.66	5000	24/40C-24/40S	7011-259	324.57
2000	24/40C-24/40S	7011-251	274.62	5000	29/42C-24/40S	7011-261	328.63
2000	29/42C-24/40S	7011-253	280.02	5000	34/45C-24/40S	7011-262	331.32
2000	34/45C-24/40S	7011-252	282.03	5000	45/50C-24/40S	7011-260	336.18

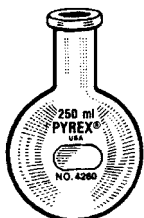
7018

**7018 FLASK** *Boiling, Round Bottom, Long Neck, Tooled Mouth* ★ **Corning 4280**

PYREX® brand, with long neck.

Corning Code	Approx. Cap., mL	Rubber Stopper No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf- Pack	Case			
4280-250	250	5	83 x 149	—	1	7018-11	—	12.11
4280-500	500	6	102 x 203	6	12	7018-17	107.80	187.47
4280-1L	1000	8	130 x 241	6	12	7018-19	133.93	232.93
4280-2L	2000	8	161 x 308	1	18	7018-21	59.24	927.20
4280-5L	5000	11	221 x 381	1	6	7018-25	113.75	593.49

7019

**7019 FLASK** *Boiling, Round Bottom, Short Ring Neck* ★**Corning 4260**

PYREX® brand, short, ring neck flask.

Corning Code	Approx. Cap., mL	Rubber Stopper No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf- Pack	Case			
4260-250	250	5	83 x 120	—	1	7019-07	—	16.84
4260-500	500	6	102 x 160	—	1	7019-13	—	21.35
4260-1L	1000	8	130 x 185	6	36	7019-15	156.28	271.79
4260-2L	2000	10	162 x 232	1	18	7019-17	49.07	767.98
4260-3L	3000	10	184 x 260	—	1	7019-19	—	62.56
4260-5L	5000	11	221 x 310	—	6	7019-21	—	692.03
4260-12L	12000	11	295 x 378	—	1	7019-23	—	194.43
4260-22L	22000	14	349 x 426	—	1	7019-25	—	353.26

14205 SHAKE FLASK ASSEMBLY *CO₂, Gledhill*, Modified* ♠

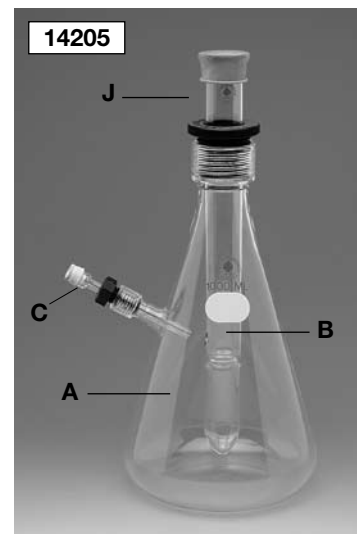
Used for determining CO₂ evolution to assess biodegradability by soil and sewerage microorganisms. Shake flask, (A), containing culture medium, fits standard laboratory shakers. #7 Ace-Thred side port with Nylon bushing and FETFE O-Ring holds a glass septum adapter, (C). Insertion of this septum allows easier sampling or aeration while system is closed. Adapter can easily be removed for septum change. Inner well, (B), contains culture material (Barium Hydroxide, etc.) and has a capacity of 10mL plus head space. Side hole in well permits good interface of vapors. Well is held securely in #25 Ace-Thred with Nylon bushing and FETFE O-Ring that permits variable depth positioning. Well top is flared to accept septum, (J), and can be removed or pierced to permit venting for aerating of culture media. One well fits all size vessels. Complete item consists of flask, well, septum adapter, septa for adapter and well, #7 and #25 bushings with FETFE O-Rings.

Flask Cap., mL	Order Code	Complete
500	14205-40	135.81
1000	14205-44	140.71
2000	14205-50	146.62

Replacement Parts:

	Order Code	Each		Qty.	Order Code	Each
Flask, #25, 500mL, only	14205-07	69.35	Bushing, Nylon, #25	1	7506-10	17.29
Flask, #25, 1000mL, only	14205-09	74.25	O-Rings, FETFE for #7	12	7855-704	12.27
Flask, #25, 2000mL, only	14205-13	80.16	O-Rings, FETFE for #25	6	7855-734	18.05
Well, only	14205-25	37.78	Septum, Side Port	12	9096-32	13.44
Septum Adapter only	14205-28	6.49	Septum, Well	12	9096-56	18.10
Bushing, Nylon, #7	5029-10	2.27				

**Dr. William E. Gledhill, Monsanto Company, as described in "Journal of Applied Microbiology", December 1975, pp 922-929.*

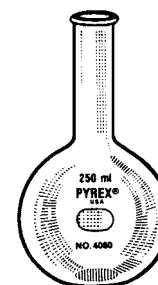


4116 FLASK *Florence, Flat Bottom* ★

Corning 4060

PYREX® brand, Florence boiling flask, flat bottom with long neck, tooled mouth.

Corning Code	Approx. Cap., mL	Rubber Stopper No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
4060-125	125	2	68 x 120	6	24	4116-12	59.67	207.56
4060-250	250	5	82 x 134	—	24	4116-15	—	209.03
4060-2L	2000	8	168 x 293	—	1	4116-19	—	40.30



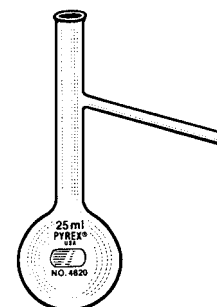
4116

4126 FLASK *Distilling* ★

Corning 4620

PYREX® brand, distilling flask with side arm 137mm from bottom of flask.

Corning Code	Approx. Cap., mL	Rubber Stopper No.	Approx. O.D. x Hght., mm	Sidearm O.D. x Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
4620-125	125	2	69 x 214	7 x 100	6	24	4126-04	136.08	473.31



4126

**For Rotary Evaporator
Traps, 6703-6706,
turn to page 223.**



7030

7030 FLASK Rotary Evaporator/Freeze Drying ♦

Dual purpose flask features the "TWISTLOR" ACE-Seal: simply push adapter head and flask together, turn 90°.

Flange on flask has two ground-flats opposite each other that allow Nylon® retainers on adapter head to pass over. O-Ring positioned in head and flask grooves makes a vacuum- tight seal when head is turned 90° in either direction.

To remove, turn 90° in either direction or until Nylon retainers line up with flats on flange, flask and adapter head separately.

One adapter head fits all capacity flasks. Each adapter head is supplied with one FETFE® O-Ring. Complete item would consist of adapter head and flask. Order each separately.

FLASK, Only			ADAPTER HEAD, Only		
Cap., mL	Order Code	Each	Joint	Order Code	Each
250	7030-04	136.12	24/40	7030-21	143.46
500	7030-06	138.45	29/42	7030-23	147.13
1000	7030-08	150.92			
2000	7030-10	186.17			
3000	7030-12	201.94	FETFE O-Rings		Pk/3
5000	7030-14	231.26	7855-775		26.39

7035 FLASK Freeze Dry

Complete Fast-Freeze Flask with Snap-on Rubber Cap and 1/2-inch or 3/4-inch O.D. Plain or Valve Adapter, compatible with all major brand Freeze Drying manifold valves.

Borosilicate flasks are designed for ease of handling, faster loading. Uniform wall weight maximizes heat transfer while maintaining structural strength. Wide (53mm ID) mouth provides easy access to inner walls.

Snap-on black rubber cap is grease free; **one size** fits all capacity flasks. Plain straight adapter for connecting flask cap to lyophilizer manifold is removable and fabricated from PTFE. PTFE adapter also available with shut-off valve. Complete item consists of Flask, Cap and PTFE Adapter.



7035

Approx. Flask, mL	Flask Dimensions H x ID, mm	Adapter Size (In.)-Style	Order Code	Complete ♦
300	156 x 55	1/2-Plain	7035-03	94.65
300	156 x 55	3/4-Plain	7035-05	94.91
300	156 x 55	1/2-Valve	7035-34	132.09
300	156 x 55	1/2-Valve	7035-36	129.96
600	282 x 55	1/2-Plain	7035-09	101.08
600	282 x 55	1/2-Plain	7035-11	101.34
600	282 x 55	1/2-Valve	7035-40	138.52
600	282 x 55	1/2-Valve	7035-42	136.39
600	125 x 95	1/2-Plain	7035-15	126.90
600	125 x 95	1/2-Plain	7035-17	127.16
600	125 x 95	1/2-Valve	7035-46	164.34
600	125 x 95	1/2-Valve	7035-48	162.21
900	180 x 95	1/2-Plain	7035-21	133.34
900	180 x 95	1/2-Plain	7035-23	133.60
900	180 x 95	1/2-Valve	7035-52	170.78
900	180 x 95	1/2-Valve	7035-54	168.65
1200	230 x 95	1/2-Plain	7035-27	139.79
1200	230 x 95	1/2-Plain	7035-29	140.05
1200	230 x 95	1/2-Valve	7035-56	177.23
1200	230 x 95	1/2-Valve	7035-58	175.10

Replacement Items			
Flask, only	Dimensions H x ID, mm	Order Code	Each ♦
300 mL	156 x 55	7035-104	64.52
600 mL	282 x 55	7035-110	70.95
600 mL	125 x 95	7035-116	96.77
900 mL	180 x 95	7035-122	103.21
1200 mL	230 x 95	7035-128	109.66
Adapter, only (In.)		Type	Order Code
1/2	Plain-PTFE	7035-150	5.99
3/4	Plain-PTFE	7035-152	6.25
1/2	Valve-PTFE	7035-160	43.43
3/4	Valve-PTFE	7035-162	41.30
Cap, only		7035-170	24.14

7075 FLASK *Dewar, Pyrex Brand Glass ★*

Cylindrical form, silvered and evacuated. Furnished with an aluminum base and plastic mesh.

Capacity, mL	Inside Diameter, cm	Inside Height, cm	Order Code	Each
350	6.8	11.3	7075-05	100.84
665	6.8	19.5	7075-10	99.56
1000	6.8	30.2	7075-15	105.94
1900	11.9	19.5	7075-20	245.07
4300	15.2	27.6	7075-25	322.96



7075

7076 FLASK *Dewar, Pyrex Brand Glass, Plastic Coated*

Cylindrical form, silvered and evacuated. Furnished with an aluminum base. Exterior, including base, is coated with a tough, resilient, baked-on plastic which does not rupture if flask breaks.

Capacity, mL	Inside Diameter, cm	Inside Height, cm	Order Code	Each
350	6.8	11.3	7076-03	♠ 181.90
665	6.8	19.5	7076-06	♠ 212.42
1000	6.8	30.2	7076-09	♠ 221.31
1900	11.9	19.5	7076-12	♠ 382.01
4300	15.2	27.6	7076-15	★ 551.09



7076

7078 FLASK *Dewar, Low Form ★*

Cylindrical low form silvered and evacuated. Ideal for sub-ambient work. Low form design allows use of multineck flask with magnetic stirring.

Capacity, mL	Inside Diameter, mm	Inside Height, mm	Order Code	Each
150	80	35	7078-04	203.05
350	80	75	7078-06	203.05
500	105	80	7078-08	256.43
850	130	75	7078-10	289.45
1500	143	109	7078-12	439.46
2500	170	135	7078-14	834.36

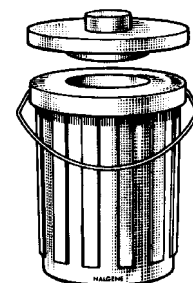


7078

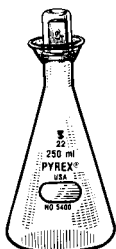
12540 FLASK *Dewar, Plastic ★*

Molded of **high-density polyethylene** expanded **polystyrene** cover; **polyethylene** coated handle. The first all-plastic Dewar flask suitable for cryogenic work. Unbreakable. The double walls are molded from chemically-resistant linear polyethylene, which will withstand temperatures from -196°C to $+100^{\circ}\text{C}$. The annulus is filled with insulating urethane foam. Ribs molded in for safe handling. Vented, insulating cover. Convenient bail-type handle on all but 10 liter size. Packed one per carton.

Cap., Liters	I.D. at Mouth, cm	Inside Depth, cm	Overall Height, cm	No. in Case	Order Code	Each	Case Price
1	9.5	19.4	22.9	4	12540-05	152.99	611.95
2	12.1	22.5	26	2	12540-07	162.96	325.90
4	14.6	28.7	32.4	2	12540-09	178.83	357.60
10	19.7	39.4	45.7	1	12540-11	—	330.55

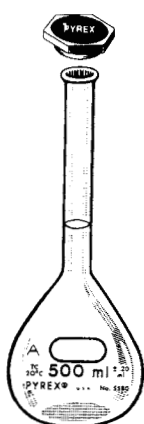


12540

**7090****7090 FLASK Iodine ★****Corning 5400**

PYREX® brand, Iodine determination flask with $\frac{3}{8}$ stopper. Stopper projects above liquid seal trough to facilitate removal. Reference: ASTM D 29 and D 555.

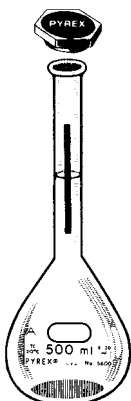
Corning Code	Capacity, mL	Stopper No.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
5400-125	125	22	66 x 146	6	12	7090-06	237.83	413.61
5400-250	250	22	81 x 184	1	8	7090-11	51.45	357.92
5400-500	500	22	101 x 220	—	6	7090-16	—	324.83

**7097****7097 FLASK Volumetric ★****Corning 5580 (Class A)**

PYREX® brand designated as Class A, manufactured in accordance with ASTM E-694, E-542 and E-288 for volumetric ware. Graduation line is sharp and permanent. Snap-caps are supplied with 10mL capacity and larger.

Corning Code	Cap, mL	Tol., $\pm$ mL	Approx. O.D. x Hght., mm	Snap-Cap No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
5580-1	1*	0.01	10 x 55	—	6	12	7097-03	79.02	137.43
5580-2	2*	0.015	9 x 85	—	6	12	7097-05	90.58	157.53
5580-10	10	0.02	28 x 78	10	—	12	7097-09	—	223.54
5580-25	25	0.03	40 x 100	25	6	12	7097-11	137.06	238.37
5580-50	50	0.05	51 x 130	50	6	12	7097-13	140.83	244.93
5580-100	100	0.08	60 x 160	100	6	12	7097-15	153.53	267.00
5580-200	200	0.10	74 x 198	200	6	12	7097-17	184.21	320.36
5580-250	250	0.12	78 x 225	250	6	12	7097-19	198.23	344.74
5580-500	500	0.20	100 x 259	500	6	12	7097-21	240.93	419.01
5580-1L	1000	0.30	125 x 310	1000	1	6	7097-23	48.64	253.77
5580-2L	2000	0.50	158 x 357	2000	1	4	7097-25	77.04	267.95

*Not supplied with Snap-Cap

**4141****4141 FLASK Volumetric ★****Corning 5600 (Class A)**

PYREX® brand, Lifetime Red™, Volumetric Flask, graduated, with Snap-Cap, calibrated "To Contain."

Corning Code	Cap, mL	Tol., $\pm$ mL	Approx. O.D. x Hght., mm	Snap-Cap No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
5600-50	50	0.05	51 x 130	50	6	12	4141-05	130.14	226.33
5600-100	100	0.08	60 x 160	100	6	12	4141-07	151.78	263.97
5600-200	200	0.10	74 x 198	200	6	12	4141-11	173.33	301.44
5600-250	250	0.12	78 x 225	250	6	12	4141-14	186.49	324.33
5600-500	500	0.20	100 x 259	500	6	12	4141-16	226.69	394.24
5600-1L	1000	0.30	125 x 310	1000	1	6	4141-18	48.05	250.67
5600-2L	2000	0.50	158 x 357	2000	1	4	4141-20	73.09	254.22

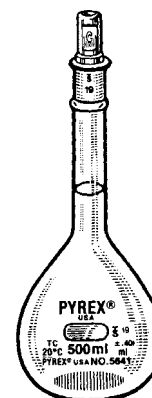
7101 FLASK Volumetric ★

Corning 5641

PYREX® brand economy grade, similar to 7094 in all respects except these flasks have interchangeable $\frac{1}{8}$ ground glass stoppers. For Stoppers, see 8280.

Corning Code	Cap, mL	Tol., $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
5641-10	10	0.04	28 x 99	9	—	12	7101-03	—	266.12
5641-25	25	0.06	40 x 121	9	6	12	7101-05	170.35	296.26
5641-50	50	0.10	51 x 151	9	6	12	7101-07	180.19	313.38
5641-100	100	0.16	60 x 181	13	6	12	7101-09	194.14	337.64
5641-200	200	0.20	74 x 214	13	6	12	7101-11	224.27	390.04
5641-250	250	0.24	78 x 252	16	6	12	7101-13	237.46	412.97
5641-500	500	0.40	100 x 287	19	6	12	7101-15	298.32	518.82
5641-1L	1000	0.60	125 x 342	22	1	6	7101-17	61.15	319.03

For Firestone Hy-N-Dry Desiccant Stopper, see 8277.



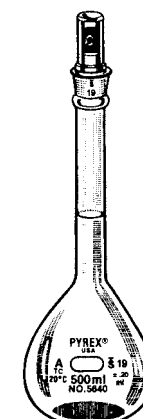
7101

7106 FLASK Volumetric ★

Corning 5640 (Class A)

PYREX® brand volumetric flasks with Pyrex stopper. The strength of these flasks has been increased appreciably through machine-blown bodies. Graduation line is large and permanent. 1mL and 2mL capacities are test tube shaped. Supplied with stopper. For extra stoppers, see 8280.

Corning Code	Cap, mL	Tol., $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
5640-1	1	0.01	9 x 79	8	—	12	7106-03	—	311.81
5640-2	2	0.015	9 x 114	8	—	12	7106-05	—	332.71
5640-5	5	0.02	26 x 91	8	—	12	7106-07	—	259.94
5640-10	10	0.02	28 x 99	9	—	12	7106-09	—	311.08
5640-25	25	0.03	40 x 121	9	6	12	7106-11	195.25	339.57
5640-50	50	0.05	51 x 151	9	6	12	7106-13	208.11	361.93
5640-100	100	0.08	60 x 181	13	6	12	7106-15	222.06	386.19
5640-200	200	0.10	74 x 214	13	6	12	7106-17	256.51	446.11
5640-250	250	0.12	78 x 252	16	6	12	7106-19	276.49	480.86
5640-500	500	0.20	100 x 287	19	6	12	7106-21	343.55	597.48
5640-1L	1000	0.30	125 x 342	22	1	6	7106-23	69.36	361.86
5640-2L	2000	0.50	158 x 388	27	1	4	7106-25	87.65	304.86



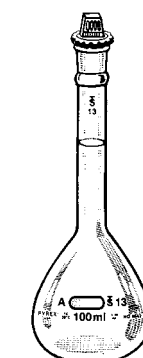
7106

7108 FLASK Volumetric ★

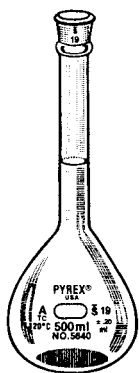
Corning 5642 (Class A)

PYREX® brand volumetric flasks with closed bottom linear high-density polyethylene stopper in the ground neck. The strength of these flasks has been increased appreciably through machine-blown bodies. Graduation line is large and permanent. 1mL and 2mL capacities are test tube shaped. Supplied with stopper.

Corning Code	Cap, mL	Tol., $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
5642-5	5	0.02	26 x 91	8	—	1	7108-07	—	26.22
5642-10	10	0.02	28 x 99	9	—	12	7108-09	—	268.58
5642-25	25	0.03	40 x 121	9	6	12	7108-11	168.54	293.12
5642-50	50	0.05	51 x 151	9	6	12	7108-13	181.48	315.61
5642-100	100	0.08	60 x 181	13	6	12	7108-15	188.20	327.31
5642-200	200	0.10	74 x 214	13	6	12	7108-17	219.70	382.09
5642-250	250	0.12	78 x 252	16	6	12	7108-19	233.40	405.92
5642-500	500	0.20	100 x 287	19	6	12	7108-21	299.94	521.64
5642-1L	1000	0.30	125 x 342	22	1	6	7108-23	61.01	318.31
5642-2L	2000	0.50	158 x 388	27	1	4	7108-25	77.11	268.20



7108



7110

7110 FLASK Volumetric ★**Corning 5640 (Class A)**

PYREX® brand, similar to 7106 with ground $\frac{3}{8}$ neck, except NO stopper is supplied.

Corning Code	Cap., mL	Tol. $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Quantity in Case	Order Code	Case Price
5640-10FO	10	0.02	28 x 99	9	12	7110-09	260.27
5640-25FO	25	0.03	40 x 121	9	1	7110-11	30.98
5640-50FO	50	0.05	51 x 151	9	1	7110-13	33.44
5640-100FO	100	0.08	60 x 181	13	12	7110-15	301.44
5640-200FO	200	0.10	74 x 214	13	1	7110-17	41.67
5640-250FO	250	0.12	78 x 252	16	1	7110-19	43.05
5640-500FO	500	0.20	100 x 287	19	1	7110-21	55.17
5640-1LFO	1000	0.30	125 x 342	22	1	7110-23	66.39

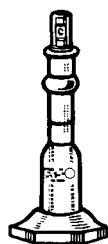


7112

7112 FLASK Volumetric, Low Actinic ★**Corning 55640 (Class A)**

PYREX® brand, similar in design to 7106, but of low actinic stained glass that provides protection for materials sensitive to light. Stoppered. With marking spot.

Quantity Per							Order Code	Shelf-Pack Price	Case Price
Corning Code	Cap., mL	Tol. $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Shelf-Pack	Case			
55640-10	10	0.02	28 x 99	9	—	12	7112-03	—	399.47
55640-25	25	0.03	40 x 121	9	6	12	7112-05	263.14	457.63
55640-50	50	0.05	51 x 151	9	6	12	7112-07	299.02	520.03
55640-100	100	0.08	60 x 181	13	6	12	7112-09	299.44	520.76
55640-250	250	0.12	78 x 252	16	6	12	7112-11	281.92	490.29
55640-500	500	0.20	100 x 287	19	—	1	7112-13	—	104.99
55640-1L	1000	0.30	125 x 342	22	—	1	7112-15	—	128.30



7116

7116 FLASK Volumetric, Cylindrical ★**Corning 5630 (Class A)**

PYREX® brand, for microchemical work. Sizes 1mL through 5mL are designed in accordance with the recommendations of the Committee of Microchemical Apparatus, Analytical Division of the A.C.S., in its 1956 report. Graduation line is sharp and permanent. Reference: ASTM E 237. For stoppers, see 8280.

Quantity Per							Order Code	Shelf-Pack Price	Case Price
Corning Code	Cap., mL	Tol. $\pm$ mL	Approx. O.D. x Hght., mm	Stopper No.	Shelf-Pack	Case			
5630-1	1	0.01	8 x 68	8	—	12	7116-02	—	461.09
5630-2	2	0.015	12 x 71	8	—	12	7116-04	—	525.74
5630-5	5	0.02	17 x 80	8	—	12	7116-10	—	514.62
5630-10	10	0.02	20 x 105	9	—	12	7116-12	—	590.90
5630-25	25	0.03	29 x 132	9	6	12	7116-14	397.07	690.55

7124 FLASK *Volumetric* ♠

Specially designed, standardized flasks, with stoppers. All capacities have $\frac{1}{2}$ 12/18 outer joint with approximately 10 mm opening. Cylindrical body affords better mixing and drainage, and ease of withdrawal using pipets. Wide base offers greater stability. Upper surface of base is ground to allow pencil markings. Class "A" tolerances. For replacement stoppers, see 8255.

Capacity, mL	Order Code	Each
15	7124-15	81.35
20	7124-20	84.35



7127 FLASK *Volumetric, Pilot Plant*

Large capacity volumetric flask with $\frac{1}{2}$ outer joint, without graduation mark. Supplied without stopper.

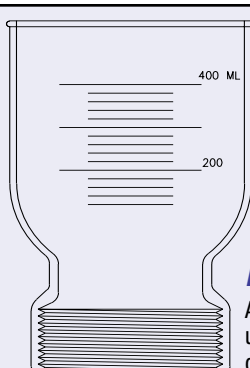
Capacity, mL	$\frac{1}{2}$ Joint	Flask only		Stopper only	
		Order Code	Each	Order Code	Each
5000	34/28	7127-25	★ 170.36	8255-18	♠ 26.16
10000	40/35	7127-30	★ 244.31	8255-20	♠ 39.86



A New Concept in Lab Filtration Apparatus!

No clamp, no leakage!

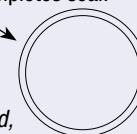
Using Ace-Thred design, filter funnel and filter flask thread together without the silicone stopper and troublesome clamping device.



Better membrane utilization!

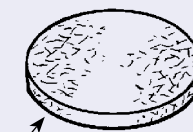
Accommodates the 47mm and 25mm membranes and uses 45mm of the 47mm grid vs. only 35-40mm in older designs.

Nylon membrane retaining ring completes seal.



Removable frits!

Unit disassembles completely for easy cleaning. Uses removable frits of different porosities, from extra coarse to extra fine, instead of expensive, sealed-in frits.



3700/3703/6979 FILTRATION APPARATUS 25mm ♦

Ace Glass introduces a new concept for lab filtration apparatus. Using our famous Ace-Thred design, we are able to thread the filter funnel and filter flask together without the silicone stopper and troublesome clamping device. This design also eliminates leakage problems.

The filter unit has four basic parts; the funnel, flask and nylon adapter piece and a removable glass fritted disk. The unit can be completely disassembled for easy cleaning. Instead of a sealed-in glass fritted support, the disks can be easily removed and cleaned and offer the availability of different frit sizes, from extra coarse to extra fine. The adapters are also available in PTFE or other polymers on special order. The assembly is autoclavable.

Complete Filtration Apparatus 3700-10 includes: 500mL Filter Flask w/Ace-Thred top, & #7 Ace-Thred & Ace-Safe connector, Nylon Adapter w/#25 Ace-Threds, 25mm Porosity B (70-100 micron) fritted disc, nylon ring, 100mL graduated funnel with Ace-Thred bottom.

Description	Order Code	Each
500mL filter flask with #25 Ace-Thred top and #7 Ace-Safe connector	3700-08	102.54
500mL filter flask with #24/40 outer joint top and glass hose barb side port	6979-10	81.76
Nylon adapter with #25 Ace-Thred both ends	3700-06	112.28
Nylon adapter with #25 Ace-Thred one end and 24/40 inner joint bottom	3700-04	103.12
100mL funnel with #25 Ace-Thred bottom, graduated	3700-02	43.54
Porosity B fritted disk (70-100 micron) 25mm	3703-25	10.77
Porosity A fritted disk (145-174 micron) 25mm	3703-23	10.77
Porosity C fritted disk (25-50 micron) 25mm	3703-29	10.77
Nylon ring 25mm	3700-01	9.45
Complete	3700-10	278.58

3702/3703/6979 FILTRATION APPARATUS 47mm ♦

A 47mm version of 3700 Filtration Apparatus, listed above. **Complete Filtration Apparatus 3702-10 includes:** 1000mL Filter Flask w/Ace-Thred top, & #7 Ace-Thred & Ace-Safe side port connector, Nylon Adapter w/#25 Ace-Thred bottom, & #50 Ace-Thred top, nylon ring 25mm Porosity B (70-100 micron) fritted disc, 500mL graduated funnel w/#50 Ace-Thred bottom. The assembly is autoclavable.

Description	Order Code	Each
1000mL filter flask with #25 Ace-Thred top and #7 Ace-Safe connector	3702-08	125.42
1000mL filter flask with #24/40 outer joint top and glass hose barb side port	6979-15	105.30
Nylon adapter with #25 Ace-Thred bottom and #50 Ace-Thred top	3702-06	128.81
Nylon adapter with #50 Ace-Thred top and 24/40 inner joint bottom	3702-05	119.72
500mL funnel with #50 Ace-Thred bottom, graduated	3702-04	55.88
Porosity B fritted disk (70-100 micron) 47mm	3703-47	27.08
Porosity A fritted disk (145-174 micron) 47mm	3703-45	27.08
Porosity C fritted disk (25-50 micron) 47mm	3703-49	27.08
Nylon ring 47mm	3702-02	10.32
Complete	3702-10	347.51



3700-10



3702-10

The Only Glass Fiber Disc

General Information

The glass fiber structure of ACE filters results in a more abrasion resistant surface. Being fused together on a greater surface area, the particles do not detach from the filter body as easily as spheroid granules. Being made entirely of glass, resistance to thermal shock and chemical attack is unimpaired. We offer what we believe to be the highest quality filter available, with a hardness which is unsurpassed.

Data on Pore Diameter and Uses

Pore size is determined by the pressure required to force the first bubble of air through the filter when it is just immersed in a liquid of known surface tension. From this pressure, the maximum pore diameter in microns is calculated.¹ This method, which is in common use among filter manufacturers, gives calculated values in reasonable agreement with optical measurements. It is generally agreed that a glass filter will retain all particles larger than the maximum determined pore diameter.

ACE Designation	Porosity Maximum Pore Dia. Range (micron)	Corning Equivalent	Kimble Equivalent	Most Frequent Uses
A	145-174	EC (170-220)	EC (170-220)	Coarse filtration. Gas Dispersion
B	70-100	—	—	Coarse filtration. Gas Dispersion
C	25-50	C (40-60)	C (40-60)	Filtration. Gas Dispersion
D	10-20	M (10-15)	M (10-15)	Filtration and extraction
E	4-8	F (4-5.5)	F (4-5.5)	Filtration and extraction
VF	2-2.5	VF (2-2.5)	—	General bacteria filtrations
UF	0.9-1.4	UF (0.9-1.4)	—	General bacteria filtrations

Flow Characteristics

Aqueous flow rate from 0.5 to 200cc/min./cm² at 100mm Hg. pressure drop are covered in the porosities A to E. A tabulation of these flow rates for various porosities is almost meaningless since operating conditions vary so widely. In addition, a number of interesting phenomena occur that may rapidly and reversibly change the flow rate of a given filter by a factor of two or more, particularly in filters of smaller pore size. Hence, any discussion of flow rate becomes detailed and involved. Glass filters carry a negative charge.

Care and Cleaning

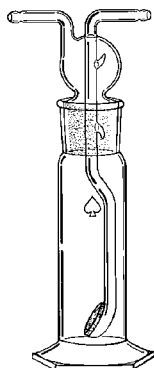
Only materials that attack glass will affect these filters, i.e. HF, Alkalies, H₃PO₄. HF attacks rapidly; the others, relatively slowly.

Inasmuch as surface scratches materially reduce the strength of glass, scratching the envelope in the vicinity of the disc should be guarded against, particularly on large filters, since this is the area of maximum stress under vacuum. Mechanical cleaning can be accomplished by reverse-flow washing. This is the most effective mechanical means. Do not exceed 1.06 Kg/cm² pressure.

For Chemical Cleaning, the following are recommended:

Material to be Removed:	Removal Agent:
Barium Sulfate	Concentrated H ₂ SO ₄ plus a small amount of KClO ₄ to 80-90°C and soak
Fat	CCl ₄
Mercury	Hot HNO ₃
Mercuric Sulfide	Hot Aqua Regia
Organic Residues	Warm concentrated H ₂ SO ₄ plus a small amount of KNO ₃ and soak
Silver Chloride	NH ₄ OH
Sugars & Glucose	Hot H ₂ SO ₄ plus HNO ₃
Free Carbon	Heat in a muffle furnace to 482°C in an oxidizing atmosphere. Cooling may be at the rate of -12°C/min. or greater, but thermal shock must not exceed 93°C.
Dia (micron) = $\frac{30\delta}{P}$	Surface tension in a dynes/cm at test temperature P = mm Hg. where first bubble appears.

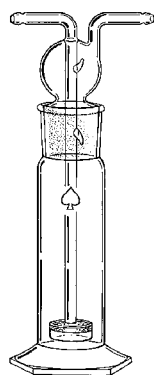
The test liquid must wet the filter; that is, the contact angle must be negligible.

**7162****7162 BOTTLE** *Gas Washing* ♦

Large disc size provides greater capacity. 125mL size has a 25mm fritted disc. The 250mL and 500mL sizes are fitted with a 30mm disc. Joints are $\frac{1}{4}$ 40/35. All porosities of a given size are priced the same. Inlet/outlet arms are 8mm O.D.

Capacity, mL	Por. A Order Code	Por. B Order Code	Por. C Order Code	Complete
125	7162-02	7162-04	7162-06	185.00
250	7162-12	7162-14	7162-16	199.11
500	7162-22	7162-24	7162-26	218.28

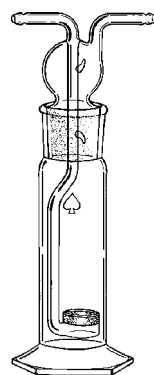
Cap., mL	Order Code	Bottle Only	Por. A Order Code	Por. B Order Code	Por. C Order Code	Stopper Only
125	7162-50	71.62	7162-60	7162-62	7162-64	109.74
250	7162-52	80.42	7162-70	7162-72	7162-74	115.05
500	7162-54	99.59	7162-80	7162-82	7162-84	115.05

**7163****7163 BOTTLE** *Gas Washing* ♦

With 25mm fritted disc diameter. $\frac{1}{4}$ 40/35 joints for all sizes. All porosities of a given size are priced the same. Inlet/outlet arms are 8mm O.D.

Capacity, mL	Por. A Order Code	Por. B Order Code	Por. C Order Code	Complete
125	7163-02	7163-04	7163-06	190.81
250	7163-12	7163-14	7163-16	202.70
500	7163-22	7163-24	7163-26	221.87

Cap., mL	Order Code	Bottle Only	Por. A Order Code	Por. B Order Code	Por. C Order Code	Stopper Only
125	7162-50	71.62	7163-60	7163-62	7163-64	115.55
250	7162-52	80.42	7163-70	7163-72	7163-74	118.64
500	7162-54	99.59	7163-80	7163-82	7163-84	118.64

**7164****7164 BOTTLE** *Gas Washing* ♦

With 25mm fritted disc diameter. $\frac{1}{4}$ 40/35 joints for all sizes. All porosities of a given size are priced the same. Inlet/outlet arms are 8mm O.D.

Capacity, mL	Por. A Order Code	Por. B Order Code	Por. C Order Code	Complete
125	7164-02	7164-04	7164-06	173.93
250	7164-12	7164-14	7164-16	185.09
500	7164-22	7164-24	7164-26	204.26

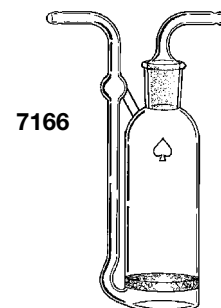
Cap., mL	Order Code	Bottle Only	Por. A Order Code	Por. B Order Code	Por. C Order Code	Stopper Only
125	7162-50	71.62	7164-60	7164-62	7164-64	98.67
250	7162-52	80.42	7164-70	7164-72	7164-74	101.03
500	7162-54	99.59	7164-80	7164-82	7164-84	101.03

7166 BOTTLE *Gas Washing* ♠

With fritted disc. Joint is \$ 29/42 for all sizes. All porosities of a given size are priced the same. Inlet/outlet arms are 8mm O.D.

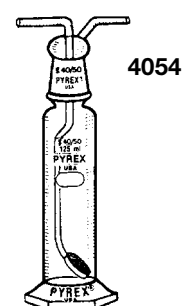
Capacity, mL	Disc Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Complete
250	50	7166-12	7166-14	7166-16	224.58
500	75	7166-22	7166-24	7166-26	303.47

Cap., mL	Order Code	Stopper Only	Por. A Order Code	Por. B Order Code	Por. C Order Code	Bottle Only
250	7166-40	25.42	7166-60	7166-62	7166-64	192.33
500	7166-40	25.42	7166-70	7166-72	7166-74	269.01



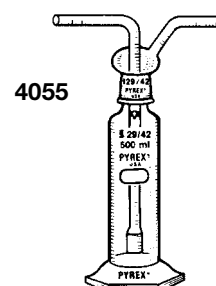
4054 BOTTLE *Gas Washing, Tall Form, with Fritted Disc* ★ **Corning 31760**

Corning Code	Capacity, mL and Porosity	\$ Stopper	Approx. Dia. of Disc, mm	O.D. x Hght., mm	Quantity in Case	Order Code	Case Price
31760-250C	250 C	40/50	20	51 x 305	1	4054-04	216.30
31760-500C	500 C	40/50	20	64 x 350	1	4054-07	237.26



4055 BOTTLE *Gas Washing, Tall Form, with Fritted Disc* ★ **Corning 31770**

Corning Code	Capacity, mL and Porosity	\$ Stopper	Approx. Dia. of Disc, mm	O.D. x Hght., mm	Quantity in Case	Order Code	Case Price
31770-250C	250 C	29/42	12	51 x 290	1	4055-03	193.42
31770-500C	500 C	29/42	12	63 x 340	1	4055-06	216.84



7167 BOTTLE *Gas Washing* ♠

Gas washing bottle, 270 mL with inner coil. Used with 6550 cyanide distillation apparatus.

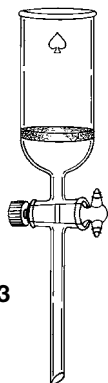
Description	Order Code	Each
270 mL bottle only	7167-07	97.75
Inner coil for 7167-07 bottle	7167-12	283.95
270 mL bottle complete with coil	7167-30	381.70



**7170****7170 CRUCIBLE** *Gooch High Form* ♠

With fritted disc. Disc diameter 30mm, height above disc is 45mm. All porosities of a given size are priced the same.

Capacity, mL	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
30	7170-02	7170-04	7170-06	7170-08	7170-10	29.19

**7183****7183 FUNNEL** *Separatory, Cylindrical, 1:5 PTFE Plug* ♠

With straight, open top and a 2mm bore 1:5 taper PTFE stopcock plug.

Capacity, mL	Disc Dia., mm	Por. A Order Code	Each
125	40	7183-50	131.59
250	65	7183-60	161.56

7176 SINTERED GLASS FILTER DISC ♠**Ace Glass**

The only glass *fiber filter disc* — lasts longer, more abrasion resistant, superior in performance than granular type discs. Available in a complete range of porosities and diameters for use in the manufacture of special apparatus. Porosities A, B, C and D are priced the same.

**7176**

Disc Dia, mm	Approx. Thickness mm	Por. A (145–174 micron) Order Code	Por. B (70–100 micron) Order Code	Por. C (25–50 micron) Order Code	Por. D (10–20 micron) Order Code	Each	Por. E (4–8 micron) Order Code	Each
8	3.0	7176-17	7176-18	7176-19	7176-20	9.08	7176-21	9.73
10	3.5	7176-01	7176-02	7176-03	7176-04	8.55	7176-05	9.62
12	3.5	7176-32	7176-33	7176-34	7176-35	10.07	7176-36	11.78
14	3.5	7176-52	7176-53	7176-54	7176-55	12.09	7176-56	12.84
15	3.5	7176-06	7176-07	7176-08	7176-09	10.37	7176-10	11.78
18½	3.5	7176-100	7176-101	7176-102	7176-103	11.47	7176-105	12.09
20	3.5	7176-12	7176-13	7176-14	7176-15	11.47	7176-16	12.09
21	3.5	7176-112	7176-113	7176-114	7176-115	11.47	7176-116	12.09
23½	3.5	7176-122	7176-123	7176-124	7176-125	11.69	7176-126	12.21
25	3.5	7176-22	7176-23	7176-24	7176-25	11.59	7176-26	12.46
30	4.0	7176-27	7176-28	7176-29	7176-30	14.61	7176-31	15.31
40	4.5	7176-37	7176-38	7176-39	7176-40	22.23	7176-41	23.38
47½	4.5	7176-132	7176-133	7176-134	7176-135	29.16	7176-136	30.60
50	4.5	7176-42	7176-43	7176-44	7176-45	28.98	7176-46	33.36
61½	6.0	7176-142	7176-143	7176-144	7176-145	32.23	7176-146	33.96
65	6.0	7176-47	7176-48	7176-49	7176-50	35.46	7176-51	38.47
82½	8.0	7176-152	7176-153	7176-154	7176-155	44.12	7176-156	51.32
90	8.0	7176-57	7176-58	7176-59	7176-60	58.49	7176-61	69.19
93	8.0	7176-162	7176-163	7176-164	7176-165	54.00	7176-166	64.24
120	10.0	7176-67	7176-68	7176-69	7176-70	108.59	7176-71	119.70
150	12.0	7176-77	7176-78	7176-79	7176-80	196.14	7176-81	219.64

7176 GLASS FILTER DISC ★

Robu

Granular type discs in very fine and ultrafine porosity for analytical and general bacteria filtration.

Approx. Disc Dia, mm	Thickness, mm	Por. Very Fine (2-2.5 micron)		Por. Ultra Fine (0.9-1.4 micron)	
		Order Code	Each	Order Code	Each
5	2.8	7176-204	31.22	7176-305	31.22
10	2.8	7176-207	26.73	7176-308	26.73
20	3.0	7176-210	27.20	7176-311	27.20
25	3.0	7176-212	36.91	7176-313	36.91
30	3.5	7176-215	39.96	7176-316	39.96
40	4.5	7176-217	51.81	7176-318	51.81
50	5.0	7176-219	58.27	7176-320	58.27
60	5.0	7176-221	104.00	7176-323	104.00
65	6.0	7176-224	112.32	7176-326	112.32
70	6.0	7176-227	131.04	7176-330	131.04
80	6.0	7176-230	160.23	7176-333	160.23
90	6.5	7176-233	178.19	7176-337	178.19
100	7.5	7176-236	316.78	7176-340	316.78
120	8.5	7176-239	353.34	7176-343	353.34

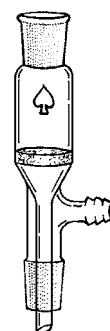


7176

9438 FUNNEL Filter, \$14/20 Joints ♦

Diameter of sintered glass filter disc is 18mm. Measures 40mm from disc to bottom of joint. All porosities of a given size are priced the same. Volume approximately 10mL. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

\$ Joint	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
14/20	9438-02	9438-04	9438-06	9438-08	9438-10	74.23



9438

Custom Fritted Ware

Featuring the only *Glass Fiber* filters

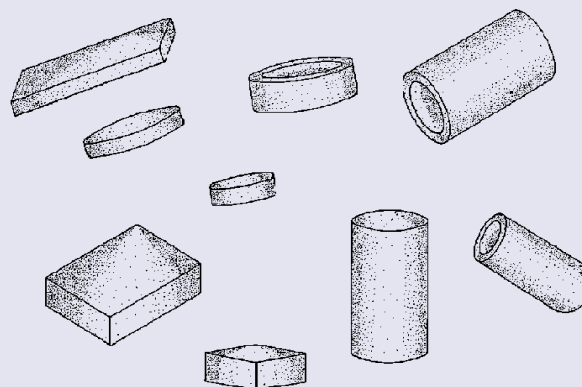
(Not available in VF or UF)

Special Shapes

- Square — up to 11 x 11 inches
- Rectangular
- Discs — up to 8 inches
- Cylindrical

Special Sizes

- Up to 1-inch thick



*You design it,
we'll make it!*

**9439 FUNNEL** *Filter, Buchner, 1/4 Joint* ♦

Buchner type. Diameter of sintered glass filter disc is 40mm. All porosities of a given size are priced the same. See page 5 for more detailed Hose Connection information.

Vol., mL	1/4 Joint	Tubing Size (Inches)	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
60	14/20	5/16 or 3/8 (C)	9439-02	9439-04	9439-06	9439-08	9439-10	71.84
60	19/22	5/16 (A)	9439-22	9439-24	9439-26	9439-28	9439-30	71.84
15	14/20	5/16 or 3/8 (C)	—	—	9439-40	9439-42	9439-44	66.55
30	14/20	5/16 or 3/8 (C)	—	—	9439-50	9439-52	9439-54	69.88

**7184 FUNNEL** *Filter, 1/4 24/40* ♦

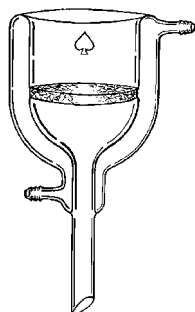
Buchner type with 1/4 24/40 inner joint. Use with 3/8-inch I.D. Tubing, Size D. See page 5 for more detailed Hose Connection information.

Cap., mL	Disc. Dia. mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Each	Por. E Order Code	Each
15	20	7184-42	7184-44	7184-46	7184-48	74.10	7184-50	75.55
30	30	7184-52	7184-54	7184-56	7184-58	78.81	7184-60	80.35
60	40	7184-02	7184-04	7184-06	7184-08	81.52	7184-10	83.11
140	65	7184-12	7184-14	7184-16	7184-18	118.25	7184-20	131.42
350	80	7184-24	7184-26	7184-28	7184-30	158.00	7184-32	169.06

7184 FUNNEL *Filter, 1/4 29/42* ♦

Buchner type with 1/4 29/42 inner joint. Use with 3/8-inch I.D. Tubing, Size D. See page 5 for more detailed Hose Connection information.

Cap., mL	Disc. Dia. mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Each	Por. E Order Code	Each
140	65	7184-13	7184-15	7184-17	7184-19	125.26	7184-21	126.88
350	80	7184-25	7184-27	7184-29	7184-31	163.84	7184-33	180.98

**7185****7185 FUNNEL** *Filter, Buchner* ★

With jacket for cooling or heating. All porosities of a given size are priced the same. Use with 3/8-inch or 5/16-inch I.D. Tubing, Size C. See page 5 for more detailed Hose Connection information.

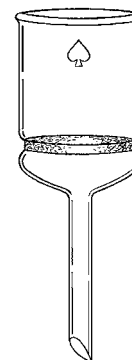
Cap., mL	Disc Dia., mm	Por. C Order Code	Por. D Order Code	Each
30	30	7185-06	7185-08	232.50
140	65	7185-16	7185-18	288.09
600	90	7185-26	7185-28	363.92

7186 FUNNEL *Filter, Buchner* ♦

With ACE fritted disc. Porosities A, B, C and D are priced the same.

Cap., mL	Disc Dia., mm	Height Above Disc.,mm	Stem Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Each	Por. E Order Code	Each
2	10	30	6	7186-02	7186-04	7186-06	7186-08	29.44	7186-10	29.44
15	20	45	10	7186-12	7186-14	7186-16	7186-18	34.33	7186-20	35.36
30	30	45	10	7186-22	7186-24	7186-26	7186-28	38.80	7186-30	39.19
60	40	50	12	7186-32	7186-34	7186-36	7186-38	43.31	7186-40	43.89
140	65	65	15	7186-42	7186-44	7186-46	7186-48	74.87	7186-50	79.42
350	80	75	22	7186-52	7186-54	7186-56	7186-58	106.78	7186-60	111.83
600	90	90	22	7186-62	7186-64	7186-66	7186-68	128.68	7186-70	132.11
1500	120	150	22	7186-72	7186-74	7186-76	7186-78	275.39	7186-80	292.79
2500	135	200	25	7186-82	7186-84	7186-86	7186-88	364.82	7186-90	407.74
4000*	143	200	32	7186-110	7186-112	7186-114	7186-116	444.24		
6000*	150	240	32	7186-130	7186-132	7186-134	7186-136	667.59		

Not as illustrated. Body diameter larger than disc diameter.



7186

7187 FUNNEL *Filter, Hirsch* ♦

Useful where it is necessary to wash the precipitation and redissolve with chemicals which would attack filter paper. Angle of funnel 60°.

Cap., mL	Disc Dia., mm	Height Above Disc, mm	Dia. at Top, mm	Por. C Order Code	Por. D Order Code	Each
25	20	30	55	7187-06	7187-08	40.93
170	30	70	100	7187-16	7187-18	56.03

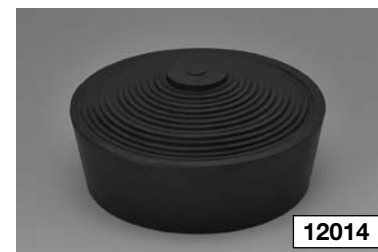


7187

12014 PLURO STOPPER SET ★

A versatile stopper that equals 17 standard stoppers. All the rings are cut from the same stopper, each ring nesting perfectly into the next. Whether making up a small or large stopper, a vacuum-tight fit is assured. Sold as a set.

O.D.Range	Order Code	Black Rubber	Order Code	Green Neoprene	Order Code	Silicone
18 mm - 70 mm	12014-08	64.91	12014-04	87.92	12014-14	118.33
			12014-02	110.95	12014-16	200.88



12014

12014 PLURO STOPPER ★

Neoprene stopper for use with filter flasks to support funnels securely. Individual sizes listed. Sold per package of 12.

O.D. Top x Bottom, mm	I.D. Top x Bottom, mm	Height, mm	Order Code	Per Package
21 x 11	17 x 7	21	12014-40	49.72
27 x 16	22 x 11	21	12014-44	51.44
37 x 22	31 x 16	25	12014-46	55.69
46 x 29	39 x 22	29	12014-48	58.98
58 x 38	50 x 30	35	12014-50	64.93
69 x 45	60 x 36	40	12014-52	69.16
86 x 57	75 x 46	45	12014-54	73.18



12014

7190 FUNNEL *Pressure Filter/Drying, Rusek**

Used for drying air-sensitive compounds with inert gas or a simple pressure filter funnel. Unique feature is the use of O-Ring joints to connect cap with body to give a larger opening for easier access to contents.

Funnel will withstand pressures of 20 psi as supplied but NO warranty, expressed or implied, is made on pressure resistance due to the fact that surface conditions have a primary effect on glass strength.

Cap adapter has serrated hose connection (Size C page 4 for sizing) for pressure source. O-Ring joint on cap matches joint on funnel body and is secured with 7670 Pinch Clamp. Offered with porosity A (145-174 micron), porosity B (70-100 micron) or porosity C (25-50 micron) disc. Other porosities available. Complete item consists of cap and funnel body with FETFE O-Ring. **Order clamp separately.**

**7190****Replacement O-Rings:**

For Code -40, order 7855-738.

For Codes -46 thru -52,
order 7855-746.

Approx. Capacity, mL	Dia., of Disc, mm	Hght., above Disc to Joint, mm	Stem O.D., mm	O-Ring Joint Size, mm	Porosity, micron	Order Code	Complete
15	20	45	10	20	A	7190-39	♠ 86.71
15	20	45	10	20	B	7190-40	♠ 86.71
15	20	45	10	20	C	7190-41	♠ 86.71
60	40	50	12	40	A	7190-44	♠ 137.98
60	40	50	12	40	B	7190-46	♠ 137.98
60	40	50	12	40	C	7190-45	♠ 137.98
140	65	65	15	40	A	7190-47	♠ 210.85
140	65	65	15	40	B	7190-48	♠ 210.85
140	65	65	15	40	C	7190-49	♠ 210.85
350	80	75	22	40	A	7190-51	♠ 224.90
350	80	75	22	40	B	7190-50	♠ 224.90
350	80	75	22	40	C	7190-53	♠ 224.90
600	90	90	22	40	A	7190-54	♠ 308.57
600	90	90	22	40	B	7190-52	♠ 308.57
600	90	90	22	40	C	7190-55	♠ 308.57

Cap Only

Disc Dia. mm	Order Code	Each
20	7190-25	♠ 36.30
40	7190-27	♠ 48.25
65	7190-27	♠ 48.25
80	7190-27	♠ 48.25
90	7190-27	♠ 48.25

Clamp Only

Disc Dia. mm	Order Code	Each
20	7669-14	★ 16.50
40	7669-20	★ 32.00
65	7669-20	★ 32.00
80	7669-20	★ 32.00
90	7669-20	★ 32.00

Body Only

Disc Dia., mm	Porosity, micron	Order Code	Each
20	A	7190-05	♠ 50.41
20	B	7190-06	♠ 50.41
20	C	7190-07	♠ 50.41
40	A	7190-09	♠ 89.73
40	B	7190-11	♠ 89.73
40	C	7190-10	♠ 89.73
65	A	7190-13	♠ 162.60
65	B	7190-12	♠ 162.60
65	C	7190-15	♠ 162.60
80	A	7190-16	♠ 176.65
80	B	7190-14	♠ 176.65
80	C	7190-18	♠ 176.65
90	A	7190-19	♠ 260.32
90	B	7190-17	♠ 260.32
90	C	7190-20	♠ 260.32

*Designed and evaluated by Frank Rusek, Pfizer Inc., Groton, CT.

5267 ADAPTER *Vacuum Filtration* ♦

Used for reduced pressure filtration with 7186 style, plain stem Buchner funnels. Top is tooled to accept a pluro stopper, bottom has a ₪ joint. Serrated hose connection has a second ring of 13.5mm O.D. Inserting the recommended size pluro stopper and the next smaller size allows use of smaller capacity funnels; i.e., in ₪ 24/25 size, insertion of 31mm x 16mm and 22mm x 11mm will allow use of 15 or 30mL capacity funnels. Use with 3/8-inch I.D. Tubing, Size D. See page 5 for more detailed Hose Connection information.

₪ Inner Joint	Uses Pluro Stopper, I.D.	Fits Funnel Cap., mL	Order Code	Complete
14/20	17mm x 7mm	2	5267-06	37.84
19/22	17mm x 7mm	2	5267-08	44.27
24/25	31mm x 16mm	140	5267-11	55.22
24/40	31mm x 16mm	140	5267-15	55.22
29/26	60mm x 36mm	4000	5267-18	56.19
29/42	60mm x 36mm	4000	5267-20	64.93



4158 FUNNEL *Buchner* ★

Corning 36060

PYREX® brand, with fritted disc.

Corning Code	Cap., mL and Porosity	Dia. of Disc, mm	Approx. Hght. above Disc, mm	Approx. Stem Lgth., mm	Approx. Total Hght., mm	Qty. in Case	Order Code	Case Price
36060-15C	15C	20	47	75	136	6	4158-12	244.58
36060-15F	15F	20	47	75	136	6	4158-18	275.31
36060-30C	30C	30	47	75	139	6	4158-22	275.35
36060-30M	30M	30	47	75	139	6	4158-24	275.35
36060-30F	30F	30	47	75	139	6	4158-26	278.02
36060-60C	60C	40	58	75	160	6	4158-32	304.09
36060-60M	60M	40	58	75	160	6	4158-34	304.09
36060-60F	60F	40	58	75	160	6	4158-36	307.04
36060-150C	150C	60	50	75	154	4	4158-42	363.98
36060-150M	150M	60	50	75	154	4	4158-44	363.98
36060-150F	150F	60	50	75	154	4	4158-46	371.09
36060-350C	350C	80	75	65	180	3	4158-54	377.94
36060-350M	350M	80	75	65	180	3	4158-56	377.94
36060-350F	350F	80	75	65	180	3	4158-58	381.61
36060-600C	600C	90	90	100	229	3	4158-62	453.05
36060-600M	600M	90	90	100	229	3	4158-64	453.05
36060-2LC	2000C	127	165	110	330	2	4158-68	699.94
36060-2LM	2000M	127	165	110	330	2	4158-70	699.94
36060-3LC	3000C	152	175	110	355	1	4158-74	471.76
36060-3LM	3000M	152	175	110	355	1	4158-76	471.76



4158

7194 TUBE *Allihn* ♦

Diameter of disc 30mm, height above disc 100mm, diameter of bottom tube 8mm.

Porosity	Order Code	Each
A	7194-02	38.07
B	7194-04	38.07
C	7194-06	38.07
D	7194-08	38.07

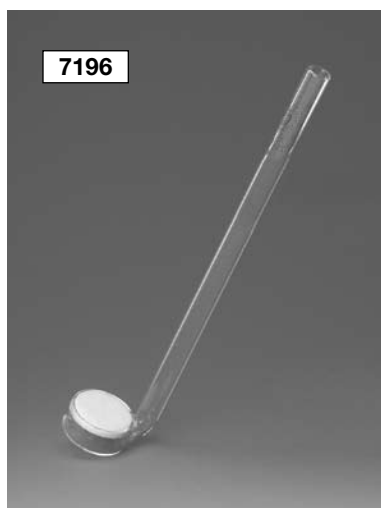


7194

**7195****7195 TUBE** *Allihn, Rupp* ♦

Diameter of disc 20mm. Height above disc 100mm. Funnel capacity 30mL.

Porosity	Order Code	Each
A	7195-02	40.21
B	7195-04	40.21
C	7195-06	40.21
D	7195-08	40.21
E	7195-10	40.21

**7196****7196 TUBE** *Gas Dispersion* ♦

Outside diameter of tube 8mm, total length of tube 150mm. All porosities of a given size are priced the same.

Disc Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
20	7196-02	7196-04	7196-06	7196-08	7196-10	43.35
25	7196-12	7196-14	7196-16	7196-18	7196-20	45.50

**7197****7197 TUBE** *Gas Dispersion* ♦

Outside diameter of tube 8mm, total length of tube 150mm. All porosities of a given size are priced the same.

Disc Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Each
25	7197-02	7197-04	7197-06	7197-08	49.01
30	7197-12	7197-14	7197-16	7197-18	51.63

**7198****7198 TUBE** *Gas Dispersion* ♦

Supplied with 6, 7, or 8mm O.D. stem tubing, 150mm in length. Maximum O.D. of stem and filter disc is 20mm. Filter disc is 10mm diameter, porosity B (70-100 micron).

Stem O.D., mm	Order Code	Each
6	7198-06	43.05
7	7198-07	43.05
8	7198-08	43.05

7200 TUBE Gas Dispersion ♦

Fritted disc is angled approximately 15° from stem, which permits the small gas bubbles to rise from the disc surface without excessive formation of large bubbles. These tubes give a performance compared to a horizontal disc, but the method of construction allows its use in test tubes or flasks where a large opening is not available. Outside diameter of tube 8mm.

Disc Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Each
25	7200-02	7200-04	7200-06	44.27
30	7200-12	7200-14	7200-16	48.79



9436 TUBE Gas Dispersion ♦

Disc diameter 10mm, length 150mm. Disc approximately 2mm thick. Outside diameter of tube 7mm.

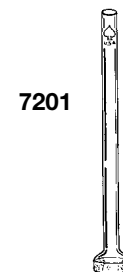
Porosity	Order Code	Each
A	9436-02	19.01
B	9436-04	19.01
C	9436-06	19.01
D	9436-08	19.01
E	9436-10	19.01



7201 TUBE Gas Dispersion ♦

Outside diameter of tube 8mm, total length of tube 150mm.

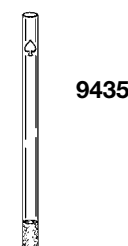
Disc Dia., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Each
25	7201-02	7201-04	7201-06	33.55
30	7201-12	7201-14	7201-16	35.59



9435 TUBE Gas Dispersion ♦

For fine dispersion. Porous tip approximately 5mm or 7mm O.D. x 10mm. 7mm O.D. tube fits #7 Ace-Thred.

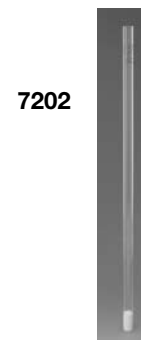
Stem O.D. x Lgth., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
5 x 135	9435-06	9435-07	9435-08	9435-09	9435-10	16.87
7 x 135	9435-21	9435-22	9435-23	9435-24	9435-25	16.87
5 x 210	9435-36	9435-37	9435-38	9435-39	9435-40	16.94
7 x 210	9435-51	9435-52	9435-53	9435-54	9435-55	16.94



7202 TUBE Gas Dispersion ♦

With porous fritted glass tip. Available in 150mm, 300mm, 400mm, and 500mm lengths. O.D. of all sizes, 10mm. Fits through #11 Ace-Thred.

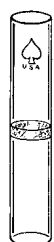
Length, mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
150	7202-02	7202-04	7202-06	7202-08	7202-10	26.99
300	7202-12	7202-14	7202-16	7202-18	7202-20	27.98
400	7202-32	7202-34	7202-36	7202-38	7202-40	28.18
500	7202-42	7202-44	7202-46	7202-48	7202-50	28.28



**7204****7204 TUBE** *Gas Dispersion, 15° Angle* ♦

Gas dispersion tube with porous fritted tip for use with #7 Ace-Threds. Tube is 1/4-inch O.D. and bent 15° to allow positioning inside flask to avoid stirring paddles and yet reach close to bottom of flask. Specify porosity and length or code when ordering.

Overall Length, mm	Fits Flask Size, mL	Por. A Order Code	Por. B Order Code	Each
250	500-2000	7204-03	7204-04	27.78
330	3000-5000	7204-07	7204-08	27.78

**7205****7205 TUBE** *Straight* ♦

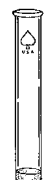
For construction of special apparatus. All porosities of a given size are priced the same.

Disc Dia., mm	Total Lgth., mm	Tube O.D., mm	Por. A Order Code	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
10	200	13	7205-02	7205-04	7205-06	7205-08	7205-10	26.95
20	200	25	7205-12	7205-14	7205-16	7205-18	7205-20	30.35
30	200	35	7205-22	7205-24	7205-26	7205-28	7205-30	33.51
40	200	45	7205-32	7205-34	7205-36	7205-38	7205-40	40.48
50	250	54	7205-42	7205-44	7205-46	7205-48	—	61.35
65	250	70	7205-52	7205-54	7205-56	7205-58	—	91.50
90	250	100	7205-72	7205-74	7205-76	7205-78	—	112.60

**7208****7208 TUBE** *Pressure Filtering* ♦

Used in filtering glucose, agar and serums. All porosities of a given size are priced the same. Top accepts #3 or #4 rubber stopper.

Cap., mL	Disc Dia., mm	Height Above Disc, mm	Por. A Order Code	Por. D Order Code	Each
50	30	100	7208-02	7208-08	57.53
175	50	128-138	7208-12	—	87.57

**7209****7209 TUBE** ♦

With fritted disc sealed on bottom. Overall length 125mm. All porosities of a given size are priced the same.

O.D., mm	Por. B Order Code	Por. C Order Code	Por. D Order Code	Por. E Order Code	Each
12	7209-04	7209-06	7209-08	7209-10	28.64
20	7209-14	7209-16	—	—	34.94

7212 TUBE *Reduced Ends* ♦

These filters are supplied in a range of sizes from the 20mm disc size to the 50mm disc size. The smaller sizes are used to remove end products of a reaction during recirculation of liquid reactants, the larger units are suitable for filtering operations in the preparation of organic chemicals and biologic solutions. Unit is supplied with hose connection ends. All porosities of a given size are priced the same.

Disc Dia., mm	Hose Conn. O.D., mm	Por. A Order Code	Por. B Order Code	Por. D Order Code	Each
20	8	—	7212-04	7212-08	43.75
30	10	—	7212-14	7212-18	51.63
50	16	7212-22	—	7212-28	78.78



7212

7213 TUBE *Reduced Ends* ♦

Same as 7212 tube with integral fritted disc, except with Ace-Safe connectors. All have 50mm diameter disc. Supplied with two #15 nylon bushings (7506-05) and 5853-18 polypropylene hose barbs for 1/4-inch I.D. tubing

Por. A Order Code	Por. B Order Code	Por. D Order Code	Each
7213-06	—	—	46.54
—	7213-08	—	53.13
—	—	7213-10	75.94



7213

7216 TUBE *Sulphur Absorption* ♦

For sulphur absorption chamber, after Edgar and Callingaert. Diameter of disc 30mm, height above disc 200mm, capacity 130mL. Will accept a No. 7 rubber stopper.

Porosity	Order Code	Each
A	7216-02	48.13
C	7216-06	48.13
D	7216-08	48.13

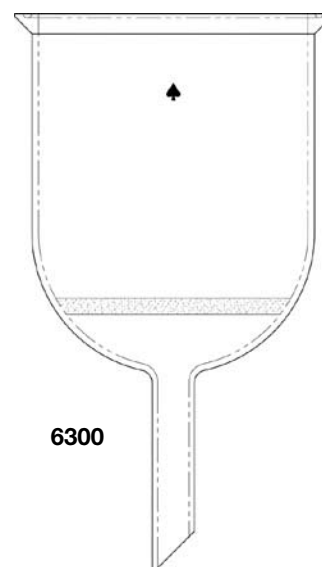


7216

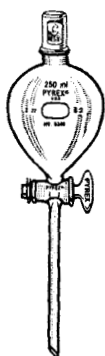
6300 FLASK *Reaction, with O-Ring Groove, Heavy Duty* ♦

Cylindrical, heavy wall reaction kettles or flasks, with integral fritted disc and bottom tube outlet. Top of flask has flat flange with a groove for use with O-Ring. For reaction heads, see 6528, 6529 and 6530 series. Can be used with two-piece or 6517 quick clamps.

Frit Porosity/ O.D.	Flask Size, mL	Flange (Inches)	Height, mm	Bottom Tube O.D. (In.)	Order Code	Each
Por. A/145mm	1000	4	300	5/8	6300-06	373.12
Por. B/145mm	1000	4	300	5/8	6300-08	373.12
Por. C/145mm	1000	4	300	5/8	6300-10	373.12
Por. A/145mm	4000	6	460	1-1/4	6300-18	453.07
Por. B/145mm	4000	6	460	1-1/4	6300-20	453.07
Por. C/145mm	4000	6	460	1-1/4	6300-22	453.07
Por. A/177mm	6000	8	430	1-1/4	6300-30	719.58
Por. B/177mm	6000	8	430	1-1/4	6300-32	719.58
Por. C/177mm	6000	8	430	1-1/4	6300-34	719.58



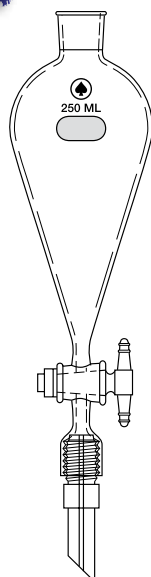
6300

**7220****7220 FUNNEL** *Separatory, Globe* ★**Corning 6340**

PYREX® brand funnel, stoppered. The shoulders have a gradual taper toward the stopcock to facilitate the separation of liquids. Excellent for rack work.

Corning Code	Approx. Cap., mL	Plug Bore, mm	Stopper No.	Approx. O.D. x Lgth. of Stem below s/c, mm	Approx. Total Lgth., mm	Quantity in Case	Order Code	Case Price
6340-125	125	2	22	10 x 175	328	1	7220-09	97.02
6340-250	250	2	22	10 x 175	357	1	7220-11	113.31
6340-500	500	4	27	10 x 175	381	1	7220-13	160.70
6340-1L	1000	4	27	10 x 170	414	1	7220-15	199.74
6340-4L	4000	8	38	14 x 130	521	1	7220-19	428.48

For stopcock plugs, see 8223. For stoppers, see 8278.

New**7223****7223 FUNNEL** *Separatory, Squibb, with Detachable Drip Tip* ♠

Multipurpose, separatory funnel with either #11 or #15 Ace-Thred at bottom that accepts a detachable PTFE drip tip. Avoids breaking delivery tip, easier to clean, and allows leak tight closed system tubing connections using 5801, 5802, 5854 and/or 12770 Connectors. Stopcock is 1:5 PTFE. For stoppers, see 12632.

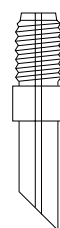
#11 Ace-Thred

Capacity, mL	Stopper Size	Plug Bore, mm	Funnel Body, Only		Drip Tip, Only		Complete	
			Order Code	Each	Order Code	Each	Order Code	Each
125	16	2	7223-07	90.94	7223-40	15.41	7223-50	106.35
250	22	2	7223-12	96.54	7223-40	15.41	7223-53	111.95
500	27	4	7223-17	120.89	7223-40	15.41	7223-57	136.30
1000	27	4	7223-20	142.75	7223-40	15.41	7223-59	158.16

#15 Ace-Thred

Capacity, mL	Stopper Size	Plug Bore, mm	Funnel Body, Only		Drip Tip, Only		Complete	
			Order Code	Each	Order Code	Each	Order Code	Each
2000	38	6	7223-30	190.00	7223-42	17.46	7223-62	207.46
4000	38	6	7223-34	230.05	7223-42	17.46	7223-66	247.51
5000	38	6	7223-37	292.70	7223-42	17.46	7223-69	310.16

**A "safer"
separatory funnel design
from Ace!**

**PTFE Drip Tip**

7223-40 For #11 Ace-Thred,
6.35 mm Bore,
3.2 inches long

7223-42 For #15 Ace-Thred,
8.3 mm Bore,
3.5 inches long

7224 SHAKE FUNNEL *Safe Grip* ★

Separatory, globe-type funnel with neck and section between globe and stopcock shaped to provide a secure grip for shaking contents or transporting. Also makes clamping easier. For replacement stopcock plugs, see 8223. For stoppers, see 8250.

Capacity, mL	Stopper	Plug Bore, mm	Order Code	Each
3000	45/50	6	7224-22	299.43
5000	45/50	8	7224-28	385.60
12000	55/50	10	7224-33	533.25



7224

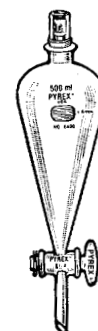
7225 FUNNEL *Separatory, Squibb, Pear-Shaped* ★

PYREX® brand, with glass stopper and glass stopcock.

Corning 6400

Corning Code	Approx. Cap., mL	Plug Bore, mm	Stopper No.	Approx. O.D. x Lgth. of Stem Below s/c, mm	Approx. Total Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
						Shelf-Pack	Case			
6400-30	30	2	9	10 x 65	216	—	1	7225-03	—	123.07
6400-60	60	2	16	10 x 65	231	1	6	7225-07	90.16	470.42
6400-125	125	2	22	10 x 65	279	1	6	7225-09	98.57	514.28
6400-250	250	2	22	10 x 65	311	1	4	7225-11	116.26	404.38
6400-500	500	4	27	10 x 65	354	1	4	7225-13	144.40	502.25
6400-1L	1000	4	27	10 x 65	392	—	1	7225-15	—	181.94
6400-2L	2000	6	38	12 x 65	496	—	1	7225-17	—	270.83
6400-4L	4000	8	38	14 x 65	629	—	1	7225-19	—	725.36
6400-6L	6000	10	38	16 x 60	630	—	1	7225-21	—	448.79

For stopcock plugs, see 8223. For stoppers, see 8280.



7225-03

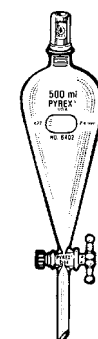
7225 FUNNEL *Separatory, Squibb, Pear-Shaped with PTFE Plug* ★

Same as 7225, except provided with stopcock having PTFE plug.

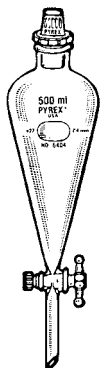
Corning 6402

Corning Code	Approx. Cap., mL	Plug Bore, mm	Stopper No.	Approx. O.D. x Lgth. of Stem Below s/c, mm	Approx. Total Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
						Shelf-Pack	Case			
6402-60	60	2	16	10 x 65	225	1	4	7225-33	107.79	374.93
6402-125	125	2	22	10 x 65	280	1	4	7225-35	107.00	372.17
6402-250	250	4	22	10 x 65	311	1	4	7225-37	126.85	441.20
6402-500	500	4	27	10 x 65	355	1	4	7225-39	145.70	506.77
6402-1L	1000	4	27	10 x 65	392	—	1	7225-41	—	177.22
6402-2L	2000	6	38	12 x 65	496	—	1	7225-43	—	255.75

For stopcock plugs, see 8223. For stoppers, see 8280.



7225-33

**4165****4165 FUNNEL** *Separatory, Squibb, Pear-Shaped* ★

PYREX® brand, with polyethylene stopper and PTFE stopcock plug.

Corning 6404

Corning Code	Approx. Cap., mL	Plug Bore, mm	Stopper No.	Approx. O.D. x Lgth. of Stem Below s/c, mm	Approx. Total Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
						Shelf-Pack	Case			
6404-125	125	2	22	10 x 65	289	1	4	4165-06	104.42	363.19
6404-250	250	4	22	10 x 65	311	1	4	4165-09	124.84	434.22
6404-500	500	4	27	10 x 65	354	1	4	4165-12	142.88	496.98
6404-1L	1000	4	27	10 x 65	392	—	1	4165-15	—	173.44
6404-2L	2000	6	38	12 x 65	486	—	1	4165-18	—	252.97

**7226-04****7226 FUNNEL** *Separatory, Squibb, Pear-Shaped* ♦

With PTFE stopper and glass stopcock. For replacement stoppers, see 12632. For stopcock plugs, see 8223.

Cap., mL	Stopper	Plug Bore, mm	Order Code	Each	Cap., mL	Stopper	Stopcock	Order Code	Each
30	13	2	7226-04	64.60	1000	27	4	7226-14	143.71
60	13	2	7226-06	64.60	2000	38	6	7226-16	200.20
125	16	2	7226-08	72.70	4000	38	10	7226-20	338.28
250	22	3	7226-10	83.03	6000	38	10	7226-22	398.62
500	27	4	7226-12	96.52					

ACE Scientific Glass Repair Service

www.aceglass.com

ACE Custom Glass Design Service

www.aceglass.com

1-800-223-4524

7228 FUNNEL *Separatory, Squibb, Pear-Shaped, 1:5 PTFE Plug* ♦

With ⌘ PTFE stopper joint. For replacement stoppers, see 12632. For stopcock plugs, see 8224.

Capacity, mL	⌘ Stopper	Plug Bore, mm	Order Code	Each
30	13	2	7228-60	66.35
60	13	2	7228-62	74.25
125	16	2	7228-64	81.70
250	22	2	7228-66	96.54
500	27	4	7228-68	113.09
1000	27	4	7228-70	135.83
2000	38	6	7228-72	186.02
4000	38	6	7228-76	204.27
4000	38	8	7228-77	294.36
6000	38	8	7228-79	337.84



7228

7230 FUNNEL *Separatory, Squibb, Pear-Shaped,
with 1:5 PTFE Plug and ⌘45/50 Polyethylene Stopper* ♦

For replacement ⌘ stoppers, see 12633 or 12635. For stopcock plugs, see 8224.

Capacity, mL	⌘ Stopper	Plug Bore, mm	Order Code	Each
2000	45/50	6	7230-22	216.83
4000	45/50	6	7230-26	280.36
4000	45/50	8	7230-30	307.13
6000	45/50	8	7230-34	334.13



7230

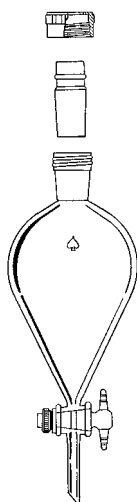
7231 FUNNEL *Separatory, Squibb, with 1:5 PTFE Plug and Stopper Joint* ♦

European style. Supplied with ⌘ 24/25 polyethylene stopper in all capacities except 2000mL size which is supplied with ⌘ 45/50 polyethylene stopper. For replacement stoppers, see 12633 or 12635. For stopcock plugs, see 8224.

Capacity, mL	⌘ Stopper	Plug Bore, mm	Order Code	Each
60	24/25	2	7231-06	87.80
125	24/25	2	7231-09	93.84
250	24/25	4	7231-12	115.56
500	24/25	4	7231-15	130.24
1000	24/25	4	7231-18	173.15
2000	45/50	6	7231-21	215.54



7231-06

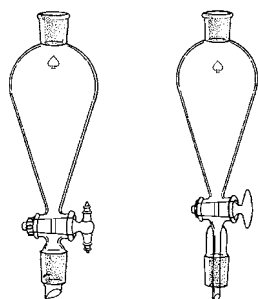
**7231-55****7231 FUNNEL** *Separatory, Squibb, with 1:5 PTFE Plug, Locktight Stopper*

European style funnel with new leak-tight, locking stopper that will not fall out during shaking or transportation. Outer ground joint at top is a Rodaviss (externally threaded) joint. Stopper can be secured in top joint via cap and O-Ring for a positive, leak-tight seal; no worry of fallout. Complete item supplied with plug, stopper, cap and O-Ring.

Capacity, ml	⌘ Stopper	Plug Bore, mm	Order Code	Funnel Body, Only	Order Code	Complete
60	24/40	2	7231-34	♠ 103.80	7231-55	♠ 142.67
125	24/40	2	7231-36	♠ 116.50	7231-57	♠ 155.37
250	24/40	4	7231-38	♠ 134.58	7231-59	♠ 173.45
500	24/40	4	7231-40	♠ 157.22	7231-61	♠ 196.09
1000	24/40	4	7231-42	♠ 202.95	7231-63	♠ 241.82
2000	45/50	6	7231-44	♠ 266.25	7231-65	♠ 350.32

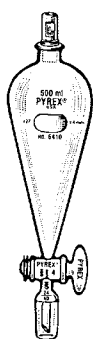
Replacement Items

For ⌘ Joint	Stopper, only Order Code	Each	Cap, only Order Code	Each	Viton O-Ring, only Order Code	Each
24/40	8267-19	♠ 33.76	7616-21	★ 2.58	7617-17	♠ 15.18/6
45/50	8267-29	♠ 69.63	7616-27	★ 9.23	7617-23	♠ 15.64/3

**9500****9506****9500/9506 FUNNEL** *Separatory, Glass or PTFE Plug ♠*

Pear shaped, with ⌘ joint and drip tip.

Capacity, mL	Plug Bore, mm	⌘ Joints	1:5 PTFE Plug Order Code	Each	Glass Plug Order Code	Each
30	2	14/20	—	—	9506-02	101.85
60	2	14/20	9500-06	109.40	9506-04	102.45
125	2	14/20	9500-08	111.39	9506-06	104.35

**7232****7232 FUNNEL** *Separatory, Squibb, Pear-Shaped, with Glass Plug ★***Corning 6410**

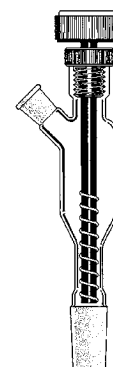
PYREX® brand, with drip tip and joint on delivery stem.

Corning Code	Approx. Cap., mL	Plug Bore, mm	Stopper No.	⌘ Joint	Approx. Lgth., mm	Quantity in Case	Order Code	Case Price
6410-125	125	2	22	24/40	289	1	7232-06	153.17
6410-250	250	2	22	24/40	311	1	7232-10	178.57
6410-500	500	4	27	24/40	315	1	7232-14	206.75

7233 FUNNEL Powder Dispensing, Vertical ♦

A vertical, compact, screw feed funnel for addition of powders and solids, up to 25 mesh, into reactions without seizing or binding. Features a flexible PTFE screw thread wrapped on a precision PTFE-ceramic shaft and contained within a precision bore housing. This offers a unique flexibility in that the thread can move aside temporarily; as one spacing increases, the adjacent spacing decreases, thereby maintaining an average feed rate. Completely inert materials allow flushing with solvents without fear of contamination. #15 Ace-Thred at top offers easy disassembly for cleaning. Large 1-1/4-inch knob makes turning smooth and easy. Top side port is $\frac{1}{4}$ 14/20 outer joint, bottom inner joint is $\frac{1}{4}$ 24/40. Overall height, 9-1/2 inches.

Capacity, mL	Order Code	Each
50	7233-20	219.07
100	7233-30	246.30

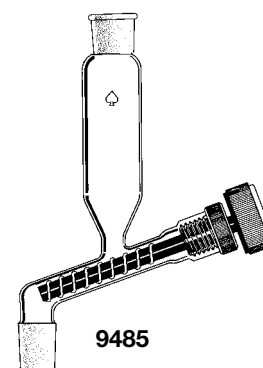


7233

9485 FUNNEL Powder Dispensing ♦

A vertical, compact, screw feed funnel for addition of powders and solids, up to 25 mesh, into reactions without seizing or binding. Features a flexible PTFE screw thread wrapped on a precision PTFE-ceramic shaft and contained within a precision bore housing. This offers a unique flexibility in that the thread can move aside temporarily; as one spacing increases, the adjacent spacing decreases, thereby maintaining an average feed rate. Completely inert materials allow flushing with solvents without fear of contamination. #7 Ace-Thred offers easy disassembly for cleaning. Top outer and bottom inner joints are $\frac{1}{4}$ 14/20. Approximate capacity, 15mL.

Order Code	Each
9485-15	209.20



9485

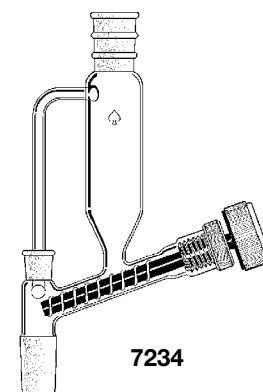
7234 FUNNEL Powder Dispensing ♦

Side operated screw feed funnel for addition of powders and solids, up to 25 mesh, to reactions without problems of seizing or binding.

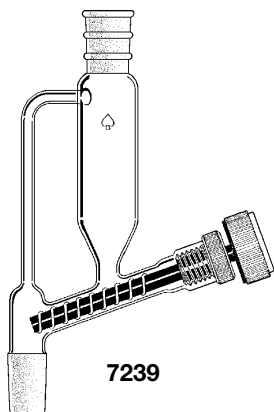
Features a flexible PTFE screw thread wrapped on a precision PTFE-ceramic shaft and contained within a precision bore housing. This offers a unique flexibility in that the thread can move aside temporarily; as one spacing increases, the adjacent spacing decreases, thereby maintaining an average feed rate.

Completely inert materials allow flushing with solvents without fear of contamination. #15 Ace-Thred offers easy disassembly for cleaning. Large 1-1/4-inch knob makes turning smooth and easy. Top outer and bottom inner joints are $\frac{1}{4}$ 24/40. $\frac{1}{4}$ 14/20 outer joint atop inner joint is for easier flushing.

Capacity, mL	Order Code	Each
100	7234-25	289.76
250	7234-35	313.04

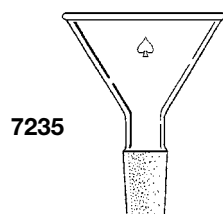


7234

**7239****7239 FUNNEL Powder Dispensing ♦**

Side operated screw feed funnel similar to 7234 except 14/20 outer joint atop bottom inner joint has been eliminated. Bottom 1/2 joint and top 1/2 outer joints are 24/40. Same features as 7233.

Capacity, mL	Order Code	Each
100	7239-30	234.86
250	7239-40	290.54

**7235****7235 FUNNEL Powder, Heavy Wall, 58° ♦**

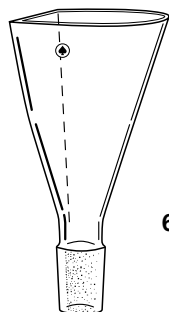
1/2 jointed powder funnels are fabricated with heavy walls for greater durability when pouring powders or liquids into ground joint containers.

Approx. Top Dia., mm	1/2 Inner Joint	Order Code	Each
75	24/40	7235-05	35.83
100	24/40	7235-07	38.93

**7236/9488****7236/9488 FUNNEL Powder ♦**

Useful in pouring powders or liquids into ground joint containers. Available with 1/2 or 1/2 inner joint. Funnels without joints listed under 7242.

Approx. Top Dia., mm	1/2 Inner Joint	Order Code	Each	Approx. Top Dia., mm	1/2 Ball Joint	Order Code	Each
65	14/20	9488-10	28.37	100	35/25	7236-20	45.29
65	19/38	7236-06	37.77				
75	24/40	7236-08	39.81				
100	24/40	7236-10	42.06				
125	24/40	7236-11	42.72				
100	29/42	7236-12	45.08				
125	34/45	7236-14	52.91				

**6469****6469 FUNNEL Powder, Flat Side ♦**

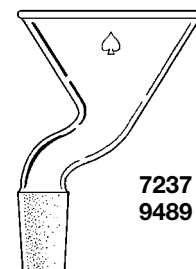
1/2 jointed powder funnel with one side flat to allow use in tight places such as in 6469 Reaction Assembly on page 494.

1/2 Inner Joint	Order Code	Each
45/50	6469-52	205.72

7237/9489 FUNNEL *Powder, Offset ♠*

Used for pouring liquids or powders into multineck flasks. Available with F inner joint.

Approx. Top Dia., mm	F Joint	Order Code	Each
65	14/20	9489-20	45.02
75	24/40	7237-09	58.19
100	24/40	7237-11	66.21
125	24/40	7237-15	67.15
100	29/42	7237-19	68.87

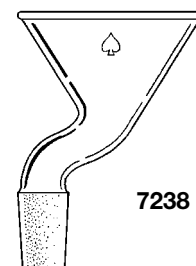


**7237
9489**

7238 FUNNEL *Powder, Offset, Heavy Wall, 58° ♠*

With heavy walls for greater durability when pouring powders or liquids into multi-neck flasks.

Approx. Top Dia., mm	F Inner Joint	Order Code	Each
75	24/40	7238-06	63.25
100	24/40	7238-08	66.21

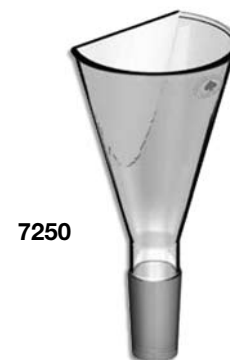


7238

7250 FUNNEL *Powder, Flat Side ♠*

Powder funnel with F joint and flattened side for easy use with multi-neck flasks.

Approx. Top Dia., mm	F Inner Joint	Order Code	Each
50	14/20	7250-01	34.67
75	24/40	7250-05	45.42
100	24/40	7250-09	52.62



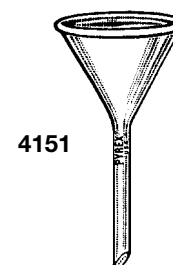
7250

4151 FUNNEL *Long Stem, 60° Angle ★*

Corning 6100

PYREX® brand, large size.

Corning Code	Top of Funnel I.D., mm	Approx. Stem Lgth. x O.D., mm	Approx. Overall Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
6100-6	147	150 x 15	272	6	12	4151-07	283.19	492.50



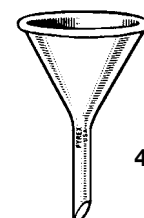
4151

4152 FUNNEL *Short Stem, 60° Angle ★*

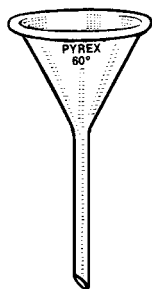
Corning 6120

PYREX® brand, large size.

Corning Code	Top of Funnel I.D., mm	Approx. Stem Lgth. x O.D., mm	Approx. Overall Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
6120-5	122	100 x 15	199	6	12	4152-06	131.93	229.45
6120-6	147	100 x 15	221	6	12	4152-08	236.95	412.08

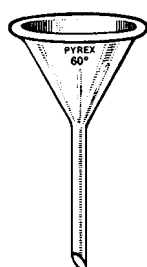


4152

**4153****4153 FUNNEL** *Long Stem, Fluted, 60° Angle* ★**Corning 6160**

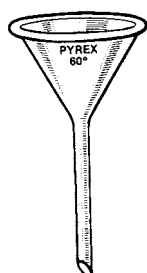
PYREX® brand, long stem, fluted funnel.

Corning Code	Top of Funnel I.D., mm	Approx. Stem Lgth. x O.D., mm	Approx. Overall Lgth., mm	Quantity in Case	Order Code	Case Price
6160-75	75	150 x 8	214	12	4153-19	148.65

**4154****4154 FUNNEL** *Short Stem, Fluted, 60° Angle* ★**Corning 6180**

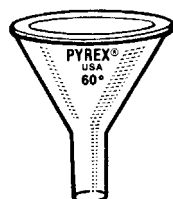
PYREX® brand, short stem, fluted funnel.

Corning Code	Top of Funnel I.D., mm	Approx. Stem Lgth. x O.D., mm	Approx. Overall Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
6180-50	50	65 x 8	108	12	48	4154-04	125.89	437.87
6180-65	65	65 x 8	121	12	48	4154-07	140.47	488.58
6180-75	75	75 x 8	139	12	48	4154-11	151.89	528.32
6180-100	100	100 x 9	190	6	24	4154-15	98.23	341.66

**7311****7311 FUNNEL** *Chemical, 60° Angle* ★**Corning 6140**

PYREX® brand, long stem funnels. With beaded edge for strength. Stems, made of heavy wall tubing, are approximately 150mm (6 inches) long.

Corning Code	Funnel Top I.D., mm	Approx. Stem O.D., mm	Approx. Overall Lgth., mm	Quantity in Case	Order Code	Case Price
6140-40	50	8	193	12	7311-09	87.40
6140-65	65	8	206	12	7311-11	93.25
6140-75	75	8	214	12	7311-13	100.65
6140-100	100	9	236	6	7311-17	67.26

**7242****7242 FUNNEL** *Powder* ★**Corning 6220**

PYREX® brand, filling, powder funnel with short, wide stem. Top of bowl and end of stem are fire-polished. Powder funnels with joints are listed under 7236.

Corning Code	Top of Funnel I.D., mm	Approx. Stem Lgth. x O.D., mm	Approx. Overall Lgth., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
6220-65	65	25 x 15	83	12	24	7242-05	132.66	230.71
6220-75	75	30 x 17	94	12	24	7242-07	138.78	241.35
6220-100	100	30 x 20	120	6	24	7242-09	86.04	299.26
6220-125	125	35 x 25	132	6	12	7242-11	172.56	300.11
6220-150	150	35 x 30	157	6	12	7242-13	338.45	588.60

7245 FUNNEL *Power, Offset, Heavy Wall* ♦

Borosilicate funnel angled to permit use in multi-neck flasks. On angled neck flasks such as 6948, this funnel will bring the neck back to vertical.

Top Diameter, mm	Dimension A, mm	Joint	Order Code	Each
75	85	24/40	7245-07	51.47
100	140	24/40	7245-15	60.52
100	195	29/42	7245-21	70.27



7245

12548 FUNNEL *Analytical, Polypropylene* ★

Made of **polypropylene**. Take standard size filter papers. Body of funnel is exact 60° angle, and internal ribs are 58° angle for rapid filtration. Outside ribbing prevents air lock. May be autoclaved.

Top I.D., mm	Stem Length, mm	Stem O.D., mm	Paper Dia., mm	Cap., mL	No. in Pkg.	No. in Case	Order Code	Per Pkg.	Case Price
55	60	8	90	36	12	36	12548-07	40.00	120.00
65	65	8.5	110	60	12	36	12548-09	40.00	120.00
75	75	9	125	95	6	36	12548-11	21.00	121.50
100	100	11.5	185	225	4	24	12548-15	26.00	154.50



12548

12549 FUNNEL *Powder, Polypropylene* ★

Autoclavable powder funnels molded of **polypropylene**. Parallel stem minimizes bridging of powder; external ribbing prevents air lock. Autoclavable.

Top I.D., mm	Stem O.D., mm	Stem Lgth., mm	No. in Pkg.	No. in Case	Order Code	Per Pkg.	Case Price
65	15	25	12	36	12549-04	34.00	99.45
80	24	25	12	36	12549-06	45.00	132.75
100	26	25	6	24	12549-08	24.00	96.00
150	30	25	4	24	12549-10	22.00	129.60

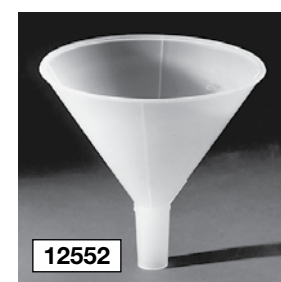


12549

12552 FUNNEL *Powder, Polypropylene* ★

With J joints.

	Order Code	Each
10.2cm, (4-inch) funnel with J 24/40	12552-06	31.50
15.2cm, (6-inch) funnel with J 24/40	12552-08	35.75



12552

**12557 FUNNEL** *Buchner, Polypropylene* ★

Lightweight *polypropylene* funnels. Bottom and top separate for easy cleaning.

Filter paper size, mm	No. in Pkg.	No. in Case	Order Code	Per Pkg.	Case Price
42.5	6	12	12557-05	44.00	86.50
55	1	12	12557-07	11.00	127.80
70	1	6	12557-09	14.00	80.10
90	1	6	12557-11	18.00	107.10
110	1	6	12557-13	52.00	311.40

12560 FUNNEL *Buchner, Table Top, Polyethylene* ★

POROUS FILTER PLATE type or PERFORATED PLATE type, fixed or removable, polyethylene Buchner funnel. Features one-piece, welded construction with welded-in plate and multiple-ring support grid below plate. A non-porous ring around plate seals filter paper. Vacuum connection accepts 1/2-inch I.D. tubing. For use below 125°F (52°C).

FILTER PLATE is available in medium (M) or coarse (C) porosity, 1/4-inch (6.4mm) thick.

PERFORATED PLATE is 3/16 inches (4.8mm) thick with 3/16-inch perforations on 7/16-inch (11mm) centers. Good for coarse filtration or use with cloth or paper filter.



Plate Type/ Porosity ()	I.D., Inches	Overall Height (Inches)	Rim to Plate (Inches)	Order Code	Porous Plate	Order Code	Perforated Plate
Fixed/(M)	10-1/4 (26cm)	7	5	12560-02	291.00	12560-14	289.50
Fixed/(C)	10-1/4 (26cm)	7	5	12560-04	289.50	12560-14	289.50
Removable/(M)	10-1/4 (26cm)	7	5	12560-30	289.50	12560-50	289.50
Removable/(C)	10-1/4 (26cm)	7	5	12560-32	289.50	12560-50	289.50
Fixed/(M)	18 (45.7cm)	11-1/2	9	12560-05	722.70	12560-16	622.80
Fixed/(C)	18 (45.7cm)	11-1/2	9	12560-06	722.70	12560-16	622.80
Removable/(M)	18 (45.7cm)	11-1/2	9	12560-35	722.70	12560-57	622.80
Removable/(C)	18 (45.7cm)	11-1/2	9	12560-37	722.70	12560-57	622.80
Fixed/(M)	24 (61cm)	13	10-1/2	12560-07	1,502.40	12560-18	991.50
Fixed/(C)	24 (61cm)	13	10-1/2	12560-08	1,502.40	12560-18	991.50
Removable/(M)	24 (61cm)	13	10-1/2	12560-38	1,502.40	12560-59	991.50
Removable/(C)	24 (61cm)	13	10-1/2	12560-39	1,502.40	12560-59	991.50
Fixed/(M)	36 (91.4cm)	14-3/4	12	12560-09	2,361.90	12560-20	1,766.10
Fixed/(C)	36 (91.4cm)	14-3/4	12	12560-10	2,361.90	12560-20	1,766.10
Removable/(M)	36 (91.4cm)	14-3/4	12	12560-41	2,361.90	12560-63	1,766.10
Removable/(C)	36 (91.4cm)	14-3/4	12	12560-53	2,361.90	12560-63	1,766.10

FILTER PAPER is to fit 12560 Funnels. Rough crepe surface, .25 mm thick, flow rate 235 mL/min., retention of 24 microns and wet strength of 25 cm of water. Packed 100 per box.

For Funnel Size (In.)	Order Code	Per Box
10-1/4	12560-70	78.30
18	12560-72	143.70
24	12560-74	186.60
36	12560-76	742.20

12563 FUNNEL *Buchner, All Stainless Steel*

316 Stainless Steel Buchner Funnel for organic or inorganic chemical synthesis. This funnel incorporates a removable perforated plate that allows thorough manual cleaning and autoclaving. Since the plate is removable, yield is increased because internal supports that would trap product are eliminated. Will not chip, crack or break. Offered in 24cm and 50cm sizes that accept commercially available filter sizes with 240 grit (electropolished) for critical applications, e.g., pharmaceuticals. Outlet port is 1/2-inch O.D. for both sizes.



12563

Ins. Dia., cm	Hgt. Above Disc (Inches)	Overall Height (Inches)	Grit Finish	Order Code	Each
24	5	7	240	12563-09	6,199.20
50	10	12	240	12563-27	7,830.00

7257/9498 FUNNEL *Addition, 1:5 PTFE Plug* ♦

Ungraduated, with ⚙ joint top and bottom. For stopcock plugs, see 8224. For stoppers, order 8250-12 or 8255-10.

Capacity, mL	⚙ Joint	⚙ Stopper	Plug Bore, mm	Order Code	Each
10	14/20	14/20	2	9498-03	109.95
25	14/20	14/20	2	9498-05	109.95
50	14/20	14/20	2	9498-11	110.69
125	24/40	24/40	2	7257-50	129.23
250	24/40	24/40	2	7257-52	147.79
500	24/40	24/40	4	7257-54	175.25



**7257
9498**

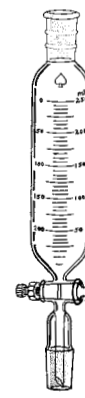
7267/7268/7318/9499 FUNNEL *Addition, Graduated* ♦

Cylindrical with ⚙ joint top and bottom, drip stem, and double scale graduations, calibrated from stopcock. Drip stem does not extend beyond joint, thereby eliminating possible source of breakage. Stopcock available with 1:5 PTFE plug, PTFE metering plug or glass plug. For replacement stopcock plugs, see 8224, 8232 or 8223. For stoppers, order 8250-12 or 8255-10. **Stoppers NOT supplied.**

Cap., mL	Plug Bore, mm	⚙ Joints Bottom/Top	1:5 PTFE Plug		Metering Valve		Glass Plug	
			Order Code	Each	Order Code	Each	Order Code	Each
10	2	14/20/14/20	9499-02	133.61	9499-04	155.99	—	—
25	2	14/20/14/20	9499-05	134.10	9499-06	156.28	—	—
50	2	14/20/14/20	9499-08	134.61	9499-12	156.81	—	—
125	2	24/40/24/40	7268-60	164.69	7318-08	211.08	7267-08	151.44
250	2	24/40/24/40	7268-62	176.31	7318-12	226.56	7267-12	160.53
500	4	24/40/24/40	7268-64	210.95	7318-16	258.29	7267-16	193.33
500	4	29/42/24/40	—	—	—	—	7267-18	201.02
1000	4	24/40/24/40	7268-66	280.07	7318-20	291.82	7267-20	251.09
2000	4	29/42/24/40	7268-70	315.95	—	—	—	—



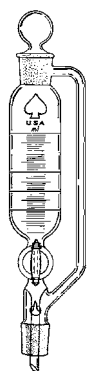
**7268-60
9499-02
1:5 PTFE**



**7318-08
9499-04
Metering**

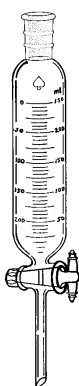


**7267-08
Glass**

**9486****9486 FUNNEL** *Addition* ♦

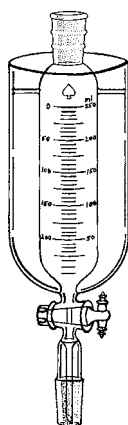
With an equalizing arm and a special stopper so that material may be isolated from the atmosphere. Turning the stopper completely closes the vessel to the equalizing arm so that the funnel may be disconnected without exposing contents to moist air, etc. Glass stopcock is 2mm bore. For replacement stoppers, order 9486-89. For replacement stopcock plugs, see 8223.

Cap., mL	Subdiv., mL	⌘ Joints	Order Code	Each
25	0.5	14/20	9486-03	159.06
50	1.0	14/20	9486-05	159.06

**7262****7262 FUNNEL** *Addition, Cylindrical, Graduated, 1:5 PTFE Plug* ♦

With ⌘ stopper joint. Stopcock available 1:5 PTFE plug. Stopper size is ⌘ 24/40. For replacement stopcock plugs, see 8224. For stoppers, order 8250-12. **Stopper NOT supplied.**

Capacity, mL	Subdivision mL	Plug Bore, mm	Order Code	Each
125	1	2	7262-50	108.40
250	5	3	7262-52	145.93
500	5	4	7262-54	173.28
1000	10	4	7262-56	240.09
2000	20	4	7262-58	299.36

**7270****7270 FUNNEL** *Addition, with Jacket* ★

Double scale graduated funnel with jacket for cooling with dry ice. Calibrated from stopcock. With 1:5 PTFE stopcock plug; for extra plugs, see 8224. For stoppers, order 8250-12.

Capacity, mL	⌘ Joint	Stopper	Plug Bore, mm	Order Code	Each
250	24/40	24/40	2	7270-37	388.18
500	24/40	24/40	4	7270-41	431.43

7272 FUNNEL *Addition, Pilot Size, Ace-Thred*

Large separatory funnel for use where large volumes are needed. Cylindrical shape necks down to a #25 Ace-Thred and connects to an 8mm bore PTFE stopcock via a PTFE coupling using FETFE O-Rings. The system is completely grease-free. Complete unit consists of the funnel body, coupling with two O-Rings, and stopcock.

Capacity, Liters	I.D., mm	O.D., mm	Overall* Hght.,mm	Straight Sect. Hght, mm	Order Code	Body Only	Order Code	Complete
9.4	201	217	440	325	7272-04	★ 262.06	7272-34	★ 528.71
19.0	280	290	400	230	7272-10	★ 414.47	7272-40	★ 681.12
35.0	390	410	450	350	7272-14	★ 704.94	7272-44	★ 971.59
							Order Code	Each
Stopcock Adapter, Only							5835-55	♠ 187.39
Coupling, PTFE with O-Ring							5841-50	♠ 79.26

*Overall height does NOT include stopcock adapter.

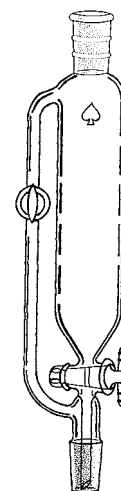


7272

7285 FUNNEL *Pressure Equalizing, 1:5 PTFE Plug ♠*

Cylindrical, with 24/40 joint top and bottom. Supplied with 1:5 PTFE stopcock plugs which require no lubrication. Stopcock on equalizing arm permits filling funnel without having to open the system to atmosphere. Drip tip does not extend beyond joint, thereby eliminating a possible source of breakage. For replacement stopcock plugs, see 8224. For stoppers, order 8250-12. **Stopper NOT supplied.**

Capacity, mL	24 Joints	Plug Bore, mm	Order Code	Each
125	24/40	2	7285-35	207.64
250	24/40	2	7285-37	219.46
500	24/40	4	7285-39	237.13

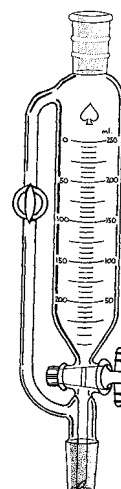


7285

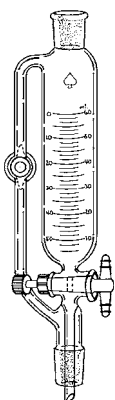
7286/9495 FUNNEL *Graduated, Pressure Equalizing, 1:5 PTFE Plug ♠*

Cylindrical with 24/40 joint at top and bottom and drip stem. Stopcock on equalizing arm permits filling funnel without having to open the system to atmosphere. For replacement stopcock plugs, see 8224. For stoppers, order 8250-12 or 8255-10. **Stopper NOT supplied.**

Capacity, mL	24 Joints	Plug Bore, mm	Order Code	Each
60	14/20	2	9495-22	228.12
125	24/40	2	7286-08	231.62
250	24/40	2	7286-10	257.94
500	24/40	4	7286-12	278.44
1000	24/40	4	7286-14	329.08

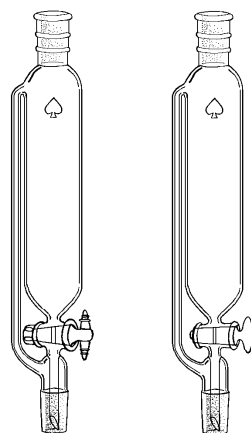


**7286
9495-22**

**9496****9496 FUNNEL** *Pressure Equalizing, Graduated, with 1:5 PTFE Metering Valve* ♦

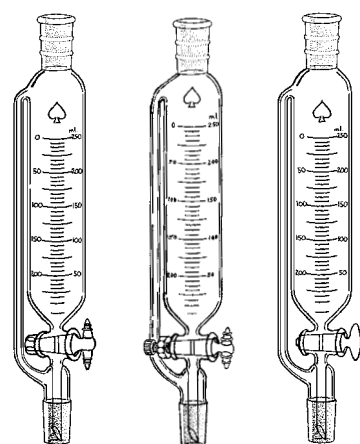
Similar to 9495, except lower stopcock is solid 1:5 PTFE metering valve, side arm plug is regular 1:5 solid PTFE. For replacement plugs, see 8232 or 8224. For stoppers, see 9543.

Capacity, mL	§ Joints	Plug Bore, mm	Order Code	Each
60	14/20	2	9496-15	250.44

**7292
9491**
1:5 PTFE**7291
9490**
Glass**7291/7292/9490/9491 FUNNEL** *Pressure Equalizing* ♦

Cylindrical with § joint top and bottom and drip stem. Drip stem does not extend beyond joint, thereby eliminating possible source of breakage. Stopcock available with glass plug or 1:5 PTFE plug. For replacement plugs, see 8224 or 8223. For stoppers, order 8250-12 or 8255-10. **Stoppers NOT supplied.**

Capacity, mL	Plug Bore, mm	§ Joints	1:5 PTFE Plug		Glass Plug	
			Order Code	Each	Order Code	Each
10	2	14/20	9491-03	128.51	9490-02	116.50
25	2	14/20	9491-05	128.51	9490-04	116.50
30	2	14/20	9491-06	140.10	—	—
50	2	14/20	9491-07	128.51	9490-06	118.44
60	2	14/20	9491-15	140.94	9490-10	118.44
125	2	24/40	7292-30	164.20	7291-08	153.45
250	2	24/40	7292-32	186.14	7291-10	156.89
500	4	24/40	7292-34	196.33	7291-12	187.40
1000	4	24/40	7292-36	228.73	7291-14	210.22

**7297
9493-03**
1:5 PTFE**7320
9493-06**
Metering**7296
9492**
Glass**7296/7297/7320/9492/9493 FUNNEL***Pressure Equalizing, Graduated* ♦

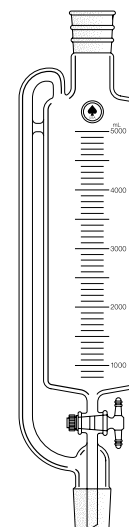
Cylindrical with § joint top and bottom, drip stem, pressure equalizing arm and double scale graduations, calibrated from stopcock. Drip stem does not extend beyond joint, thereby eliminating possible source of breakage. Stopcock available with glass plug, 1:5 PTFE plug or PTFE metering plug. For replacement stopcock plugs, see 8224, 8232 or 8223. For stoppers, order 8250-12 or 8255-10. **Stoppers NOT supplied.**

Cap., mL	Plug Bore, mm	§ Joints	1:5 PTFE		Metering Valve		Glass Plug	
			Order Code	Each	Order Code	Each	Order Code	Each
10	2	14/20	9493-03	165.67	9493-06	188.93	9492-02	152.40
25	2	14/20	9493-05	165.67	9493-08	188.93	9492-04	152.40
50	2	14/20	9493-07	169.23	9493-10	192.10	9492-06	154.82
60	2	14/20	9493-15	174.69	9493-14	192.10	9492-10	154.82
125	2	24/40	7297-31	195.88	7320-08	206.49	7296-50	180.09
250	2	24/40	7297-33	224.31	—	—	7296-52	204.76
250	4	24/40	—	—	7320-10	233.18	—	—
500	4	24/40	7297-35	245.63	7320-12	253.96	7296-54	230.99
1000	4	24/40	7297-37	296.19	7320-14	293.01	7296-56	274.23
2000	4	29/42	7297-39	332.42	7320-17	328.65	7296-58	297.47

7297 FUNNEL *Pressure Equalizing, Graduated, Pilot Plant* ★

Cylindrical, pilot plant size, 5 liter capacity funnel. With F 45/50 joint top and bottom, drip stem, pressure equalizing arm and single scale graduations in 100mL subdivisions. Drip stem does not extend beyond male joint, thereby eliminating possible source of breakage. Stopcock is 8mm bore PTFE plug. Body height is approximately 350mm, O.D. is 152mm.

Capacity, mL	Order Code	Each
5000	7297-45	747.93



7297-45

7298/9493 FUNNEL *Pressure Equalizing, Graduated, with PTFE Needle Valve Stopcock* ♠

Threaded stopcock with PTFE plug permits smooth needle valve adjustment down to 0.1cc/min. flow rate. Double PTFE ring seals prevent exposure of backup O-Ring to corrosive liquids.

Angled position makes manipulation of stopcock easier than conventional style. F 24/40 joints top and bottom, double scale graduations.

Capacity, mL	Joints	Stopcock Orifice, mm	Order Code	Each
60	14/20	0-3	9493-40	187.68
125	24/40	0-3	7298-05	204.47
250	24/40	0-3	7298-10	219.86
500	24/40	0-3	7298-15	245.93
500	24/40	0-5	7298-20	305.69
1000	24/40	0-5	7298-24	287.52
2000	24/40	0-5	7298-28	466.79

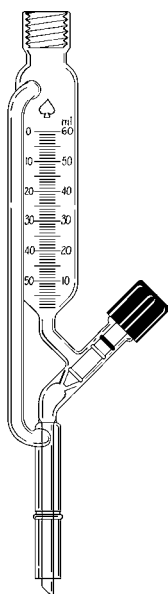
Replacement Stopcock Plugs:

For Size	Order Code	Each
0-3 mm	8192-261	31.40
0-5 mm	8192-263	43.25



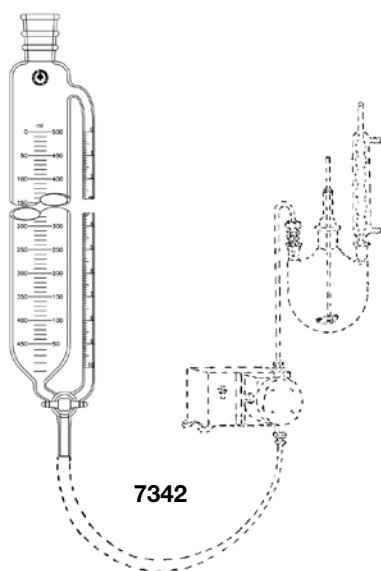
**7298
9493-40**

**Need a heated addition funnel?
See our Instatherm listing on
page 329 of this catalog.**

**7299****7299 FUNNEL** *Addition, Pressure Equalizing, Graduated* ♦

For use with ACE Pressure Reactors. Heavy-wall funnel has a #15 Ace-Thred at top that can be stoppered using 5846 Plug, not supplied. Bottom drip tip is long enough to be secured in the #15 Ace-Thred on 6433 Reactor Head or One-Piece Reactor and has a groove that restricts blowout when secured with 7506-06 Bushing and FETFE O-Ring. With pressure equalizing arm and 0-3mm threaded PTFE stopcock plug. For replacement plug, order 8189-43.

Cap., mL	Order Code	Each
60	7299-06	269.19
125	7299-12	276.24
250	7299-25	296.52
500	7299-34	324.47

**7342****7342 FUNNEL-RESERVOIR** *Rate Measuring with PTFE Plug, 120° Bore Stopcock* ★

Cylindrical, graduated reservoir permits determination of volume added at any time during pumping cycle. By stopcock manipulation, material may be pumped from graduated (10mL in 0.1mL) side tube only. This permits obtaining accurate pumping rate over short periods of time. Top joint is $\frac{1}{4}$ " 24/40 outer. Outside diameter of bottom outlet is 9.5mm (3/8-inch) tubing which fits Swagelok.

Tubing approximately 9.5mm in diameter may be used to connect reservoir outlet to pump. Pump outlet fitting may also be connected via same type tubing to 9.5mm glass tubing then to reactor by using Ace-Thred Adapter 5030 with #11 thread.

Capacity, mL	Subdivision, mL	Plug Bore, mm	Order Code	Each
250	5	2	7342-12	312.88
500	5	2	7342-14	333.26
1000	10	4	7342-16	338.16
2000	20	4	7342-18	587.62

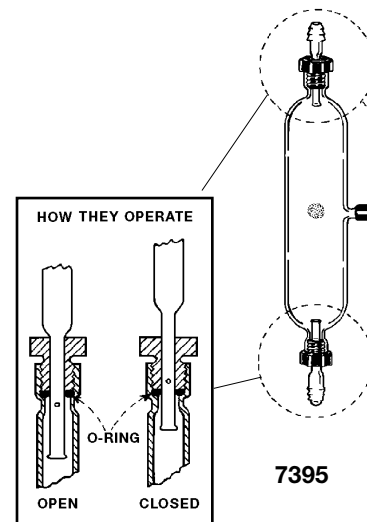
7395 GAS COLLECTING BULB *Ace-Thred* ♦

Designed with #7 Ace-Thred end valves that insure tight fit without grease. No stopcock plugs to "pop out." Nylon bushing tightens into the internally threaded glass to form an O-Ring compression seal.

Operation: With bushings at fingertip tightness, push plungers into bulb until flow holes are inside O-Rings (enlarged end of plunger acts as automatic stop). Valves are now OPEN and ready for flush sampling. When sampling is complete and with bushing still at finger tip tightness, pull plungers out so flow holes are outside O-Rings. Valves are now CLOSED. Bushings can then be tightened more for handling until ready to analyze.

Note: A bulge is built on the small end of the plunger to help retard complete pullout. Each bulb has a syringe sampling port and is supplied with two bushings, two FETFE O-Rings and one septum. Plungers are supplied with hose connections. Special bulb capacities and plungers can be made to order. Complete item consists of bulb with two bushings, two FETFE O-Rings, one septum and two plungers. Use with 3/8-inch or 5/16-inch I.D. Tubing, Size C. See page 5 for more detailed Hose Connection information.

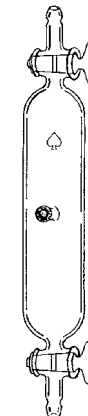
Cap., mL	Order Code	Bulb	Order Code	Hose Conn. Plungers, Ea.	Order Code	Complete
10	7395-04	48.42	7395-50	18.75	7395-40	85.92
250	7395-18	67.06	7395-50	18.75	7395-44	104.56
1000	7395-30	87.48	7395-50	18.75	7395-48	124.98
			Order Code	Each		
		Extra Bushings	5029-10	2.27		
		Extra Septums/doz.	9096-32	13.44		
		Extra O-Rings/doz.	7855-704	12.27		



7401 GAS COLLECTING TUBE *with Sampling Port* ♦

Standard collecting tube with glass stopcock and capillary tubing for connecting to rubber tubing and syringe sampling port with septum. See above for capillary sizes. For replacement stopcock plugs, see **8223**.

Capacity, mL	Stopcock No.	Order Code	Each
125	2	7401-18	133.70
250	3	7401-20	158.34
500	3	7401-22	185.95



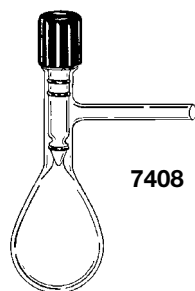
7401-18

7401-50

**7401 GAS COLLECTING TUBE** with 1:5 PTFE Plug and Sampling Port ♠

Standard collecting tube supplied with 1:5 taper PTFE stopcock plugs in place of glass plugs and syringe sampling port with septum. For replacement stopcock plug, see 8224-08.

Capacity, mL	⌘ Stopcock No.	Order Code	Each
250	3	7401-50	176.36

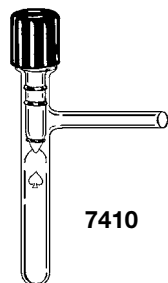


7408

7408 EQUILIBRATION FLASK ♠

Designed by Dr. H.R. Krouse, University of Calgary, for use in $\text{H}_2\text{O}^{18}/\text{H}_2\text{O}^{16}$ determination. Unique design eliminates the use of grease or breakseals in CO_2 recovery. Water samples are introduced by pipet into bulb by removing PTFE plug. After reinstating plug, degassing of water and CO_2 is transferred to sample tube 7410. Unit consists of PTFE plug with FETFE O-Ring and glass vessel with 25mL bulb at bottom.

Order Code	Each
7408-10	161.83

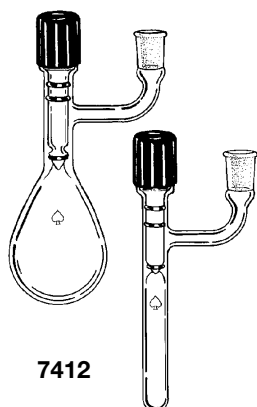


7410

7410 SAMPLE TUBE ♠

Designed by Dr. H.R. Krouse, University of Calgary, for use with 7408 in $\text{H}_2\text{O}^{18}/\text{H}_2\text{O}^{16}$ determinations. CO_2 from the equilibration flask is transferred to the sample tube for isotopic analysis. Unit consists of PTFE plug with FETFE O-Ring and glass vessel with 5mL tube at bottom.

Order Code	Each
7410-10	145.38



7412

7412 SAMPLE FLASK with ⌘ Joint ♠

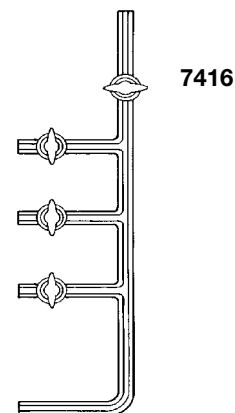
Similar in design to 7408 and 7410 except with ⌘ joint on side arm in the vertical position. 5mL size is tube style, 25mL size is bulb style.

Capacity, mL	⌘ Joint	Order Code	Each
5	14/20	7412-03	165.32
25	14/20	7412-07	183.76

7416 GAS MANIFOLD ♠

For portable gas analysis apparatus. Three or four straight 2mm bore glass stopcocks and one three-way stopcock with back port, fabricated on capillary tubing. We can fabricate special gas manifolds of all kinds. Contact ACE for quotation.

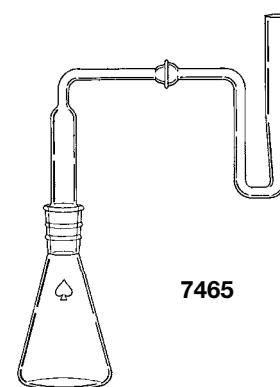
No. Straight Bore Stopcocks	Order Code	Each
3	7416-10	288.41
4	7416-14	334.76



7465 ARSINE GENERATOR Guthzeit ♠

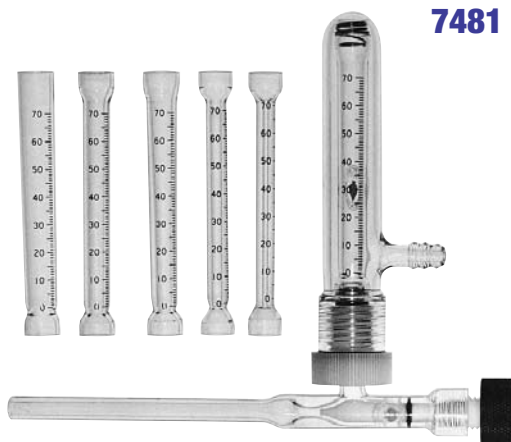
Designed for arsenic analysis by the diethyldithiocarbamate colorimetric method. Meets APHA Standard 104A, ACS/USP, and EPA Specifications. Fabricated from borosilicate glass with PTFE-Clad joint for grease free operation. Joint on 125mL flask is $\text{J } 24/40$, polished. Spherical joint between absorber and scrubber is $\text{J } 12/2$. Complete item consists of absorber, scrubber, and Erlenmeyer flask. For joint clamps, see joint section.

	Order Code	Each		Order Code	Each
Arsine Absorber	7465-04	80.36	Flask, 125mL, $\text{J } 24/40$	7465-15	49.38
Arsine Scrubber	7465-08	41.74	Complete	7465-40	171.48



See Gas Washing Bottles, page 67.

See Schlenk Flasks in the No-Air Section, page 393.

**7481****7481 ROTAMETER** *Needle Valve, Compact, Ace-Thred*

All working parts and indicia are visible, meter readings are unobstructed; the outlet swivels 360°. By inverting the metering tubes, the outlet can be changed to inlet. This compact needle valve rotameter is used to regulate and measure flows conveniently. Pressure tight to 2Kg/cm² or more (air).

Flow rates from 5 to 140,000cc/min. air; or 0.1 to 500cc/min. water using six interchangeable tubes with fused-on 70mm scales (see table 1). Each tube is furnished with a 316 stainless steel and Pyrex glass ball float, except where noted, average calibration curves $\pm 5\%$ of flow; one set of correction curves for temperature, pressure and specific gravity.

Exposed surfaces within the system are glass, Nylon 316 Stainless Steel (float ball and spring) and FETFE (silicone and ethylene-propylene rubber O-Rings also available). Nylon is suitable for use from pH 3 to 14, unaffected by most ordinary solvents and chemicals except oxidizing acids and amines.

The components are readily disassembled for cleaning or interchanging metering tubes merely by unscrewing the threaded metering tube cap, and/or the needle plug. Supplied in plastic case convenient for storage.

	Order Code	Each
Stopcock Body	7481-04	★ 53.80
Stopcock Plug	8192-261	♠ 28.07
Threaded Cap	7481-08	★ 37.24
Nylon Coupling	7481-10	★ 31.26
Rotameter tubes, complete with necessary floats: #31	7481-15	★ 41.47
#32	7481-17	★ 47.33
#33	7481-19	★ 47.33
#34	7481-21	★ 24.94
#35	7481-23	★ 48.20
#36	7481-25	★ 39.56
Tension Spring	7481-30	★ 2.38
Set of calibration curves	7481-32	★ 27.77
Complete	7481-40	★ 432.68
Replacement O-Ring Sets:		
FETFE	7481-46	★ 10.74
Silicone	7481-47	★ 12.92
Ethylene-Propylene	7481-48	★ 11.08

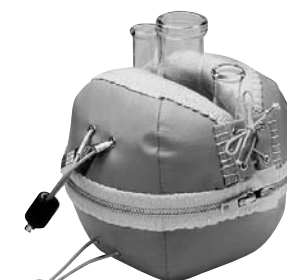
Table 1			
Meter Tube No.	Float	Flow Range cc/min.	
		Air Flow	Water Flow
31	Stainless Steel Glass	5.0-45 None	0.065-0.65 —
32	Stainless Steel Glass	120-1200 48-475	03.0-30 0.5-6.0
33	Stainless Steel Glass	475-5700 240-2800	10-180 5-60
34	Stainless Steel Glass	950-17,000 None	50-500 —
35	Stainless Steel Glass	4.8-50L/min. 2.5-28L/min.	— —
36 Wide Range	Stainless Steel Glass	None 0.24-14.3 L/min.	— 6.5-300 cc/min

12031 MANTLE *Spherical* ★

Fabric mantle covers both top and bottom of 1-, 2-, or 3-neck flasks. The circumferential zipper holds the halves snugly together to prevent heat loss, and the side split in top allows removal without disturbing the flask. CSA certified.

	For Flask Cap., mL	Distribution		Order Code	Each
		Lower Half	Upper Half		
Glass Fabric ➤	50	60w-115v	None	12031-05	260.00
	100	80w-115v	None	12031-07	263.00
	200	100w-115v	None	12031-11	265.00
	250	180w-115v	None	12031-13	271.00
	500	270w-115v	None	12031-17	310.00
Silicone Impregnated Glass Fabric ➤	1000	380w-115v	140w-115v	12031-19	521.00
	2000	500w-115v	200w-115v	12031-21	545.00
	3000	500w-115v	200w-115v	12031-23	573.00
	5000	600w-115v	300w-115v	12031-25	679.00

230v version is also available.



12031

12035 MANTLE *Hemispherical* ★

Fabric mantle, adaptable to unusual shapes and sizes, will withstand 450°C. Separable 3-foot cord for 5mL, 10mL, and 25mL; 4-foot cord for all other sizes, all with 2-wire cord and locking connector. CSA certified. Requires 12095 or 12096 Supports, see below.

	For Flask Cap., mL	Wattage	Order Code	Each
Glass Fabric ➤	5	12w-30v	12035-01	121.00
	10	20w-30v	12035-02	121.00
	25	30w-60v	12035-03	132.00
	50	60w-115v	12035-05	126.00
	100	80w-115v	12035-07	140.00
	125	80w-115v	12035-09	141.00
	200	100w-115v	12035-11	143.00
	250	180w-115v	12035-13	155.00
	300	180w-115v	12035-15	155.00
	500	270w-115v	12035-17	174.00
Silicone Impregnated Glass Fabric ➤	1000	380w-115v	12035-19	195.00
	2000	500w-115v	12035-21	212.00
	3000	500w-115v	12035-23	236.00
	5000	600w-115v	12035-25	288.00
	12000	2-650w-115v	12035-27	583.00



12035

12095 EXTENSION SUPPORT ★

For heating mantles up to 5 liter capacity. Used on heating mantles with soft outer covering instead of spun aluminum shell. CSA certified.

Flask Cap., mL	Order Code	Each	Flask Cap., mL	Order Code	Each
100-200	12095-02	67.00	2000	12095-10	81.00
250-300	12095-04	67.00	3000	12095-12	83.00
500	12095-06	69.00	5000	12095-14	86.00
1000	12095-08	76.00			



12095

12096 TRIPOD SUPPORT ★

For 5, 12 and 22 liter heating mantles with soft glass outer covering instead of spun aluminum.

Mantle Size, mL	Order Code	Each
5000	12096-05	183.00
12000	12096-10	189.00
22000	12096-14	201.00



12096



12036 MANTLE ★

For cylindrical reaction flasks. With separable 4-foot, 2-wire cord and locking connector. CSA certified.

For Flask Cap., mL	Wattage	Order Code	Each
500	270w-115v	12036-17	295.00
1000	335w-115v	12036-19	309.00
2000	470w-115v	12036-21	319.00
3000	550w-115v	12036-23	341.00
4000	750w-115v	12036-24	347.00



12037 MANTLE ★

For Griffin-type beakers. With separable 4-foot, 2-wire cord and locking connector. CSA certified.

For Beaker Cap., mL	Wattage	Order Code	Each	For Beaker Cap., mL	Wattage	Order Code	Each
50	40w-115v	12037-04	185.00	600	325w-115v	12037-14	242.00
100	100w-115v	12037-06	196.00	800	350w-115v	12037-16	266.00
150	100w-115v	12037-08	201.00	1000	430w-115v	12037-18	280.00
250	140w-115v	12037-10	206.00	2000	550w-115v	12037-20	293.00
400	240w-115v	12037-12	214.00	3000	630w-115v	12037-22	307.00
				4000	710w-115v	12037-24	327.00



12038 MANTLE ★

For Squibb type separatory funnels. With separable 4-foot, 2-wire cord and locking connector. Large sizes of one liter and up have viewing slots, as shown. CSA certified.

For Funnel Cap., mL	Wattage	Order Code	Each
250	140w-115v	12038-04	464.00
500	180w-115v	12038-06	374.00
1000	190w-115v	12038-08	452.00
2000	280w-115v	12038-10	499.00

12041 MANTLE ★

Girdle-type fabric mantle for use with ACE 6521 or 6522 Cylindrical Reaction Flasks.

Flask Cap., Liter	Wattage	Order Code	Each
6 or 10	495w-115v	12041-10	709.00
15	(2) 880w-115v	12041-12	641.00
30	(2) 825w-115v	12041-32	824.00
50	(3) 1100w-115v	12041-37	1,430.00
100	(4) 1200w-115v	12041-48	1,945.00
200	(4) 1200w-115v	12041-52	1,960.00

12041 MANTLE ★

Girdle-type fabric mantle for use with ACE 6472 Cylindrical Pilot Plant Reactors.

Flask Cap., Liter	Wattage	Order Code	Each
10	495w-115v	12041-10	709.00
30	(2) 880w-115v	12041-16	990.00
50	(2) 880w-115v	12041-18	899.00
50	(2) 725w-115v	12041-35	1,020.00



**12041-10, -52
12041-10, -35
12041-40, -44**

12041 MANTLE ★

Girdle-type fabric mantle for use with ACE 6530 Reaction Assembly.

Flask Cap., Liter	Wattage	Order Code	Each
50	(2) 1200w-115v	12041-40	1,139.00
72	(2) 1800w-230v	12041-42	1,562.00
100	(3) 1400w-230v	12041-44	2,059.00

12043 MANTLE Aluminum Housing ★

Offers the benefit of grounding through aluminum housing. The heating element is embedded in layers of glass fabric to protect the flask wall from thermal strain, and is thoroughly covered with glass insulation to prevent heat from being radiated outward. Glass fabric affords operating temperatures to 450°C. With detachable 4-foot, 3-wire cord and locking connector. Requires 12094 or 12097 Supports, see below. CSA certified.

For Flask Cap., mL	Wattage	Order Code	Each
50	60w-115v	12043-05	219.00
100	80w-115v	12043-07	219.00
250	180w-115v	12043-13	219.00
500	270w-115v	12043-17	241.00
1000	380w-115v	12043-19	261.00
2000	500w-115v	12043-21	278.00
3000	500w-115v	12043-23	334.00
5000	600w-115v	12043-25	419.00
12000	2-650w-115v	12043-27	774.00
22000	2-770w-115v	12043-29	874.00
50000	3-1000w-115v	12043-31	1,436.00
50000 (For Schott)	3-1000w-115v	12043-32	1,402.00
72000	2-2000w-230v	12043-33	1,585.00



12043

230v version is also available for 250mL and larger mantles.

**12044****12044 MANTLE** *Aluminum Housing, with Hole* ★

With hole in bottom to accommodate flasks with bottom outlets, see 6469. Offers the benefit of grounding through aluminum housing. The heating element is embedded in layers of glass fabric to protect the flask wall from thermal strain, and is thoroughly covered with glass insulation to prevent heat from being radiated outward. Glass fabric affords operating temperatures to 450°C. With detachable 4-foot, 3-wire cord and locking connector. Requires 12094 or 12097 Supports, above. CSA certified.

For Flask Cap., mL	Wattage	Hole Size (In.)	Order Code	Each
3000	500w-115v	3	12044-24	421.00
5000	600w-115v	3	12044-26	489.00
12000	2-650w-115v	3	12044-28	862.00
12000	2-650w-115v	5	12044-29	825.00
22000	2-770w-115v	3	12044-30	926.00
22000	2-770w-115v	5	12044-31	926.00
50000	3-1000w-115v	5	12044-34	1,532.00
72000	2-2000w-230v	5	12044-37	2,117.00

12045**12045 STIRMANTLE** *Aluminum Housing* ★

Mantle with magnetic stirrer built-in, able to handle up to 72L spherical flask. Ideal for continuous distillations. The variable speed control (included) offers total mixing management. DC filtering allows the 1/50 hp motor to run cooler, thus extending motor life. With 4 feet to allow bench clearance and air flow. Stir motor control is detachable and allows speeds of 100-1850 rpm. Heaters are supplied with a detachable four-foot cord on codes -12, -22; codes -50, -55 and -72 must be hard wired. Supplied with .75-inch diameter x 3-inch long magnetic stirring bar. CSA certified.

For Flask Cap., mL	Wattage	Order Code	Each
12,000	2-650w-115v	12045-12	1,291.00
22,000	2-770w-115v	12045-22	1,379.00
50,000	3-1000w-230v*	12045-50	1,854.00
50,000 (Schott)	3-1000w-230v*	12045-55	1,922.00
72,000	2-2000w-230v*	12045-72	1,919.00

*Codes -50, -55 and -72 must be hard wired.
All 115v units are also available in 230v versions.

12047 HEATING TOPS ★

Fabric mantle for 1-, 2- and 3-neck flasks. Top can be put on flask without disturbing permanently attached equipment. For use with 12043, 12045, 12053 and 12058 Mantles. With separable 4-foot, 2-wire cord and locking connector. 115v units are CSA certified.

**12047**

For Flask Cap., mL	Wattage	Order Code	Each
250	140w-115v	12047-13	172.00
300	140w-115v	12047-15	201.00
500	140w-115v	12047-17	212.00
1000	140w-115v	12047-19	237.00
2000	200w-115v	12047-21	246.00
3000	200w-115v	12047-23	272.00
5000	300w-115v	12047-25	341.00
12000	590w-115v	12047-27	572.00
22000	650w-115v	12047-29	617.00
50000	1000w-115v	12047-31	957.00
72000	1000w-230v	12047-33	1,104.00

All 115v units are also available in 230v versions.

12050 MANTLE *Aluminum Housing, Low Profile* ★

For use with ACE 6530 and 6474 Reaction Assemblies. CSA certified.



12050

For 6530 Assembly (NO BOTTOM HOLE)				For 6474 Assemblies (WITH BOTTOM HOLE)			
For Flask Cap., Liter	Wattage	Order Code	Each	For Flask Cap., Liter	Wattage	Order Code	Each
50	1000w-115v	12050-34	800.00	50	370w-115v	12050-41	660.00
72	1300w-230v	12050-36	1,258.00	72	1300w-230v	12050-43	924.00
100	1600w-230v	12050-38	1,802.00	100	1600w-230v	12050-45	1,402.00

Mantles for 6521 and 6522 Cylindrical Reaction Flasks, page 557

For Flask Cap., Liter	For Flask No.	BOTTOM			GIRDLE (Removable)		
		Wattage	Order Code	Each	Wattage	Order Code	Each
1	6521-10	300w-115v	6478-10	281.00	—	—	—
1	6522-11	300w-115v	6494-10	349.00	—	—	—
2	6521-12	450w-115v	6478-20	322.00	—	—	—
2	6522-13	450w-115v	6494-20	357.00	—	—	—
3	6521-14	600w-115v	6478-25	330.00	—	—	—
3	6522-15	600w-115v	6494-25	341.00	—	—	—
6	6521-16	200w-115v	12053-40*	471.00	495w-115v	12041-10	709.00
6	6522-17	200w-115v	12053-61*	611.00	495w-115v	12041-10	709.00
10	6521-20	200w-115v	12053-40*	471.00	495w-115v	12041-10 (2)	709.00
10	6522-21	200w-115v	12053-50*	527.00	495w-115v	12041-10 (2)	709.00
15	6521-25	250w-115v	12053-43*	858.00	2-880w-115v	12041-12	641.00
15	6522-26	250w-115v	12053-64*	719.00	2-880w-115v	12041-12	641.00
30	6521-30	365w-115v	12053-45*	613.00	2-825w-115v	12041-32	824.00
30	6522-31	365w-115v	12053-54*	576.00	2-825w-115v	12041-32	824.00
50	6521-35	365w-115v	12053-45*	613.00	3-1100w-115v	12041-37	1,430.00
50	6522-36	365w-115v	12053-54*	576.00	3-1100w-115v	12041-37	1,430.00
100	6521-40	625w-115v	12053-56*	1,650.00	4-1200w-115v	12041-48	1,945.00
100	6522-41	625w-115v	12053-70*	820.00	4-1200w-115v	12041-48	1,945.00
200	6521-44	775w-115v	12053-58*	1,650.00	4-1100w-115v ¹	12041-52	1,960.00
200	6522-45	775w-115v	12053-74*	1,208.00	4-1100w-115v ¹	12041-52	1,960.00
					4-1100w-115v ¹	12041-52	1,960.00

¹Need two sections to cover entire vessel. *Aluminum housed; all others are of fabric construction.

12053 MANTLE *Aluminum Housing, Standard* ★

Table model with aluminum housing. For round bottom flasks. Supplied with a detachable four-foot cord. 50 and 72 liter sizes must be hard wired. CSA certified.

12053-05
12053-40



For Flask Cap., mL	Wattage	Order Code	Each
50	60w-115v	12053-05	192.00
100	80w-115v	12053-07	192.00
250	180w-115v	12053-13	197.00
500	270w-115v	12053-17	226.00
1000	380w-115v	12053-19	241.00
2000	500w-115v	12053-21	251.00
3000	500w-115v	12053-23	299.00
5000	600w-115v	12053-25	371.00
6000	600w-115v	12053-26	790.00
12000	2-650w-115v	12053-27	693.00
22000	2-770w-115v	12053-29	797.00
50000	3-1000w-115v	12053-31	1,265.00
72000	2-2000w-230v	12053-33	1,442.00

12053 MANTLE *Aluminum Housing, Standard* ★

Table model, low form, aluminum housing. For 6521 Reaction Flasks. CSA certified.

For Flask Cap., mL	Wattage	Order Code	Each
6/10	180w-115v	12053-40	471.00
15	250w-115v	12053-43	858.00
30/50	370w-115v	12053-45	613.00
100	625w-115v	12053-56	1,650.00
200	775w-115v	12053-58	1,650.00

12053 MANTLE *Aluminum Housing, with Bottom Opening* ★

Table model, low form, aluminum housing, with hole in bottom. For 6522 Reaction Flasks. With detachable 4-foot, 3-wire cord and locking connector. CSA certified.

12053-61



For Flask Cap., mL	Wattage	Order Code	Each
6	180w-115v	12053-61	611.00
10	180w-115v	12053-50	527.00
15	250w-115v	12053-64	719.00
30/50	370w-115v	12053-54	576.00
100	625w-115v	12053-70	820.00
200	775w-115v	12053-74	1,208.00

12058 MANTLE *Aluminum Housing* ★

For use with ACE Pressure Reactors, either ONE-PIECE or TWO-PIECE (starting on page 456). Aluminum housed, with or without hole. CSA certified.

12058



WITHOUT HOLE				WITH HOLE			
For Flask Cap., mL	Wattage	Order Code	Each	For Flask Cap., mL	Wattage	Order Code	Each
500 (60mm)	250w-115v	12058-03	513.00	500 (60mm)	280w-115v	12058-44	590.00
500 (4 in.)	250w-115v	12058-07	707.00	500 (4 in.)	250w-115v	12058-47	489.00
1000	300w-115v	12058-12	288.00	1000	335w-115v	12058-49	559.00
2000	450w-115v	12058-16	296.00	2000	480w-115v	12058-51	385.00
3000	600w-115v	12058-30	538.00	3000	600w-115v	12058-53	655.00
5000	1000w-115v	12058-33	704.00	5000	1000w-115v	12058-55	701.00

12058 MANTLE *Aluminum Housing* ★

For resin reaction flasks, 6504 or 6511. Similar to 12036, but provided with aluminum housing. With detachable 4-foot, 3-wire cord and locking connector. CSA certified.

For Flask Cap., mL	I.D. cm	Depth, cm	Wattage	Order Code	Each
500	9.5	12.7	270w-115v	12058-08	276.00
1000	10.8	13.3	335w-115v	12058-12	288.00
2000	14.0	15.2	470w-115v	12058-16	296.00
3000	14.0	22.9	550w-115v	12058-22	333.00
4000	14.0	27.9	750w-115v	12058-28	363.00



12075 MANTLE *Cylindrical Aluminum Housing* ★

Series TM cylindrical resin kettle mantle specifically for 1, 2 and 3L 6521 reaction flasks.

For Flask Cap., mL	I.D. cm	Depth, cm	Wattage	Order Code	Each
1000	4.5	4.5	270	12075-08	295.00
2000	4.5	7.5	400	12075-10	307.00
3000	4.5	11	600	12075-12	340.00



12062 CAL-CORD *High Temperature Heating Cord* ★

Glas-Col Cal-Cord is designed especially for high-temperature laboratory heating problems. Only 6.4mm in diameter, this wrap-around heater can be installed and removed quickly.

It can be wrapped and unwrapped on tubes as small as 12.7mm without damage. Power supply connections are made with lock plug at one end. All cords are furnished with separable extension cord with two-blade cup. Because of the high temperature capabilities of the Cal-Cord insulation, the cord should be used in dry- or low-moisture areas only.

Medium "Cal-Cord" — 400°C Specifications				Super "Cal-Cord" — 600°C Specifications			
Length, meters	Wattage	Order Code	Each	Length, meters	Wattage	Order Code	Each
0.6 (2 ft)	80w-115v	12062-03	80.00	0.6 (2 ft)	200w-115v	12062-32	99.00
0.9 (3 ft)	120w-115v	12062-05	86.00	1.2 (4 ft)	400w-115v	12062-36	126.00
1.2 (4 ft)	160w-115v	12062-07	103.00	1.8 (6 ft)	500w-115v	12062-38	151.00
1.8 (6 ft)	240w-115v	12062-09	113.00				
2.4 (8 ft)	340w-115v	12062-11	128.00				
3.0 (10 ft)	400w-115v	12062-13	137.00				

Made of glass fabric material.

Made of quartz fabric material.



12063 HEATING TAPES *Lab Type ★*

Glas-Col heating tapes which allow even short tapes, 0.9m long, to be used on 115v without the need of a reducing voltage transformer. Can be operated directly through a temperature control at normal outlet voltage. Operating temperatures to 249°C. Both power supply connections are made at one end of the tape. All tapes are supplied with separable 1.2m extension cord with two-blade cup.



12063

FET SERIES — 15mm wide
(complete with cord and plug)

Length, meters	Wattage	Order Code	Each
1.5 (5 ft)	145w-115v	12063-02	121.00
1.8 (6 ft)	120w-115v	12063-04	127.00
2.1 (7 ft)	105w-115v	12063-06	136.00
2.4 (8 ft)	90w-115v	12063-08	148.00
2.7 (9 ft)	80w-115v	12063-10	156.00
3.0 (10 ft)	300w-230v	12063-12	171.00

SET SERIES — 25mm wide
(complete with cord and plug)

Length, meters	Wattage	Order Code	Each
0.9 (3 ft)	150w-115v	12063-42	122.00
1.2 (4 ft)	120w-115v	12063-44	129.00
1.5 (5 ft)	100w-115v	12063-46	147.00
1.8 (6 ft)	300w-230v	12063-48	162.00



12064

12064 HEATING TAPES¹ *Ribbon-Type Elements ★*

Glas-Col heating tapes use two-ribbon-type heating elements running lengthwise in the tape and encased in durable glass braid, then impregnated and covered with tough silicone rubber. This construction method easily passes a 1000-volt test for electrical insulation. Silicone rubber is also used to insulate the stranded terminal leads at one end for waterproof fittings at both ends of the tape. The only limitation is the upper temperature limit of 249°C for the silicone covering.

6.4mm (1/4-inch) wide heating tapes

(standard lengths complete with cord and plug)

Length, meters	Wattage*	Order Code	Each
1.2 (4 ft)	60w- 45v	12064-02	86.00
1.8 (6 ft)	90w- 70v	12064-04	94.00
2.4 (8 ft)	120w- 95v	12064-06	105.00
3.0 (10 ft)	150w-120v	12064-08	109.00

12.7mm (1/2-inch) wide heating tapes

(standard lengths complete with cord and plug)

Length, meters	Wattage*	Order Code	Each
1.2 (4 ft)	140w- 45v	12064-23	89.00
1.8 (6 ft)	210w- 70v	12064-25	104.00
2.4 (8 ft)	280w- 95v	12064-27	116.00
3.0 (10 ft)	340w-115v	12064-29	134.00
6.1 (20 ft)	680w-230v	12064-31	208.00

Ohms per meter of tape, 29.8 (9.08/foot)

Ohms per meter of tape, 12.4 (3.77/foot)

25.4mm (1-inch) wide heating tapes

(standard lengths complete with cord and plug)

Length, meters	Wattage*	Order Code	Each
3.0 (10 ft)	700w-115v	12064-42	185.00
6.1 (20 ft)	1400w-230v	12064-44	307.00

Ohms per meter of tape, 6.2 (1.88/ft.)

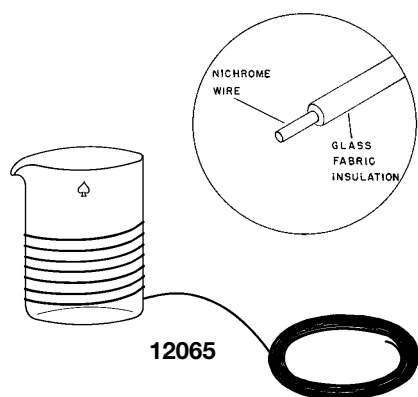
*These limits are arbitrary since the heating element can be used at much higher wattage and voltage provided the silicone rubber covering does not exceed 249°C.

NOTE: Temperature level and heat input control on heating tapes should be effected with a Powerstat.

¹U.S. Patent Nos. 2.952.001 and 2.982.932

12065 HEATER ELEMENT WIRE *Electrically Insulated ★*

The do-it-yourself heater that can be wrapped on metal or glass sampling probes, columns, or vessels of any size that need heat. This is the same wire used on our Nichrome-wrapped probes, approximately five feet per foot of glass. This electrically insulated 25 gauge Nichrome wire can be wound closed- or open-spaced. Maximum temperature is 594°C (1100°F). Including the glass-fabric insulation, the wire is approximately 1mm in diameter and has a resistivity of 2.1ohms/foot at 20°C; maximum ampere rating in open air at 594°C is 3.7 amps. The amperes are derated when enclosed and tightly wound; typical for 316°C (600°) operation is 2.5 amps. Electrical insulation voltage is 1000 volts. Note: Proper contact, welding or mechanical, must be made when attaching the power source leads. The use of a line voltage controller is recommended to properly power the heater element. Packaged in 50-foot lengths.



12065

Order Code

Per 50 Feet

12065-25

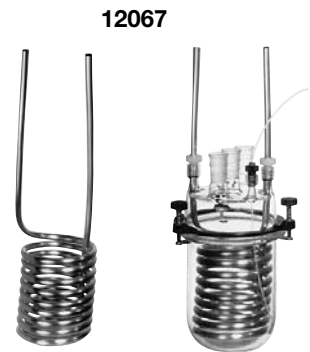
77.12

12067 HEAT EXCHANGER TUBING *Fluorocarbon Covered* ★

Copper tubing encapsulated with fluorocarbon for use as a make-your-own heat exchanger coil (Shipped in two three-foot diameter coils for forming to desired shape, 50-foot maximum continuous run. ACE can supply coiled exchanger to suit your needs. For a quotation, please send or fax us specifications.). Can be used in corrosive solutions or strong solvents like ammonia, fuming sulfuric acid, potassium hydroxide concentrate, sodium sulfate, etc. Eliminates need for costly metals like Tantalum. Highly temperature resistant, electrically insulated and will not stain, corrode or contaminate. Does not support bacteria, and anti-stick property of fluorocarbon rinses easily of sticky or clinging materials.

Easy to custom make your own exchanger for heat or cooling by wrapping around simple mandrel or forming to desired size. Tubing ends can be connected to almost any compression type fitting.

Nominal Copper O.D., in.	Fluoro-Carbon Wall (In.)	Copper Wall (In.)	Approx. Min. Bend Dia., in.	Approx. Sq. Ft. of Surface Per Linear Ft.	Order Code	Per Foot
1/4	.015	.030	2	.0733	12067-15	18.13
3/8	.015	.030	4	.106	12067-20	22.03
1/2	.020	.030	8	.141	12067-25	27.31



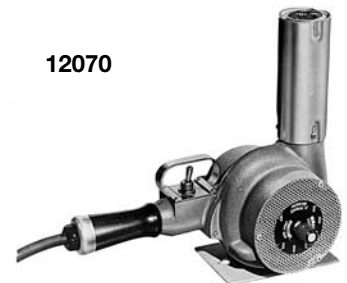
Custom Application

12070 HEAT GUN *Varitemp®* ★

Heavy-duty, flameless heat gun featuring an exclusive locking electronic temperature control that enables the user to dial in just the right temperature for the job. Control locks in place so same setting can be used over and over. Approximate temperature range at nozzle, ambient to 400°C. Has 13/16-inch nozzle with a powerful turbo fan controlled by a three-way switch, "Off," "Cold" or "Hot" with guard. Reinforced ceramic heating element with double-jacketed heater housing for protection. Rugged, die-cast aluminum housing with externally replaceable carbon brushes. Supplied with eight-foot neoprene cord with three-wire ground plug.

Volts	Amps	Approx. Air Vol., CFM	Approx. Air Vel., FPM	Shipping Wt., lbs.	Order Code	Each
120	14	9	1300	6	12070-10	217.59

®Varitemp, TM Master Appliance Corp.



12072 DRYER *Heat Gun, Mite®* ★

Economical, compact, flameless heat gun for heat shrinkage as well as countless other industrial applications. Input is 120v, 5.4 amps. Supplied with 2.1m, three-conductor grounded cord. Unit consists of heat gun with silver nozzle and deflector adapter.

Order Code	Each
12072-20	110.85

®Mite, TM Master Appliance Corp.



12073 DRYER *Heat Gun* ★

Heavy-duty type, flameless heat gun. Compact gun-type housing is of die-cast aluminum with 30mm diameter, screen-capped nozzle. Adjustable air-intake shutter gives exact degree of heat desired. Three-way switch provides the option of hot, cold or off at a flick of a finger. With 2.4m, three-wire molded plug neoprene cord and adjustable "slide-on" base.

Temp. °C	Master No.	Voltage	Amps	Order Code	Each
93-149	HG-201A	120	5	12073-04	159.04
149-260	HG-301A	120	12	12073-08	159.46
260-399	HG-501A	120	14	12073-12	159.04
399-538	HG-751B	120	20	12073-16	159.04



**12080****12080 POWERSTAT® 0–140 volts ★**

Variable transformer for all heating mantles up to and including 50 liters. Suitable for standard resin reaction flask. Input 120 volts, 50/60 cycles, single phase. Output voltage range 0–140 volts. Maximum output current 10 amperes, maximum 1.4 Kva rating. Fitted with NEMA standard three-blade plug and receptacle. Case is grounded.

Order Code	Each
12080-10	349.80

**12081****12081 POWERSTAT® with ACE Warning Glow ★**

Warns of lethal shock hazard at low voltage settings. Light admonishes operator to correct the situation by reversing the plug in the line socket. The warning light also reappears when hazardous transformer output voltage is reached (50–55v).

How It Works: In auto-transformers, one wire is continuous from input to load. If this wire happens to be connected to the “hot side” of the service, a 110- to 120-volt potential exists between it and ground. Contact between this terminal and ground can be lethal even through the auto-transformer (Powerstat^{®1}, Variac^{®2}, Adjustavolt^{®3}) is set for only one volt output between its terminals. Reversing the terminals and connecting the continuous wire to the ground side of the service eliminates this hazard. The light may be removed and a cord brought out through the hole to operate a voltage-sensitive relay or other device if desired.

When the output voltage reaches 50–55v, enough to be lethal in some cases, but usually causing an unpleasant “sticking” sensation, the warning light reappears.

Supplied with three-wire neoprene power cord with NEMA plug, and instruction sheet.

Order Code	Each
12081-05	368.74

11150**11150 POWERSTAT® MOUNTING BRACKET ★**

Mounting bracket permits easy and convenient mounting of 12080 or 12081 Powerstats on standard laboratory racks or stands having up to 16mm O.D. rods. Made of strong, rust and corrosion resistant aluminum alloys. Bracket is attached to the bottom of the powerstat by two screws and to the rack or stand by a twist of two thumbscrews.

Order Code	Each
11150-17	23.36

**12082/83****12082 POWERSTAT® 0–280 Volts ★**

Variable transformer for Cat. Nos. 12043 and 12053, 72 Liter Mantles; No. 12051, 50 and 72 Liter Mantles; 12047-33 Heating Top; 12062-15, -17, -19, -40 Heating Cords; 12063-12, -48 and 12064-31, -44 Heating Tapes. Input 240 volts, 50/60 cycles, single phase. Output 0–280 volts, 10 amperes, 2.8 Kva. Fitted with standard NEMA three-blade plug and receptacle.

Order Code	Each
12082-10	922.20

12083 POWERSTAT® 0–140 Volts ★

Same as 12082 except input 120 volts, 50/60 cycles, single phase. Output 0–140 volts, 22 amperes, 3.1 Kva. Fitted with NEMA standard three-blade plug and receptacle.

Order Code	Each
12083-05	845.35

12084 POWERSTAT® 0–140 Volts ★

Variable transformer ideally suited for use in applications requiring a portable source of variable AC voltage up to 1.4KVA capacity. Controls on panel are recessed for eye appeal and protection from accidental bumping. Equipped with grounded NEMA cord-plug assembly, on-off switch, pilot light, output receptacle and fuse. Supplied with slots at rear that accept wall hanger brackets. Measures 9.4 high x 6.5 wide x 6.25 (inches) deep. Input 120 volts, 50/60 cycles. Output 0–140 volts, 10 amps.

Order Code	Each
12084-20	477.00



12084

12085 VOLTAGE CONTROLLER *Mantle Minder II*™ ★

Time proportioning, 1/16 DIN, automatic control for use with mantles, tapes, cords, small ovens, and other resistive heating loads up to 1800 watts at 120 volts. Features a detachable iron-constantan "J" thermocouple with 6-inch stainless steel probe, lighted ON/OFF power switch with auxiliary indication, load and thermocouple receptacles located on front panel for easy accessibility, and set point dial calibrated in °C in 20 degree increments. Fused to protect small loads. Operates on 120 VAC, 50/60 Hz input. Range 0–750°C. Ambient temperature range 30–130°F. Accuracy ±1.5% of full scale. Supplied with three-wire load receptacle, three-wire line cord with molded plug. Power consumption four watts plus load. Thermocouple included. Foxtip gray and charcoal. Measures 8 wide x 6 deep x 3-3/8 (inches) high.

Order Code	Each
12085-20	505.00



12085

12087 VOLTAGE CONTROLLER 0–120v at 10 Amps, Solid State ★

Variable control from zero output to 95% line voltage. A voltage-limit, rear-mounted center-off switch is used to select a 40v or 120v maximum output with the control knob full on.

With 0–10 ammeter. 5% accuracy. F.S. (Since this is a solid state transformerless line voltage controller, it is NOT recommended for heaters rated less than 120 volts.) Warning glow light mounted next to correcting switch which lights when dangerous reversed wiring condition exists. (Flip switch to extinguish light and correct condition.) Easy-access 10 amp fuse type 3 AG (rear mounted). Line voltage pilot light. Standard 1.8 meter heavy duty neoprene three-wire power cord (grounded to case) with NEMA plug. Dimensions: 17.8cm (7 inches) x 10.2cm (4 inches) x 8.9cm (3-1/2 inches). Weight: 794 grams. Input 120 volts, 60 cycles.

Order Code	Each
12087-10	540.42



12087

12094**12094 EXTENSION SUPPORTS ★**

Provide convenient supports for flasks up to five-liter capacity. Generally used with flasks having aluminum housing.

Flask Cap., mL	Order Code	Each	Flask Cap., mL	Order Code	Each
50-200	12094-02	69.00	2000/3000	12094-08	80.00
250-500	12094-04	73.00	5000	12094-12	82.00
1000	12094-06	76.00			

**12097-04****12097 TRIPOD SUPPORT ★**

For three- through 72-liter Glas-Col Mantles.

Flask Cap., L	Order Code	Each	Flask Cap., L	Order Code	Each
3	12097-04	95.00	22	12097-10	164.00
5	12097-06	99.00	50	12097-12	178.00
12	12097-08	123.00	72	12097-14	206.00

**12097-47****12097 TRIPOD SUPPORT *Adjustable* ★**

Adjustable height 24 to 36 inches in 3-inch increments, support for 12- through 72-liter Glas-Col Mantles. 24 inches wide at base.

Flask Capacity, L	Order Code	Each
12	12097-45	413.00
22	12097-47	434.00
50	12097-49	460.00
72	12097-51	471.00



TRIPLE WALL FLASKS!

Ace Glass has capability for fabricating double jacketed, (triple wall) reaction flasks. The flasks are currently available in sizes from one to ten liters. Ace also has the capability of sizing and matching the correct recirculating chiller for a complete package. Contact Ace for more detail and pricing or ask for our 2008 Pilot Plant Binder.

13719 T-10 BASIC HOMOGENIZER *Batch Operation*

Batch operation dispersing unit for volumes 0.5 to 100ml. Light weight and ergonomic design makes it ideal for manual operation. Stainless steel or disposable plastic dispersing elements can be dismantled without tools. Speed range from 8,000 to 30,000 rpm.

Voltage	Order Code	Each
115v	13719-07	995.00
230v	13719-201	995.00



13719

HOMOGENIZERS

13721 T-25 ULTRA-TURRAX HOMOGENIZER *Batch Operation*

High-performance dispersing instrument for volumes from 1 to 2,000 mL (H₂O). Digital display version of speed. Speed range is 3,400-24,000 rpm. A wide range of elements is available (elements not included).

Voltage	Order Code	Each
115v, 50/60 Hz	13721-01	1,290.00
230v, 50/60 Hz	13721-03	1,290.00



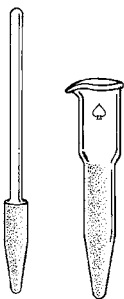
13722 T-50 ULTRA-TURRAX HOMOGENIZER *Continuous Operation*

High performance, continuous operation disperser for volumes of 0.25 to 30 liters. Constant speed even with viscosity changes. Variable speed control from 4000 to 10000rpm, scale speed display, revolution counter connection. Wide array of dispersing elements, S50 series (13726-44 thru 13726-55), NOT included.

Voltage	Order Code	Each
115v	13722-50	2,875.00
230v	13722-502	2,875.00



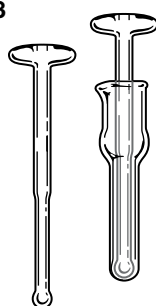
13722


8325

8325 TISSUE HOMOGENIZER *Tapered, Glass, Interchangeable*

Highly efficient, all glass, tapered tissue grinder combining two grinding surfaces on a single pestle and tube. The conical area is for initial grinding and the cylindrical area for final homogenization. Interchangeably ground to 0.1–0.15mm clearance. With pouring lip. The 10mm rod on the three larger size pestles may be used with the 8124-10 Flex-Grip Chuck. The 6mm rod on the small size is for use with the 8124-05 chuck. Capacities represent volumes with pestle inserted.

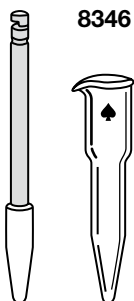
Cap., mL	Tube, only		Pestle, only		Complete	
	Order Code	Each	Order Code	Each	Order Code	Each
2	8325-04	51.74	8325-06	38.06	8325-08	89.80
15	8325-16	60.43	8325-18	51.94	8325-20	112.37
30	8325-22	62.53	8325-24	54.15	8325-26	116.68
50	8325-28	69.52	8325-30	56.18	8325-32	125.70

8343


8343 TISSUE HOMOGENIZER *Dounce, Two Glass Pestles ♠*

Supplied with two pestles, one “loose” and one “tight,” to ensure dissociation of cells into fine particles with minimal damage to cell nuclei. Use the large-clearance pestle for initial reduction of soft tissue. Complete the homogenization with the small-clearance pestle. Particularly useful in enzyme studies where heat build-up must be avoided.

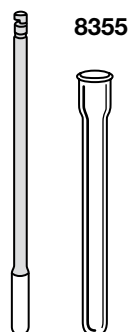
Approx. Capacity, mL	Body O.D. x Height, mm	Overall Length, mm	Order Code	Pkg./2
1	11 x 48	125	8343-01	158.92
7	13 x 82	175	8343-07	175.02
15	22 x 94	210	8343-15	201.11
40	32 x 140	285	8343-40	250.41


8346

8346 TISSUE HOMOGENIZER *PTFE Pestle with Steel Shaft ♠*

Recommended for soft tissue found in liver and brain. Designed to handle both initial grinding and final homogenization in the same sequence of operations. Mortar is unground and the pestle contact surface is PTFE, threaded onto a stainless steel shaft.

Approx. Capacity, mL	Body O.D. x Height, mm	Order Code	Each
1	13 x 110	8346-02	149.98
3	13 x 130	8346-04	151.35
5	19 x 150	8346-06	154.51
15	25 x 175	8346-10	181.80
30	27 x 215	8346-17	207.28
50	32 x 225	8346-19	278.16


8355

8355 TISSUE HOMOGENIZER *Potter-Elvehjem, PTFE Pestle ♠*

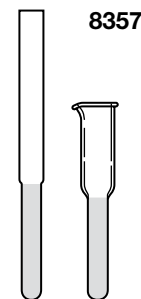
Homogenization occurs as the sample and buffer are forced through the cylindrical portion of the mortar as the pestle is rotated downward. Mortar is unground and the pestle contact surface is PTFE, threaded onto a stainless steel shaft.

Approx. Capacity, mL	Body O.D. x Height, mm	Overall Length, mm	Order Code	Each
2	11 x 45	203	8355-02	153.89
5	13 x 66	219	8355-05	155.78
10	16 x 74	219	8355-10	158.14
15	19 x 84	219	8355-15	180.44
30	24 x 118	266	8355-30	210.13
55	30 x 130	266	8355-55	249.79

8357 TISSUE HOMOGENIZER *Potter-Elvehjem, Micro* ♦

Micro size for extremely precise work. This unit is designed for delicate hand operation. A reservoir and pouring lip are incorporated into the design.

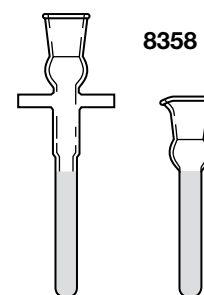
Approx. Capacity, mL	Body O.D. x Height, mm	Overall Lgth., mm	Order Code	Pkg./2
0.1	4 x 65	110	8357-03	94.32



8358 TISSUE HOMOGENIZER *Tenbroeck, All-Glass* ♦

All-glass Tenbroeck tissue grinders come with precision-made, interchangeable pestles and tubes. The hollow handle permits packing with ice. This unit also features an expanded reservoir and pouring lip. Designed for tissues such as liver, intestines and heart.

Approx. Capacity, mL	Body O.D. x Height, mm	Overall Lgth., mm	Order Code	Each
1	11 x 48	140	8358-02	114.16
2	11 x 50	140	8358-05	143.74
7	16 x 82	190	8358-10	148.77
15	22 x 94	250	8358-15	161.28
40	32 x 140	320	8358-30	208.43



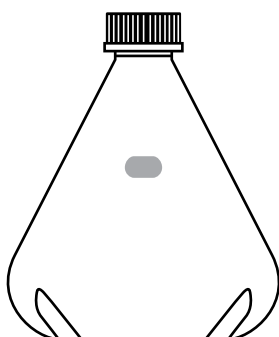
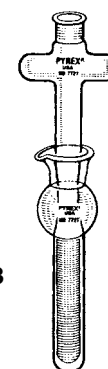
4203 TISSUE HOMOGENIZER ★

Corning 7727

PYREX® brand, Ten Broeck Homogenizer with pour spout.

Corning Code	Size, mL	Mortar Tube O.D. x Lgth., mm	Pestle O.D. x Length, mm	Bulb O.D., mm	Ground Zone Lgth., mm	Pestle Stopper No.	Quantity Per		Order Code	Shelf- Pack Price	Case Price
							Shelf- Pack	Case			
7727-2	2	16 x 100	10.5 x 165	20	60	00	1	4	4203-06	150.27	522.69
7727-7	7	18 x 130	12.6 x 195	25	80	00	1	4	4203-08	157.58	548.11
7727-15	15	21 x 150	15.8 x 235	35	90	1	1	4	4203-10	177.82	618.50

4203



See our
Cell Culture Glassware Section
starting on page 72.

**13726****13726 HOMOGENIZER PROBES (DISPERSER ELEMENTS)**

Dispersing elements for the wide variety of media to be processed. Often, it is necessary to use two dispersing elements, one to pre-crush and one for fine crushing. Offered in many rotor and stator combinations for a wide range of applications.

316L stainless steel shaft and rotor element for use with T-10 homogenizer/disperser. Designed for smaller volumes and lower viscosity materials and solutions. Ideal for cell work and disruption. Also available with plastic shaft.

For use with T-10 Homogenizer/ Disperser	Order Code	13726-72	13726-74	13726-76
	IKA Model No.	S10N-5G	S10N-8G	S10N-10G
	Ultimate Particle Size — Suspensions	5-25 micron	5-25 micron	5-25 micron
	Ultimate Particle Size — Emulsions	1-10 micron	1-10 micron	1-10 micron
	Maximum Temperature Allowed	180°C	180°C	180°C
	Working Range	0.5-10 mL	1.0 -50 mL	1.0-100 mL
	Shaft Length	92mm	115mm	115mm
	Immersion Depth (Min./Max.)	20/75mm	20/95mm	20/100mm
	Diameter	5mm	8mm	10mm
	Rotor Diameter	5mm	8mm	10mm
	Each	1,119.00	1,040.00	1,040.00

For use with T-50 homogenizer/disperser. Designed for large sized volumes and viscous materials and solutions.

For use with T-50 Homogenizer/ Disperser	Order Code	13726-44	13726-45	13726-47	13726-48	13726-50	13726-51
	IKA Model No.	S50N-G45G	S50KR-G45G	S50N-G45M	S50KR-G45M	S50N-G45F	S50KR-G45F
	Ultimate Particle Size — Suspensions	40-100 micron	40-100 micron	25-50 micron	25-50micron	10-30 micron	10-30 micron
	Ultimate Particle Size — Emulsions	10-30 micron	10 -30 micron	5-20 micron	5-20 micron	1-10 micron	1-10 micron
	Max. Temp. Allowed	180°C	80°C	180°C	80°C	180°C	80°C
	Working Range	0.5-20L	0.5-20L	0.5-15L	0.5-15L	0.25-10L	0.25-10L
	Shaft Length	300mm	300mm	290mm	290mm	290mm	290mm
	Immersion Depth (Min./Max.)	70 /250mm	70 / 260 mm	70 / 250 mm	70 / 260mm	70 / 250mm	70 / 260mm
	Diameter	8mm	10mm	45mm	45mm	45mm	45mm
	Rotor Diameter	6mm	7.5mm	40.5mm	40.5mm	40mm	40mm
	Each	2,264.00	2,589.00	2,674.00	2,836.00	2,659.00	2,849.00

13726 HOMOGENIZER PROBES (DISPERSER ELEMENTS)

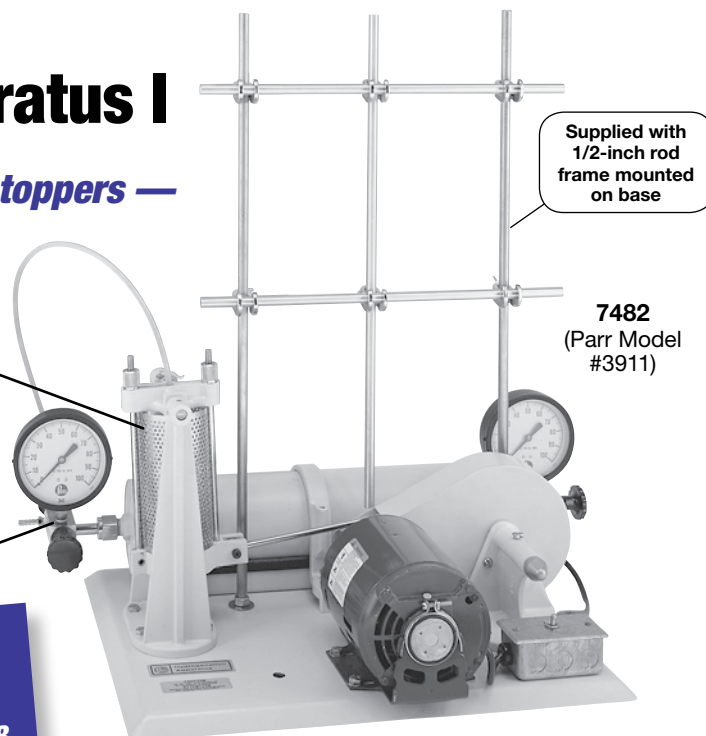
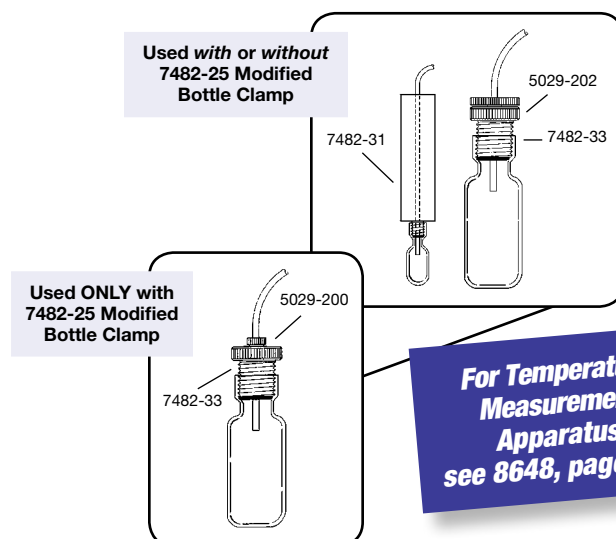
316L stainless steel shaft and rotor element for use with T-25 homogenizer/disperser. Designed for mid sized volumes and viscosity materials and solutions.

For use with T-25 Homogenizer/Disperser	Order Code	13726-18	13726-21	13726-23	13726-25	13726-27	13726-29
	IKA Model No.	S25N-8G	S25N-10G	S25N-10G-VS	S25N-18G	S25KR-18G	S25KV-18
	Ultimate Particle Size — Suspensions	10-50 micron	10-50 micron	10-50 micron	10-50 micron	10-50 micron	10-50 micron
	Ultimate Particle Size — Emulsions	1-10 micron	1-10 micron	1-10 micron	1-10 micron	1-10 micron	1-10 micron
	Max. Temp. Allowed	180°C	180°C	180°C	180°C	80°C	220°C
	Working Range	1-50mL	1-100mL	1-100mL	10-1,500mL	10-1,500mL	10-1,500mL
	Shaft Length	108mm	105mm	105mm	194mm	194mm	270mm
	Immersion Depth (Min./Max.)	27/85 mm	22/85 mm	22/85 mm	40/165mm	40/185mm	40/225mm
	Diameter	8mm	10mm	10mm	18mm	18mm	18mm
	Rotor Diameter	6mm	7.5mm	7.5mm	12.7mm	12.7mm	12.7mm
	Each	899.00	981.00	1,576.00	981.00	1,337.00	2,223.00
	Order Code	13726-35	13726-36	13726-37	13726-38		
	IKA Model No.	S25KV-25G	S25N-25F	S25KR-25F	S25KV-25F		
	Ultimate Particle Size — Suspensions	15-50 micron	5-25 micron	5-25 micron	5-25 micron		
	Ultimate Particle Size — Emulsions	1-10 micron	1-5 micron	1-5 micron	1-5 micron		
	Max. Temp. Allowed	220°C	180°C	80°C	220°C		
	Working Range	50-2,000mL	100-2,000mL	100-2,000mL	100-2,000mL		
	Shaft Length	270mm	194mm	194mm	270mm		
	Immersion Depth (Min./Max.)	40/225mm	40/165mm	40/185mm	40/225mm		
	Diameter	25mm	25mm	25mm	25mm		
	Rotor Diameter	17mm	18mm	18mm	18mm		
	Each	2,305.00	1,145.00	1,651.00	2,305.00		

Shaker Type

Hydrogenation/Gas Apparatus I

Ace-Threds eliminate the use of rubber stoppers — no more cross contamination



Three small-volume reactors are supplied with #7 Ace-Thred that accepts a Nylon bushing-spacer, 7482-31, with a #7 male thread at bottom to secure tubing from gas tank via an O-Ring compression seal. This bushing-spacer is used to take up the space between the vessel and the top of the shaker. Three larger-volume reactors supplied accept 7482-33 Adapter #25 to #7. Tubing is secured via 5029-202 Big Head #7 Bushing. These vessels are large enough to fill space to top of shaker.

Complete System	Order Code	Each
	7482-50	★ 5,017.42

The individual parts and glassware below, along with Hydrogenation/Gas Apparatus I (7482-20, at right), comprise the Complete Item listed above. These parts may also be ordered separately.

Individual Items	Ace-Thred Size	Capacity mL	Order Code	Each
Glass Vessel*	#7	9	8648-120	♠ 46.17
Glass Vessel*	#7	16	8648-124	♠ 47.55
Glass Vessel*	#7	46	8648-126	♠ 57.44
Glass Vessel*	#25	77	8648-135	★ 59.73
Glass Vessel*	#25	180	8648-138	♠ 118.20
Glass Vessel*	#25	335	8648-140	♠ 155.17
Spacer-Bushing, Nylon	#7	—	7482-31	★ 51.30
Bushing, Nylon, Big Head	#7	—	5029-202	★ 23.31
Adapter, PTFE	#7-#25	—	7482-33	★ 46.28
Upper Rubber Pad	—	—	7482-37	★ 10.52
Lower Rubber Pad	—	—	7482-38	★ 10.52
Aluminum Mounting Frame	—	—	7482-77	★ 194.34

*Each glass vessel is pressure tested to 1½ x the recommended working pressure (60 psi), but cannot be guaranteed due to the nature of glass.

The three items listed below consist of the unit ONLY. **No glassware or additional parts are supplied with these units.**

Apparatus Only	Order Code	Each
Apparatus I	7482-20	★ 4,196.89
Apparatus IA, for Hazardous Locations, 115v-60Hz [Conforms to NEC Class I, Grp. D and Class II, Grp. E, F, G]	7482-70	★ 4,773.84
Apparatus IB, with Air Motor	7482-74	★ 4,144.14

Optional Accessories	Order Code	Each
Top Bottle Clamp, only, Modified	7482-25	★ 81.94
Tubing, PTFE, 1/4-inch O.D. x 3/6-inch I.D. x 1/32-inch wall, 10 feet	12687-12	★ 53.95
Bushing, Nylon, #7	5029-200	★ 11.91
Replacement O-Rings, FETFE, for 5029-200 and 5029-202, Pk/12	7855-711	♠ 17.73
Replacement O-Rings, FETFE, for 7482-31, Pk/12	7855-704	♠ 12.27
Ferrules, PTFE, for #7 Ace-Thred, Pk/12	11710-07	★ 23.46
Replacement O-Rings, FETFE, for 7482-33, Pk/6	7855-734	♠ 18.05

Working volume of pressure reaction vessels is approximately ½ of the actual capacity listed.

Shaker Type

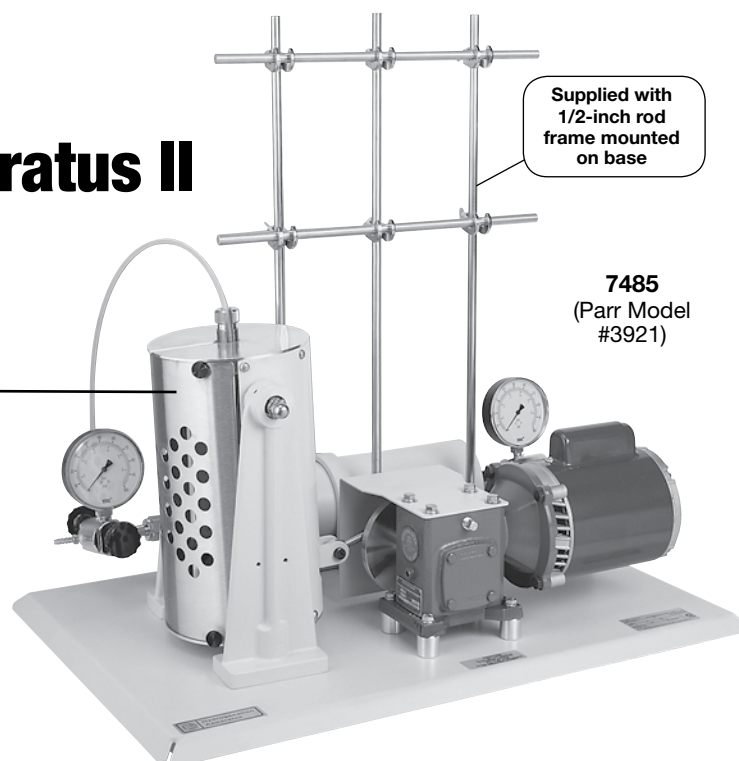
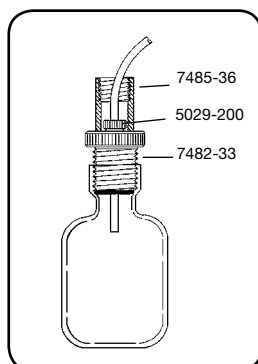
Hydrogenation/Gas Apparatus II

The ACE Difference in Parr Hydrogenation Apparatus...

- **No more** rubber stoppers
- **No more** crossover contamination because of leeching or sample retention

By using...

The Ace-Thred



Supplied with 1/2-inch rod frame mounted on base

7485
(Parr Model #3921)

Two reactors are supplied with #25 Ace-Thred that accepts 7482-33 PTFE adapter (#25 to #7 Ace-Thred) or 5844-105 (#25 to 3/8-inch NPT). The former is for use with 5029-202 Nylon Bushing; the latter is suitable for use with 12770-27 Tubing Adapter with 3/8-inch NPT. Both are used to secure tubing from tank via an O-Ring compression seal. The only adjustment in Apparatus II (as opposed to the regular Parr Apparatus #3921) is the addition of an aluminum spacer-adapter, 7485-36, that threads onto the slotted bottle screw clamp located at top of the bottle guard. This adapter butts against the #25 PTFE Adapter on top of the reaction vessel, and may be purchased separately to allow use of ACE vessels with your existing Parr unit(s).

Complete System	Order Code	Each
	7485-55	★ 7,056.33

The individual parts and glassware below, along with Hydrogenation/Gas Apparatus I (7485-25, at right), comprise the Complete Item listed above. These parts may also be ordered separately.

Individual Items	Ace-Thred Size	Capacity mL	Order Code	Each
Glass Vessel*	#25	950	8648-155	♠ 246.15
Glass Vessel*	#25	1850	8648-157	♠ 386.48
Spacer-Bushing, Aluminum	#7	—	7485-36	★ 40.65
Bushing, Nylon, Big Head	#7	—	5029-202	★ 23.31
Adapter, PTFE	#7-#25	—	7482-33	★ 46.28
Upper Rubber Pad	—	—	7482-37	★ 10.52
Lower Rubber Pad	—	—	7482-38	★ 10.52
Aluminum Mounting Frame	—	—	7482-77	★ 194.34

*Each glass vessel is pressure tested to 1½ x the recommended working pressure (60 psi), but cannot be guaranteed due to the nature of glass. Available in either epoxy of plastad coated. Call or email for quote.

The three items listed below consist of the unit ONLY. **No glassware or additional parts are supplied with these units.**

Apparatus Only	Order Code	Each
Apparatus II	7485-25	★ 6,172.74
Apparatus IIA, for Hazardous Locations, 115v-60Hz [Conforms to NEC Class I, Grp. D and Class II, Grp. E, F, G]	7485-72	★ 6,813.92
Apparatus IIB, with Air Motor	7485-78	★ 6,813.92

Optional Accessories	Order Code	Each
Replacement O-Rings, for 5029-200, pk/12	7855-711	♠ 17.73
Replacement O-Rings, for 5844-105, pk/6	7855-734	♠ 18.05
Bushing, Nylon, #7	5029-200	★ 11.91
Ferrules, PTFE, for #7 Ace-Thred, Pk/12	11710-07	★ 23.46
Adapter, PTFE, #25 Ace-Thred to 3/8-inch NPT	5844-105	♠ 69.85
Adapter, Tube Fitting, 3/8-inch NPT to 1/4-inch tube	12770-27	♠ 27.64

Working volume of pressure reaction vessels is approximately ½ of the actual capacity listed.

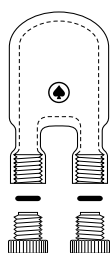
**7478****7478 REACTION BOTTLES** *for Hydrogenation/Gas Apparatus* ★

Borosilicate glass bottles with tooled neck to accept a #6 Rubber stopper. Bottles are epoxy coated to help prevent scratching. Bottles and stoppers sold separately. Rated at 60 psi. Working capacity is ½ actual capacity. *For Hydrogenation Apparatus, turn to page 326.*

Actual mL	Use with... Apparatus	Approx. O.D. x Hght., mm	Order Code	Each
50	7482	30 x 160	7478-05	35.48
100	7482	40 x 160	7478-10	40.69
250	7482	60 x 143	7478-12	66.75
500	7482	73 x 175	7478-15	78.31
1000	7485	94 x 216	7478-34	82.54
2500	7485	133 x 240	7478-37	444.80
Neoprene #6 Rubber Stopper for use with 7478 Bottles, with one hole:			7478-60	3.93

**7479****7479 HEATING MANTLES** *for Hydrogenation/Gas Bottles* ★

For Use with Vessel Size	Order Code	Each
250 & 500mL (7478)	7479-20	214.47
1000 & 2500mL (7478)	7479-42	244.52

**7482-46****7482 TRAP** *Hydrogenation/Gas*

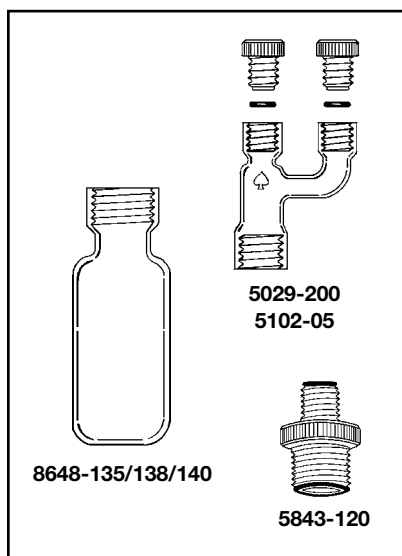
Used normally between hydrogen source and reaction flask. Bottle measures approximately 41mm I.D. x 90mm long, with two #7 Ace-Threds. Use 5029-200 Bushing and O-Ring in each neck to secure tubing.

	Order Code	Each
Bottle, only	7482-42	♠ 100.70
Bushing, Nylon, #7 with O-Ring (2)	5029-200	★ 11.91
Complete	7482-46	♠ 124.52

8648 TEMPERATURE MEASUREMENT APPARATUS*for 7482 Hydrogenation/Gas Apparatus*

Borosilicate glass vessel, Offset Adapter, Coupling and Modified Top Bottle Clamp for use with 7482 Shaker Type Parr Hydrogenation/Gas Apparatus I to allow temperature measurement while connected to hydrogen source. For use with three larger vessels only, with #25 Ace-Thred neck. Capacities listed are for *working volumes* (approximately ½ actual volume of vessel).

	Order Code	Each
Reaction Vessel, glass, #25 Ace-Thred, 10-35 mL	8648-135	♠ 59.73
Reaction Vessel, glass, #25 Ace-Thred, 25-75 mL	8648-138	♠ 118.20
Reaction Vessel, glass, #25 Ace-Thred, 50-200 mL	8648-140	♠ 155.17
Adapter, Offset, (2) #7, (1) #15 Ace-Threds	5102-05	♠ 41.34
Bushing, Nylon, #7, with O-Ring, (2)	5029-200	★ 11.91
Coupling, PTFE, #15 to #25 Ace-Thred	5843-120	♠ 58.96
Top Bottle Clamp, only, modified	7482-25	★ 81.94
Ferrules, #7, Package/12	11710-07	★ 23.46
Complete	8648-57	♠ 562.62



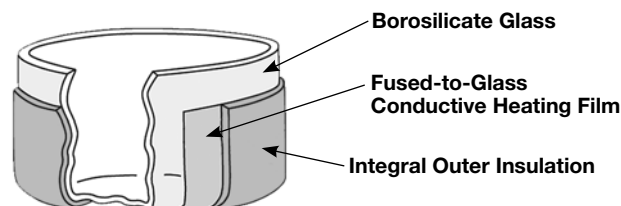
THE SAFEST HEATING METHOD...

ACE INSTATHERM® FOR GLASS VESSELS

Eliminate the need for heating tapes, immersion heaters and heating mantles.

Instatherm® is a safer, more precise heating method for the laboratory. It is an Ace Glass proprietary process that fuses a noble metal alloy coating directly onto the glass surface. Once the insulating and protective covering is applied, the Instatherm electrical circuit provides the most rapid and precise heating method available. Thermal lag is minimal with no hot spots. When placed on a magnetic stirrer, it becomes the best heating and mixing combination on the market. Because Instatherm is a process more than product, it can be adhered to any glass vessel. This brochure features our standard vessels for your convenience, however custom application inquiries are most welcome.

- **Rapid, even heat — low thermal lag**
- **No super-heating**
- **Suitable for magnetic stirrers**
- **Extremely accurate heating**
- **More precise than mantles**
- **Accommodates variety of vessel sizes and shapes**



9601 INSTATHERM OIL BATH *Low Form* ★

Low form, glass open vessels coated with Instatherm. Designed to operate up to 250°C, heating response time is very rapid, (5° per minute), with very low thermal lag. The bottom is uncoated so the bath can be put on any popular magnetic stirrer for stirring while heating. Baths are designed to run with oil or a heating media. Never run Instatherm baths dry or breakage can occur, especially at higher temperatures. Capacity is without a vessel. Connector plug is designed to work with ACE Temperature Controllers where the output voltage can be automatically limited to match the bath. Bath can also be matched with ACE temperature thermocouple sensors for complete automatic operation. If using another type temperature controller, voltage should not exceed the rated voltage (see below). Includes controller cord.

Approx. (mm) I.D. x O.D. x Hgt.	Cap., mL	Volt/Amp Rating	Order Code	Each
64 x 70 x 50	160	20/5	9601-08	352.06
94 x 125 x 65	340	40/6	9601-12	381.92
119 x 125 x 65	700	40/8	9601-14	391.78
142 x 150 x 75	1200	120/5	9601-16	430.99
182 x 190 x 100	2600	120/10	9601-18	504.81



9601-16

Low Form Instatherm Baths

Allows small Mini-Lab size flasks to be stirred internally with magnetic stirrer bars while being heated in baths

For description of ACE Temperature Controllers, see page 746.

A line voltage control should not be used on ACE Instatherm low voltage oil baths unless it incorporates a step-down transformer that limits the voltage to the heater rating, e.g. 20 volts or 40 volts.



9601-23

9601 INSTATHERM OIL BATH *Large* ★

Large version bath that can accept round bottom flask up to 5L and other larger vessels. Bath measure 300mm (11.8-inch) I.D. by 250mm (9.8-inch) Depth. The bath has a rolled lip for easy handling. The maximum temperature on this bath is 100°C. The full capacity is 15L without a vessel, and typically should have a minimum of six liters when using a vessel like a 5L round bottom flask. Includes controller cord. Baths must be run with a heating media or oil.

Approx. (mm) I.D. x O.D. x Hgt.	Cap., Liters	Volt/Amp Rating	Order Code	Each
290 x 300 x 240	15	120/14	9601-23	2,091.60



9602

9602 INSTATHERM OIL BATH *Low Form, with Permanent Cord* ★

The same vessels as listed under 9601 series except with permanently attached extended controller cord for increased safety. Cord is 12' in length and is PTFE clad. Opposite end has three-pronged plug for insertion into ACE temperature controllers.

Approx. (mm) I.D. x O.D. x Hgt.	Cap., mL	Volt/Amp Rating	Order Code	Each
64 x 70 x 50	160	20/5	9602-07	458.24
94 x 100 x 55	340	40/6	9602-11	465.15
119 x 125 x 65	700	40/8	9602-13	486.69
142 x 150 x 75	1200	120/5	9602-15	497.51
182 x 190 x 100	2600	120/10	9602-17	522.57

9603



9603 INSTATHERM OIL BATH *High Form* ★

High form, heavy walled glass vessels coated with Instatherm to accommodate larger and taller vessels. A thermocouple well is imbedded in the insulation in this series. Do not run baths dry or above max voltage or breakage can occur. Bottom is uncoated so it can be used with or without magnetic stirrers. Includes controller cord.

Approx. (mm) I.D. x O.D. x Hgt.	Volt/Amp Rating	Takes Flask Size, mL	Order Code	Each
90 x 100 x 100	40/10	300 & smaller	9603-02	514.09
140 x 150 x 155	120/8	1000 & smaller	9603-04	621.46
200 x 210 x 200	120/10	3000 & smaller	9603-06	781.19



9605

9605 INSTATHERM BEAKER *Griffin Low Form* ★

With lip and pouring spout. With silicone rubber treated glass cloth insulation for use up to 250°C. Use only 9698-20 cord for connection to ACE 12127 Proportional Temperature Controller, or other power source. Includes controller cord.

Approx. (mm) I.D. x O.D. x Hgt.	Capacity, mL	Volt/Amp Rating	Order Code	Each
64 x 68 x 90	250	20/7	9605-40	253.42
72 x 77 x 110	400	40/6	9605-42	274.90
85 x 90 x 124	600	40/8	9605-44	300.57

14115 BATH OIL ★

An extremely stable, medium viscosity silicone oil. Available in two temperature ranges:

Low Temp — maximum 180°C; or

HighTemp — maximum 230°C.

Type	Order Code	Size	Each
Low Temp (180°C)	14115-05	.9L (1 Qt.)	48.44
High Temp (230°C)	14115-12	.9L (1 Qt.)	67.46
Type	Order Code	Size	Each
Low Temp (180°C)	14115-10	1.8L (½ Gal.)	78.79
High Temp (230°C)	14115-14	1.8L (½ Gal.)	119.90

Low temp oil color is CLEAR. High temp oil color is AMBER.



14115

9601/9698 CONNECTING CORD & CLIPS ★

Controller cords with various connectors for connecting all Instatherm vessels to temperature controllers. -16 and -20 cords have 10 amp, “fast-acting” fuse to protect both vessel and controller from over-voltage or surges.

Description	Order Code	Each
Cinch Type	9698-05	29.00
Pin Type	9698-10	29.00
Banana Type (old style)	9698-16	49.99
Twist Lock Type (new style)	9698-20	49.99

Clip for thermocouple or thermometer:

Description	For Bath Series	Order Code	Each
Small clip with one hole	9601-07 and -08	9601-29	24.76
Medium clip with two holes	All other baths	9601-30	24.76
Medium clip with two 1/4-inch holes	All other baths	9601-32	24.76
Large clip with two 1/4-inch holes	9603-06	9601-34	34.92
Extra large clip with two 1/4-inch holes	9603-23	9601-36	47.60



9610

9610 INSTATHERM FUNNEL Addition ★

Graduated addition funnel with Instatherm coating for critical heating. The funnel has a bottom inner standard taper joint and an outer joint on top. The funnel can be hooked to an ACE temperature controller and heated for liquefying solids or keeping liquids at a set temperature for addition to system or a reactor. Comes with one controller cord.

Capacity, mL	Volt/Amp Rating	§ Joints	§ Stopcock	Order Code	Each
125	40/5	24/40	2	9610-08	284.69
250	40/6	24/40	2	9610-10	340.95
500	40/10	24/40	2	9610-12	401.79
500	40/10	29/42-24/40	4	9610-14	401.79



**See important information
on page 329 regarding use
of line voltage controllers
and temperature controllers
to control Instatherm®.**

ACE Instatherm® Temperature Controller *Kits*

Complete Bath Kits for your convenience

*For complete
information on
Temperature
Controllers,
see page 746.*



9601-355

9601-355

Bath Kit Complete ★

Consists of one each 9601-14 and 9601-16 bath, plus one 12324-25 Digital Temperature Controller with one J Type Temperature Sensor and controller cord.

Order Code	Each
9601-355	1,686.49

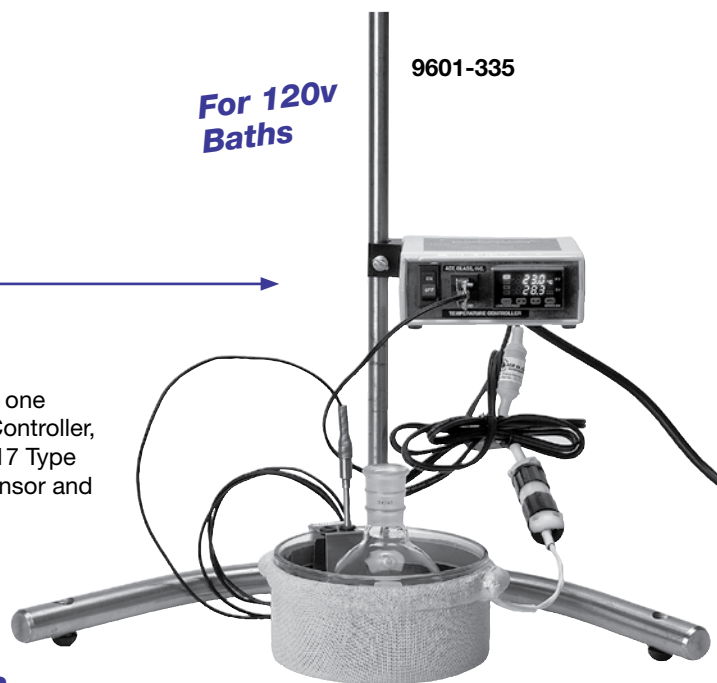
9601-335

Bath Kit Complete ★

Economy

Consists of one 9601-16 bath plus one 12125-14 Economy Temperature Controller, one 9601-30 clip, and one 12110-17 Type "J" Thermocouple Temperature Sensor and cord.

Order Code	Each
9601-335	1,232.73



9601-335

*For 120v
Baths*

9601-352

*For All Size
Baths*



9601-352

Bath Kit Complete ★

With Removable Cord

Consists of one each 9601-12, 9601-14 and 9601-16 baths, three 9601-30 clips, three 9698-16 cords, plus one 12127-30 Temperature Controller with one 12110-17 Type "J" Thermocouple Temperature Sensor.

Order Code	Each
9601-352	2,539.33

Also available with attached, extended 12-foot, extended controller cord baths:

Order Code	Each
9602-364	2,783.99

9625 INSTATHERM DESICCATOR *Vacuum Oven*

250mm diameter with bottom Instatherm heated (low voltage: 40 volts, 10 amps max.). Top is not heated, but has insulation cover. May be used as a vacuum oven at temperatures up to 180°C continuously.

The top has an observation stripe for visibility and is supplied with vacuum take-off valve. Insulation is resilient silicone rubber impregnated glass cloth, and electrical connections are covered. Temperatures can be regulated by means of ACE Temperature Controllers or 12081 Powerstat. Also available with uncoated top. Supplied complete with detachable cord, -10 to 250°C. 100mm immersion 10/30 ground joint thermometer, thermometer adapter and porcelain plate.

	Order Code	Each		Order Code	Each
Desiccator	9625-04	★ 1,280.29	Thermometer	8314-31	♠ 56.44
Adapter	9061-10	♠ 27.02	Complete	9625-10	★ 1,363.75

9625-04 and 9625-10 supplied with controller cord.



9625

9632 INSTATHERM DRYING APPARATUS *Vacuum, Abderhalden*

Instantly variable jacket temperature, to 200°C, enables programmed drying. The jacket is coated with Instatherm with a viewing strip. A thermowell, 6-7mm O.D., may be substituted for the purpose of employing a thermistor, etc. controlled probe. The heater operates on AC or DC up to 40v, 3 amps.

	Order Code	Each
Desiccant Tube	9632-02	♠ 198.34
Drying Chamber	9632-04	★ 442.05
Cord	9698-16	★ 49.99
Nylon Bushing	5029-10	♠ 2.27
Complete	9632-10	★ 642.66



9632

9635 INSTATHERM FLASK *High Temp Type, Single Neck ★*

Distilling, round bottom with 24/40 joint. With silicone rubber treated glass cloth insulation for use up to 250°C. Use **ONLY 9698-20** controller cord (supplied).

Cap., mL	Volt/Amp Rating	Order Code	Each
500	40/6	9635-158	272.55
1000	40/10	9635-160	292.46



9635

**9637****9637 INSTATHERM FLASK** *High Temp Type, Two Necks* ★

Distilling, round bottom with 24/40 joints. With silicone rubber treated glass cloth insulation for use up to 360°C. No clamp needed, use **ONLY 9698-16** Cord.

Cap., mL	Volt/Amp Rating	Order Code	¥24/40	Order Code	¥29/42
250	20/8	9637-136	205.83	—	—
500	40/6	9637-138	330.77	—	—
3000	120/10	—	—	9637-170	382.53

**9642****9642 INSTATHERM FLASK** *High Temp, Three Necks* ★

Distilling, round bottom with three 24/40 joints. With silicone rubber treated glass cloth insulation for use up to 360°C. No clamp needed, use **ONLY 9698-16** Cord.

Capacity, mL	Volt/Amp Rating	Order Code	Each
250	20/8	9642-127	301.05
500	40/7	9642-129	349.98
1000	40/10	9642-131	397.08

**9655-39****9655-17****9655 INSTATHERM REACTION FLASK AND HEAD** ★

Rugged cylindrical reaction flask and head with Schott, flat, ground 4-inch flange with O-Ring groove for use with 6517-25 Quick Release Clamp and integral heating element that eliminates the local superheating commonly associated with more conventional heating methods and eliminates cumbersome and dangerous oil baths. The response is rapid and accurate — the attention can be directed toward contents instead of the pot. Supplied with silicone coating for insulation and protection. End contacts are standard banana plugs. Use with 9698-16 Connecting Code to power source. O-Ring, supplied with flask, is a CAPFE (PTFE encapsulated silicone O-Ring). Flask is coated to within approximately 38 mm of the flange for 200 °C operation. 360°C max. on special order. Interchangeable with ACE reaction top, code -33, -37, -39, and non-heated tops listed in the Ace complete catalog. Order Flask, Head and Clamp separately.

Flask, only

Cap., mL	Volt/Amp Rating	Watts	Order Code	Each
1000	40/8	400	9655-17	657.40
2000	120/5	600	9655-22	745.82

Head, Four Necks, only

Center 24/40 Joint	Side 24/40 Joints	Volt/Amp Rating	Order Code	Each
24/40	24/40	40/8	9655-33	449.95
29/42	24/40	40/8	9655-37	457.58
45/50	24/40	40/8	9655-39	471.91
Clamp, only			6517-25	87.69
Connecting Cord, only			9698-16	49.99

9656 INSTATHERM REACTION FLASK ★

This integral heating element eliminates the local superheating commonly associated with more conventional heating methods and eliminates cumbersome oil baths. The response is rapid and accurate. Supplied with silicone coating for insulation and protection. Use **ONLY 9698-20** controller cord (supplied). Flask is coated to within approximately 38 mm of the flange for 250°C operation. Interchangeable with all ACE reactor heads.

Cap., mL	Volt/Amp Rating	Watts	Order Code	Each
1000	40/8	400	9656-08	650.39
2000	120/5	600	9656-12	740.80



9656

9633 INSTATHERM FLASK Erlenmeyer ★

Ace Erlenmeyer flask with Instatherm provide a convenient, safe heating of contents in the popular Erlenmeyer flask format for bench or magnetic stirrer use. For operation up to 250 Deg C. Use **ONLY 9698-20** controller cord (supplied).

Capacity, mL	Volt/Amp Rating	Order Code	Each
125	20/8	9633-08	215.67
250	20/8	9633-10	277.29
500	40/7	9633-14	354.32



9633

3704 INSTATHERM FILTRATION APPARATUS Funnel, 47mm ★

This apparatus differs from the standard 47mm filter apparatus as it uses Ace Glass' proprietary Instatherm technology to evenly heat the top 400mL funnel, thus keeping the viscous materials in a flowing liquid state. The middle adapter is PTFE with a PTFE snap-ring. The interchangeable fritted disk is the coarse, 25-to-50 micron size. The entire assembly can be easily taken apart for cleaning and the fritted filter disc can easily and in-expensively be cleaned or replaced. This system is excellent for filtering oils or thick slurries and using either 47mm membranes or filter paper disks. Perfect for sample prep for various ASTM petroleum and polymer testing procedures and for new biofuel testing protocols.

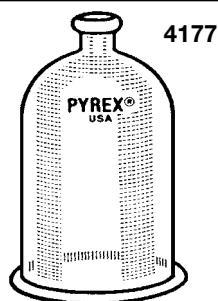
Description	Order Code	Each
Complete Apparatus	3704-10	593.50

Complete Consists of (may be ordered separately):

1L Filter flask w/ Ace Thred	3702-08	125.42
PTFE Adapter w #25 btm and #50 top Ace Threds	3704-05	249.00
PTFE retaining ring	3704-06	12.00
47mm OD "C" fritted disc	3703-49	27.08
500mL Instatherm coated filter funnel w/temp controller connecting cord	3704-01	180.00



3704-10



4177

4177 JAR *Bell Type, with Knob* ★

PYREX® brand. With bottom flange ground.

Corning 6885

Corning Code	Approx. O.D. x Hght., mm	Approx. I.D., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
			Shelf-Pack	Case			
6885-140	140 x 265	130	1	2	4177-21	442.66	769.85
6885-165	165 x 315	156	1	2	4177-23	572.26	995.23
6885-222	222 x 425	213	—	2	4177-25	—	1,189.50



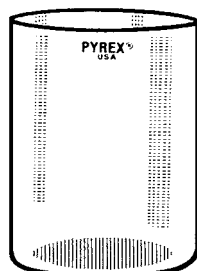
4178

4178 JAR *Bell Type* ★

PYREX® brand. Without rim flange, with flat ground surface.

Corning 6886

Corning Code	Approx. O.D. x Hght., mm	Approx. O.D.		Approx. I.D., mm	Approx. Capacity, Liters	Quantity in Case	Order Code	Case Price
		O.D. x Hght., in.	O.D. x Hght., in.					
6886-12L	318 x 305	12½ x 12	12½ x 12	292	12.3	1	4178-21	1,136.57
6886-22L	318 x 457	12½ x 18	12½ x 18	292	22.7	1	4178-23	1,279.07
6886-49L	457 x 457	18 x 18	18 x 18	429	49.2	1	4178-29	2,250.99
6886-87L	457 x 762	18 x 30	18 x 30	429	87.0	1	4178-33	2,344.04



4182

4182 JAR *Cylindrical, Plain* ★

PYREX® brand. Without rim flange, with flat ground surface.

Corning 6842

Corning Code	Approx. O.D. x Hght., mm	Approx. O.D. x Hght., in.	Approx. Capacity, Liters	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
6842-7L	222 x 254	8¾ x 10	7.5	1	4	4182-16	322.35	1,121.20
6842-9L	257 x 254	10⅞ x 10	9.25	—	1	4182-20	—	398.30
6842-17L	305 x 305	12 x 12	17.0	—	1	4182-25	—	543.91
6842-27L	305 x 457	12 x 18	26.5	—	1	4182-29	—	626.63
6842-32L	406 x 305	16 x 12	32.0	—	1	4182-34	—	1,007.76

6233

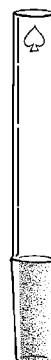
**6233 BIG JAR** *With Handles* ★Cylindrical jars with side indents for easier handling. Made of heavy wall glass, the jars are graduated. **Caution: Do not apply open flame or heat.** Also available with poly safety coating.

Capacity, L	Subdiv., mL	Order Code	Each
7.25	500	6233-07	436.04
9.25	500	6233-09	498.35
17	1,000	6233-17	568.57
26.5	2,000	6233-26	696.55
32	2,000	6233-32	1,130.34

7565 JOINTS *Inner Member, Full Length*

§ inner member ground joint for use with outer members listed under Catalog number 7565, 7566, 7567, 7651 and 7652. Can also be used with half joints listed under 7568 and 7585.

§ Size	O.D. of Tube, mm	Order Code	Each	§ Size	O.D. of Tube, mm	Order Code	Each
7/25	6	7565-07	♠ 8.46	40/50	38	7565-47	♠ 18.48
10/30	8	7565-12	♠ 7.09	45/50	45	7565-52	♠ 22.11
12/30	11	7565-17	♠ 7.63	50/50	45	7565-57	♠ 28.12
14/35	13	7565-22	♠ 8.72	55/50	51	7565-62	♠ 31.62
19/38	16	7565-27	♠ 9.24	60/50	54	7565-67	♠ 36.83
24/40	22	7565-32	♠ 9.51	71/60	64	7565-72	♠ 45.10
29/42	28	7565-37	♠ 10.71	86/50	80	7565-71	★ 54.27
34/45	32	7565-42	♠ 14.05	103/60	102	7565-77	★ 108.53



7565

7566 JOINTS *Outer Member, Straight-Through*

Tubing is same diameter as reinforcing rings on the joint. The rings permit penetration by the clamp cushioning material, and permit firm support without the need for excessive pressure on the joint; also, strain on the joint is reduced from expansion due to temperature increase. Properly clamped, the joint tends to remain cooler, with less tendency toward lubrication loss. Very heavy walls are not desirable for thermal shock resistance, but are desirable for resistance to mechanical pressure and shock. Therefore, providing reinforcement rings instead of heavy wall results in a better balanced design. No holdup below joint makes this an ideal joint for flask necks, receivers, etc.

§ Size	O.D. of Tube, mm	Order Code	Each	§ Size	O.D. of Tube, mm	Order Code	Each
7/25	9	7566-08	♠ 10.17	29/42	32	7566-38	♠ 12.72
10/30	13	7566-13	♠ 9.79	34/45	38	7566-43	♠ 16.99
12/30	16	7566-18	♠ 10.17	40/50	45	7566-48	♠ 23.45
14/20	19	7566-21	♠ 10.58	45/50	51	7566-53	♠ 25.21
14/35	16	7566-23	♠ 10.58	50/50	54	7566-58	♠ 32.12
19/22	22	7566-26	♠ 10.58	55/50	64	7566-63	♠ 35.76
19/38	22	7566-28	♠ 10.58	60/50	64	7566-68	♠ 39.62
24/40	28	7566-33	♠ 10.56	71/60	75	7566-73	♠ 53.16
				86/50	95	7566-75	★ 56.80



7566

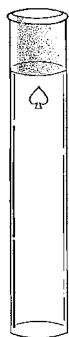
7567 JOINTS *Outer Member, Straight-Sided*

O.D. of joint and tube are approximately same size, allowing for ease in clamping.

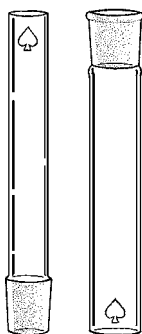
§ Size	O.D. of Tube, mm	Order Code	Each	§ Size	O.D. of Tube, mm	Order Code	Each
7/25	10	7567-08	♠ 10.27	40/50	45	7567-48	♠ 23.68
10/30	13	7567-13	♠ 9.88	45/50	48	7567-53	♠ 25.47
12/30	14	7567-18	♠ 10.27	50/50	54	7567-58	♠ 32.43
14/35	17	7567-23	♠ 10.67	55/50	60	7567-63	♠ 36.10
19/38	22	7567-28	♠ 10.67	60/50	64	7567-68	♠ 40.01
24/40	28	7567-33	♠ 10.82	71/60	75	7567-73	♠ 53.68
29/42	32	7567-38	♠ 12.84	103/60	115	7567-78	★ 122.36
34/45	38	7567-43	♠ 17.16				



7567

**7568****7568 JOINTS** *Outer Member, Medium Length, Straight-Sided* ♦

Size	O.D. of Tube, mm	Order Code	Each
10/18	13	7568-04	9.88
14/20	17	7568-06	10.02
19/22	22	7568-08	10.67
24/25	28	7568-10	12.03
29/26	32	7568-12	13.11
34/28	38	7568-14	17.04

**7585****7585 JOINTS** *Inner Member, Medium Length* ♦

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
5/12	4	7585-02	9.10	24/25	22	7585-38	10.44
7/15	6	7585-08	9.10	29/26	25	7585-44	10.98
10/18	8	7585-14	7.08	34/28	32	7585-50	14.85
12/18	10	7585-20	8.17	40/35	38	7585-56	19.01
14/20	13	7585-26	8.57	60/40	54	7585-65	38.69
19/22	16	7585-32	9.24				

7585 JOINTS *Outer Member, Medium Length* ♦

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
5/12	8	7585-04	11.25	24/25	28	7585-40	12.87
7/15	11	7585-10	11.25	29/26	32	7585-46	13.66
10/18	13	7585-16	10.58	34/28	38	7585-52	17.27
12/18	16	7585-22	10.71	40/35	45	7585-58	23.83
14/20	19	7585-28	10.84	60/40	64	7585-67	44.16
19/22	22	7585-34	11.25				

**7597****7597** ♦ **CLAMPS** *PTFE* ★

Constructed of PTFE, clip snaps on and off with ease. Non-corrosive, will not damage glass. Can be used to 300°C. Designed as ♦ joint clamp. Also can be used for clamping stopcock plugs and barrels or spherical joints. Not for pressure use. Color coded.

For Size	Color	Other Uses	Order Code	Each
14/20	Yellow	2mm bore ♦18	7597-14	6.68
24/40	Green	♦28	7597-24	7.02
29/42	Red	8mm bore	7597-29	7.15
45/50	Brown	—	7597-45	7.87

**7598****7598** ♦ **CLAMPS** *Plastic* ★

Constructed of Dupont Delrin, clip snaps on and off with ease. Non-corrosive, will not damage glass. Can be used to 140°C. Designed as ♦ joint clamp. Also can be used for clamping stopcock plugs and barrels or spherical joints. Not for pressure use. Color coded.

For Size	Color	Other Uses	Pkg. Qty.	Order Code	Per Pkg.
10/18	Lt. Green	—	10	7598-10	28.91
12/30	Violet	—	10	7598-12	30.85
14/20	Yellow	2mm bore ♦18	10	7598-14	32.07
19/22	Blue	4 x 6 bore	10	7598-19	33.28
24/40	Green	♦28	10	7598-24	34.51
29/42	Red	8mm bore	10	7598-29	35.71
34/45	Orange	—	10	7598-34	37.88
40/35	Dk. Yellow	—	10	7598-40	40.63
45/50	Brown	—	10	7598-45	43.05

7599 ₧ CLAMPS Metal ★

Nickel plated steel clip snaps on and off standard taper joints with ease and offers increased resistance to heating and cracking. Can be used to 200°C. Will not scratch glass.

For ₧ Size	Color	Other Uses	Order Code	Per Six
14/20	Yellow	2mm bore ₧18	7599-13	72.76
24/40	Green	₧28	7599-25	81.03

7600 CLAMPS Stainless Steel ★

These clamps will securely hold ₧ 10/30 to ₧ 45/50 joints — no screw needed. Will secure ₧ Thermometers, Vacuum Systems, Distillation Set-Ups, Chromatographic Columns, Evaporators, or any glass apparatus that has to be secured with springs or clamps. ₧ clamps are made to last, of corrosion-free stainless spring wire. Use proper clamp for designated joint size. Available as follows (minimum order, one package).

For ₧ Size	No. Per Package	Order Code	Per Package	For ₧ Size	No. Per Package	Order Code	Per Package
10/30	12	7600-05	151.78	24/40	12	7600-25	151.78
12/30	12	7600-10	154.64	29/42	8	7600-30	107.65
14/35	12	7600-15	154.64	34/45	6	7600-35	109.68
19/38	12	7600-20	154.64	45/50	6	7600-40	107.65

**7600
7601**



7601 ₧ CLAMPS Assorted ★

Same as 7600, but 24 assorted clamps to one package. Package contains the following ₧ clamp sizes: 10/30 (4), 12/30 (2), 14/35 (2), 19/38 (4), 24/40 (6), 29/42 (4), 34/45 (1) and 45/50 (1).

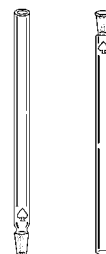
Order Code	Complete 24 pcs.
7601-10	296.12

7602 JOINTS Luer Type ♠

Standard luer type joint as found on syringes. Inside diameter through ground tip approximately 1.2mm.

Approx. Tube I.D., mm	Joint Type	Wall Thickness	Order Code	Each
1	Inner	Capillary	7602-10	10.39
1	Outer	Capillary	7602-15	12.52
2	Inner	Capillary	7602-20	10.39
2	Outer	Capillary	7602-25	12.52
4	Inner	Medium Wall	7602-30	10.39
4	Outer	Medium Wall	7602-35	12.52

7602

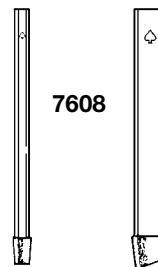


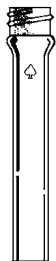
7608 JOINTS Inner Member, Microscale ♠

₧ inner ground joints used in fabrication of ACE Microscale Glassware. Use with 7609 outer member. Codes -11, -12 and -13 have drip tip.

₧ Size	O.D. x I.D., mm	Order Code	Each
5/5	5 x 2	7608-04	9.23
7/10	6 x 1	7608-06	9.23
7/10	6.35 x 4	7608-07	9.23
7/25	6.35 x 4	7608-09	9.23
10/10	6 x 1	7608-11	9.58
10/10	8 x 5	7608-12	9.58
14/10	12.7 x 9.5	7608-13	10.42

7608



**7609****7609 JOINTS** *Outer Member, Threaded, Microscale* ♠

§ outer ground joints with external thread for making an “O-Ring-CAP SEAL” connection with mating 7608 inner joint. Used in fabricating ACE Microscale Glassware. Joints **not** supplied with cap or O-Ring, see 9590 and 7855, below.

§ Size	O.D. x I.D., mm	Order Code	Each
7/10	14 x 11.5	7609-05	12.06
10/10	12.7 x 10	7609-07	12.28
10/10	16 x 13.5	7609-08	12.28
10/10	20 x 17.5	7609-09	12.28
14/10	20 x 17.5	7609-15	13.17
14/10	22 x 19.5	7609-17	13.17

9590 CAPS *Replacement* ♠

Used with 7609 Joints along with O-Ring to make an “O-Ring-CAP SEAL” connection and with GPI threads on Solid Phase Reaction Vessels. Solid supplied with PTFE-faced rubber liner. Open top caps do not have linings.

**9590-47****9590-55**

GPI Size	Type	For Use With	Pkg. Qty.	Order Code	Per Pkg.
5mm	With Hole	5/5 Joint	48	9590-44	6.10
13mm	With Hole	7/10 Joint	48	9590-45	7.85
13mm	Solid	7/10 Joint	48	9590-55	38.32
15mm	With Hole	10/10 Joint	48	9590-47	11.35
15mm	Solid	10/10 Joint	48	9590-58	41.41
20mm	With Hole	14/10 Joint	48	9590-46	14.84
20mm	Solid	14/10 Joint	48	9590-60	67.87
24mm	With Hole	—	48	9590-48	15.74
24mm	Solid	—	48	9590-64	79.86
38mm	With Hole	—	24	9590-50	13.37
38mm	Solid	—	24	9590-66	77.97

7855 O-RINGS ♠

Used with 7609 Joints along with Caps to make an “O-Ring-CAP SEAL” connection. O-Rings are fabricated of FETFE.

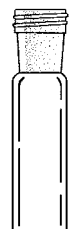
**7855**

Size	For Use With	Pkg. Qty.	Order Code	Per Pkg.
-010	7/10 Joint	12	7855-705	13.24
-011	10/10 Joint	12	7855-706	13.24
-112	14/10 Joint	12	7855-720	19.39

**7612-19****7612 JOINTS** *Inner Member, with Ring, Rodaviss* ★

§ inner ground glass joint with ring on shank for use with threaded outer member, O-Ring and cap to form a leak-tight seal. For cap, see 7616; for O-Ring, see 7617.

§ Joint	Order Code	Each	§ Joint	Order Code	Each
14/20	7612-19	10.10	24/40	7612-27	10.78
14/35	7612-21	12.17	29/42	7612-29	16.78
19/22	7612-23	13.04	45/50	7612-35	32.66

**7612-20****7612 JOINTS** *Outer Member, Threaded, Rodaviss* ★

§ outer member glass joint with external thread for use with inner member, O-Ring and cap to form a leak tight-seal. For cap, see 7616; for O-Ring, see 7617.

§ Joint	Order Code	Each	§ Joint	Order Code	Each
14/20	7612-20	11.06	24/40	7612-28	11.37
14/35	7612-22	11.62	29/42	7612-30	16.96
19/22	7612-24	12.76	45/50	7612-36	33.68

7613 JOINTS *Inner Member, w/Ring and Drip Tip, Rodaviss ★*

§ inner ground glass joint with drip tip and ring on shank for use with 7612 outer member, O-Ring and cap to form a leak-tight seal. For cap, see 7616; for O-Ring, see 7617.

§ Joint	Order Code	Each	§ Joint	Order Code	Each
14/20	7613-03	12.22	24/40	7613-11	13.04
19/22	7613-07	14.08	45/50	7613-17	35.82



7613

7616 CAP *Joint, with Hole, Rodaviss ★*

Threaded resin cap for use with 7617 O-Ring to secure 7612 or 7613 Inner Members to 7612 Outer Member joints.

For § Joints	Order Code	Each
14/20, 14/35	7616-17	1.83
19/22	7616-19	2.37
24/40	7616-21	2.58
29/42	7616-23	3.99
34/45	7616-25	5.68
45/50	7616-27	9.23



7616

7617 O-RING *Rodaviss ♦*

For use with 7612, 7613 and 7616 Rodaviss Joints and cap to form a leak-tight seal.

For § Joints	Pkg. Qty.	Order Code	Per Pkg. Nitrile	Order Code	Per Pkg. Viton
14/20, 14/35	12	7617-02	7.59	7617-13	15.36
19/22	12	7617-04	11.23	7617-15	17.85
24/40	6	7617-06	6.01	7617-17	15.18
29/42	6	7617-08	6.01	7617-19	16.38
34/45	6	7617-10	8.52	7617-21	25.30
45/50	3	7617-12	12.70	7617-23	15.64



7617

7618 LOOSENING RING *Polyamide, Rodaviss ★*

Use to free frozen joints. Insert between top of cap and ring on shank of inner member, unscrew cap and inner member will release.

For § Joint Size	Order Code	Each	For § Joint Size	Order Code	Each
14/20, 14/35	7618-03	1.30	29/42	7618-09	1.71
19/22, 19/38	7618-05	1.30	34/45	7618-11	2.11
24/40	7618-07	1.30	45/50	7618-13	2.11



7618

7620 CONNECTORS *Screwthread, GL* ★

Externally threaded glass connectors. For use as replacement on apparatus using the GL thread or when designing items where the external thread is preferred. Supplied in 100 mm overall length.



7620-14

GL Thread Dimensions, mm			
Thread Size	O.D.	Height	I.D.
14	13.75	12.0	8.45
18	17.5	15.5	11.0
25	24.5	18.5	18.0
32	31.5	16.0	23.0
45	44.5	26.0	34.5
120	119.5	21.0	106.0

Thread Size (GL No.)	Tubing O.D. x wall, mm	Order Code	Each
14	12 x 1.5	7620-14	4.97
18	16 x 1.8	7620-18	5.96
25	22 x 1.8	7620-25	7.08
32	28 x 2.0	7620-32	13.20
45	40 x 2.3	7620-45	42.34
120	120 x 5.0	7620-60	39.92

7621 CAP *with Hole, GL* ★

Open top cap for use with 7620 GL threads. When used with 7623 Hose Connection and 7624 Sealing Ring, will accommodate tubing of appropriate diameter. For use at -45°C to 200°C.



7621-04

For GL Thread Size	Order Code	Each
14	7621-04	2.06
18	7621-08	2.09
25	7621-15	2.61
32	7621-22	3.08
45	7621-25	5.46

7622 CAP *Solid, GL, with PTFE Liner* ★

Solid cap with PTFE liner* for use with 7620 GL threads. For use at -45°C to 200°C.



7622-103

For GL Thread Size	Order Code	Each
14	7622-103	2.67
18	7622-107	3.14
25	7622-114	4.68
32	7622-121	7.30
45	7622-124	10.69
120	7622-155	160.80

*120 GL size has a CAPFE O-Ring seal.

7623 HOSE CONNECTION *for GL Thread, with Rubber Seal* ★

Polypropylene hose connections with a silicone rubber seal for use with 7620 Screwthread Connector, sizes 14 and 18. Allows connection of tubing for cooling/heating, etc. to hose connection and securing to thread with 7621 Holed Cap. To remove, simply unscrew cap. Two styles: straight and bent, both are 8mm O.D. x 4mm I.D.



7623-20



7623-22

For GL Thread Size	Style	Order Code	Each
14	Bent	7623-20	2.09
14	Straight	7623-22	2.09
18	Bent	7623-24	9.05
18	Straight	7623-26	9.85

7624 SEALING RING *for GL Thread, with Rubber Seal* ★

Silicone rubber seal, for use with 7621 Holed Cap to allow sealing of tubing in 7620 Threads.

For GL Thread Size	Fits Tubing O.D., mm	Order Code	Each
14	5.5 to 6.5	7624-40	3.94
18	5.5 to 6.5	7624-42	5.03
18	9.0 to 11.0	7624-45	5.03
25	7.5 to 9.0	7624-47	7.07
25	11.0 to 13.0	7624-49	7.07
32	11.0 to 13.0	7624-52	11.17
45	25.0 to 27.0	7624-54	18.44



7624-40

7630 JOINTS *Inner Member* ♠

§ inner joint with reduced tube at both ends. Length of tube below joint is 100mm.

§ Size	O.D. Tube, mm	Order Code	Each
10/30	5	7630-04	16.95
14/35	7	7630-08	19.63
24/40	12	7630-12	23.58



7630

7635 JOINTS *Inner Member* ♠

§ inner joint with extending tube reduced in diameter.

§ Size	O.D. Tube, mm	Order Code	Each
14/20	7	7635-05	17.12
24/40	12	7635-10	20.83



7635

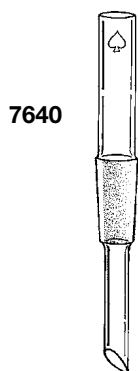
7636 JOINTS *Drip Tip* ♠

§ inner joint with an unconstricted 30° angle drip tip extending from bottom of joint.

§ Size	O.D. Tube, mm	Order Code	Each
24/40	22	7636-06	14.86

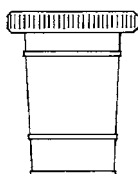


7636

**7640****7640 JOINTS** *Extended Drip Tip* ♠

♠ inner joint with lower tube reduced in diameter to size listed. Length of extended tube 101mm.

♠ Size	O.D. of Lower Tube, mm	Order Code	Each	♠ Size	O.D. of Lower Tube, mm	Order Code	Each
10/30	5	7640-02	13.99	24/40	12	7640-10	16.50
14/35	7	7640-06	16.36	29/42	13	7640-12	19.78
19/38	10	7640-08	15.68	34/45	14	7640-14	24.93

**7641****7641 PTFE SLEEVES** 0.4 mm ★

Sturdy. Reusable. Knurled, reinforced gripping ring for easy and safe removal from ♠ ground joints. Wall thickness is .4mm (.016 inches).

To Fit ♠ Size	Pkg. Qty.	Order Code	Per Pkg.
14/20	3	7641-04	20.55
24/40	3	7641-08	30.34
29/42	3	7641-10	41.10
34/45	3	7641-12	49.91
45/50	3	7641-16	78.28

**7642****7642 PTFE SLEEVES** 0.13 mm ★

Ground joint standard taper sleeve for greaseless connections. NOT intended for cementing. Wall thickness is .13mm (.005 inches).

To Fit ♠ Size	Pkg. Qty.	Order Code	Per Pkg.	To Fit ♠ Size	Pkg. Qty.	Order Code	Per Pkg.
7/10	3	7642-02	8.17	29/42	3	7642-15	10.10
10/10	3	7642-04	8.17	34/45	3	7642-19	10.58
10/18	3	7642-03	8.66	45/50	3	7642-23	18.76
14/10	3	7642-06	6.74	60/50	1	7642-25	8.82
14/20	3	7642-07	7.22	71/60	1	7642-27	10.25
24/40	3	7642-11	7.70	103/60	1	7642-31	14.11

**7643****7643 PTFE SLEEVES** 0.050mm ★

This sleeve provides a vacuum-tight seal to a ground joint without grease wherever used. The sleeve is an elongated cone of polytetrafluorethylene film, 0.050mm (.002 inches) thick, accurately tapered to fit tightly over the male ground glass cone, in sizes from ♠ 10/30 to 55/50 inclusive.

Sleeve completely eliminates the problem caused by seizure of joints, as well as precludes contamination due to stopcock lubricants and "leaking" ground joints.

To Fit ♠ Size	Order Code	Per Pkg. of 3	Order Code	Per Pkg. of 12	To Fit ♠ Size	Order Code	Per Pkg. of 3	Order Code	Per Pkg. of 12
7/10	7643-01	4.30	7643-101	17.17	29/42	7643-10	4.22	7643-110	16.91
10/10	7643-05	4.30	7643-105	17.17	34/45	7643-12	4.63	7643-112	18.48
10/30	7643-02	3.57	7643-102	14.28	45/50	7643-16	5.84	7643-116	23.38
14/10	7643-07	4.30	7643-107	17.17	60/50	7643-25	7.72	7643-125	30.90
14/20	7643-09	3.91	7643-109	15.59	71/60	7643-29	10.55	7643-129	42.14
19/38	7643-06	3.57	7643-106	14.28	103/60	7643-34	42.60	7643-134	170.33
24/40	7643-08	4.10	7643-108	16.39					

7551 PTFE SLEEVES .38mm ★

Designed for use with § inner member regular joints with only a slight mismatch. Treated on inner surface so that it may be cemented to glass with ACE 7560 epoxy adhesive. Sleeves may also be used uncemented to replace lubricant at low pressure differentials. ACE PTFE sleeves are accurately shaped to 1:10 taper; rugged — approximately .38mm (.015-inch) wall thickness.

§ Size	Order Code	Each	§ Size	Order Code	Each
10/30	7551-02	13.43	29/42	7551-14	16.96
14/20	7551-06	14.62	34/45	7551-16	18.40
14/35	7551-08	14.62	40/50	7551-18	19.61
19/22	7551-09	15.03	45/50	7551-20	21.83
19/38	7551-10	15.03	50/50	7551-22	22.39
24/40	7551-12	16.40	55/50	7551-24	24.56



7556 PTFE SLEEVES for Spherical Joints, .38mm ★

Used in place of lubricant for average laboratory use — not intended for high vacuum use unless cemented to glass with ACE 7560 epoxy adhesive. Rugged — approximately .38mm (.015-inch) wall thickness.

§ Size	Order Code	Each	§ Size	Order Code	Each
12/5	7556-02	12.59	35/25	7556-10	15.41
18/9	7556-04	12.59	50/30	7556-12	18.27
28/15	7556-06	13.20	65/40	7556-14	20.94
35/20	7556-08	15.41			



7557 JOINTS Ball Member, Spherical ♠

For use with PTFE sleeves; ground slightly undersize so that with 7556 sleeves in place, joint conforms to standard § dimensions.

§ Size	O.D. of Tube, mm	Order Code	Each	§ Size	O.D. of Tube, mm	Order Code	Each
12/5	9	7557-02	20.89	28/15	19	7557-06	25.32
18/9	13	7557-04	23.37	35/25	28	7557-10	30.15

7558 JOINTS Socket Member, Polished, Spherical ♠

Recommended for use with PTFE-clad ball member. Polished surface does not wear PTFE, assures more precise fit than the standard ground surface.

§ Size	O.D. of Tube, mm	Order Code	Each	§ Size	O.D. of Tube, mm	Order Code	Each
12/5	9	7558-02	11.93	35/20	25	7558-08	17.14
18/9	13	7558-04	12.34	35/25	28	7558-10	17.14
28/15	19	7558-06	14.41				

7560 EPOXY ADHESIVE ♠

A two component epoxy system, which cures to a chemical resistant film. The epoxy is used to tightly bond a PTFE sleeve to a glass joint. Supplied in 30mL jars with the activator in a separate container. The 30mL supply will cement at least 25 joints depending on size.

Order Code	Each
7560-10	32.06



7560

Reference Guide to Ace-Thred Sizes

	Size	Accepts Tube O.D., mm	Use Bushing Number	Use With O-Ring No.	Optional Ferrule	Suggested Uses
Mini	#7	6-7	5029-10	7855-704	11710-07	A, B, I
Midi	#11	9-10.5	7506-02	7855-708	11710-11	D, E, F, G
Maxi	#15	12.5-14	7506-06	7855-716	11710-15	C, H
	#18	16-17	7506-08	7855-720	11710-18	H, L
Giant	#25	24-25	7506-10	7855-734	11710-25	K
	#36	34-35	7506-12	7855-740	—	K, L
Jumbo	#50	47-48	7506-14	7855-744	11710-50	K, L
	#80	80	7506-20	7855-782	—	—

A—Thermometers, B—Bleed Tubes, C—Electrodes, D—Sensing Probes, E—Thermowells,
F—Gas Dispersion Tubes, G—Vacuum Take-Offs, H—Inlet and Outlet Tubes,
I—Miniature Electrodes, K—Manifolds, L—Immersion Wells

7644 CONNECTORS Threaded, Ace-Thred, Glass ♠

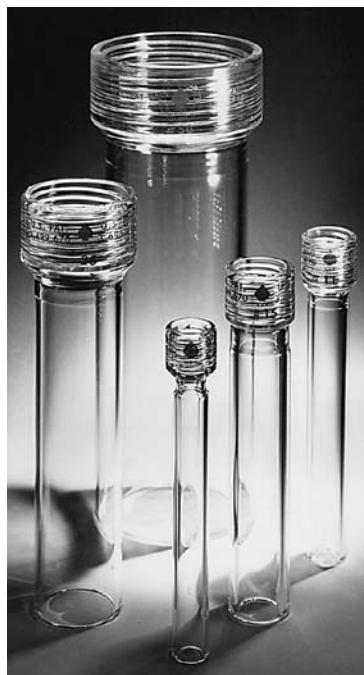
Internally threaded glass connectors. For use in place of ground glass joints on flasks, columns, etc. Threads offer positive pressure O-Ring seal when used with fittings like 5837, 5838, 5840-5846, and 7506. Size mm refers to I.D. of tubing below thread. **Fittings for all sizes must be ordered separately.**

Size mm	O.D. of Tube, mm	O.D. of Thread, mm	Order Code	Each
7	12.5	18	5027-05	11.39
11	16	22	7644-10	13.10
15	23	26	7644-15	14.54
18	25	29	7644-18	17.46
25	32	41	7644-20	18.92
36	45	51	7644-22	39.06
50	57	71	7644-25	48.57
80	102	110	7644-36	72.92

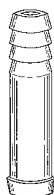
7644 CONNECTORS Threaded, Ace-Thred, Stainless Steel ★

Same internal thread as above, except fabricated from 18-8 type 303 free machining Stainless Steel. Use with couplings and plugs 5837, 5838, 5840-5846, and 7506 for positive pressure O-Ring seal. Size mm refers to I.D. of tubing below thread. **Fittings for all sizes must be ordered separately.**

Size mm	O.D. of Tube, mm	O.D. of Thread, mm	Order Code	Each
7	14	18	7644-70	54.19
11	17	22	7644-72	60.24
15	22	26	7644-76	68.34
25	34	41	7644-79	132.35
36	49	51	7644-81	171.80



7644-10
7644-70



5853

5853 CONNECTOR Tubing, PTFE ♠

PTFE tubing connector, used to connect flexible tubing to #15 Ace-Thred for easy connect/disconnect. 7506-06 Nylon bushing, supplied with 5902, 5905 and 5908 columns, slides over serrated end and secures connector in thread. (Note: O-Ring supplied with bushing is not needed when using this connector.) With tubing attached at serrated end, unthread bushing and connector is removed from thread. Vacuum tight. Serrations are 14mm O.D. for 1/2-inch I.D. tubing. For bushing only, order 7506-06.

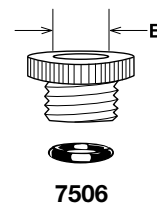
	Order Code	Each
Connector, PTFE, only	5853-07	17.80

7506 BUSHING ♦

Bushing connector for use with Ace-Threds, threaded glass or S-S Connectors, for joining threaded end to a reduced end tube. Available in either Nylon* or PTFE. One FETFE O-Ring supplied with each bushing. For replacement O-Rings, see 7855.

For Size	B, mm	O-Ring Size	Order Code	Nylon	Order Code	PTFE
7	7.5	-008	5029-10	2.27	5029-35	10.98
11	10	-012	7506-02	9.31	7506-23	30.89
15	14	-110	7506-06	10.09	7506-27	31.56
18	17	-112	7506-08	16.84	7506-29	38.40
25	26	-212	7506-10	17.29	7506-31	43.59
36	36	-217	7506-12	41.23	7506-33	84.24
50	49	-225	7506-14	59.84	7506-35	94.93
80	80.7	-336	7506-20*	77.92	7506-39	149.52

*7506-20 fabricated from High Density Polyethylene.



7506

5844 ADAPTER FOR SWAGelok ♦

Adapter used with Ace-Threds for connecting tubing to threaded glass via a Swagelok®-type connection. One end Ace-Thred, the other end has an NPT female thread. Supplied with one FETFE O-Ring. For replacement O-Rings, see 7855. Adapters available in either Nylon or PTFE. ***Codes -40 & -41 are Fabricated from High Density Polyethylene.**



5844

(Other NPT sizes are available.)

NYLON

NPT Code (In.)	Order Code	#7 Thread	Order Code	#11 Thread	Order Code	#15 Thread	Order Code	#25 Thread	Order Code	#36 Thread	Order Code	#50 Thread	Order Code	#80 Thread
1/8	5844-16	30.51	5844-18	35.24	5844-20	37.25	5844-22	47.82	5844-23	63.72	5844-24	76.27	—	—
1/4	—	—	—	—	5844-34	37.25	5844-36	47.82	5844-37	63.72	5844-38	76.27	5844-40*	118.09
3/8	—	—	—	—	—	—	—	—	—	—	5844-39	76.27	5844-41*	118.09

PTFE

NPT Code (In.)	Order Code	#7 Thread	Order Code	#11 Thread	Order Code	#15 Thread	Order Code	#25 Thread	Order Code	#36 Thread	Order Code	#50 Thread	Order Code	#80 Thread
1/16	5844-42	31.43	5844-44	47.73	5844-46	53.21	5844-48	69.85	5844-49	95.36	—	—	—	—
1/8	5844-58	31.43	5844-60	47.73	5844-62	53.21	5844-64	69.85	5844-65	95.36	—	—	—	—
1/4	5844-72	31.43	—	—	5844-74	53.21	5844-76	69.85	5844-77	95.36	5844-78	135.21	5844-80	189.25
3/8	—	—	5844-81	47.73	—	—	—	—	—	—	5844-85	135.21	5844-87	189.25
3/4	—	—	—	—	—	—	—	—	5844-95	95.36	5844-97	135.21	5844-98	189.25
1/2	—	—	—	—	5844-103	53.21	5844-104	69.85	5844-106	95.36	5844-107	135.21	5844-108	189.25

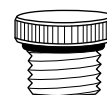
5845 PLUG Nylon* or PTFE ♦

A solid plug for use as a stopper with Ace-Threds. Supplied with one FETFE O-Ring. For replacement O-Rings, see 7855.

For Thread Size, mm	O-Ring Size	Order Code	Nylon	Order Code	PTFE
7	-014	5845-03	12.59	5845-43	25.35
11	-114	5845-05	12.59	5845-45	25.35
15	-210	5845-10	15.34	5845-47	29.95
18	-212	5845-12	20.89	5845-48	39.20
25	-220	5845-15	24.82	5845-49	45.61
36	-223	5845-17	44.97	5845-50	88.57
50	-229	5845-20	60.43	5845-51	112.82
80	-343	5845-30*	74.02	5845-56	171.42

*Code 5845-30 is fabricated from High Density Polyethylene.

BACK SEAL



5845

5846 PLUG *Nylon* or PTFE* ♠

A solid plug for use as a stopper with Ace-Threds. Supplied with one FETFE O-Ring. For replacement O-Rings, see 7855.

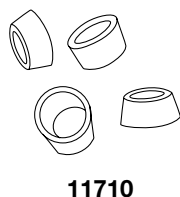


For Thread Size	O-Ring Size	Order Code	Nylon	Order Code	PTFE
7	-009	5846-04	7.68	5846-44	17.56
11	-012	5846-06	13.71	5846-46	25.48
15	-110	5846-12	18.00	5846-48	30.46
18	-113	5846-14	22.64	5846-49	39.36
25	-212	5846-16	30.17	5846-50	47.23
36	-125	5846-18	47.88	5846-51	101.58
50	-225	5846-22	70.63	5846-52	129.31
80	-235	5846-27*	84.40	5846-60	184.63

*Code 5846-27 is fabricated from High Density Polyethylene.

11710 FERRULES *PTFE* ★

Single-piece PTFE Ferrule¹ used in place of O-Rings with Ace-Threds to avoid possible contamination from O-Ring compounds. Also enables the use of smaller outside diameter tubes with a given size Ace-Thred and still maintain tight conditions. For instance, the #7 Ace-Thred, 5027-20, with O-Ring accepts a 7 mm O.D. tube. By inserting a 6.4 mm PTFE ferrule in place of the O-Ring, the #7 thread will now accept as small as a 6.4 mm O.D. tube.



Size	Use with ACE Thread Size	For Tube O.D., mm (In.)	Package Quantity	Order Code	Per Package
3	7	3.2 (1/8)	12	11710-03	19.28
7	7	6.4 (1/4)	12	11710-07	23.46
11	11	9.5 (3/8)	12	11710-11	29.80
15	15	12.7 (1/2)	12	11710-15	31.56
18	18	15.9 (5/8)	6	11710-21	32.07
25	25	25.4 (1)	6	11710-25	31.68
50	50	50.8 (2)	6	11710-50	45.23

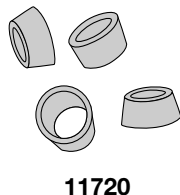
Solid PTFE Ferrule, for drilling special size hole

Size	Use with ACE Thread Size	Package Quantity	Order Code	Per Package
7S	7	12	11710-104	22.46
11S	11	12	11710-106	28.35
15S	15	12	11710-108	30.79
18S	18	6	11710-110	30.35
25S	25	6	11710-112	30.94
50S	50	6	11710-114	44.58

¹Ferrules are not always suitable for vacuum applications.

11720 FERRULES *Graphite, High Temperature* ★

Single piece, high purity graphite ferrules¹ — no back ferrule needed, no organic binders used. Ideal for glass-to-glass or glass-to-metal connections. All sizes are used with #7 Ace-Thred. Due to their high purity and unique properties, these ferrules make a monomolecular seal — one of the strongest seals known. Suitable for pressure or vacuum work at temperatures up to 460°C. Supplied in packages of 10.



Size	For Tubing O.D., mm (In.)	Order Code	Per Package
B	1.0 (.04)	11720-12	51.31
D	1.6 (1/16)	11720-16	46.98
E	3.2 (1/8)	11720-18	49.46
F	6.4 (1/4)	11720-20	49.46

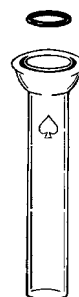
¹Ferrules are not always suitable for vacuum applications.

7646 JOINTS O-Ring Seal ♠

Designed by W. R. Doty, Chevron Research Corporation, Richmond, CA. Tooled with groove to take O-Ring and provide greaseless, vacuum-tight connection. Joints (codes -02 thru -16) are held together with 7669 or 7670 Pinch Type Clamps; code -18 is secured by using 6509-03. O-Rings are FETFE and may be used to 230°C. Each joint is furnished with an O-Ring so you get a spare O-Ring with every two joints purchased. For replacement O-Rings, see 7855.

Approx. I.D., mm	Approx. O.D. of Stem, mm	Use Clamp No.	O-Rings Size	Order Code	Each
5	8	7669-08	-110	7646-02	8.25
7	10	7669-10	-111	7646-04	8.80
9	13	7669-10	-112	7646-06	9.05
15	19	7669-12	-116	7646-08	9.60
20	25	7669-14	-214	7646-10	11.63
25	28	7669-14	-217	7646-12	11.63
40	45	7669-20	-226	7646-14	24.88
50	57	7669-22	-229	7646-16	30.45
75	83	6509-03	-341	7646-18	45.55

ACE O-Ring joints can be supplied in Stainless Steel. Email or call for information.



7646

7648 JOINTS O-Ring Seal, § ♠

§ inner member ground joint with groove for O-Ring. For use with outer members 7565, 7566, 7567, 7651, and 7652. Leak-proof at high vacuum (up to 1 x 10⁻⁸ mm Hg.). O-Ring permits use without grease. Supplied with one FETFE O-Ring. For replacement O-Rings, see 7855.

§ Size	Approx. O.D. of Stem, mm	O-Ring Size	Order Code	Each
12/30	10	-011	7648-06	11.66
14/20	12	-012	7648-07	13.28
14/35	12	-012	7648-08	13.28
19/22	17	-111	7648-09	16.37
19/38	17	-111	7648-10	16.37
24/40	22	-115	7648-12	16.37
29/42	25	-118	7648-14	16.80



7648

7649 JOINTS O-Ring Seal, Spherical Ball ♠

§ spherical ball, precision ground, with groove for O-Ring, for use with matching socket members. Leak-proof at high vacuums when clamped. O-Ring permits use without grease. Supplied with one FETFE O-Ring. For replacement O-Rings, see 7855. See 7669 or 7670 for clamps.

§ Size	Approx. O.D. of Stem, mm	O-Ring Size	Order Code	Each
12/5	9	-011	7649-11	13.24
18/9	13	-014	7649-23	13.91
28/15	19	-116	7649-41	15.14
35/25	28	-118	7649-53	18.79



7649



7651-04

7651-02

7651 JOINTS *Stainless Steel, \$ ★*

Interchangeable, full length. These joints are machined from 18-8 type 303 free machining Stainless Steel and are supplied in accordance with CS21-58 of the N.I.S.T., O.D. and I.D. dimensions approximately the same as the glass joints listed under 7565. Shanks are machined for thread size listed, but are NOT threaded.

Size	Thread Size (In.)	O.D. (In.)	Inner		Outer	
			Order Code	Each	Order Code	Each
10/30	—	.345	7651-02	76.03	7651-04	96.00
24/40	1/2	.840	7651-20	153.84	7651-22	172.29
29/42	3/4	1.050	7651-26	186.05	7651-28	222.25



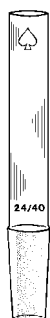
7651-222

7651-220

7651 JOINTS *Stainless Steel, Threaded, \$ ★*

Same as listed under 7651 above, except these joints ARE machined with NPT male thread.

Size	Thread Size (In.)	O.D. (In.)	Inner		Outer	
			Order Code	Each	Order Code	Each
24/40	1/2	.840	7651-220	185.14	7651-222	204.99
29/42	3/4	1.050	7651-226	236.75	7651-228	271.62



7652-02

7652 JOINTS *Inner Member, Quartz ♠*

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
10/30	8	7652-02	38.94	40/50	35	7652-38	85.43
12/30	10	7652-08	39.06	45/50	40	7652-44	108.87
19/38	17	7652-14	58.40	50/50	45	7652-50	122.87
24/40	21.6	7652-20	51.41	55/50	50	7652-56	130.31
29/42	25	7652-26	54.79	60/50	54	7652-62	141.50
34/45	30	7652-32	68.55	71/60	64	7652-68	156.41



7652-04

7652 JOINTS *Outer Member, Quartz ♠*

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
10/30	11	7652-04	44.76	40/50	40	7652-40	96.54
12/30	14	7652-10	45.90	45/50	45	7652-46	115.41
19/38	20	7652-16	52.63	50/50	48	7652-52	130.31
24/40	25	7652-22	56.83	55/50	54	7652-58	135.91
29/42	30	7652-28	62.67	60/50	64	7652-64	147.11
34/45	35	7652-34	73.96	71/60	64	7652-70	167.59

7655 JOINTS *Ball Member, Spherical* ♠

Full length, standard wall. U.S. Reissue Patent No. 22181. These famous ACE spherical joints are precision ground and vacuum-leak-tested for fit and interchangeability.

Size	Dia. of Ball, mm	O.D. of Tube, mm	Order Code	Each	Size	Dia. of Ball, mm	O.D. of Tube, mm	Order Code	Each
12/3	12	6	7655-04	12.74	35/20	35	25	7655-46	14.81
12/5	12	9	7655-10	11.28	35/25	35	28	7655-52	14.81
18/7	18	11	7655-16	11.58	50/30	50	35	7655-58	29.89
18/9	18	13	7655-22	11.28	65/40	65	45	7655-64	44.84
28/11	28	16	7655-28	13.63	75/50	75	57	7655-70	53.77
28/12	28	16	7655-34	11.77	102/75	102	83	7655-76	73.78
28/15	28	19	7655-40	11.58					



7655-04

7655 JOINTS *Socket Member, Spherical* ♠

Size	Fits Ball, mm	O.D. of Tube, mm	Order Code	Each	Size	Fits Ball, mm	O.D. of Tube, mm	Order Code	Each
12/3	12	6	7655-06	12.74	35/20	35	25	7655-48	14.51
12/5	12	9	7655-12	11.28	35/25	35	28	7655-54	14.51
18/7	18	11	7655-18	11.58	50/30	50	35	7655-60	29.44
18/9	18	13	7655-24	11.14	65/40	65	45	7655-66	44.53
28/11	28	16	7655-30	16.69	75/50	75	57	7655-72	56.69
28/12	28	16	7655-36	11.14	102/75	102	80	7655-78	72.51
28/15	28	19	7655-42	11.28					



7655-06

7656 JOINTS *Ball Member, Spherical, Heavy Wall* ♠

Size	I.D. of Tube, mm	O.D. of Tube, mm	Wall Thickness, mm (inches)	Order Code	Each
35/25	25	32	3.5 (1/8)	7656-10	28.77
50/30	30	38	3.5 (1/8)	7656-22	40.11
65/40	40	51	4 (5/32)	7656-28	56.63



7656-10

7656 JOINTS *Socket Member, Spherical, Heavy Wall* ♠

Size	I.D. of Tube, mm	O.D. of Tube, mm	Wall Thickness, mm (Inches)	Order Code	Each
35/25	25	32	3.5 (1/8)	7656-12	31.79
50/30	30	38	3.5 (1/8)	7656-24	45.89
65/40	40	51	4 (5/32)	7656-30	63.62



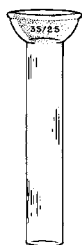
7656-12

7657 JOINTS *Ball Member, Spherical, Quartz* ♠

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
12/5	8	7657-10	43.67	35/20	24	7657-28	74.70
18/7	10	7657-13	44.65	35/25	29	7657-31	77.39
18/9	12	7657-16	44.65	50/30	35	7657-34	150.45
28/15	18	7657-25	55.78				



7657-10

**7657-11****7657 JOINTS** *Socket Member, Spherical, Quartz* ♦

\$ Size	O.D. of Tube, mm	Order Code	Each	\$ Size	O.D. of Tube, mm	Order Code	Each
12/5	8	7657-11	43.67	35/20	24	7657-29	78.31
18/7	10	7657-14	44.89	35/25	29	7657-32	80.13
18/9	12	7657-17	44.89	50/30	35	7657-35	154.10
28/15	18	7657-26	55.89				

**7658****7658 JOINTS** *Stainless Steel, Spherical* ★

Fabricated from 18-8 type Stainless Steel No. 303 free machining. Inside diameter the same as our glass joints, 7655, and are fully interchangeable. Can also be supplied from other metals, made to order. Shanks are machined for thread sizes listed, but are NOT threaded.

\$ Size	Thread Size (In.)	O.D. (In.)	Ball		Socket	
			Order Code	Each	Order Code	Each
12/5	1/8	.405	7658-08	68.76	7658-10	85.52
18/9	1/4	.540	7658-20	93.50	7658-22	116.80
28/12	1/2	.840	7658-32	133.25	7658-34	151.53
28/15	1/2	.840	7658-38	133.25	7658-40	151.53
35/25	1	1.315	7658-50	156.22	7658-52	193.79
40/25	1	1.315	7658-56	196.85	7658-58	216.30
50/30	1-1/4	1.660	7658-62	249.75	7658-64	346.38

**7658-210****7658-208****7658 JOINTS** *Stainless Steel, Spherical, Threaded* ★

Same as previous item 7658, except these joints ARE machined with an NPT male thread.

\$ Size	Thread Size (In.)	O.D. (In.)	Ball		Socket	
			Order Code	Each	Order Code	Each
12/5	1/8	.405	7658-208	117.41	7658-210	132.11
18/9	1/4	.540	7658-220	159.25	7658-222	183.45
28/12	1/2	.840	7658-232	223.08	7658-234	240.70
28/15	1/2	.840	7658-238	223.08	7658-240	240.70
35/25	1	1.315	7658-250	343.43	7658-252	380.12

**7660****7660 JOINTS** *Capillary, Spherical* ♦

\$ Size	Diameter of Ball, mm	I.D. of Tube, mm	Ball		Socket	
			Order Code	Each	Order Code	Each
12/2	12	2	7660-14	15.98	7660-16	19.89

**7663****7663 SOCKET** *Rubber Septum* ♦

End tooled to accept rubber stopper septum. Used on Chromatographic columns. Overall length 15cm, opening is 5mm. Rubber septum listed below. Socket also works well with 12898 Septum.

Tube I.D., mm	Tube O.D., mm	Order Code	Each
4	6.4	7663-01	6.62
2	7.5	7663-02	6.62
3	7.8	7663-04	6.62
Rubber stopper/doz.		9096-32	13.44

For use with #7 Ace-Thred, see 7644 for listing.

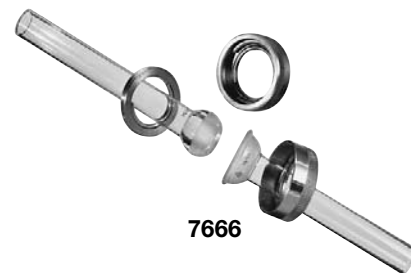
7666 CLAMPS *Spherical Joint, Union Type* ♦

U.S. Patent #2,388,633, fabricated from aluminum. This type clamp affords a positive, uniform clamping pressure.

Size	For $\S$ Joint	Order Code	Each	Size	For $\S$ Joint	Order Code	Each
12	12/1 to 12/5	7666-05	32.99	28	28/11 to 28/15	7666-15	33.36
18	18/7 to 18/9	7666-10	34.29	35	35/20 to 35/25	7666-20	40.78
				65	65/40	7666-30	143.10

Spanner Wrench

For Codes	Order Code	Each
-05 thru -20	7666-50	4.99
-30	7666-54	4.99



7666

7668 CLAMPS *Spherical Joint, Plastic* ★

Constructed of Dupont Delrin, clip snaps on and off with ease. Non-corrosive, will not damage glass. Can be used to 140°C. Designed as $\S$ joint clamp. Not for pressure work. Color coded.

For $\S$ Joint	For O-Ring Joint I.D., mm	Color	Package Quantity	Order Code	Per Pkg.
12/5	—	Dk. Violet	10	7668-12	35.27
18/7, 18/9	7 & 9	Lt. Blue	10	7668-18	37.15
28/11, 28/15	15	Dk. Red	10	7668-28	39.00
35/20, 35/25	20 & 25	Lt. Orange	10	7668-35	43.59



7668

7669 CLAMPS *Pinch Type, Stainless Steel* ★

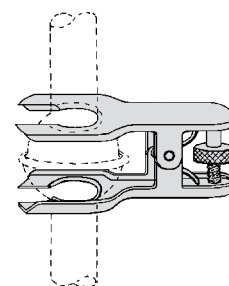
ALL STAINLESS STEEL pinch clamps for use with O-Ring and ball and socket joints. Sizes 12 and 18 are available either spring loaded or with a screw-locking device. All other sizes have the screw-locking feature. **Only screw-locking clamps should be used with O-Ring joints.**

Spring Loaded

Size No.	$\S$ Joint Size	Order Code	Each
12	12/5	7669-03	6.95
18	18/9	7669-05	7.70

With Screw-Locking Device

12	12/5	7669-08	12.75
18	18/9	7669-10	12.75
28	28/15	7669-12	14.75
35	35/25	7669-14	16.50
40	—	7669-16	37.00
50	50/30	7669-18	28.50
65	65/40	7669-20	32.00
75	75/50	7669-22	65.00
102	102/75	7669-26	199.75



7669

**8455****8455 GRADED SEALS** *Quartz to Borosilicate* ★

For connecting Kimax, Pyrex, Simax or Duran 33 Expansion Borosilicate glass parts to quartz. Quartz length is 7.6 cm, glass length, 10.2 cm.

I.D., mm	Order Code	Each	I.D., mm	Order Code	Each
3	8455-02	34.50	17	8455-28	75.01
4	8455-04	35.58	19	8455-30	78.97
5	8455-06	35.93	20	8455-32	87.60
6	8455-08	36.12	22	8455-34	93.57
7	8455-10	36.29	25	8455-36	101.83
8	8455-12	43.99	27	8455-38	121.23
9	8455-14	45.39	30	8455-40	133.87
10	8455-16	49.77	32	8455-42	150.68
11	8455-18	53.81	35	8455-44	167.49
12	8455-20	56.06	37	8455-46	188.71
13	8455-22	58.01	40	8455-48	195.04
15	8455-24	64.92	50	8455-50	369.52
16	8455-26	69.94			

**8468****8468 TUBE** *Break Seal* ♠

Used as a one-time opening valve. Drawn to a point so that a small weight will fracture seal.

Tube O.D., mm	Order Code	Each
10	8468-03	15.36
3	8468-05	16.25
16	8468-07	16.99

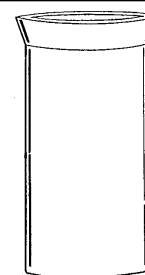
**7678-12****7678 JOINTS** *Flask Length, Outer Member* ♠

Size	O.D. of Tube, mm	Order Code	Each	Size	O.D. of Tube, mm	Order Code	Each
#13	17	7678-12	9.83	#27	32	7678-28	13.53
#16	20	7678-15	10.65	#32	38	7678-32	19.92
#22	25	7678-24	12.97	#38	45	7678-36	23.60

15305 FLANGE *Reaction Flask, Conical* ♦

Conical-type flange used to fabricate reaction flasks. Supplied on medium-wall tubing. Use 6496 Standard Clamp.

Flange I.D., mm	Stem O.D., mm	Stem Lgth., mm	Order Code	Each
105	114	152	15305-20	105.23

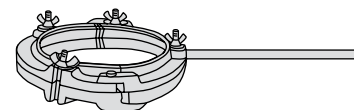


15305

6496 STANDARD CLAMP ♦

Used with 15305 Conical Flanges. See above for details.

	Order Code	Each
Complete	6496-10	159.09
Extra Liner only, (set of 4)	6496-30	15.96



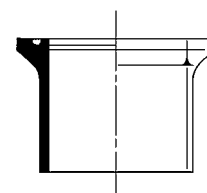
6496

15310/15311 FLANGE *Reaction Flask, Schott-style* ★

Schott-style flange used to fabricate reaction flasks. Offered with or without groove. Use 6517 "Quick Release" Clamp. O-Rings for grooved flanges can be found on page 483.

WITH O-Ring GROOVE

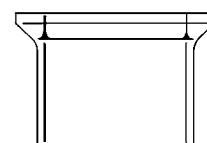
Flange I.D., mm	Flange O.D., mm	Overall Hght.,mm	Stem O.D., mm	Order Code	Each
60	100	50	68	15310-15	47.40
100	138	60	106	15310-20	84.49
120	158	60	130	15310-22	94.17
150	184	75	155	15310-25	138.22
200	241	75	215	15310-30	179.62



15310

WITHOUT O-Ring GROOVE

Flange I.D., mm	Flange O.D., mm	Overall Hght.,mm	Stem O.D., mm	Order Code	Each
60	100	50	68	15311-16	47.97
100	138	60	106	15311-21	70.63
120	158	60	130	15311-23	107.38
150	184	75	155	15311-26	143.53
200	241	75	215	15311-31	189.56



15311

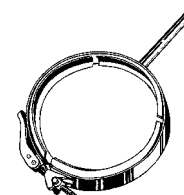
6517 CLAMP ★

For use with Schott flanges. See above for details.

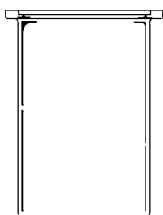
For Flange Size, mm (In.)	Without Extension		With Extension	
	Order Code	Each	Order Code	Each
60	6517-22	77.67	—	—
100 (4)	6517-25	87.69	6517-54	140.08
120 (4.8)	6517-24	102.19	—	—
150 (6)	6517-27	104.98	6517-56	152.69
200 (8)	6517-31	128.21	6517-60	176.42



6517-22



6517-54

**15316****15316 FLANGE** *Reaction Flask, Flat* ♠

Flat-style flange used to fabricate reaction flasks like 6511. Offered with or without groove. Use 6508 or 6510 Clamp. O-Ring for Codes -04 and -08 can be found on page 554.

WITH O-Ring GROOVE

Flange I.D., mm	Flange O.D., mm	Overall Hght.,mm	Stem O.D., mm	Order Code	Each
105	137	150	114	15316-04	95.43
130	168	150	140	15316-08	196.28

WITHOUT O-Ring GROOVE

Flange I.D., mm	Flange O.D., mm	Overall Hght.,mm	Stem O.D., mm	Order Code	Each
105	137	150	114	15316-25	95.43
130	168	150	140	15316-30	196.28

**6508****6510****6508/6510 CLAMP** ★

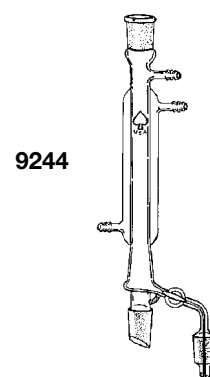
For use with Flat flanges, above.

For I.D., mm	Order Code	Each	For I.D., mm	Order Code	Each
105	6508-06	188.52	105	6510-05	142.64
130	6508-11	204.44	105	6510-10	162.49

9244 CONDENSER & ANALYTICAL STILL HEAD COMBINED ♦

By closing stopcock, serves as a reflux condenser; open serves as a still head for Claisen type distillation. Top joint can be used for thermometer or cold finger condenser insertion. Side vent enables head to be used in vacuum distillation. Jacketed section 140mm.

§ Joints	Order Code	Each
14/20	9244-06	290.23



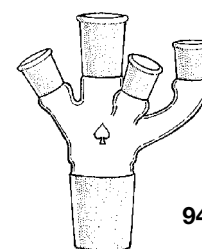
9244

MINI-LAB®

9443 FLASK HEAD ♦

Standard interchangeable Mini-Lab head for use with 9448-05 thru -15, 9451 or 9456 Flasks. Top has § 14/20 joints with the exception of top center joint which is § 19/38, large center joint is § 45/50. Side arms are placed at the proper angle so that the thermometer or addition tube can be placed in the flask without interfering with stirring.

Bottom Inner Joint	Order Code	Each
§ 45/50	9443-10	164.05

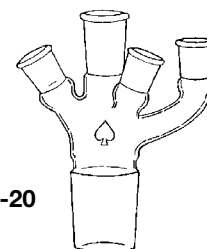


9443-10

9443 FLASK HEAD ♦

Interchangeable Mini-Lab head for use with 9448-50 or 9450 Flasks. Top polished joints, § 19/38 polished center and § 14/20 polished sides. Side arms are placed at the proper angle so that the thermometer or addition tube can be placed in the flask without interfering with stirring. PTFE-clad bottom joint.

Bottom Inner Joint	Order Code	Each
§ 45/50	9443-20	224.87

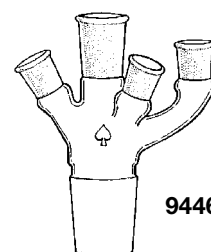


9443-20

9446 FLASK HEAD ♦

Interchangeable Mini-Lab head with § 45/50 bottom joint. Top § 19/38 center joint, and § 14/20 side necks. Side arms are placed at proper angles so that a thermometer or addition tube may be placed in the flask without interfering with the stirring. For use with 9448-50 or 9450 Flasks. PTFE-clad bottom joint.

Bottom Inner Joint	Order Code	Each
§ 45/50	9446-10	218.81

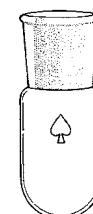


9446

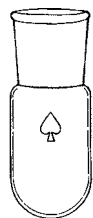
9448 FLASK ♦

Round bottom, cylindrical sides. Useful in many Mini-Lab Assemblies. Can also be applied to many other applications in the laboratory where a wide-mouthed flask of small capacity is desired. Glas-Col heaters listed under 9515. Use with 9443 Head. For mantle, see 9515.

Capacity, mL	§ Joint	Order Code	Each
50	45/50	9448-05	40.56
100	45/50	9448-10	41.45
150	45/50	9448-15	43.55

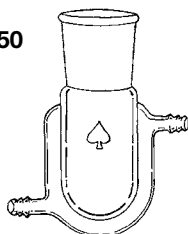


9448-05

**9448-50****9448 FLASK** *with Polished Joint* ♦

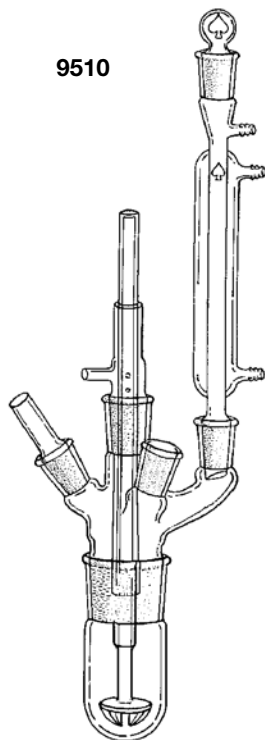
§ 45/50 joint is polished to fit 9443-20 or 9446 Head. Round bottom, cylindrical sides, useful in many Mini-Lab assemblies and in other applications where a wide-mouth flask of small capacity is desired. Glas-Col heaters (ACE Cat. No. 9515) can be used with this flask.

Capacity, mL	§ Joint	Order Code	Each
100	45/50	9448-50	84.16

9450**9450 FLASK** *Jacketed, with Polished Joint* ♦

Jacketed version of standard 9448 Flask. Furnished with polished § 45/50 outer joint so that it can be used with 9443-20 or 9446 Heads.

Capacity, mL	§ Joint	Order Code	Each
100	45/50	9450-08	200.10

9510**9510 GAS EQUILIBRIUM ASSEMBLY** ♦

A practical set-up for the study of chemistry which involves the reaction of a gas-liquid or a liquid-solid heterogeneous system. The agitator is constructed to permit gas introduced through side arm of the bearing to enter the hollow agitator shaft and pass into the reaction system underneath the disc which supports the four blades. With the agitator running between 800-1600 rpm, a very fine dispersion of gas-liquid is obtained. The catalytic hydrogenation of aromatic nitri derivatives with platinum, palladium or Raney-nickel catalyst serves as an excellent example. Center joint on flask is § 45/50, center joint on head is § 19/38. All others are § 14/20. Assembly consists of one each 9448, 9443, 9523, 9532, 9258, 9543, and two 9554. *Thermometer not included.*

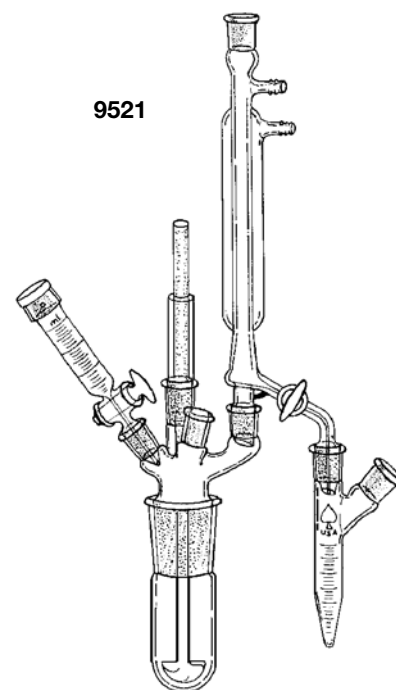
Flask Cap., mL	§ Joint	Order Code	Complete
50	45/50	9510-06	550.13
100	45/50	9510-13	551.02

9521 MINI-LAB ASSEMBLY ♦

The flask is fabricated with an ACE 45/50 joint and is available in either 50 or 100mL capacity. Head is fabricated with three 14/20 outer joints surrounding the 19/38 center opening. The Trubore bearing is 8038. The agitator is constructed as a solid shaft with the blades shaped in the form of a half propeller. Blades are rounded to permit close tolerance with the flask bottom. The shaft is inserted in the bearing from underneath, rather than through the neck as in a conventional flask; design of the agitator is limited only by the joint dimensions. The analytical still head with stopcock serves as a reflux condenser. Top joint is for thermometer or cold finger condenser. Controlled addition of liquids is done by graduated weighing buret used as a dropping funnel. Heating of assembly is done with a 9515 Glas-Col heater with a 12080 voltage Control. Heater and control not included. *Thermometer not included.*

Assembly consists of 9176, 9443, 9448, 9555, 8038, 9533, 9244 and 9373.

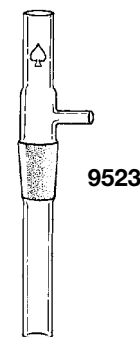
Flask Cap., mL	Joint	Order Code	Complete
50	45/50	9521-05	865.80
100	45/50	9521-15	866.69



9523 BEARING Trubore, 10mm ♦

For use with Flask Head 9443. By using precision bore tubing throughout the length of the bearing, a stirrer is produced that will hold to within 1mm of vacuum and withstand pressures in the flask up to 300mm. The 9532 Agitator, page 386, used with this bearing actually develops a negative pressure of 230mm water at operation speeds. The side opening on the bearing is used to add gases through the hollow rod stirrer as listed under 9532. **10mm** I.D.

Joint	Order Code	Each
19/38	9523-04	114.80



9515 HEATING MANTLE ★

Designed especially for 9448 Mini-Lab Flasks. Special heaters can also be made to order for flask with stopcock opening at lower end. Power with ACE 120 volt Temperature Controllers or 12080 variable voltage controller.

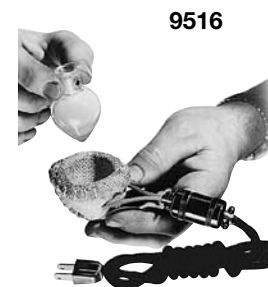
For Flask Cap, mL	Order Code	Each
50	9515-04	220.00
100	9515-06	283.00
150	9515-08	248.00

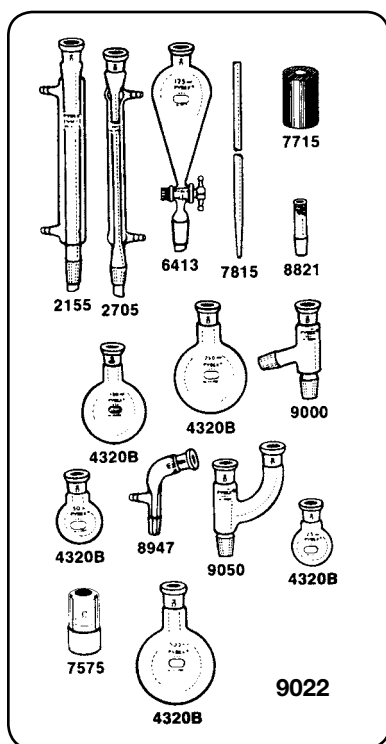


9516 HEATING MANTLE Pear Shaped ★

Lower section only.

For Flask Cap., mL	Approx. Dia., mm	Wattage	Order Code	Each
5	25	12w - 30v	9516-02	133.00
10	31	15w - 30v	9516-04	132.00
25	45	25w - 60v	9516-06	149.00
50	51	35w - 60v	9516-08	160.00
100	59	70w - 115v	9516-10	172.00
250	81	135w - 115v	9516-12	197.00

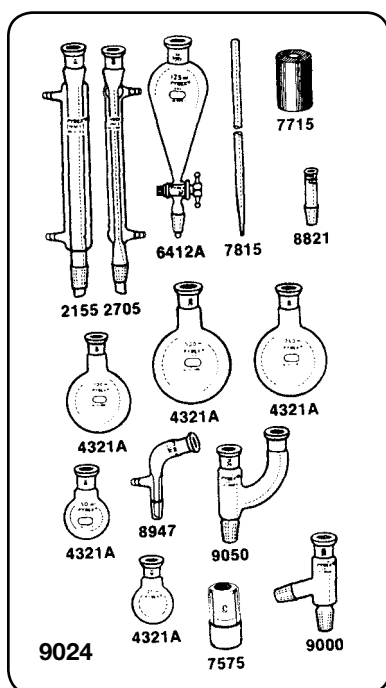


**9022 KIT, ORGANIC CHEMISTRY** \$19/22 ★**Corning 6949E**

CORNING® brand, with \$19/22 joints. Components of this kit are held in foam within a polyethylene case. Overall case size approximately 130mm x 256mm x 343mm.

Corning Code	
2705-19	Condenser, West Type, 190mm, \$19/22 Joints
2155-19	Distilling Column, 190mm, \$19/22 Joints
4320B-25	Flask, Round Bottom, Single Neck, 25mL
4320B-50	Flask, Round Bottom, Single Neck, 50mL
4320B-100	Flask, Round Bottom, Single Neck, 100mL
4320B-250	Flask, Round Bottom, Single Neck, 250mL
4320B-500	Flask, Round Bottom, Single Neck, 500mL
6413-125	Funnel, Separatory, 125mL, \$19/22 Joints
7575-19	Stopper, Pyrex, \$19/22
7815-19	Tube, Bleed
7715	Thermometer Holder, Rubber
8821-19	Tube, Adapter, Thermometer, \$19/22 Joint
9050-19	Tube, Connecting, Claisen, \$19/22 Joints
9000-19	Tube, Connecting, Three-Way, three \$19/22 Joints
8947-19	Tube, Connecting, Vacuum, \$19/22 Joints
6949E-IO	Foam Insert, only
6949E-BO	Polyethylene Kit Box, only

Qty. Per Case	Order Code	Case Price
1	9022-06	633.11

**9024 KIT, ORGANIC CHEMISTRY** \$14/20 ★**Corning 6949K**

CORNING® brand. Similar to 9022, except component parts have \$14/20 joints. Case is same as furnished with 9022.

Corning Code	
2705-14	Condenser, West Type, 190mm, \$14/20 Joints
2155-14	Distilling Column, 190mm, \$14/20 Joints
4321A-25	Flask, Round Bottom, Single Neck, 25mL
4321A-50	Flask, Round Bottom, Single Neck, 50mL
4321A-100	Flask, Round Bottom, Single Neck, 100mL
4321A-250	Flask, Round Bottom, Single Neck, 250mL
4321A-500	Flask, Round Bottom, Single Neck, 500mL
6412A-125	Funnel Separatory, 125mL, \$14/20 Joints
7575-14	Stopper, Pyrex, \$14/20
7815-19	Tube, Bleed
7715	Thermometer Holder, Rubber
8821-14	Tube, Adapter, Thermometer, \$14/20 Joint
9050-14	Tube, Connecting, Claisen, \$14/20 Joints
9000-14	Tube, Connecting, Three-Way, three \$14/20 Joints
8947-14	Tube, Connecting, Vacuum, \$14/20 Joints
6949E-IO	Foam Insert, only
6949E-BO	Polyethylene Kit Box, only

Qty. Per Case	Order Code	Case Price
1	9024-15	653.78

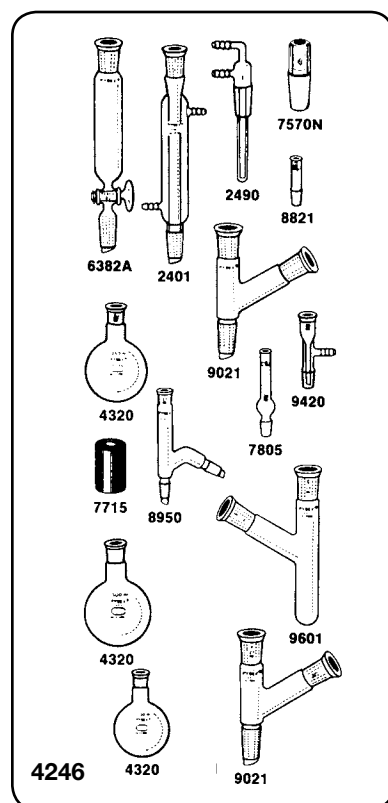
4246 KIT, ORGANIC CHEMISTRY \$24/40 ★

Corning 6949

CORNING® brand, with \$ 24/40 joints. Components of the kit are held in foam within a polyethylene case. Overall case size is approximately 130mm x 343mm.

Corning Code	
2401-24	Condenser, West Type, 309mm
2490-24	Cold Finger, 176mm
4320-100	Flask, RB, Single Neck, 100mL
4320-250	Flask, RB, Single Neck, 250mL
4320-500	Flask, RB, Single Neck, 500mL
6383A-100	Funnel, Grad., Cyl., PTFE S/C
7570N-24	Stopper, Pyrex,
7715	Thermometer Holder, Rubber
7805-24	Tube, Drying, 125mm
8821-24	Adapter, 80mm
8950-24	Adapter, Distilling, 60°
9021-24	Adapter, Connecting, 120°
9420-24	Adapter, Distilling, Vacuum
9601-24	Tube, Reaction/Receiver
6949N-IO	Foam Insert, only
6949N-BO	Polyethylene Kit Box, only

Qty. Per Case	Order Code	Case Price
1	4246-24	807.49

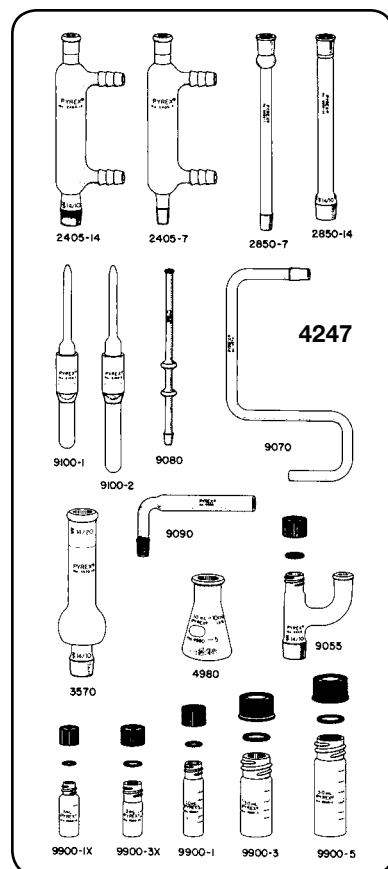


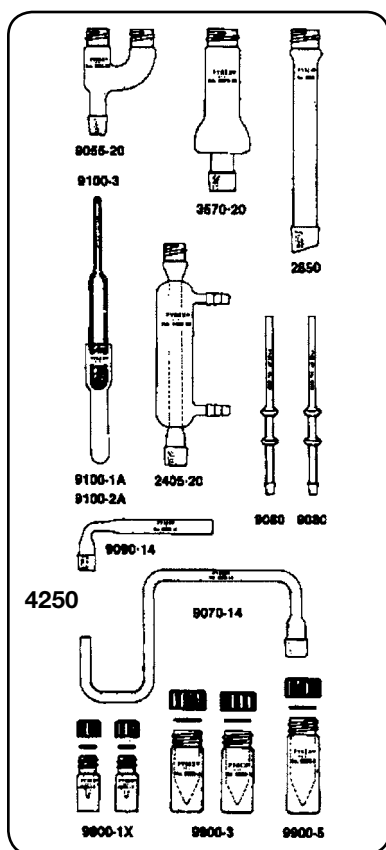
4247 KIT, MICRO-ORGANIC CHEMISTRY \$7/10-\$14/10 ★ **Corning 6949M-1**

CORNING® brand, Deluxe version Micro Kit with \$ 7/10-\$ 14/10 joints. Components of the kit are held in foam within a polyethylene case.

Corning Code	
2405-7	Condenser, Jacketed
2405-14	Condenser, Jacketed
2850-7	Condenser, Reflux
2850-14	Condenser, Reflux
3570-14	Hickman Still Head
4980-10	Flask, RB, 10mL
9055-14	Claisen Head
9070-7	Capillary Gas Delivery Tube
9080	GC Collection Tuber
9090-7	Drying Tube
9100-1	Craig Tube, 1mL
9100-2	Craig Tube, 2mL
9900-1X	Conical Reaction Vial, 0.1mL
9900-3X	Conical Reaction Vial, 0.3mL
9900-1	Conical Reaction Vial, 1.0mL
9900-3	Conical Reaction Vial, 3.0mL
9900-5	Conical Reaction Vial, 5.0mL
6949M-IO	Foam Insert, only
6949M-BO	Polyethylene Kit Box, only

Qty. Per Case	Order Code	Case Price
1	4247-07	436.24




4250 KIT, MICRO-ORGANIC CHEMISTRY \$14/10 ★

Corning 6949M-4

CORNING® brand, Deluxe version Micro Kit with \$ 14/10 joints. Components of the kit are held in foam within a polyethylene case.

Corning Code	
2405-20	Condenser, Jacketed
2850-20	Condenser, Reflux
3570-20	Hickman Still Head
9055-20	Claisen Head
9070-14	Capillary Gas Delivery Tube
9080	GC Collection Tube
9090-14	Drying Tube
9100-1A	Craig Tube, 1mL
9100-2A	Craig Tube, 2mL
9100-3	PTFE Plug for Craig Tube
9900-1X	Conical Reaction Vial, 0.1mL
9900-3	Conical Reaction Vial, 3.0mL
9900-5	Conical Reaction Vial, 5.0mL
6949M-IO	Foam Insert, only
6949M-BO	Polyethylene Kit Box, only

Qty. Per Case	Order Code	Case Price
1	4250-14	367.89

An unbeatable combination...

for safety and efficiency

• **ACE Instatherm® Oil Baths**

Rapid, even heat, no super heating

See page 329.

• **ACE Temperature Controllers**

Dependable, accurate, wide choice of models

See page 746.





9560-30 BASIC KIT II

Basic MICRO/MINI-LAB KIT, approved by the authors of *Microscale Organic Laboratory* — Dana W. Mayo, Ronald M. Pike, Samuel S. Butcher; John Wiley and Sons, New York. This kit will do 95% of the experiments in the text.

This basic kit will also do the majority of experiments in *Organic Laboratory Techniques* — Donald L. Pavia, Gary M. Lampman, George S. Kriz, Randall G. Engel; Saunders College Publishing, Chicago.

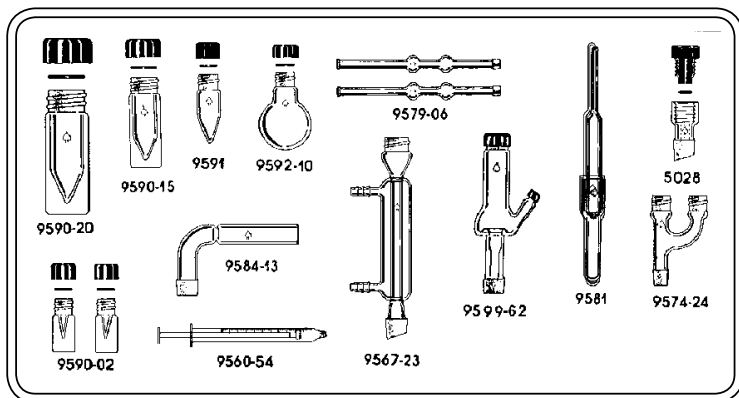
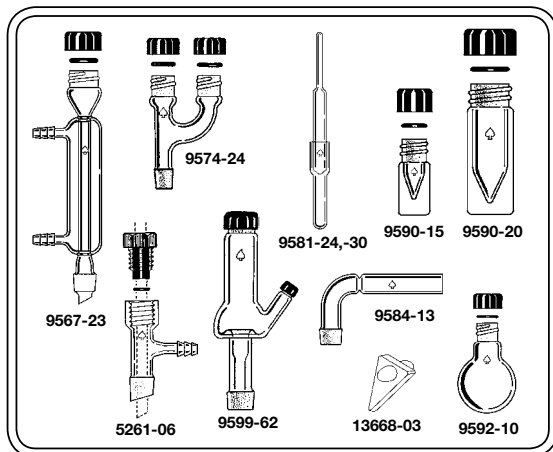
Basic Kit II includes the 9599-62 Hickman-Hinkle Still with side port. (With the 9599-20 PTFE Band, still can be used as a Spinning Hickman Distillation Still.) Also, the 5261-06 Multi-Purpose Adapter has replaced the 5028-25 Thermometer Adapter to allow more versatility, including reduced pressure operations.

All joints are $\frac{1}{4}$ 14/10. Supplied in a clear, flexible plastic, tilt lid, compartmentalized box.

KIT COMPONENTS

(1) 9567-23 Jacketed Condenser	(1) 9581-24 2mL Outer, Craig
(1) 9599-62 Hickman-Hinkle Column, with Side Port	(1) 9581-30 PTFE Plug, Craig
(1) 9574-24 Claisen Adapter	(1) 9592-10 10mL RB Flask
(1) 9590-15 3.0mL Vial	(1) 9584-13 Drying Tube
(1) 9581-20 5.0mL Vial	(1) 5261-06 Multi-Purpose Adapter
	(1) 13668-03 Magnetic "V" Stirrer

Order Code	Per Kit
9560-30	312.43



9560-18 KIT* Deluxe, $\frac{1}{4}$ 14/10, with Spinning Hickman

Deluxe micro/mini-lab Kit with microscale glassware to do all experiments in *Microscale Organic Laboratory* — Dana W. Mayo, Ronald M. Pike, Samuel S. Butcher; John Wiley and Sons, New York. This kit is supplied with $\frac{1}{4}$ 14/10 joints and makes converting from $\frac{1}{4}$ 14/20 to microscale realistic and convenient. Included in this kit is the NEW Hickman-Hinkle Spinning Distillation Column. Supplied in plastic tilt lid box with foam inserts.

KIT COMPONENTS

(1) 9560-54 Sample Syringe	(1) 9584-13 Drying Tube	(1) 9590-15 3.0mL Vial
(1) 9567-23 Jacketed Condenser	(2) 9579-06 GC Coll. Tube	(1) 9591-16 3.0mL Vial, Thin
(1) 9574-24 Claisen Head	(1) 9581-23 1mL Outer, Craig	(1) 9590-20 5.0mL Vial
(1) 9599-62 Hickman-Hinkle Col.	(1) 9581-30 (PTFE Plug, Craig	(1) 9591-21 5.0mL Vial, Thin
(1) 9599-20 PTFE Band	(1) 9592-10 10mL RB Flask	(1) 5028-25 Adapter, Therm.
(1) 9599-23 Plastic Insulator	(2) 9590-02 0.1mL Vial	

Order Code	Per Kit
9560-18	474.21

Typical Setup



* U.S. Patent Nos. 4,370,480 and 4,770,746

Micro/Mini-Lab is a registered trademark of Ace Glass Incorporated.



9560-14 KIT* *Deluxe, with 14/10 Joints* ★

Deluxe MICRO/MINI-LAB KIT with microscale glassware to do all experiments described in *Microscale Organic Laboratory* — Dana W. Mayo, Ronald M. Pike, Samuel S. Butcher; John Wiley and Sons, New York.

This kit, supplied with 14/10 joints (in place of the 7/10 and 14/10 joints in 9560-05 Original Deluxe Kit), makes converting from 14/20 to micro more realistic and convenient. This kit includes a 9560 Sample Retrieval Syringe, plus the improved, unbreakable, PTFE inner plug for the Craig Recrystallization Tube. Supplied in plastic tilt lid box with foam insert.

Order Code Per Kit

9560-14 440.85

KIT COMPONENTS

(1) 9560-54	Sample Syringe	(1) 9581-24	2mL Outer, Craig
(1) 9566-17	Air Condenser	(1) 9581-30	PTFE Plug, Craig
(1) 9567-23	Jacketed Condenser	(1) 9584-13	Drying Tube
(1) 9574-24	Claisen Head	(1) 9586-18	Gas Del Tube
(1) 9576-04	Hickman Still	(2) 9590-02	0.1mL Vial
(2) 9579-06	GC Coll. Tube	(2) 9590-15	3.0mL Vial
(1) 9581-23	1mL Outer, Craig	(1) 9590-20	5.0mL Vial

*U.S. Patent No. 4,730,480

Micro/Mini-Lab is a registered trademark of Ace Glass Inc.

REPLACEMENT FOAM INSERTS for Microscale Kits ♠

3 Piece Set

For Kit Order Code Per Set

9560-05	9560-65	16.43
9560-14	9560-63	16.43
9560-18	9560-62	16.43

REPLACEMENT FOAM INSERTS for Spinning Band Column ♠

3 Piece Set

Order Code Per Set

9595-60	11.28
----------------	-------

REPLACEMENT BOX *Plastic, Tilt Lid, for 9560-05, -14, -18 Kits* ♠

Order Code Per Set

9560-66	13.57
----------------	-------

REPLACEMENT BOX *Plastic, Tilt Lid, for Spinning Band Column* ♠

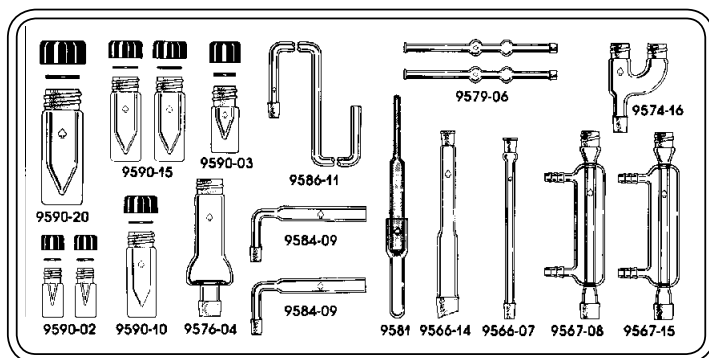
Order Code Per Set

9595-61	8.48
----------------	------

REPLACEMENT BOX *Plastic, Tilt Lid, for 9560-30 Kit*

Order Code Per Set

9560-68	10.83
----------------	-------



9560-05 KIT* Deluxe ★

The original Deluxe MICRO/MINI-LAB KIT with all microscale glassware necessary to conduct the 52 experiments described in *Microscale Organic Laboratory* – Dana W. Mayo, Ronald M. Pike, Samuel S. Butcher; John Wiley and Sons, New York. This equipment, originally developed by the authors, is supplied with § 5/5, § 7/10 and § 14/10 joints and includes the improved, unbreakable PTFE inner plug for the Craig Recrystallization Tube. Supplied in plastic tilt lid box with foam insert.

Order Code	Per Kit
9560-05	500.00

KIT COMPONENTS

(1) 9566-07 Air Condenser	(2) 9579-06 GC Coll. Tube	(2) 9590-02 0.1mL Vial
(1) 9566-14 Air Condenser	(1) 9581-23 1mL Outer, Craig	(1) 9590-03 0.3mL Vial
(1) 9567-08 Jacketed Condenser	(1) 9581-24 2mL Outer, Craig	(1) 9590-10 1.0mL Vial
(1) 9567-15 Jacketed Condenser	(1) 9581-30 PTFE Plus, Craig	(2) 9590-15 3.0mL Vial
(1) 9574-16 Claisen Adapter	(2) 9584-09 Drying Tube	(1) 9590-20 5.0mL Vial
(1) 9576-04 Hickman Still	(1) 9586-11 Gas Delivery Tube	

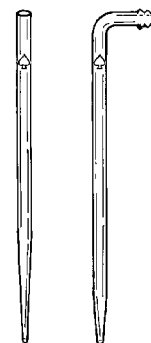


*U.S. Patent No. 4,730,480

9059 ADAPTER Bleed ♠

With drawn capillary tip for the introduction of gases below the liquid surface. Outside diameter is 7mm. Length approximately 270mm (10-3/4 inches). For use with #7 Ace-Thred. Hose connection on bent adapter is size A, 5/16-inch I.D. Tubing. See page 5 for more detailed Hose Connection information.

	Order Code	Each
Straight Adapter	9059-08	4.86
Bent Adapter	9059-12	10.60



9059

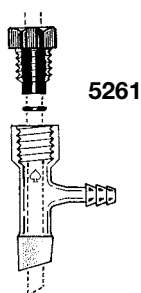
5028 ADAPTER “Mini” #7 Ace-Thred ♠

With § ground inner drip joint at bottom and #7 Ace-Thred at top that forms an O-Ring compression seal with thermometers, bleed tubes, etc. Supplied complete with bushing and FETFE O-Ring that will accommodate 6.5 to 7.0mm O.D. For smaller thermometers, like 9548, substitute 11710-04 PTFE Ferrule for O-Ring. For normal student thermometers, use 11710-07. Bottom joint supplied with a drip tip.

§ Joint	Order Code	Complete
14/10	5028-25	23.29

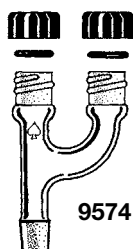


5028


5261 ADAPTER *with Hose Connection, "Mini" #7 Ace-Thred* ♦

With $\frac{1}{4}$ 14/10 ground inner drip joint at bottom, #7 Ace-Thred at top that forms an O-Ring compression seal with 6.5-7mm thermometers, bleed tubes, etc., and side hose connection. Supplied complete with Nylon bushing and FETFE O-Ring. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

$\frac{1}{4}$ Joint	Order Code	Complete
14/10	5261-06	32.54


9574 ADAPTER *Claisen, Threaded* ♦

Microscale Claisen adapter/head often used to facilitate syringe addition of reagents to sealed or moisture-sensitive systems. The top joints are combination cap, thread and $\frac{1}{4}$ joints to accommodate and seal other microscale apparatus. The O.D. of the top joints have an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. With inner $\frac{1}{4}$ joint at bottom. Supplied with two threaded caps with hole, two PTFE-faced silicone rubber septa and two O-Rings. For replacement caps, see 9590-45, -46, -47; for septa, see 8787-41, -42, -43; for O-Rings, see 7855-705, -706, -720.

Top Threaded Outer $\frac{1}{4}$ Joint	Inner $\frac{1}{4}$ Joint	Order Code	Each
7/10	14/10	9574-16	45.26
10/10	10/10	9574-20	45.26
14/10	14/10	9574-24	45.26

9069


9069 ADAPTER *Connecting Hose* ♦

With $\frac{1}{4}$ 14/10 inner joint and three-ring hose connection. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

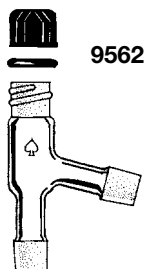
Order Code	Each
9069-04	16.86

9080


9080 ADAPTER *Connecting Hose, with 1:5 PTFE Plug* ♦

With $\frac{1}{4}$ 14/10 inner joint and solid PTFE stopcock plug. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

Order Code	Each
9080-10	63.45

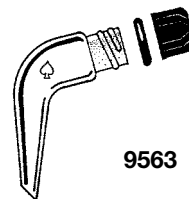

9562 ADAPTER *Distilling* ♦

The top joint is a combination cap, thread and $\frac{1}{4}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\frac{1}{4}$ 14/10 outer joint. $\frac{1}{4}$ inner joint at bottom and at 75° angle. Supplied with cap and O-Ring.

Top Threaded Outer $\frac{1}{4}$ Joint	Inner $\frac{1}{4}$ Joints	Order Code	Each
14/10	14/10	9562-11	41.57

9563 ADAPTER *Distillate Takeoff* ♦

The top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground ♂ 14/10 outer joint. 105° angle. Supplied with cap and O-Ring.

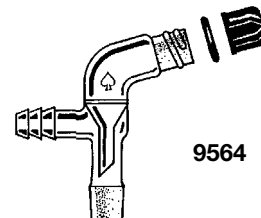


9563

Top Threaded Outer ♂ Joint	Order Code	Each
14/10	9563-07	21.43

9564 ADAPTER *Vacuum Takeoff, with Hose Connection* ♦

Used for Microscale vacuum distillations. The top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground ♂ 14/10 outer joint. Inner ♂ joint at other end and hose connection for vacuum. 105° angle. Supplied with cap and O-Ring.

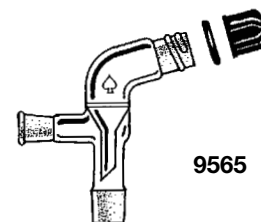


9564

Top Threaded Outer ♂ Joint	Inner ♂ Joint	Order Code	Each
14/10	14/10	9564-10	43.73

9565 ADAPTER *Vacuum Takeoff, with ♂ Side Joint* ♦

Used for Microscale vacuum distillations, especially for use with 9595 Spinning Band Micro-distillation Column. The top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. Inner ♂ joint at other end and ♂ 7/10 outer side joint for vacuum connection or stopper when using Spinning Band Column technique. 105° angle. Supplied with cap and O-Ring.

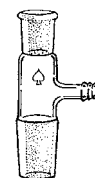


9565

Top Threaded Outer ♂ Joint	Inner ♂ Joint	Order Code	Each
7/10	10/10	9565-05	43.13
7/10	14/10	9565-06	43.13

9119 ADAPTER *Gas Inlet/Vacuum, Microscale* ♦

Use as gas inlet or vacuum adapter. With ♂ 14/10 joints and serrated hose connection off side. Top outer joint is externally threaded. Supplied with holed cap and FETFE O-Ring. Use with 5/16-inch or 3/8-inch I.D. Tubing, Size B. See page 5 for more detailed Hose Connection information.

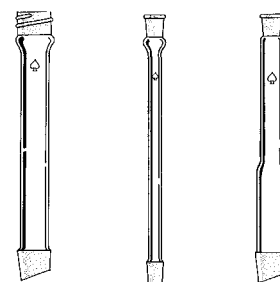


9119

Order Code	Each
9119-22	35.89

9566 CONDENSER *Air Reflux* ♦

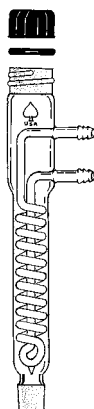
Microscale air condenser normally used in reflux experiments. When packed with desiccant material, condenser becomes a drying tube. With inner ♂ joint at bottom, outer ♂ joint at top. Codes -10, -14 and -17 supplied with drip tip for use with 9595 Spinning Band Column. Effective length, approximately 100mm. On codes -10 and -17, the top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground ♂ 14/10 outer joint. For replacement O-Rings, see 7855-706, -720; for caps, see 9590-46, -47; for septa, see 8787-42, -43, on page 383.



9566

♂ Inner Joint	♂ Outer Joint	Order Code	Each
7/10	7/10	9566-07	25.02
10/10	10/10	9566-10	25.02
14/10	7/10	9566-14	25.02
14/10	14/10	9566-17	26.49

9569

**9569 CONDENSER** *Coil Reflux, Microscale* ♠

High efficiency coil condenser especially suited for vacuum applications. Coil length is 70mm. The top joint is a combination cap, thread and $\frac{1}{8}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\frac{1}{8}$ 14/10 outer joint. Bottom is $\frac{1}{8}$ 14/10 inner joint. Supplied with cap and O-Ring.

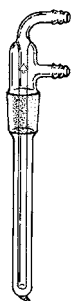
Order Code

Each

9569-24

132.39

9250

**9250 CONDENSER** *Cold Finger* ♠

Can be used with 9119 Adapter and 9785 Still for micro distillations. Length of finger below joint is 80mm. Joint is $\frac{1}{8}$ 14/10. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

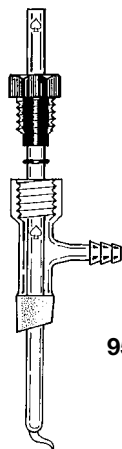
Order Code

Each

9250-02

56.14

9573

**9573 CONDENSER** *Cold Finger, Adjustable, Micro* ♠

Micro cold finger condenser with drip tip on bottom for directing drops into the well of $\frac{1}{8}$ 14/10 jointed 9576 or 9599 Hickman Stills. Cold water is introduced into cold finger periodically by means of a Pasteur pipet. Complete item consists of cold finger condenser and multi-purpose vacuum adapter with #7 Ace-Thred that makes compression O-Ring seal with cold finger and allows for vertical adjustment. Threaded adapter supplied with Nylon bushing and FETFE O-Ring. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

Order Code

Each

Cold Finger Condenser, only

9573-08

8.71

Vacuum Adapter, only

5261-06

32.54

Complete

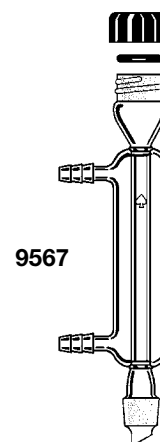
9573-20

41.25

9567 CONDENSER *Jacketed Reflux, Threaded* ♦

Microscale, water-jacketed condenser used in reflux experiments. The top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. Inner ♂ joint at bottom, with drip tip. I.D. of inner tube on codes -19 and -23 is sufficiently large enough to accept regular size thermometer. Jacket length approximately 80mm. Inlet and outlet water connections are three-ring serrated fittings. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

♂ Inner Joint	Top ♂ Outer Joint	Order Code	Each
7/10	7/10	9567-08	55.86
14/10	7/10	9567-15	55.86
10/10	10/10	9567-19	55.86
14/10	14/10	9567-23	55.86



5813 COLUMN *Chromatography, Micro, Threaded* ♦

With internally threaded ends. Threads are #7 Ace-Thred for use with 5801-07 End Fitting. Column measures 85mm effective length, 8mm I.D.

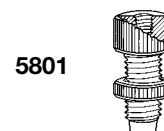
Order Code	Each
5813-23	32.69



5801 ADAPTER *End Fitting, 1/4 -28 to Ace-Thred, Michel-Miller* ♦

Precision made PTFE end fitting for use at either end of the 5813 Column. Designed to make a leak-tight seal without the use of O-Rings. Simply tighten until white ring appears, indicating a seal has been made, then secure locknut; no need to over tighten. Use paper filter disc, 5814-06, to retain packing material. Female thread at top is 1/4-28 to accept standard miniature plumbing systems. Bore is 1.5mm (.060 inches).

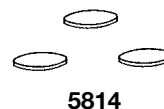
For Thread Size, mm	Order Code	Each
7	5801-07	42.83

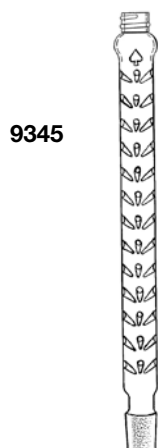


5814 FILTER DISCS ★

For use with 5801 End Fittings to retain packing material. Made from a specially pure, very uniform, highly absorbent paper.

For Thread Size, mm	Disc Dia. mm	Package Qty.	Order Code	Per Pkg.
7	7.5	100	5814-06	12.85





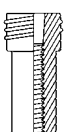
9345

9345 COLUMN *Distilling, Vigreux, Microscale* ♦

For vacuum distillation of high boiling materials. The top joint is a combination cap, thread and $\frac{1}{8}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\frac{1}{8}$ 14/10 outer joint. Bottom $\frac{1}{8}$ 14/10 inner, and indents. Supplied with holed cap and FETFE O-Ring. Length stated is length of indents.

Length, mm	Order Code	Each
75	9345-32	55.65
100	9345-35	57.81

9571



U.S. Patent
No. 4,730,480

9571 GC CONNECTION ADAPTER *Stainless Steel* ♦

Microscale gas chromatography connection-adapter for making direct connection between GC column and 9579-06 Collection Tube. Stainless steel adapter has a 6-32 NPT female thread for attaching to heated port on GC and a $\frac{1}{8}$ 5/5 outer joint, externally threaded, to allow an "O-Ring-CAP-SEAL" connection with 9579 Tube. Available for Gow-Mac Instrument Co. Model No. 150 or 350.

G-M Model	Order Code	Each
#150	9571-40	42.13
#350	9571-42	44.40

9579



U.S. Patent
No. 4,730,480

9579 TUBE *GC Collection* ♦

Microscale gas chromatography collection tube for fraction collection followed by transfer of sample to 9590-02, 0.1mL, Conical Vial for storage. $\frac{1}{8}$ 5/5 inner joint on tube allows direct connection to heated exit port of GC column via 9571-40 Stainless Steel Connection-Adapter. Inner joint facilitates transfer since 0.1mL vial has $\frac{1}{8}$ 5/5 outer joint.

Order Code	Each
9579-06	23.25

9581

**9581 TUBE** *Craig Recrystallization* ♦

Microscale Craig tube for recrystallizing small quantities of reaction product. Consists of a glass outer tube with non-uniform grind to purposely allow leakage, and a PTFE inner plug*. This plug eliminates breakage normally experienced with glass plugs. Volume stated is capacity below grind.

NOTE: ACE Microscale Kits are now supplied with PTFE plug. For those who would prefer the original glass inner plug, it is also available.

Capacity, mL	Glass Outer		PTFE Plug*		Complete	
	Order Code	Each	Order Code	Each	Order Code	Each
1	9581-23	10.11	9581-30	9.23	9581-05	19.34
2	9581-24	10.11	9581-30	9.23	9581-03	19.34
Glass Inner Plug, only					9581-28	12.47

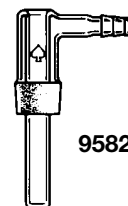
*U.S. Patent No. 4,892,714

9582 SUBLIMATION ADAPTER* *Winston* ♦

Microscale sublimation adapter for use with 9591-21 Vial and 9592-10 Flask. Supplied with $\frac{1}{4}$ 14/10 inner joint. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

Order Code	Each
9582-12	41.66

*Designed by Dr. Anthony Winston, West Virginia Univ. Dept. of Chemistry, Morgantown, WV 26506

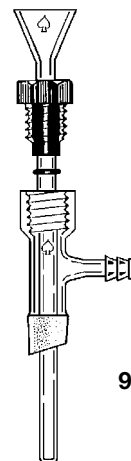


9582

9583 SUBLIMATION ADAPTER *Adjustable* ♦

Microscale sublimation adapter with vertically adjustable condenser tube that allows use with 3 mL, 5 mL, and 10 mL microscale vessels. Two-piece adapter features a #7 Ace-Thred at top of vacuum adapter that, with Nylon bushing and O-Ring, forms a compression seal with condenser tube, bottom $\frac{1}{4}$ 14/10 inner drip joint, and side hose connection. **Note:** without condenser tube, threaded vacuum adapter will accept thermometer, bleed tube, etc. Complete item consists of vacuum adapter with Nylon bushing and FETFE O-Ring, and condenser tube. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

	Order Code	Each
Vacuum Adapter with Bushing & O-Ring	5261-06	32.54
Condenser Tube, only	9583-02	10.01
Complete	9583-24	42.55

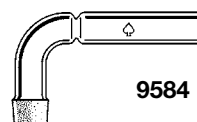


9583

9584 TUBE *Drying* ♦

Microscale Drying Tube used to protect moisture sensitive reaction components from atmospheric water vapor while allowing a reaction system to be kept unsealed. With inner $\frac{1}{4}$ joint, bent 90° to main chamber.

$\frac{1}{4}$ Inner Joint	Order Code	Each
7/10	9584-09	20.64
10/10	9584-11	20.64
14/10	9584-13	20.64

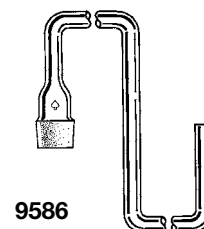


9584

9586 TUBE *Capillary Gas Delivery* ♦

Microscale bent capillary gas delivery tube for transferring gases generated during reactions to storage containers, such as 9588 Sampling Reservoir. With inner $\frac{1}{4}$ joint.

$\frac{1}{4}$ Inner Joint	Order Code	Each
7/10	9586-11	34.64
10/10	9586-15	34.64
14/10	9586-18	34.64

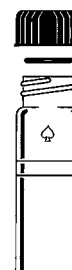


9586

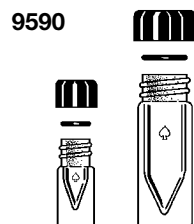
9588 GAS RESERVOIR ♦

Gas collecting reservoir, described in Microscale Organic Laboratory, Mayo, Pike, Butcher, as a means of collecting and sampling gaseous products when using 9586 Capillary Gas Delivery Tube. Open-bottom tube has single line graduation at 3 and 4mL level and 20-400 thread at top. The top joint is a combination cap, thread and $\frac{1}{4}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\frac{1}{4}$ 14/10 outer joint. Supplied with cap and septum. For extra septa, see 8787-42; for extra caps, see 9590-46, below.

Order Code	Each
9588-14	7.54



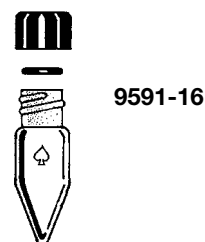
9588



9590 VIAL *Conical Reaction, Student* ♦

Microscale, heavy-wall reaction vial. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. This type connection eliminates the need for clamps while offering the positive leak-tight seal of ground glass joints. Replace O-Ring in cap with PTFE-faced silicone rubber septa and vial can be capped for storage. Each vial supplied with threaded cap with hole, one PTFE faced silicone rubber septum and one O-Ring for making "O-Ring-CAP-SEAL." For replacement caps, see 9590-44, -45, -46, -47; for O-Rings, see 7855-01, -705, -706, -720; for septa, see 8787-40, -41, -42, -43, page 383.

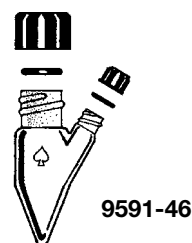
Cap., mL	Top Threaded Outer $\text{\text{F}}$ Joint	Order Code	Each
0.1	5/5	9590-02	12.58
0.3	7/10	9590-03	18.85
0.3	10/10	9590-04	18.85
1.0	7/10	9590-10	18.85
1.0	10/10	9590-11	18.85
3.0	10/10	9590-14	19.61
3.0	14/10	9590-15	19.61
5.0	10/10	9590-19	19.61
5.0	14/10	9590-20	19.61



9591 VIAL *Conical Reaction, Research* ♦

Microscale, *thin*-wall reaction vial. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Similar to 9590, but major difference is this thin-walled vial has better heat transfer for the more demanding research project. Supplied with threaded cap with hole, one PTFE faced silicone rubber septum and one O-Ring. For replacement caps, see 9590-46.

Cap., mL	Top Threaded Outer $\text{\text{F}}$ Joint	Order Code	Each
3.0	14/10	9591-16	19.24
5.0	14/10	9591-21	19.24
10.0	14/10	9591-23	19.24



9591 VIAL *Conical Reaction, with Side Port* ♦

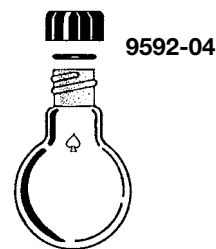
Similar to research reaction vial listed above, except with the addition of an externally threaded side port. Side port supplied with holed cap and septum that facilitates syringe retrieval or injection. $\text{\text{F}}$ outer joint supplied with holed cap, PTFE-faced silicone rubber septum and FETFE O-Ring. For large cap replacements, see 9590-46. Replacement cap for side port, see 9590-44; for septum, see 8787-40, page 383.

Cap., mL	Top Threaded Outer $\text{\text{F}}$ Joint	Order Code	Each
3.0	14/10	9591-46	36.32
5.0	14/10	9591-47	36.32
10.0	14/10	9591-48	36.32

9592 FLASK *Round Bottom, with Threaded Joint* ♦

Microscale, single-neck, round-bottom reaction flask. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. This type connection eliminates the need for clamps while offering the positive leak-tight seal of ground glass. Supplied with threaded cap with hole, one PTFE-faced silicone rubber septum and one O-Ring. For replacement caps, see 9590-46, -47; for septa, see 8787-41, -42; for O-Rings, see 7855-706, -720, page 383.

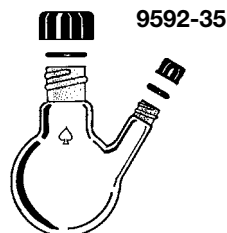
Cap., mL	Top Threaded Outer $\text{\text{F}}$ Joint	Order Code	Each
5	14/10	9592-04	20.87
10	10/10	9592-09	20.87
10	14/10	9592-10	20.87
25	14/10	9592-15	20.87



9592 FLASK *Round Bottom, with Side Port* ♦

Microscale, single-neck, round-bottom reaction flask, similar to the above, but with the addition of an externally threaded side port. Side port is supplied with holed cap and PTFE-faced silicone rubber septum that facilitates retrieval or injection. $\text{\text{F}}$ outer joint supplied with holed cap, PTFE-faced septum and FETFE O-Ring. For replacements, see 9592. Cap for side port, see 9590-44; for septum, see 8787-40, page 383.

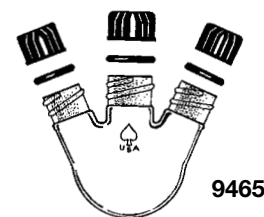
Capacity, mL	Threaded Outer $\text{\text{F}}$ Joint	Order Code	Each
5.0	14/10	9592-35	36.64
10.0	14/10	9592-37	36.64



9465 FLASK *Round Bottom, Three Necks* ♦

Microscale, round-bottom flask with three $\text{\text{F}}$ 14/10 outer ground joints externally threaded. The joints are a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the joints have an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Supplied with holed caps, PTFE faced septa and FETFE O-Rings. For replacements, see 9591.

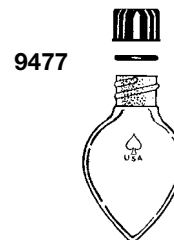
Capacity, mL	Order Code	Each
25	9465-34	57.18
50	9465-36	57.43

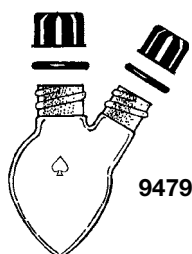


9477 FLASK *Pear Shaped* ♦

Microscale, pear-shaped, single-neck flask. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Supplied with holed cap, PTFE-faced septum and FETFE O-Ring. For replacements, see page 383.

Capacity, mL	Order Code	Each
5.0	9477-60	20.29
10.0	9477-62	20.29
25.0	9477-64	20.29



**9479 FLASK** *Pear Shaped, Two Necks* ♦

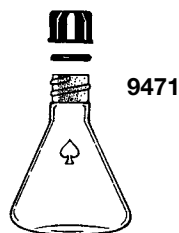
Microscale, pear-shaped flask. The joints are combination cap, thread and $\text{\text{F}}$ joints to accommodate and seal other microscale apparatus. The O.D. of the joints have an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Supplied with holed caps, PTFE-faced septa and FETFE O-Rings. For replacements, see page 383.

Capacity, mL	Order Code	Each
25.0	9479-29	39.94

**9470 FLASK** *Recovery, Rotary Evaporator* ♦

Microscale, recovery type flask with sides modified for ease in inserting spatula or brush for removing solids or cleaning. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Supplied with holed cap, PTFE-faced silicone rubber septum and FETFE O-Ring. For replacements, see page 383.

Capacity, mL	Order Code	Each
10.0	9470-43	22.93
25.0	9470-45	22.93

**9471 FLASK** *Erlenmeyer* ♦

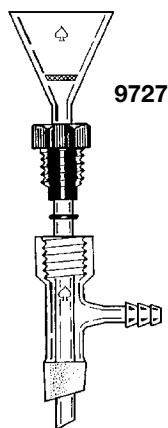
Microscale, Erlenmeyer flask. The top joint is a combination cap, thread and $\text{\text{F}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\text{F}}$ 14/10 outer joint. Supplied with holed cap, PTFE-faced silicone rubber septum and FETFE O-Ring. For replacements, see page 383.

Capacity, mL	Order Code	Each
10.0	9471-42	17.88
25.0	9471-44	17.88

**7078 FLASK** *Dewar, Low Form* ★

Cylindrical low form, silvered and evacuated. Ideal for sub ambient work. Low form allows use of multineck flask with magnetic stirring.

Cap., mL	Inside Dia., mm	Inside Hgt., mm	Order Code	Each
150	80	35	7078-04	203.05
350	80	75	7078-06	203.05

**9727 FUNNEL** *Filter, Hirsch, Adjustable* ♦

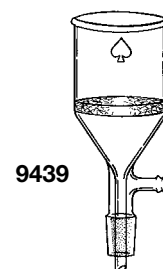
Microscale, vacuum adapter with vertically adjustable Hirsch filter funnel that is suitable for use with all Microscale flasks and vials with $\text{\text{F}}$ 14/10 joints. This two-piece vacuum adapter features a #7 Ace-Thred at top with a Nylon bushing and O-Ring that forms a compression seal with funnel stem, bottom joint, and side hose connection. Plain stem funnel has a disc diameter of 10 mm with a capacity above disc of approximately 7mL. Sintered disc offered in porosity C (25-50 micron) or D (10-20 micron). Note: without funnel, vacuum adapter will accept thermometers, bleed tubes, etc. Complete item consists of vacuum adapter with Nylon bushing and FETFE O-Ring, and funnel. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

Funnel Porosity	Order Code	Funnel Only	Order Code	Adapter Only	Order Code	Complete
C	9727-03	34.65	5261-06	32.54	9727-20	67.19
D	9727-07	34.65	5261-06	32.54	9727-30	67.19

9439 FUNNEL *Filter* ♦

Buchner type. Diameter of sintered glass disc is 18mm. Measures 40mm from disc to top. Inner joint is $\text{\textcircled{S}}$ 14/10. All porosities are priced the same. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

$\text{\textcircled{S}}$	Por. A	Por. B	Por. C	Por. D	Por. E	
Joint	Order Code	Order Code	Order Code	Order Code	Order Code	Each
14/10	9439-11	9439-13	9439-15	9439-17	9439-19	58.56



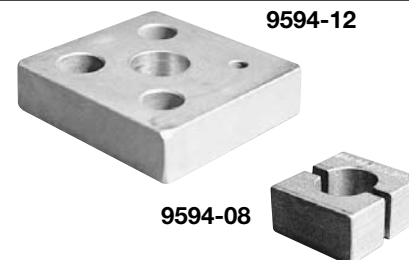
9439

9594 HEAT TRANSFER BLOCK* *Microscale* ★

Aluminum heat transfer block, used in place of a glass sand bath in Microscale experiments. Offers excellent heat transfer and will not interfere with magnetic stirring. Block has four holes to accommodate all ACE Microscale reaction vials and one hole for thermometer. 9594-12 measures 3 inches square x 3/4 inches thick. 9594-08 auxiliary heat block for 3mL and 5mL conical vials.

Order Code	Each
9594-08	7.25
9594-12	14.50

*Designed by Dr. Siegfried Lodwig, Centralia College, Centralia, WA 98531



9594-12

9594-08

9594 HEAT TRANSFER BLOCK *Microscale* ★

Aluminum heat transfer block for use on top of stirrer-hot plate to effect better heat transfer. Block has three bowl-shaped recesses for 3 and 5mL thin-walled vials and 5, 10 and 25mL round-bottom flasks; one 20mm straight-thru hole, one deep bowl-shaped hole for 10mm test tubes and one hole for a thermometer. Measures 3-1/2 inches square x 3/4 inches thick.

Order Code	Each
9594-16	36.18

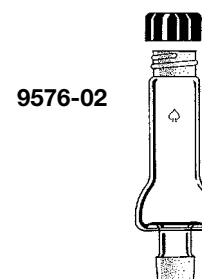


9594-16

9576 HEAD *Hickman Still* ♦

Microscale Hickman Still Head used to carry out micro-sample fractional distillations. The top joint is a combination cap, thread and $\text{\textcircled{S}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground outer joint. Inner $\text{\textcircled{S}}$ joint at bottom. Inner joint can be secured in 9590 Reaction Vials via "O-Ring-CAP-SEAL" connection. Supplied with cap, O-Ring and septum. For replacement caps, see 9590-46 or -47; for O-Rings, see 7855-706 or -720; for septa, see 8787-42 or -43, page 383.

Top Threaded Outer $\text{\textcircled{S}}$ Joint	Inner $\text{\textcircled{S}}$ Joint	Order Code	Each
10/10	10/10	9576-02	44.98
14/10	14/10	9576-04	44.98

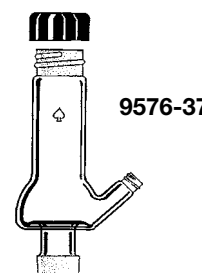


9576-02

9576 HEAD *Hickman Still, with Side Port* ♦

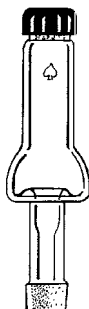
Same still head as listed under 9576-02 and -04, except with externally threaded outer side port off reservoir. Both side port and top outer $\text{\textcircled{S}}$ joint are supplied with cap and septum for syringe injection or retrieval. The top joint is a combination cap, thread and $\text{\textcircled{S}}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring (supplied) and open-top phenolic cap. The internal or I.D. at the top is a ground $\text{\textcircled{S}}$ 14/10 outer joint. For replacement caps, see 9590-44 or -46; for O-Rings, see 7855-720; for septa, see 8787-40 or -42, page 383.

Threaded Top Outer $\text{\textcircled{S}}$ Joint	Inner $\text{\textcircled{S}}$ Joint	Order Code	Each
14/10	14/10	9576-37	65.00



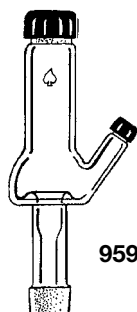
9576-37

9599-14

**9599 HEAD** *Hickman-Hinkle* Still* ♠

Microscale Hickman-Hinkle Still Head used to carry out simple and fractional distillations. Similar to 9576 Hickman Still except this still has an elongated section below well to accommodate a PTFE spinning band, if so desired. When operated carefully, with this band, the Hickman-Hinkle Still will yield 6-10 theoretical plates (data from Bowdoin College reports). The top joint is a combination cap, thread and $\frac{1}{8}$ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground $\frac{1}{8}$ 14/10 outer joint. $\frac{1}{8}$ 14/10 inner joint at bottom. Top outer joint supplied with cap, O-Ring and septa. For replacement caps, see 9590-46; for O-Rings, see 7855-720; for septa, see 8787-42. For PTFE Band, see listing under 9599 Spinning Band Column.

Order Code	Each
9599-14	44.99



9599-62

9599 HEAD *Hickman-Hinkle* Still, with Side Port* ♠

Same head as listed under 9599-14, except this head has a threaded side port with septum and cap for easier syringe access to well contents. Top outer joint and side port are supplied with cap, and septum; top outer also supplied with O-Ring. For replacements, see listing above.

Order Code	Each
9599-62	59.14

*U.S. Patent No. 4,770,746

9599-20

**9599 SPINNING BAND** *PTFE* ♠

PTFE band only for use with Hickman-Hinkle Stills. Band controls flooding of the concentric tube section of the Still.

Order Code	Each
9599-20	77.21

*U.S. Patent No. 4,770,746

Amber Coated Glassware



Ace Glass offers many of our existing glass vessels in an amber coated version. Flasks, Pressure Bottles, Beakers, Bottles and many other items listed in this catalog can be amber coated on request. The coating is a proprietary process and gives excellent UV protection characteristics. Contact Ace for more details and pricing.

9595 SPINNING BAND COLUMN* Microscale ♦

High performance, low cost, Microscale Spinning Band Distillation Column effective in separating low-boiling liquid mixtures with volumes in the 0.5 to 5mL range. Designed by Drs. Dana Mayo, Ronald M. Pike, and Samuel S. Butcher, authors of Microscale Organic Laboratory, John Wiley and Sons, New York, this 2.5 inch microdistillation column separates close-boiling (5-10°C) mixtures without stopcocks, utilizing a PTFE band uniquely driven by a bottom magnet. Coupled to a conventional magnet stirrer, experimental data indicate satisfactory performance at 1000 rpm. Column has been shown to achieve height equivalent/theoretical plate values approaching 0.2 inches/plate within 90 minutes of boil-up.

The top joint is a combination cap, thread and ♂ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground ♂ 14/10 outer joint. Inner ♂ joint at bottom and ♂ 7/10 inner drip tip on takeoff arm. Body is vacuum jacketed. Band is virgin PTFE spiral with permanently attached "V" bottom magnet.

Complete item consists of column, PTFE band, air condenser, vacuum takeoff adapter, reactor vial, receiver vial, PTFE ♂ 7/10 stopper. **Note:** air condenser, reactor vial and receiver vial are part of kits 9560-05 and 9560-06. **Thermometer not included.**

COLUMN, only, with Fixed Head — Receiver Joint ♂7/10 Drip Tip

Top Threaded Outer ♂ Joint	Inner ♂ Joint	Order Code	Each
14/10	10/10	9595-05	121.73
14/10	14/10	9595-07	121.73
		Order Code	Each
PTFE BAND, only (For 9595-05 or 9595-07)		9596-11	125.84
THERMOMETER, only , Bulb 1mm, -10 to 105°C		9548-13	15.18
ADAPTER, only , for 9548-13 thermometer		5028-25	23.29

ADAPTER, Vacuum Takeoff — ♂7/10 Outer Side Joint

Threaded Outer ♂ Joint	Inner ♂ Joint	Order Code	Each
7/10	10/10	9565-05	43.13
7/10	14/10	9565-06	43.13

9590 FIXED HEAD SPINNING BAND COLUMN ASSEMBLY*

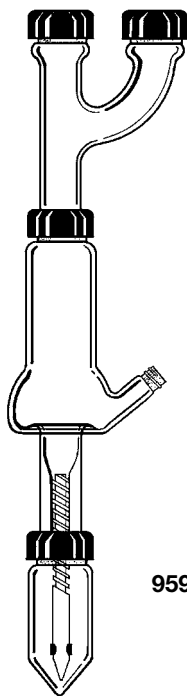
	♂ Joint 14/10-10/10		♂ Joint 14/10-14/10	
	Order Code	Each	Order Code	Each
Column, only	9595-05	♦ 121.73	9595-07	♦ 121.73
PTFE Band	9596-11	♦ 125.84	9596-11	♦ 125.84
Adapter, Vacuum Takeoff	9565-05	♦ 43.13	9565-06	♦ 43.13
Vial, Reaction, 5mL	9590-19	♦ 19.61	9590-20	♦ 19.61
Vial, Receiver, 3mL	9590-14	♦ 19.61	9590-15	♦ 19.61
Air Condenser	9566-14	♦ 25.02	9566-14	♦ 25.02
Stopper, ♂7/10, PTFE	12631-02	★ 11.18	12631-02	★ 11.18
Complete	9595-43	♦ 366.12	9595-47	♦ 366.12

*U.S. Patent No. 4,770,746



9595

SPINNING BAND MICRODISTILLATION COLUMN

**9599-49**
9599 SPINNING HICKMAN-HINKLE COLUMN* with Side Port, Microscale ♦

Low cost Microscale distillation column designed similar to 9576 Hickman Still with threaded side port on reservoir, but with elongated section below well to accommodate a longer PTFE spinning band. When operated carefully, the Hickman-Hinkle Column will yield 6-10 theoretical plates (data from Bowdoin College reports that this type column achieved an equivalent to HETP of better than .33cm/plate).

This still is really a hybrid system. It is a concentric tube/spinning band distillation column. The purpose of the band is to control flooding of the concentric tube (the shaft of the PTFE band). High plate values are achieved by expanding the shaft diameter to the maximum amount until flooding occurs. Plastic tubing is fitted around PTFE band area of column for insulation. Column hold-up is approximately 20ul. Temperature range of this non-reduced pressure still is 45-110°C. The top joint of this heavy walled still is a combination cap, thread and ⌘ joint to accommodate and seal other microscale apparatus. The O.D. of the top joint has an external thread to facilitate an O-Ring and open-top phenolic cap. The internal or I.D. at the top is a ground ⌘ 14/10 outer joint. ⌘ 14/10 inner joint at bottom. Complete item consists of modified Hickman Still, Claisen Head, PTFE Band, Thin-Walled Vial, Plastic Insulator, and operating instructions.

⌘ Joints 14/10-14/10

	Order Code	Each
Column, w/side port, only	9599-62	59.14
PTFE Band	9599-20	77.21
Claisen Head	9574-24	45.26
Plastic Insulator	9599-23	0.33
Vial, Reaction	9591-21	19.24
Complete	9599-49	223.96

*U.S. Patent No. 4,770,746

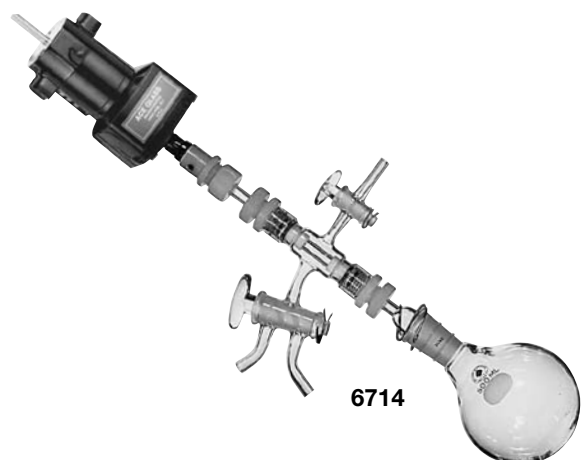
**ACE
Scientific
Glass
Repair
Service**



**ACE
Custom
Glass
Design
Service**

1-800-223-4524
www.aceglass.com

***Over 70 Years of Glass
Manufacturing Excellence!***

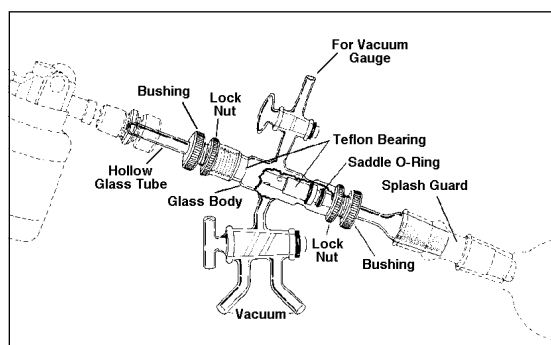
**6714**

6714 ROTARY EVAPORATOR *Firestone*, Micro* ♦

Ingenious micro rotary evaporator constructed of glass, PTFE and Nylon that operates without metal devices normally associated with this type of equipment. Use with any laboratory stirring motor.

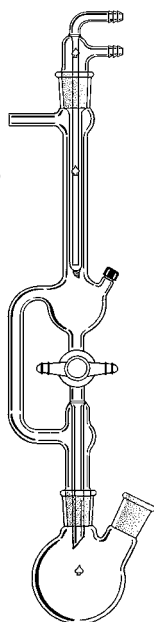
Hollow glass, 10mm O.D. tube with $\text{\text{S}}$ 14/10 inner joint at one end for flask and holes drilled near center for vacuum, couples to lab stirring motor. Tube turns inside PTFE bearing held in #15 Ace-Threds by Nylon bushing, saddle O-Ring and lock nut. 2mm straight bore stopcock attaches to drying tube and/or McLeod gauge. One arm of double oblique stopcock attaches to dry ice trap and vacuum line; other arm is for easy vacuum release and can be connected to trap. For flasks, see 9592; for chuck, see 8124; for dry ice trap, order 8758.

Complete item supplied with $\text{\text{S}}$ joint clamp; does *not* include stirring motor, chuck, flask or splash guard.



For Flask $\text{\text{S}}$ Joint 14/10	Order Code	Complete
	6714-31	403.06
REPLACEMENT PARTS		
	Order Code	Each
Glass Body, only	6714-04	206.40
Nylon Bushing, with O-Ring (2)	8066-12	24.87
Nylon Lock Nut (2)	8066-13	8.11
Saddle O-Ring (2)	8066-15	9.59
PTFE Bearing (2)	6714-06	28.33
Hollow Glass Tube, $\text{\text{S}}$ 14/10	6714-09	53.89
Splash Guard, $\text{\text{S}}$ 14/20	5258-06	52.48

**Designed by Dr. Raymond Firestone (U.S. Patent No. 4,569,724)*

9785

9785 STILL *Solvent Reflux, Micro* ♦

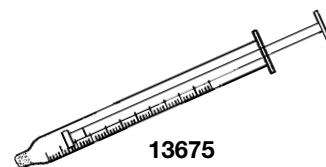
Microscale size solvent still that allows continuous reflux of solvents with stopcock open and collection of pure solvent when closed. Capacity of collection bulb is 15mL and has side port with cap and septum for syringe removal of contents. Still has 2mm bore PTFE stopcock $\text{\text{S}}$ 14/20 joints top and bottom and side connection at top for vacuum. Use with 5/16-inch I.D. Tubing, Size A. See page 5 for more detailed Hose Connection information.

	Order Code	Each
Still Head, only	9785-24	208.44
Finger Condenser, 100mm, $\text{\text{S}}$ 14/20	9250-02	56.14
Flask, 2N, 25mL, $\text{\text{S}}$ 14/20	9464-06	42.27
Complete	9785-40	306.85

13675 SYRINGE *Sample Retrieval, All Plastic ♠*

1mL all plastic syringe intended for use in Microscale sample retrieval applications. Features built-in dead space tip plug, safety stop, luer tip for needle connection, blue colored piston and is smooth drawing. Supplied in package of 25 or box of 100 units. Needles **not** included. For needles, see 5936 or 13682.

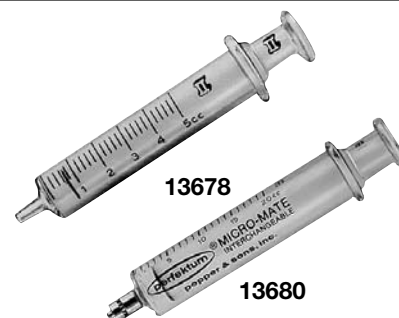
Order Code	Pkg/25	Box/100
13675-09	7.94	26.64

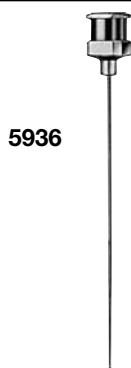


13678/13680 SYRINGE *Interchangeable ♠*

Interchangeable borosilicate glass syringe with permanently fused graduations. Colored plunger end facilitates dosage measurement. Reinforced flanges are flat on two sides to avoid rolling. 13678 supplied with glass tip. 13680 supplied with luer lock tip.

Type	Capacity, mL	Order Code	Each
Glass Tip	2	13678-03	15.60
Luer Lock Tip	2	13680-02	15.56



**5936 NEEDLE Syringe ★**

Standard hypodermic type needles made from 304 full hard stainless steel tubing with chrome-plated brass American standard luer hub. Supplied 51mm (2 inches) long with point style #2 (20° bevel) for septum penetration. Supplied five needles per package.

Gauge	O.D.,mm	I.D., mm	Order Code	Per Pkg.
23	.63	.32	5936-32	31.42
19	1.07	.65	5936-39	41.72
18	1.27	.80	5936-40	41.72
14	2.1	1.6	5936-44	72.82

**13682 NEEDLE Stainless Steel ★**

Sterile, stainless steel syringe needles with inert plastic luer hub and regular 12° medical point. Can be sterilized. Supplied 25 needles per package.

Gauge	O.D., in.	I.D., in.	Length (In.)	Order Code	Per Pkg.
20	.035	.023	1-1/2	13682-12	12.90
22	.028	.016	1-1/2	13682-15	12.90

Note: 20 gauge needle fits ACE Cat. No. 12684-23, 0.8 mm I.D. PTFE Tubing.

9590 CAPS Replacement, with Hole ♠

Replacement caps with hole for use with 9590 Microscale Reaction Vials as well as other Microscale equipment with externally threaded joints.

9590-44



Size	For Use With	Pkg. Qty.	Order Code	Per Pkg.
8 mm	5/5 Thread Joint	48	9590-44	6.10
13 mm	7/10 Thread Joint	48	9590-45	7.85
15 mm	10/10 Thread Joint	48	9590-47	11.35
20 mm	14/10 Thread Joint	48	9590-46	14.84
22 mm	24-410 Thread	48	9590-48	15.74
20 mm	9060-04 Bushing	48	9590-49	13.33
38 mm	38-430 Thread	24	9590-50	13.37

9590 CAPS Replacement, without Hole ♠

Replacement caps without hole for use with 9590 Microscale Reaction Vials as well as other Microscale equipment with externally threaded joints. Supplied with PTFE-faced rubber liner.



9590-58, -60

Size	For Use With	Pkg. Qty.	Order Code	Per Pkg.
13 mm	7/10 Thread Joint	48	9590-55	38.32
15 mm	10/10 Thread Joint	48	9590-58	41.41
20 mm	14/10 Thread Joint	48	9590-60	67.87
22 mm	24-410 Thread	48	9590-64	79.86
38 mm	38-430 Thread	24	9590-66	77.97

7855 O-RINGS *Replacement* ♦

Replacement O-Rings for use with 9590, 9591 and 9592 Microscale Reaction Vials as well as other Microscale equipment with externally threaded joints for making an "O-Ring-CAP-SEAL" type connection.

Size	For Use With	Material	Pkg. Qty.	Order Code	Per Pkg.
-006	5/5 Thread Joint	Viton	12	7855-01	9.39
-010	7/10 Thread Joint	FETFE	12	7855-705	13.24
-011	10/10 Thread Joint	FETFE	12	7855-706	13.24
-112	14/10 Thread Joint	FETFE	12	7855-720	19.39

For Septa, see **8787**. For Needles, see **5936**. For Cannula, see **5935**.



8787 SEPTUM *Replacement* ♦

Replacement septa for use with 9590 Microscale Reaction Vials and 9574 Claisen Head. Made of silicone rubber with PTFE face.

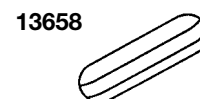
Size	For Use With	Pkg. Qty.	Order Code	Per Pkg.
8 mm	5/5 Thread Joint	48	8787-40	17.15
13 mm	7/10 Thread Joint & Claisen Head	48	8787-41	18.94
15 mm	10/10 Thread Joint	48	8787-43	30.64
20 mm	14/10 Thread Joint	48	8787-42	43.26
24 mm	24-410 Thread	48	8787-55	68.77
38 mm	38-430 Thread	48	8787-58	84.54



13658 MICRO STIRRER MAGNETS *PTFE* ★

PTFE-coated magnetic bar for use in microscale reaction flasks.

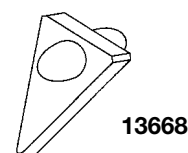
Length, mm	Diam., mm	Order Code	Each
8	1.5	13658-04	4.06
5	2.0	13658-05	4.06
7	2.0	13658-07	4.06
3	3.0	13658-08	4.46
6.35	3.0	13658-10	4.46
10	3.0	13658-12	4.46



13668 STIRRER MAGNETS *Micro, Triangular, PTFE* ★

PTFE "V" shaped vane with magnetic bar cross mounted. For use with 9590 and 9591 Microscale Vials.

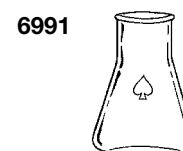
For Use With Joint Size	Order Code	Each
7/10 & 10/10	13668-01	8.73
14/10	13668-02	8.73
14/10	13668-03	8.73



6991 FLASK *Erlenmeyer, Reaction* ♦

Erlenmeyer flask, 10 and 25mL capacity, used to carry out reactions or to hold items such as 9581 Craig Tube in microscale work.

Capacity, mL	Order Code	Each
10	6991-03	5.21
25	6991-05	13.13



8465 DISH *Crystallization* ★**Corning 3140**

PYREX® brand. The rims are reinforced and fire polished to reduce chipping.

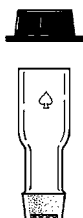
**8465**

Corning Code	Cap., mL	Cap., oz.	Approx. O.D. x Hght., mm	Quantity Per		Order Code	Shelf-Pack Price	Case Price
				Shelf-Pack	Case			
3140-70	180	6	70 x 50	6	24	8465-08	88.07	306.32
3140-80	180	6	80 x 40	6	24	8465-10	86.20	299.81
3140-90	270	9	90 x 50	6	18	8465-12	94.09	245.46
3140-100	325	11	100 x 50	6	18	8465-14	115.55	301.44
3140-125	740	25	125 x 65	4	12	8465-16	144.80	377.73
3140-150	1200	30	150 x 75	4	8	8465-18	192.26	334.36
3140-170	1770	60	170 x 90	2	8	8465-20	116.15	404.00
3140-190	2500	85	190 x 100	2	6	8465-22	137.33	358.25

**9543****9543 STOPPER** *Glass* ♠

Ground glass stopper for use with microscale equipment.

Joint	Order Code	Each
7/10	9543-02	12.26
14/20	9543-04	12.51

8277**8277 STOPPER** *Hy-n-Dry, Firestone** ♠

Hy-n-Dry stopper makes any glass vessel a desiccator, inexpensively. Allows sample storage for long periods, free from atmospheric moisture, even during overnight temperature changes or when refrigerating.

Bottom of stopper has a porosity B (70-100 microns) sintered glass disc sealed-in. Fill stopper with 10-20 mesh drying agent, cover with plastic cap, insert into any jointed vessel, i.e., boiling flask, volumetric flask, cylinder, etc., and you have an inexpensive desiccator. A pin hole in cap allows assembled unit to "breathe" with temperature fluctuations through, not around, the desiccant; this prevents pressure buildup.

Joint	Height Above Joint, mm	Top O.D., mm	Approx. Vol., mL	Order Code	Each
14/10	35	17	6	8277-12	32.77

*Designed by Dr. Raymond Firestone (U.S. Patent 4,545,492)

7642**7642 PTFE SLEEVES** *0.13mm Thickness* ♠

For use with ground glass joints on microscale glassware. Wall thickness, .13mm (.005 inches).

To Fit Size	Pkg. Qty.	Order Code	Per Pkg.
7/10	3	7642-02	8.17
10/10	3	7642-04	8.17
14/10	3	7642-06	6.74

**7643****7643 PTFE SLEEVES** *0.050mm Thickness* ♠

For use with ground glass joints on microscale glassware. Wall thickness, .050mm (.002 inches).

To Fit Size	Pkg. Qty.	Order Code	Per Pkg.
7/10	3	7643-01	4.30
10/10	3	7643-05	4.30
14/10	3	7643-07	4.30

The first complete line of Microscale Schlenk and Photochemical Schlenk Glassware.

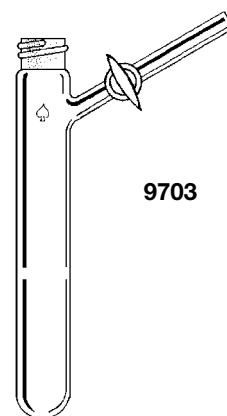
Designed by ACE and Dr. Thomas Bitterwolf of The University of Idaho, Moscow, ID. This glassware allows the full range of applications of standard Schlenk glassware, at 10–100mg scale. In addition, unique head designs make it possible to conduct photochemical reactions in microscale without a glove box or costly quartz equipment.

Like Microscale Organic Laboratory Glassware, listed on previous pages, Micro No-Air Glassware uses the “O-RING-CAP-SEAL” connections to make leak-tight seals that enable typical transfers, filtrations, etc., while under inert atmosphere. This connection eliminates the need for clamps.

9703 STORAGE TUBE *Micro Schlenk* ♠

Used for storage or simple reactions. With $\frac{10}{10}$ or $\frac{14}{10}$ outer joint externally threaded for making an “O-RING-CAP-SEAL” connection with mating inner joint. Stopcock on side arm is 1mm bore glass. Item supplied with holed cap, O-Ring and septa for sealing or syringe retrieval. For replacement caps (holed), see 9590-46, -47; (solid), see 9590-58, -60; for O-Rings, see 7855-706, -720; for septa, see 8787-42, -43.

Capacity, mL	Threaded Outer $\frac{\text{mm}}{\text{mm}}$ Joint	Order Code	Each
5	10/10	9703-04	64.36
15	14/10	9703-06	67.98



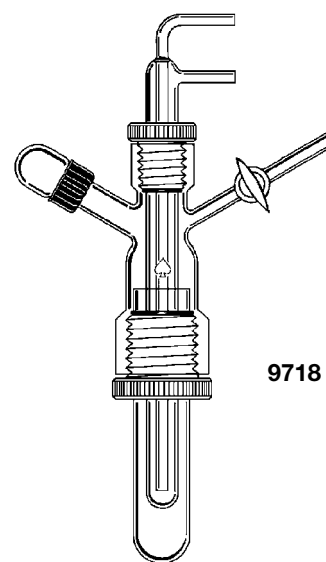
9703

9718 REACTOR *Micro Photochemical, with “Giant” #25 Ace-Thred* ♠

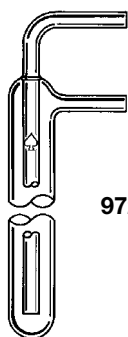
Microscale photochemical reactor with internally threaded connections both top and bottom of head. Top is #15 Ace-Thred that accepts 12.5-14mm O.D. tubes such as 9720-23 Finger Condenser; bottom is #25 Ace-Thred that accepts a 24mm O.D. quartz or glass (borosilicate) reactor tube for photolysis experiments. Complete item consists of head, #15 and #25 Nylon bushings with O-Rings, 9730 Cap Stopper with cap and O-Ring, finger condenser, and either quartz or glass 25 x 120mm reactor tube.

Top Ace-Thred	Bottom Ace-Thred	Inner $\frac{\text{mm}}{\text{mm}}$ Joint	Reactor Type	Order Code	Complete
15	25	14/10	Quartz	9718-19	216.62
15	25	14/10	Glass	9718-23	191.48
Top Ace-Thred	Bottom Ace-Thred	Inner $\frac{\text{mm}}{\text{mm}}$ Joint	Head Only	Order Code	Each
15	25	14/10		9718-12	105.76

	Order Code	Each
Nylon Bushing, #15, with O-Ring, only	7506-06	10.09
Nylon Bushing, #25, with O-Ring, only	7506-10	17.29
Cap Stopper, $\frac{14}{10}$, only	9730-10	19.80
Quartz Reactor Tube, 25 x 120mm, only	9718-39	33.85
Condenser, Finger, only	9720-23	29.83
	Order Code	Per Pkg.
Glass Reactor Tube, 25 x 150mm, Pkg/3, only	9718-49	26.13



9718

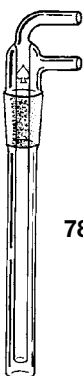


9720

9720 CONDENSER *Finger, Micro* ♠

Code -23 for use with 9718 Reactor. Outside diameter is 10 mm or 14 mm to fit #11 or #15 Ace-Thred respectively. Water connection tubing is 5 mm O.D. Overall length, 200 mm.

	Order Code	Each
For #11 Ace-Thred	9720-13	29.83
For #15 Ace-Thred	9720-23	29.83

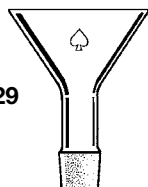


7807

7807 CONDENSER *Finger, Micro, with 14/10 Joint* ♠

With 14/10 inner joint.

Inner 14/10 Joint	O.D., mm	Length, mm	Order Code	Each
10/10	7	80	7807-02	50.99
14/10	7	80	7807-05	58.59
14/10	10	80	7807-03	52.44



9729

9729 FUNNEL *Micro* ♠

With 14/10 inner joint. Top diameter is 40mm.

Inner 14/10 Joint	Order Code	Each
14/10	9729-21	28.16



9730

9730 CAP STOPPER *Micro* ♠

With 14/10 outer joint externally threaded for making "O-Ring-CAP-SEAL" connection with mating inner joint. Supplied with cap and O-Ring. For replacement caps, see 9590-46; for O-Rings, see 7855-720.

Inner 14/10 Joint	Order Code	Each
14/10	9730-10	19.80



12631

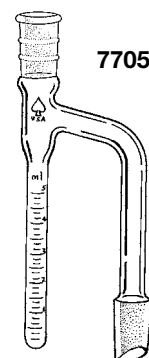
12631 STOPPER *PTFE, Micro* ★

Inner 14/10 Joint	Order Code	Each
10/10	12631-04	11.18
14/10	12631-06	11.34

7705 MOISTURE TEST RECEIVER *Bidwell & Sterling* ♦

For determination of moisture contents in foods, fatty acids, etc. Conforms to specifications of ASTM and A.O.A.C.

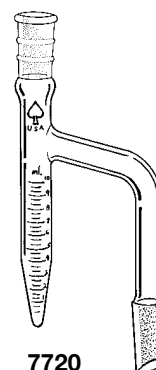
Capacity, mL	£ Joints	Order Code	Each
5	24/40	7705-02	87.23



7720 MOISTURE TEST RECEIVER *Dean & Stark* ♦

Suitable for ASTM D 95 and E 123. Subdivided 0.1mL to 2.0mL and 0.2mL above 2mL.

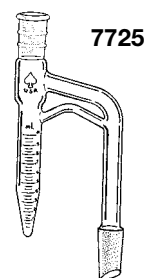
Capacity, mL	Order Code	Joints £24/40	Order Code	Joint £35/20
10	7720-02	111.10	7720-08	125.94
25	7720-04	113.95	—	—



7725 MOISTURE TEST RECEIVER *Dean & Stark* ♦

With return line to allow excess solvent to return to boiling flask. Suitable for ASTM D 95 and E 123. Joints are £24/40,

Capacity, mL	Order Code	Each
10	7725-02	122.24
25	7725-04	124.18

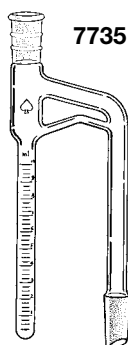


7729 MOISTURE TEST RECEIVER ♦

Used in phosphorus determination according to Ind. & Engr. Chem., Anal. Ed., Vol 9, page 524. Receiver capacity 5mL, graduated in 0.05 mL subdivisions. Upper joint is £24/40, side arm joint, £45/50.

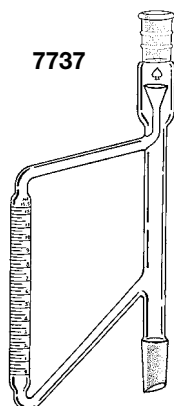
Order Code	Each
7729-10	170.16



**7735****7735 MOISTURE TEST RECEIVER** ♦

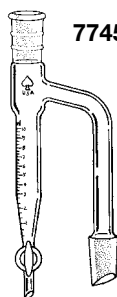
Modified Bidwell & Sterling with overflow to allow excess solvent to return to boiling flask. Both capacities are calibrated in 0.1mL subdivisions. Joints are ₡ 24/40.

Capacity, mL	Order Code	Each
5	7735-02	124.11
10	7735-04	145.37

**7737****7737 MOISTURE TRAP** ♦

For solvents heavier than water. Used in the method of quantitative separation and determination of glycol mixture by azeotropic distillation described in *Analytical Chemistry*, Vol. 29, No.1, page 100. Capacity is 12½mL, graduated in 0.1mL. Joints are ₡ 24/40

Capacity, mL	Order Code	Each
12½	7737-02	271.48

**7745-02****7745 MOISTURE TEST RECEIVER** *Barrett Type* ♦

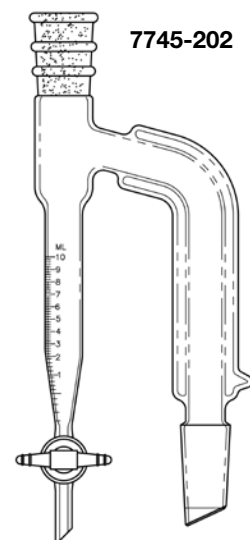
Used to determine the water content in petroleum and bituminous material. Similar to ASTM Type, except supplied with joints and stopcock to empty measuring tube during the determination. The 10mL size is subdivided in 0.1mL from 0-1mL, 0.2mL from 1-10mL; 20mL size in 0.1mL from 0-1mL, 0.2mL from 1-20mL. With 2mm bore glass or 1:5 solid PTFE stopcock plug. Joints are ₡ 24/40.

Plug Style	Capacity, mL	Order Code	Each
Glass	10	7745-02	144.06
PTFE	10	7745-21	157.40
Glass	20	7745-04	153.42
PTFE	20	7745-26	166.75

7745 MOISTURE TEST RECEIVER *Barrett Type, Jacketed* ♦

Same as 7745 above, except this item has a vacuum jacketed side arm to prevent condensation and improve performance. The 10mL size is subdivided in 0.1mL from 0-1mL, 0.2mL from 1-10mL; 20mL size in 0.1mL from 0-1mL, 0.2mL from 1-20mL. With 2mm bore glass or 1:5 solid PTFE stopcock plug. Joints are ₡ 24/40.

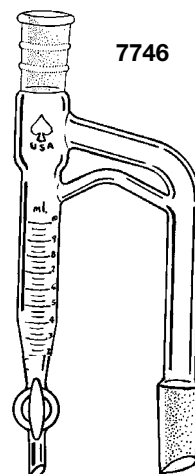
Plug Style	Capacity, mL	Order Code	Each
Glass	10	7745-102	210.13
PTFE	10	7745-202	226.16
Glass	20	7745-104	216.42
PTFE	20	7745-206	241.81



7746 MOISTURE TEST RECEIVER *Barrett Type* ♦

Similar to 7745 except with overflow line to allow excess solvent to return to boiling flask. The 10mL size is subdivided in 0.1mL from 0-1mL, 0.2mL from 1-10mL; 25mL size in 0.1mL from 0-1mL, 0.2mL from 1-25mL; 50mL size in 0.5mL from 0-10mL, 1mL from 1-50mL. Joint are ₡24/40,

Capacity, mL	Order Code	Each
10	7746-03	199.99
25	7746-07	190.93
50	7746-13	198.05

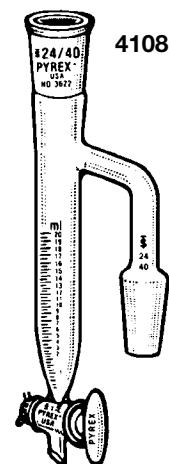


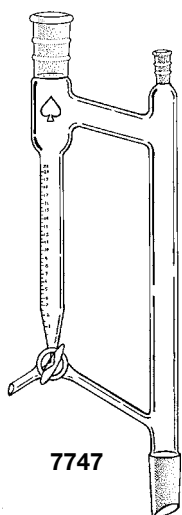
4108 MOISTURE TEST RECEIVER *Barrett* ★

Corning 3622

PYREX® brand, for determining water content in petroleum or bituminous products.

Corning Code	Cap., mL	Hght., mm	₡ Joints	₡ Stop-cock	Quantity Per		Order Code	Shelf-Pack Price	Case Price
					Shelf-Pack	Case			
3622-20	20	228	24/40	1	2	4	4108-17	504.69	877.72





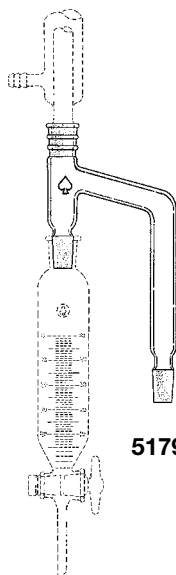
7747

Note! Graduated section on Codes -17, -19 does not have cutdown as on -02, -04.

7747 MOISTURE TEST RECEIVER *Recycle Type* ♠

Especially useful when heavier-than-water solvents are employed. A 120°, 1:5 PTFE stop-cock provides adequate shut-off in the intermediate position. Thermometer joint is $\frac{1}{8}$ 10/30.

Capacity, mL	§ Joints	Stopcock Bore, mm	Order Code	Each
20	24/40	2	7747-02	307.65
20	29/42	2	7747-04	332.10
125	29/42	2	7747-17	574.98
500	45/50	2	7747-19	860.30



5179/9101

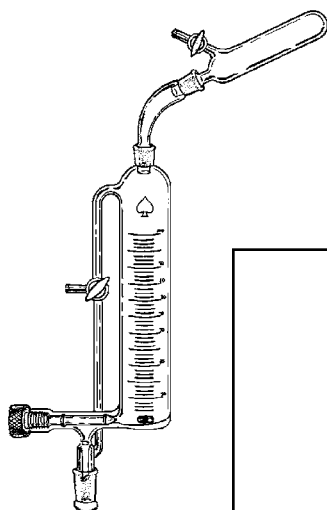
5179/9101 ADAPTER *Moisture Trap* ♠

Unique adapter used in place of a Dean & Stark Moisture Test Receiver. Simply add a condenser to top $\frac{1}{8}$ outer joint, any graduated funnel from 125mL to 2000mL to bottom $\frac{1}{8}$ inner joint, attach sample flask to $\frac{1}{8}$ inner side arm joint and you have a moisture test receiver.

Top Outer $\frac{1}{8}$ Joint	Bottom Inner $\frac{1}{8}$ Joint	Inner Side Arm $\frac{1}{8}$ Joint	Order Code	Each
14/20	14/20	14/20	9101-20	70.84
24/40	24/40	24/40	5179-07	80.18

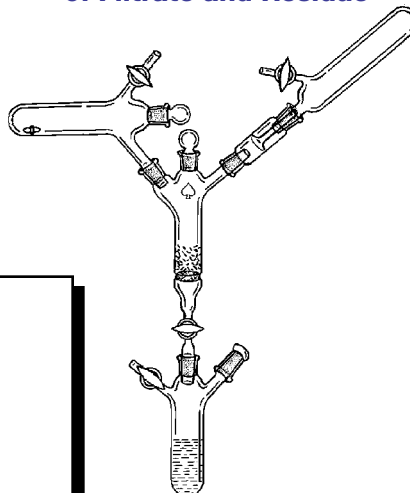
Common No-Air Glassware Operations

**Solid Transfer for
Solution Preparation**

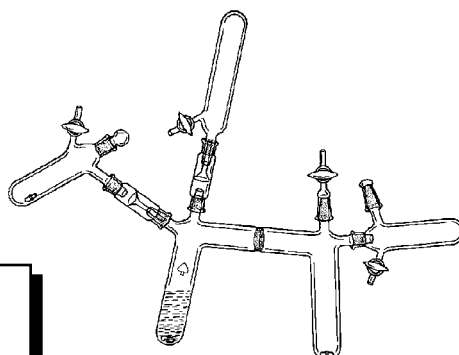


**ACE GLASS
INCORPORATED**

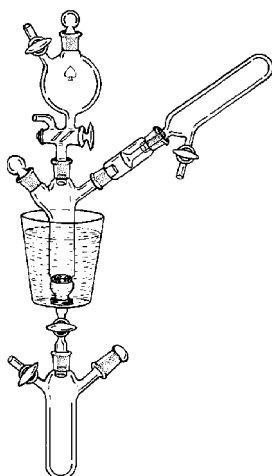
**Filtration, Collection
of Filtrate and Residue**



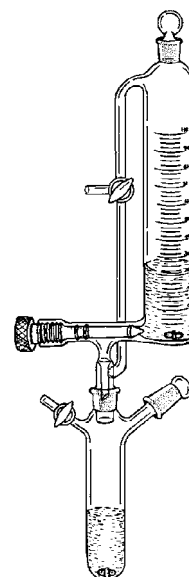
**Loading the
Multiple Recrystallizer**



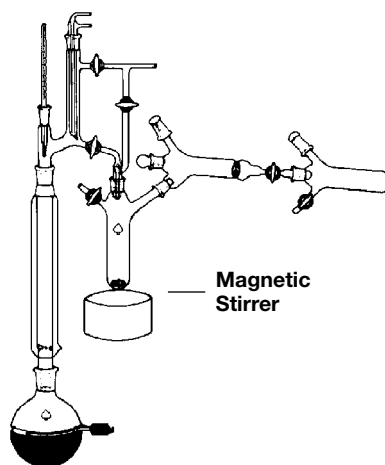
**Low Temperature
Recrystallization**



**Controlled Addition
of Stored Solution**



Solvent Distillation



Introduction

The rapid growth of organometallic compounds as synthetic intermediates and catalysts has made it necessary for many chemists, who lack previous experience, to prepare and work with such materials. In many cases these are highly reactive compounds that are handled only with difficulty in conventional glassware.

In response to many requests, **ACE GLASS** introduced No-Air Labware and the Ace-Burlitch Inert Atmosphere System, which are specifically designed for the convenient manipulation of air-sensitive compounds. The technical innovations incorporated in these systems originated in the research laboratory of Professor James M. Burlitch of the Chemistry Department at Cornell University, Ithaca, NY.

Advantages and Applications

Properly designed glassware presents a number of advantages over even the best dry box.

- 1) A laboratory can be equipped with several inert gas systems for the cost of a single high quality dry box which is usually limited to one operator at a time.
- 2) Considerable physical discomfort is associated with working with gloved hands for long periods.
- 3) Contamination of the dry box atmosphere with solvent vapors from one experiment may adversely affect subsequent experiments.
- 4) Heating and particularly cooling operations usually have to be performed outside the dry box, thereby necessitating additional transfer steps.
- 5) Static electricity generated by handling glassware with rubber gloves inside the dry box often makes the transfer of small quantities of solid difficult, if not impossible.

The principal requirements for the manipulation of relatively non-volatile, air- and water-sensitive compounds in glassware are the following:

- a) An inert atmosphere that contains a maximum of one part per million of oxygen and water. In addition, it is desirable for the inert gas to be more dense than air.
- b) A means of dispensing the inert gas simultaneously through two or more outlets to pre-evacuated or open vessels.

- c) Narrow vessels that have at least two openings, one for evacuation refill and the other(s) for transfer of material. Narrow openings and a narrow profile are required to provide a blanket of inert gas and minimize back diffusion of air when the vessel is opened briefly.

- d) For small scale operations, contamination by grease must be minimized by eliminating contact of solvents with greased joints.

The Ace-Burlitch Inert Atmosphere System incorporates requirements a) and (b) into a single unit designed to provide minimum contamination and maximum convenience in the control of the inert atmosphere. It is a product of several years of development and represents the state of the art in bench-top inert atmosphere control. The use of this system, in conjunction with ACE No-Air Labware, allows the novice to quickly develop the required techniques in a few days or weeks instead of months or years as previously required.

Requirements (c) and (d) are embodied in ACE No-Air Labware which, although based on principles developed by Schlenk many years ago, contains many innovations made possible by modern materials and technology. Ground joint connections are made with long inner and short outer parts to minimize contamination by grease while pouring solutions yet provide absolutely vacuum-tight seals; operations at .001 torr are common.

The necessity for the absence of leaks cannot be overemphasized because even a very minor leak permits slow diffusion of

air into the system even when it is at ambient pressure — partial evacuation, say for filtration, would bring disastrous consequences under such conditions. PTFE has been employed in certain parts to eliminate grease entirely.

The two series of ground joints, viz. $\frac{1}{4}$ 14/20 and $\frac{1}{4}$ 24/40, make No-Air Labware apparatus compatible with conventional glassware such as ACE Mini-Lab® or larger sizes. Threaded connections have replaced troublesome rubber tube connections and Instatherm® heating is used where conventional methods have failed.

The high cost of many precious metal compounds and the need for safety precautions often require small scale operations from 0.1g. to 10g. It is in this range that No-Air Labware is particularly useful.

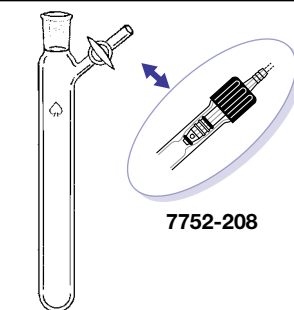
A booklet written by Dr. Burlitch, describing the use of No-Air Labware (No. 3841), is available upon request. Instructions on the installation and preparing the Inert Atmosphere System are supplied with each system.

Some common operations are illustrated on the following page

7752 STORAGE TUBE *Schlenk* ♦

Used for storage, but also may be used for simple reactions. With S 14/20 or S 24/25 outer joint and 2 or 4mm bore stopcock or 2mm Inlet Valve. For stoppers, see 8250 or 9543.

Capacity, mL	Side Port	S Joint	Order Code	Each
25	2mm Stopcock	14/20	7752-08	78.76
40	2mm Stopcock	14/20	7752-12	79.04
200	4mm Stopcock	24/25	7752-26	84.60
25	Valve	14/20	7752-208	68.00
40	Valve	14/20	7752-212	68.27
200	Valve	24/25	7752-226	72.33

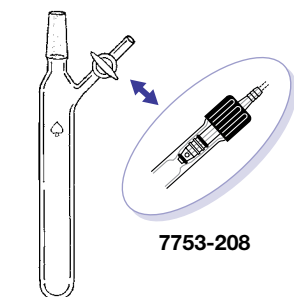


7752-08

7753 STORAGE TUBE *Schlenk* ♦

Similar to 7752, except with S 14/35 or S 24/40 inner joint. For caps, see 7795 and 7797.

Capacity, mL	Side Port	S Joint	Order Code	Each
25	2mm Stopcock	14/35	7753-08	77.27
40	2mm Stopcock	14/35	7753-12	77.27
200	4mm Stopcock	24/40	7753-26	84.30
25	Valve	14/35	7753-208	66.41
40	Valve	14/35	7753-212	66.41
200	Valve	24/40	7753-226	72.06

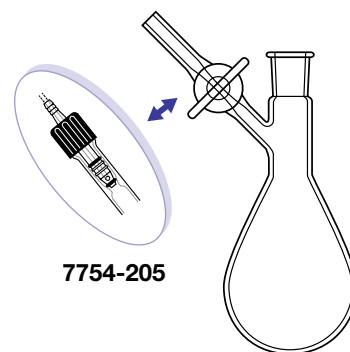


7753-08

7754 STORAGE FLASK *Schlenk* ♦

Used for storage, but may also be used for simple reactions. With S 14/20 or S 24/40 inner joint or #15 O-Ring joint and 2mm or 4 mm bore glass stopcock or 2 mm onlet valve.

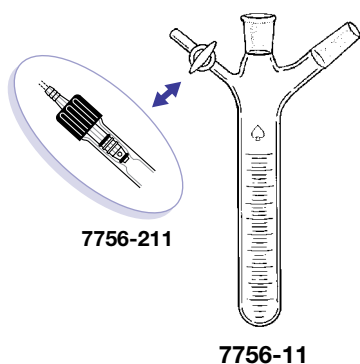
Capacity, mL	Side Port	Joint	Order Code	Each
10	2mm Stopcock	S 14/20	7754-05	63.24
25	2mm Stopcock	S 14/20	7754-07	70.57
50	2mm Stopcock	S 14/20	7754-09	73.16
100	2mm Stopcock	S 14/20	7754-11	75.65
200	2mm Stopcock	S 14/20	7754-13	80.61
100	2mm Stopcock	S 24/40	7754-22	80.61
200	4mm Stopcock	S 24/40	7754-24	86.44
500	4mm Stopcock	S 24/40	7754-26	94.13
200	4mm Stopcock	#15 O-Ring	7754-45	92.39
500	4mm Stopcock	#15 O-Ring	7754-47	97.97
10	Valve	S 14/20	7754-205	51.49
25	Valve	S 14/20	7754-207	58.72
50	Valve	S 14/20	7754-209	61.29
100	Valve	S 14/20	7754-211	63.75
200	Valve	S 14/20	7754-213	68.65
100	Valve	S 24/40	7754-222	68.65
200	Valve	S 24/40	7754-224	74.40
500	Valve	S 24/40	7754-226	93.04
200	Valve	#15 O-Ring	7754-245	80.29
500	Valve	#15 O-Ring	7754-247	85.80



7754-205

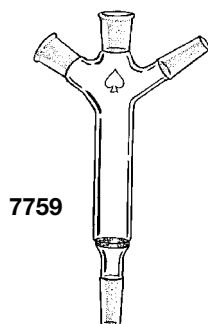
7754-05



**7756 STORAGE TUBE Schlenk ♦**

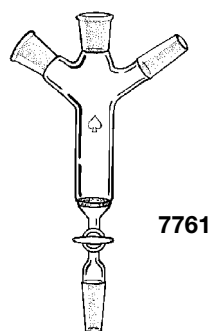
Used for carrying out most reactions in solution with No. 7759 Filter Tube. Also may be used with finger condenser No. 7807 in center joint for reflux reactions. Normal usage requires No. 13657-33 Stirring Magnet. With F 14/35 or F 24/40 inner or 2mm Valve side ports and F 14/20 or F 24/25 outer joint center opening. Graduated. For hollow stoppers, see 9543.

Capacity, mL	Side F Ports	F Center Joint	Order Code	Each
50	2mm Stopcock/ F 14/35	14/20	7756-11	124.58
100	2mm Stopcock/ F 14/35	14/20	7756-17	122.20
250	4mm Stopcock/ F 24/40	24/25	7756-23	132.89
50	Valve/ F 14/35	14/20	7756-211	113.32
100	Valve/ F 14/35	14/20	7756-217	110.95
250	Valve/ F 24/40	24/25	7756-223	120.22

**7759 STORAGE TUBE Schlenk ♦**

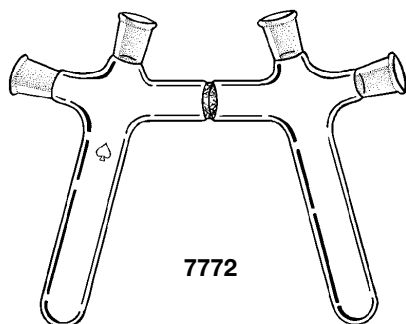
Used for filtration of solvents and collection of precipitate. With two F 14/20 or F 24/25 outer joints and two F 14/35 or F 24/40 inner. With fritted disc.

Capacity, mL	F Joints	Por. C Order Code	Por. D Order Code	Each
20	14/20–14/35	7759-11	7759-12	141.19
80	14/20–14/35	7759-21	7759-22	142.87
250	24/25–24/40	7759-31	7759-32	144.72

**7761 STORAGE TUBE Schlenk ♦**

Similar to No. 7759, except with 2mm bore PTFE stopcock on 20 and 80mL sizes, 3mm bore PTFE on 250mL size. In addition to collecting and filtering, this vessel may be used as a crystallizer. With two F 14/20 or F 24/25 outer joints and two F 14/35 or F 24/40 inner. With fritted disc.

Capacity, mL	F Joints	Por. C Order Code	Por. D Order Code	Each
20	14/20–14/35	7761-16	7761-17	242.69
80	14/20–14/35	7761-26	7761-27	245.77
250	24/25–24/40	7761-36	7761-37	252.13

**7772 DOUBLE TUBE RECRYSTALLIZER ♦**

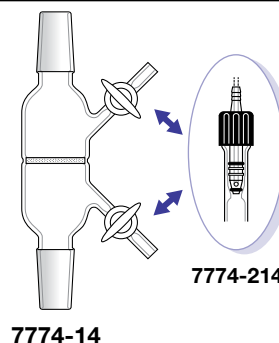
Used for multiple recrystallization of extremely air-sensitive compounds. A solid crystallized in one arm may be recrystallized in a closed system by decanting the supernatant liquid into the other arm and vacuum distilling the solvent back into the crystals in the first arm. This process may be repeated as often as necessary. After removal of the final supernatant liquid, dried crystals may be transferred to a Schlenk Tube. With four F 14/20 outer joints and porosity B (70-100 micron) fritted disc. Approximate volume in each arm is 75mL.

Order Code	Each
7772-11	229.53

7774 FILTER TUBE ♦

Used for filtration followed by recrystallization on opposite side of disc of extremely air-sensitive compounds. With two $\text{F } 24/40$ inner joints, porosity D (10-20 micron) fritted disc, and two 2mm bore glass stopcocks or 2mm Valves. Approximate volume in each arm is 75mL.

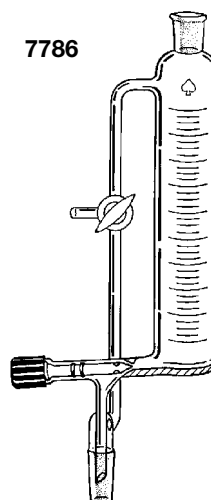
Side Ports	Order Code	Each
Stopcocks	7774-14	199.85
Valves	7774-214	219.87



7786 ADDITION-STORAGE FUNNEL ★

Permits solutions to be prepared with No. 13654-24 Stirring Magnet and added portion wise. The T-bore stopcock in the equalizing arm permits isolation of the contents for storage. Capacity, 100 or 250mL. Lower threaded stopcock is all PTFE. Outer joint is $\text{F } 14/20$ or $\text{F } 24/25$, inner joint is $\text{F } 14/35$ or $\text{F } 24/40$ with drip tube. The 100mL size is calibrated in 1mL subdivisions, the 250mL in 10mL subdivisions.

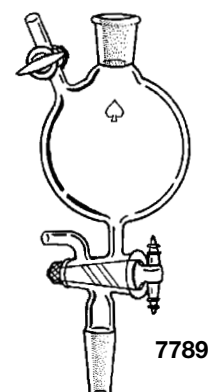
Capacity, mL	F Joint	Order Code	Each
100	14/20	7786-20	462.87
250	24/40	7786-25	477.49

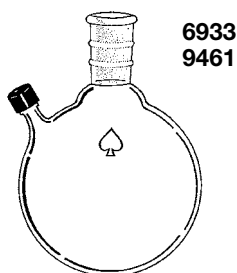


7789 SOLVENT COLLECTOR AND DISPENSER ♦

Used for collection and long-term storage of solvents. With $\text{F } 14/20$ outer joint and 2mm bore PTFE stopcock at top, double oblique 2mm bore PTFE stopcock and $\text{F } 14/35$ joint at bottom. Capacity is 250mL.

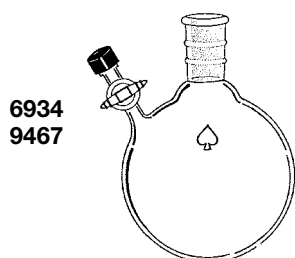
Order Code	Each
7789-12	230.21



**6933/9461 FLASK** *Short Neck, with Septum Port* ♦

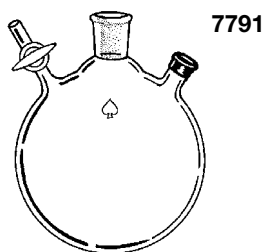
Used when handling air-sensitive materials. With ₣ 14/20 or ₣ 24/40 joint and septum joint for use with 9096-32 Septum. Supplied with one septum.

Capacity, mL	Order Code	₣14/20	Order Code	₣24/40
50	9461-10	28.94	—	—
100	9461-12	29.79	—	—
250	9461-14	31.05	6933-24	40.33
500	—	—	6933-26	45.37
1000	—	—	6933-27	52.03

**6934/9467 FLASK** *Short Neck, with Stopcock and Septum Inlet* ♦

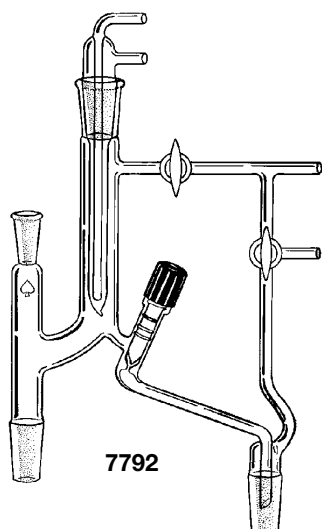
Used when handling air-sensitive materials. With ₣ 14/20 or ₣ 24/40 joint, 2mm bore PTFE stopcock and septum port for use with 9096-32 Septum. Supplied with one septum.

Cap., mL	Order Code	₣14/20	Order Code	₣24/40
50	9467-11	99.18	—	—
100	9467-13	99.75	—	—
250	9467-15	101.23	6934-25	102.52
500	—	—	6934-27	106.06
1000	—	—	6934-29	108.82

**7791 SOLVENT COLLECTOR** ♦

Used for collection and short-term storage of solvents. With 2mm bore stopcock and ₣ 14/20 joint. A serum cap stopper is used on side port for syringe removal of solvents.

Capacity, mL	Order Code	Each
50	7791-06	79.79
250	7791-21	85.38

**7792 DISTILLATION HEAD** *Vacuum Type* ★

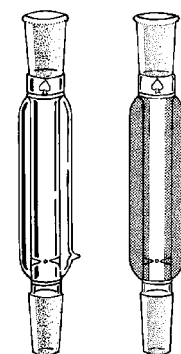
Used for distilling solvents directly into Schlenk Tubes. With ₣ 10/18 thermometer joint for 51mm immersion thermometer. All other joints are ₣ 24/40. Use No. 9092-27 Adapter to collect in smaller size Schlenk Tubes. Takeoff arm has a 3mm bore PTFE stopcock. Stopcocks on manifold and reflux arms, 2mm bore, 1:5 taper solid PTFE or glass plugs, allow isolation of head from receiver so that receiver may be removed without disturbing the refluxing solvent.

Glass Plugs			1:5 Solid PTFE Plugs		
	Order Code	Each		Order Code	Each
Head, only	7792-04	468.38	Head, only	7792-06	538.55
Cold Finger	7792-07	61.10	Cold Finger	7792-07	61.10
Complete	7792-15	529.48	Complete	7792-20	599.65

7793 COLUMN *Distillation, Hempel* ♠

Vacuum jacketed and silvered with viewing strip or unsilvered. For use with No. 7792 Head. With $\text{§}24/40$ joints. Effective length, 250mm.

	Order Code	Each
Unsilvered	7793-04	193.71
Silvered	7793-12	422.48

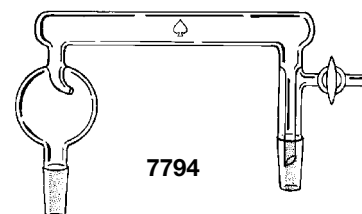


7793

7794 DISTILLATION APPARATUS *Trap-to-Trap* ♠

Used for the removal of solvents or other volatiles by vacuum distillation at ambient temperature. When used with Schlenk Reaction Vessel, No. 7756, the trap prevents excessive loss of solution in the event of a "bump." The distillate is collected in a No. 9477 pear-shaped flask or other suitable receiver and cooled by dry ice. For low-boiling solvents, closed system conditions can be maintained. With $\text{§}14/35$ joints and 2mm bore stopcock.

Order Code	Each
7794-08	338.06



7794

7795 CAP ♠

For No. 7753 Storage Tubes. The $\text{§}14/35$ and $\text{§}24/40$ sizes are used when it is important to evacuate completely. The $\text{§}14/20$ and $\text{§}24/25$ are used when there is more concern about grease not entering the storage tube.

§ Joint	Order Code	Each	§ Joint	Order Code	Each
14/20	7795-04	16.09	24/25	7795-09	22.85
14/35	7795-06	21.06	24/40	7795-11	21.45

7795



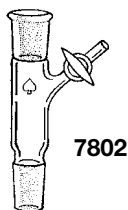
7797 CAP *with Stopcock* ♠

For No. 7753 Storage Tubes. With 2mm bore stopcock for evacuating or introduction of inert gases. The $\text{§}14/35$ or $\text{§}24/40$ joints are used when it is necessary to evacuate completely. The $\text{§}14/20$ joint is used when there is more concern about grease entering the system.

§ Joint	Order Code	Each	§ Joint	Order Code	Each
14/20	7797-05	60.36	24/40	7797-16	61.75
14/35	7797-07	66.96			



7797



7802

7802 ADAPTER *Conversion* ♠

Used for converting a single-neck round-bottom flask to air-free operation. With 14 outer joint at top and 14 inner at bottom. Stopcock is 2mm bore.

14 Joints	Order Code	Each
14/20	7802-09	82.58
24/40	7802-15	85.43

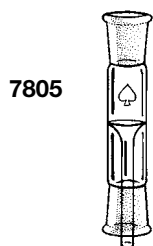


7803

7803 ADAPTER *Bent 115°* ♠

With one 14/20 outer and one 14/35 inner or one 24/25 outer and one 24/40 inner.

14 Joints	Order Code	Each
14/20-14/35	7803-12	34.65
24/25-24/40	7803-25	35.81



7805

7805 ADAPTER *Straight* ♠

With two 14/20 outer joints, one 7mm drip tube.

14 Joints	Order Code	Each
14/20	7805-12	48.67

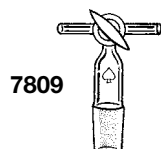


7807

7807 CONDENSER *Finger* ♠

For use with No. 7756 Reaction Vessel.

14 Joint	Length, mm	Order Code	Each
14/20	125	7807-04	54.71
24/25	150	7807-06	63.12



7809

7809 ADAPTER *Gas* ♠

With inner joint and T-Bore, 2mm stopcock.

14 Joint	Order Code	Each
14/20	7809-03	71.33
24/25	7809-07	74.94

7810 ADAPTER *Gas* ♠

With outer joint and T-Bore, 2mm stopcock.

Joint	Order Code	Each
14/35	7810-04	80.26
24/40	7810-08	83.48



5110 ADAPTER *Septum Inlet, Single Port* ♠

Sampling adapter with joint at bottom and septum port at top for handling air-sensitive materials. Supplied with septum. For replacement septa, see 9096-32.

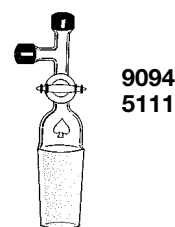
Joint	Order Code	Each
14/20	5110-13	25.57
24/40	5110-11	25.57



9094/5111 ADAPTER *Septum Inlet, with Stopcock* ♠

Sampling adapter with joint at bottom, 2mm bore PTFE stopcock and two septum ports at top. Used to handle air-sensitive materials. Supplied with two septa. For replacement septa, see 9096-32.

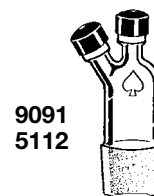
Joint	Order Code	Each
14/20	9094-04	90.53
24/40	5111-09	89.32



9091/5112 ADAPTER *Septum Inlet, Two Ports* ♠

Sampling adapter with joint at bottom and two septum ports at top. Used to handle air-sensitive materials. Supplied with two septa. For replacement septa, see 9096-32.

Joint	Order Code	Each
14/20	9091-03	45.73
24/40	5112-14	50.93



8761 BUBBLER *Mineral Oil* ♠

Used to make a vent to the atmosphere. May also be used with mercury when adequate ventilation is available. Reservoir head prevents oil from being sucked back into the system. With 8mm O.D. tubing connections. Volume approximately 40mL below side arm.

Order Code	Each
8761-10	40.69

