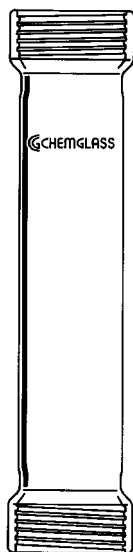
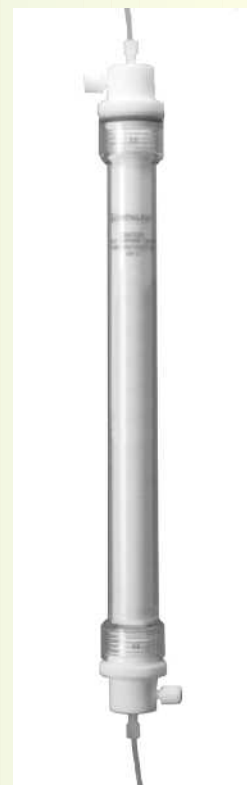


CHROMATOGRAPHY

HPLPLC Chromatography System

The Chemglass Chromatography system is designed for high performance, low pressure liquid chromatography. All columns are constructed of HEAVY WALL borosilicate glass with a protective plastic coating for added safety and durability. Each column uses a solid Teflon®, internal threaded bushing with an adjustable flow regulator. This flow regulator permits the column to be isolated from the solvent source during sample additions. Bushings are available with your choice of Perfluoro, Viton®, or Ethylene Propylene o-rings.

- *Easy to use and assemble*
- *Able to use various packing materials*
- *For use at 0-100 psi pressures*
- *Stronger more durable construction*
- *Analytical or Preparative*
- *Resistant to chemical attack*



CG-1162

CG-1162 COLUMN, CHROMATOGRAPHY, INTERNAL THREADS

For use with high performance, low pressure liquid chromatography. Columns are constructed from heavy wall borosilicate glass and have the listed internal thread on both ends. The outer surface of the column has a plastic coating to protect the column from abrasions while adding strength to increase the life of the column. Should breakage occur, the plastic coating helps retain the fragmented glass and the contents of the column. Effective length is measured as the straight section of glass between the threads. **The use of safety shields is recommended when working with pressurized glassware.**

Part Number	Column I.D. (mm)	Effective Length (mm)	Thread Size
CG-1162-30	11	300	11
CG-1162-34	25	300	25
CG-1162-35	25	450	25
CG-1162-36	25	600	25
CG-1162-37	50	300	50
CG-1162-38	50	450	50
CG-1162-39	50	600	50
CG-1162-40	50	1200	50

NOTE: CG-1162 COLUMNS ARE AVAILABLE IN SIZES OTHER THAN THOSE LISTED. PLEASE CONTACT US FOR MORE DETAILS.

CG-1162-B LOWER END TEFLON FITTING FOR INTERNAL THREADED COLUMN, FRITTED

Lower Teflon fitting for use with CG-1162 internal threaded columns. Supplied complete with a borosilicate glass fritted packing support having a COARSE porosity (40-60 micron). Mixing below the packing support is minimized due to a shallow taper leading to the drain hole. O-ring is located near the tip of the fitting to ensure that the packing material stays above the fritted support. Fitting has an adjustable flow regulator valve which is adjustable from 0 to 1mm. Available with a choice of a **chemically inert Perfluoro o-ring**, Viton or Ethylene Propylene.

Adapter with Perfluoro O-ring:

Part Number	Fits Thread Size	O-Ring Size
CG-1162-B-01	11	012
CG-1162-B-02	25	121
CG-1162-B-03	50	136

Adapter with Viton O-ring:

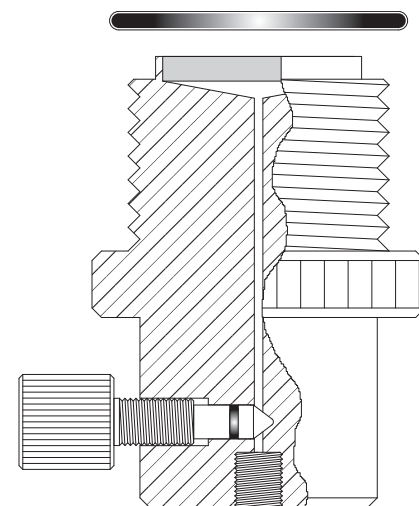
Part Number	Fits Thread Size	O-Ring Size
CG-1162-B-11	11	012
CG-1162-B-12	25	121
CG-1162-B-13	50	136

Adapter with Ethylene Propylene O-ring:

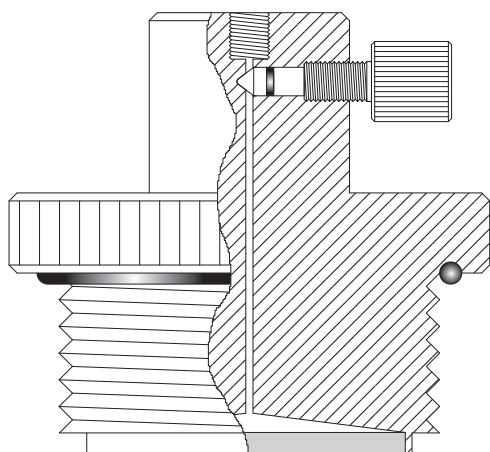
Part Number	Fits Thread Size	O-Ring Size
CG-1162-B-20	11	012
CG-1162-B-21	25	121
CG-1162-B-22	50	136

Replacement Components:

Part Number	Description
CG-1162-50	Valve Stem, Teflon
CG-309-012	#012 Perfluoro O-Ring
CG-309-121	#121 Perfluoro O-Ring
CG-309-136	#136 Perfluoro O-Ring
CG-305-012	#012 Viton O-Ring, Pkg. of 12
CG-305-121	#121 Viton O-Ring, Pkg. of 3
CG-305-136	#136 Viton O-Ring, Pkg. of 3
CG-303E-012	#012 E.P. O-Ring, Pkg. of 12
CG-303E-121	#121 E.P. O-Ring, Pkg. of 3
CG-303E-136	#136 E.P. O-Ring, Pkg. of 3



CG-1162-B



CG-1162-T

CG-1162-T TOP END TEFLON FITTING FOR INTERNAL THREADED COLUMN

Top Teflon fitting for use with CG-1162 internal threaded columns. Fitting has an adjustable flow regulator valve which permits the column to be isolated from the solvent source during sample additions. The o-ring seal is made at the back of the adapter, keeping the solvent exposure to a minimum. Available with a choice of a **chemically inert Perfluoro** o-ring, Viton or Ethylene Propylene.

Adapter with Perfluoro O-ring:

Part Number	Fits Thread Size	O-Ring Size
CG-1162-T-01	11	114
CG-1162-T-02	25	220
CG-1162-T-03	50	229

Adapter with Viton O-ring:

Part Number	Fits Thread Size	O-Ring Size
CG-1162-T-11	11	114
CG-1162-T-12	25	220
CG-1162-T-13	50	229

Adapter with Ethylene Propylene O-ring:

Part Number	Fits Thread Size	O-Ring Size
CG-1162-T-20	11	114
CG-1162-T-21	25	220
CG-1162-T-22	50	229

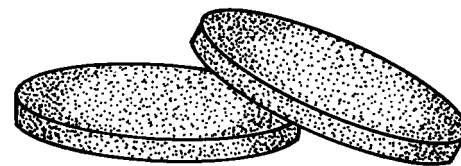
Replacement Components:

Part Number	Description
CG-1162-50	Valve Stem, Teflon
CG-309-114	#114 Perfluoro O-Ring
CG-309-220	#220 Perfluoro O-Ring
CG-309-229	#229 Perfluoro O-Ring
CG-305-114	#114 Viton O-Ring, Pkg of 12
CG-305-220	#220 Viton O-Ring, Pkg of 3
CG-305-229	#229 Viton O-Ring, Pkg of 3

CG-1163 FILTER DISC, BOROSILICATE GLASS

For use with CG-1162-B Teflon lower fitting as a packing support. Filter disc is sized to fit into the seat of the end fitting. COARSE (40-60 micron) porosity. Sold EACH.

Part Number	Fits End Fitting Size
CG-1163-01	11
CG-1163-02	25
CG-1163-03	50

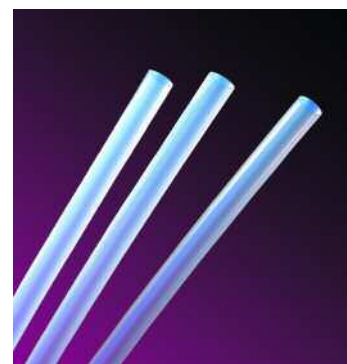


CG-1163

CG-1164 TUBING, TEFLON (FEP), 1/8"

Chemically inert and suitable for low pressure applications, FEP tubing is recommended for all connections in the high performance, low pressure liquid chromatography system. The tubing is extruded with an outer diameter tolerance of +/- .001". The 1/8" tubing can withstand pressure up to 500 psi. **SUPPLIED IN LENGTHS OF 10 feet.**

Part Number	Tubing Dimensions I.D. x O.D. (in.)
CG-1164-02	.062" X .125"



CG-1164

CG-1164-F FERRULE, FLANGELESS, TEFZEL®

Used with flangeless nut to ensure the tubing is held firmly in place. Ferrule designed to form a zero dead-volume connection. Ferrule is placed on the end of the tubing with the cone pointing toward the nut, flat end towards the Teflon fitting. Color coded yellow for 1/8".

Part Number	Fits Tubing Size
CG-1164-F-02	1/8"

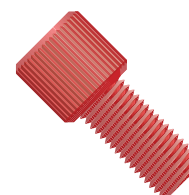


CG-1164-F

CG-1164-N NUT, FLANGELESS TUBING, TEFZEL®, 1/8"

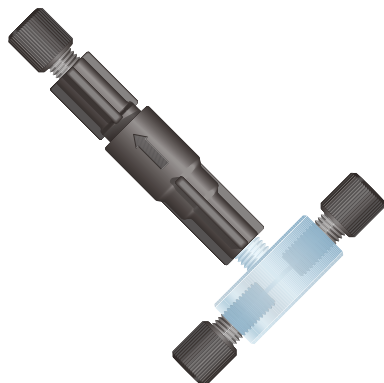
Flangeless nut eliminates the need to flange tubing. Used with a flangeless ferrule for a leak-free connection of FEP tubing. Simply insert the tubing through the nut, attach the ferrule (flat end towards the Teflon fitting) to the end of the tubing and finger tighten the nut into place. Nut has a 1/4"- 28 thread, and is molded out of natural Tefzel®, a soft fluoropolymer resistant to chemical attack.

Part Number	Fits Tubing Size
CG-1164-N-02	1/8"



CG-1164-N

CHROMATOGRAPHY



CG-1165



CG-1166

CG-1165 PRESSURE RELIEF VALVE, 100 PSI

An in-line pressure relief valve calibrated to open at 100 psi. All wetted parts are made from inert fluoropolymers, and there is very low dead-volume due to the small thru-hole (.020"). Complete with "T" union and flangeless nuts.

Part

<u>Number</u>	<u>Description</u>
CG-1165-01	Pressure Relief Valve

CG-1166 SOLVENT RESERVOIR, PLASTIC COATED

Reservoirs used for storing high performance, low pressure liquid chromatography mobile phase. Complete reservoir system includes a plastic coated graduated bottle, a standard cap assembly, and solvent and sparging filters. Cap assembly fits GL45 threaded bottles and has a Teflon bulkhead with three 1/4"-28 threaded ports to accommodate fittings for 1/8" O.D. tubing. The quick disconnect bottle cap assembly, offered as an accessory, permits tubing changes without unscrewing the flangeless nuts. Fittings are supplied with the cap assemblies. Another accessory cap assembly is injection molded and is a less expensive, easy-to-use alternative. There are no threads or fittings, just insert the 1/8" O.D. tubing through the specially designed holes in the Tefzel® bulkhead. The solvent and sparging filters have a 2µm stainless steel replaceable filter cup with a ferrule and nut for 1/8" O.D. tubing. A 10µm filter assembly is offered as an option. The solvent reservoir stand positions the filters for maximum uptake of the mobile phase. An economical solvent and sparging filter is available with all PEEK construction and a 2µm filter. Teflon (FEP) tubing is sold separately. Additional sizes and configurations are available, call us for details.

Complete Assemblies:

Part

<u>Number</u>	<u>Description</u>
CG-1166-02	Solvent Reservoir System, 500mL
CG-1166-03	Solvent Reservoir System, 1000mL
CG-1166-04	Solvent Reservoir System, 2000mL
CG-1166-05	Solvent Reservoir System, 5000mL

Replacement Components:

Part

<u>Number</u>	<u>Description</u>	<u>Case/4ea</u>
CG-8098-250	Bottle Only, Plastic Coated, 250mL	C4
CG-8098-500	Bottle Only, Plastic Coated, 500mL	C4
CG-8098-1L	Bottle Only, Plastic Coated, 1000mL	C4
CG-8098-2L	Bottle Only, Plastic Coated, 2000mL	C4
CG-1166-08	Standard Cap Assembly, GL45	
CG-1166-10	Plug, Tefzel®, 1/4"-28	
CG-1164-N-02	Flangeless Nut, 1/8" O.D. Tubing	
CG-1164-F-02	Flangeless Ferrule, 1/8" O.D. Tubing	
CG-1164-02	Tubing (FEP), .063" X .125" X 10'	
CG-1166-12	Filter Assembly, 2µm	
CG-1166-13	Replacement Filter, 2µm (10/Pkg.)	

Accessories:

Part

<u>Number</u>	<u>Description</u>
CG-1166-16	Injection Molded Cap Assembly, GL45
CG-1166-17	Injection Molded Cap Plug
CG-1166-19	Filter Assembly, 10µm

CG-1168 PUMP, HPLPLC METERING

A valveless piston pump operating on a simplified positive displacement mechanism by synchronous rotation and reciprocation of the piston in the cylinder. Suitable for solvent delivery in low pressure liquid chromatography at 100 psi. Pump provides quiet, accurate (+/- 1%) performance with low system dead-volume. Features include low flow fittings with 1/4" - 28 female threaded inlet and outlet ports, built-in flow control knob, variable tilting stand, and optional dial indicator kit. Available with cer-amic (alu-mina) liner and piston for most applications, and a carbon liner with a stainless steel piston for use with "dry" fluids such as hexane. Weight is 9 lbs. and dimensions are 10 1/2" X 4 3/4" X 5 3/8".

Optional dial indicator kit has direct reading count hands for precise flow rate setting of +/- 0.1%. One revolution of primary pointer equals 10% of the maximum flow rate (each increment on the dial is 1/1000 of the maximum flow rate). Secondary dial indicates each 10%. Easily attaches to the pump base.

Part

<u>Number</u>	<u>Description</u>
CG-1168-01	Pump, Ceramic Liner and Piston
CG-1168-02	Pump, Carbon Liner and S.S. Piston
CG-1168-03	Dial Indicator Kit



CG-1168

CG-1169 PULSE DAMPENER, HPLPLC

Recommended for use with the high performance, low pressure liquid chromatography system. Effectively suppresses approximately 90% of the pulse magnitude by piston type metering pumps operating at flow rates up to 50mL per minute, and stroke rates up to 150 per minute against head pressures of 10 to 65 psig. It features low internal volume, isolated pressure gauge, stainless steel and PTFE wetted parts, self-purging, excellent reduction of base line drift and noise in low pressure liquid chromatography systems. Inlet and outlet ports have 1/4" - 28 female threads. Dimensions are 2.7" X 5" X 6".

Part

<u>Number</u>
CG-1169-01



CG-1169

CHROMATOGRAPHY, GLASS CUTTER



CG-1170

CG-1170 DIAPHRAGM LIQUID METERING PUMP

Our new diaphragm liquid metering pump features versatile control from 0.08 to 80mL per minute. Handles aggressive solvents without the inherent disadvantages of peristaltic style pumps. The ultra-quiet, 3-phase, stepper motor provides a constant, even flow throughout the entire discharge stroke. The recharge stroke is accomplished at maximum speed to ensure smooth operation. Delivery is instantly adjustable for critical metering processes to 0.1% increments over the entire (0.08 to 80mL) per minute range.

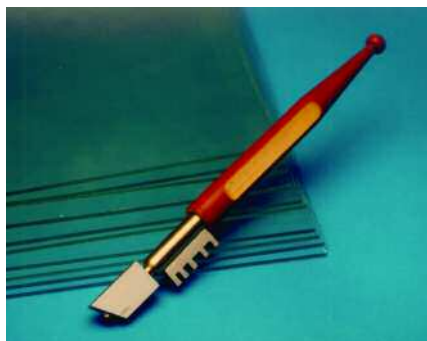
- Solvent delivery pump for use with radial TLC units such as the Analtech CycloGraph™ or Harrison Chromatotron
- Excellent for use as a solvent delivery pump with high performance, low pressure liquid chromatography (HPLPLC)
- Can be used for dilution, blending pH/ion control, circulation of buffers and in moving corrosive liquids

Specifications:

Dimensions.....7" x 5" x 3"
Flow Range.....0.08 - 80mL per minute
Pump Head, Wetted Materials.....TEFLON
Maximum Head Pressure.....30 psi
Power Requirements.....110 VAC, 50-60Hz
Tubing Connections.....1/8"-28 Female Thread, Ferrule Style

Part

<u>Number</u>	<u>Description</u>
CG-1170-80	Diaphragm Liquid Metering Pump Teflon Head



CG-1179

CG-1179 PLATE GLASS CUTTER, DIAMOND TIP

Nickel plated brass cutter has a diamond tip with a red wooden handle. Rack has four slots that will accommodate plates from 1/6" to 1/8" (2 to 4.5mm) thick.

Part

<u>Number</u>	<u>Description</u>
CG-1179-20	Glass Cutter, Diamond Tipped

CG-1180 TLC CHROMATOGRAPHY SPRAYER, IMPROVED

Sprayer provides a fine, uniform spray ideally adjusted for the development of chromatographic patterns. Spray pattern is adjustable by varying the coverage of the vent hole with the user's thumb. Sprayer is used with low pressure air (5/PSI) or rubber pressure bulb. Sprayer consists of an atomizer top attached to the reservoir with a Rodaviss® 24/40 joint. This design provides for a positive, grease-free seal between the atomizer and reservoir and eliminates the glass hooks used on other sprayers. Complete sprayer consists of the atomizer top, Erlenmeyer shaped reservoir, CG-182-03 open-top screw cap and CG-305-26 #212 Viton o-ring.

Complete Sprayer:

Part Number	Capacity (mL)
CG-1180-02	50
CG-1180-03	125
CG-1180-04	250

Atomizer Top Only:

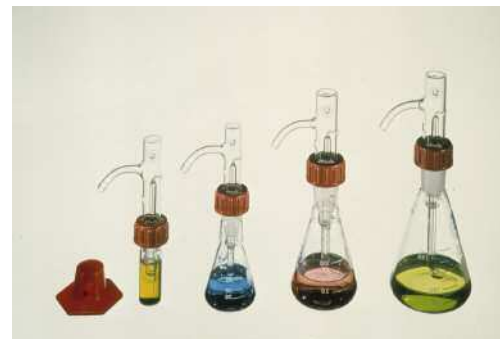
Part Number	Capacity (mL)
CG-1180-06	50
CG-1180-07	125
CG-1180-08	250

Reservoir Only:

Part Number	Capacity (mL)
CG-1180-10	50
CG-1180-11	125
CG-1180-12	250

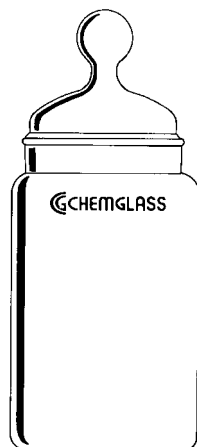
REPLACEMENT RODAVISS® COMPONENTS FOR CG-1180:

Part Number	Description
CG-182-03	24/40 Open Top Screw Cap
CG-305-212	#212 Viton O-rings for 24/40, pkg of 6

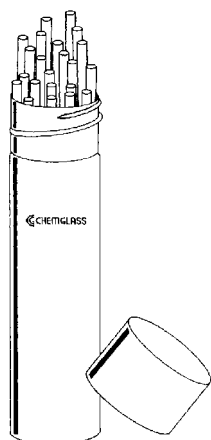


CG-1180

CHROMATOGRAPHY, TLC



CG-1181



CG-1182

CG-1181 TLC DEVELOPING CHAMBER, CYLINDRICAL

Cylindrical glass chamber for development of TLC plates from 25 x 75mm to 50 x 200mm. Chamber has a short length standard taper outer joint. Stopper is a short length inner with a tool ball style handle. The CG-1181-01 and -02 chambers have a hex base for added stability. Complete chamber is supplied with bottle and stopper.

Complete Chamber:

Part Number	Fits Plate Size in. /mm	Joint Size
CG-1181-01	1 x 3" / 25 x 75mm	34/15
CG-1181-02	1 x 4" / 25 x 100mm	34/15
CG-1181-03	2 x 4" / 50 x 100mm	60/15
CG-1181-04	2 x 8" / 50 x 200mm	60/15

Bottle Only:

Part Number	Fits Plate Size in. /mm	Joint Size
CG-1181-10	1 x 3" / 25 x 75mm	34/15
CG-1181-11	1 x 4" / 25 x 100mm	34/15
CG-1181-12	2 x 4" / 50 x 100mm	60/15
CG-1181-13	2 x 8" / 50 x 200mm	60/15

Stopper Only:

Part Number	Joint Size
CG-1181-20	34/15
CG-1181-21	60/15

CG-1182 TLC SPOTTING CAPILLARY TUBES

Non-calibrated tubes made from borosilicate glass for use with aqueous and organic solutions. Available in both 4" and 6" lengths and packed in half pound packages.

Part Number	Length (Inches)	Approx. Pcs. /Pkg.
CG-1182-01	4	2000
CG-1182-02	6	1300
CG-1182-21	8	1300

CG-1183 TLC DEVELOPING TANK, LATCH-LID®

Heavy duty, molded TLC developing tank for use with plates up to 20 x 20 cm (8" x 8"). The weight of the tank is approximately 15 pounds and the bottom is ground to insure stability. The unique latching system holds the matching ground surfaces of the lid and tank firmly in place, enhancing the stability of the saturated atmosphere for the developing TLC plates. All of the metal components of the Latch-Lid® mechanism are made of stainless steel. Inside dimensions of the tank are 27cm wide x 7cm deep x 26 cm high (10 5/8" x 2 7/8" x 10"). Tank is supplied complete with lid.

Part Number	Description
CG-1183-01	Latch-Lid® Tank, Complete
CG-1183-03	Replacement Latch-Lid® Only



CG-1183

CHROMATOGRAPHY, TLC

CG-1184 TLC DEVELOPING TANK

Heavy duty, molded TLC developing tank for use with plates up to 20 x 20 cm (8" x 8"). The weight of the tank is approximately 15 pounds, and the bottom is ground to insure stability. Inside dimensions of the tank are 27cm wide x 7cm deep x 26 cm high (10 5/8" x 2 7/8" x 10"). Tank is supplied complete with lid.

Part Number	Description
CG-1184-01	TLC Tank, Complete
CG-1184-03	Replacement Lid Only



CG-1184

CG-1185 TLC TANK RACK, TEFLON COATED ALUMINUM

Teflon coated aluminum rack to fit either CG-1183 or CG-1184 TLC developing tank. Rack will hold six 20cm x 20cm x 1/8" or twelve 20cm x 20cm x 1/16" plates.

Part Number	Description
CG-1185-20	TLC Tank Rack



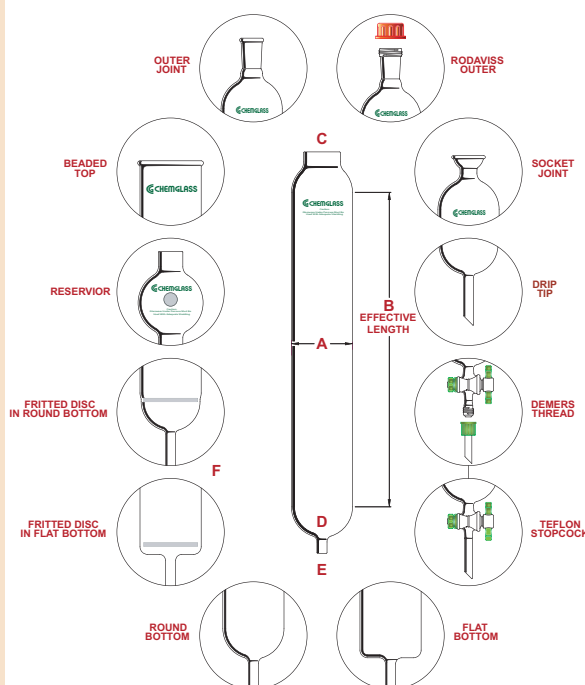
CG-1185

Custom Chromatography Columns

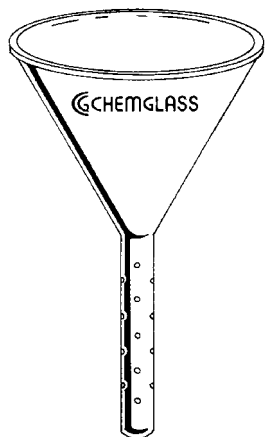
Chemglass has the ability to custom fabricate chromatography columns to your specifications. Columns are available with any standard taper, spherical, internal threads or Rodaviss joints.

See page 81 for assistance in designing your custom chromatography Column.

Contact our Technical Service Department at:
01525 382277 or email:
info@gpelimited.co.uk.



CHROMATOGRAPHY FUNNELS



CG-1758

CG-1758 FUNNEL, SOLVENT ADDITION

Design of funnel permits addition of solvents to flash chromatography columns without disturbing the silica-gel / packing layer. Lower end of the funnel is closed and the stem has a series of small holes through which the solvent drains. Top of the funnel is 75mm (3") in diameter with the stem size as listed.

Part Number	Stem O.D. x Length mm
CG-1758-01	12 x 75
CG-1758-02	12 x 100
CG-1758-03	22 x 75
CG-1758-04	22 x 100
CG-1758-05	28 x 100
CG-1758-06	28 x 125

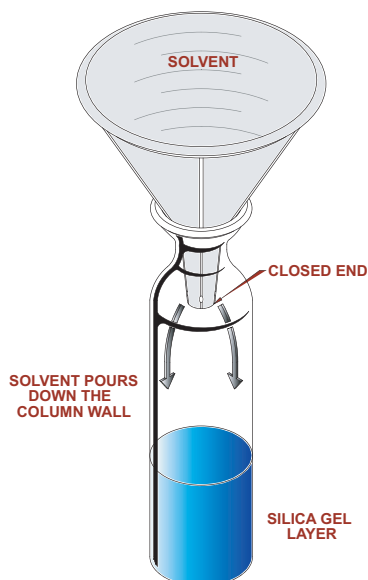


CG-1758-P

CG-1758-P FUNNEL, SOLVENT ADDITION FOR CHROMATOGRAPHY COLUMN

Unbreakable, polypropylene solvent addition funnels useful for chromatography columns. The unique closed-end design facilitates gentle addition of solvent to the column. Perforated funnel stem permits solvent to pour down the column wall without disturbing the top layer of silica gel. Convenient assortment pack consists of five funnels for use with various column sizes. Approximate dimensions are provided.

Part Number	Description
CG-1758-P-01	Funnel, Solvent Addition, Set of 5



Funnel Dimensions:

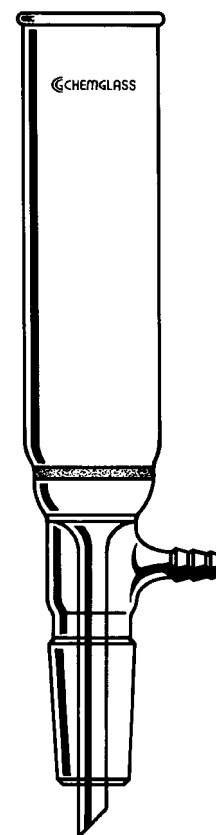
Size	Top O.D.	Stem O.D.	Stem Length	Overall Height
60mL	68mm	9mm	20mm	65mm
120mL	88mm	9mm	22mm	95mm
240mL	108mm	12mm	38mm	115mm
960mL	168mm	16mm	50mm	175mm
960mL	168mm	24mm	70mm	185mm

CHROMATOGRAPHY COLUMNS

CG-1412 COLUMN, FUNNEL, QUICK SEPARATION

For performing quick separations using a vacuum source. All funnels have a lower standard taper inner joint with a sealed in drip tip and an outlet for connection to a vacuum source. All sizes have a coarse porosity fritted disc. Special sizes are available, please call for details.

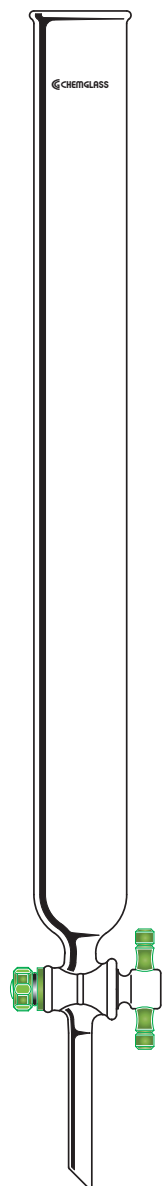
Part Number	Joint Size	Disc Size (mm)	Height Above Disc in. (mm)
CG-1412-10	14/20	30	4 (102)
CG-1412-11	14/20	30	6 (152)
CG-1412-12	24/40	30	4 (102)
CG-1412-13	24/40	30	6 (152)
CG-1412-14	24/40	30	8 (203)
CG-1412-15	24/40	30	10 (254)
CG-1412-16	24/40	30	12 (305)
CG-1412-17	14/20	40	4 (102)
CG-1412-18	14/20	40	6 (152)
CG-1412-19	24/40	40	4 (102)
CG-1412-20	24/40	40	6 (152)
CG-1412-21	24/40	40	8 (203)
CG-1412-22	24/40	40	10 (254)
CG-1412-23	24/40	40	12 (305)
CG-1412-24	24/40	60	4 (102)
CG-1412-25	24/40	60	6 (152)
CG-1412-26	24/40	60	8 (203)
CG-1412-27	24/40	60	10 (254)
CG-1412-28	24/40	60	12 (305)
CG-1412-30	24/40	80	4 (102)
CG-1412-31	24/40	80	8 (203)
CG-1412-32	24/40	80	10 (254)
CG-1412-33	24/40	80	12 (305)
CG-1412-34	24/40	90	8 (203)
CG-1412-35	24/40	90	10 (254)
CG-1412-36	24/40	90	12 (305)
CG-1412-37	24/40	100	8 (203)
CG-1412-38	24/40	100	10 (254)
CG-1412-39	24/40	100	12 (305)



CG-1412

CHROMATOGRAPHY COLUMNS

Plastic Coat
Your CG-1186 Column
Call Technical
Service!



CG-1186

CG-1186 COLUMN, CHROMATOGRAPHY, TEFLON STOPCOCK

General purpose gravity eluted column having a Teflon stopcock and reinforced beaded top. Column is constructed using MEDIUM WALL TUBING. Glass wool (not supplied) is used to support column packing. Lower end of the column has a round bottom. The CG-1186 style column is available in sizes other than those listed. Please refer to the special chromatography column ordering information.

Part Number	Column I.D. in. (mm)	Effective Length in. (cm)	Stopcock Bore (mm)
CG-1186-01	.50 (13)	8 (20.3)	2
CG-1186-02	.50 (13)	10 (25.4)	2
CG-1186-03	.50 (13)	12 (30.5)	2
CG-1186-04	.50 (13)	18 (45.7)	2
CG-1186-05	.75 (19)	8 (20.3)	2
CG-1186-06	.75 (19)	10 (25.4)	2
CG-1186-07	.75 (19)	12 (30.5)	2
CG-1186-08	.75 (19)	18 (45.7)	2
CG-1186-09	1.0 (25)	8 (20.3)	2
CG-1186-10	1.0 (25)	10 (25.4)	2
CG-1186-11	1.0 (25)	12 (30.5)	2
CG-1186-12	1.0 (25)	18 (45.7)	2
CG-1186-15	1.5 (38)	12 (30.5)	2
CG-1186-16	1.5 (38)	18 (45.7)	2
CG-1186-19	2.0 (50)	12 (30.5)	2
CG-1186-20	2.0 (50)	18 (45.7)	2
CG-1186-21	2.0 (50)	24 (61.0)	2
CG-1186-24	2.5 (64)	12 (30.5)	4
CG-1186-25	2.5 (64)	18 (45.7)	4
CG-1186-26	2.5 (64)	24 (61.0)	4
CG-1186-29	3.0 (75)	12 (30.5)	4
CG-1186-30	3.0 (75)	18 (45.7)	4
CG-1186-31	3.0 (75)	24 (61.0)	4
CG-424-77	Replacement 2mm Teflon Plug Only		
CG-424-75	Replacement 4mm Teflon Plug Only		

CHROMATOGRAPHY COLUMNS

CG-1187 COLUMN, CHROMATOGRAPHY, TEFLON STOPCOCK, WITH FRITTED DISC

Similar to CG-1186 but with a sealed in COARSE porosity fritted disc to support column packing. Lower end of the column has a round bottom. Column is constructed using MEDIUM WALL TUBING. The CG-1187 style column is available in sizes other than those listed. Please refer to the special chromatography column ordering information.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)
CG-1187-01	.50 (13)	8 (20.3)	2
CG-1187-02	.50 (13)	10 (25.4)	2
CG-1187-03	.50 (13)	12 (30.5)	2
CG-1187-04	.50 (13)	18 (45.7)	2
CG-1187-05	.75 (19)	8 (20.3)	2
CG-1187-06	.75 (19)	10 (25.4)	2
CG-1187-07	.75 (19)	12 (30.5)	2
CG-1187-08	.75 (19)	18 (45.7)	2
CG-1187-09	1.0 (25)	8 (20.3)	2
CG-1187-10	1.0 (25)	10 (25.4)	2
CG-1187-11	1.0 (25)	12 (30.5)	2
CG-1187-12	1.0 (25)	18 (45.7)	2
CG-1187-15	1.5 (38)	12 (30.5)	2
CG-1187-16	1.5 (38)	18 (45.7)	2
CG-1187-19	2.0 (50)	12 (30.5)	2
CG-1187-20	2.0 (50)	18 (45.7)	2
CG-1187-21	2.0 (50)	24 (61.0)	2
CG-1187-24	2.5 (64)	12 (30.5)	4
CG-1187-25	2.5 (64)	18 (45.7)	4
CG-1187-26	2.5 (64)	24 (61.0)	4
CG-1187-29	3.0 (75)	12 (30.5)	4
CG-1187-30	3.0 (75)	18 (45.7)	4
CG-1187-31	3.0 (75)	24 (61.0)	4
CG-424-77	Replacement 2mm Teflon Plug Only		
CG-424-75	Replacement 4mm Teflon Plug Only		

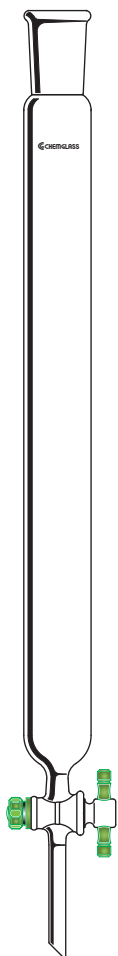
Plastic Coat
Your CG-1187 Column
Call Technical
Service!



CG-1187

CHROMATOGRAPHY COLUMNS

Plastic Coat
Your CG-1188 Column
Call Technical
Service!



CG-1188

CG-1188 COLUMN, CHROMATOGRAPHY, STANDARD TAPER JOINT, TEFLON STOPCOCK

General purpose column has a Teflon stopcock and a top outer joint. Glass wool (not supplied) is used to support column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in JOURNAL OF ORGANIC CHEMISTRY 43, 2923 (1978), and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with optional CG-1191 flow controller and CG-1190 reservoir.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1188-01	.50 (13)	8 (20.3)	2	24/40
CG-1188-02	.50 (13)	10 (25.4)	2	24/40
CG-1188-03	.50 (13)	12 (30.5)	2	24/40
CG-1188-04	.50 (13)	18 (45.7)	2	24/40
CG-1188-05	.75 (19)	8 (20.3)	2	24/40
CG-1188-06	.75 (19)	10 (25.4)	2	24/40
CG-1188-07	.75 (19)	12 (30.5)	2	24/40
CG-1188-08	.75 (19)	18 (45.7)	2	24/40
CG-1188-09	1.0 (25)	8 (20.3)	2	24/40
CG-1188-10	1.0 (25)	10 (25.4)	2	24/40
CG-1188-11	1.0 (25)	12 (30.5)	2	24/40
CG-1188-12	1.0 (25)	18 (45.7)	2	24/40
CG-1188-13	1.5 (38)	8 (20.3)	2	24/40
CG-1188-14	1.5 (38)	10 (25.4)	2	24/40
CG-1188-15	1.5 (38)	12 (30.5)	2	24/40
CG-1188-16	1.5 (38)	18 (45.7)	2	24/40
CG-1188-17	2.0 (50)	8 (20.3)	2	24/40
CG-1188-18	2.0 (50)	10 (25.4)	2	24/40
CG-1188-19	2.0 (50)	12 (30.5)	2	24/40
CG-1188-20	2.0 (50)	18 (45.7)	2	24/40
CG-1188-21	2.0 (50)	24 (61.0)	2	24/40
CG-1188-24	2.5 (64)	12 (30.5)	4	45/50
CG-1188-25	2.5 (64)	18 (45.7)	4	45/50
CG-1188-26	2.5 (64)	24 (61.0)	4	45/50
CG-1188-29	3.0 (75)	12 (30.5)	4	45/50
CG-1188-30	3.0 (75)	18 (45.7)	4	45/50
CG-1188-31	3.0 (75)	24 (61.0)	4	45/50
CG-424-77	Replacement 2mm Teflon Plug Only			
CG-424-75	Replacement 4mm Teflon Plug Only			

CG-1188 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1188 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1188-07	19mm x 305mm Column
1	CG-1188-11	25mm x 305mm Column
1	CG-1188-12	25mm x 457mm Column
1	CG-1188-15	38mm x 305mm Column
1	CG-1188-16	38mm x 457mm Column
1	CG-1188-20	50mm x 457mm Column
1	CG-1190-12	500mL Reservoir
1	CG-1190-13	1000mL Reservoir
2	CG-1191-01	Flow Control Adapter

Part Number	Description
CG-1188-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS

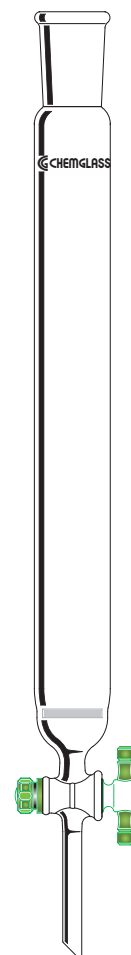
CG-1189 COLUMN, CHROMATOGRAPHY, STANDARD TAPER JOINT, TEFLON STOPCOCK, WITH FRITTED DISC

Similar to CG-1188 but with a sealed in COARSE porosity fritted disc to support column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in JOURNAL OF ORGANIC CHEMISTRY 43, 2923 (1978), and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with optional CG-1191 flow controller and CG-1190 reservoir.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1189-01	.50 (13)	8 (20.3)	2	24/40
CG-1189-02	.50 (13)	10 (25.4)	2	24/40
CG-1189-03	.50 (13)	12 (30.5)	2	24/40
CG-1189-04	.50 (13)	18 (45.7)	2	24/40
CG-1189-05	.75 (19)	8 (20.3)	2	24/40
CG-1189-06	.75 (19)	10 (25.4)	2	24/40
CG-1189-07	.75 (19)	12 (30.5)	2	24/40
CG-1189-08	.75 (19)	18 (45.7)	2	24/40
CG-1189-09	1.0 (25)	8 (20.3)	2	24/40
CG-1189-10	1.0 (25)	10 (25.4)	2	24/40
CG-1189-11	1.0 (25)	12 (30.5)	2	24/40
CG-1189-12	1.0 (25)	18 (45.7)	2	24/40
CG-1189-13	1.5 (38)	8 (20.3)	2	24/40
CG-1189-14	1.5 (38)	10 (25.4)	2	24/40
CG-1189-15	1.5 (38)	12 (30.5)	2	24/40
CG-1189-16	1.5 (38)	18 (45.7)	2	24/40
CG-1189-17	2.0 (50)	8 (20.3)	2	24/40
CG-1189-18	2.0 (50)	10 (25.4)	2	24/40
CG-1189-19	2.0 (50)	12 (30.5)	2	24/40
CG-1189-20	2.0 (50)	18 (45.7)	2	24/40
CG-1189-21	2.0 (50)	24 (61.0)	2	24/40
CG-1189-24	2.5 (64)	12 (30.5)	4	45/50
CG-1189-25	2.5 (64)	18 (45.7)	4	45/50
CG-1189-26	2.5 (64)	24 (61.0)	4	45/50
CG-1189-29	3.0 (75)	12 (30.5)	4	45/50
CG-1189-30	3.0 (75)	18 (45.7)	4	45/50
CG-1189-31	3.0 (75)	24 (61.0)	4	45/50

CG-424-77 Replacement 2mm Teflon Plug Only

CG-424-75 Replacement 4mm Teflon Plug Only



CG-1189

CG-1189 Start-Up Kit

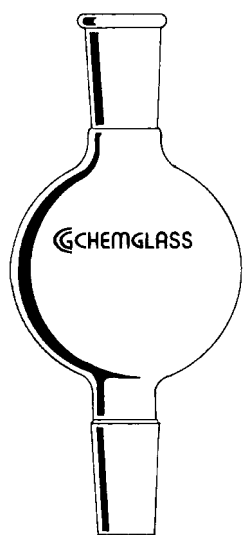
For your convenience we have put together a kit of our most popular CG-1189 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1189-07	19mm x 305mm Column
1	CG-1189-11	25mm x 305mm Column
1	CG-1189-12	25mm x 457mm Column
1	CG-1189-15	38mm x 305mm Column
1	CG-1189-16	38mm x 457mm Column
1	CG-1189-20	50mm x 457mm Column
1	CG-1190-12	500mL Reservoir
1	CG-1190-13	1000mL Reservoir
2	CG-1191-01	Flow Control Adapter

Part Number	Description
CG-1189-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS



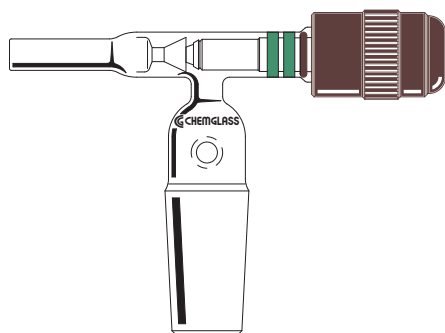
CG-1190

CG-1190 RESERVOIR, CHROMATOGRAPHY, STANDARD TAPER JOINTS

Reservoirs for use with CG-1188 and CG-1189 chromatography columns. Reservoir has a top 24/40 standard taper outer joint for use with CG-1191 flow control adapter and the listed size lower inner joint.

Part Number	Capacity (mL)	Lower Inner Joint
CG-1190-10	100	24/40
CG-1190-11	250	24/40
CG-1190-12	500	24/40
CG-1190-13	1000	24/40
CG-1190-14	1000	45/50
CG-1190-15	2000	24/40
CG-1190-16	2000	45/50
CG-1190-18	3000	45/50
CG-1190-20	5000	45/50

RESERVOIRS ARE ALSO AVAILABLE PLASTIC COATED. CALL TECHNICAL SERVICE FOR DETAILS.



CG-1191

CG-1191 FLOW CONTROL ADAPTER, STANDARD TAPER JOINT

Flow control adapter for use with CG-1188 and CG-1189 chromatography columns along with CG-1190 reservoirs. Adapter has a 0-4mm Chem-Cap® metering plug.

Part Number	Joint Size
CG-1191-01	24/40
CG-1191-02	45/50

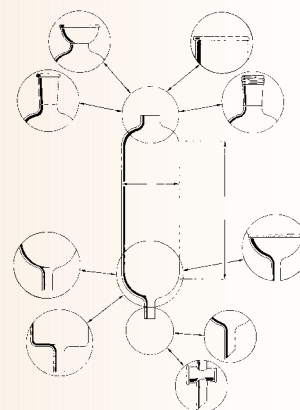
Replacement 0-4 Metering Plug:

Part Number
CG-971-01

Custom Chromatography Columns

Chemglass can custom fabricate chromatography columns to your unique specifications. We can manufacture columns to any length or diameter, along with your choice of top joint size and type. Various lower end configurations are also available.

For more information see page 81 on how to order a special chromatography column.



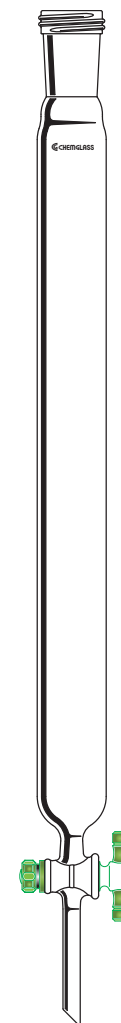
CHROMATOGRAPHY COLUMNS

CG-1192 COLUMN, FLASK CHROMATOGRAPHY, RODAVISS® JOINTS, TEFLON STOPCOCK

General purpose column having a Teflon stopcock and a top Rodaviss® outer joint. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with optional CG-1195 flow controller and CG-1194 reservoir. Column is constructed using MEDIUM WALL TUBING. Glass wool (not supplied) is used to support column packing. Lower end of the column has a round bottom. Connections between the column, reservoir and flow control adapter are made using Rodaviss® joints. The unique design of the Rodaviss® joint affords a grease free seal while holding glassware together without clamps. Column is supplied complete with a CG-182 open top cap and o-ring.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1192-01	.50 (13)	8 (20.3)	2	24/40
CG-1192-02	.50 (13)	10 (25.4)	2	24/40
CG-1192-03	.50 (13)	12 (30.5)	2	24/40
CG-1192-04	.50 (13)	18 (45.7)	2	24/40
CG-1192-05	.75 (19)	8 (20.3)	2	24/40
CG-1192-06	.75 (19)	10 (25.4)	2	24/40
CG-1192-07	.75 (19)	12 (30.5)	2	24/40
CG-1192-08	.75 (19)	18 (45.7)	2	24/40
CG-1192-09	1.0 (25)	8 (20.3)	2	24/40
CG-1192-10	1.0 (25)	10 (25.4)	2	24/40
CG-1192-11	1.0 (25)	12 (30.5)	2	24/40
CG-1192-12	1.0 (25)	18 (45.7)	2	24/40
CG-1192-13	1.5 (38)	8 (20.3)	2	24/40
CG-1192-14	1.5 (38)	10 (25.4)	2	24/40
CG-1192-15	1.5 (38)	12 (30.5)	2	24/40
CG-1192-16	1.5 (38)	18 (45.7)	2	24/40
CG-1192-17	2.0 (50)	8 (20.3)	2	24/40
CG-1192-18	2.0 (50)	10 (25.4)	2	24/40
CG-1192-19	2.0 (50)	12 (30.5)	2	24/40
CG-1192-20	2.0 (50)	18 (45.7)	2	24/40
CG-1192-21	2.0 (50)	24 (61.0)	2	24/40
CG-1192-24	2.5 (64)	12 (30.5)	4	45/50
CG-1192-25	2.5 (64)	18 (45.7)	4	45/50
CG-1192-26	2.5 (64)	24 (61.0)	4	45/50
CG-1192-29	3.0 (75)	12 (30.5)	4	45/50
CG-1192-30	3.0 (75)	18 (45.7)	4	45/50
CG-1192-31	3.0 (75)	24 (61.0)	4	45/50

CG-424-77	Replacement 2mm Teflon Plug Only
CG-424-75	Replacement 4mm Teflon Plug Only



CG-1192

CG-1192 Start-Up Kit

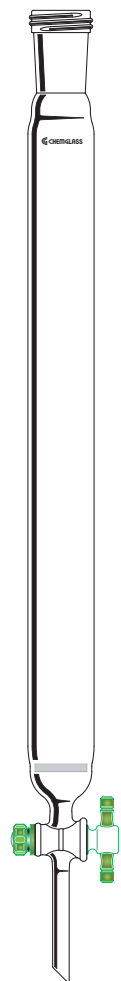
For your convenience we have put together a kit of our most popular CG-1192 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1192-07	19mm x 305mm Column
1	CG-1192-11	25mm x 305mm Column
1	CG-1192-12	25mm x 457mm Column
1	CG-1192-15	38mm x 305mm Column
1	CG-1192-16	38mm x 457mm Column
1	CG-1192-20	50mm x 457mm Column
1	CG-1194-03	500mL Reservoir
1	CG-1194-04	1000mL Reservoir
2	CG-1195-10	Flow Control Adapter

Part Number	Description
CG-1192-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS



CG-1193

CG-1193 COLUMN, FLASK CHROMATOGRAPHY, RODAVISS® JOINTS, TEFLON STOPCOCK, WITH FRITTED DISC

Similar to CG-1192 but with a sealed in COARSE porosity fritted disc to support column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with optional CG-1195 flow controller and CG-1194 reservoir. Column is supplied complete with a CG-182 open top cap and o-ring.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1193-01	.50 (13)	8 (20.3)	2	24/40
CG-1193-02	.50 (13)	10 (25.4)	2	24/40
CG-1193-03	.50 (13)	12 (30.5)	2	24/40
CG-1193-04	.50 (13)	18 (45.7)	2	24/40
CG-1193-05	.75 (19)	8 (20.3)	2	24/40
CG-1193-06	.75 (19)	10 (25.4)	2	24/40
CG-1193-07	.75 (19)	12 (30.5)	2	24/40
CG-1193-08	.75 (19)	18 (45.7)	2	24/40
CG-1193-09	1.0 (25)	8 (20.3)	2	24/40
CG-1193-10	1.0 (25)	10 (25.4)	2	24/40
CG-1193-11	1.0 (25)	12 (30.5)	2	24/40
CG-1193-12	1.0 (25)	18 (45.7)	2	24/40
CG-1193-13	1.5 (38)	8 (20.3)	2	24/40
CG-1193-14	1.5 (38)	10 (25.4)	2	24/40
CG-1193-15	1.5 (38)	12 (30.5)	2	24/40
CG-1193-16	1.5 (38)	18 (45.7)	2	24/40
CG-1193-17	2.0 (50)	8 (20.3)	2	24/40
CG-1193-18	2.0 (50)	10 (25.4)	2	24/40
CG-1193-19	2.0 (50)	12 (30.5)	2	24/40
CG-1193-20	2.0 (50)	18 (45.7)	2	24/40
CG-1193-21	2.0 (50)	24 (61.0)	2	24/40
CG-1193-24	2.5 (64)	12 (30.5)	4	45/50
CG-1193-25	2.5 (64)	18 (45.7)	4	45/50
CG-1193-26	2.5 (64)	24 (61.0)	4	45/50
CG-1193-29	3.0 (75)	12 (30.5)	4	45/50
CG-1193-30	3.0 (75)	18 (45.7)	4	45/50
CG-1193-31	3.0 (75)	24 (61.0)	4	45/50
CG-424-77	Replacement 2mm Teflon Plug Only			
CG-424-75	Replacement 4mm Teflon Plug Only			

CG-1193 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1193 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1193-07	19mm x 305mm Column
1	CG-1193-11	25mm x 305mm Column
1	CG-1193-12	25mm x 457mm Column
1	CG-1193-15	38mm x 305mm Column
1	CG-1193-16	38mm x 457mm Column
1	CG-1193-20	50mm x 457mm Column
1	CG-1194-03	500mL Reservoir
1	CG-1194-04	1000mL Reservoir
2	CG-1195-10	Flow Control Adapter

Part Number	Description
CG-1193-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS

CG-1194 RESERVOIR, CHROMATOGRAPHY, RODAVISS® JOINTS

Reservoir for use with CG-1192 and CG-1193 columns. Reservoir has a top 24/40 standard taper outer joint for use with CG-1195 flow controller, and the listed size lower inner joint. Supplied complete with one CG-182 open top cap, one CG-305 Viton o-ring and one CG-184 loosening ring.

Part Number	Capacity (mL)	Lower Inner Joint Size
CG-1194-01	100	24/40
CG-1194-02	250	24/40
CG-1194-03	500	24/40
CG-1194-04	1000	24/40
CG-1194-05	1000	45/50
CG-1194-06	2000	24/40
CG-1194-07	2000	45/50
CG-1194-09	3000	45/50
CG-1194-11	5000	45/50

CG-1194 RESERVOIRS ARE ALSO AVAILABLE PLASTIC COATED. CALL TECHNICAL SERVICE FOR DETAILS.



CG-1194

CG-1195 FLOW CONTROL ADAPTER, CHROMATOGRAPHY, RODAVISS® JOINT

Flow control adapter for use with CG-1192 and CG-1193 chromatography columns along with CG-1194 reservoirs. Adapter has a 0-4mm Chem-Cap® metering plug.

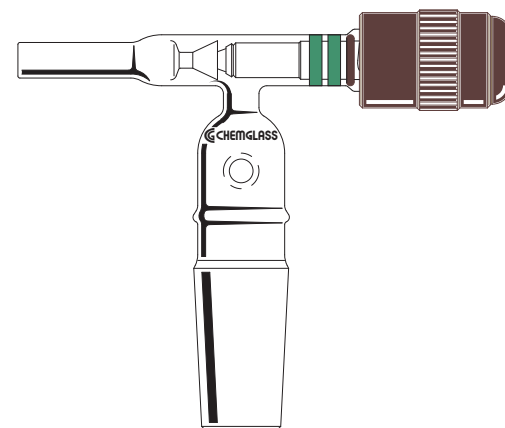
Part Number	Joint Size
CG-1195-10	24/40
CG-1195-11	45/50

Replacement 0-4 Metering Plug:

Part Number
CG-971-01

REPLACEMENT RODAVISS® COMPONENTS FOR CG-1192 THROUGH CG-1195 CHROMATOGRAPHY COLUMNS.

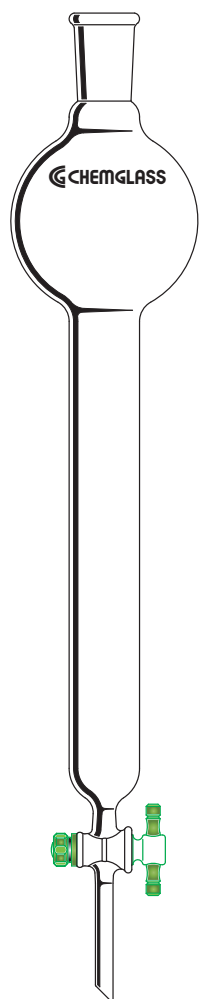
Part Number	Description
CG-182-03	24/40 Open Top Screw Cap
CG-184-01	24/40 Loosening Ring
CG-305-212	#212 O-Rings for 24/40, pkg. of 6
CG-182-06	45/50 Open Top Screw Cap
CG-184-06	45/50 Loosening Ring
CG-305-223	#223 O-Rings for 45/50, pkg. of 3



CG-1195

CHROMATOGRAPHY COLUMNS

Plastic Coat
Your CG-1196 Column
Call Technical
Service!



CG-1196

CG-1196 COLUMN, CHROMATOGRAPHY, STANDARD TAPER JOINT, WITH RESERVOIR, TEFLON STOPCOCK

General purpose column having a Teflon stopcock, reservoir of the listed capacity and a top standard taper outer joint. Glass wool (not supplied) is used to support the column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with CG-1191 flow control adapter. Lower end of the column has a round bottom.

Part Number	I.D. in.	Effective Length (in.)	Reservoir Capacity (mL)	Joint Size	Stopcock Bore (mm)
CG-1196-01	.50	8	100	24/40	2
CG-1196-02	.50	10	100	24/40	2
CG-1196-03	.50	12	250	24/40	2
CG-1196-04	1.0	8	250	24/40	2
CG-1196-05	1.0	12	250	24/40	2
CG-1196-06	1.0	18	500	24/40	2
CG-1196-07	1.5	8	500	24/40	2
CG-1196-08	1.5	12	500	24/40	2
CG-1196-09	1.5	18	500	24/40	2
CG-1196-10	2.0	8	500	24/40	2
CG-1196-11	2.0	12	1000	24/40	2
CG-1196-12	2.0	18	1000	24/40	2
CG-1196-13	2.5	8	1000	24/40	4
CG-1196-14	2.5	12	1000	24/40	4
CG-1196-15	2.5	18	1000	24/40	4
CG-1196-16	3.0	8	2000	24/40	4
CG-1196-17	3.0	12	2000	24/40	4
CG-1196-18	3.0	18	2000	24/40	4
CG-424-77	Replacement 2mm Teflon Plug Only				
CG-424-75	Replacement 4mm Teflon Plug Only				

CG-1196 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1196 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1196-03	.50" x 12" Column
1	CG-1196-05	1.0" x 12" Column
1	CG-1196-06	1.0" x 18" Column
1	CG-1196-08	1.5" x 12" Column
1	CG-1196-09	1.5" x 18" Column
2	CG-1191-01	Flow Control Adapter

Part Number	Description
CG-1196-50	Chrom Column Kit, as described above

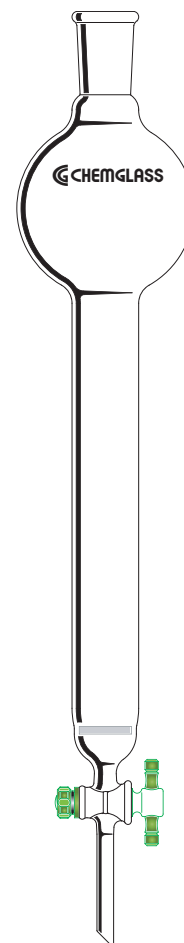
CHROMATOGRAPHY COLUMNS

CG-1197 COLUMN, CHROMATOGRAPHY, STANDARD TAPER JOINT, WITH RESERVOIR, TEFLON STOPCOCK AND FRITTED DISC

Similar to CG-1196 but with a COARSE porosity sealed in fritted disc to support column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with CG-1191 flow control adapter. Lower end of the column has a round bottom.

Part Number	I.D. in.	Effective Length (in.)	Reservoir Capacity (mL)	Joint Size	Stopcock Bore (mm)
CG-1197-10	.50	8	100	24/40	2
CG-1197-11	.50	10	100	24/40	2
CG-1197-12	.50	12	250	24/40	2
CG-1197-13	1.0	8	250	24/40	2
CG-1197-14	1.0	12	250	24/40	2
CG-1197-15	1.0	18	500	24/40	2
CG-1197-16	1.5	8	500	24/40	2
CG-1197-17	1.5	12	500	24/40	2
CG-1197-18	1.5	18	500	24/40	2
CG-1197-19	2.0	8	500	24/40	2
CG-1197-20	2.0	12	1000	24/40	2
CG-1197-21	2.0	18	1000	24/40	2
CG-1197-22	2.5	8	1000	24/40	4
CG-1197-23	2.5	12	1000	24/40	4
CG-1197-24	2.5	18	1000	24/40	4
CG-1197-25	3.0	8	2000	24/40	4
CG-1197-26	3.0	12	2000	24/40	4
CG-1197-27	3.0	18	2000	24/40	4

CG-424-77 Replacement 2mm Teflon Plug Only
CG-424-75 Replacement 4mm Teflon Plug Only



CG-1197

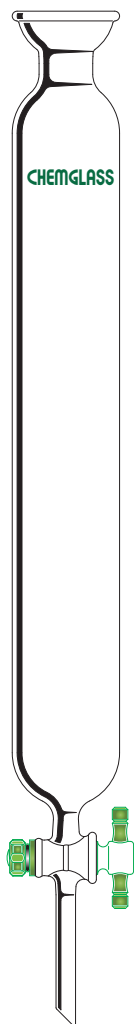
CG-1197 Start-Up Kit

Kit Contents:

	Qty	Part Number	Description
For your convenience we have put together a kit of our most popular CG-1197 columns. This kit includes columns, reservoirs, and flow control adapters.	1	CG-1197-12	.50" x 12" Column
	1	CG-1197-14	1.0" x 12" Column
	1	CG-1197-15	1.0" x 18" Column
	1	CG-1197-17	1.5" x 12" Column
	1	CG-1197-18	1.5" x 18" Column
	2	CG-1191-01	Flow Control Adapter

Part Number	Description
CG-1197-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS



CG-1198

CG-1198 COLUMN, CHROMATOGRAPHY, SPHERICAL JOINTS, TEFLON STOPCOCK

Absorption chromatography column for rapid preparative separations as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981. Moderate resolution can be obtained with this inexpensive to setup and operate column. Column is constructed using MEDIUM WALL tubing. Glass wool (not supplied) is used to support column packing. Can be used with optional CG-1201 flow controller and CG-1200 reservoir. Connections between the column, reservoir and flow control adapter are spherical joints connected with CG-150 stainless steel clamps.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1198-20	.50 (13)	8 (20.3)	2	35/20
CG-1198-21	.50 (13)	10 (25.4)	2	35/20
CG-1198-22	.50 (13)	12 (30.5)	2	35/20
CG-1198-23	.50 (13)	18 (45.7)	2	35/20
CG-1198-24	.75 (19)	8 (20.3)	2	35/20
CG-1198-25	.75 (19)	10 (25.4)	2	35/20
CG-1198-26	.75 (19)	12 (30.5)	2	35/20
CG-1198-27	.75 (19)	18 (45.7)	2	35/20
CG-1198-28	1.0 (25)	8 (20.3)	2	35/20
CG-1198-29	1.0 (25)	10 (25.4)	2	35/20
CG-1198-30	1.0 (25)	12 (30.5)	2	35/20
CG-1198-31	1.0 (25)	18 (45.7)	2	35/20
CG-1198-32	1.5 (38)	8 (20.3)	2	35/20
CG-1198-33	1.5 (38)	10 (25.4)	2	35/20
CG-1198-34	1.5 (38)	12 (30.5)	2	35/20
CG-1198-35	1.5 (38)	18 (45.7)	2	35/20
CG-1198-36	2.0 (50)	8 (20.3)	2	50/30
CG-1198-37	2.0 (50)	10 (25.4)	2	50/30
CG-1198-38	2.0 (50)	12 (30.5)	2	50/30
CG-1198-39	2.0 (50)	18 (45.7)	2	50/30
CG-1198-40	2.0 (50)	24 (61.0)	2	50/30
CG-1198-42	2.5 (64)	10 (25.4)	4	50/30
CG-1198-43	2.5 (64)	12 (30.5)	4	50/30
CG-1198-44	2.5 (64)	18 (45.7)	4	50/30
CG-1198-45	2.5 (64)	24 (61.0)	4	50/30
CG-1198-47	3.0 (75)	10 (25.4)	4	75/50
CG-1198-48	3.0 (75)	12 (30.5)	4	75/50
CG-1198-49	3.0 (75)	18 (45.7)	4	75/50
CG-1198-50	3.0 (75)	24 (61.0)	4	75/50
CG-424-77	Replacement 2mm Teflon Plug Only			
CG-424-75	Replacement 4mm Teflon Plug Only			

CG-1198 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1198 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1198-22	13mm x 305mm Column
1	CG-1198-30	25mm x 305mm Column
1	CG-1198-31	25mm x 457mm Column
1	CG-1198-34	38mm x 305mm Column
1	CG-1198-35	38mm x 457mm Column
1	CG-1200-31	250mL Reservoir
1	CG-1200-32	500mL Reservoir
2	CG-1201-09	Flow Control Adapter
2	CG-150-06	#35 S.S. Pinchclamp

Part Number	Description
CG-1198-60	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS

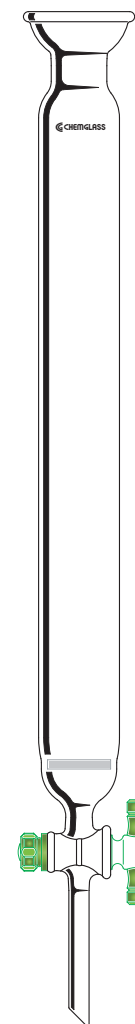
CG-1199 COLUMN, CHROMATOGRAPHY, SPHERICAL JOINTS, TEFLON STOPCOCK, FRITTED DISC

Similar to CG-1198 but with a COARSE porosity disc sealed into the lower end of the column for packing support. Column is constructed using MEDIUM WALL tubing. Can be used with optional CG-1201 flow controller and CG-1200 reservoir. Lower end of the column has a round bottom. Connections between the column, reservoir and flow control adapter are spherical joints connected with CG-150 stainless steel pinchclamps.

Part Number	Column I.D. in.(mm)	Effective Length in. (cm)	Stopcock Bore (mm)	Joint Size
CG-1199-10	.50 (13)	8 (20.3)	2	35/20
CG-1199-11	.50 (13)	10 (25.4)	2	35/20
CG-1199-12	.50 (13)	12 (30.5)	2	35/20
CG-1199-13	.50 (13)	18 (45.7)	2	35/20
CG-1199-14	.75 (19)	8 (20.3)	2	35/20
CG-1199-15	.75 (19)	10 (25.4)	2	35/20
CG-1199-16	.75 (19)	12 (30.5)	2	35/20
CG-1199-17	.75 (19)	18 (45.7)	2	35/20
CG-1199-18	1.0 (25)	8 (20.3)	2	35/20
CG-1199-19	1.0 (25)	10 (25.4)	2	35/20
CG-1199-20	1.0 (25)	12 (30.5)	2	35/20
CG-1199-22	1.0 (25)	18 (45.7)	2	35/20
CG-1199-23	1.5 (38)	8 (20.3)	2	35/20
CG-1199-24	1.5 (38)	10 (25.4)	2	35/20
CG-1199-25	1.5 (38)	12 (30.5)	2	35/20
CG-1199-26	1.5 (38)	18 (45.7)	2	35/20
CG-1199-27	2.0 (50)	8 (20.3)	2	50/30
CG-1199-28	2.0 (50)	10 (25.4)	2	50/30
CG-1199-29	2.0 (50)	12 (30.5)	2	50/30
CG-1199-30	2.0 (50)	18 (45.7)	2	50/30
CG-1199-31	2.0 (50)	24 (61.0)	2	50/30
CG-1199-33	2.5 (64)	10 (25.4)	4	50/30
CG-1199-34	2.5 (64)	12 (30.5)	4	50/30
CG-1199-35	2.5 (64)	18 (45.7)	4	50/30
CG-1199-36	2.5 (64)	24 (61.0)	4	50/30
CG-1199-38	3.0 (75)	10 (25.4)	4	75/50
CG-1199-39	3.0 (75)	12 (30.5)	4	75/50
CG-1199-40	3.0 (75)	18 (45.7)	4	75/50
CG-1199-41	3.0 (75)	24 (61.0)	4	75/50

CG-424-77 Replacement 2mm Teflon Plug Only

CG-424-75 Replacement 4mm Teflon Plug Only



CG-1199

CG-1199 Start-Up Kit

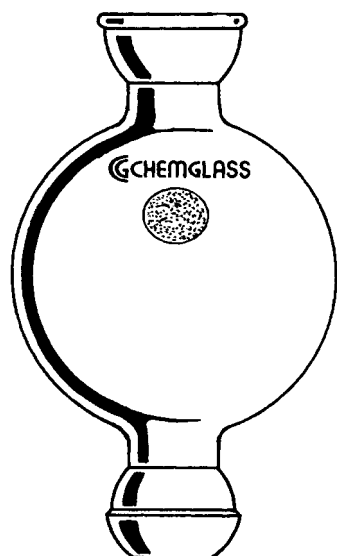
For your convenience we have put together a kit of our most popular CG-1199 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

Qty	Part Number	Description
1	CG-1199-12	13mm x 305mm Column
1	CG-1199-20	25mm x 305mm Column
1	CG-1199-22	25mm x 457mm Column
1	CG-1199-25	38mm x 305mm Column
1	CG-1199-26	38mm x 457mm Column
1	CG-1200-31	250mL Reservoir
1	CG-1200-32	500mL Reservoir
2	CG-1201-09	Flow Control Adapter
2	CG-150-06	#35 S.S. Pinchclamp

Part Number	Description
CG-1199-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS



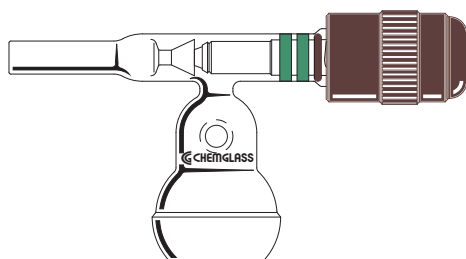
CG-1200

CG-1200 RESERVOIR, CHROMATOGRAPHY, SPHERICAL JOINTS

Reservoir for use with CG-1199 and CG-1200 columns. Reservoir has a top 35/20 socket joint for use with CG-1201 flow control adapter and the listed size lower ball joint.

<u>Part Number</u>	<u>Capacity (mL)</u>	<u>Lower Inner Joint Size</u>
CG-1200-30	100	35/20
CG-1200-31	250	35/20
CG-1200-32	500	35/20
CG-1200-33	1000	35/20
CG-1200-34	1000	50/30
CG-1200-35	2000	35/20
CG-1200-36	2000	50/30
CG-1200-37	2000	75/50
CG-1200-39	3000	75/50
CG-1200-40	5000	75/50

RESERVOIRS ARE ALSO AVAILABLE PLASTIC COATED. CALL TECHNICAL SERVICE FOR DETAILS.



CG-1201

CG-1201 FLOW CONTROL, ADAPTER, SPHERICAL JOINT

Flow control adapter for use with CG-1198 and CG-1199 chromatography columns along with CG-1200 reservoir. Adapter has a 0-4mm Chem-Cap® metering plug.

<u>Part Number</u>	<u>Joint Size</u>
CG-1201-09	35/20
CG-1201-10	50/30
CG-1201-11	75/50

Replacement 0-4 Chem-Cap® Metering Plug:

<u>Part Number</u>
CG-971-01

CHROMATOGRAPHY COLUMNS

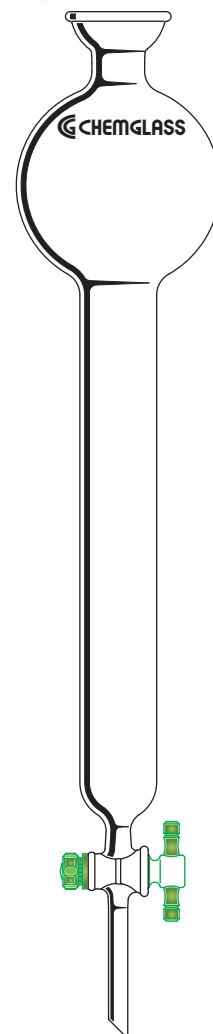
CG-1202 COLUMN, CHROMATOGRAPHY, SPHERICAL JOINT, WITH RESERVOIR, TEFLON STOPCOCK

General purpose column having a Teflon stopcock, reservoir of the listed capacity and a top spherical joint. Glass wool (not supplied) is used to support the column packing. Column is constructed using MEDIUM WALL TUBING. Can be used as a gravity eluted column or a flash column (as described by W.C. Still, M. Kahn and A. Mitra of Columbia University in *JOURNAL OF ORGANIC CHEMISTRY* 43, 2923 [1978], and covered in U.S. Patent Number 4,293,422 dated October 6, 1981) when used with CG-1201 flow control adapter.

Part Number	I.D. (in.)	Effective Length (in.)	Reservoir Capacity (mL)	Joint Size	Stopcock Bore (mm)
CG-1202-20	.50	8	100	35/20	2
CG-1202-21	.50	10	100	35/20	2
CG-1202-22	.50	12	250	35/20	2
CG-1202-23	1.0	8	250	35/20	2
CG-1202-24	1.0	12	250	35/20	2
CG-1202-25	1.0	18	500	35/20	2
CG-1202-26	1.5	8	500	35/20	2
CG-1202-27	1.5	12	500	35/20	2
CG-1202-28	1.5	18	500	35/20	2
CG-1202-29	2.0	8	500	35/20	2
CG-1202-30	2.0	12	1000	35/20	2
CG-1202-31	2.0	18	1000	35/20	2
CG-1202-32	2.5	8	1000	35/20	4
CG-1202-33	2.5	12	1000	35/20	4
CG-1202-34	2.5	18	1000	35/20	4
CG-1202-35	3.0	8	2000	35/20	4
CG-1202-36	3.0	12	2000	35/20	4
CG-1202-37	3.0	18	2000	35/20	4

CG-424-77 Replacement 2mm Teflon Plug Only
 CG-424-75 Replacement 4mm Teflon Plug Only

Plastic Coat
 Your CG-1202 Column
 Call Technical
 Service!



CG-1202

CG-1202 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1202 columns. This kit includes columns, reservoirs, and flow control adapters.

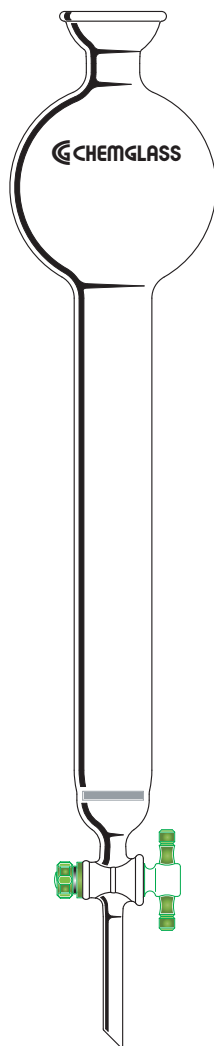
Kit Contents:

Qty	Part Number	Description
1	CG-1202-22	.50" x 12" Column
1	CG-1202-24	1.0" x 12" Column
1	CG-1202-25	1.0" x 18" Column
1	CG-1202-27	1.5" x 12" Column
1	CG-1202-28	1.5" x 18" Column
2	CG-1201-09	Flow Control Adapter
2	CG-150-06	#35 S.S. Pinchclamps

Part Number	Description
CG-1202-50	Chrom Column Kit, as described above

CHROMATOGRAPHY COLUMNS

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CG-1203

CG-1203 COLUMN, CHROMATOGRAPHY, SPHERICAL JOINT, WITH RESERVOIR, TEFLON STOPCOCK WITH FRITTED DISC

Similar to CG-1202 but with a COARSE porosity fritted disc sealed into the lower end of the column for packing support. Column is constructed using MEDIUM WALL tubing. Can be used with CG-1201 flow controller. Connection between the column and flow control adapter are spherical joints connected with CG-150 stainless steel clamps.

Part Number	I.D. (in.)	Effective Length (in.)	Reservoir Capacity (mL)	Joint Size	Stopcock Bore (mm)
CG-1203-20	.50	8	100	35/20	2
CG-1203-21	.50	10	100	35/20	2
CG-1203-22	.50	12	250	35/20	2
CG-1203-23	1.0	8	250	35/20	2
CG-1203-24	1.0	12	250	35/20	2
CG-1203-25	1.0	18	500	35/20	2
CG-1203-26	1.5	8	500	35/20	2
CG-1203-27	1.5	12	500	35/20	2
CG-1203-28	1.5	18	500	35/20	2
CG-1203-29	2.0	8	500	35/20	2
CG-1203-30	2.0	12	1000	35/20	2
CG-1203-31	2.0	18	1000	35/20	2
CG-1203-32	2.5	8	1000	35/20	4
CG-1203-33	2.5	12	1000	35/20	4
CG-1203-34	2.5	18	1000	35/20	4
CG-1203-35	3.0	8	2000	35/20	4
CG-1203-36	3.0	12	2000	35/20	4
CG-1203-37	3.0	18	2000	35/20	4
CG-424-77	CG-424-77	Replacement 2mm Teflon Plug Only			
CG-424-75	CG-424-75	Replacement 4mm Teflon Plug Only			

CG-1203 Start-Up Kit

For your convenience we have put together a kit of our most popular CG-1203 columns. This kit includes columns, reservoirs, and flow control adapters.

Kit Contents:

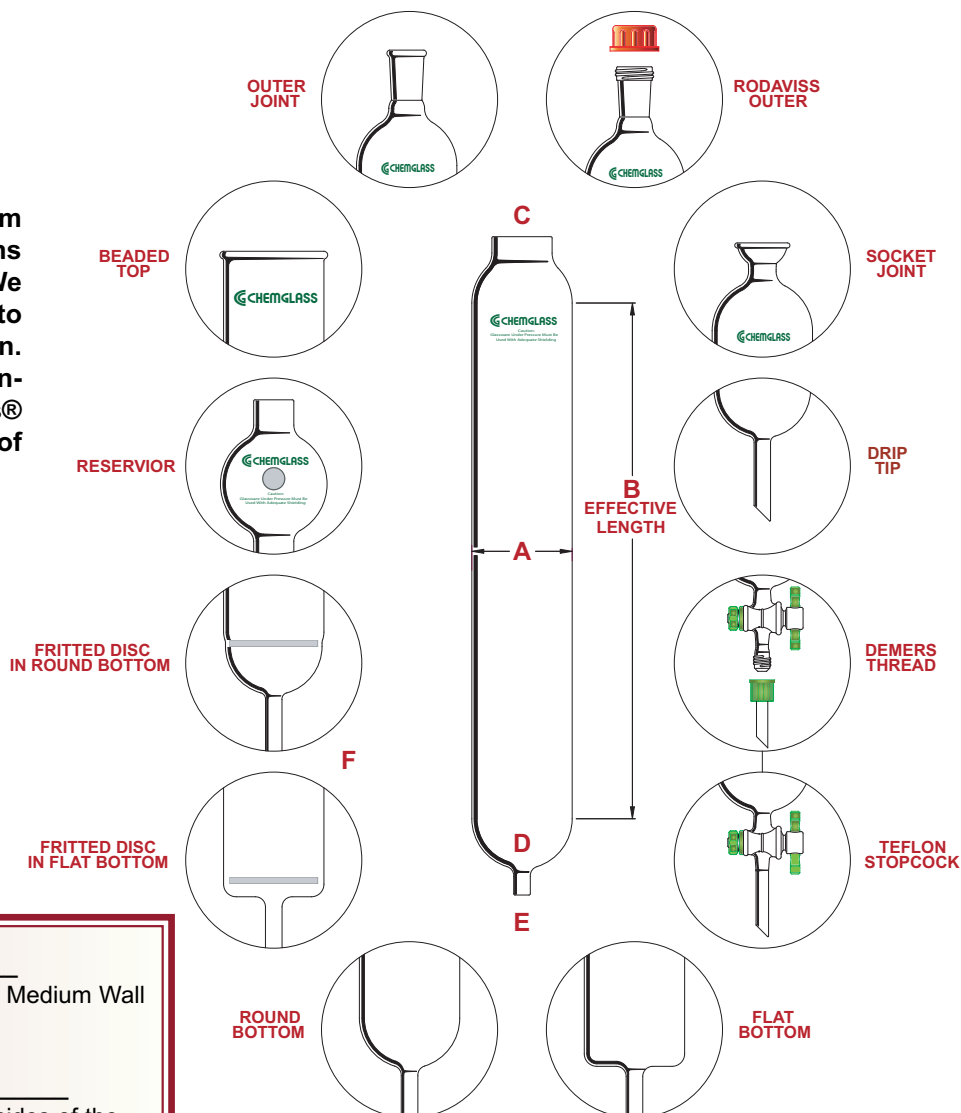
Qty	Part Number	Description
1	CG-1203-22	.50" x 12" Column
1	CG-1203-24	1.0" x 12" Column
1	CG-1203-25	1.0" x 18" Column
1	CG-1203-27	1.5" x 12" Column
1	CG-1203-28	1.5" x 18" Column
2	CG-1201-09	Flow Control Adapter
2	CG-150-06	#35 S.S. Pinchclamps

Part Number	Description
CG-1203-50	Chrom Column Kit, as described above

CUSTOM CHROMATOGRAPHY COLUMNS

CUSTOM CHROMATOGRAPHY COLUMNS

Chemglass has the ability to custom fabricate chromatography columns to your unique specifications. We have created the following chart to assist you in designing your column. Columns are available with any standard taper, spherical, or Rodaviss® joints listed in the joint section of this catalog.



A- Column O.D.: _____
Special columns will be constructed using Medium Wall tubing unless otherwise specified.

B- Column Effective Length: _____
(Note: The effective length is the straight sides of the column prior to rounding off the tubing for sealing the top joint or the lower stopcock. On a fritted column, the effective length is measured to the fritted disc.)

C- Top Joint Size and Type: Please specify if a Rodaviss, beaded top, socket, or taper style joint is required.

D- Lower End Configuration: _____
Please specify round or flat bottom.

E- Stopcock Type and Size: _____
Please specify stopcock bore, Teflon, glass or plain drip tip.

F- Fritted Disc: _____
Custom columns will be constructed using a coarse porosity (40-60 micron) fritted disc unless otherwise specified.

P- Plastic Coating: _____
Please specify if plastic coating is required.

ORDERING INFORMATION:

Contact us with the following information and we will be pleased to give you pricing and delivery information immediately.

Phone: 01525 382277
Fax: 01582 382263
E-mail: info@gpelimited.co.uk

www.gpelimited.co.uk