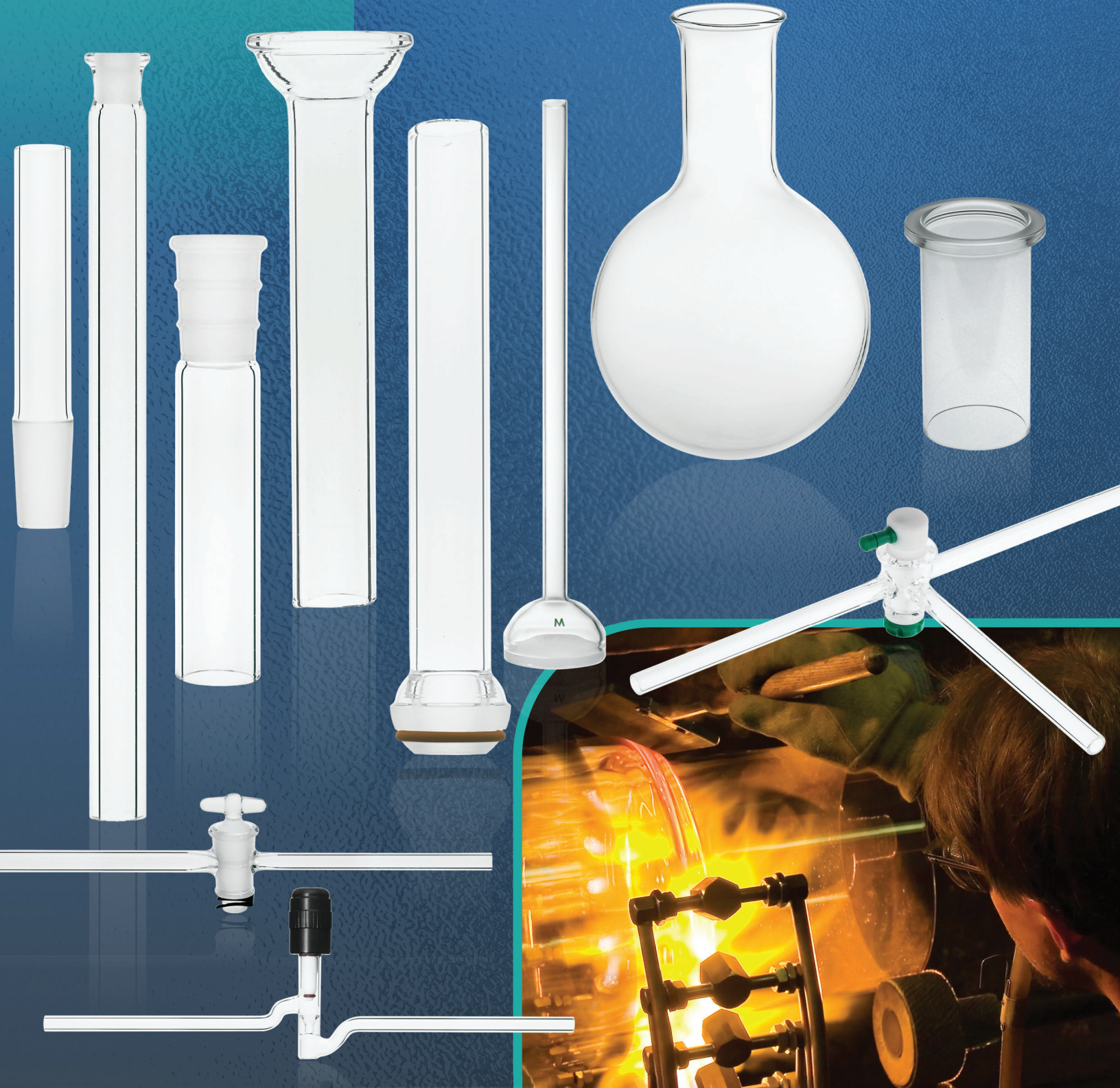




# GLASSBLOWING COMPONENTS





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T 1.800.843.1794

F 1.800.922.4361

[www.cglifesciences.com](http://www.cglifesciences.com)

[tech@cglifesciences.com](mailto:tech@cglifesciences.com)

[cs@cglifesciences.com](mailto:cs@cglifesciences.com)



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### CG-100 Ground Joint, Inner, Full Length

Standard taper inner joint, full length.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-100-01	7/25	6.35 x 1.2	\$57.40
CG-100-02	10/30	8 x 1.5	\$27.25
CG-100-03	12/30	10 x 1.5	\$33.40
CG-100-04	14/35	12.7 x 1.6	\$21.60
CG-100-05	19/38	17 x 1.8	\$20.60
CG-100-06	24/40	22 x 2.25	\$15.35
CG-100-07	29/42	28 x 2	\$18.50
CG-100-08	34/45	32 x 2.4	\$25.55
CG-100-09	40/50	38 x 2	\$32.45
CG-100-10	45/50	41 x 2	\$36.05
CG-100-11	50/50	48 x 2.3	\$45.65
CG-100-12	55/50	51 x 2	\$50.85
CG-100-13	60/50	57 x 2.4	\$59.90
CG-100-14	71/60	70 x 2.4	\$74.60
CG-100-15	103/60	100 x 2.4	\$293.30



CG-100

### CG-101 Ground Joint, Outer, Full Length

Standard taper outer joint tooled on tubing approximately the same diameter as the top reinforcing ring, affording no hold-up below joint.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-101-01	7/25	10 x 1.5	\$16.35
CG-101-02	10/30	14 x 1.2	\$18.70
CG-101-03	12/30	16 x 1.2	\$30.55
CG-101-04	14/35	19 x 1.8	\$18.95
CG-101-05	19/38	22 x 1.8	\$17.20
CG-101-06	24/40	28 x 2	\$17.65
CG-101-07	29/42	32 x 2.4	\$20.25
CG-101-08	34/45	38 x 2	\$27.05
CG-101-09	40/50	45 x 2	\$39.55
CG-101-10	45/50	48 x 2	\$40.55
CG-101-11	50/50	54 x 2.4	\$55.80
CG-101-12	55/50	60 x 2.4	\$57.10
CG-101-13	60/50	64 x 2.4	\$74.10
CG-101-14	71/60	75 x 2.4	\$84.80
CG-101-15	103/60	110 x 3	\$217.70



CG-101



CG-102



CG-103



CG-104

### CG-102 Ground Joint, Outer, Full Length With Rings

Standard taper outer joint tooled on the same size tubing as the CG-100 inner joints. All CG-102 outer joints are supplied standard with rings, but are available tooled without rings on a special order basis.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-102-06	24/40	22 x 1.8	\$27.65
CG-102-07	29/42	28 x 2	\$40.35

### CG-103 Ground Joint, Outer, Full Length With Rings

Standard taper outer joints tooled with reinforcing rings.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-103-06	24/40	28 x 2	\$19.45
CG-103-07	29/42	32 x 2.4	\$29.55
CG-103-08	34/45	38 x 2	\$57.70
CG-103-10	45/50	48 x 2	\$43.35

### CG-104 Ground Joint, Inner, Medium Length

Standard taper ground inner joint, medium length.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-104-02	5/12	4 x 0.8	\$25.65
CG-104-03	7/10	6.35 x 1.2	\$22.60
CG-104-04	7/15	6.35 x 1.2	\$18.50
CG-104-05	10/18	8 x 1.5	\$14.70
CG-104-06	12/18	10 x 1.5	\$48.15
CG-104-07	14/10	12.7 x 1.6	\$18.15
CG-104-08	14/20	13 x 2.2	\$14.05
CG-104-09	19/22	17 x 2.5	\$14.90
CG-104-10	24/25	22 x 1.8	\$18.05
CG-104-11	29/26	28 x 2	\$19.25
CG-104-12	34/28	32 x 2.4	\$28.45
CG-104-13	40/35	38 x 2	\$30.50

**CG-105 Ground Joint, Outer, Medium Length**

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-105-02	7/10	10 x 1.5	\$17.85
CG-105-03	7/15	10 x 1.5	\$28.90
CG-105-04	10/18	14 x 1.2	\$16.35
CG-105-05	12/18	16 x 1.2	\$32.30
CG-105-06	14/20	19 x 1.8	\$15.90
CG-105-07	19/22	22 x 1.8	\$17.30
CG-105-08	24/25	28 x 2	\$19.35
CG-105-09	29/26	32 x 2.4	\$21.10
CG-105-10	34/28	38 x 2	\$28.55
CG-105-11	40/35	45 x 2	\$36.35



CG-105



CG-106

**CG-106 Ground Joint, Outer, Medium Length**

Standard taper outer joint tooled on reduced diameter tubing.

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-106-05	14/20	12.7 x 1.6	\$20.45
CG-106-06	19/22	17 x 1.8	\$64.25

**CG-134 Ground Joint, Outer, Short Length**

Part Number	Joint Size	Tubing OD (mm)	Price
CG-134-32	34/15	41	\$44.45
CG-134-36	60/15	75	\$91.05
CG-134-37	71/15	82	\$114.45



CG-134



CG-145

## CG-145 Clamp, Keck, Standard Taper Joints

Made of Delrin®, the clamp is non-corrosive and will not scratch glass. Can be used to 140° C. Color coded for easy identification. Sold in packages of 10.

Part Number	Fits Joint Sizes	Color	Qty	Price
CG-145-01	10/18, 10/29	Green	10	\$36.95 *
CG-145-02	12/18, 12/30	Violet	10	\$38.60 *
CG-145-03	14/20, 14/35	Yellow	10	\$30.65 *
CG-145-04	19/22, 19/38	Blue	10	\$31.45 *
CG-145-05	24/25, 24/40	Green	10	\$40.50 *
CG-145-06	29/26, 29/42	Red	10	\$45.55 *
CG-145-07	34/28, 34/45	Orange	10	\$47.85 *
CG-145-08	40/35, 40/50	Dark Yellow	10	\$57.00 *
CG-145-09	45/50	Brown	10	\$72.40 *



CG-145-C

## CG-145-C Clamps, Safety, Adjustable, Standard Taper

The safety clip is a two piece adjustable clamp used to secure standard taper joints. Made of polyoxymethylene, the clip has excellent chemical resistance. They will not corrode or scratch the glass. Can be used to 150°C. Sold in packages of 10. Please Note: These clamps can be used with standard taper joints that have a CG-136 style PTFE sleeve between them.

Part Number	Fits Joint Sizes	Qty	Price
CG-145-C-05	24/25, 24/40	P10	\$60.45 *
CG-145-C-06	29/26, 29/42	P10	\$60.45 *
CG-145-C-07	34/28, 34/45	P10	\$60.45 *
CG-145-C-09	45/35, 45/50	P10	\$60.45 *



CG-145-T

## CG-145-T Clamp, PTFE, Standard Taper Joints

PTFE molded clamps with a steel core can withstand temperatures up to 250°C and are totally chemically resistant and inert.

Part Number	Fits Joint Size	Price
CG-145-T-01	14/20	\$9.70 *
CG-145-T-02	19/22	\$10.55 *
CG-145-T-03	24/40	\$10.75 *
CG-145-T-04	29/26 - 29/42	\$11.40 *
CG-145-T-05	34/45	\$13.10 *
CG-145-T-06	45/50	\$16.00 *

### CG-107 Ground Joint, Inner, With Hooks

Inner joint with two hooks 180° apart just above the grind.

Part Number	Joint Size	Tubing OD (mm)	Price
CG-107-01	14/20	12.7 x 1.6	\$34.70
CG-107-02	19/22	17 x 1.8	\$34.15
CG-107-08	24/40	22 x 1.8	\$35.55

### CG-108 Ground Joint, Outer, With Hooks

Outer joint with two hooks 180° apart just below the grind.

Part Number	Joint Size	Tubing OD (mm)	Price
CG-108-01	14/20	19 x 1.8	\$29.10
CG-108-02	19/22	22 x 1.8	\$38.25
CG-108-08	24/40	28 x 2	\$41.10

### CG-110 Spring, Stainless Steel

Stainless steel spring used to connect apparatus having hooks. All springs have an enlarged 1/4" ID loop at each end for easy connection to almost any size hook. Diameter of the coils on all sizes is 0.190". Length listed is the length between the loops. Sold 12/pkg.

Part Number	Length of Coil (mm)	Price
CG-110-01	6.35	\$28.70
CG-110-02	18	\$36.40
CG-110-03	25	\$36.40
CG-110-04	32	\$37.80

### CG-109 Specialty Joints

Standard taper inner and outer joints tooled on longer lengths or different sizes than normally available under part numbers CG-100 through CG-105. These joints offer the glassblower the opportunity to construct apparatus made of heavier tubing or without unnecessary seals.

Part Number	Joint Size	Type	Tubing OD x Wall (mm)	Overall Length (in)	Price
CG-109-03	24/40	Inner	22 x 1.8	16	\$23.80
CG-109-04	24/40	Inner	28 x 2	16	\$32.15
CG-109-11	45/50	Drip	41 x 2	16	\$68.50
CG-109-28	24/40	Outer	25 x 1.5	16	\$27.90
CG-109-29	24/40	Outer	28 x 2	12	\$27.75
CG-109-30	24/40	Outer	28 x 2	16	\$45.55
CG-109-46	34/45	Outer	38 x 2	16	\$65.10
CG-109-47	45/50	Outer	48 x 2	16	\$61.55
CG-109-49	45/50	Outer	57 x 2.4	16	\$78.95
CG-109-50	55/50	Outer	54 x 2.4	16	\$112.75



CG-107

CG-108



CG-110



CG-109



CG-112

CG-113



CG-117-13  
Uncut Drip

CG-117-14  
Cut Drip

### CG-112 Ground Joint, Inner, Luer

Inner joint manufactured to the same specifications found on medical and research syringes. Complies with Federal Specification CG-S-921b and USAST Standard Z70.1. Available tooled on three tubing sizes with the inner diameter being 1mm through the tip of the joint on all three sizes.

Part Number	Tubing OD x ID (mm)	Price
CG-112-01	6.5 x 1.25	\$16.85
CG-112-02	7.5 x 2	\$17.30
CG-112-03	7 x 4	\$22.05

### CG-113 Ground Joint, Outer, Luer

Outer joint manufactured to the same specifications found on medical and research syringes. Complies with Federal Specification CG-S-921b and USAST Standard Z70.1. Available tooled on three tubing sizes.

Part Number	Tubing OD x ID (mm)	Price
CG-113-01	6.5 x 1	\$57.00
CG-113-02	7.5 x 2	\$33.55
CG-113-03	8 x 5	\$25.10

### CG-117 Ground Joint, Inner, With Drip Tip

Full or medium length standard taper inner joint having a drip tip. Joints are available un-cut or with the drip tip being cut at a 45° angle. Tooled on the same tubing sizes as the CG-100 inner joints.

#### Un-cut Drip Joints

Part Number	Joint Size	Price
CG-117-01	14/20	\$18.30
CG-117-03	19/22	\$21.65
CG-117-05	10/30	\$35.45
CG-117-11	19/38	\$28.55
CG-117-13	24/40	\$22.60
CG-117-15	29/42	\$24.65
CG-117-17	34/45	\$45.10
CG-117-19	45/50	\$50.95
CG-117-21	50/50	\$81.75
CG-117-23	55/50	\$69.10
CG-117-25	71/60	\$131.30

#### Cut Drip Joints

Part Number	Joint Size	Price
CG-117-02	14/20	\$20.75
CG-117-04	19/22	\$24.95
CG-117-20	45/50	\$54.00
CG-117-14	24/40	\$25.45
CG-117-16	29/42	\$31.35
CG-117-18	34/45	\$51.15
CG-117-24	50/50	\$95.85

### CG-118 Ground Joint, Extended, Drip Tubes

Inner joint with a sealed on lower tube extending 6" below the grind.

Part Number	Joint Size	Tubing OD (mm) Lower x Upper	Price
CG-118-01	10/30	5 x 8	\$51.60
CG-118-05	24/40	12 x 22	\$28.95

### CG-120 Spherical Joint, Ball Members

Made to ASTM Specifications E677. See CG-145-B and CG-150 for clamps.

Part Number	Joint Size	Clamp Size	Tubing OD (mm)	Price
CG-120-02	12/2	12	7.5	\$28.90
CG-120-04	12/5	12	8	\$18.50
CG-120-05	18/7	18	10	\$29.85
CG-120-06	18/9	18	12.7	\$16.75
CG-120-07	28/12	28	16	\$39.25
CG-120-08	28/15	28	19	\$20.55
CG-120-09	35/20	35	22	\$26.95
CG-120-10	35/25	35	28	\$24.75
CG-120-12	50/30	50	36	\$58.05
CG-120-13	65/40	65	46	\$76.70
CG-120-14	75/50	75	56	\$112.70
CG-120-15	102/75	102	80	\$249.65



CG-118

CG-120

### CG-122 Spherical Joint, O-Ring Ball Members

Ball joint with a Viton o-ring fitted into a groove tooled at the midpoint of the grind. Provides for a flexible, vacuum tight seal when used with CG-121-P polished socket joints. Supplied complete with one Viton o-ring of the listed size.

Part Number	Joint Size	Clamp Size	O-Ring Size	Tubing OD (mm)	Price
CG-122-02	12/3	12	011	8	\$34.85
CG-122-03	12/5	12	011	8	\$22.85
CG-122-05	18/9	18	112	12.7	\$22.50
CG-122-06	28/12	28	116	16	\$26.05
CG-122-07	28/15	28	116	19	\$24.65
CG-122-08	35/20	35	120	22	\$38.85
CG-122-09	35/25	35	120	28	\$30.75
CG-122-10	50/30	50	128	36	\$77.30
CG-122-11	65/40	65	137	46	\$94.00
CG-122-12	75/50	75	146	56	\$210.50
CG-122-13	102/75	102	238	80	\$397.40



CG-122

### CG-121 Spherical Joint, Socket Members

Made to ASTM Specifications E677.



CG-121



CG-121-P

Part Number	Joint Size	Clamp Size	Tubing OD (mm)	Price
CG-121-02	12/2	12	7.50	\$32.45
CG-121-04	12/5	12	8	\$16.75
CG-121-05	18/7	18	10	\$25.65
CG-121-06	18/9	18	12.7	\$16.75
CG-121-07	28/12	28	16	\$19.50
CG-121-08	28/15	28	19	\$21.30
CG-121-09	35/20	35	22	\$22.05
CG-121-10	35/25	35	28	\$22.05
CG-121-12	50/30	50	36	\$44.25
CG-121-13	65/40	65	46	\$67.30
CG-121-14	75/50	75	58	\$85.55
CG-121-15	102/75	102	80	\$171.85

### CG-121-P Spherical Joint, Polished Socket Members

For use with CG-122, o-ring ball joint to provide for a flexible high vacuum seal. Polished sealing surface does not abrade o-ring.

**Note:** Not for use with CG-120 ground ball joints.

Part Number	Joint Size	Clamp Size	Tubing OD (mm)	Price
CG-121-P-01	12/5	12	8	\$21.40
CG-121-P-02	18/9	18	12.7	\$22.05
CG-121-P-03	28/12	28	16	\$38.65
CG-121-P-04	28/15	28	19	\$25.45
CG-121-P-05	35/20	35	22	\$29.85
CG-121-P-06	35/25	35	28	\$29.85

### CG-150 Clamp, Pinch, Stainless Steel

Made entirely of stainless steel. Part numbers CG-150-01 and CG-150-03 are supplied **without** a screw type locking device. All other sizes have the screw type locking device.



CG-150

Part Number	Size	Price
CG-150-01	12	\$29.70
CG-150-02	12-L	\$23.45
CG-150-03	18	\$18.00
CG-150-04	18-L	\$19.00
CG-150-05	28	\$34.00
CG-150-06	35	\$33.30
CG-150-07	40	\$64.90
CG-150-08	50	\$71.75
CG-150-09	65	\$99.85
CG-150-21	75	\$132.85

### CG-145-B Clamp, Keck, Spherical Joints

Made of Delrin®, these clamps are non-corrosive and will not scratch glass. Can be used to 140° C. Color coded for easy identification. Sold in packages of 10.

Part Number	Fits Joint Sizes	Color	Price
CG-145-B-20	12/1, 12/2, 12/5	Violet	\$57.30 *
CG-145-B-21	18/7, 18/9	Blue	\$68.35 *
CG-145-B-22	28/12, 28/15	Red	\$68.35 *
CG-145-B-23	35/20, 35/25	Orange	\$78.35 *



CG-145-B

### CG-151 Clamp, Spherical Joint, Horseshoe Style

Horseshoe shaped corrosion-resistant steel clamp for use with spherical ball and socket joints. Clamp has two machine bolts and thumbscrews 180° apart to apply uniform tension. **Note:** Not for use with CG-124 o-ring joints.

Part Number	For Joint Size	Price
CG-151-01	12	\$16.75
CG-151-02	18	\$17.45
CG-151-03	28	\$18.70
CG-151-04	35	\$18.90
CG-151-05	40	\$20.95
CG-151-06	65	\$20.95
CG-151-07	75	\$23.75



CG-151

### CG-123 Spherical Joints, Compatible With Buchi Rotary Evaporators

Special S-40 size ball and sockets compatible with Buchi rotary evaporator components. Both the ball and socket are tooled on Duran 34 mm O.D. x 2.8mm wall tubing. *Compatible with Buchi Rotary Evaporators.*

Part Number	Joint Type	Tube OD (mm)	Price
CG-123-01	Ball	34	\$87.15
CG-123-02	Socket	34	\$61.30



CG-123



CG-124

### CG-124 Joint, O-Ring Seal

Joint has an o-ring groove to accept the listed o-ring size. Provides for a grease-free, vacuum seal when used with CG-150 clamps. Each joint is supplied with a Viton o-ring of the listed size.

Part Number	ID (mm)	Tube OD (mm)	O-Ring Size	Clamp Size	Price
CG-124-01	5	8	110	12	\$13.40
CG-124-02	7	10	111	18	\$14.15
CG-124-03	9	12	112	18	\$14.60
CG-124-20	12	16	116	28	\$19.45
CG-124-04	15	20	116	28	\$16.35
CG-124-05	20	26	214	35	\$18.80
CG-124-06	25	30	217	35	\$19.25
CG-124-07	30	35	223	50	\$32.95
CG-124-08	40	45	226	65	\$48.25
CG-124-09	50	56	229	75	\$65.40
CG-124-10	75	80	341	102	\$98.55

### CG-125 Ground Joint, Flask Length

Standard taper flask length joints, both inner and outer member. Part number CG-125-09 is used as a replacement neck for two liter Squibb style separatory funnels.

#### Outer Joints

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-125-01	9	11 x 1.5	\$17.20
CG-125-02	13	15 x 1.2	\$17.30
CG-125-03	16	17 x 1.8	\$20.45
CG-125-04	19	19 x 1.8	\$19.45
CG-125-05	22	22 x 1.8	\$22.95
CG-125-06	27	25 x 1.5	\$23.70
CG-125-07	32	38 x 2	\$52.70
CG-125-09	38	45 x 2	\$41.35

#### Inner Joints

Part Number	Joint Size	Tubing OD x Wall (mm)	Price
CG-125-24	16	14 x 1.2	\$38.35
CG-125-25	19	17 x 1.2	\$20.45
CG-125-29	38	35 x 2.0	\$51.05



CG-125

### CG-131 Joint, Dewar Seal Outer

Used in construction of apparatus requiring the outer member to be jacketed. Configuration of flare permits seal to be made without having to regrind the joint.

Part Number	Joint Size	Flare OD (mm)	Price
CG-131-30	10/18	30	\$66.70
CG-131-32	14/20	35	\$72.00
CG-131-33	19/22	40	\$91.95
CG-131-34	24/40	55	\$77.45
CG-131-35	29/42	60	\$78.20

### CG-132 Side Seal Joint

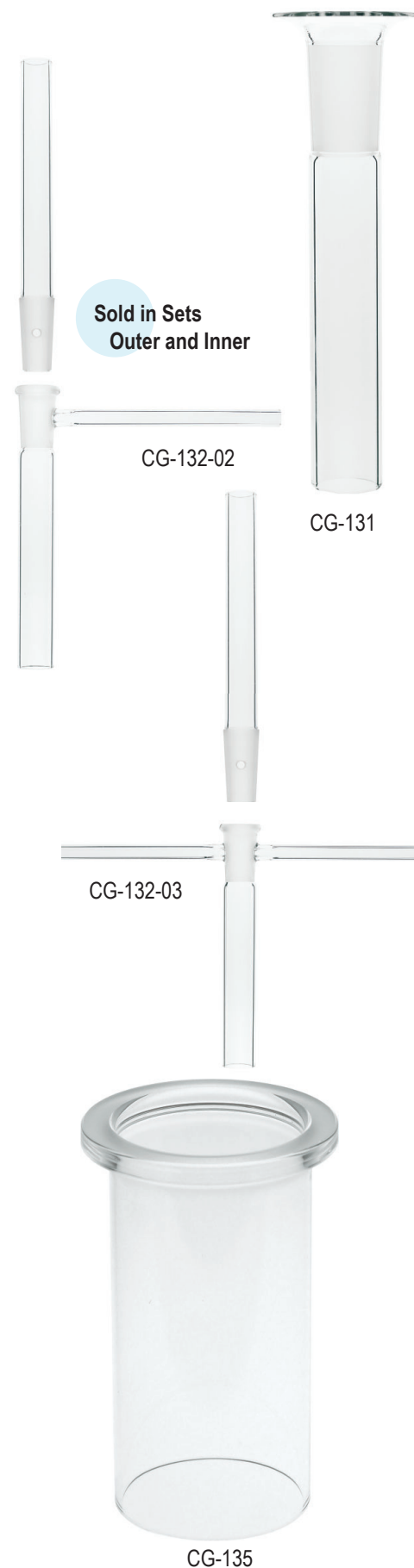
Outer joint having a tubulation sealed at the midpoint of the ground portion, and a corresponding hole drilled in the inner joint permitting venting of the side tube when the inner joint is turned to the proper position. Both of the 19/38 sizes are compatible with Buchi Rotary Evaporators. Part number CG-132-02 has a single sidearm and a drip tip permitting the seal to be made for the PTFE feed tube. Part number CG-132-03 has two sidearms sealed 180° apart and is used for replacement on the vertical cold trap condenser assembly.

Part Number	Joint Size	Sidearm OD (mm)	Hole Size (mm)	Price
CG-132-01	14/20	6.35	3	\$123.35
CG-132-02	19/38	10	4	\$127.00
CG-132-03	19/38	10 (2)	4	\$153.50

### CG-135 Flange, Flat, Ground

Mating end of flange has a ground surface to provide for a liquid tight seal when greased and clamped with the CG-139 horseshoe clamp.

Part Number	Flange Size	Tube ID x OD (mm)	Price
CG-135-02	57mm	52 x 57	\$75.20
CG-135-03	80mm	75 x 80	\$110.95
CG-135-04	4.5"	99 x 105	\$190.80 ♣
CG-135-05	5.5"	130 x 140	\$195.90 ♣



## CG-138 Flange, O-Ring

Similar to CG-135 flange but with the mating end of the flange having a precision formed o-ring groove instead of being ground. Joint provides a grease-free vacuum tight seal when used with the CG-139 clamp. Viton® O-Ring is included with each flange and can be ordered separately.



CG-138

Part Number	Flange Size	Tube ID x OD (mm)	O-Ring Size	Price
CG-138-01	32mm	27 x 32	222	\$52.80
CG-138-02	57mm	52 x 57	331	\$75.20
CG-138-03	80mm	75 x 80	339	\$110.95
CG-138-04	4.5"	99 x 105	348	\$150.10
CG-138-05	5.5"	130 x 140	359	\$206.00

## CG-139 Clamp, Horseshoe Style

Horseshoe shaped clamp used to connect CG-138 flat o-ring flange. Design allows clamp to be installed or removed easily. Made of cast aluminum with chemically resistant green epoxy coating. Three adjustable tension locking screws assure even clamping pressure.



CG-139

Part Number	For Flange Size	Price
CG-139-01	32mm	\$107.40
CG-139-02	57mm	\$118.45
CG-139-03	80mm	\$154.15
CG-139-04	4.5"	\$256.35
CG-139-05	5.5"	\$272.70

## CG-143 Flange, Reaction Kettle, 102mm (4") ID

Conical style flange has an I.D. of 102mm (4in) with a flat, ground surface used for construction of reaction kettles or flasks. Tooled on tubing having an I.D. of 105mm and an O.D. of 115mm. Supplied with approximately 6 inches of tubing below joint. Available tooled on longer lengths of tubing. Please contact us for details.



CG-143

Part Number	Price
CG-143-01	\$192.50

## CG-146 Flanges, Compatible With Buchi Rotary Evaporators

Replacement flange compatible with Buchi condensers and rotary evaporator flasks.

Part Number	Flange OD (mm)	Flange ID (mm)	Shank OD (mm)	Price
CG-146-01	50	34.3	38.1	\$39.70
CG-146-02	100	74	85	\$160.75
CG-146-04	110	84	95	\$214.40
CG-146-10	145	119	130	\$461.75
CG-146-05	150	119	130	\$213.20
CG-146-06	210	176	190	\$665.20

## CG-147 Reaction Kettle Flange, Duran®, With O-Ring Groove

Flange is formed with a groove in the flat portion of the mating surface to accept an O-Ring. The flange also has a ground surface, permitting assembly with either the CG-148 flat flange or CG-149 lid blank using grease. In the greased application, the O-Ring groove prevents grease from entering the reaction kettle and causing possible contamination. Outer taper of flange is formed at a 45° angle to accept the CG-141 clamp.

"A" Flange ID (mm)	"B" Flange OD (mm)	Tubing OD (mm)	"D" Overall Height (mm)
60	100	70	50
100	138	110	60
120	158	130	60
150	185	155	75
200	242	215	75

Part Number	Flange ID (mm)	Price
CG-147-01	60	\$87.95 ♣
CG-147-02	100	\$119.10 ♣
CG-147-03	120	\$202.80 ♣
CG-147-04	150	\$223.55 ♣
CG-147-05	200	\$338.80 ♣

## CG-141 Clamp For Duran® Reaction Flanges & Lids

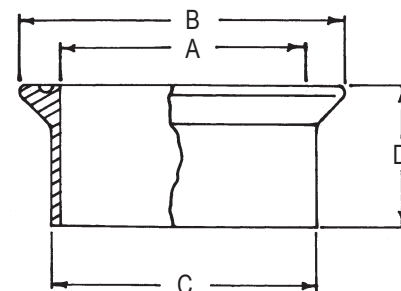
Made entirely from stainless steel, the clamp has three sections that firmly hold reaction vessel and lid together. Quick release mechanism has a screw adjustment for tension applied to the flange.

Part Number	Fits Flange	Price
CG-141-02	100	\$212.10 *
CG-141-03	120	\$225.60 *
CG-141-04	150	\$242.95 *
CG-141-05	200	\$285.85 *

Visit our site to see PTFE coated options CG-141-T



CG-146



CG-147



CG-141

### CG-147 O-Ring For Reaction Vessel And Lids

O-ring for Chemglass reaction vessels and lids. Available in Viton, Silicone, Perfluoro (FFKM), FEP encapsulated Silicone and FEP encapsulated S.S. spring. The S.S. spring maintains resilience even in long term exposure to cryogenic temperatures.



CG-147

O-Ring Material	Temperature Range (°C)
Viton	-30 to 200
Silicone	-50 to 230
Perfluoro	-7 to 230
FEP-Silicone	-62 to 205
FEP-Stainless	-250 to 205

Part Number	O-Ring Material	Fits Flange ID (mm)	Price
CG-147-20	Viton®	60	\$11.25 *
CG-147-30	Silicone	60	\$16.40 *
CG-147-80	Perfluoro (FFKM), White	60	\$321.50 *
CG-147-40	FEP-Silicone	60	\$39.15 *
CG-147-75	FEP-Stainless Steel	60	\$130.10 *
CG-147-81	Perfluoro (FFKM), White	80	\$370.40 *
CG-147-79	FEP-Stainless Steel	80	\$127.50 *
CG-147-21	Viton®	100	\$15.35 *
CG-147-31	Silicone	100	\$25.00 *
CG-147-82	Perfluoro (FFKM), White, Flange	100	\$377.25 *
CG-147-41	FEP-Silicone	100	\$47.20 *
CG-147-76	FEP-Stainless Steel	100	\$165.65 *
CG-147-22	Viton®	120	\$21.05 *
CG-147-32	Silicone	120	\$36.50 *
CG-147-42	FEP-Silicone	120	\$53.65 *
CG-147-23	Viton®	150	\$30.35 *
CG-147-33	Silicone	150	\$49.65 *
CG-147-83	Perfluoro (FFKM), White	150	\$640.15 *
CG-147-43	FEP-Silicone	150	\$62.80 *
CG-147-77	FEP-Stainless Steel	150	\$157.15 *
CG-147-24	Viton®	200	\$49.35 *
CG-147-34	Silicone	200	\$60.10 *
CG-147-84	Perfluoro (FFKM), White	200	\$728.80 *
CG-147-44	FEP-Silicone	200	\$78.30 *
CG-147-78	FEP-Stainless Steel	200	\$233.50 *

## Rodaviss® Joints

Unique design of the Rodaviss® joint provides for a greaseless high vacuum seal while firmly holding glassware together without a clamp. Outer member is externally threaded to accept a CG-182 cap, and when used with the corresponding CG-305 o-ring forms the grease-free seal. The inner member has a ring formed on the shank which permits the inner and outer to be separated using the CG-184 loosening ring. Outer joint can be used with a standard CG-100 inner joint of the same size, but without the option to pull joints apart in the event of freezing.

### CG-170 Ground Joint, Rodaviss®, Inner

Rodaviss® Inner Joints

Part Number	Joint Size	Price
CG-170-01	14/20	\$19.95
CG-170-05	24/40	\$20.85
CG-170-08	45/50	\$57.65

### CG-172 Ground Joint, Rodaviss®, Outer

Rodaviss® Outer Joint is threaded to accept CG-182 caps.

Part Number	Joint Size	Price
CG-172-01	14/20	\$18.15
CG-172-05	24/40	\$22.85
CG-172-08	45/50	\$57.10

### CG-174 Ground Joint, Rodaviss®, Inner W/ Drip Tip

Similar to CG-170, but with a drip tip cut at a 45° angle.

Part Number	Joint Size	Price
CG-174-01	14/20	\$27.25
CG-174-05	24/40	\$23.55
CG-174-08	45/50	\$74.90

### CG-182 Joint Cap, With Hole, Rodaviss®

Threaded cap fits CG-172 outer joint, Rodaviss®. When used with CG-305 Viton o-rings, provides for greaseless high vacuum seal.

Part Number	Joint Size	Price
CG-182-01	14	\$12.00
CG-182-03	24	\$6.00
CG-182-06	45	\$21.10

### CG-184 Loosening Ring, Polyamide, Rodaviss®

Split Polyamide loosening ring to enable inner and outer Rodaviss® members to be pulled apart in the event of freezing.

Part Number	Joint Size	Price
CG-184-01	14	\$3.00
CG-184-03	24	\$3.00
CG-184-06	45	\$5.50



CG-170



CG-172



CG-174



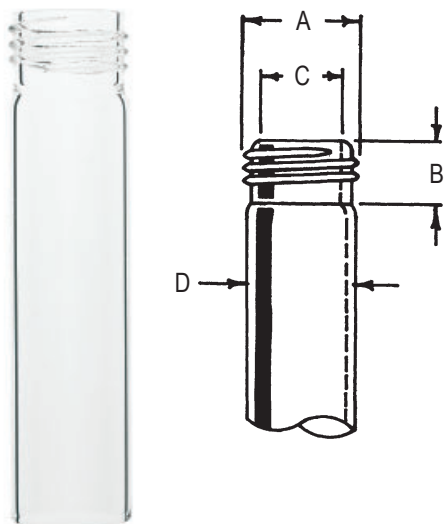
CG-182



CG-184

**CG-187 Screw Thread Tube, SVL®**

Screw thread tube for replacement of apparatus using the SVL® series of glass threads. For use with a CG-188 solid cap with PTFE liner or a CG-189 open top cap and sealing ring for use as a tubing connector. Threads are tooled on one end of a 6in length of tubing.



CG-187

SVL Thread Dimensions (mm)				
Thread Size	"A" OD	"B" Height	"C" ID	"D" Tubing OD
15	16.2	11.0	10.8	16.0
22	23.0	12.5	17.5	22.0
30	31.4	17.5	24.5	32.0

Part Number	Thread Size	Tubing ID x Wall (mm)	Overall Length (mm)	Price
CG-187-01	15	15 x 1.8	100	\$12.65
CG-187-02	22	22 x 1.8	165	\$19.90
CG-187-03	30	32 x 2	165	\$29.75



CG-188

**CG-188 Solid Cap, PTFE Protected Seal, SVL®**

Solid cap for use with CG-187 screw threads. Caps come complete with PTFE faced liner. Cap and liner are autoclavable to 121°C.

Part Number	Thread Size	Price
CG-188-01	15	\$6.80 *
CG-188-02	22	\$19.70 *
CG-188-03	30	\$14.35 *



CG-189

**CG-189 Cap With Aperture, Sealing Ring, SVL®**

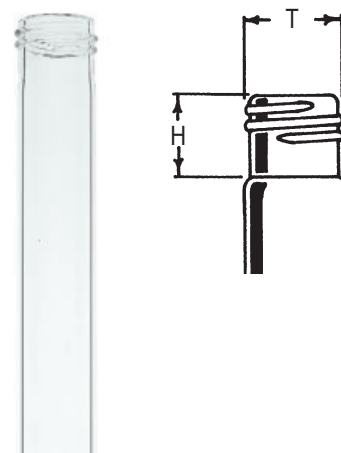
Open top SVL® screw cap supplied complete with PTFE sealing ring to accept the tubing size as listed.

Part Number	Thread Size	Fits Tubing OD (mm)	Price
CG-189-01	15	5.6 to 6.4	\$26.40 *
CG-189-02	22	13.6 to 14.4	\$32.25 *
CG-189-03	22	15.6 to 16.4	\$26.05 *

### CG-190 Replacement Thread, G.P.I.

Thread for replacement on apparatus using G.P.I. (Glass Packaging Institute) thread. These threads are used primarily on products manufactured in the United States. When a thread is designated as 20-400 it means that the diameter across the top of the threaded area is ~20mm. The numerical 400 designates a specific style of the finish. The following chart shows both the “T” and “H” dimension for use in identifying the thread. If the chart does not contain a dimension for style or size thread, this thread is not available.

“T” mm	“H” mm					
	400	410	415	425	430	440
8	---	---	---	6.52	---	---
13	---	---	11.22	7.50	---	---
15	---	---	13.90	7.50	---	---
18	9.05	13.03	15.42	---	15.34	---
22	9.50	14.60	21.01	---	---	---
24	10.25	16.15	24.05	---	16.43	---
28	10.25	17.73	27.23	---	18.39	---
38	9.85	---	---	---	24.03	---
51	9.98	---	---	---	---	---
100	14.28	---	---	---	---	21.20



CG-190

Part Number	Thread Size	Tubing OD (mm)	Approx Overall Length (mm)	Threads Per Pkg	Price
<b>CG-190-02</b>	13-425	12	100	12	<b>\$120.15</b>
<b>CG-190-03</b>	15-425	16	100	12	<b>\$231.90</b>
<b>CG-190-05</b>	18-415	19	125	12	<b>\$201.20</b>
<b>CG-190-06</b>	20-400	19	135	12	<b>\$110.95</b>
<b>CG-190-08</b>	24-410	22	150	12	<b>\$163.10</b>
<b>CG-190-10</b>	28-400	25	125	8	<b>\$156.95</b>
<b>CG-190-14</b>	38-430	35	150	8	<b>\$188.10</b>
<b>CG-190-15</b>	51-400	46	125	4	<b>\$91.30</b>
<b>CG-190-16</b>	100-440	110	175	1	<b>\$121.15</b>

### CG-191 Solid Cap, G.P.I. Screw Thread

Cap for use with CG-190 G.P.I. screw threads. Part numbers CG-191-01 through CG-191-12 are made of black plastic with a choice of white rubber or PTFE liner. Part number CG-191-14 is made of blue polypropylene with a detachable PTFE liner. **Note:** Caps sold in packages only.

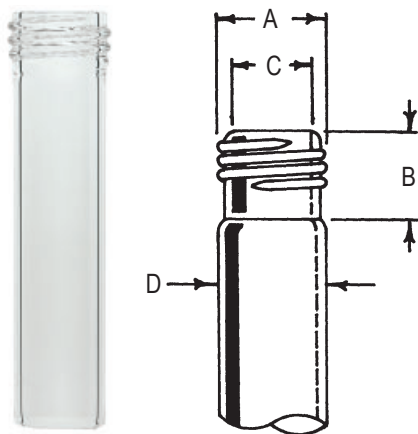


CG-191

Part Number	Thread Size	Liner Type	Pkg Qty	Price
CG-191-01	13-425	Rubber	100	\$43.30 ◇
CG-191-02	13-425	PTFE	25	\$62.30 ◇
CG-191-03	15-425	Rubber	100	\$58.20 ◇
CG-191-04	15-425	PTFE	25	\$32.65 ◇
CG-191-05	18-415	PTFE	25	\$44.60 ◇
CG-191-06	20-400	Rubber	100	\$105.40 ◇
CG-191-07	20-400	PTFE	25	\$74.40 ◇
CG-191-08	24-400	Rubber	100	\$111.50 ◇
CG-191-09	24-400	PTFE	25	\$78.10 ◇
CG-191-10	28-400	PTFE	25	\$90.00 ◇
CG-191-20	38-415	Rubber	25	\$80.00 ◇
CG-191-11	38-430	Rubber	25	\$49.25 ◇
CG-191-12	38-430	PTFE	10	\$60.65 ◇
CG-191-13	51-400	Rubber	25	\$75.25 ◇
CG-191-14	100-440	PTFE	1	\$22.05 ◇

### CG-194 Screw Thread Tube, GL

Screw thread tube for replacement on apparatus using the GL thread, which is manufactured to I.S.O. specifications. (GL is the I.S.O. designation for GLASS.) To be used with a CG-196 solid cap with liner or a CG-195 cap with aperture and CG-197 silicone sealing ring.



CG-194

GL Thread Dimensions (mm)				
GL Size	"A" OD	"B" Height	"C" ID	"D" Tubing OD
14	13.75	12.0	8.45	12.0
18	17.50	15.5	11.0	16.0
25	24.50	18.5	18.0	22.0
32	31.50	16.0	23.0	28.0
45	44.50	26.0	34.5	40.0

Part Number	GL Size	Tubing Dim. OD x Wall (mm)	Overall Length (mm)	Price
CG-194-01	14	12 x 1.5	100	\$6.70 *
CG-194-02	18	16 x 1.8	100	\$6.80 *
CG-194-03	25	22 x 1.8	100	\$7.50 *
CG-194-04	32	28 x 2	100	\$12.20 *
CG-194-05	45	40 x 2.3	100	\$33.75 *

### CG-195 Cap With Aperture, GL Thread

Open top cap for use with GL screw threads. The cap combined with the CG-197 sealing ring will accommodate tubing of the listed diameter. Cap is made from PBT (thermoplastic polyester) and will withstand temperatures from -45 to 200° C.

Part Number	GL Size	Aperture Size (mm)	Price
CG-195-01	14	9.5	\$2.90 *
CG-195-02	18	11	\$3.35 *
CG-195-03	25	15	\$3.50 *
CG-195-04	32	20	\$4.20 *
CG-195-05	45	34	\$6.50 *



CG-195

### CG-195-H Cap With Aperture, GL Thread, High Temperature

Open top cap for use with GL screw threads. The cap combined with the CG-197 sealing ring will accommodate tubing of the listed diameter. Cap is made from PPS (polyphenylsiloxan) and will withstand temperatures up to 250°C. Hose connections sold separately: see CG-198-H

Part Number	GL Size	Aperture Size (mm)	Price
CG-195-H-01	14	9.5	\$5.60 *
CG-195-H-02	18	11.0	\$6.05 *



CG-195-H

### CG-196 Solid Cap, PTFE Seal, GL Thread

Cap is made from PBT (thermoplastic polyester) and will withstand temperatures from -45 to 200° C. PTFE seal is also available separately.

#### Caps Complete with PTFE Seal

Part Number	GL Size	Price
CG-196-01	14	\$3.60 *
CG-196-02	18	\$3.70 *
CG-196-03	25	\$4.20 *
CG-196-04	32	\$6.90 *
CG-196-05	45	\$10.30 *

#### PTFE Seal Only

Part Number	Fits GL Cap	Price
CG-196-10	14	\$1.10 *
CG-196-11	18	\$1.30 *
CG-196-12	25	\$1.95 *
CG-196-13	32	\$1.85 *
CG-196-14	45	\$5.00 *



CG-196



## CG-197 Silicone Sealing Rings For GL Threads

Seal is made from silicone with a vulcanized PTFE washer having an aperture to fit the listed tubing size. For use with CG-195 cap.



CG-197

Part Number	GL Size	Fits Tubing OD (mm)	Price
CG-197-01	14	5.5 to 6.5	\$8.70 *
CG-197-02	18	5.5 to 6.5	\$11.15 *
CG-197-06	18	9 to 11	\$10.30 *
CG-197-03	25	11 to 13	\$15.70 *
CG-197-07	25	7.5 to 9	\$15.70 *
CG-197-04	32	11 to 13	\$24.35 *
CG-197-05	45	25 to 27	\$40.85 *



GL-14

GL-18

CG-198

## CG-198 Removable Hose Connection, GL Thread

Polypropylene hose connections with a Viton rubber seal for use with GL-14 or GL-18 glass screw threads for working temperatures up to max +110°C. Enables the connection of cooling or vacuum hose by simply screwing either style (straight or bent) onto the glass thread instead of forcing Tygon tubing over a serrated glass connector.

Part Number	GL Size	Style	Hose OD (mm)	Hose ID (mm)	Length (mm)	Price
CG-198-01	14	Bent	8.3	4	40	\$4.65 *
CG-198-02	14	Straight	8.7	5	25	\$5.75 *
CG-198-04	18	Bent	10.7	7	65	\$13.40 *
CG-198-05	18	Straight	10.5	7	51	\$14.05 *



CG-198-H

## CG-198-H Removable Hose Connection, GL Thread, High Temperature

PFA hose connections with a Viton rubber seal for use with GL-14 or GL-18 glass screw threads. Enables the connection of cooling or vacuum hose by simply screwing either style (straight or bent) onto the glass thread instead of forcing tubing over a serrated glass connector. Universal chemical resistance, for working temperatures up to max. +200°C. Caps sold separately: See CG-195-H

Part Number	GL Size	Style	Hose OD (mm)	Hose ID (mm)	Length (mm)	Price
CG-198-H-10	14	Straight	8.7	6	45	\$14.15 *
CG-198-H-12	18	Straight	10.5	7	51	\$21.95 *
CG-198-H-14	14	Bent	8.7	6	49	\$13.95 *
CG-198-H-16	18	Bent	10.5	7	65	\$20.90 *

### Chem-Thread Threaded Glass Connector

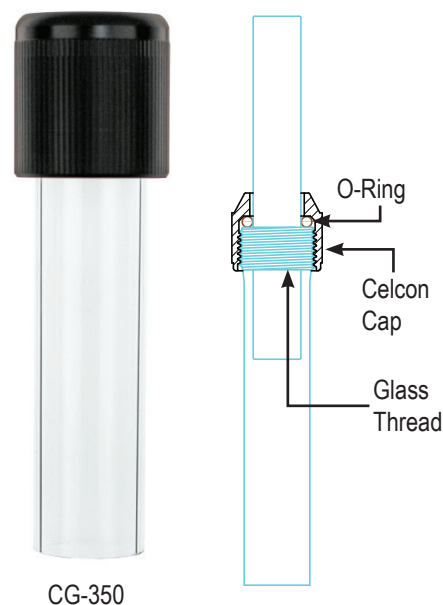
Chemglass threaded connector is a grease-free method of connection which is an efficient and convenient substitute for a standard ground glass joint. The Chem-Thread offers a quick, vacuum tight ( $10^{-5}$  Torr) and adjustable connection. Metal, plastic or glass tubing can be connected to your apparatus via a Chem-Thread thereby eliminating costly graded seals and special fittings.

When purchased complete, a Chem-Thread consists of three components: an externally threaded glass tube, a Celcon® polymer compression cap and a Viton o-ring. When the cap is tightened onto the glass tube, the o-ring is compressed downward and inward onto the connecting tube by means of the internal taper of the Celcon® cap.

#### CG-350 Chem-Thread, Complete

Consists of an externally threaded glass tube, Viton o-ring and Celcon® compression cap. Tube O.D. listed is the shank O.D. of the connector.

Part Number	Thread Size	Tubing OD (mm)	Accepts Tubing OD (mm)	O-Ring Size	Price
CG-350-10	4	9	2.5 to 4	201	\$26.95
CG-350-01	7	11	4 to 7	107	\$23.90
CG-350-02	9	13	7 to 9	110	\$36.75
CG-350-06	12	17	9 to 12	205	\$40.85
CG-350-03	15	19	12 to 15	206	\$42.65
CG-350-04	18	22	14 to 18	208	\$52.45
CG-350-05	25	32	22 to 25	317	\$67.20



CG-350

#### CG-351 Chem-Thread, Glass Portion Only

Threaded glass portion only of Chem-Thread.

Part Number	Thread Size	Tubing OD (mm)	Price
CG-351-10	4	9	\$16.55
CG-351-01	7	11	\$17.40
CG-351-02	9	13	\$23.05
CG-351-06	12	17	\$25.10
CG-351-03	15	19	\$27.15
CG-351-04	18	22	\$31.80
CG-351-05	25	32	\$34.75



CG-351

#### CG-352 Chem-Thread, Celcon® Compression Cap With Aperture

Celcon® compression cap with listed hole size for Chem-Threads.

Part Number	Thread Size	Accepts Tubing OD (mm)	Price
CG-352-10	4	2.5	\$12.75
CG-352-01	7	4 to 7	\$7.60
CG-352-02	9	7 to 9	\$14.40
CG-352-06	12	9 to 12	\$16.55
CG-352-03	15	12 to 15	\$15.65
CG-352-04	18	14 to 18	\$21.60
CG-352-05	25	22 to 25	\$32.25



CG-352

### CG-354 Thermocouple Connection, Stainless Steel

Connector allows for easy connection of a thermocouple gauge tube to glass vacuum system without the use of a glass to metal graded seal or Cajon® fitting. Gauge connection consists of a GL-25 thread, a stainless steel bushing, and an open top GL-25 screw cap. The thermocouple gauge tube is threaded into the #303 stainless steel bushing and inserted into the glass GL-25 thread.



CG-354

Part Number	Description	Price
<b>CG-354-10</b>	Connection, Complete, GL-25	<b>\$81.65</b> *

#### Replacement Parts

Part Number	Description	Price
<b>CG-354-11</b>	GL-25 Screw Thread for Thermocouple Bushing	<b>\$9.10</b> *
<b>AF-0306-10</b>	Stainless Steel Bushing, 1/8", Female NPT, GL-25	<b>\$74.30</b> *
<b>CG-305-112</b>	#112 Viton O-Rings, 12/Pkg	<b>\$20.90</b>
<b>CG-305-114</b>	#114 Viton O-Rings, 12/Pkg	<b>\$22.50</b>
<b>CG-195-03</b>	GL-25 Open Top Screw Cap	<b>\$3.50</b> *

### CG-360 Thread, Internal, Glass Portion Only

Internal glass thread for use with CG-362, CG-363, CG-364, and CG-366 PTFE bushings. Tubing OD listed is the shank OD of the thread.



CG-360

Part Number	Thread Size	OD (mm)	Accepts Tubing OD (mm)	Price
<b>CG-360-01</b>	7	12.7	6-7	<b>\$18.50</b>
<b>CG-360-02</b>	11	16	9-10.5	<b>\$23.05</b>
<b>CG-360-03</b>	15	22	12.5-14	<b>\$25.45</b>
<b>CG-360-05</b>	25	32	24-25	<b>\$33.25</b>
<b>CG-360-06</b>	50	57	47-48	<b>\$84.15</b>

**CG-362 Bushing, Internal, Front Seal, Open Top**

Bushing for use with CG-360 internal glass threads. Supplied with one Viton o-ring.

Part Number	Thread Size	Opening (mm)	Material	O-Ring Size	Price
CG-362-01	7	7.5	Nylon	008	\$7.50
CG-362-02	11	10	PTFE	012	\$52.45
CG-362-03	15	14	PTFE	110	\$54.60
CG-362-05	25	26	PTFE	212	\$73.40
CG-362-06	50	49	PTFE	225	\$164.15

**Replacement Parts**

Part Number	Description	Pkg	Price
CG-305-008	O-Ring, Viton, #008	P12	\$27.15
CG-305-012	O-Ring, Viton, #012	P12	\$17.95
CG-305-110	O-Ring, Viton, #110	P12	\$19.95
CG-305-212	O-Ring, Viton, #212	P6	\$22.30
CG-305-225	O-Ring, Viton, #225	P3	\$20.00



CG-362

**CG-363 Bushing, Internal, Back Seal, Solid**

Solid bushing for use with CG-360 internal glass threads. Supplied with one Viton o-ring.

Part Number	Thread Size	Material	O-Ring Size	Price
CG-363-02	11	PTFE	114	\$46.40
CG-363-03	15	PTFE	210	\$53.85
CG-363-05	25	PTFE	220	\$75.90
CG-363-06	50	PTFE	229	\$202.40

**Replacement Parts**

Part Number	Description	Pkg	Price
CG-305-114	O-Ring, Viton, #114	P12	\$22.50
CG-305-210	O-Ring, Viton, #210	P6	\$24.75
CG-305-220	O-Ring, Viton, #220	P6	\$32.95
CG-305-229	O-Ring, Viton, #229	P3	\$25.30
CG-309-114	O-Ring, Perfluoro, #114	P1	\$38.40 *



CG-363

## CG-364 Bushing, Internal, Front Seal, Female NPT

New front seal PTFE bushing with female NPT for use with CG-360 internal threads. Supplied complete with Viton o-ring of the listed size. See CG-305 for Viton, CG-309-U for white Perfluoro, or CG-309-B for black Perfluoro replacement o-rings. Other NPT sizes are available.

### 1/8" Female NPT



CG-364

Part Number	Thread Size	NPT Thread Size (in)	O-Ring Size	Price
CG-364-20	7	1/8	008	\$78.50
CG-364-30	11	1/8	012	\$103.75
CG-364-40	15	1/8	110	\$93.85
CG-364-60	25	1/8	212	\$122.90

### 1/4" Female NPT

Part Number	Thread Size	NPT Thread Size (in)	O-Ring Size	Price
CG-364-22	7	1/4	008	\$68.90
CG-364-32	11	1/4	012	\$85.00
CG-364-42	15	1/4	110	\$93.85
CG-364-62	25	1/4	212	\$125.50
CG-364-52	50	1/4	225	\$249.95

## CG-366 Bushing, Internal, Front Seal, Solid

New front seal PTFE bushing for use with CG-360 internal threads. Supplied complete with Viton o-ring of the listed size. See CG-305 for Viton, CG-309-U for white Perfluoro, or CG-309-B for black Perfluoro replacement o-rings.



CG-366

Part Number	Thread Size	O-Ring Size	Price
CG-366-10	7	008	\$33.85
CG-366-11	11	012	\$45.00
CG-366-12	15	110	\$54.60
CG-366-13	25	212	\$83.90
CG-366-14	50	225	\$230.15
CG-366-20	80	235	\$337.60 ◇

### Micron Size For Fritted Glassware

Fine	F	4.0.-5.5	Filtration & Extraction
Medium	M	10-16	Filtration & Extraction
Coarse	C	40-60	Gas Dispersion, Gas Washing and Absorption. Coarse Filtration.
Extra Coarse	XC	170-220	Gas Dispersion, Gas Washing and Absorption. Coarse Filtration.

### CG-201 Fritted Filter Discs

Porous discs for use in fabrication of special glass apparatus. Available in F, M, C and XC porosities.

**Pressure Limits:** Fritted glassware is designed for low pressure vacuum filtration or gas flow. The MAX differential pressure should not exceed 15 PSI.

**Thermal Limits:** Fritted glassware should not be exposed to excessive temperature change or direct exposure to flame due to the fact that it has less resistance to thermal shock than standard borosilicate glassware.

Part Number	Disc OD (mm)	Porosity	Price
CG-201-30	40	M	\$31.30
CG-201-31	40	C	\$31.30
CG-201-32	40	XC	\$34.65
CG-201-33	50	F	\$44.20
CG-201-34	50	M	\$40.05
CG-201-35	50	C	\$40.05
CG-201-36	50	XC	\$44.25
CG-201-37	60	F	\$47.30
CG-201-38	60	M	\$44.05
CG-201-39	60	C	\$48.70
CG-201-40	60	XC	\$48.70
CG-201-42	70	M	\$64.40
CG-201-43	70	C	\$69.85
CG-201-44	70	XC	\$69.85
CG-201-45	75	F	\$83.75
CG-201-46	75	M	\$88.90
CG-201-47	75	C	\$77.25
CG-201-48	75	XC	\$77.25
CG-201-49	80	F	\$83.05
CG-201-50	80	M	\$75.15
CG-201-51	80	C	\$75.15
CG-201-52	80	XC	\$83.05
CG-201-53	90	F	\$101.75
CG-201-54	90	M	\$79.80
CG-201-55	90	C	\$79.80
CG-201-56	90	XC	\$79.80
CG-201-57	100	M	\$170.90
CG-201-58	100	C	\$188.80
CG-201-59	100	XC	\$188.80
CG-201-60	125	C	\$356.20
CG-201-61	125	XC	\$356.20
CG-201-62	150	C	\$476.10
CG-201-63	150	XC	\$476.10
CG-201-64	125	M	\$356.10
CG-201-65	150	M	\$453.45



Part Number	Disc OD (mm)	Porosity	Price
CG-201-01	10	F	\$14.65
CG-201-02	10	M	\$11.20
CG-201-03	10	C	\$12.50
CG-201-04	10	XC	\$12.50
CG-201-05	12	F	\$14.75
CG-201-06	12	M	\$13.00
CG-201-07	12	C	\$13.00
CG-201-08	12	XC	\$14.40
CG-201-09	15	F	\$15.10
CG-201-10	15	M	\$13.10
CG-201-11	15	C	\$13.10
CG-201-12	15	XC	\$14.50
CG-201-13	20	F	\$22.45
CG-201-14	20	M	\$15.70
CG-201-15	20	C	\$15.70
CG-201-16	20	XC	\$17.30
CG-201-17	25	F	\$25.10
CG-201-18	25	M	\$16.30
CG-201-19	25	C	\$16.30
CG-201-20	25	XC	\$17.90
CG-201-21	30	F	\$27.75
CG-201-22	30	M	\$20.75
CG-201-23	30	C	\$20.75
CG-201-24	30	XC	\$23.00
CG-201-26	35	M	\$25.30
CG-201-27	35	C	\$31.65
CG-201-29	40	F	\$39.50

## CG-203 Gas Dispersion Tubes, Fritted

Hollow fritted cylinder at the end of an 8mm O.D. tube. Cylinder is approximately 12mm O.D. x 20mm long. Overall length is approximately 10 inches.



CG-203

Part Number	Porosity	Price
CG-203-01	Fine	\$117.90
CG-203-02	Medium	\$106.00
CG-203-03	Coarse	\$96.65
CG-203-04	X-Coarse	\$96.65

## CG-204 Tubes, Gas Dispersion, Fritted

Fritted gas dispersion tube with tubing sealed on one end.



CG-204

Part Number	Disc OD (mm)	Porosity	Stem OD x Length (mm)	Price
CG-204-02	10	Medium	6 x 110	\$119.00
CG-204-03	10	Coarse	6 x 110	\$119.00
CG-204-06	20	Medium	8 x 115	\$127.80
CG-204-07	20	Coarse	8 x 115	\$127.80
CG-204-10	30	Medium	8 x 190	\$105.00
CG-204-11	30	Coarse	8 x 190	\$137.90
CG-204-14	40	Medium	8 x 180	\$161.25
CG-204-15	40	Coarse	8 x 180	\$161.25

## CG-207 Tubes, Gas Dispersion, Micro, Fritted

Micro size gas dispersion tube having a frit 7mm O.D. x 12mm. Stem is 6mm O.D. x 100mm long.



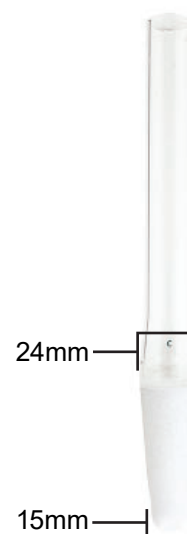
CG-207

Part Number	Porosity	Price
CG-207-01	Fine	\$128.80
CG-207-02	Medium	\$107.95
CG-207-03	Coarse	\$99.50
CG-207-04	X-Coarse	\$100.50

### CG-221 Tubes, Gas Dispersion, Large Capacity, Cone Shaped Tip, Fritted

Large capacity gas dispersion tube having a frit 24mm diameter at top, 15mm diameter at the bottom x approx. 70mm long. Stem is 16mm O.D. x 200mm above the frit.

Part Number	Porosity	Price
CG-221-01	Coarse	\$164.00
CG-221-02	X-Coarse	\$164.00



CG-221

### CG-202 Glassblowers, Fritted Tubes, Straight

Cylindrical tube with a centered, sealed in fritted disc, used to construct special apparatus.

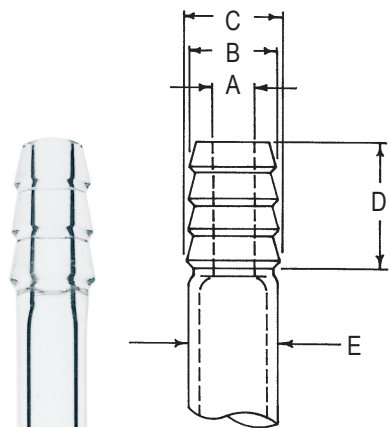
Part Number	Disc OD (mm)	Porosity	Tube OD (mm)	Price
CG-202-01	10	Fine	13	\$46.95
CG-202-02	10	Medium	13	\$46.95
CG-202-03	10	Coarse	13	\$46.95
CG-202-04	10	X-Coarse	13	\$46.95
CG-202-05	20	Fine	25	\$54.85
CG-202-06	20	Medium	25	\$54.85
CG-202-07	20	Coarse	25	\$54.85
CG-202-08	20	X-Coarse	25	\$82.65
CG-202-10	30	Medium	35	\$61.10
CG-202-11	30	Coarse	35	\$61.10
CG-202-14	40	Medium	45	\$71.20
CG-202-15	40	Coarse	45	\$71.20
CG-202-18	50	Medium	54	\$99.65
CG-202-19	50	Coarse	54	\$99.65



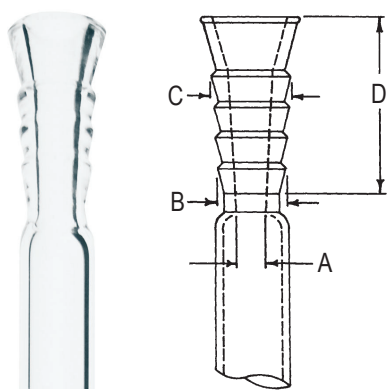
CG-202

## CG-300 Glassblowers Hose Connections

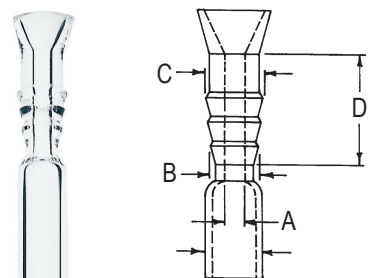
Serrations are tooled on both ends of an 8" length of tubing. Hose connections are sold in packages of 10 serrated connectors (5 pieces tooled on both ends).



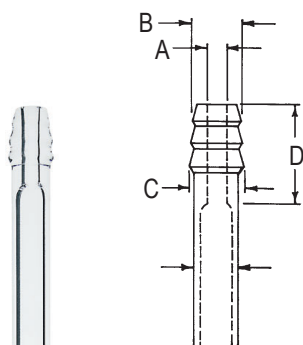
CG-300



CG-301



CG-302-01



CG-302-02

Part Number	# Of Rings	Dimensions					Pkg Price
		"A"	"B"	"C"	"D"	"E"	
CG-300-21	4	2.5	6.5	8	20	8	\$56.00
CG-300-01	3	4	8 to 9	9	16.5	8	\$56.00
CG-300-02	4	5	10	11	20	10	\$56.00
CG-300-22	6	6	12	14	26	12	\$99.55
CG-300-03	4	8.5	13.5	15.5	20	12	\$63.30
CG-300-04	4	10	14.5	16.5	20	16	\$106.85
CG-300-05	4	14	19	20.5	20	19	\$94.00
CG-300-06	4	20	25	27.5	22	22	\$182.70

## CG-301 Glassblowers Hose Connections, Direct Sealing

Connections are tooled to form a flare for sealing directly to apparatus using the tubing as a holder. Serrations are tooled on both ends of an 8" length of tubing. Hose connections are sold in packages of 10 serrated connectors (5 pieces tooled on both ends).

Part Number	# Of Rings	Dimensions					Pkg Price
		"A"	"B"	"C"	"D"	"E"	
CG-301-01	3	4	8	10	18	10	\$52.80
CG-301-02	4	5	12	14	24	12	\$76.80
CG-301-10	4	3	8	11	20	11	\$78.50
CG-301-03	4	8	13.5	16	30	16	\$92.05
CG-301-04	7	10	22	27	56	25	\$194.50

## CG-302 Glassblowers Hose Connections, Micro

Used to construct small scale apparatus. Available in direct sealing or regular style. Serrations are tooled on both ends of an 8in length of tubing. Hose connections are sold in packages of 10 serrated connectors (5 pcs. Tooled on both ends).

Part Number	# Of Rings	Dimensions				Type	Pkg Price
		"A"	"B"	"C"	"D"		
CG-302-01	3	3.5	8	10	18	Direct Sealing	\$52.80
CG-302-02	3	3.5	8	10	18	Regular	\$52.80

**CG-306 Graded Seals, Kovar To Borosilicate**

For connection of borosilicate glass components to metal. Kovar length is approximately 25mm on all sizes, while the borosilicate tubing is approximately 100mm.

Part Number	Kovar OD (in)	Price
CG-306-03	1/4	\$140.45
CG-306-05	3/8	\$142.05
CG-306-06	1/2	\$169.35



CG-306

**CGQ-0310 Graded Seals, Quartz To Borosilicate**

Graded seals have 3 inches of quartz sealed to 4 inches of borosilicate.

Part Number	ID x OD (mm)	Price
CGQ-0310-02	3 x 5	\$46.00 *
CGQ-0310-03	4 x 6	\$46.00 *
CGQ-0310-04	5 x 7	\$46.00 *
CGQ-0310-05	6 x 8	\$46.00 *
CGQ-0310-06	7 x 9	\$46.00 *
CGQ-0310-07	8 x 10	\$46.00 *
CGQ-0310-09	10 x 12	\$48.00 *
CGQ-0310-10	11 x 13	\$48.00 *
CGQ-0310-11	12 x 14	\$52.85 *
CGQ-0310-13	14 x 16	\$57.00 *
CGQ-0310-18	20 x 22	\$89.00 *



CGQ-0310

## CG-400 Stopcocks, Straight Bore, Glass Plugs

The 2mm through 6mm bore sizes are supplied complete with the listed size metal retaining clip CG-423. The 8mm and 10mm bore sizes are supplied with a #29 and #34 CG-145 Keck clip respectively.



CG-400

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Clip Size	Price
CG-400-02	2	12/30	8	#1	\$62.70
CG-400-04	4	17/40	10	#4	\$69.90
CG-400-05	6	20/44	12	#5	\$95.50
CG-400-06	8	25/52	16	#29 Keck	\$155.65
CG-400-07	10	35/56	19	#34 Keck	\$234.30

### Replacement Parts

Part Number	Bore Size (mm)	Plug Size	Price
CG-400-98	2	12/30	\$32.25
CG-400-96	4	17/40	\$33.25
CG-400-95	6	20/44	\$43.90
CG-400-94	8	25/52	\$89.55
CG-400-93	10	35/56	\$138.90

## CG-402 Stopcocks, Straight Bore, Glass Plugs, 1-Arm Larger

Similar to CG-400, but with one arm of the stopcock being of a larger diameter. Larger arm facilitates construction of stronger apparatus such as separatory funnels and burets. Supplied complete with the listed size metal retaining clip CG-423.



CG-402

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Clip Size	Price
CG-402-01	2	12/30	8 & 10	#1	\$62.10
CG-402-02	4	17/40	10 & 12	#4	\$78.10
CG-402-03	6	20/44	12 & 16	#5	\$97.65

For replacement plugs, see [CG-400 listing](#)

## CG-406 Stopcocks, Straight Bore, Glass Plugs, Capillary Arms

Similar to CG-400, but with the sidearms being made of capillary tubing having the same bore as the plug. Supplied complete with metal retaining clip CG-423.



CG-406

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Clip Size	Price
CG-406-02	2	12/30	7.5	#1	\$62.10

For replacement plugs, see [CG-400 listing](#)

### CG-409 Stopcocks, Straight Bore, Schlenk, Glass Plugs

This stopcock is especially designed for the repair of the sidearm on Schlenk vessels. Stopcocks are available with a standard snelling to accept a CG-423-11 metal retaining clip. Stopcock has a heavy duty, larger diameter (10mm OD) sidearm which makes an exceptionally strong seal to the Schlenk vessel. The hose connection has an 8mm OD and is 35mm in length. For replacement components see CG-400.

Part Number	Plug Style	Bores Size (mm)	Plug Size	Price
CG-409-01	Plain Snelling	2	12/30	\$76.25



CG-409

### CG-410 Stopcocks, T-Bore, Glass Plugs

Stopcock has three sidearms sealed 90° apart. The solid glass plug has a "T" shaped bore so that any two or all three sidearms can be connected at one time. All sizes are supplied complete with a metal retaining device CG-423

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Clip Size	Price
CG-410-01	2	12/30	8	#1	\$82.85
CG-410-02	2	17/40	8	#4	\$99.40
CG-410-03	4	17/40	10	#4	\$98.10
CG-410-04	4	20/44	12	#5	\$120.50
CG-410-05	6	20/44	12	#5	\$137.60



CG-410

#### Replacement Parts

Part Number	Bore Size (mm)	Plug Size	Price
CG-410-91	2	12/30	\$32.55
CG-410-90	2	17/40	\$42.95
CG-410-89	4	17/40	\$44.65
CG-410-88	4	20/44	\$62.65
CG-410-87	6	20/44	\$56.35

### CG-414 Stopcocks, Double Oblique Bore, Glass Plugs

Stopcock has a solid glass plug having parallel diagonal bores. Both sizes are supplied complete with metal retaining clip CG-423. The CG-414-02 is supplied with a gum washer.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-414-01	2	14.5/50	8	\$131.85
CG-414-02	4	16.2/56	10	\$137.60

#### Replacement Parts

Part Number	Bore Size (mm)	Plug Size	Price
CG-414-83	2	14.5/50	\$67.30
CG-414-82	4	16.2/56	\$67.70



CG-414

**CG-423 Metal Retaining Clips For Glass Stopcock Plugs**

Metal retaining clip is designed to apply pressure against the stopcock plug and barrel. Clips eliminate blow-out and loose fit while minimizing freezing. They are made from high carbon tempered spring steel having a green corrosive resistant, phosphate base finish. Sold in packs of 3; max order 2 packs.



CG-423

Part Number	Clip Size	Pkg Qty	Price
CG-423-11	#1	3	\$6.15 *
CG-423-14	#4	3	\$6.40 *
CG-423-15	#5	3	\$6.40 *

**CG-424 Stopcocks, Straight Bore, PTFE Plugs**

Straight bore stopcock having a 1:5 taper solid PTFE plug.



CG-424

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-424-01	1	11/25	8	\$81.90
CG-424-03	2	11/25	8	\$63.20
CG-424-04	3	15.2/30	10	\$91.15
CG-424-05	4	15.2/30	10	\$94.35
CG-424-07	6	16/35	12	\$116.40
CG-424-08	8	24/40	16	\$217.20
CG-424-09	10	24/40	16	\$234.85

**Replacement Parts**

Part Number	Bore Size (mm)	Plug Size	Price
CG-424-77	2	11/25	\$23.05
CG-424-76	3	15.2/30	\$30.05
CG-424-75	4	15.2/30	\$30.85
CG-424-73	6	16/35	\$36.45
CG-424-72	8	24/40	\$131.10
CG-424-71	10	24/40	\$133.00
CG-424-79	1	11/25	\$28.75

**CG-425 Stopcocks, Straight Bore, Micro, PTFE Plugs**

Used in the fabrication of small scale apparatus, especially apparatus that has weight restrictions. PTFE plug has a 1:5 taper.



CG-425

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-425-01	1	10/15	6	\$85.65

**Replacement Parts**

Part Number	Item Description	Price
CG-425-20	1mm PTFE Plug Only, Micro	\$29.95

**CG-426 Stopcocks, Glass Shells Only, For PTFE Plugs**

Glass portion only of CG-424 stopcock. Accepts 1:5 taper PTFE plugs.

Part Number	Bore Size (mm)	Barrel Size	Sidearm OD (mm)	Price
CG-426-03	1, 1.5 & 2	11/25	8	\$39.35
CG-426-05	3 & 4	15.2/30	10	\$64.80
CG-426-07	5 & 6	16/35	12	\$76.70
CG-426-08	8 & 10	24/40	16	\$82.10



CG-426

**CG-428 Stopcocks, Straight Bore, 1-Arm Larger, PTFE Plugs**

Similar to CG-424 but with one arm of the stopcock being of a larger diameter. Larger arm facilitates construction of stronger apparatus such as separatory funnels and burets. Available complete with 1:5 taper PTFE plug or glass shell only.

Complete with PTFE plug

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-428-01	2	11/25	8 & 10	\$67.40
CG-428-02	4	15.2/30	10 & 12	\$98.85
CG-428-03	6	16/35	11 & 12	\$116.90



CG-428

For replacement plugs, see CG-424 listing on pg. 34

Glass shell only

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-428-20	2	11/25	8 & 10	\$51.60
CG-428-22	4	15.2/30	10 & 12	\$70.00
CG-428-24	6	16/35	11 & 12	\$82.85



CG-430

**CG-430 Stopcocks, Straight Bore, 1-Arm Capillary, PTFE Plugs**

Similar to CG-424, but with one arm being made of 2mm ID capillary tubing.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-430-01	2	11/25	7 & 8	\$77.00

For Replacement Plugs, See CG-424 listing on pg. 34

**CG-432 Stopcocks, Straight Bore, Capillary Arms, PTFE Plugs**

Similar to CG-424, but with both arms being made of 2mm ID capillary tubing.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-432-01	2	11/25	7	\$78.85

For Replacement Plugs, See CG-424 listing on pg. 34



CG-432



CG-434

### CG-434 Stopcocks, Straight Bore, Metering, PTFE Plugs

A 1:5 taper PTFE plug having a threaded needle valve to allow the adjustment of flow through the bore of the plug

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-434-01	2	11/25	8	\$137.40
CG-434-02	4	15.2/30	10	\$169.25

#### Replacement Plug

Part Number	Bore Size (mm)	Plug Size	Price
CG-434-70	2	11/25	\$75.30
CG-434-69	4	15.2/30	\$83.80

#### Replacement O-Rings To Fit Needle Valve Stem (12/Pkg):

Part Number	To Fit Plug Size	O-Ring Size	Price
CG-434-87	11/25	#5-101	\$14.20 *
CG-434-88	15.2/30	#5-125	\$15.25 *



CG-436

### CG-436 Stopcocks, T-Bore, PTFE Plugs

A 1:5 taper PTFE stopcock with three stems sealed 90° apart. PTFE plug has a "T" shaped bore to connect any two or all three stems.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-436-01	2	15.2/30	8	\$136.20
CG-436-02	4	16/35	10	\$163.55
CG-436-03	6	24/40	12	\$229.40

#### Replacement Plug

Part Number	Bore Size (mm)	Plug Size	Price
CG-436-67	2	15.2/30	\$47.70
CG-436-66	4	16/35	\$56.90
CG-436-65	6	24/40	\$77.90



CG-438

### CG-438 Stopcocks, T-Bore, Capillary Arms, PTFE Plugs

Similar to CG-436, but with all three arms being made of 2mm ID capillary tubing.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-438-01	2	15.2/30	7	\$137.10

For Replacement Plugs, See CG-436 Listing

**CG-440 Stopcocks, 120°, PTFE Plugs**

A 1:5 taper PTFE stopcock with three sidearms sealed 120° apart. Plug has a bore to allow connection of any two arms at once.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-440-01	2	15.2/30	8	\$134.90
CG-440-02	4	16/35	10	\$155.55

**Replacement Plug**

Part Number	Bore Size (mm)	Plug Size	Price
CG-440-64	2	15.2/30	\$54.00
CG-440-63	4	16/35	\$59.60



CG-440

**CG-443 Stopcocks, Four Way, PTFE Plugs**

A 1:5 taper PTFE plug having double "V", 90° bores to connect opposite sets of adjacent arms. Configuration of stopcock allows it to be used in a system to obtain reversal of flow.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-443-01	2	15.2/30	8	\$201.10

**Replacement Plug**

Part Number	Bore Size (mm)	Plug Size	Price
CG-443-55	2	15.2/30	\$114.65



CG-443

**CG-446 Stopcocks, Double Oblique Bore, PTFE Plugs**

A 1:5 taper PTFE stopcock with two parallel diagonal bores.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-446-02	2	12.9/44	8	\$130.80
CG-446-04	4	14.4/44	10	\$152.85
CG-446-05	6	20/65	12	\$300.55

**Replacement Plug**

Part Number	Bore Size (mm)	Plug Size	Price
CG-446-60	2	12.9/44	\$58.30
CG-446-58	4	14.4/44	\$54.00
CG-446-57	6	20/65	\$149.15



CG-446



CG-448

### CG-448 Stopcocks, Double Oblique Bore, 1-Arm Capillary, PTFE Plugs

Similar to CG-446, but with the top oblique stem being made of 2mm ID capillary tubing.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-448-01	2	12.9/44	7 & 8	\$134.80

For Replacement Plugs, See CG-446 Listing on pg 37



CG-452

### CG-452 Stopcocks, Burets, PTFE Plugs

For replacement or construction of burets having a 1:5 PTFE stopcock plug. One arm is pulled to a delivery tip.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-452-01	2	11/25	8	\$74.20

For Replacement Plugs, See CG-424 listing on pg 34



CG-457

### CG-457 Replacement Components For 1:5 Taper PTFE Plugs

Replacement components for 1:5 taper PTFE plugs. O-rings are Viton, nuts are green, and washers are white. Sold 12/Pkg.

Part Number	Plug Size	Description	Price
CG-457-01	11/25	O-Ring	\$15.60 *
CG-457-02	11/25	Washer	\$32.80 *
CG-457-03	11/25	Nut	\$75.40 *
CG-457-07	12.9/44	O-Ring	\$17.85 *
CG-457-08	12.9/44	Washer	\$38.65 *
CG-457-09	12.9/44	Nut	\$49.75 *
CG-457-10	14.4/44	O-Ring	\$19.90 *
CG-457-11	14.4/44	Washer	\$43.45 *
CG-457-12	14.4/44	Nut	\$54.60 *
CG-457-13	15.2/30	O-Ring	\$20.00 *
CG-457-14	15.2/30	Washer	\$45.00 *
CG-457-15	15.2/30	Nut	\$57.75 *
CG-457-16	16/35	O-Ring	\$22.50 *
CG-457-17	16/35	Washer	\$48.25 *
CG-457-18	16/35	Nut	\$58.50 *
CG-457-19	24/40	O-Ring	\$24.65 *
CG-457-20	24/40	Washer	\$49.75 *
CG-457-21	24/40	Nut	\$64.10 *

**CG-458 Stopcocks, Straight Bore, Pressure, Glass Plugs**

Solid glass plug has a threaded glass snelling which accepts an assembly similar to the one supplied with standard PTFE stopcocks. This consists of a PTFE washer, PTFE nut and Viton O-ring. Assembly provides for uniform seating tension to be applied to the plug which is precision ground and hand-lapped with corresponding numbers on the barrel and plug.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-458-01	2	12/30	8	\$98.25
CG-458-02	4	17/40	10	\$119.40

**Replacement Plug**

Part Number	Item Description	Price
CG-458-98	Nut, Washer & O-Ring For 12/30 Plug	\$6.50 ◇
CG-458-99	Nut, Washer & O-Ring For 17/40 Plug	\$7.05 ◇



CG-458

**CG-459 Stopcocks, T-Bore, Pressure, Glass Plugs**

Similar to CG-458, but with three stems sealed 90° apart. Solid glass plug has a “T” shaped bore so that any two or all three arms can be connected at one time. Plug is precision ground and hand-lapped with corresponding numbers on the barrel and plug.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-459-01	2	17/40	8	\$156.05

For Replacement Parts, See CG-458 Listing.



CG-459

**CG-460 Stopcocks, Double Oblique Bore, Pressure, Glass Plugs**

Similar to CG-458, but with two parallel oblique bores. Plug is precision ground and hand-lapped with corresponding numbers on the barrel and plug.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-460-01	2	14.5/50	8	\$170.75
CG-460-02	4	16.2/56	10	\$163.95

For Replacement Parts, See CG-458 Listing.



CG-460

## CG-462 Stopcocks, High Vacuum, Straight Bore, Glass Plugs

Solid glass high vacuum stopcock with the Chemglass improved constant pressure retention device. This unique retaining system incorporates a glass plug having an extended snelling which accepts a stainless steel spring and clip. The spring keeps constant tension on the plug at all times and is easily removed and attached. Each stopcock is supplied complete with a stainless steel spring and clip. Replacement retention kit consists of one spring and clip for the plug size listed.



CG-462

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-462-01	2	12/30	8	\$76.80
CG-462-02	4	17/40	10	\$91.30
CG-462-03	6	20/44	12	\$116.05

### Replacement S.S. Retention Kit

Part Number	Plug Size	Price
CG-469-20	12/30	\$4.30
CG-469-21	17/40	\$4.30
CG-469-22	20/44	\$4.30

## CG-464 Stopcocks, High Vacuum, T-Bore, Glass Plugs

Solid glass high vacuum stopcock with the NEW Chemglass improved constant pressure retention device. This unique retaining system incorporates a glass plug having an extended snelling which accepts a stainless steel spring and clip. The spring keeps constant tension on the plug at all times and is easily removed and attached. Similar to CG-462, but with three stems sealed 90° apart. Solid glass plug has a "T" shaped bore so that any two or all three arms can be connected at one time. Each stopcock is supplied complete with a stainless steel spring and clip. Replacement retention kit consists of one spring and clip for the plug size listed.



CG-464

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-464-01	2	12/30	8	\$134.80
CG-464-02	4	17/40	10	\$145.05
CG-464-03	6	20/44	12	\$152.60

### Replacement Parts

Part Number	Description	Price
CG-469-20	Replacement S.S. Retention Kits, 12/30	\$4.30
CG-469-21	Replacement S.S. Retention Kits, 17/40	\$4.30
CG-469-22	Replacement S.S. Retention Kits, 20/44	\$4.30

### CG-468 Stopcocks, High Vacuum, Double Oblique Bore, Glass Plugs

Solid glass high vacuum stopcock with the Chemglass constant pressure retention device. This unique retaining system incorporates a glass plug having an extended snelling which accepts a stainless steel spring and clip. The spring keeps constant tension on the plug at all times and is easily removed and attached. Similar to CG-458, but with two parallel oblique bores. Plug is precision ground and hand-lapped with corresponding numbers on the barrel and plug. Each stopcock is supplied complete with a stainless steel spring and clip. Replacement retention kit consists of one spring and clip for the plug size listed.



CG-468

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-468-02	4	16.2/56	10	\$223.45

#### Replacement Parts

Part Number	Description	Price
CG-469-23	Replacement S.S. Retention Kits, 16.2/56	\$18.70
CG-468-02PO	PLUG ONLY for CG-468-02; Stopcock, High Vacuum, Double Oblique, 4mm, 16.2/56 Plug Size, Solid Plug	\$167.65

### CG-471 Stopcocks, High Vacuum, Straight Bore, Hollow Glass Plugs

Hollow plug, straight bore stopcock has a precision ground and hand-land lapped barrel and plug. They are supplied complete with the listed size CG-423 metal retaining clip.



CG-471

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-471-01	2	12/30	8	\$153.25
CG-471-02	4	17/40	10	\$189.70

#### Replacement Parts

Part Number	Description	Price
CG-423-11	Size #1 Metal retaining Clips for Glass Stopcock Plugs	\$6.15 *
CG-423-14	Size #4 Metal retaining Clips for Glass Stopcock Plugs	\$6.40 *

### CG-472 Stopcocks, High Vacuum, Single Oblique Bore, Hollow Glass Plugs

Hollow plug, oblique bore stopcock has a precision ground barrel and plug. Lower vacuum chamber is evacuated via a separate hole in the plug which is not in the line of flow.



CG-472

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-472-01	2	12.6/40	8	\$151.40
CG-472-02	4	17.35/50	10	\$184.95



CG-473

**CG-473 Stopcocks, High Vacuum, Single Oblique Bore, Solid Glass Plugs**

Solid plug, oblique bore stopcock has a precision ground barrel and plug. Lower vacuum chamber is evacuated with a separate hole in the plug which is not in the line of flow.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-473-02	4	17.35/50	10	\$178.15



CG-474

**CG-474 Stopcocks, High Vacuum, Double Oblique Bore, Hollow Glass Plugs**

Hollow plug, double oblique bore stopcock has a precision ground barrel and plug. Lower vacuum chamber is evacuated with a separate hole in the plug which is not in the line of flow.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-474-01	2	14.5/50	8	\$227.65
CG-474-02	4	16.2/56	10	\$282.50

**Replacement Plug**

Part Number	Item Description	Price
CG-474-02PO	16.2/56 Hi-vac plug only, glass, double oblique	\$171.85



CG-478

**CG-478 Stopcocks, High Vacuum, 90°, Hollow Glass Plugs**

Similar to CG-476, but with the sidearms sealed at a 90° angle to each other. Precision ground and hand-lapped barrel and plug.

Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-478-02	4	17.35/50	10	\$208.10



CG-480

**CG-480 Stopcocks, High Vacuum, T-Type, Hollow Glass Plugs**

Similar to CG-478, but with the addition of an extra horizontal sidearm. Precision ground and hand-lapped with corresponding numbers on barrel and plug.

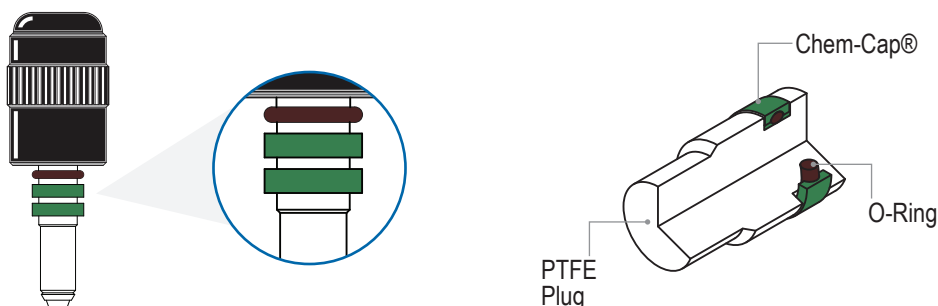
Part Number	Bore Size (mm)	Plug Size	Sidearm OD (mm)	Price
CG-480-02	4	17.35/50	10	\$204.60

Chem-Vac™ High Vacuum Valves

- Quick Opening
- Heavy duty rounded coarse thread
- Improved design reduces chipping and breakage

Our standard line of TFE valves, CG-925 through CG-934, has three o-rings with the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Valves are supplied with Viton o-rings. For o-rings other than Viton, please see CG-537.

Our unique line of Chem-Vac™ Chem-Cap® high vacuum valves are designed to be used in vacuum applications down to 10<sup>-7</sup> torr. The plug features an integral PTFE tip o-ring, preventing o-ring exposure to material at the primary seal. The shaft seal is accomplished by means of two Viton o-rings covered with specially designed PTFE “CAP”. Valve provides for an excellent vacuum tight seal without exposing any material other than PTFE to the contents of the system.

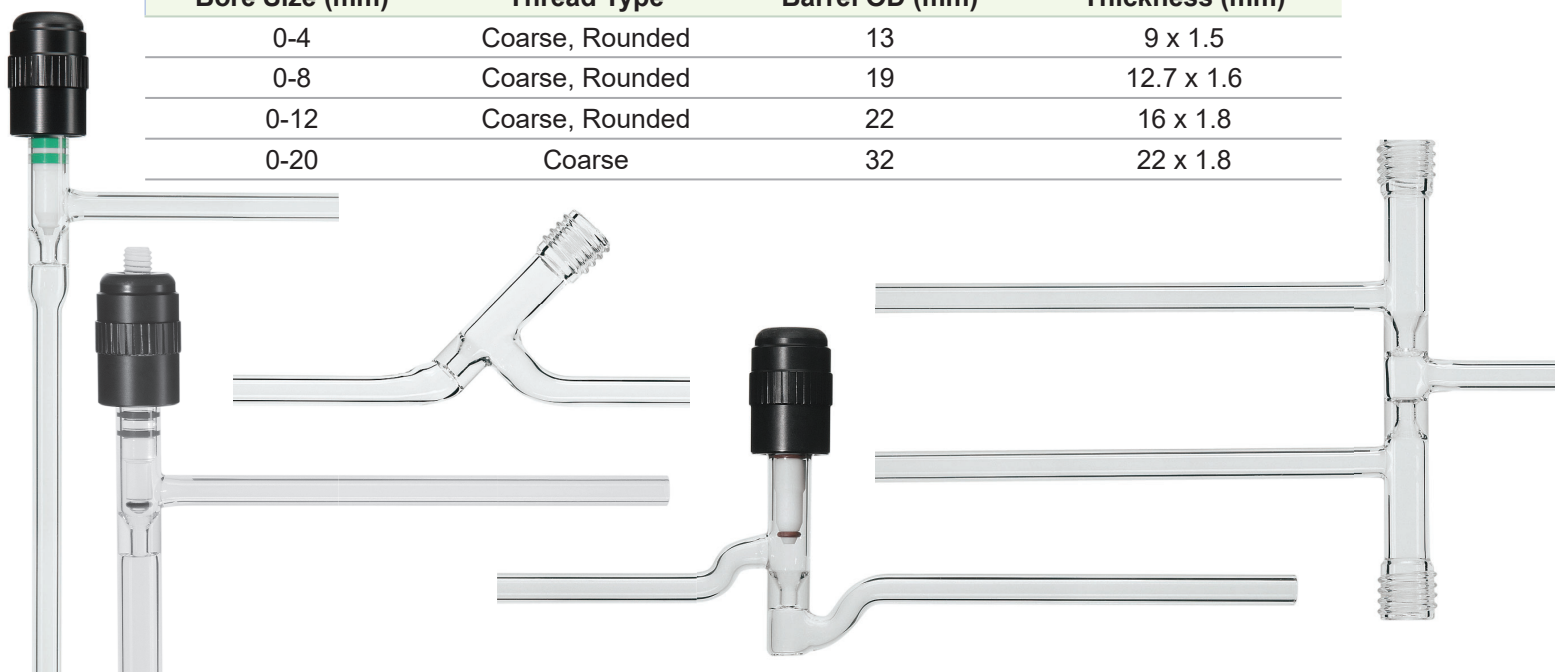


The 0-4mm, 0-8mm and 0-12mm valves have a heavy duty rounded coarse thread and precision formed tapered seat. The 0-20mm valves have our previous style COARSE thread and precision formed tapered seat. Our unique reverse thread design allows the control knob and stem to perform as if it were a one piece component, while permitting easier cleaning and interchangeability of stems having different types of elastomers.

Control knobs for the 0-4mm, 0-8mm and 0-12mm valves are made from Nylon and will withstand temperatures to 99°C (210°F). Control knobs for the 0-20mm valves are made from Delrin-AF® and will withstand temperatures to 82°C.

The following specifications apply to the glass portion ONLY of all Chemglass CHEM-VAC™ valves. For o-ring specifications please see replacement o-ring kits for the style plug required.

Bore Size (mm)	Thread Type	Barrel OD (mm)	Side Specs OD x Wall Thickness (mm)
0-4	Coarse, Rounded	13	9 x 1.5
0-8	Coarse, Rounded	19	12.7 x 1.6
0-12	Coarse, Rounded	22	16 x 1.8
0-20	Coarse	32	22 x 1.8

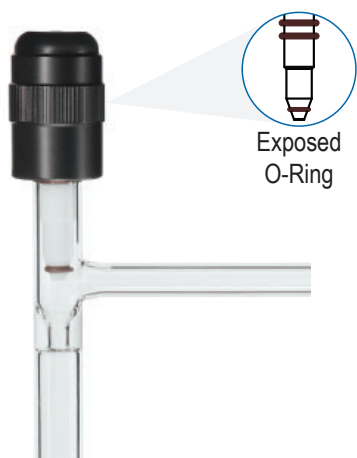


## CG-934 Valves, Chem-Vac™, High Vacuum, 1-Arm

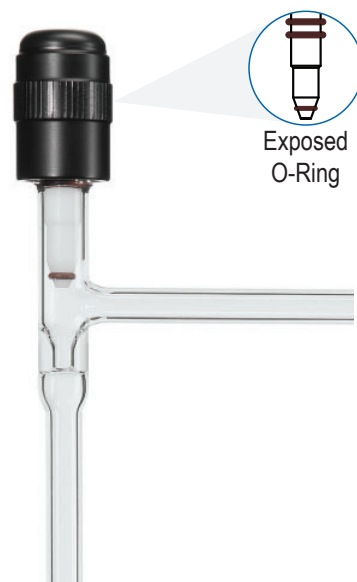
CHEM-VAC™ valve has single sidearm sealed at a 90° angle to the barrel. This inexpensive configuration allows for the lower portion of the barrel to be sealed directly to the apparatus being constructed, making for more compact, stronger assemblies. Valve has a TFE plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Available with a choice of Viton or Kalrez® o-rings. See CG-935 for replacement plug, CG-537 for o-ring replacement kit, and CG-902 for glass portion only.

**Please Note:** The 0-20mm bore size valve is our previous style CG-500 series valve with coarse thread.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-934-01	0-4	Viton	\$78.95
CG-934-02	0-8	Viton	\$121.70
CG-934-03	0-12	Viton	\$126.00
CG-534-04	0-20	Viton	\$392.20



CG-934



CG-925

## CG-925 Valves, Chem-Vac™, High Vacuum, 90°

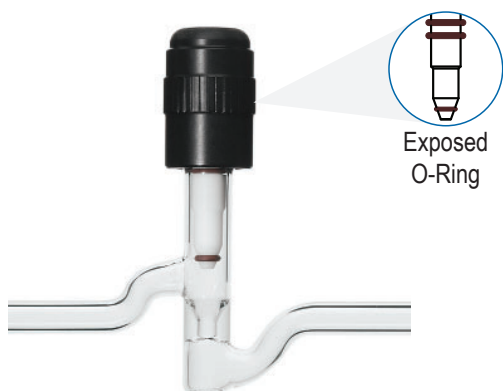
CHEM-VAC™ valve with two sidearms sealed to the barrel at a 90° angle to one another. Valve has a TFE plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Available with a choice of Viton or Kalrez® o-rings. See CG-935 for replacement plug, CG-537 for o-ring replacement kit, and CG-903 for glass portion only.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-925-01	0-4	Viton	\$101.45
CG-925-02	0-8	Viton	\$160.15
CG-925-03	0-12	Viton	\$168.65

## CG-927 Valves, Chem-Vac™, High Vacuum, 180°

CHEM-VAC™ valve with two sidearms sealed to the barrel at a 180° angle to one another and on the same plane. Valve has TFE plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Available with a choice of Viton or Kalrez® o-rings. See CG-935 for replacement plug, CG-537 for o-ring replacement kit, and CG-904 for glass portion only.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-927-01	0-4	Viton	\$105.45
CG-927-02	0-8	Viton	\$166.45
CG-927-03	0-12	Viton	\$190.80

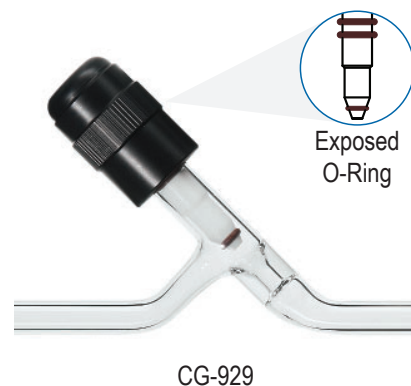


CG-927

**CG-929 Valves, Chem-Vac™, High Vacuum, Low Hold Up**

Similar to CG-927 CHEM-VAC™ valve but with the arms bent to minimize hold up of fluids. Valve has TFE plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Available with a choice of Viton or Kalrez® o-rings. See CG-935 for replacement plug, CG-537 for o-ring replacement kit, and CG-905 for glass portion only.

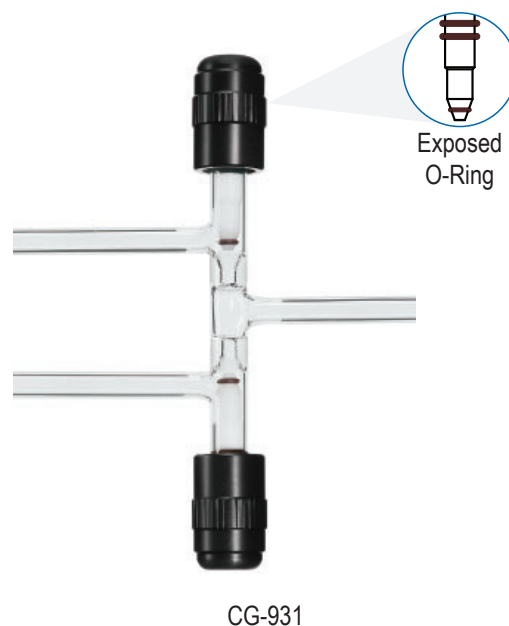
Part Number	Bore Size (mm)	O-Ring Type	Price
CG-929-01	0-4	Viton	\$107.40
CG-929-02	0-8	Viton	\$166.45



**CG-931 Valves, Chem-Vac™, High Vacuum, Three Way**

CHEM-VAC™ valve with three-way configuration for use in construction of manifolds, adapters, etc. Valve has a TFE plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. O-rings on the non-rotating shaft form an excellent dynamic seal between the TFE plug and glass barrel. Supplied with Viton o-rings. See CG-935 for replacement plug, CG-537 for o-ring replacement kit, and CG-906 for glass portion only.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-931-01	0-4	Viton	\$237.55
CG-931-02	0-8	Viton	\$317.45



**CG-935 Replacement Plugs For Chem-Vac™ High Vacuum Valves, TFE, Viton O-Rings**

Replacement TFE plug and control knob for CHEM-VAC™ high vacuum valves CG-925 through CG-934. Available with a choice of Viton or Kalrez® o-rings. Plug is sold complete with control knob and TFE stem having three o-rings.

**Please Note:** Control knob is not sold separately on the CG-900 series valves. The 0-20mm bore size valve is our previous style CG-500 series valve with coarse thread.

Part Number	To Fit Bore Size (mm)	O-Ring Type	Price
CG-935-01	0-4	Viton	\$54.70
CG-935-02	0-8	Viton	\$77.00
CG-935-03	0-12	Viton	\$81.20
CG-535-04	0-20	Viton	\$316.80





CG-537

## CG-537 O-Ring Replacement Kits, TFE Stem

Each kit contains a set of three o-rings, one for the tip and two for the barrel seal. O-ring sizes are listed in the following chart. If individual o-ring is required see CG-305 for Viton or CG-308 for Kalrez®.

Bore Size (mm)	Tip O-Ring Size	Shaft O-Ring Size
0-4	007	010
0-8	108	110
0-12	110	112
0-20	208	210

Part Number	To Fit Bore Size (mm)	O-Ring Type	Price
CG-537-01	0-4	Viton	\$8.55 *
CG-537-02	0-8	Viton	\$9.10 *
CG-537-03	0-12	Viton	\$10.30 *
CG-537-10	0-20	Viton	\$34.15 *
CG-537-07	0-4	Kalrez®	\$182.35 *
CG-537-08	0-8	Kalrez®	\$233.65 *
CG-537-09	0-12	Kalrez®	\$271.00 *
CG-537-12	0-20	Kalrez®	\$491.05 *



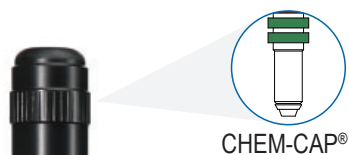
CHEM-CAP®

CG-960

## CG-960 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, 1-Arm

CHEM-VAC™ CHEM-CAP® valve has a single sidearm sealed at a 90° angle to the barrel. This inexpensive configuration allows for the lower portion of the barrel to be sealed directly to the apparatus being constructed, making for more compact, stronger assemblies. See CG-961 for replacement CHEM-CAP® plug and CG-902 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-960-01	0-4	\$87.05
CG-960-02	0-8	\$133.90
CG-960-03	0-12	\$138.40
CG-560-04	0-20	\$463.90



CHEM-CAP®

CG-951

## CG-951 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, 90°

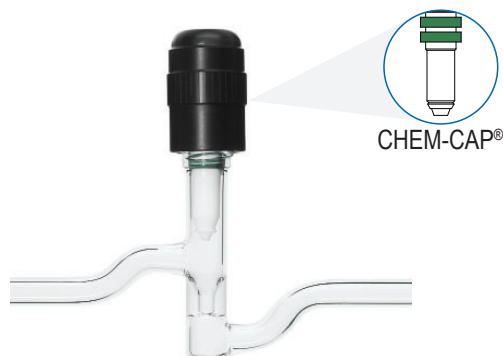
CHEM-VAC™ CHEM-CAP® valve with two sidearms sealed to the barrel at a 90° angle to one another. See CG-961 for replacement CHEM-CAP® plug and CG-903 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-951-01	0-4	\$104.05
CG-951-02	0-8	\$123.85
CG-951-03	0-12	\$143.95

### CG-953 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, 180°

CHEM-VAC™ CHEM-CAP® valve with two sidearms sealed to the barrel at a 180° angle to one another and on the same plane. See CG-961 for replacement CHEM-CAP® plug and CG-904 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-953-01	0-4	\$117.15
CG-953-02	0-8	\$170.45
CG-953-03	0-12	\$188.30

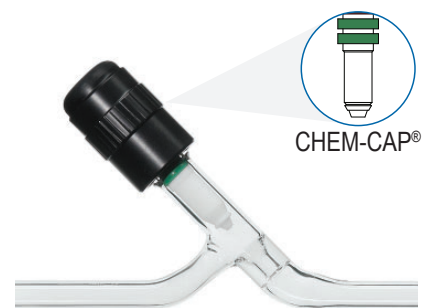


CG-953

### CG-955 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Low Hold Up

Similar to CG-953 CHEM-VAC™ valve but with the arms bent to minimize hold up of fluids. See CG-961 for replacement CHEM-CAP® plug and CG-905 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-955-01	0-4	\$119.00
CG-955-02	0-8	\$183.85

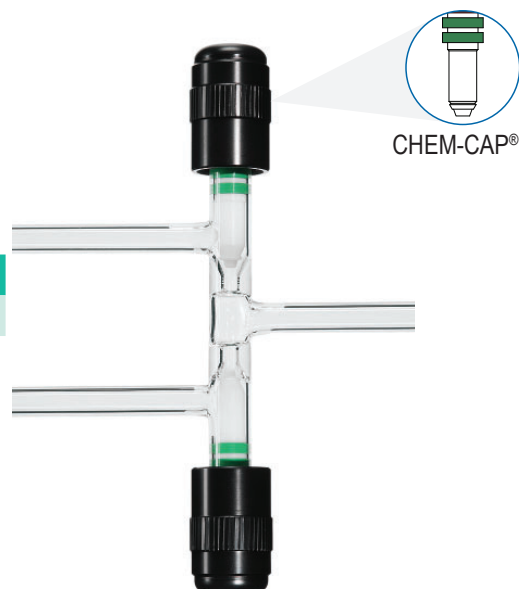


CG-955

### CG-957 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Three Way

CHEM-VAC™ CHEM-CAP® valve with three-way configuration for use in construction of manifolds, adapters, etc. See CG-961 for replacement CHEM-CAP® plug and CG-906 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-957-01	0-4	\$247.05
CG-957-02	0-8	\$319.20



CG-957

## CG-961 Replacement Plugs, Chem-Vac™, Chem-Cap® High Vacuum Valves

Replacement CHEM-CAP® plug and control knob for CHEM-VAC™ high vacuum valves CG-951 through CG-960. Plug is sold complete with control knob and CHEM-CAP® stem.

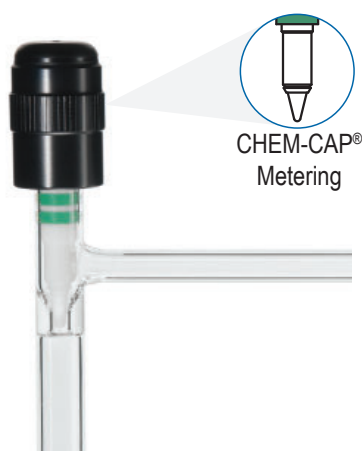
**Please Note:** Control knob is not sold separately on the CG-900 series valve. The 0-20mm bore size valve is our previous style CG-500 series valve with coarse thread.



CG-961

Part Number	To Fit Bore Size (mm)	Price
CG-961-01	0-4	\$75.40
CG-961-02	0-8	\$79.05
CG-961-03	0-12	\$85.25
CG-561-04	0-20	\$301.75
CG-961-50**	0-4	\$107.95 ◇
CG-961-53**	0-12	\$177.25 ◇

\*\*Includes Perfluoro O-Ring

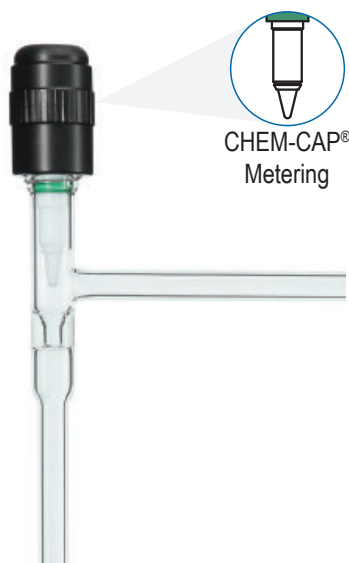


CG-962

## CG-962 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Metering, 1-Arm

CHEM-VAC™ CHEM-CAP® metering valve has an extended tip on the plug to allow semi-needle valve control of gases and liquids. Valve has single sidearm sealed at a 90° angle to the barrel. This inexpensive configuration allows for the lower portion of the barrel to be sealed directly to the apparatus being constructed, making for more compact, stronger assemblies. See CG-971 for replacement CHEM-CAP® metering plug and CG-902 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-962-01	0-4	\$89.45



CG-963

## CG-963 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Metering, 90°

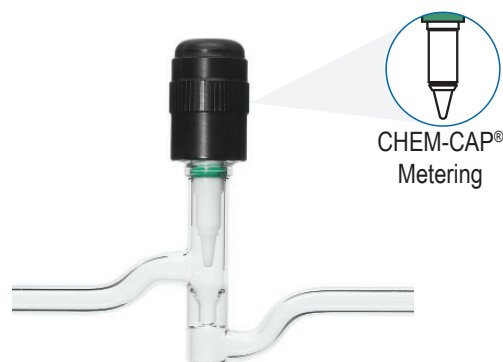
CHEM-VAC™ CHEM-CAP® metering valve has an extended tip on the plug to allow semi-needle valve control of gases and liquids. Valve has two sidearms sealed to the barrel at a 90° angle to one another. See CG-971 for replacement CHEM-CAP® metering plug and CG-903 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-963-01	0-4	\$111.50

**CG-965 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Metering, 180°**

CHEM-VAC™ CHEM-CAP® metering valve has an extended tip on the plug to allow semi-needle valve control of gases and liquids. Valve has two sidearms sealed to the barrel at a 180° angle to one another and on the same plane. See CG-971 for replacement CHEM-CAP® metering plug and CG-904 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-965-01	0-4	\$124.20

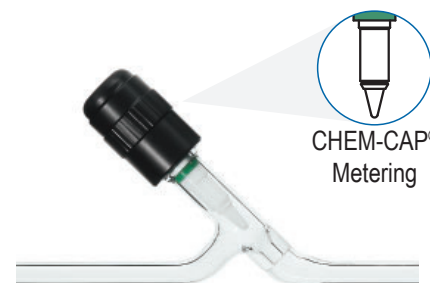


CG-965

**CG-967 Valves, Chem-Vac™, Chem-Cap®, High Vacuum, Metering, Low Hold Up**

CHEM-VAC™ CHEM-CAP® metering valve has an extended tip on the plug to allow semi-needle valve control of gases and liquids. Similar to CG-965 CHEM-VAC™ valve but with the arms bent to minimize hold-up of fluids. See CG-971 for replacement CHEM-CAP® metering plug and CG-905 for glass portion only.

Part Number	Bore Size (mm)	Price
CG-967-01	0-4	\$127.40



CG-967

**CG-971 Chem-Vac™, Chem-Cap® High Vacuum Valves Replacement Plugs, Metering**

Replacement CHEM-CAP® metering plug and control knob for CHEM-VAC™ high vacuum valves CG-962 through CG-967. Plug is sold complete with control knob and CHEM-CAP® metering stem. Control knob is not sold separately.

Part Number	To Fit Bore Size (mm)	Price
CG-971-01	0-4	\$81.45



CG-971

**CG-982 Valves, Chem-Vac™, Glass Plugs, O-Rings, High Vacuum, 1-Arm**

CHEM-VAC™ valve with glass plug eliminates the outgassing problems associated with TFE valves. Valve has a single sidearm sealed at a 90° angle to the barrel. Valve has a glass plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. Available with a choice of Viton or Kalrez® o-rings. See CG-983 for replacement plug and CG-585 for o-ring replacement kit. If individual o-ring is required see CG-305 for Viton or CG-308 for Kalrez®. For replacement glass portion of valve only see CG-902.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-982-01	0-4	Viton	\$112.70



CG-982



CG-973

## CG-973 Valves, Chem-Vac™, Glass Plugs, O-Rings, High Vacuum, 90°

CHEM-VAC™ valve with glass plug eliminates the outgassing problems associated with TFE valves. Two sidearms are sealed to the barrel at a 90° angle to one another. Valve has a glass plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. Available with a choice of Viton or Kalrez® o-rings. See CG-983 for replacement plug and CG-585 for o-ring replacement kit. If individual o-ring is required see CG-305 for Viton or CG-308 for Kalrez®. For replacement glass portion of valve only see CG-903.

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-973-01	0-4	Viton	\$138.20

## CG-975 Valves, Chem-Vac™, Glass Plugs, O-Rings, High Vacuum, 180°

CHEM-VAC™ valve with glass plug eliminates the outgassing problems associated with TFE valves. Two sidearms are sealed to the barrel at a 180° angle to one another and on the same plane. Valve has a glass plug with three o-rings, the tip o-ring making the primary seal on the precision formed tapered seat. Available with a choice of Viton or Kalrez® o-rings. See CG-983 for replacement plug and CG-585 for o-ring replacement kit. If individual o-ring is required see CG-305 for Viton or CG-308 for Kalrez®. For replacement glass portion of valve only see CG-904.



CG-975

Part Number	Bore Size (mm)	O-Ring Type	Price
CG-975-01	0-4	Viton	\$145.50

## CG-983 Replacement Plugs, Glass Stems, O-Rings

Replacement glass plug and control knob for CG-973 through CG-982 high vacuum valves. Plug is sold complete with control knob and glass stem having three or Kalrez® o-rings.



CG-983

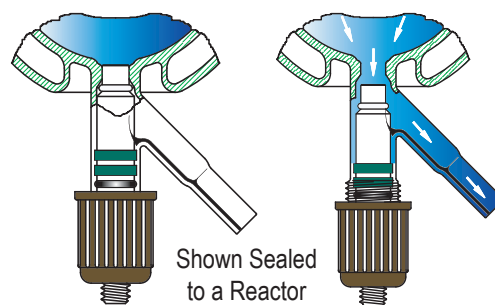
Part Number	To Fit Bore Size (mm)	O-Ring Type	Price
CG-983-01	0-4	Viton	\$73.40

### Replacement Parts

Part Number	Item Description	Price
CG-585-01	0-4mm Replacement O-Ring Kit, Glass Stem, Viton, To Consist Of: 1ea: #006 2ea: #009	\$9.00*
CG-583-03	0-4mm Replacement Glass Stem Only, Viton O-Rings	\$56.60

**CG-511 Valves, Drain, Extended Tip, Chem-Cap®**

Designed to be used as a drain for reaction kettles, flasks, etc. Valve is made with an extended tip which fills the seat area and permits total agitation of the contents of the vessel. Once opened, contents of the vessel will drain through the sidearm. Valve is constructed the same as the rest of our Chem-Cap® valve line, and has an integral PTFE tip o-ring. Supplied complete PTFE stem with Viton o-rings, control knob, and corresponding glass barrel having a single sidearm which can be further fabricated into the drain arm. **Please Note:** Complete item is supplied with a 90° 1-arm glass valve body.



Shown Sealed to a Reactor

CG-511

Part Number	Description	Price
CG-511-01	12mm Extended Tip Drain Valve Complete	\$239.65
CG-511-02	20mm Extended Tip Drain Valve Complete	\$625.40

**Replacement Parts**

Part Number	Description	Price
CG-502-04	Valve, Glass Portion Only, 1-Arm, 0-20mm Bore, 32mm OD Barrel, 22mm X 1.8W Sidearm	\$281.55

See website for replacement plugs

**CG-902 Valves, Chem-Vac™, Glass Portion Only, 1-Arm**

CHEM-VAC™ valve glass portion only. Valve has a single sidearm sealed at a 90° angle to the barrel. Heavy duty rounded coarse thread and precision formed tapered seat. Dimensions as listed. **Please Note:** The 0-20mm bore size is our previous style CG-500 series valve with coarse thread.

Part Number	Bore Size (mm)	Barrel OD (mm)	Sidearm Spec. OD x Wall Thickness (mm)	Price
CG-902-01	0-4	13	9 x 1.5	\$47.90
CG-902-02	0-8	19	12.7 x 1.6	\$66.80
CG-902-03	0-12	22	16 x 1.8	\$86.30
CG-502-04	0-20	32	22 x 1.8	\$281.55



CG-902

**CG-903 Valves, Chem-Vac™, Glass Portion Only, 90°**

CHEM-VAC™ valve glass portion only. Valve has two sidearms sealed to the barrel at a 90° angle to one another. Heavy duty rounded coarse thread and precision formed tapered seat. Dimensions as listed.

**Please Note:** The 0-20mm bore size is our previous style CG-500 series valve with coarse thread.

Part Number	Bore Size (mm)	Barrel OD (mm)	Sidearm Spec. OD x Wall Thickness (mm)	Price
CG-903-01	0-4	13	9 x 1.5	\$63.20
CG-903-02	0-8	19	12.7 x 1.6	\$90.45
CG-903-03	0-12	22	16 x 1.8	\$101.75



CG-903



CG-904

## CG-904 Valves, Chem-Vac™, Glass Portion Only, 180°

CHEM-VAC™ valve glass portion only. Valve has two sidearms sealed to the barrel at a 180° angle to one another and on the same plane. Heavy duty rounded coarse thread and precision formed tapered seat. Dimensions as listed.

Part Number	Bore Size (mm)	Barrel OD (mm)	Sidearm Spec. OD x Wall Thickness (mm)	Price
CG-904-01	0-4	13	9 x 1.5	\$68.70
CG-904-02	0-8	19	12.7 x 1.6	\$110.95



CG-905

## CG-905 Valves, Chem-Vac™, Glass Portion Only, Low Hold Up

CHEM-VAC™ valve glass portion only. Valve has two sidearms sealed to the barrel at a 180° angle to one another and bent to minimize hold up of fluids. Heavy duty rounded coarse thread and precision formed tapered seat. Dimensions as listed.

Part Number	Bore Size (mm)	Barrel OD (mm)	Sidearm Spec. OD x Wall Thickness (mm)	Price
CG-905-01	0-4	13	9 x 1.5	\$74.85
CG-905-02	0-8	19	12.7 x 1.6	\$98.85



CG-906

## CG-906 Valves, Chem-Vac™, Glass Portion Only, Three-Way

CHEM-VAC™ valve glass portion only. Three-way configuration for use in construction of manifolds, adapters, etc. Valve has two barrels sealed together 180° from one another, each having a sidearm of the listed size and a common arm sealed between the barrels. Heavy duty rounded coarse thread and precision formed tapered seat.

Part Number	Bore Size (mm)	Barrel OD (mm)	Sidearm Spec. OD x Wall Thickness (mm)	Price
CG-906-01	0-4	13	9 x 1.5	\$171.00
CG-906-02	0-8	19	12.7 x 1.6	\$220.10



CG-998

## CG-998 Valves, Chem-Vac™, Glass Barrels Only, Without Sidearm

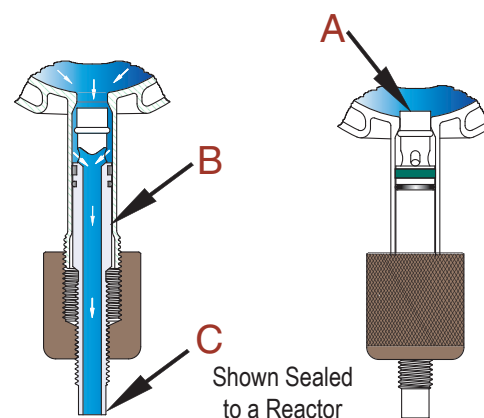
Glass barrel only, without sidearm, for all CHEM-VAC™ valves. Heavy duty rounded coarse thread and precision formed tapered seat.

**Please Note:** The 0-20mm bore size valve is our previous style CG-500 series valve with coarse thread.

Part Number	Bore Size (mm)	Barrel OD (mm)	Price
CG-998-01	0-4	13	\$32.65
CG-998-02	0-8	19	\$52.80
CG-998-03	0-12	22	\$70.00
CG-598-04	0-20	32	\$189.40

## CG-510 Chem Drain Valves

The unique design of the Chem-Drain valve incorporates a PTFE plunger that allows the contents of the flask to drain directly through the bore of the plunger (B). When closed, the tip of the PTFE plug seals into the lower radius of the flask (A) avoiding the dead space normally associated with standard stopcock drains. This feature permits total mixing and drainage of the contents of the flask. The Chem-Drain valve is available in 2 sizes: 6mm and 12mm. This dimension refers to the straight section of the plunger (B). When open, the contents of the flask drain through three openings into the main bore of the plug. Lower portion of the plunger (C) has a 1/2" section on the 6mm size and 18mm section on the 12mm size for attachment of flexible tubing to allow material to be transferred into a receiving vessel. The 6mm size will permit drainage of solids having a diameter to 1.5mm, while the 12mm size will allow drainage of solids to 2mm diameter. When ordered complete, the valve comes with a glass barrel, PTFE stem and black Acetal control knob.



CG-510



CG-512

Part Number	Description	Price
CG-510-01	6mm Chem-Drain Valve, Complete	\$337.70
CG-510-02	12mm Chem-Drain Valve, Complete	\$545.80

### Replacement Parts

Part Number	Description	Price
CG-510-10	6mm Glass Barrel Only, Coarse Thread	\$68.20
CG-510-11	6mm PTFE Stem Only	\$235.25
CG-510-13	6mm PTFE Stem and Control Knob	\$257.40
CG-510-12	6mm Black Acetal Control Knob Only	\$88.80
CG-598-04	Valve, Glass Barrel Only, Without Sidearm, 0-20mm Bore, 32mm OD Barrel	\$189.40
CG-510-20	12mm PTFE Stem Only	\$242.15
CG-510-22	12mm PTFE Stem and Control Knob	\$356.15
CG-510-21	12mm Black Acetal Control Knob Only	\$108.35

## CG-512 Valves, For NMR Tubes

Valve only is designed to be sealed to the top of either 5 or 10mm O.D. NMR tubes. Upper portion of the stem is extended with an additional o-ring for attachment to a piece of 7mm I.D. tubing which in turn can be sealed to any number of standard taper joints. This feature allows for a sample to be dispensed directly from a vacuum line port into the NMR tube. Valve is symmetrically balanced and has Viton o-rings on both the barrel and top stem seal. Valve is tooled on 9mm O.D. standard wall tubing. Complete valve consists of a glass body, TFE plug with two o-rings and Delrin-AF® control knob. Plug has three o-rings, (2) #007 and (1) #008. **NOTE:** NMR Tubes must be purchased separately.

Part Number	Description	Price
CG-512-01	NMR Tube Valve, Complete, Viton O-Rings	\$130.00

### Replacement Parts

Part Number	Description	Price
CG-512-03	Glass Body Only For NMR Tube Valve	\$40.35
CG-512-04	Replacement Plug Only, Viton O-Rings	\$91.30



CG-590

### CG-590 Inlet Valves, Chem-Cap®, High Vacuum

Designed to be used as a vent or inlet valve for vacuum systems. Can also be used to construct AIRFREE® or Schlenk glassware in place of the standard straight bore glass stopcock. This totally grease-free valve does not require a sidearm since the valve has a bore that runs through the plug and an integral machined-on serrated hose connection for attachment to the vacuum or inert gas source. The primary seal is made on the precision tooled seat with the shaft seal being made with a Chem-Cap® enclosed o-ring. The bore is 4mm with an 8mm OD hose connection.

Part Number	Description	Price
CG-590-01	Inlet Valve, Complete	\$81.20
CG-590-02	Plug Only	\$65.50
CG-590-03	Glass Barrel Only	\$38.50
CG-590-04	Control Knob Only	\$35.00



CG-999

### CG-999 Pressure Relief Valves

Automatic, adjustable pressure relief valve is for use on apparatus where internal pressure build-up is a concern. Tension on the stainless steel spring is adjusted by turning the top control knob in or out and will relieve pressures from 5 to 50 PSI. Two-piece stem is made of PTFE and is fitted with Viton o-rings.

Part Number	Description	Price
CG-999-01	Pressure Relief Valve, Complete	\$138.20
CG-999-02	Spring Loaded Plug Only	\$34.15 ◇



CG-587

### CG-587 Threaded Stopcocks, General Purpose, 90°

A 2mm bore grease-free, general purpose stopcock is designed primarily for use in control of fluids. Excellent for use in construction of burettes, addition funnels and non-vacuum apparatus. Valve is constructed so that only glass and PTFE come in contact with fluids. Tip design provides for semi-needle valve metering action. Sidearms are 8mm OD and sealed to barrel at a 90° angle to one another.

Part Number	Description	Price
CG-587-01	Valve, Complete	\$94.00
CG-596-01	Replacement Plug Only	\$51.30

### CG-591 Threaded Stopcocks, General Purpose, Low Hold Up

A 2mm bore grease-free, general purpose stopcock is designed primarily for use in control of fluids. Excellent for use in construction of burettes, addition funnels and non-vacuum apparatus. Valve is constructed so that only glass and PTFE come in contact with fluids. Tip design provides for semi-needle valve metering action. Sidearms are 8mm OD and sealed to barrel at a 90° angle to one another.



CG-591

Part Number	Description	Price
CG-591-01	Valve, Complete	\$93.45
CG-596-01	Replacement Plug Only	\$51.30

**CGK-525 Valves, 90°, Exposed O-Ring Tip**

Hi-vac valve with two sidearms sealed to the barrel at a 90° angle to one another. Designed with a precision external thread for fine control.

Part Number	Description	Price
<b>CGK-525-01</b>	0-4mm 90°, Exposed O-Ring Tip	<b>\$98.85</b>
<b>CGK-525-02</b>	0-8mm 90°, Exposed O-Ring Tip	<b>\$153.50</b>
<b>CGK-525-03</b>	0-12mm 90°, Exposed O-Ring Tip	<b>\$166.65</b>

**Replacement Parts**

Part Number	Description	Price
<b>CGK-503-01</b>	0-4mm 90°, Glass Only	<b>\$64.80</b>
<b>CGK-503-02</b>	0-8mm 90°, Glass Only	<b>\$95.50</b>
<b>CGK-503-03</b>	0-12mm 90°, Glass Only	<b>\$100.85</b>
<b>CGK-535-01</b>	0-4mm Plug Only, Exposed O-Ring Tip	<b>\$32.35</b>
<b>CGK-535-02</b>	0-8mm Plug Only, Exposed O-Ring Tip	<b>\$73.40</b>
<b>CGK-535-03</b>	0-12mm Plug Only, Exposed O-Ring Tip	<b>\$78.50</b>



CGK-525

**CGK-527 Valves, 180°, Exposed O-Ring Tip**

Hi-vac valve with two sidearms sealed to the barrel at a 180° angle to one another and on the same plane.

Part Number	Description	Price
<b>CGK-527-01</b>	0-4mm 180°, S-Type, Exposed O-Ring Tip	<b>\$138.20</b>
<b>CGK-527-02</b>	0-8mm 180°, S-Type, Exposed O-Ring Tip	<b>\$174.55</b>
<b>CGK-527-03</b>	0-12mm 180°, S-Type, Exposed O-Ring Tip	<b>\$213.20</b>

**Replacement Parts**

Part Number	Description	Price
<b>CGK-504-01</b>	0-4mm 180°, Glass Only	<b>\$109.25</b>
<b>CGK-504-02</b>	0-8mm 180°, Glass Only	<b>\$127.95</b>
<b>CGK-504-03</b>	0-12mm 180°, Glass Only	<b>\$167.25</b>
<b>CGK-535-01</b>	0-4mm Plug Only, Exposed O-Ring Tip	<b>\$32.35</b>
<b>CGK-535-02</b>	0-8mm Plug Only, Exposed O-Ring Tip	<b>\$73.40</b>
<b>CGK-535-03</b>	0-12mm Plug Only, Exposed O-Ring Tip	<b>\$78.50</b>



CGK-527

## CGK-529 Valves, In-Line, Exposed O-Ring Tip

Hi-vac valve with bent arms to minimize hold up of fluids that would occur in conventional valves. Designed with a precision external thread for fine control.



CGK-529

Part Number	Description	Price
CGK-529-01	0-4mm In-Line, Exposed O-Ring Tip	\$133.90

### Replacement Parts

Part Number	Description	Price
CGK-505-01	0-4mm In-Line, Glass Only	\$102.35
CGK-535-01	0-4mm Plug Only, Exposed O-Ring Tip	\$32.35

## CGK-531 Valves, 3-Way, Exposed O-Ring Tip

Hi-vac valve with three way configuration for use in construction of manifolds, adapters, etc.



CGK-531

Part Number	Description	Price
CGK-531-01	0-4mm 3-Way, Exposed O-Ring Tip	\$225.05

### Replacement Parts

Part Number	Description	Price
CGK-506-01	0-4mm 3-Way, Glass Only	\$196.30
CGK-535-01	0-4mm Plug Only, Exposed O-Ring Tip	\$32.35

## CGK-534 Valves, 1-Arm, Exposed O-Ring Tip

This style hi-vac valve has a single sidearm seal at a 90° angle to the barrel. This inexpensive configuration allows for the lower portion of the barrel to be sealed directly to the apparatus being constructed, making for more compact, stronger assemblies. Designed with a precision external thread for fine control.



CGK-534

Part Number	Description	Price
CGK-534-01	0-4mm 1-Arm, Exposed O-Ring	\$85.35
CGK-534-02	0-8mm 1-Arm, Exposed O-Ring	\$136.40
CGK-534-03	0-12mm 1-Arm, Exposed O-Ring	\$145.05

### Replacement Parts

Part Number	Description	Price
CGK-502-01	0-4mm 1-Arm, Glass Only	\$54.60
CGK-502-02	0-8mm 1-Arm, Glass Only	\$64.80
CGK-502-03	0-12mm 1-Arm, Glass Only	\$83.60
CGK-535-01	0-4mm Plug Only, Exposed O-Ring Tip	\$32.35
CGK-535-02	0-8mm Plug Only, Exposed O-Ring Tip	\$73.40
CGK-535-03	0-12mm Plug Only, Exposed O-Ring Tip	\$78.50

**CGK-551 Valves, 90°, PTFE Tip**

Hi-vac valve with two sidearms sealed to the barrel at a 90° angle to one another. Designed with a precision external thread for fine control.

Part Number	Description	Price
<b>CGK-551-01</b>	0-4mm 90°, PTFE Tip	<b>\$94.00</b>
<b>CGK-551-02</b>	0-8mm 90°, PTFE Tip	<b>\$153.50</b>
<b>CGK-551-03</b>	0-12mm 90°, PTFE Tip	<b>\$163.75</b>

**Replacement Parts**

Part Number	Description	Price
<b>CGK-503-01</b>	0-4mm 90°, Glass Only	<b>\$64.80</b>
<b>CGK-503-02</b>	0-8mm 90°, Glass Only	<b>\$95.50</b>
<b>CGK-503-03</b>	0-12mm 90°, Glass Only	<b>\$100.85</b>
<b>CGK-561-01</b>	0-4mm Plug Only, PTFE Tip	<b>\$27.25</b>
<b>CGK-561-02</b>	0-8mm Plug Only, PTFE Tip	<b>\$73.40</b>
<b>CGK-561-03</b>	0-12mm Plug Only, PTFE Tip	<b>\$78.50</b>



CGK-551

**CGK-553 Valves, 180°, PTFE Tip**

Hi-vac valve with two sidearms sealed to the barrel at a 180° angle to one another and on the same plane.

Part Number	Description	Price
<b>CGK-553-01</b>	0-4mm 180°, PTFE Tip	<b>\$133.00</b>
<b>CGK-553-02</b>	0-8mm 180°, PTFE Tip	<b>\$166.35</b>
<b>CGK-553-03</b>	0-12mm 180°, PTFE Tip	<b>\$213.20</b>

**Replacement Parts**

Part Number	Description	Price
<b>CGK-504-01</b>	0-4mm 180°, Glass Only	<b>\$109.25</b>
<b>CGK-504-02</b>	0-8mm 180°, Glass Only	<b>\$127.95</b>
<b>CGK-504-03</b>	0-12mm 180°, Glass Only	<b>\$167.25</b>
<b>CGK-561-01</b>	0-4mm Plug Only, PTFE Tip	<b>\$27.25</b>
<b>CGK-561-02</b>	0-8mm Plug Only, PTFE Tip	<b>\$73.40</b>
<b>CGK-561-03</b>	0-12mm Plug Only, PTFE Tip	<b>\$78.50</b>



CGK-553

## CGK-555 Valves, In-Line, PTFE Tip

Hi-vac valve with bent arms to minimize hold up of fluids that would occur in conventional valves. Designed with a precision external thread for fine control.



CGK-555

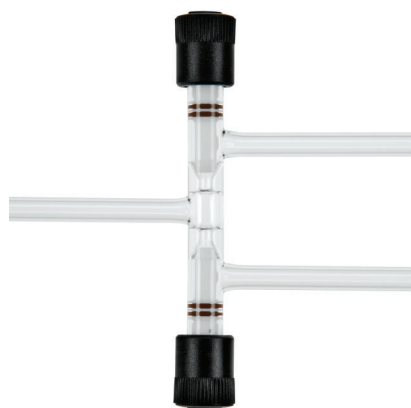
Part Number	Description	Price
CGK-555-01	0-4mm In-Line, PTFE Tip	\$129.70

### Replacement Parts

Part Number	Description	Price
CGK-505-01	0-4mm In-Line, Glass Only	\$102.35
CGK-561-01	0-4mm Plug Only, PTFE Tip	\$27.25

## CGK-557 Valves, 3-Way, PTFE Tip

Hi-vac valve with three way configuration for use in construction of manifolds, adapters, etc.



CGK-557

Part Number	Description	Price
CGK-557-01	0-4mm 3-Way, PTFE Tip	\$221.75

### Replacement Parts

Part Number	Description	Price
CGK-506-01	0-4mm 3-Way, Glass Only	\$196.30
CGK-561-01	0-4mm Plug Only, PTFE Tip	\$27.25

## CGK-560 Valves, 1-Arm, PTFE Tip

This hi-vac valve has a single sidearm seal at a 90° angle to the barrel. This inexpensive configuration allows for the lower portion of the barrel to be sealed directly to the apparatus being constructed, making for more compact, stronger assemblies. Designed with a precision external thread for fine control.



CGK-560

Part Number	Description	Price
CGK-560-01	0-4mm 1-Arm, PTFE Tip	\$80.15
CGK-560-02	0-8mm 1-Arm, PTFE Tip	\$136.40
CGK-560-03	0-12mm 1-Arm, PTFE Tip	\$145.05

### Replacement Parts

Part Number	Description	Price
CGK-502-01	0-4mm 1-Arm, Glass Only	\$54.60
CGK-502-02	0-8mm 1-Arm, Glass Only	\$64.80
CGK-502-03	0-12mm 1-Arm, Glass Only	\$83.60
CGK-561-01	0-4mm Plug Only, PTFE Tip	\$27.25
CGK-561-02	0-8mm Plug Only, PTFE Tip	\$73.40
CGK-561-03	0-12mm Plug Only, PTFE Tip	\$78.50

### CG-618 Glassblowers Flask Blanks, Round Bottom

Blanks for fabrication of single or multi-neck round bottom flasks. **Neck is unfinished, flask cannot be used without modification of neck.**

Part Number	Capacity (mL)	Price
CG-618-01	25	\$18.30
CG-618-02	50	\$17.50
CG-618-03	100	\$21.75
CG-618-04	125	\$26.75
CG-618-05	150	\$28.15
CG-618-06	250	\$40.35
CG-618-08	300	\$42.05
CG-618-09	500	\$47.90
CG-618-10	1000	\$76.25
CG-618-11	2000	\$117.25
CG-618-12	3000	\$204.10
CG-618-13	5000	\$285.45
CG-618-18	6000	\$418.80
CG-618-19	10000	\$762.00
CG-618-14	12000	\$612.10
CG-618-15	20000	\$918.95



CG-618

### CG-618-HW Glassblowers Flask Blanks, Round Bottom, HW

Heavy Wall blanks are 30% heavier than our standard CG-618 series. Blanks are used in the fabrication of single or multi-neck round bottom flasks.

NOTE: neck is unfinished, flask cannot be used without modification of neck

Part Number	Description	Price
CG-618-06HW	250mL Glassblowers Heavy Wall RBF Blank	\$50.60
CG-618-09HW	500mL Glassblowers Heavy Wall RBF Blank	\$61.65
CG-618-10HW	1,000mL Glassblowers Heavy Wall RBF Blank	\$86.10
CG-618-11HW	2,000mL Glassblowers Heavy Wall RBF Blank	\$266.50
CG-618-12HW	3,000mL Glassblowers Heavy Wall RBF Blank	\$303.15



CG-618-HW

### CG-620 Glassblowers Flask Blanks, Erlenmeyer

Blanks for fabrication of Erlenmeyer shaped flasks. **Neck is unfinished, flask cannot be used without modification of neck.**

Part Number	Capacity (mL)	Price
CG-620-02	25	\$22.85
CG-620-03	50	\$21.85
CG-620-04	125	\$24.15
CG-620-05	250	\$18.70
CG-620-06	500	\$17.00
CG-620-07	1000	\$27.55
CG-620-08	2000	\$62.30
CG-620-09	4000	\$167.35
CG-620-10	6000	\$346.55
CG-620-11	3000	\$191.90
CG-620-12	300	\$15.70



CG-620



CG-622

### CG-622 Glassblowers Flask Blanks, Recovery

Blanks for fabrication of recovery flasks. **Neck is unfinished, flask cannot be used without modification of neck.**

Part Number	Capacity (mL)	Price
CG-622-01	10	\$17.95
CG-622-02	25	\$25.75
CG-622-03	50	\$20.10
CG-622-04	100	\$23.25
CG-622-05	200	\$36.85
CG-622-06	500	\$44.90
CG-622-07	1000	\$144.30
CG-622-08	2000	\$210.40



CG-623

### CG-623 Glassblowers Flask Blanks, Heavy Wall, Filter Flasks

Extra heavy, unmarked blanks for fabrication of filter apparatus. Top has a tooled finish to accept a rubber stopper or neoprene filter adapter.

Part Number	Capacity (mL)	Price
CG-623-01	250	\$39.25
CG-623-02	500	\$51.25
CG-623-03	1000	\$76.50
CG-623-04	2000	\$298.30



CG-624

### CG-624 Glassblowers Separatory Funnel Blanks

Squibb shaped separatory blank complete with tooled and finished ground stopper neck top. Lower portion of blank is unfinished and requires a stopcock to be sealed. **Note:** Supplied without stopper.

Part Number	Capacity (mL)	Stopper Size	Price
CG-624-01	30	13	\$40.25
CG-624-02	60	16	\$47.90
CG-624-03	125	22	\$64.90
CG-624-04	250	22	\$73.20
CG-624-05	500	27	\$95.75
CG-624-06	1000	27	\$99.75
CG-624-07	2000	38	\$247.70

**CG-625 Glassblowers Friedrich Condenser Blanks**

Molded inner cold finger for use in fabrication of Friedrich style condensers. Overall length is 230mm with an outside diameter of 45mm.

**Note: Top is unfinished.**

Part Number	Item Description	Price
CG-625-01	Glassblowers Friedrich Condenser Blank	\$205.20



CG-625

**CG-627 Glassblowers, Coils, Condensers**

For use in construction of spiral or Graham style condensers. Coils can be sealed together to form longer lengths.

Part Number	Tubing OD (mm)	Coil Dim. OD x Length (mm)	Price
CG-627-01	4	14 x 75	\$27.90
CG-627-02	8	28 x 280	\$44.55



CG-627

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