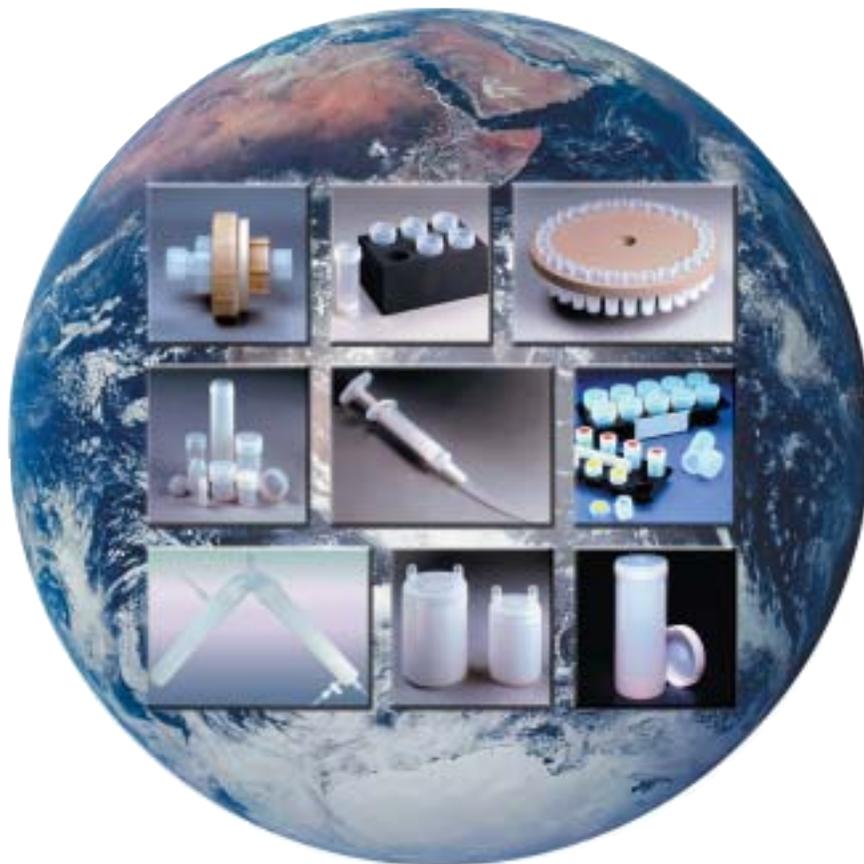


TEFLON® PFA

MOLDED PRODUCTS FOR SCIENCE AND INDUSTRY

Argentina
Australia
Austria
Bahamas
Belgium
Botswana
Bulgaria
Brazil
Canada
Chile
China
Columbia
Croatia
Cyprus
Czech Republic
Denmark
Ecuador
England
Finland
France
Germany
Greece
Hong Kong
Hungary
Iceland
Ireland
Israel
India
Italy



Jamaica
Japan
Korea
Kuwait
Lebanon
Monaco
Mexico
Netherlands
Norway
New Zealand
Philippines
Poland
Puerto Rico
Portugal
Qatar
Scotland
Singapore
Slovenia
South Africa
Spain
Sweden
Switzerland
Taiwan
Thailand
Trinidad
United Arab Emirates
United States of America
Uruguay
Zimbabwe

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NOTICE: Savillex Corporation reserves the right to make design, functional changes to any product without notice. In situations where there may be a need to substitute another Fluoropolymer resin, the product will be listed as molded of PFA (perfluoralkoxy).



Cover

Savillex Corporation acknowledges and thanks many regular customers for promoting our products to laboratories around the world; current customers in 58 countries as of this printing. Look for our web site this fall at www.savillex.com We encourage direct contact for your special requirements in TEFLON•PFA.

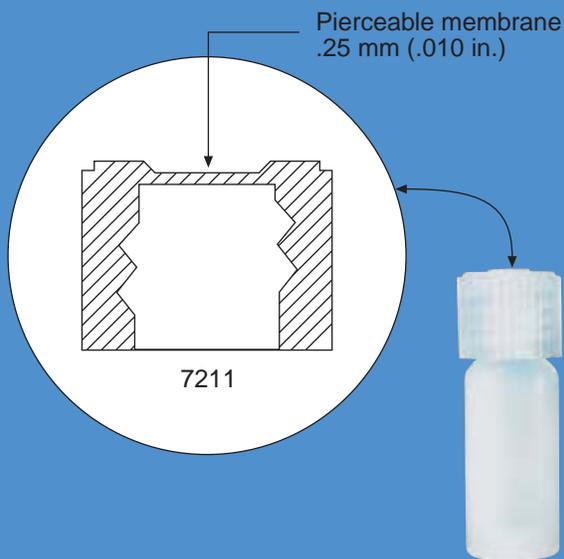
Autosampler TEFLON®·PFA Vials

Standard 12-32 vials in TEFLON® for demanding, exact sampling requirements. Pure, inert – no leachables. Molding provides optimum inside surface finish. Non-stick, non-wetting, autoclavable, broadest temperature range +500°F/260°C to –320°F/196°C. Designed for microliter sampling in one-piece auto sampling vial.



7200

.5 ml capacity
32 mm x 12 mm diameter
5 mm (.200 in.) opening
8 mm thread



7211

Caps packed 10 per pack



7205



THREADED CAPS, 8 mm thread TEFLON®

Part #7210 Thick 2mm top for permanent sealing

Part #7211 Pierceable membrane .25 mm (.010 inch)

Part #7212 Open septa top

Order vials separately.



7250

.2 ml capacity
32 mm x 12 mm diameter
max 5 mm opening
accepts standard
11 mm crimp caps

THREADED VIALS, 8 mm thread TEFLON®

Part #7200 Straight inside diameter

Part #7205 Inverted cone

Order caps separately.



7255



CRIMP-TOP VIALS, 11 mm TEFLON®

Part #7250 Inverted Cone

Part #7255 Straight inside diameter

- Please contact Savillex® for other vial configurations.

- Acid clean vials in 6 inch diameter pot adaptable to hot plate. (page 34)

Cups

A. AUTO SAMPLER GFAA CUPS

Part	Size
#7215 (was 7222)	1.5 ml
#7222 (was 7222L)	2 ml
#7224	4 ml
#722C push-on cap for all cups	

Savillex PFA conical-bottom cups provide the ultimate in low contamination and low adsorption of ultratrace metals for improved GFAA analyses. PFA sample cups are resistant to the widest range of chemicals, improving efficiency and accuracy when difficult solvents or sample matrices are analyzed. PFA cups are easily implemented into laboratory procedures by directly replacing standard PP or PS cups in most Perkin-Elmer and Varian instruments.

11.8 mm open diameter at top. 13.9 mm outside diameter below nesting ring. Overall height 23.8 mm, 35 mm and 51.8 mm.

Microcentrifuge Vials & Caps

B. MICROCENTRIFUGE VIAL

Part	Size
#7245	.5 ml

Dimensioned to fit standard microcentrifuges. Body diameter 8 mm x 30 mm height.

C. MICROCENTRIFUGE CAP

Part
#7246

Push-in caps, tops are pierceable.

D. MICROCENTRIFUGE VIAL

Part	Size
#7240	1.5 ml

Dimensioned to fit standard microcentrifuges. Body diameter 11 mm x 39 mm height.

E. MICROCENTRIFUGE CAP

Part
#7241

Push-in caps, tops are pierceable.

Specialty Vials

F. VIAL WITH CAP

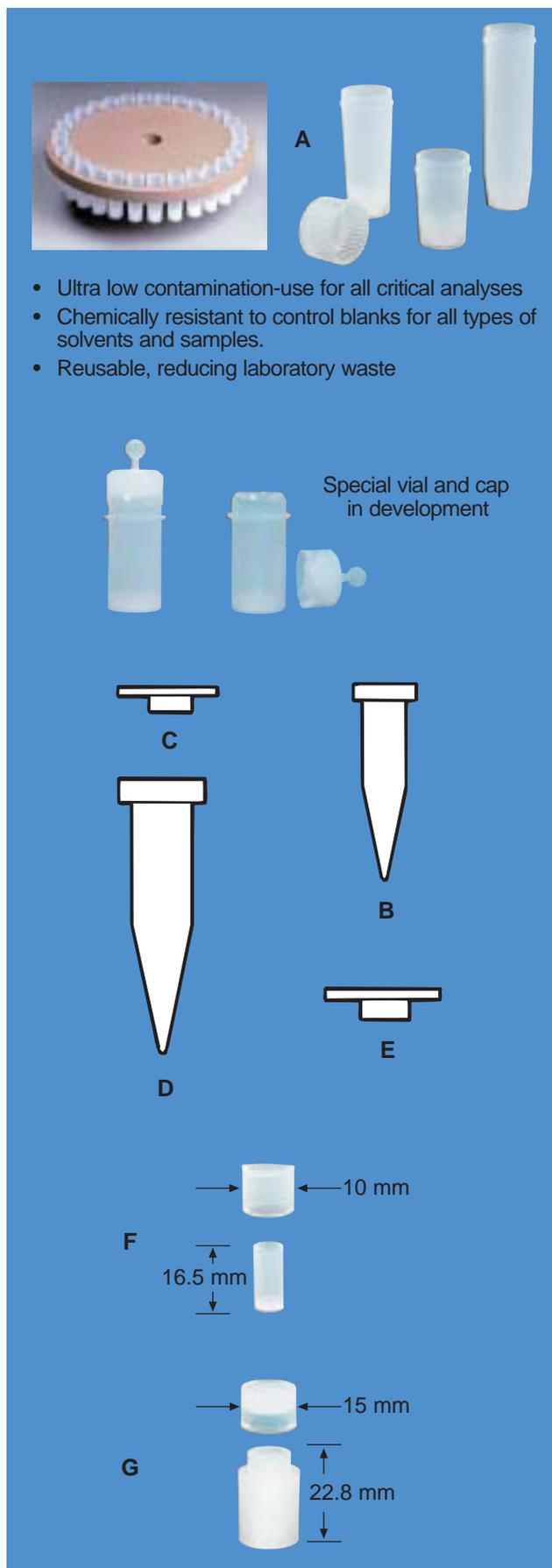
Part
#7226

.2 ml vial with loose, slip-on cap. Vial only measures 16.5 x 5.6 mm inside diameter. Rounded inside bottom (Ludwig).

G. VIAL WITH CAP

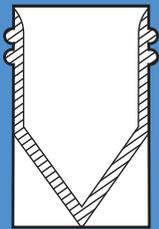
Part
#7235

.35 ml heavy wall vial. Specify loose or tight push-on cap. Full round inside bottom. 22.8 mm x 6.6 mm inside diameter (Parrish).



- Ultra low contamination-use for all critical analyses
- Chemically resistant to control blanks for all types of solvents and samples.
- Reusable, reducing laboratory waste

Special vial and cap in development



A



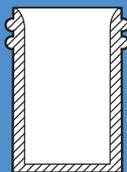
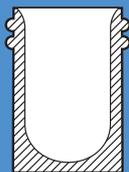
B



C

D

E



F



G



Specialty Vials

A. CONICAL VIAL, 5 ml

Part (10 per case)

#024

#024T (with tray)

Vial body measures 32 mm × 22.1 mm diameter over three fin type legs. 6 ml brim capacity. Uses 24 mm cover. Designed to concentrate components of a 5 ml sample at angular tip. Sample at tip is contained by a .5 mm radius for syringe removal.

B. VIAL, SNAP CAP

Part (10 per case)

#0217

5 ml capacity. Dust proof cap with tab. Dimensions: 25 mm height × 24 mm cap diameter ($63/64'' \times 31/32''$ dia). Container only: 23 mm × 21.5 mm diameter ($59/64'' \times 7/8''$ dia). 2 mm approximate wall thickness. 5 mm cap height.

C. VIALS with Rounded Bottoms, 3 and 6 ml

Part (10 per case)

#023R 3 ml

#026R 6 ml

Designed with more thread engagement for long term sealing. Precision buttress thread. Square outside vial body and hex cap for wrench set torquing. Socket type cap slips over TEFLON® cap for additional holding in pressure applications. TEFLON® cap is recessed for color coded adhesive labels. See page 9 for tray. Dimension across hex flats 20 mm ($13/16''$). Dimension across vial flats 17 mm ($11/16''$). Height with cap 26.6 mm ($1\ 1/16''$) and 46.5 mm (1.83") for 026R.

D. WRENCH SET

Part

#5131

E. SOCKET CAP, ULTEM®

Part

#5132

F. VIALS, 7 ml (Two styles available)

Part (10 per case)

#0225 Flat inside bottom

#0225R Round inside bottom

Flat and round inside bottoms include 24 mm threaded cap. Dimensions: 36 mm height × 27 mm cap diameter ($1\ 27/64'' \times 1\ 5/64''$ dia). Container only; 33 mm × 21 mm diameter ($1\ 5/16'' \times 7/8''$ dia). 2 mm approximate wall thickness. 14 mm cap height.

G. SCINTILLATION VIAL, TEFLON® 20 ml

Part

#0220

Meets specifications for commercial size 27.5 mm o.d. × 61 mm height with cap. Can be acid-washed and reused. Suitable for trace metal applications.

A. VIALS, 1/2 fl. oz., with cap. 17 ml brim capacity

Part

#025 Flat bottom

#025R Round inside bottom with solid outside bottom for hot plate heat transfer
see illustration

33 mm threaded closure with inner seal valve. Dimensions: 40 mm height × 36 mm cap diameter (1 19/32" × 1 27/64" dia). Container only: 37 mm × 29 mm diameter (1 31/64" × 1 3/16" dia). 2 mm approximate wall thickness. 15 mm cap height.

B. VIALS, 3/4 fl. oz., with cap. 24 ml brim capacity

Part

#0275 Flat bottom

#0275R Round inside bottom with solid outside bottom for hot plate heat transfer

33 mm threaded closure with inner seal valve. Dimensions: 55 mm height × 36 mm cap diameter (2 1/16" × 1 27/64" dia). Container only: 53 mm × 29 mm diameter (2 5/8" × 1 3/16" dia). 2 mm approximate wall thickness. 15 mm cap height.

C. VIALS, 1 fl. oz., with cap. 33 ml brim capacity

Part

#0201 Flat bottom

#0201R Round inside bottom with cored base

#0201R-SB Same as above with solid bottom

#0201C Conical bottom with cored base

33 mm threaded closure with inner seal valve. Dimensions: 70 mm height × 36 mm cap diameter (2 3/4" × 1 27/64" dia). Container only: 67 mm × 29 mm diameter (2 5/8" × 1 13/16" dia). 2 mm approximate wall thickness. Overall height of 0201C with cap 72 mm (2 7/8")

D. VIAL, 2 fl. oz., with cap. 64 ml brim capacity

Part

#0202

60 ml, deep body vial with 33 mm threaded cover. Regular flat inside bottom with radius at corner. Overall length with cover 13.2 cm (5 3/16"). Diameter of vial 29 mm (1 3/16").

E. TEFLON® SUPPORT SCREEN

Part

#26SC

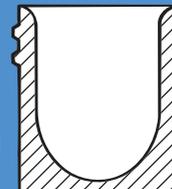
Use in 15, 22, 30, and 60 ml vials. Top surface of screen has sharp inverted vees. Allows maximum fluid circulation of a solid sample.



A

ALL VIALS LISTED AVAILABLE WITH TRAYS. PAGE 9

15 ml



025R



B

22 ml



E

26SC

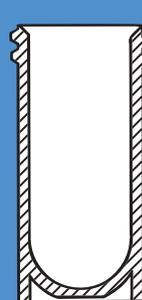
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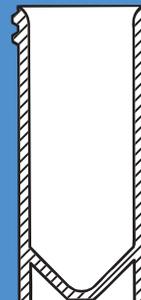
C

30 ml

D



0201R



0201C



0202

Drying Cell TEFLON®·PFA Septum Vials

“TAKING SOLUTIONS TO DRYNESS” in a closed cell

Designed as an option to open vessel drying in a fume hood. Dry with contained lines out to exhaust.

Vial covers have opposing ports for push-in Teflon® tubing.

Part #24-2-2 Drying cover has opposing ports for 1/8” tubing. Cover fits vials 024, 0225 and 0225R shown on page 6.

Part #33-2-2 Drying cover for 1/8” tubing. Fits with vials 025, 025R, 0275, 0275R, 0201, 0201R, 0201R-SB and 0201C shown on page 7.

Part #33-4-2 Same as #33-2-2 except ports are sized for 1/4” tubing. Internal diameter 4 mm – 5/32 inch. Use with all vials on page 7.

Part #331 Stainless steel jacket fits all vials shown on page 7. Increases heat transfer through vial walls from hot plates. Outside diameter 3.8 cm x 2.3 cm (1 1/2 x .9” height). Weight 75 grams.

Part #331T Same as #331 except jacket is completely coated with Teflon® PFA. Available on special order. (10) piece minimum. each. Allow 2–3 weeks.



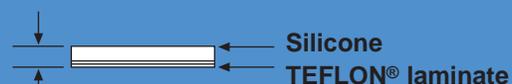
SEPTUM VIALS

The vials listed below have been modified by adding a 1/4” hole and by removing the last thread in each cover. This allows uniform seating of the extra thick TEFLON®/SILICONE laminate. Vial contents totally enclosed by TEFLON®.

Ten laminates are included in all tray and septum vial packages. Laminates are bagged separately to facilitate precleaning of entire vial.

(10) Septum
vials with
tray, cards &
(10) laminates

Part #	Vial capacity	Part #	Replacement Laminates
024ST	5 ML	24SE	
0225ST	7 ML	24SE	
025ST	15 ML	33SE	
0201ST	30 ML	33SE	



1.4 mm – .055 inches minimum thickness for sealing.

See last column above for ordering extra laminates.

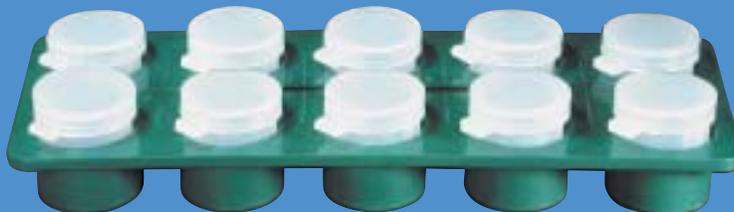
Polypropylene Trays TEFLON®·PFA Vials

Vial Organizers

Molded green polypropylene trays have numbered pockets and slots for identification cards. For the classifying and storage of samples in inert Teflon® vials. Contents are protected by the non-leaching, corrosion/chemical resistance of TEFLON®. Vials offer protection over a wide temperature range, are non-sticking and do not break.

A package unit includes one tray, ten vials and two ID cards.

Part #0217T



- 5 ml capacity • Dust proof snap-on covers • Freezable
- Dimensions on page 6 • Tray is #2001

Part #0225T Shown

- 7 ml capacity
- 24 mm threaded covers
- Center drop in card slot
- Freezable
- Stackable
- Vial dimensions on page 6

Part #	Notes Inside Bottom	Capacity
023RT	Round	3 ML
024T	Conical	5 ML
026RT	Round	6 ML
0225T	Flat	7 ML
0225RT	Round	7 ML



Tray only #2001
Tray dimensions 6.9 cm – 2.7 inches × 17.4 cm – 6.85 inches

Trays in green polypropylene for improved chemical and heat resistance to 120°C.

Part #	Vial Capacity
025T	15 ML
0275T	22 ML
0201T	30 ML

- 3 vial choices
- All vials have 33 mm threaded covers
- ID card slot at side
- Freezable
- Stackable
- Vial dimensions on page 7



Tray only #2002
Tray dimensions 8.1 cm – 3.2 inches × 26.5 cm – 10.45 inches

Small TEFLON®·PFA Containers

Savillex® vials are used to archive biological tissue samples in liquid nitrogen. Record important data on Aramid tabs of Nomex®. Tabs snap-in to recessed covers. part #R100.

Heat to 500F/250C
Freeze to -320F/196C
(cover included)

Store solutions, pastes, bulk material in easily cleaned wide mouth jars. Virtually any substance with complete safety and integrity.

2-port transfer caps interchange with these three jars. See page 17.

0102
60 ml

0103
90 ml

0103L
180 ml

Small Jars

JAR 2 fl. oz./60 ml

Part
#0102

65 ml brim capacity. 53 mm threaded closure with inner seal valve. Dimensions: 47 mm height x 59 mm cap diameter (1 ⁵³/₆₄" x 2 ⁵/₁₆" dia).

Container only: 43 mm x 49 mm diameter (1 ⁴⁶/₆₄" x 1 ³¹/₃₂" dia). 2.5 mm approximate wall thickness. 19 mm cap height.

JAR 3 fl. oz./90 ml

Part
#0103

95 brim capacity. 53 mm threaded closure with inner seal valve. Dimensions: 66 mm height x 59 mm cap diameter (2 ⁵/₈" x 2 ⁵/₁₆" dia).

Container only: 63 mm x 49 mm diameter (2 ¹⁵/₃₂" x 1 ³¹/₃₂" dia). 2.5 mm approximate wall thickness. 19 mm cap height.

JAR 6 fl. oz./180 ml

Part
#0103L

185 brim capacity. 53 mm threaded closure with inner seal valve. Dimensions: 123.8 mm height x 59 mm cap diameter (4 ⁷/₈" x 2 ⁵/₁₆" dia). Container only: 120 mm x 49 mm diameter (4 ³/₄" x 1 ³¹/₃₂" dia).

Teflon Curved Support Screen

Part
#46SC

Use any of the three jars. Top surface is curved with sharp inverted vees. Solid sample in solution has minimum contact with screen or container. Used for leaching studies.

JAR 4 fl. oz./120 ml

Part

#0104

130 ml brim capacity. 70 mm threaded closure with inner seal valve. Dimensions: 53 mm height × 76 mm cap diameter ($2\frac{3}{32}$ " × 3" dia). Container only: 50 mm × 66 mm diameter ($1\frac{31}{32}$ " × $2\frac{5}{8}$ " dia). 2.5 mm approximate wall thickness. 19 mm cap height.



120 ml

JAR 6 fl. oz./180 ml

Part

#0106

185 ml brim capacity. 70 mm threaded closure with inner seal valve. Dimensions: 76 mm height × 76 mm cap diameter ($2\frac{31}{32}$ " × 3" dia). Container only: 73 mm × 66 mm diameter ($2\frac{27}{32}$ " × $2\frac{19}{32}$ " dia). 2.5 mm approximate wall thickness. 19 mm cap height.



180 ml

JAR 8 fl. oz./240 ml

Part

#0108

248 ml brim capacity. 70 mm threaded closure with inner seal valve. Dimensions: 94 mm height × 76 mm cap diameter ($3\frac{3}{4}$ " × 3" dia). Container only: 90 mm × 66 mm diameter ($3\frac{5}{8}$ " × $2\frac{19}{32}$ " dia). 2.5 mm approximate wall thickness. 19 mm cap height.



240 ml

JAR 10 fl. oz./300 ml

Part

#0110

320 ml brim capacity. 89 mm threaded closure with inner seal valve. Dimensions: 76 mm height × 95 mm cap diameter (3 " × $3\frac{3}{4}$ " dia). Container only: 72 mm × 86 mm diameter ($2\frac{27}{32}$ " × $3\frac{3}{8}$ " dia). 2.5 mm approximate wall thickness. 23 mm cap height.



300 ml



360 ml



480 ml



500 ml



1000 ml



01350

Large Jars

JAR 12 fl. oz./360 ml

Part

#0112

375 ml brim capacity. 89 mm threaded closure with inner seal valve. Dimensions: 88 mm height × 95 mm cap diameter (3 1/2 × 3 3/4" dia). Container only: 83 mm × 85 mm diameter (3 1/2 × 3 3/8" dia). 2.5 mm approximate wall thickness. 23 mm cap height.

JAR 16 fl. oz./480 ml

Part

#0116

500 ml brim capacity. 89 mm threaded closure with inner seal valve. Dimensions: 11.2 cm height × 95 mm cap diameter (4 3/8 × 3 3/4" dia). Container only: 10.8 cm × 85 mm diameter (4 1/4 × 3 3/8" dia). 2.5 mm approximate wall thickness. 23 mm cap height.

JAR 1/2 liter

Part

#0500

#0500D JAR only
with 3/8" dia. × 7/8" drain tube
molded at bottom center

545 ml brim capacity. 89 mm threaded closure with inner seal valve. Dimensions: 11.5 cm height × 95 mm cap diameter (4 5/8 × 3 3/4" dia).

Container only: 11.4 cm × 84 mm diameter (4 1/2 × 3 3/8" dia). 2.5 mm approximate wall thickness. 23 mm cap height.

JAR 1-liter

Part

#1000, JAR and cover

#1000J, JAR only

#1000D, JAR only with integral
1/2" dia. × 7/8" tube drain
molded at bottom

1100 ml brim capacity. 110 mm threaded closure with inner seal valve. Dimensions: 15.2 cm height × 11.7 cm cap diameter (6 × 4 5/8" dia). Container only: 14.7 cm × 10.5 cm diameter (5 3/4 × 4 1/4" dia). 3 mm approximate wall thickness. 28 mm cap height.

Note: All fluid transfer covers on page 16 interchange with this jar.

JAR 360 ml and Cover

Part

#01350, Jar and cover

2" deep jar. Same 110 mm closure. Used for commercial soil sampling.

Large Jars

JAR 2 Liter

Part

#2000 Jar and cover

#2000J Jar only

2000 ml, 110 mm buttress thread closure. All fluid transfer covers on page 16 interchange with this jar.
 Dimensions: 26.8 cm × 11.7 cm cap diameter (10 5/8" × 4 5/8" dia).
 Container only: 26.4 cm × 10.5 cm diameter (10 3/8" × 4 1/4" dia).
 18 mm cap height. Heavy 3 mm approximate wall thickness at lower side and bottom is suitable for adding tube ports.
 Jar weighs 6 pounds when filled with water. In transporting or pressure applications, use retaining fixtures, page 15.

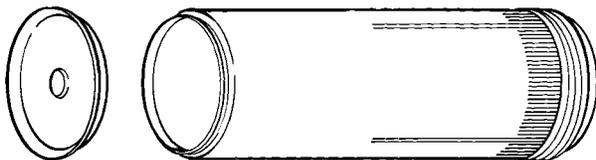
JAR 2.2 Liter

Part

#2200 Jar and cover

#2200J Jar only

2200 ml, 110 mm buttress thread closure. All fluid transfer covers on page 16 interchange with this jar.
 Dimensions: 29.4 cm × 11.7 cm cap diameter (11 5/8" × 4 5/8" dia).
 28 mm cap height.
 Container only: 28.8 cm x 10.5 cm diameter (11 3/8" × 4 1/4" dia).
 See additional comments above for adding tube ports.



Note: Bottoms can be cut away and remachined to serve as push-in plugs for sediment sampling.



2000 ml



2200 ml



Large vessels are made by joining 2000 and 2200 ml jars using an infrared fusion process. The bottom is removed from the top jar and aligned with the threaded area of the lower jar. Infrared heat (1800°F) provides molten surfaces for fusion bonding. The bond is strong and pure – no extraneous materials added.

A small raised bead $\approx 1.6 \text{ mm} - 1/16 \text{ inch}$ remains at the outside/inside surfaces of the bonded area. This results in a vessel equal to or stronger than the individual jars. Removing the bead requires an extra machining step. Price will be quoted separately depending on requirements.

Savillex Corp. has developed a method to accurately control the fusion process and cool down of large diameter parts. The completed vessel is in true alignment.

Threads of the lower jar are retained for gripping purposes. A water filled 4 ml vessel weighs over 12 pounds.

Vessels can be customized to fit within restricted spaces up to 57 cm – 22 1/2 inches maximum including cover.

All fluid transfer covers on page 16 fit with large vessels.

Retaining fixtures are available and recommended for any vessel size – especially recommended for pressurized transfer of viscous fluids. Page 15.

Part

#3000 3-Liter Vessel with plain cover

Overall height with plain cover $\approx 41 \text{ cm} - 16 \frac{1}{8}''$.

#3000J3-Liter Vessel only

#3000-4-2 . . .3-Liter with 2 1/4" ports

#3000-6-2 . . . " 2 3/8" "

#3000-8-2 . . . " 2 1/2" "

Multi port covers priced on page 16.

Part

#4000 4-Liter Vessel with plain cover

Overall height with plain cover $\approx 54 \text{ cm} - 21 \frac{3}{8}''$.

#4000J4-Liter Vessel only

#4000-4-2 . . .4-Liter with 2 1/4" ports

#4000-6-2 . . . " 2 3/8" "

#4000-8-2 . . . " 2 1/2" "

Multi port covers priced on page 16.

Pressure Fixtures TEFLON®·PFA Reaction Chambers

All Savillex® wide mouth liter containers have 110 mm–4.33 inch threaded covers. This large cover surface allows a variety of transfer port sizes and locations. Large container opening ease handling of semi-solid materials. Easy clean out.

For pressure applications, use pressure fixtures listed for container size. Transferring viscous fluids or using containers as reaction chambers requires fixturing. It is not necessary to use fixtures for low pressure, easy flow fluids.



#1000PF Pressure Fixture with 1-liter jar, shown with #591 extension rods for stopcock draining. Pressure rating 75 psi



#2000PF pressure fixture w/2-liter jar
Pressure rating 75 psi



#4000PF
Pressure
Fixture
with
4-Liter
vessel

Pressure
Rating
35 psi



weight 3 pounds

5 1/2" diameter stainless steel end plates with 5/16" stainless steel bolts for the following:

Part

- #1000PF1-Liter
- #2000PF2-Liter
- #2200PF2.2-Liter
- #3000PF3-Liter
- #4000PF4-Liter



Pressure Fixture provides leak proof rolling jars

#591 . . .Extension rods
Use with 3" or 5 1/2" fixtures.

3" diameter stainless steel end plates and 1/4" stainless steel bolts for segmented column series, digestion vessels and all containers under 2 1/2 inch diameter.



Part

#590PF

Pressure rating
100 psi

Fluid Transfer TEFLON® PFA Containers

LABORATORY TESTS:



These containers do not deform at a vacuum of 29.1 inches of mercury. Containers registered a net loss of -0.1 inches after 60 minutes without additional pumping.

When these containers are subjected to inside pressures, a restraining fixture is necessary to prevent an upward bow of the cover. Fixture selection on page 15 advises pressure limits. **CAUTION: WHEN THESE PRODUCTS ARE USED WITH HAZARDOUS MEDIA, MAXIMUM CAUTION MUST BE EXERCISED. THERE ARE MANY COMBINATIONS OF CONDITIONS SUCH AS HEAT, PRESSURE AND CONCENTRATIONS OF MEDIA BEING HANDLED WHICH MAY INFLUENCE THE PERFORMANCE OF THE SYSTEM. SAVILLEX® CANNOT BE HELD RESPONSIBLE FOR INJURIES OR LOSSES INCURRED DURING THE USE OF THESE PRODUCTS. ALWAYS USE ADEQUATE SHIELDING AND APPLICABLE SAFEGUARDS FOR THE MATERIALS HANDLED.**



Ordering information on page 15.
TEFLON® liter jar with (7) position transfer cover mounted in #1000PF pressure fixture.



#1000-4-2

All covers listed on this page are interchangeable with 2, 2.2, 3 and 4 liter vessels.



#1000-4-3



#1007

See pages 12, 13 & 14 for container dimensions.

TWO PORT TRANSFER COVERS & CONTAINERS

Part#	Container	Port Size
#1000-4-2	.....1-Liter	.....Two 1/4"
" -6-2	....."	.....3/8"
" -8-2	....."	.....1/2"
#2000-4-2	.....2-Liter	....." 1/4"
" -6-2	....."	.....3/8"
" -8-2	....."	.....1/2"
#3000-4-2	.....3-Liter	....." 1/4"
" -6-2	....."	.....3/8"
" -8-2	....."	.....1/2"
#4000-4-2	.....4-Liter	....." 1/4"
" -6-2	....."	.....3/8"
" -8-2	....."	.....1/2"

All ports listed are molded integral with cover. One port location allows tubing to enter container. Includes 2 Ferrule nuts. All TEFLON® PFA.

THREE PORT TRANSFER COVERS & CONTAINERS

#1000-4-3	.....1-Liter	.....Three 1/4"
" -6-3	....."	.....3/8"
#2000-4-3	.....2-Liter	....." 1/4"
" -6-3	....."	.....3/8"
#3000-4-3	.....3-Liter	....." 1/4"
" -6-3	....."	.....3/8"
#4000-4-3	.....4-Liter	....." 1/4"
" -6-3	....."	.....3/8"

Identical to two port transfer cover except center port is fabricated with panel mount or male connector. Center fitting does not allow tubing to enter container unless requested. Includes 3 PFA nuts.

SEVEN PORT TRANSFER COVERS & CONTAINERS

#1006	.....1-Liter	.....Seven 1/4"
#2006	.....2- "	....." 1/4"
#3006	.....3- "	....." 1/4"
#4006	.....4- "	....." 1/4"
#1007	.....1- "	....." 3/8"
#2007	.....2- "	....." 3/8"
#3007	.....3- "	....." 3/8"
#4007	.....4- "	....." 3/8"

All 1/4" and 3/8" tube ports molded integral with cover. All ports allow tubing or probes to enter container for any depth setting. Ferrule nuts Included. Cap nuts extra page 20.

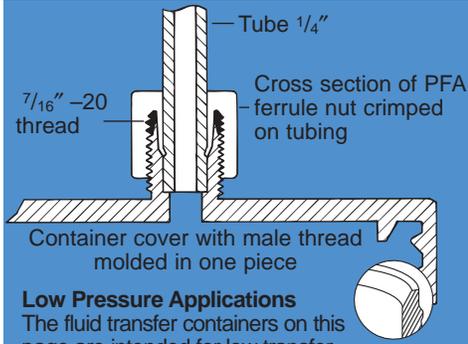
#1008	.....1-Liter	.....2-1/4", 5-3/8"
#2008	.....2- ""
#3008	.....3- ""
#4008	.....4- ""

Two ports are 1/4". Five ports including center port are 3/8". All ports allow tubing or probes to enter container. Includes 7 ferrule nuts. Cap nuts on page 20.

#1009	.....1-Liter	.....4-1/4", 3-3/8"
#2009	.....2- ""
#3009	.....3- ""
#4009	.....4- ""

Four ports are 1/4". Three ports including center port are 3/8". All ports allow tubing or probes to enter container. Includes 7 ferrule nuts.

Fluid Transfer TEFLON®·PFA Containers



Low Pressure Applications

The fluid transfer containers on this page are intended for low transfer pressures – up to 5 psi.

The vacuum comments on page 16 apply to containers on this page.



BLACK TEFLON® 1/2 LITER TRANSFER CONTAINER for light sensitive materials. AVAILABLE • SPECIAL ORDER



Container has one 1/8 inch or 1/4 inch male fitting molded in one piece with 24 mm cover. Tubing does not enter container. PFA nut included.

Part	Container Size	
#0225-2	1/8"	7 ml
#0225-4	1/4"	7 ml

Containers have one 1/8 inch or 1/4 inch male fitting molded in one piece with 33 mm cover. Tubing does not enter container. PFA nut included.

Part	Container Size	
#025-2	1/8"	1/2 oz./15 ml
#025-4	1/4"	1/2 oz./15 ml
#0275-2	1/8"	3/4 oz./23 ml
#0275-4	1/4"	3/4 oz./23 ml
#0201-2	1/8"	1 oz./30 ml
#0201-4	1/4"	1 oz./30 ml

Containers have two 1/8 inch or 1/4 inch ports molded in one piece with 53 mm cover. One fitting location allows tubing to enter container.

Part	Container Size	
#0102-2-2	1/8"	2 oz./60 ml
#0103-2-2	1/8"	3 oz./90 ml
#0103L-2-2	1/8"	6 oz./180 ml
#0102-4-2	1/4"	2 oz./60 ml
#0103-4-2	1/4"	3 oz./90 ml
#0103L-4-2	1/4"	6 oz./180 ml

Containers have one 1/4 inch male fitting molded in one piece with 70 mm cover. Tubing does not enter container. PFA ferruled nut included for 1/4" tubing.

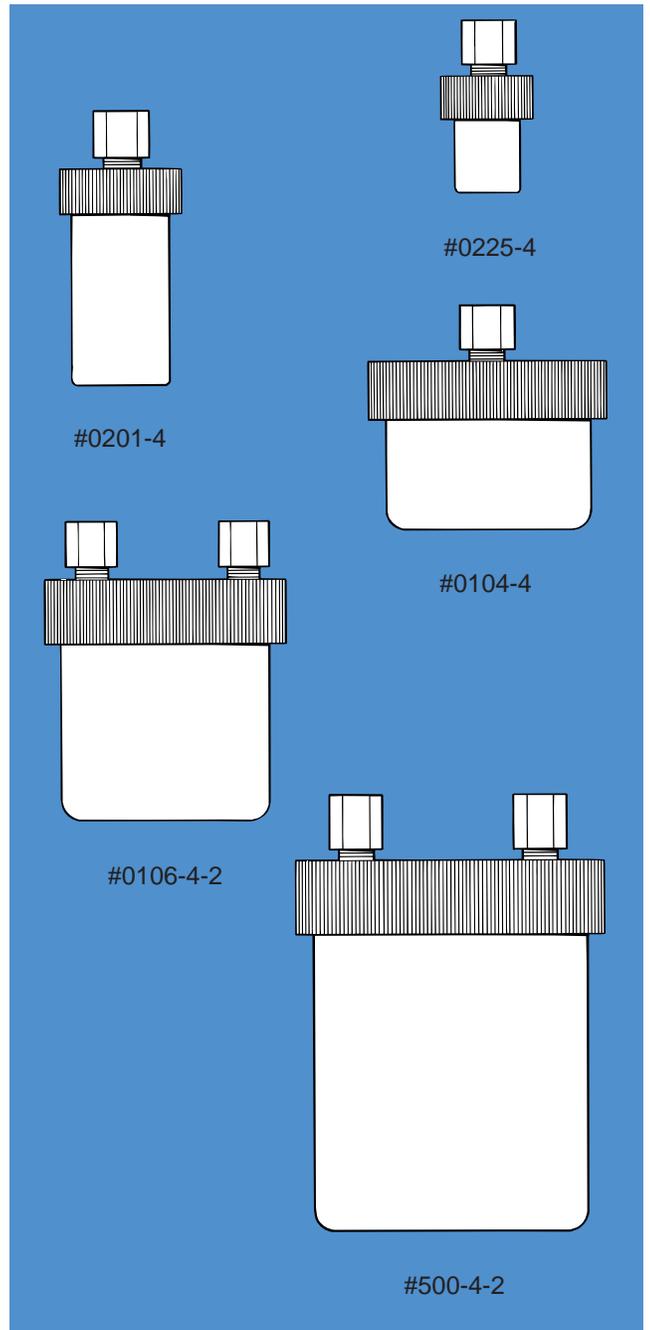
Part	Container Size	
#0104-4	4 oz./120 ml	
#0106-4	6 oz./180 ml	
#0108-4	8 oz./240 ml	

Transfer containers have two 1/4 inch male fittings molded in one piece with 70 mm cover. One fitting location allows tubing to enter container. Two PFA ferruled nuts included for 1/4" tubing.

Part	Container Size	
#0104-4-2	4 oz./120 ml	
#0106-4-2	6 oz./180 ml	
#0108-4-2	8 oz./240 ml	

Transfer containers have two 1/4 inch male fittings molded in one piece with 89 mm cover. One fitting location allows tubing to enter container. Two PFA ferruled nuts included for 1/4" tubing.

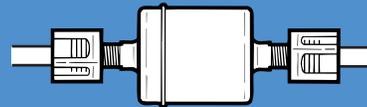
Part	Container Size	
#0110-4-2	10 oz./300 ml	
#0112-4-2	12 oz./360 ml	
#500-4-2	1/2 liter	



Sealed TEFLON®·PFA Canisters

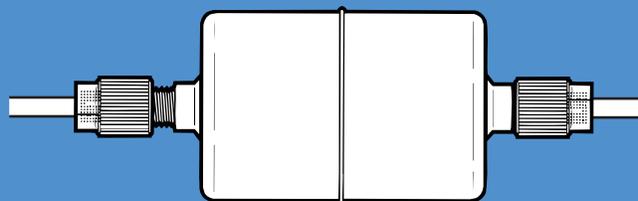
All four sealed canisters have two connecting tube ports. Use as surge chambers – accumulator reservoirs in transfer lines. Smallest canister has regular one piece ferrule nuts. Larger units have extra ferrule grip type nuts. Pressure rating listed for each device.

All ratings at ambient conditions.



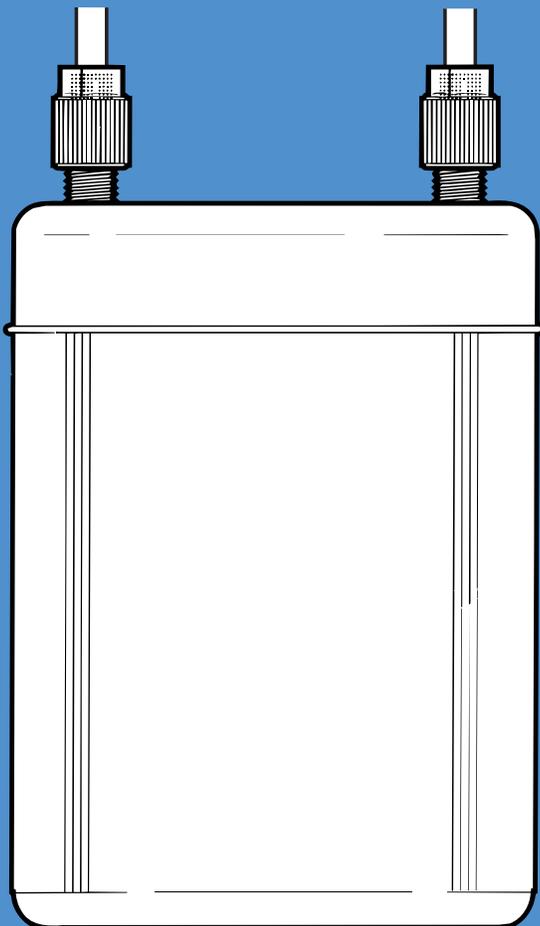
Part
#CN10

Volume 10 ml.
Pressure rating 100 psi. Ambient
1/8" tube ports



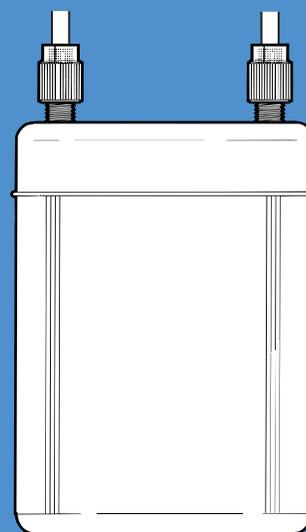
Part
#CN100

Volume 125 ml.
Pressure rating 50 psi. Ambient
1/4" tube ports



Part
#CN1000

Volume 1100 ml.
Pressure rating 75 psi. Ambient
1/4" tube ports
Heavy wall moldings



Part
#CN500

Volume 475 ml.
Pressure rating 25 psi. Ambient
1/4" tube ports
Available with 3/8" diameter drain tube

Threaded TEFLON®·PFA Closures

Note: All closures with a 06 prefix fit SAVILLEX® containers. The small closures with a 06 prefix up to and including the 28 mm size fit 400 finish glass vials/bottles. For large 400 finish glass containers, use closures with a 07 prefix including the Mason designations.



TEFLON® STOCK CLOSURES

In addition to closures shown with SAVILLEX vials and jars.

- Linerless – no contamination crevices, no adhesives
- Use with glass vials/bottles
- No corrosion particles
- Inert – non-contaminating
- Chemically resistant
- Sterilize/heat to 250°C (PFA)
- Unbreakable to -196° C (PFA)
- Translucent
- Non-sticking, non-wetting

All closures listed below are molded with a continuous thread SP-415, minimum of two turns. Closures do not have inner valve.

Part No.	Size
0613 vl	13 mm
0615 vl	15 mm
0618 vl	18 mm

Part No.	Size
0620 vl	20 mm
0622 vl	22 mm
0628 vl	28 mm

A. REGULAR MASON COVER

Part

#07RM Plain Cover

#07RM-4 Transfer cover, one port

Cover is designed to fit a regular mason jar thread. One 1/4 inch male fitting is molded in one piece with cover. Fitting allows tubing to be set at any depth within jar. PFA ferrule nut included for 1/4 inch tubing.

B. WIDE MOUTH MASON COVER

Part

#07WM Plain Cover

#07WM-2-2 Transfer cover, two 1/8" ports

#07WM-4-2 Transfer cover, two 1/4" ports

#07WM-6-2 Transfer cover, two 3/8" ports

Cover is designed to fit wide mouth mason jars. Two male fittings are molded in one piece with cover. One fitting location allows tubing to enter container. Two ferrule PFA nuts included.

C. GALLON COVER

Part

#0789 Plain Cover

#0789-4-2 Transfer cover, two ports

Cover is molded with a one turn, 400 finish thread. Fits gallon jugs with 89 mm thread diameter. Two 1/4 inch fitting locations are molded in one piece with cover. One location allows tubing to enter jar for any depth setting. Two PFA ferrule nuts included.

FOR THE LABORATORY

Transfer Cap Assembly – Narrow mouth, deep 38 mm – 430 thread finish. Assembly includes TEFLON® insert molded integrally with two transfer ports for 1/8" or 1/4" tubing. TEFLON® insert completely covers and seals mouth of bottle. Assembly includes green polypropylene threaded cap and two TEFLON® ferrule nuts.

Part

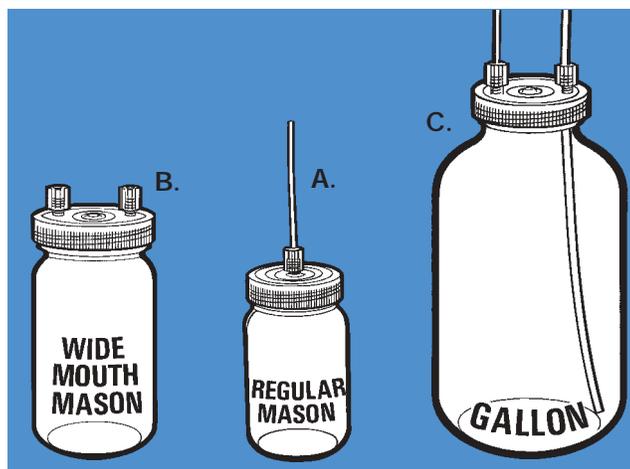
#0738-2-2 1/8" tubing

#0738-4-2 1/4" tubing

#0738, Plain, without ports

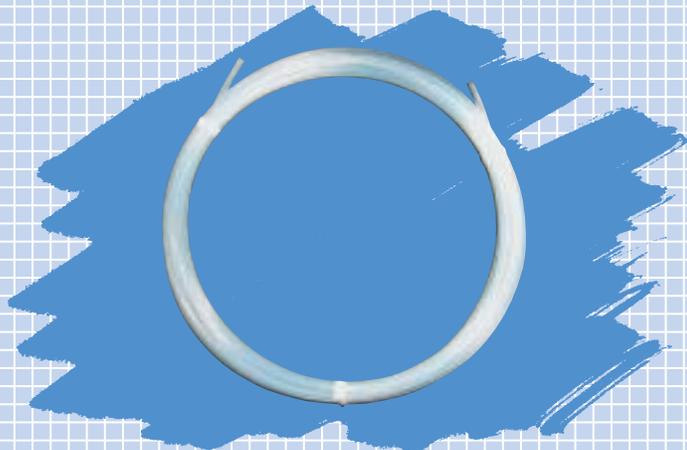
Assembly is also available with shallow cap. Inside depth 5/8". Specify shallow cap with order.

NOTICE: THESE CAPS ARE INTENDED FOR LOW FLUID TRANSFER AT 1-2" MERCURY. NOT FOR VACUUM/PRESSURE WORK IN GENERAL GLASSWARE.



FEP & PFA Tubing

PFA has end properties that equal and in some cases exceed any previous available fluorocarbon over a broad temperature range. At elevated temperatures, PFA is superior in mechanical properties such as tensile strength, flex life and creep resistance. Heat aging results show no loss of tensile strength, yield or elongation after 5000 hours at 285°C/545°F. It is the best material for tubing and compressive type fittings with companion labware.



PFA HEAVY WALL TUBING

- Use heavy wall PFA tubing for permanent connections
- Flexible, translucent, natural
- Order by the foot or by the 25 and 100 foot coils

Part #	Description
1200	1/8" tubing, natural .125" OD, .065" ID
2500	1/4" tubing, natural .250" OD, .156" ID
3700	3/8" tubing, natural .375" OD, .250" ID
5000	1/2" tubing, natural .500" OD, .375" ID

FEP HEAVY WALL TUBING

TEFLON® FEP (fluorinated ethylene-propylene) also has outstanding properties; including chemical inertness. Its main difference in comparison to PFA is a 100°F lower service temperature ceiling. After prolonged exposure above 205°C (400°F) FEP exhibits changes in physical strength.

Part #	Description
1201	1/8" tubing, natural .125" OD, .065" ID
2501	1/4" tubing, natural .250" OD, .156" ID
3701	3/8" tubing, natural .375" OD, .250" ID
5001	1/2" tubing, natural .500" OD, .375" ID

Straight tube lengths listed on page 24.

PFA Fittings

FERRULE HEX NUTS, PFA for leak free connections with 1/8", 1/4", 3/8", and 1/2" heavy wall tubing. Knurled nuts. Page 21.



Part #	Description
SX 2	1/8" tubing
SX 4	1/4" tubing
SX 6	3/8" tubing
SX 8	1/2" tubing

CAP NUTS, PFA for sealing off 1/8", 1/4", 3/8", and 1/2" fitting locations.

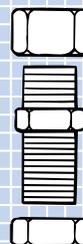


Part #	Description
SX 2C	1/8" tube ports
SX 4C	1/4" tube ports
SX 6C	3/8" tube ports
SX 8C	1/2" tube ports

PANEL MOUNTS, PFA for attaching tubing to flat sides of cover/container surfaces.

Part #	Description
SX 2PM	1/8" tubing
SX 4PM	1/4" tubing
SX 6PM	3/8" tubing
SX 8PM	1/2" tubing

Includes panel mount body, inside clamp nut and (1) ferrule nut.



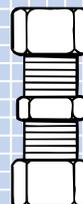
MALE CONNECTORS, PFA for attaching tubing to curved container surfaces and covers with irregular thicknesses.

Part #	Description
SX 2MC	1/8" tubing x 1/4" NPT
SX 4MC	1/4" tubing x 1/4" NPT
SX 6MC	3/8" tubing x 1/4" NPT
SX 8MC	1/2" tubing x 3/8" NPT



STRAIGHT UNION, PFA

Part #	Description
SX 2SU	1/8" tubing
SX 4SU	1/4" tubing
SX 6SU	3/8" tubing
SX 8SU	1/2" tubing



STRAIGHT UNION REDUCER, PFA

Part #	Description
SX4-2 SUR	1/4" tube to 1/8" tube
SX6-4 SUR	3/8" tube to 1/4" tube
SX8-4 SUR	1/2" tube to 1/4" tube
SX8-6 SUR	1/2" tube to 3/8" tube



Special Fittings TEFLON® • PFA Stopcocks

FERRULED KNURLED NUTS, PFA for quick finger tightening of low pressure lines. Interchanges with all hex nut fittings.



Part #	Description
--------	-------------

SA 2	1/8" tubing
------	-------------

SA 4	1/4" tubing
------	-------------

FERRULED KNURLED CAP NUTS, PFA for sealing off fittings and threaded closure ports.



Part #	Description
--------	-------------

SA 2C	1/8" tube ports
-------	-----------------

SA 4C	1/4" tube ports
-------	-----------------

MODIFIED NUT for hydrophobic venting of all 1/4" ports. Porous PTFE TEFLON® membranes fit into a 9.5 mm - 3/8" diameter recess.



Part #	Description
--------	-------------

SA 4V	1/4" Vent nuts
-------	----------------

11 4V	1-2 Micron membranes
-------	----------------------

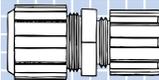
UNIONS, TEFLON® • PFA for 5/8" diameter Environmental lines



Part #	Description
--------	-------------

10-10SU	5/8" tube to 5/8" tube
---------	------------------------

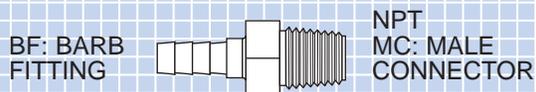
SA-10	Ferrule 5/8" nut
-------	------------------



Part #	Description
--------	-------------

10-8SUR	Straight union reducer 5/8" tube to 1/2" tube
---------	--

8BU	Emergency bushing 1/2" x 3/8". Reduce 1/2" line to 3/8"
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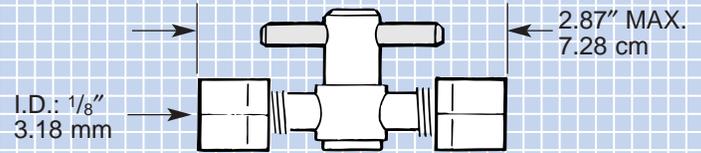
For mounting tubing to curved container surfaces, use male connectors or barb fittings with NPT threads.

Part #	Description
--------	-------------

SX 2MC	1/8" Tube x 1/4" NPT
--------	----------------------

SX 4BF	For .156" I.D. Tube x 1/8" NPT
--------	--------------------------------

SX 6BF	For .250" I.D. Tube x 1/4" NPT
--------	--------------------------------

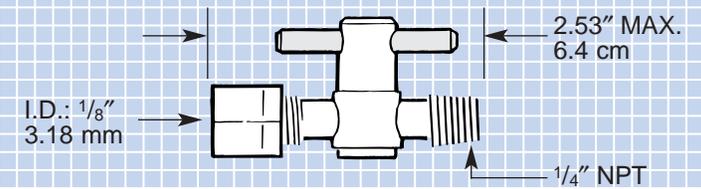


Stopcock: PFA valve body, PTFE stem

Part #	Description
--------	-------------

ST2-2	Ferrule nuts accept 1/8" tubing
-------	---------------------------------

ST4-4	Ferrule nuts accept 1/4" tubing
-------	---------------------------------



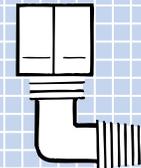
Stopcock: PFA valve body, PTFE stem

Part #	Description
--------	-------------

ST2-2N	Ferrule nut for 1/8" tubing x 1/4" NPT
--------	--

ST4-4N	Ferrule nut for 1/4" tubing x 1/4" NPT
--------	--

1/4" NPT is the preferred mounting thread.



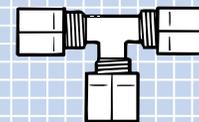
MALE ELBOW

Part #	Description
--------	-------------

SXE 2X4N	1/8" tube x 1/4" NPT
----------	----------------------

SXE 4X4N	1/4" tube x 1/4" NPT
----------	----------------------

SXE 6X4N	3/8" tube x 1/4" NPT
----------	----------------------



UNION TEES, PFA

Part #	Description
--------	-------------

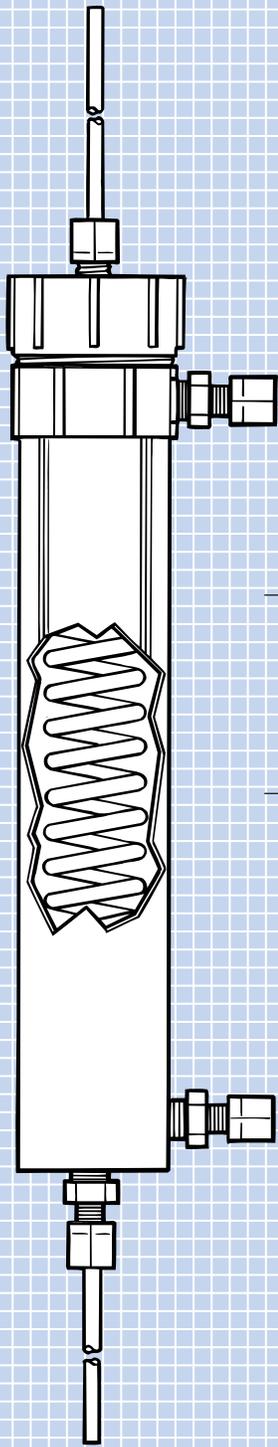
SX 2UT	Natural, 1/8"
--------	---------------

SX 4UT	Natural, 1/4"
--------	---------------

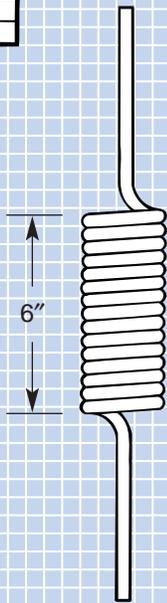
SX 6UT	Natural, 3/8"
--------	---------------

SX 8UT	Natural, 1/2"
--------	---------------

These pages show modifications to stocked moldings. Many revisions are possible with the typical 2.5 mm/.1 inch wall thicknesses. Contact our technical department for special requirements. Benefits to consider: molded TEFLON® PFA is serviceable to 260°C/500°F, -196°C/-320°F*. Moldings melt at 320°C/607°F. Moldings are strong at ambient conditions — small jars to large 4 liter vessels support 200 pounds. Moldings are translucent — clear liquid levels discernable. Moldings can be autoclaved-sterilized with normal procedures. Moldings can be welded, machined to near surface finish of a molded surface.

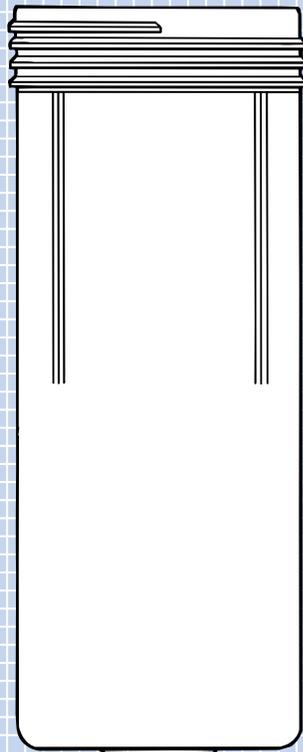


CONDENSER ASSEMBLY
All TEFLON® PFA components. Four compression fittings sized for 1/4" tubing. 2 1/2" diameter x 13 3/8".
Part #2507
Includes wrench set #55.



RELAXED COIL DIMENSIONS
1 1/2" diameter
6" tails
5/32" I.D.,
1/4" O.D.

Part #2507



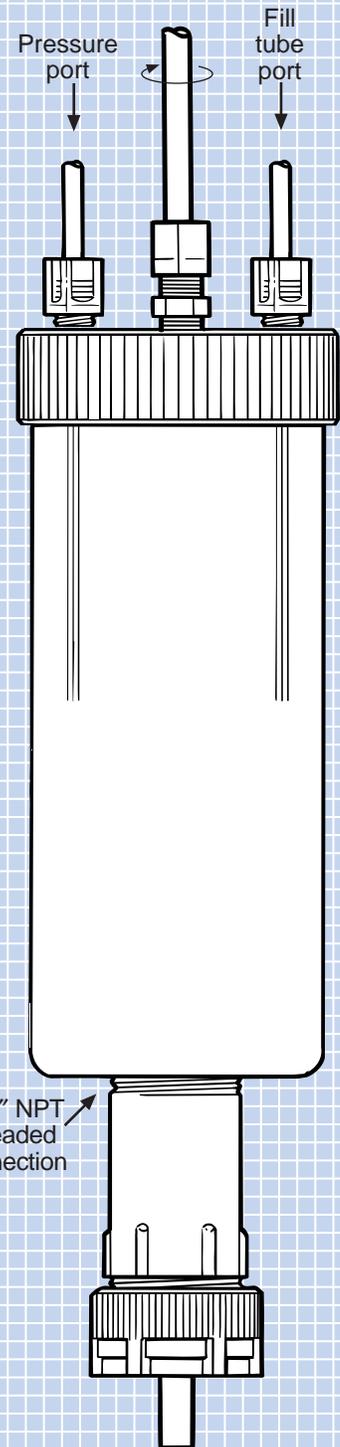
PFA MALE CONNECTOR
with 3/4" NPT accepts 1/2" or 3/4" diameter tubing.



#2000
→
2-liter mixing container modified.

←
2-liter container with molded outlet bung. Part #2000BUNG

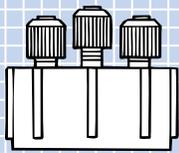
←
Sturdy 1 1/2" diameter x 7/8" bung with 3/4" NPT female thread



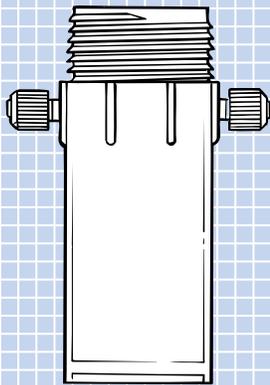
1 1/2" NPT threaded connection

Filtering outlet through 504-47 connecting segment. 47 mm membranes. page 32

*Exceptions: Molten alkali metals, fluorine at elevated temperatures and certain complex halogenated compounds at elevated temperatures and pressures.

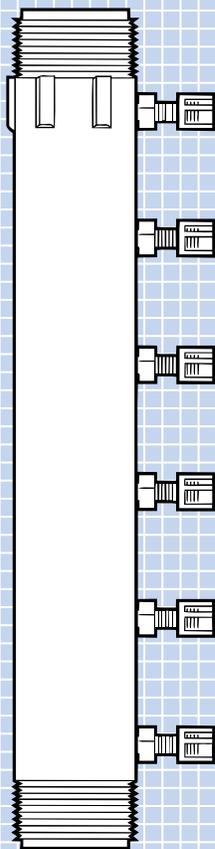


#501B-2-3



#570B-2-2

120 ml vessel with two 1/8" ports



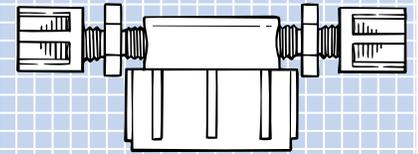
MANIFOLD

Multi ports added to long 11 1/2" segment #5077. Use closed bottom 507, 570 or 504 for shorter manifolds. Page 32, 33.

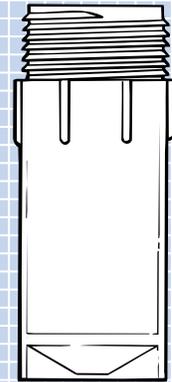
All vessels and covers listed on the top half of this page have interchanging buttress type threads. Buttress threads provide extra thread contact to distribute cap pressure. All items have 3 1/2 turns of engagement. Mix and match all items. Tighten covers with lug wrench set #55.

Part #	Description
501B	Plain cover only
501B-4	Cover with one 1/4" port
501B-4-2	Cover with two 1/4" ports
501B-2-2	Cover with two 1/8" ports
501B-2-3	Cover with three 1/8" ports
501B-2-5	Cover with five 1/8" ports
501B-6-2H	Two 3/8" horizontal ports for maximum air transfer

560B	60 ml vessel only, flat
560BC	60 ml vessel only, conical
570B	120 ml vessel only, flat
570BC	120 ml vessel only, conical
570B-2-2	120 ml vessel only, two 1/8" ports
570B-4-2	120 ml vessel only, two 1/4" ports
570B-4NF	120 ml vessel only, one 1/4" NPT female

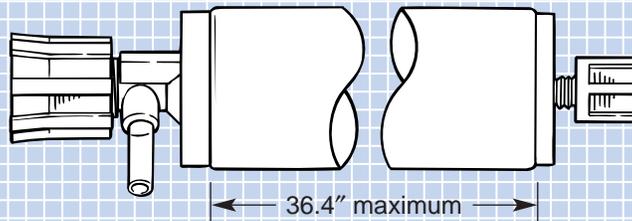


#501B-6-2H



#570BC

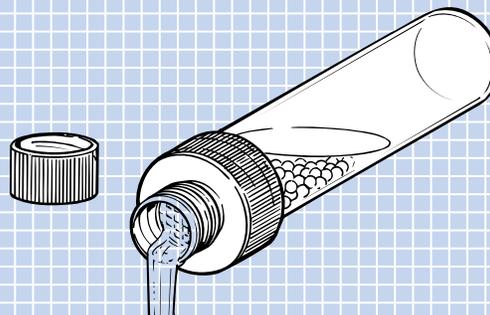
120 ml vessel with conical inside bottom



Straight 42.5 mm - 1.680" diameter cylinder available any length up to 1 m - 36.4" with sealed end caps.

End cap options:

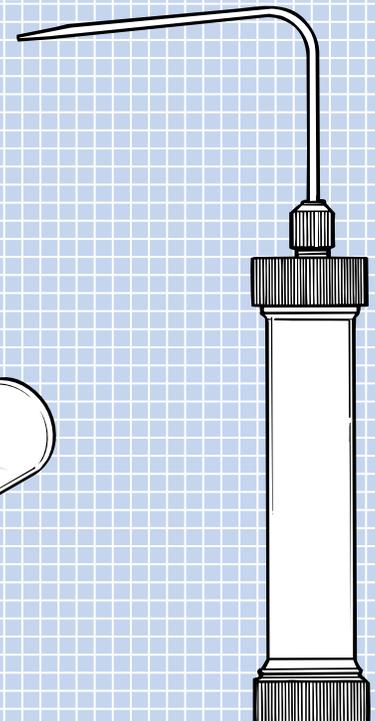
- Plain end cap
- Cap with 1/4" NPT female thread
- Cap with 1/4" ferrule nut
- Cap with adjustable open-shut valve and outlet tube.



ACID CLEAN - ACID ETCH

Special 33 mm cap has molded-in screen (1 mm square openings) and a male 24 mm thread at top for a smaller secondary cap. This design retains solids while solutions are changed through smaller cap opening. 33 mm cap fits 15, 22, 30, and 60 ml vials shown on page 7. All TEFLON®.

Part #33-24 Cap Assembly only



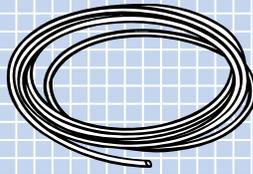
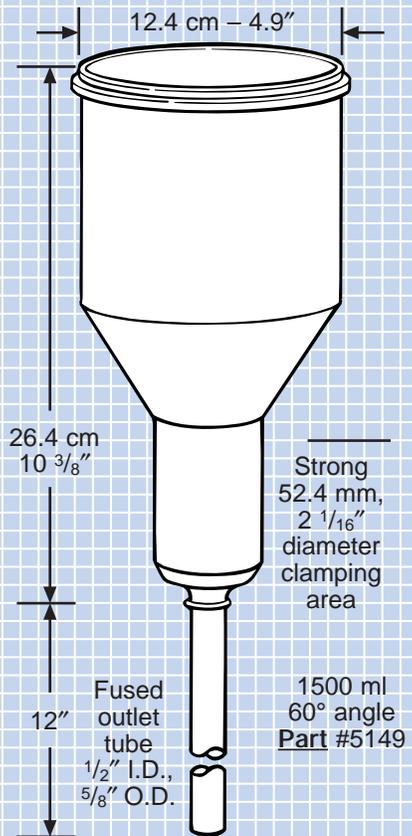
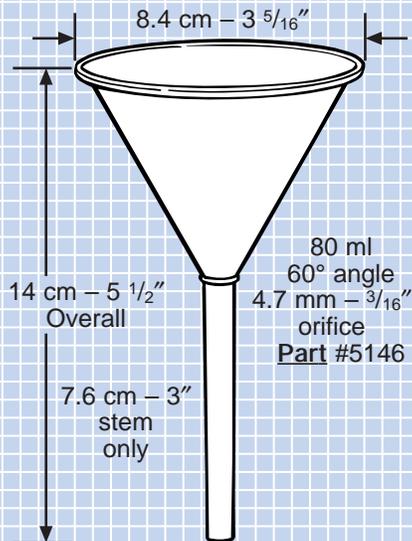
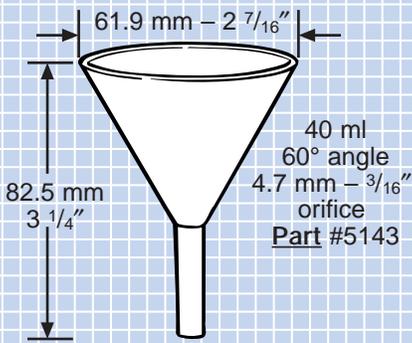
SQUEEZE BOTTLE

ALL TEFLON. Fine dispense through reduced .010 inch orifice. Flexible .015 inch wall.

Part

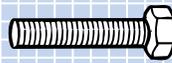
#4060

60 ml capacity.



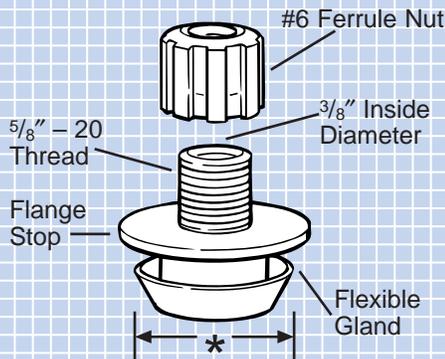
TEFZEL® MONOFILAMENT

Part #10FIL
.25 mm – .010" diameter × 7.6 m – 25 feet. Sew together soft dip baskets. Tie, suspend articles in corrosive solutions.



PFA SCREWS HEX HEAD

Part #1032
10-32 thread × 1" length.
Part #2520
1/4-20 thread × 1 1/2" length.
Part #2521
1/4-20 hex nut.



STOPPERS, MOLDED TEFLON®

For glass tapers. Includes ferrule nut #6 for 3/8" tubes.

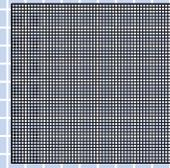
*Dimension (Taper in free position)

Part #006-6 . . .30 mm – 1 3/16"0
#007-6 . . .33.3 mm – 1 5/16"
#008-6 . . .37.3 mm – 1 15/32"

Cap nut #SX6C seals port. Page 20
Standard taper #'s

TEFZEL® CLOTH

Made from ETFE fluoropolymer resin.



CLOTH, TEFZEL®

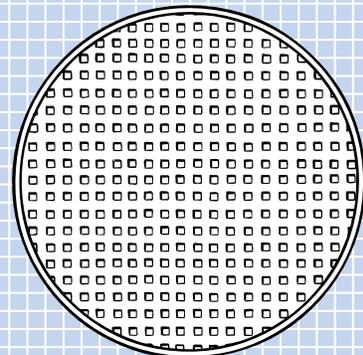
Part #1105
TEFZEL® woven cloth for forming container screens and soft dip baskets. Mesh opening .004" (105 micron), thread diameter .003" (76 micron), cloth thickness .0067" (170 microns). Cut in 11" squares. Larger sizes quoted on request.

TEFLON® • PFA STRAIGHT TUBE → LENGTHS.

61 cm, 24" Long

Internal Diameter × External Diameter

- .8 mm, 1/32" × 2.4 mm, 3/32"
- .8 mm, 1/32" × 3.2 mm, 1/8"
- 1.5 mm, 1/16" × 3.2 mm, 1/8"
- 2.4 mm, 3/32" × 4 mm, 5/32"
- 3.2 mm, 1/8" × 4.7 mm, 3/16"
- 3.9 mm, 5/32" × 6.3 mm, 1/4"
- 4.7 mm, 3/16" × 6.3 mm, 1/4"
- 6.3 mm, 1/4" × 9.6 mm, 3/8"
- 8 mm, 5/16" × 9.5 mm, 3/8"
- 9.5 mm, 3/8" × 12.7 mm, 1/2"
- 12.7 mm, 1/2" × 15.9 mm, 5/8"



SCREEN, MOLDED TEFLON®

82.5 mm – 2 1/4" diameter
3.5 mm – .14" thickness plus rim.
1 mm openings.

Part #5152

Titration Cups TEFLON®·PFA Cylinder

A. CYLINDER, 100 ml plain or customized.

One piece molding with snap-on cap in TEFLON® offered as a cylinder for repetitive mixing of 2-3 components. Fewer graduations minimize errors. Calibrated at user's requested volumes. Wall thickness adequate for circular indentation markings. Inlaid colored graduation bands in TEFLON® available.

Example shown. Black bands at 50 ml and 75 ml volumes unbreakable.

Part #100CY, Plain cylinder with cap
Add \$10 each graduation
Add \$25 each colored graduation

B. PIPETTE, "Blue Tip" in Natural TEFLON®

Part #5137

Molded to fit Eppendorf and similar 1000 µL hand pipetters. Standard .8 mm orifice. Larger openings or sealed tip available.



Part #5137EXTTEFLON®

Pipette #5137 with extended .8 mm internal diameter tube x 100 mm length. Tube permanently fused to pipette.

C. SAMPLE CELL BOTTOM. TEFLON®

Replacements for EG&G Princeton Applied Research Polarographic Instrument model 316.

Part #4174

D. TITRATION CUP, 100 ml TEFLON® graduated

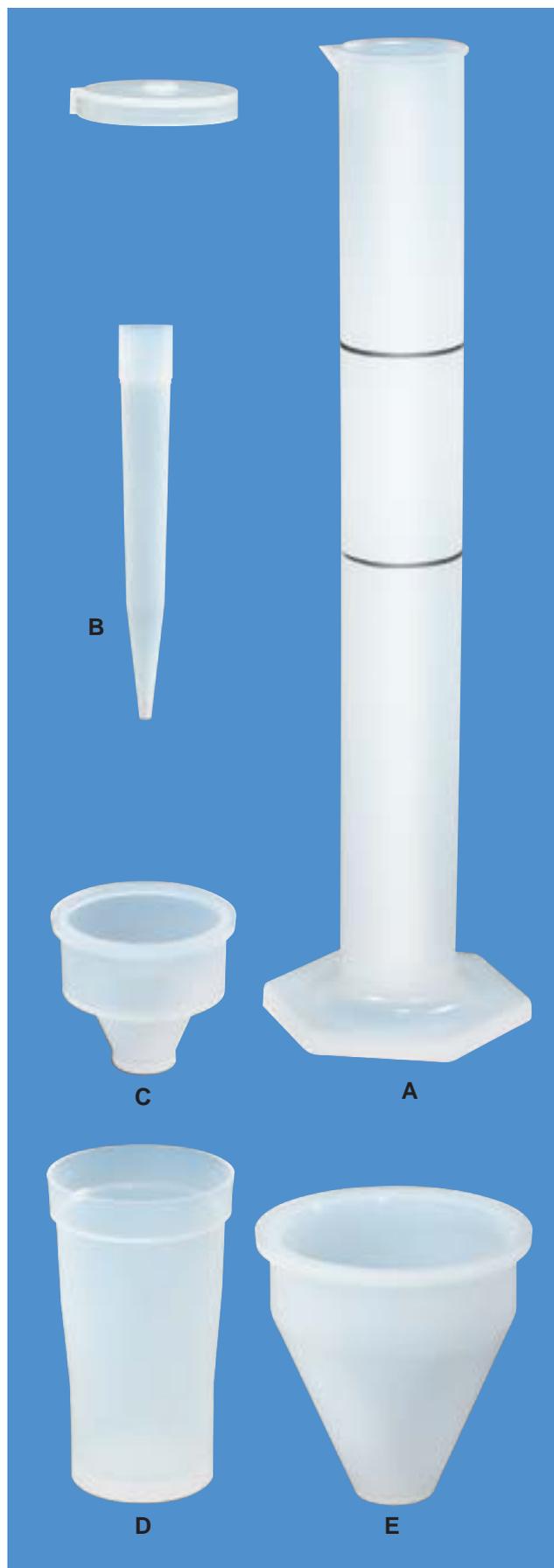
Use with Mettler DL series titrators.

Part #4110

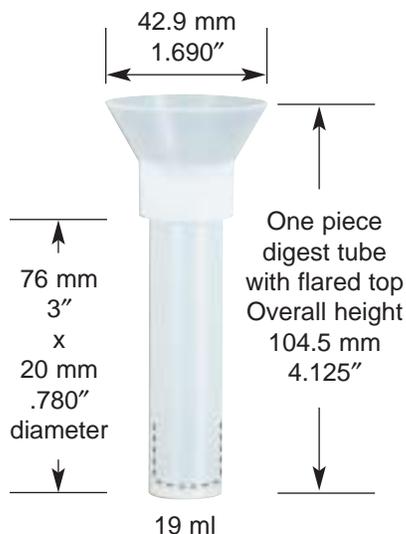
E. TITRATION CUP, extra sturdy with flanged rim for clamping.

Conical design for volumes 100 ml down to 5 ml. 70 mm diameter x 80 mm height. Inside bottom will accept 17.5 mm stir bar.

Part #4104



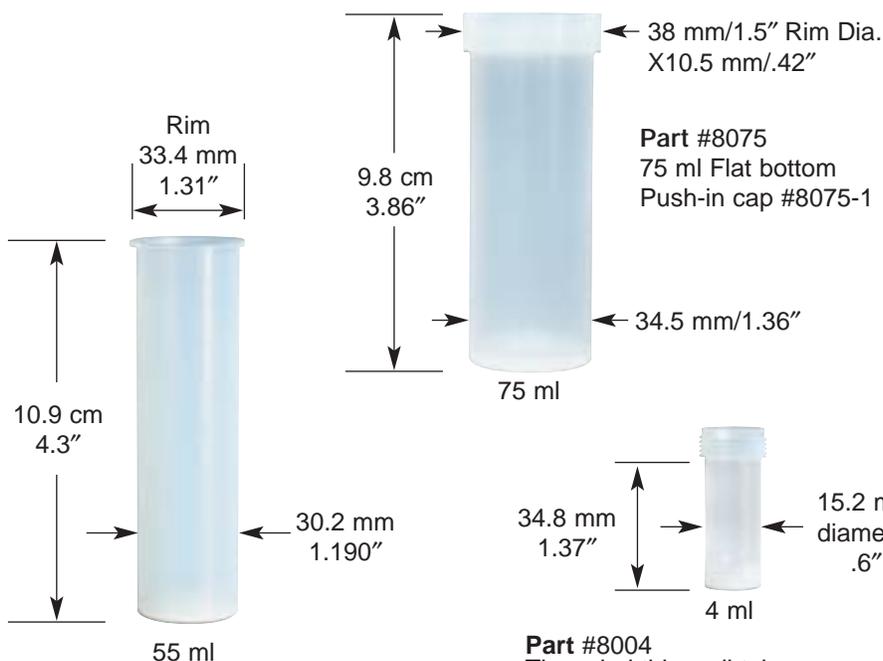
Block Digestion TEFLON®•PFA Tubes



Part #8019
Flat inside bottom.
Free standing

- Tubes designed for acid digestions in hot blocks
- Tubes of pure virgin TEFLON®•PFA
- Tubes compatible with all acids
- No leachables
- High temperature procedures

- Precision outside diameters for minimum clearance
- Thin wall tubes for maximum heat transfer
- Thin wall tubes have threaded covers for storing samples



Part #8075
75 ml Flat bottom
Push-in cap #8075-1

Part #8055
Environmental Express Hot Block™ Tube
Free standing
Flat inside bottom

Part #8004
Threaded thin wall tube
Round inside bottom
Price includes threaded cover



Part #80150
Special sturdy tube with 2.5 mm walls. 39.4 mm flared opening within 48.3 x 8.6 mm rim
Spherical inside bottom

Use with 007-6 transfer stopper or capped stopper. Page 24



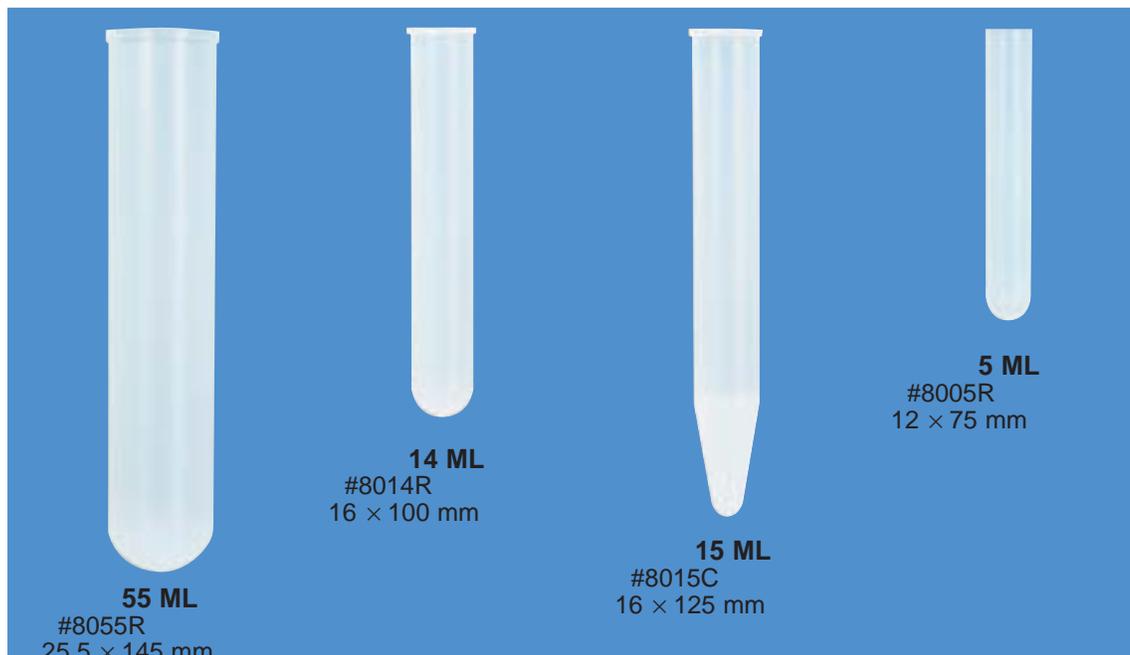
Demonstration block shown with (6) 26.5 mm diameter holes

*Dimensions	Part #	Capacity
*22 mm x 26 mm	Conical #8010	10 ml
*36.4 mm x 26 mm	Rounded #8017	17 ml
*57.7 mm x 26 mm	Conical #8025	25 ml

All thin wall tube prices include caps
Drying caps #33-2-2 and 33-4-2 available. Page 8

For The Laboratory TEFLON®·PFA Tubes/Caps

- Molded standard tubes shown are stocked.
- Many non-standard tubes available in Teflon®.
- Widest temperature range +500°F/260°C –320°F/196°C.
- Highest purity: no plasticizers, preservatives, mold releases.
- Sterilization radiation safe within 2.0 megarads.
- Autoclavable.
- Specific volume markings priced separately.
- Special handling at 50,000 × G.
- Tubes of Teflon® do not break – do not shatter.
- All tubes shown 1/2 actual size.



55 ML
#8055R
25.5 × 145 mm

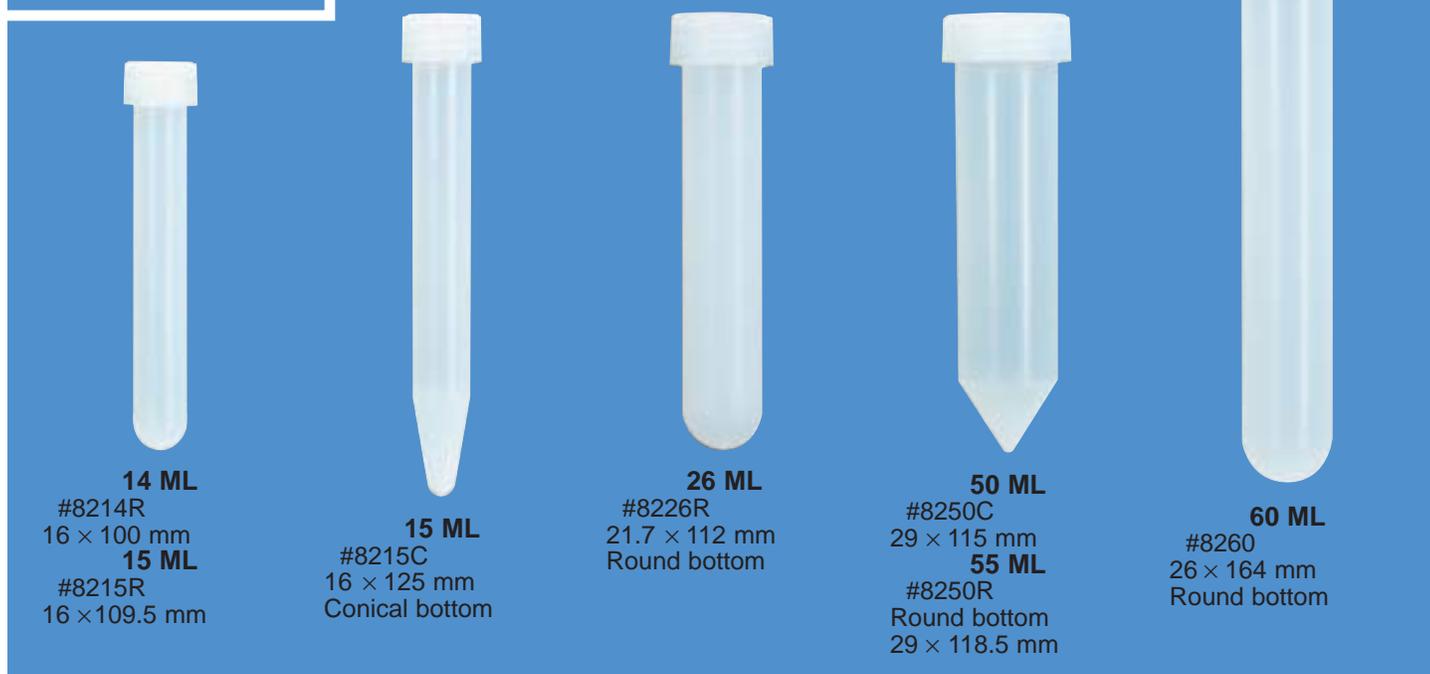
14 ML
#8014R
16 × 100 mm

15 ML
#8015C
16 × 125 mm

5 ML
#8005R
12 × 75 mm

32 ML
#8232R
20 × 150 mm
Round bottom

THREADED TUBES & CAPS MOLDED IN TEFLON®



14 ML
#8214R
16 × 100 mm
15 ML
#8215R
16 × 109.5 mm

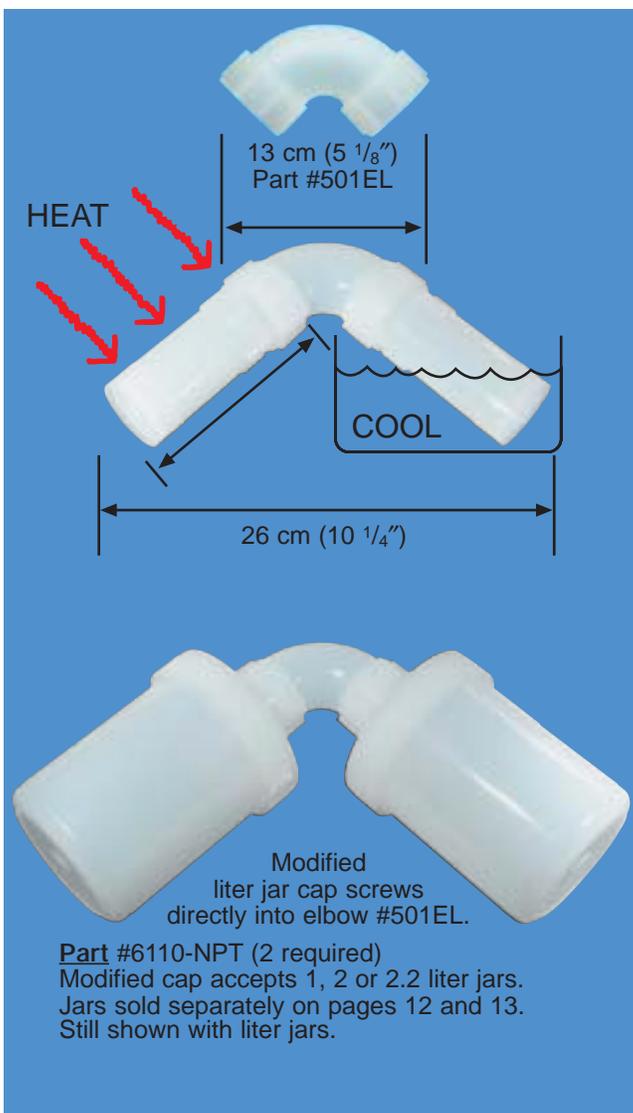
15 ML
#8215C
16 × 125 mm
Conical bottom

26 ML
#8226R
21.7 × 112 mm
Round bottom

50 ML
#8250C
29 × 115 mm
55 ML
#8250R
Round bottom
29 × 118.5 mm

60 ML
#8260
26 × 164 mm
Round bottom

Sub-boiling TEFLON®·PFA Distillation



Vapor distillation using standard SAVILLEX® jar and column components shown on pages 12, 13, 33.

Part #501EL

90° elbow includes two fused end caps.

Part #570

120 ml legs, solid bottom. Two required.

Part #55 Glass polypropylene Wrench Set

This work was published by J.M. Mattinson in 1973. Work done in T.E. Krogh's Lab at Carnegie Institution of Washington, D.C.

Part #501EL

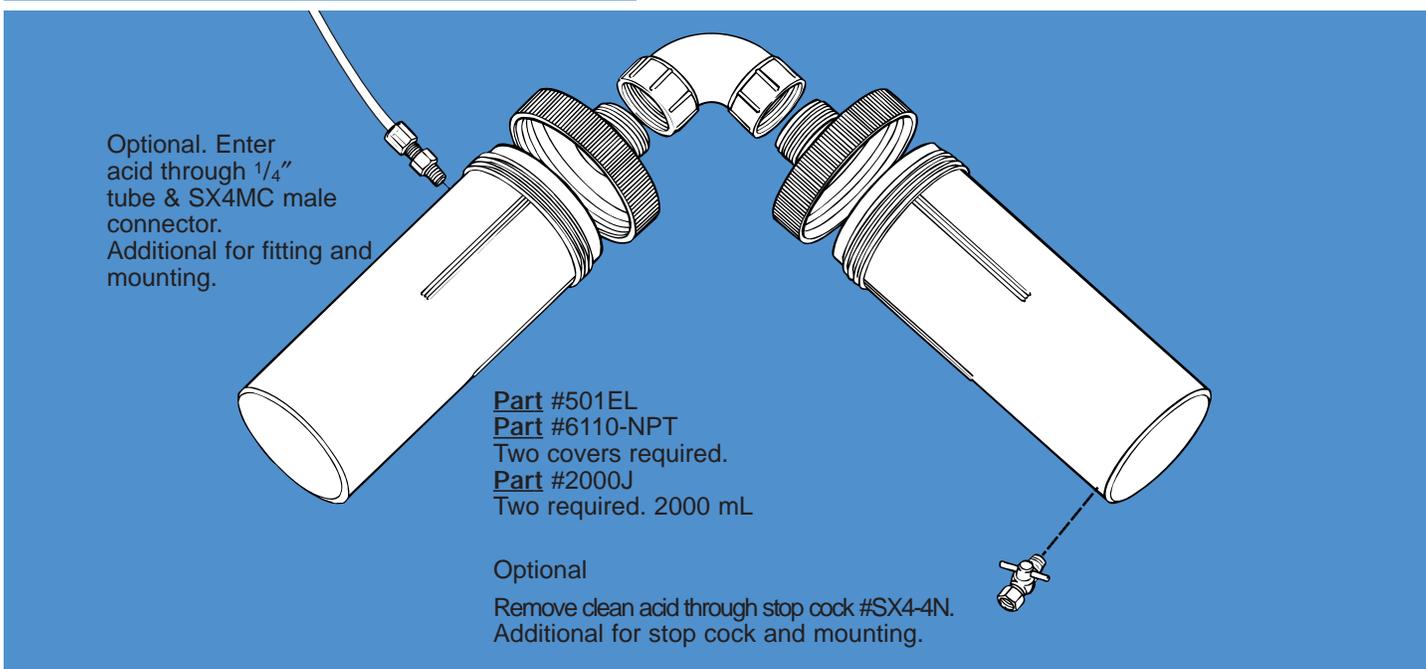
Part #6110-NPT

Special liter jar covers with integral molded 1/2" NPT male thread. Two required.

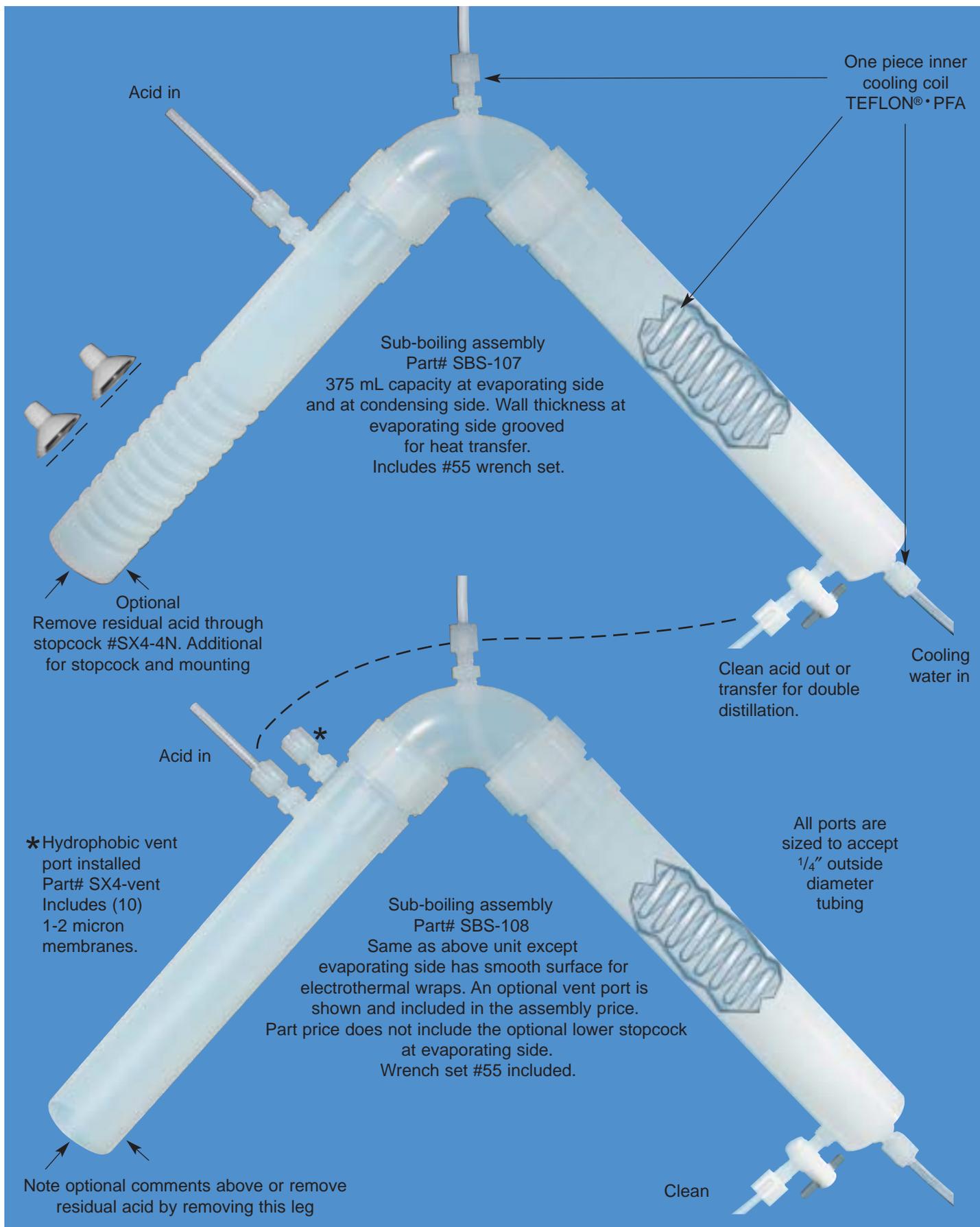
Part #1000J

1100 ml jar only. Two required.

Sources for Electrothermal Heating Wraps: Barnstead/thermolyne
Fax 563-589-0516
Glas-COL
Fax 812-234-6975



Sub-Boiling TEFLON®·PFA Distillation





SHOWN 1/2 ACTUAL SIZE

60 ml vessel with one piece molded transfer cap. Designed with side port for horizontal connections.

Available as a (2) 1/8" port or (2) 1/4" port transfer cap.

Top port allows tube to enter vessel.

Overall height 6 7/8", 17.4 cm.

Cap diameter 1 27/64", 3.6 cm.

Part #60-336 . . . (was #60ml-2-2)

60 ml vessel with (2) 1/8" ports molded in one piece with main cover. Includes ferrule nuts. All in TEFLON® designed with side port for horizontal connections.

Part #336 Transfer Cover only with nuts

Part #60-337 . . . (was #60ml-4-2)

60 ml vessel with (2) 1/4" ports molded in one piece with main cover. Includes ferrule nuts. All in TEFLON® designed with side port for horizontal connections.

Part #337 Transfer Cover only with nuts

Note: Transfer covers #336 and #337 interchange with smaller 15, 22, and 30 ml vials. Page 7.

Unbreakable, midget impingers, 60 ml capacity.

Two vertical ports for close assembly of a sampling train.

Tallest port allows tubing to enter vessel.

Overall height 6 7/8", 17.4 cm.

Part #60-338

60 ml vessel with (2) 1/8" vertical ports molded in separate cover insert. Nuts included. All in TEFLON®. Strong Ultem® clamp nut does not contact fluid stream. (1) impinger, includes 60 ml vessel, 2 1/8" port transfer cap with 2 ferrule nuts.

Part #338 Transfer Cover Assembly only

Part #60-339 . . . (was #738-60 ml)

60 ml vessel with (2) 1/4" vertical ports molded in separate cover insert. Nuts included. All in TEFLON®. Strong Ultem® clamp nut does not contact fluid stream.

Part #339 Transfer Cover Assembly only

Part #2505

1/4" Tube Bends, TEFLON®. 90° Bend, 1/4" dia. (6.4 mm) × 6" (15.2 cm) legs.

Part #2506

1/4" Tube Bends, TEFLON®. 180° bend with a short and long 8" (20 cm) leg.

Note: Transfer covers #338 and #339 interchange with smaller 15, 22, and 30 ml vials. Page 7.



Full Size TEFLON®·PFA Impingers

The original SAVILLEX® segmented column series (pages 32 and 33) has been used primarily as SO₂ scrubbers in TEFLON® for EPA method 16A – determination of total reduced sulphur emissions from stationary sources.

The new one piece impingers on this page are finding applications in other EPA procedures such as methods 5 and 6 (hexavalent chrome).

Features are: unbreakable • leak tight without sealants • grooved for heat transfer • adaptable for adding recirculation fittings • quick connections with preformed tube bends • close impinger spacing with tube bends on 3 inch parallel legs • reduced 2.3 mm orifice available as a push-in insert.

375 ml IMPINGER WITH 1/2" ATTACHMENTS

Part #507	Vessel only, plain
#507G	Vessel only, grooved
#507G-4	Vessel with right angle elbow 1/4" installed at side bottom
#501-8-2	Transfer cap 2 1/2" ports
#507-1	180° tube bend, full depth 1/2"
#507-3	90° tube bend, full depth 1/2"
#507-5	90° tube bend, short 6" legs
#8-2.3	Reduced 2.3 mm orifice
#8-8 SU	1/2" x 1/2" straight union
#10-8 SUR	5/8" x 1/2" straight union reducer
#55	Wrench set

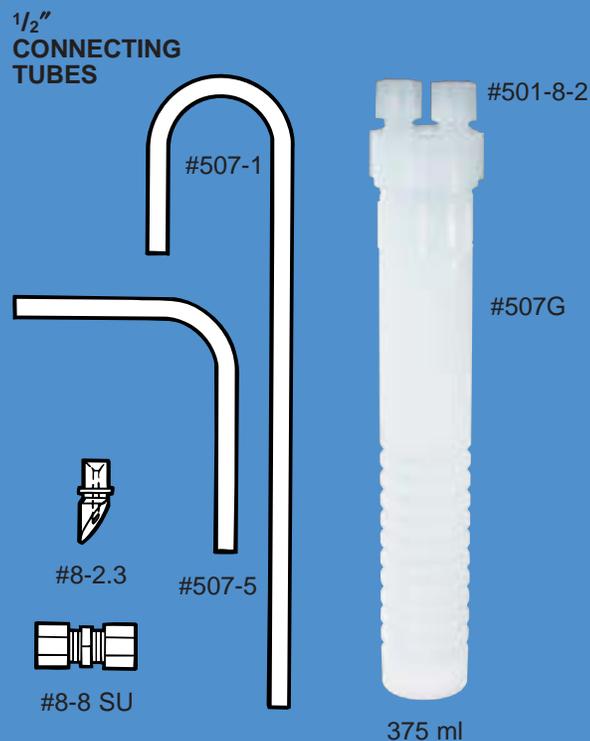
Dimensions: 2 1/4" diameter x 12 3/4" overall height.

600 ml IMPINGER WITH 5/8" ATTACHMENTS

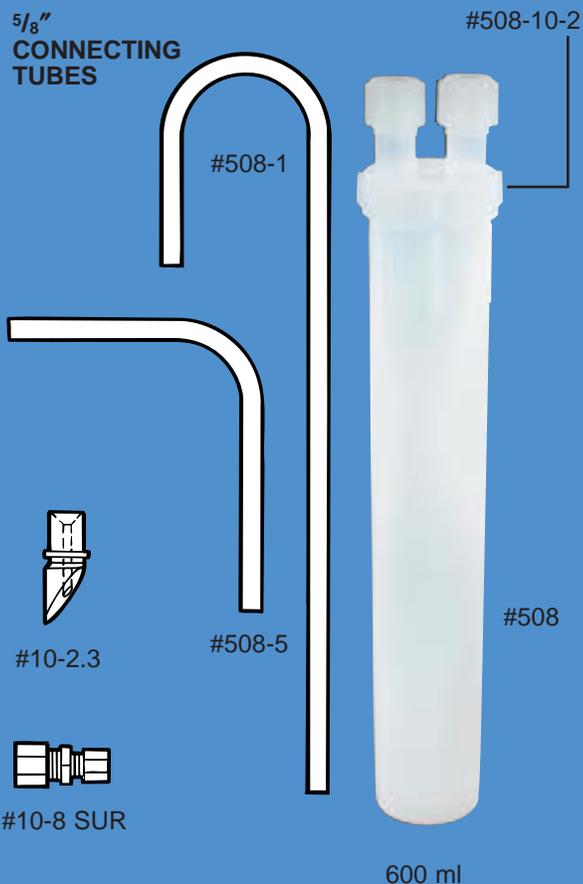
Part #508	Vessel only, plain
#508G	Vessel only, grooved
#508G-4	Vessel with right angle elbow fitting 1/4" installed at side bottom
#508-10-2	Transfer cap 2 5/8" ports
#508-10-2M	Modified with 1/4" male connector in cover for recirculation
#508-1	180° tube bend, 5/8" full depth
#508-3	90° tube bend, 5/8" full depth
#508-5	90° tube bend, short 6" legs
#10-2.3	Reduced 2.3 mm orifice
#10-10 SU	5/8" x 5/8" straight union
#10-8 SUR	5/8" x 1/2" straight union reducer
#508W	Wrench, one

Dimensions: 2 1/2" diameter x 15" overall height.

The technical assistance of Walter S. Smith, P.E., D.E.E. is acknowledged in development of this product group.



SHOWN 1/4 ACTUAL SIZE



Interchangeable Column TEFLON®-PFA Components

All moldings on this page and page 33 are molded of TEFLON® • PFA. All moldings have an identical vee thread style patterned after 1 1/2" NPT (National Pipe Thread) taper. All moldings interchange except special filter end of segment 504-47 shown below.

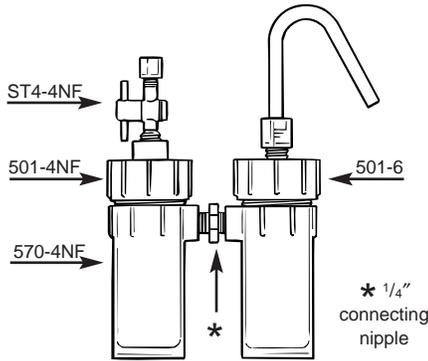
Components in these segmented columns and cylinders were designed to be used as building blocks for multi-purpose lab tools. Parts can be assembled for distilling, gas scrubbing impinging, liquid vapor traps, transferring and handling difficult solutions, etc. Components can be added to a unit at any time. Assembled devices are leak proof. Molded-in seals between the various components were designed to take internal pressures of 75* psi without leaking or requiring external, mechanical hold down fixtures. Units are unbreakable. Units do not require TEFLON® tape.

Use #504-47 segment shown below to provide a connecting link to 47 & 50 mm filter holders. The filter clamp nut thread is special size. Top thread of the segment interchanges with moldings page 33.

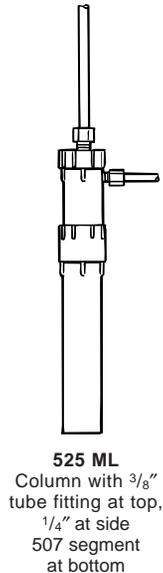
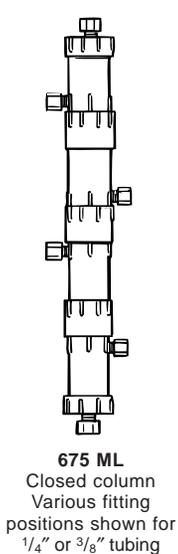
Build larger capacity columns with a new double threaded segment, part #5077.

Order components separately or order column assembled. Complete unit can be assembled in minutes. All components are carried in stock for immediate shipment. Purchase (1) set of lug wrenches with initial order.

*At room temperature. With increases in temperature pressure limits will decline. Rate of decline is dependent on many combinations of conditions. User is encouraged to start with a trial set up and check results during actual conditions.



VARIATIONS



Small Vessels
Part #55050 ml
Part #56060 ml

Female 1/4" NPT or 3/8" NPT. Specify thread size.

Part #570-4NF120 ml

504-47 150 ml

Special thread

Location 1/4" side port #504-47-4 one piece molding

Connecting segment does not include filter assembly shown
Part #504-47

Same part with 1/4" side connection
Part #504-47-4

LONG SEGMENT threaded ends
Part #5077 . . .375 ml
Height 29.5 cm, 11 5/8".

Interchangeable Column TEFLON®·PFA Components

Height
1 3/32"
2.8 cm



2 5/16"
across lugs
5.9 cm

END CAP

Part
#501

Overall
height
4 3/4"
12.1 cm



1.85"
4.7 cm

SEGMENT 150 ml

Part
#504



1 15/16"
4.9 cm

Thick
bottom
is suitable
for
mounting
fittings,
stopcocks.

LONG VESSEL with Solid Bottom

Part
#507375 ml
Height 29.5 cm, 11 5/8".



One piece
molding

1-PORT TRANSFER CAP

Part
#501-4 . . . 1/4" Tube Port
#501-6 . . . 3/8" Tube Port



One piece
molding

SEGMENT WITH FITTING

Part
#504-4150 ml
Side port for 1/4" tubing.
#504-6150 ml
Side port for 3/8" tubing.
#504-4NF .150 ml
Side port location extended for
tapped 1/4" or 3/8" female NPT
thread. Specify thread size.

Height
4.65"
11.8 cm



Side port
location

1.85"
4.7 cm

SOLID BOTTOM

Part
#570120 ml
Plain vessel.
#570-2 . . .120 ml
Same as 570 with 1/8" side port.
#570-4 . . .120 ml
Same as 570 with 1/4" side port.



One Piece
Molding

2-PORT TRANSFER CAP

Part
#501-2-2 1/8" Tube Ports
#501-4-2 1/4" Tube Ports
#501-6-2 3/8" Tube Ports
#501-8-2 1/2" Tube Ports

Height
2"
5.1 cm



2 1/8"
5.4 cm

FEMALE CONNECTOR

Part
#502



SCREEN

Part
#504S
Molded TEFLON® screen separates
packing or serves as coarse filter. 1
mm openings. Screen slips into 504 or
504-25 segment. Screen will not slip
through a 502 segment location.



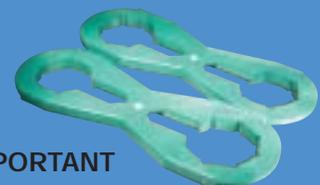
COLUMN PACKING

Part
#2525
1/4" TEFLON® tube lengths .250 O.D. x 5/32"
I.D. One bag (150 cc) will fill one segment.



TRANSFER CAP

Part
#501-4NF
Use stopcock ST-4-4N with 501-4NF
to drain assemblies.



IMPORTANT

Part
#55 Glass polypropylene
Order one wrench set with initial order.

Beakers TEFLON®·PFA 6" pot



BEAKERS: Special features for microwave or hot plate. All beakers are molded with seamless solid bottoms. Bottoms are machined flat after molding for maximum contact with hot plates. The miniature (2 ml) beaker has straight sides. All other beakers have safe handling rims and pour spouts. Top surface of all beakers is flat. Next larger beaker could serve as cover. One beaker kit is suggested.

<u>Part #</u>	<u>Description</u>
2BK	2 ml, $\frac{3}{4}$ " (19 mm) x $\frac{5}{8}$ " (15.8 mm) diameter

<u>Part #</u>	<u>Description</u>
50BK	50 ml, Graduated 10, 20, 30, 40 & 50 ml 1 $\frac{23}{32}$ " (43.4 mm) x 1 $\frac{27}{32}$ " (47 mm) dia.

<u>Part #</u>	<u>Description</u>
125BK	125 ml, Graduated 25, 50, 75, 100 & 125 ml 2 $\frac{3}{8}$ " (60.3 mm) x 2 $\frac{9}{16}$ " (64.7 mm) dia.

<u>Part #</u>	<u>Description</u>
250BK	250 ml, Graduated 50, 100, 150, 200 & 250 ml 3" (76.2 mm) x 3 $\frac{1}{16}$ " (77.7 mm) dia.

<u>Part #</u>	<u>Description</u>
500BK	500 ml, Graduated 100, 200, 300, 400 & 500 ml 3 $\frac{9}{16}$ " (90 mm) x 3 $\frac{11}{16}$ " (93.7 mm) dia.

<u>Part #</u>	<u>Description</u>
5135 Kit	One of each (5 Beakers)

<u>Part #</u>	<u>Description</u>
250HT	TEFLON® coated steel heating jackets for extra heat transfer. Use with #250BK beaker only.

<u>Part #</u>	<u>Description</u>
4200	2400 ml, 6" pot

Molded PFA. 15.2 cm, 6 inches height. Same dimension below rim. Designed to heat fluids. TEFLON® being an insulator requires maximum surface contact to heat source. Bottom of pot is machined flat after molding for hot plate work. Maximum hot plate temperature 500°F. TEFLON melts at 608°F.

<u>Part #</u>	<u>Description</u>
4201	Cover. Molded PFA. Has centering ring for alignment to 6" pot.

Dissolution TEFLON®·PFA Digestion

NOTICE: This page has several pressure vessel styles molded in high purity TEFLON®. These vessels are intended as experimental tools for research and development in the laboratory. Strict supervision of shielding and safeguards must be practiced. Knowledge of the heat source and exact sample/solution amounts must always be properly determined before pressure applications are attempted. Savillex will assist in referring production requirements onto application laboratories/companies using similar vessels. All vessels are available with flat bottoms for hot plate contact. Add \$1.00 each for secondary machining.

A. Part

#561B Buttress Thread

60 ml vessel with plain cap requires #55 wrench set. Recommend 18 ft. lbs. torque. Vessel rated at 75 psi. This is a revision of old #561, the first TEFLON® digestion vessel molded in '82. Vessel diameter 4.7 cm. Overall height 6.4 cm.

Part

#563B Buttress Thread

Same as above, except with two 1/8" ports.

B. Part

#568B Buttress Thread

Identical to 561B plus adjustable pressure relief valve integral with cap. Rated at 100 psi. Requires #55 torque wrench. Patented. Flex 3/16" TEFLON® tubing to overflow vessel.

C. Part

#571B Buttress Thread

120 ml vessel with plain cap. Rated at 75 psi. Requires #55 torque wrench and 18 ft. lbs. Vessel diameter 5 cm (2") × 12.1 cm (4 3/4") overall height.

Part

#574B one 1/4" port

#575B two 1/4" ports

D. Part

#578B Buttress Thread

Identical to 571B plus adjustable pressure relief valve integral with cap. Rated at 100 psi. Requires #55 torque wrench and 18 ft. lbs. Patented. Flex 3/16" TEFLON® tubing at \$1.50 per foot.

E. Part

#577 Vee Thread

Similar to 578B except retaining cap is molded of strong polyetherimide material with vee thread. Adjusted relief valve telescopes into the 120 ml vessel. Fluids contact TEFLON® only. Rated at 150 psi.

F. Part

#577-2 Vee Thread

Similar to 577 except a side port is integrally molded below retaining cap location. 1/8" tube port for monitoring pressure/injecting sample. Vent to evacuate contents. 150 psi.

H. Part

Wrench set #55

For technical assistance, we recommend [Introduction To Microwave Sample Preparation, Theory and Practice](#), edited by H.M. Kingston and Lois B. Jassie. This 263 page book published by American Chemical Society contains numerous references to PFA vessels. PFA vessels were molded by Savillex Corp. Current ACS price \$110.00.



Drop-in Wells

Individual drop-in wells now available in TEFLON® for standard 24, 12 & 6 tissue culture well plates. Each well is molded for optimum inside surface finish. Each well is machined to a uniform height allowing retrieval by forceps. Uniform height precludes carry over when used with standard well plate cover. Space wells for additional isolation.

Benefits in TEFLON®:

- +260°C/-196°C temperature range
- Autoclavable
- Non-stick
- Non-wetting
- Non-leaching
- Non-toxic

Wells are packaged in cases of 4 each.

Part

2424

Individual drop-in wells for standard (24) place well plate. 3.35 inch x 5 inch well plate and cover not included. Wells are packaged 4 per case. Note: part #2424 replaces old #2400

Part

2412

Individual drop-in wells for standard (12) place well plate. 3.35 inch x 5 inch well plate and cover not included.

Part

2406

Individual drop-in wells for standard (6) place well plate. 3.35 inch x 5 inch. Well plate and cover not included.

Dishes

PETRI DISH, 50 mm

Stackable. 2" I.D. x 3/8" (51 mm x 10 mm) depth. Each dish serves as a cover.

Part

4050

PETRI DISH, 100 mm

Stackable. 3-31/32" I.D. x 19/32" (102 mm x 15 mm) depth. Underside is tapered to support flatness of dish. Each dish serves as a cover.

Part#

4102

EVAPORATING DISH

With spout. 100 ml capacity.

Part

4100



"These TEFLON® wells are an indispensable item in our studies with human monocytes. They fit neatly into a 24-well tissue culture dish, and make handling of multiple samples very easy. Easy manipulation means less contamination, even with prolonged incubation. We have been able to substantially reduce the number of cells we need for each experiment."

*Dr. Kathy Barker, Assistant Professor
Laboratory of Cell Physiology and Immunology,
Rockefeller University, New York.*



Tray

Inside dimensions 1" x 4" (25 mm x 101 mm).

Part #
4410

Staining Tray with Cover

For 25 mm x 75 mm slides. Inner dimensions: 1½" x 3¼" x ¾" (39 mm x 83 mm x 19 mm) depth.

Part #
4310

Pan

6" x 4" x 2" (15 cm x 10 cm x 5 cm). Inside dimensions across corners 6¾" (17 cm). 700 ml capacity.

Part #
4642

Potting Box

Square 1" x 1" x .85". TEFLON • PFA

Part #
4405

Sieves, with handles

One piece molded hook at base of handle allows sieve to be used in drying positions. Overall height 7"–17.8 cm.

Part #
5020
Square openings are .020", ½ mm

Part #
5040
Square openings are .040", 1 mm

Dipper, with handle

Part #
5009

Dipper style, solid bottom. Does not have pour spout. 40 ml capacity.

Use in containers 300 through 1000 ml or vessels with inside diameters of at least 3", 76 mm.



Ion-Exchange TEFLON®·PFA Micro Columns

Illustrations show five column configurations with assigned part numbers. Many other reservoir and capillary combinations are available.

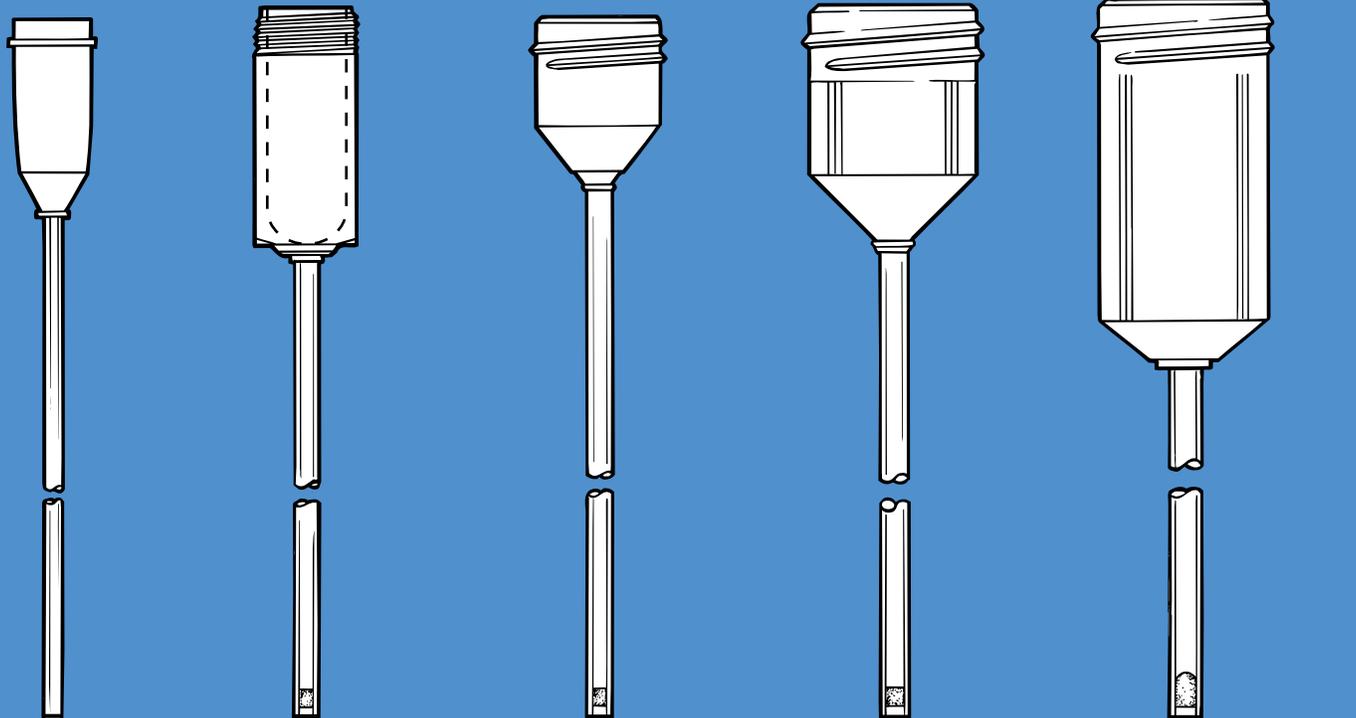
Reservoirs are taken from the Savillex® line of stocked conical and round bottom vials; capillaries from stocked straight tube lengths listed on page 24.

A special fusing technique preserves the purity and integrity of reservoir and capillary bond. Internal diameter of capillary is not reduced through bonding area.

Columns are made one at a time. Reservoirs and capillaries can be mixed and matched. A six piece minimum number per size is requested.

Please furnish reservoir size, internal capillary diameter and length of capillary for all orders.

Porous, pure 30 micron PTFE (polytetrafluoroethylene) frits available for 2.4, 3.2, 4.0 and 6.4 mm internal diameter capillaries.



Part #7272–1.5 mm
2 ml reservoir with
1.5 mm (1/16") I.D.
capillary

No frit available.

Part #026–2.4 mm
6 ml reservoir with
2.4 mm (3/32") I.D.
capillary

Part #2.4 Frit

Part #024–3.2 mm
5 ml reservoir with
3.2 mm (1/8") I.D.
capillary

Part #3.2 Frit

Part #0624-2
One Port Transfer
Cap. 1/8" tubing.

Part #0624
Plain Cap

Part #025R–4 mm
15 ml reservoir with
4 mm (5/32") I.D.
capillary

Part # 4 Frit

Part #0633-2
One Port Transfer
Cap. 1/8" tubing.

Part #336
Two Port Transfer
Cap. 1/8" tubing

Part #0633
Plain Cap

Part #0201C–6.4 mm
30 ml reservoir
6.4 mm (1/4") I.D.
capillary

Part #6.4 Frit

Part #0633-2
One Port Transfer
Cap. 1/8" tubing.

Part #336
Two Port Transfer
Cap 1/8" tubing

Part #0633
Plain Cap

All Teflon® PTFE syringes with connecting 13 mm all Teflon® filter holder. Highest purity resins used for all components. Uncompromising handling of samples for elemental analysis.

Syringes shown
1/2 actual size



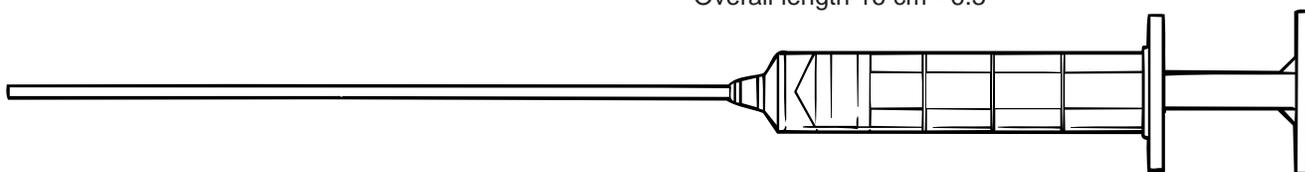
Part #4010
10 ml barrel molded in one piece with female leuc lock attachment. Barrel and plunger stem in high purity Teflon®. Plunger in premium PTFE. Overall length 10.4cm - 4.1"



Part #4011
Male leuc lock with permanent Teflon® retrieve-dispense tube. 8 mm I.D. × 15 cm for syringe 4010.



Part #4020
20 ml barrel and plunger stem molded in Teflon®. Plunger in PTFE. Indented 5, 10, 15 & 20 ml markings. Overall length 16 cm - 6.3"



Part #4021
20 ml retrieve-dispense syringe with permanent 1.5 mm I.D. × 20 cm tube in Teflon®.

13 mm REPLACEMENT PTFE MEMBRANES
(10) membranes per pack

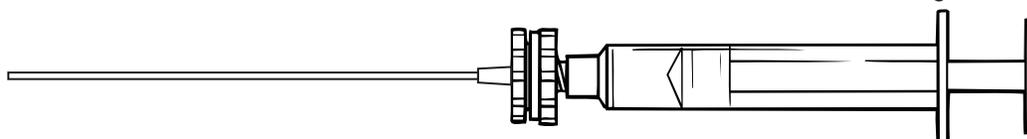
Part	Pack	Filter Pore Size
#1169	30-60 Micron pore size
#1159	20-30 Micron pore size
#1149	5-6 Micron pore size
#1139	1-2 Micron pore size
#112945 Submicron
#11192 Submicron

See page 40 for quantity

Pack



Part #LL-13-SL
Two piece 13 mm holder. Male leuc-slip outlet, female leuc lock inlet. Bidirectional membrane support. 26 mm - 1.03" diameter × 28.2 mm - 1.11" length



Part #13 Ext
Removable .8 mm × 10 cm push-in-tube. TEFLON®

Part #LL-13-SL

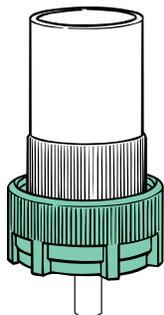
Part #4010 Syringe

Introduction TEFLON®-PFA Filtration

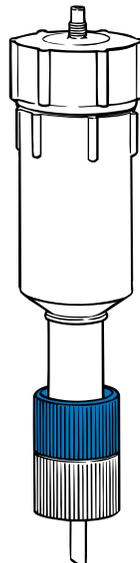
The following pages are devoted to in-line filtration devices. Designs follow the popular 47 and 50 mm holders manufactured the past 23 years by Savillex® Corp. Typical applications shown below including comprehensive chart for ordering pure PTFE membranes.



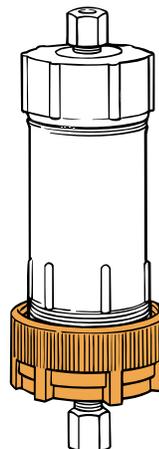
Exploded view of the 47 mm holder used with a side port suction flask. Shown with #007-6 stopper in TEFLON®, page 24.



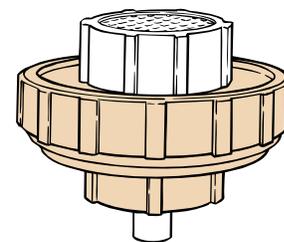
50 mm suction filter holder. 125 mm open reservoir with a 1/2" molded one piece tube outlet.



DOC 25
Pressure-filtration assembly (25 mm) molded of TEFLON® meets requirements for USEPA method 440.0 "Determination of carbon & nitrogen in sediment and particulates of estuarine/coastal waters using elemental analysis."



DOC 47
Filtering assembly (47 mm) molded of TEFLON®. For processing samples for analysis of dissolved organic carbon. Wilde, F.D.; Radtke, D.B.; Gibs, J.; and Iwatsubo, R.T.; eds., 1998, National Field Manual for Collection Water Quality Data, Chapter A2, Selection of Equipment for Water Sampling, U.S. Geological Survey – TWRI, Book 9, Chapter A2-2.2.3.C.



Air studies with 90 mm open inlet holder 2.4 in.² opening direct to membrane. Inlet Bug Screen available in TEFLON® if needed, page 24.

100% PURE PTFE

Polytetrafluorethylene (PTFE) is the chemical substance on which the TEFLON® family of products is based. PTFE only – no backing material.

(10 membranes per pack)	90 mm	50 mm	47 mm	37 mm	25 mm	20 mm	13 mm
Extra Coarse Grade 30 – 60 Micron	#1260	#1160	#1161	#1163	#1165	#1167	#1169
Coarse Grade 20 – 30 Micron	#1250	#1150	#1151	#1153	#1155	#1157	#1159
Medium Grade 5 – 6 Micron	#1240	#1140	#1141	#1143	#1145	#1147	#1149
Fine Grade 1 – 2 Micron	#1230	#1130	#1131	#1133	#1135	#1137	#1139
Very Fine Grade .45 Micron	#1220	#1120	#1121	#1123	#1125	#1127	#1129
Ultra Fine Grade .2 Micron	#1210	#1110	#1111	#1113	#1115	#1117	#1119

25 mm In-Line Filter Holder

Hand tightened. Rated to 65 psi with TEFLON membrane in place. Outer blue and white clamp nuts are PVDF. All components contacting fluid stream are molded PFA. Change membranes without disconnecting tubing lines.

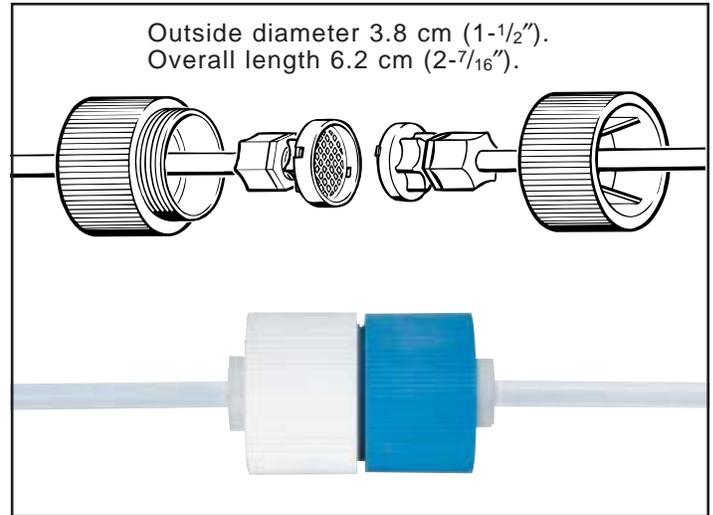
- Part #2-25-2, 1/8" tubing

- #4-25-4, 1/4" tubing

- #4N-25-4N 1/4" male NPT thread

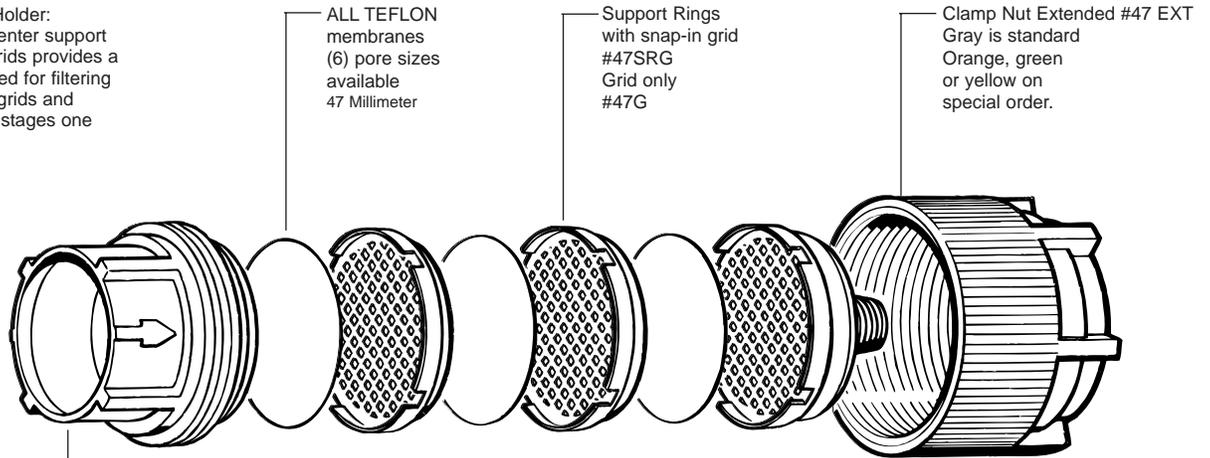
- #0-25-4 open face filtering 2.5" tube x .8" dia. open direct to membrane

For maximum temperature requirements, specify clamp nuts in TEFLON. PVDF Nuts not included.
 #25 Gray TEFLON Additional see page 40 for membrane selection



47 mm
ALL TEFLON® MULTIPLE 2-3-4 STAGE FILTER HOLDER

Note 4 Stage Holder: Stacking two center support rings without grids provides a 1/2 inch deep bed for filtering granules. Use grids and membranes at stages one and four.



INLET OPTIONS:

- #0-47 open face, 1.4 dia x 1.5 inch
- #1-47 open face, 1.6 dia x 3.5 inch
- #6T-47 3/8" dia x 1 inch tube
- #8T-47 1/2" dia x 1 inch tube
- #4-47 Ferrule nut accepts 1/4" tube
- #6-47 Ferrule nut accepts 3/8" tube
- #4N-47 1/4" NPT

3-Stage Holder Illustrated

#0 - 473 - 4N

inlet millimeter # membranes outlet

Overall dimensions 2.45 inch dia. x 2.85 inch length. Weight: 150 grams

OUTLET OPTIONS INCLUDES GRID:

- #47-4 Ferrule nut to accept 1/4" tube
- #47-6 Ferrule nut to accept 3/8" tube
- #47-6T 3/8" 0. dia. x 1" tube
- #47-8T 1/2" 0. dia. x 1" tube
- #47-4N 1/4" NPT

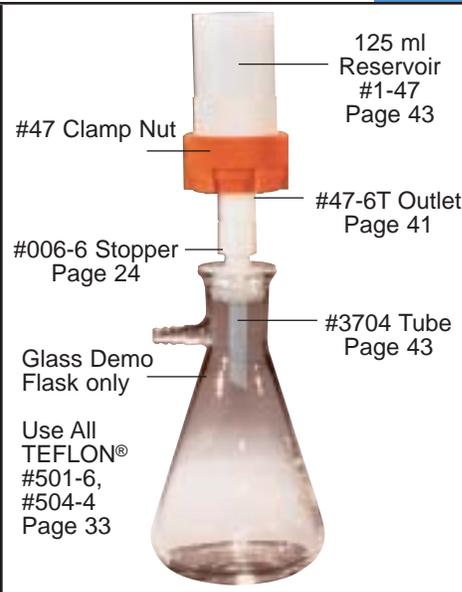
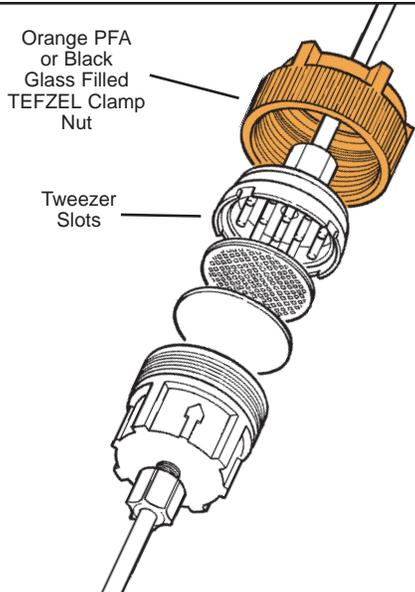
Clamp nut extended in 1989 to accept 4 stages. Used for dry deposition studies in environment.

Example shown #0-473-4N
 Includes wrench set #56 @ additional price



#0-473-4N

See page 40 for membrane selection. 47 mm.



- Series 47 Filter Holder**
- All parts molded of TEFLON® PFA resin
 - Fluids contact only natural, pure TEFLON®

- 25 PSI operating pressure
- Plus features of TEFLON®; translucency, inertness, chemical and corrosion resistance, non-sticking and 500°F-320°F temperature range.*

- Series 147 Filter Holder**
- Identical to series 47 except:
- Reinforced TEFZEL clamp nut with 25% glass fiber. 300°F max temperature
 - 65 PSI pressure rating with TEFLON® membrane

* For every 2°F temperature rise above 150°F, subtract 1 PSI from 25 PSI for maximum pressure rating.

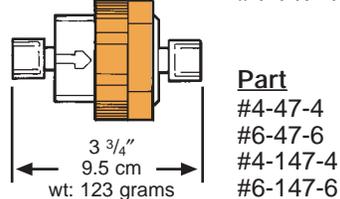
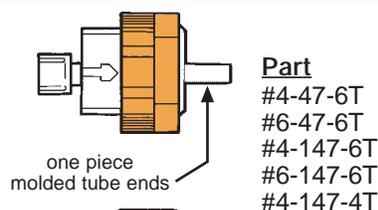
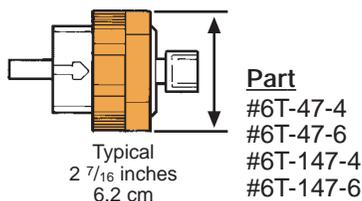
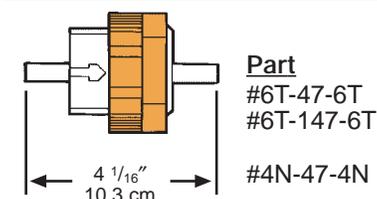
- 4 = Ferrule Nut for 1/4" Tubing
- 6 = Ferrule Nut for 3/8" Tubing

HOLDER STYLES

- 4N = 1/4" NPT Male Inlet/Outlet
- 6T = 3/8" O.D. × 1" Tube End
- 4T = 1/4" O.D. × 1" Tube End/Outlet

Allow membrane replacement without disconnecting tube lines. Includes glass polypropylene wrench set.

- 47 = Orange PFA Clamp Nut
- 147 = Black Reinforced Clamp Nut



TEFLON® membranes are unaffected by virtually all liquids including organic solvents, concentrated acids and alkalis. These membranes **do not** have backing of a non-TEFLON® support material. They are produced of pure TEFLON® PTFE resins. They withstand the most severely corrosive conditions at temperatures as high as 500°F/260°C and down to the cryogenic range. Filtration is achieved through fibrous porous structure providing absolute and depth types filtering. Each fiber and projection is bonded together at cross over points preventing migration into the filtrate. Being pure TEFLON®, they are chemically inert, imparting no odors or contaminants. The membrane is hydrophobic (not wetted with water), maintains its strength wet or dry. Being hydrophobic, the membranes are the choice for air filtration as they are not wetted by moisture in the air and therefore, do not clog at pressures below the bubble point of the filter pore size.

See page 46 for Flow Rate Graphs.

MEMBRANES FOR 47 mm HOLDERS

- Pure TEFLON® PTFE
 - 10 membranes per package
- PART #1151 COARSE GRADE**
20-30 micron maximum pore size
47 mm diameter by .14 mm thickness

PART #1141 MEDIUM GRADE
5-6 micron maximum pore size
47 mm diameter by .10 mm thickness

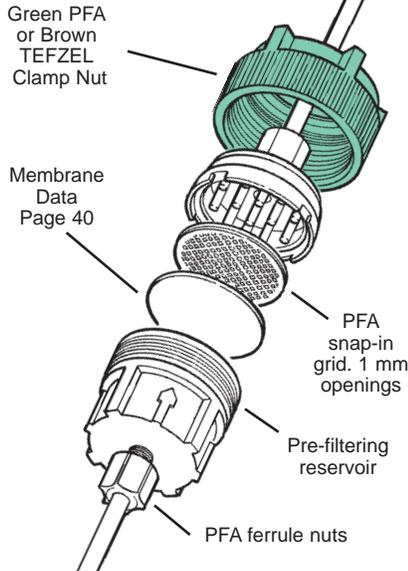
PART #1131 FINE GRADE
1-2 micron maximum pore size
47 mm diameter by .25 mm thickness

SUBMICRON GRADES

- Pure TEFLON® PTFE
 - 10 membranes per package
- PART #1121 VERY FINE GRADE**
.45 micron pore size
47 mm diameter by .07 mm thickness

PART #1111 ULTRA FINE GRADE
.2 micron pore size
47 mm diameter by .065 mm thickness

This submicron grouping is also pure TEFLON® PTFE. Does not have a layer of non-TEFLON® material. An important feature as chemical resistance is not reduced. Recommended for solvents. The membrane has a continuous homogenous, honeycomb like structure of interconnecting holes or pores and is non-shedding. For aqueous solutions, submicron membranes must initially be wetted with alcohol. TEFLON® membranes are the recommended type for air filtration.



Series 50 Filter Holder

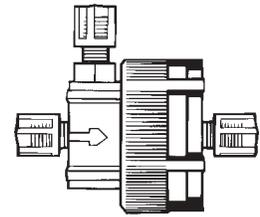
- All parts molded of TEFLON® PFA resin
- Fluids contact only natural, pure TEFLON®



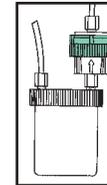
- 25 PSI operating pressure
- Plus features of TEFLON®; translucency, inertness, chemical and corrosion resistance, non-sticking and 500°F-320°F temperature range.*

Series 150 Filter Holder

- Identical to series 50 except:
- Reinforced TEFZEL clamp nut with 25% glass fiber. 300°F max. temperature
 - 65 PSI pressure rating with TEFLON® membrane



Using a 1/4" side port to add turbulence over membranes. Shown with 4-50-4 holder.



-6T filter holders will attach directly to transfer containers with #6 tube ports

* For every 2°F temperature rise above 150°F, subtract 1 PSI from 25 PSI for maximum pressure rating.

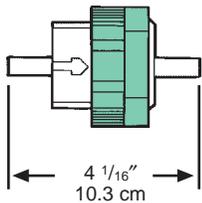
- 4 = Ferrule Nut for 1/4" Tubing
- 6 = Ferrule Nut for 3/8" Tubing

HOLDER STYLES

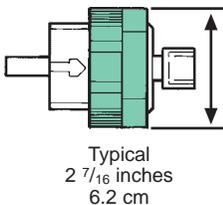
- 6T = 3/8" O.D. x 1" Tube End
- 8T = 1/2" O.D. x 7/8" Tube End

Allow membrane replacement without disconnecting tube lines. Includes glass polypropylene wrench set.

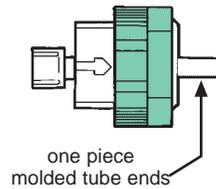
- 50 = Green PFA Clamp Nut
- 150 = Brown Reinforced Clamp Nut



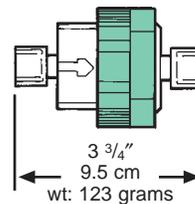
- Part**
- #6T-50-6T
 - #8T-50-8T
 - #6T-150-6T
 - #8T-150-8T



- Part**
- #6T-50-4
 - #8T-50-4
 - #6T-50-6
 - #8T-50-6
 - #6T-150-4
 - #8T-150-4
 - #6T-150-6
 - #8T-150-6



- Part**
- #4-50-6T
 - #4-50-8T
 - #6-50-6T
 - #6-50-8T
 - #4-150-6T
 - #4-150-8T
 - #6-150-6T
 - #6-150-8T



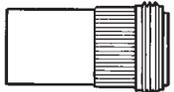
- Part**
- #4-50-4
 - #6-50-6
 - #4-150-4
 - #6-150-6

Introduction to Membranes
(See page 35)

Membrane Flow Rates
(See page 46)

TEFLON® PFA support tube for mounting filter holders with #6 end onto filter flask. 3/8" O.D. x 4" long

Part #3704



TEFLON® PFA receptacle screws into inlet sides of 47 mm or 50 mm holder. For use with suction flask filter holders. 125 ml capacity.

Part #1-47 (was #4750)

MEMBRANES FOR 50 mm HOLDERS

- Pure TEFLON® PTFE
- 10 membranes per package

PART #1150 COARSE GRADE
20-30 micron maximum pore size
50 mm diameter by .14 mm thickness

PART #1140 MEDIUM GRADE
5-6 micron maximum pore size
50 mm diameter by .10 mm thickness

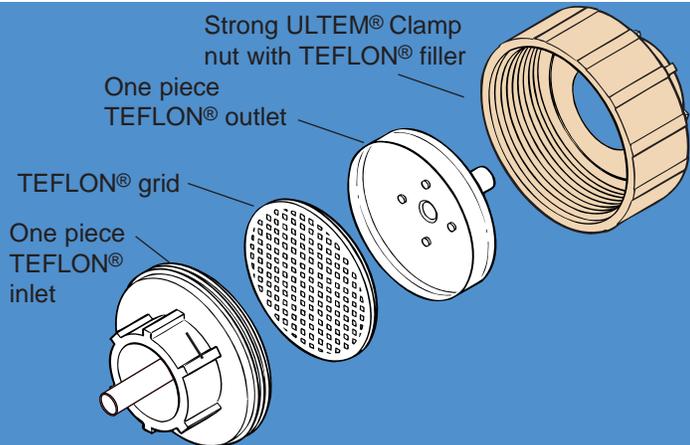
PART #1130 FINE GRADE
1-2 micron maximum pore size
50 mm diameter by .25 mm thickness

PART #1160 EXTRA COARSE GRADE
30-60 micron maximum pore size
50 mm diameter by .20 mm thickness

This new membrane is also pure TEFLON® PTFE. **Does not** have a non-TEFLON® supporting material as a backing. Flow rates of water are approximately two times the rate of the 1150 coarse grade. See flow rate graphs on page 46.

Inline TEFLON®·PFA Filter

90 mm



Series 90 mm filter holder. Fluids contact only natural TEFLON® PFA 10 PSI pressure rating with PTFE membranes.

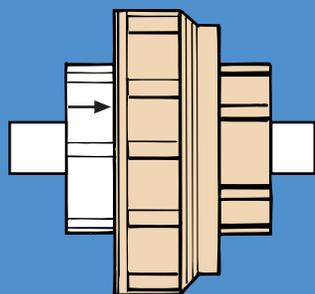
For every 2°F temperature rise above 150°F, subtract 1 PSI from 25 PSI for maximum pressure rating.

HOLDER STYLES

8T = 1/2" OD x 1" tube end
10T = 5/8" OD x 1" tube end

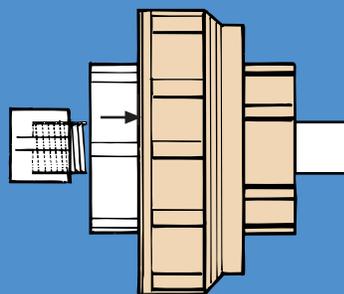
8 = Ferrule nut for 1/2" tubing
12 = Ferrule nut for 3/4" tubing
90 = ULTEM® with TEFLON® clamp nut

Allow membrane replacement without disconnecting tube lines. Includes glass polypropylene wrench set.

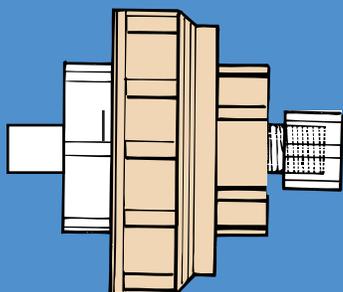


4 5/16" diameter
4 1/8" max length

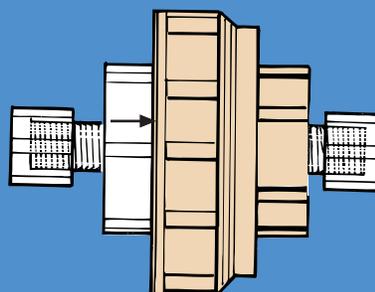
#8T-90-8T
#10T-90-10T



#8-90-8T
#8-90-10T
#12-90-8T
#12-90-10T



#8T-90-8
#8T-90-12
#10T-90-8
#10T-90-12



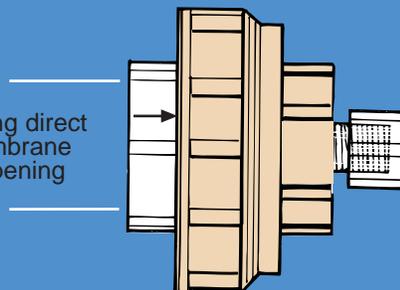
4 5/16" diameter
5 3/8" max length

#8-90-8
#8-90-12
#12-90-8
#12-90-12



#56 wrench set in green glass filled polypropylene included with holders.

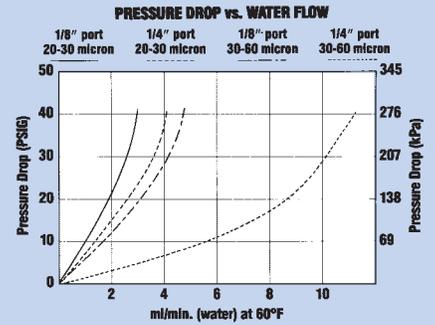
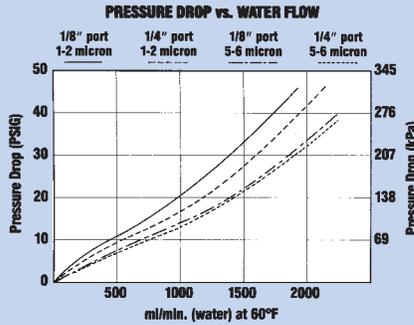
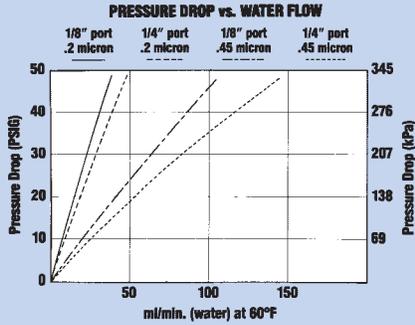
Opening direct to membrane
1.8" opening



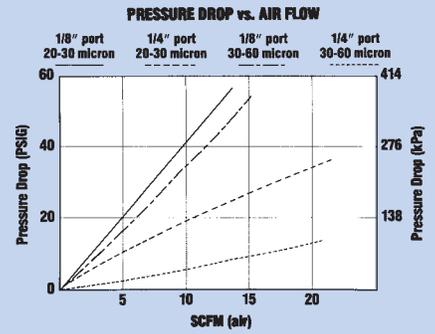
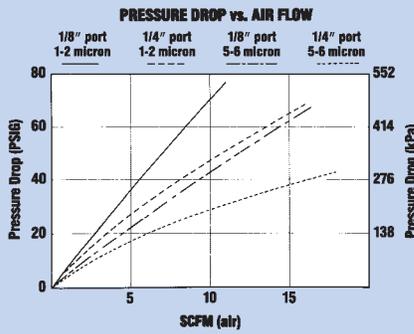
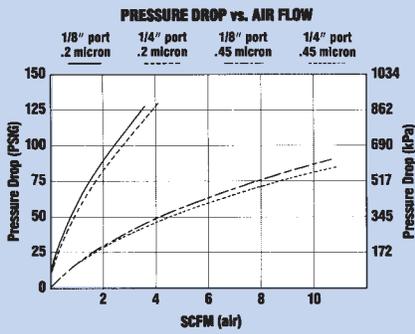
#0-90-8

Open face holder for air studies. A TEFLON® bug screen is adaptable to inlet slide.

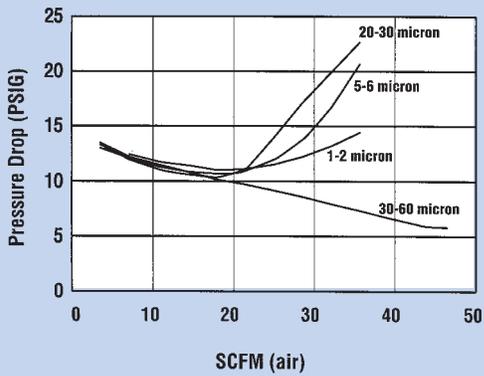
25mm Water



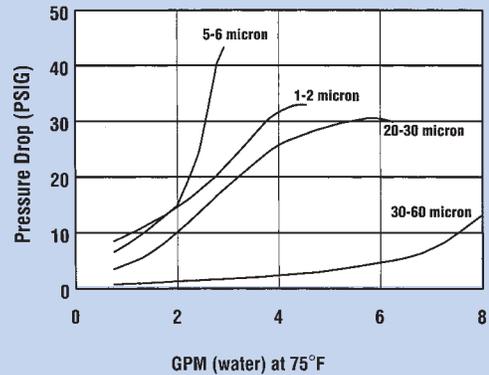
25mm Air



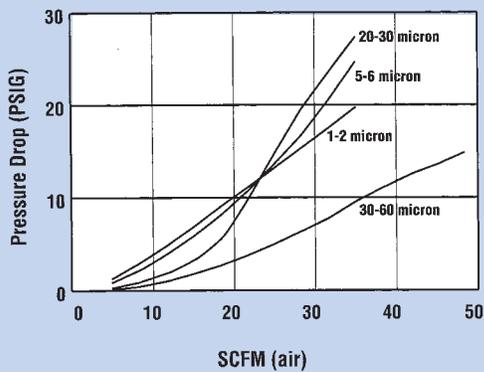
12-90-12 FILTERS
PRESSURE DROP vs. AIR FLOW



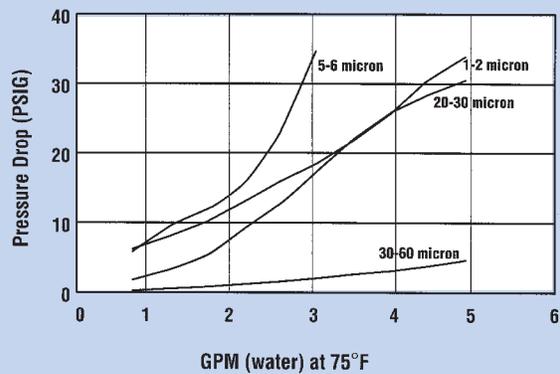
12-90-12 FILTERS
PRESSURE DROP vs. WATER FLOW



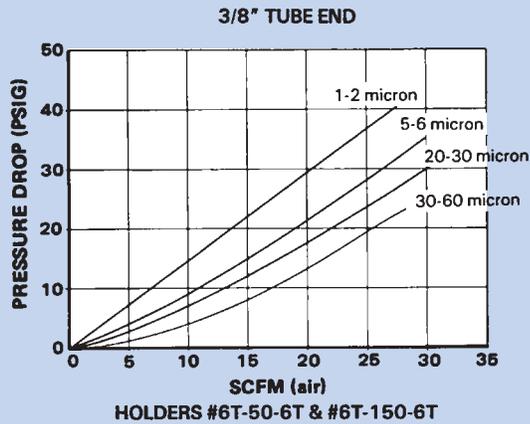
8-90-8 FILTERS
PRESSURE DROP vs. AIR FLOW



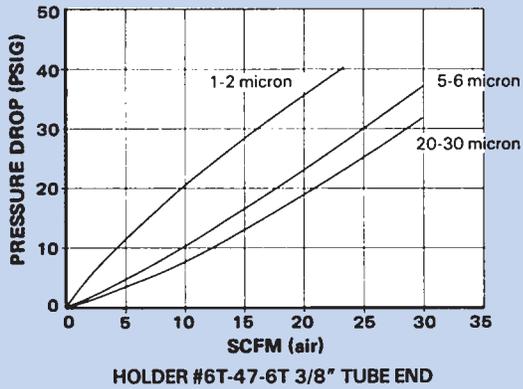
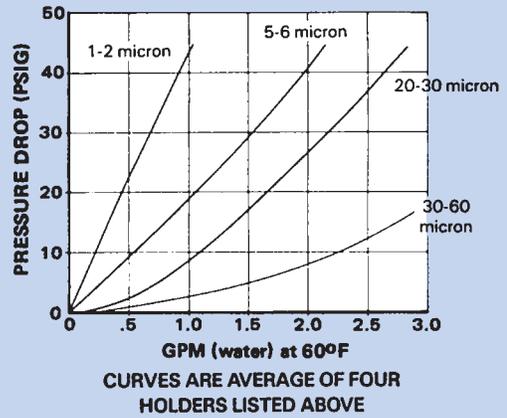
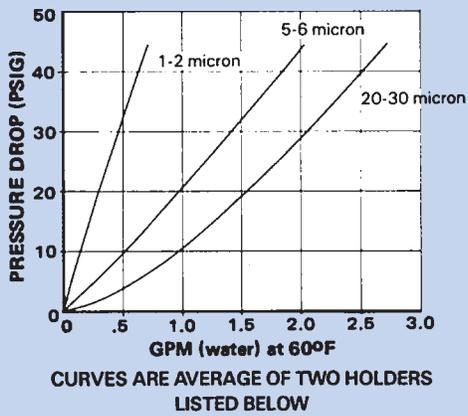
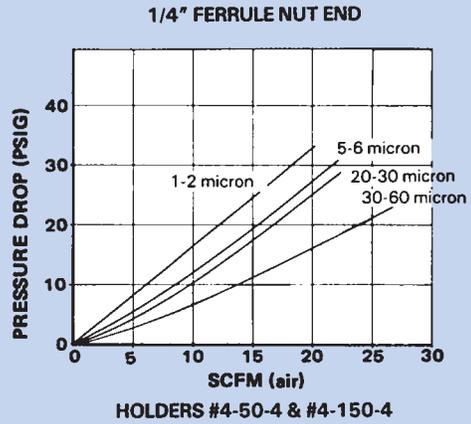
8-90-8 FILTERS
PRESSURE DROP vs. WATER FLOW



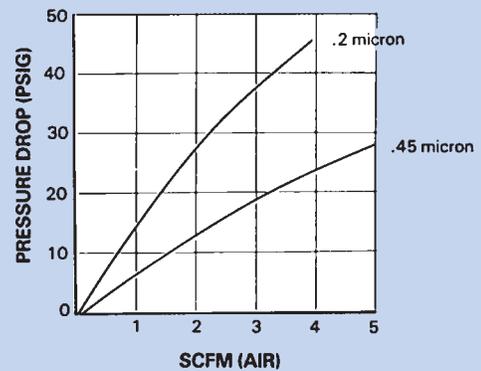
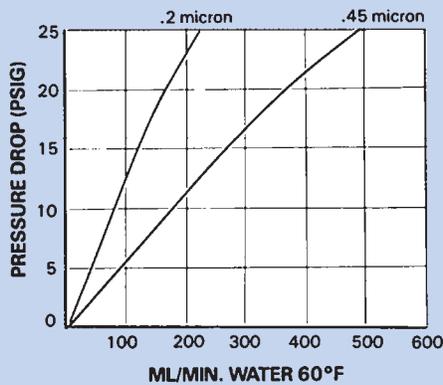
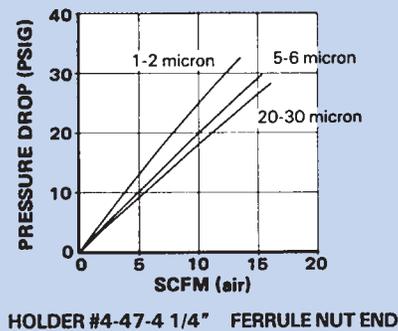
Filter TEFLON®·PFA Flow Rate



(50mm)



(47mm)



Typical TEFLON®·PFA Properties

Property	ASTM Test Method	Unit	Nominal Value
Thermal			
Nominal Melting Point	DTA-E168	°C (°F)	302–310 (575–590)
Coefficient of Linear Thermal Expansion, 21–100°C (70–212°F)	D696	mm/mm/°C (in/in/°F)	14×10^{-5} (7.6×10^{-5})
100–149°C (212–300°F)		mm/mm/°C (in/in/°F)	17×10^{-5} (9.2×10^{-5})
149–208°C (300–408°F)		mm/mm/°C (in/in/°F)	21×10^{-5} (11.5×10^{-5})
Upper Service Temperature	—	°C (°F)	260 (500)
Flow Rate	D3307	g/10 min	14
Mechanical			
Tensile Strength, 23°C (73°F)	D3307	MPa (psi)	25 (3,600)
250°C (482°F)		MPa (psi)	14 (1,800)
Specific Gravity	D792	—	2.12–2.17
Tensile Yield Strength, 23°C (73°F)	D3307	MPa (psi)	13.8 (2,000)
Ultimate Elongation, 23°C (73°F)	D3307	%	300
250°C (482°F)		%	480
Flexural Modulus, 23°C (73°F)	D790	MPa (psi)	590 (85,000)
250°C (482°F)		MPa (psi)	55 (8,000)
Hardness Durometer	D2240	—	D55
MIT Folding Endurance 0.18–0.20 mm (0.007–0.008 in)	D2176	cycles	50,000
Electrical			
Dielectric Strength Short Time, 0.25 mm (0.010 in)	D149	kV/m (V/mil)	80 (2,000)
Dielectric Constant, 60–10 ⁶ Hz	D150	—	2.03
Dissipation Factor, 60–10 ⁶ Hz	D150	—	0.0001
Volume Resistivity	D257	ohm-cm	10 ¹⁸
General			
Water Absorption, 24 h	D570	%	<0.03
Weather and Chemical Resistance	—	—	Outstanding
Limiting Oxygen Index	D2863	%	>95

Note: Typical properties are not suitable for specification purposes.

Statements, or data, regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

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EFFECT OF CHEMICAL IMMERSION

(168 Hrs.)

Table I - Inorganic Chemicals

CHEMICAL	Test Temp		% Retained Physicals		
	°F	°C	Tensile	Elongation	% Wt. Gain
MINERAL ACIDS					
Hydrochloric (Conc)	248	120	98	100	0.0
Sulfuric (Conc)	248	120	95	98	0.0
Hydrofluoric (60%)	73	23	99	99	0.0
Fuming Sulfuric	73	23	95	96	0.0
OXIDIZING ACIDS					
Aqua Regia	248	120	99	100	0.0
Chromic (50%)	248	120	93	97	0.0
Nitric (Conc)	248	120	95	98	0.0
Fuming Nitric	73	23	99	99	0.0
INORGANIC BASES					
Ammonium Hydroxide (Conc)	150	66	98	100	0.0
Sodium Hydroxide (50%)	248	120	93	99	0.4
PEROXIDE					
Hydrogen Peroxide (30%)	73	23	93	95	0.0
HALOGENS					
Bromine	73	23	99	100	0.5
Bromine	138	59*	95	95	N.D.**
Chlorine	248	120	92	100	0.5
METAL SALT SOLUTIONS					
Ferric Chloride (25%)	212	100	93	98	0.0
Zinc Chloride (25%)	212	100	96	100	0.0
OTHER INORGANICS					
Sulfuryl Chloride	156	69*	83	100	2.7
Chlorosulfonic Acid	304	151*	91	100	0.7
Phosphoric Acid (Conc)	212	100	93	100	0.0

Table II - Organic Chemicals

ACIDS/ANHYDRIDES					
Glacial Acetic Acid	244	118*	95	100	0.4
Acetic Anhydride	282	139*	91	99	0.3
Trichloroacetic Acid	384	196*	90	100	2.2
HYDROCARBONS					
Isooctane	210	99*	94	100	0.7
Naphtha	212	100	91	100	0.5
Mineral Oil	356	180*	87	95	0.0
Toluene	230	110*	88	100	0.7
FUNCTIONAL AROMATICS					
O-Cresol	376	191*	92	96	0.2
Nitrobenzene	410	210*	90	100	0.7
ALCOHOL					
Benzyl Alcohol	401	205*	93	99	0.3
AMINES					
Aniline	365	185*	94	100	0.3
nButylamine	172	78*	86	97	0.4
Ethylenediamine	242	117*	96	100	0.1
ETHER					
Tetrahydrofuran	151	66*	88	100	0.7
KETONES/ALDEHYDES					
Benzaldehyde	355	179*	90	99	0.5
Cyclohexanone	312	156*	92	100	0.4
Methyl ethyl Ketone	176	80*	90	100	0.4
Acetophenone	396	202*	90	100	0.6
ESTERS					
Dimethylphthalate	392	200	98	100	0.3
nButylacetate	257	125*	93	100	0.5
Tri-n-Butyl Phosphate	392	200	91	100	2.0
CHLORINATED SOLVENTS					
Methylene Chloride	104	40*	94	100	0.8
Perchloroethylene	250	125*	86	100	2.0
Carbon Tetrachloride	171	77*	87	100	2.3
POLYMER SOLVENTS					
Dimethylformamide	309	154*	96	100	0.2
Dimethylsulfoxide	372	189*	95	100	0.1
Dioxane	214	101*	92	100	0.6

* Boiling Point

** No Data

(Data from DuPont PIB #2)

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