

# DISTILLATION BULBS, COLUMNS

## CG-1227 DISTILLING BULB, KUGELROHR

Kugelrohr bulbs having 14/20 standard taper joints on both ends to connect to other bulbs or single neck round bottom flasks. **CG-1012-14 adapter permits connection Kugelrohr assembly to vacuum. For single neck 14/20 flasks see CG-1506.**

### Kugelrohr Flasks:

Part Number	Bulb Capacity (mL)	Bulb Diameter (mm)	Bulb Height (mm)
CG-1227-10	10	30	85
CG-1227-11	15	35	90
CG-1227-12	25	40	98
CG-1227-13	50	50	105

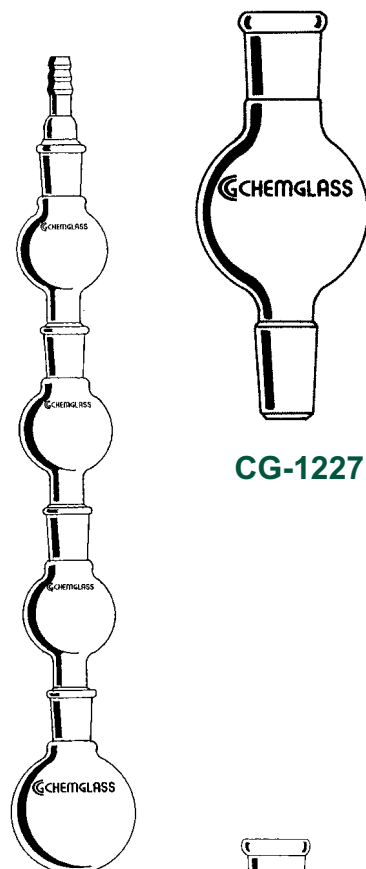
### Optional Items:

Part Number	Description
CG-1012-14	14/20 Straight Inlet Adapter
CG-1506-82	10mL, 14/20 Single Neck Round Bottom Flask
CG-1506-86	25mL, 14/20 Single Neck Round Bottom Flask
CG-1506-88	50mL, 14/20 Single Neck Round Bottom Flask
CG-1506-90	100mL, 14/20 Single Neck Round Bottom Flask
CG-1506-92	250mL, 14/20 Single Neck Round Bottom Flask

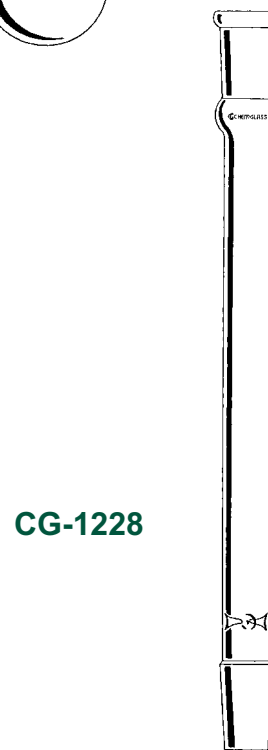
## CG-1228 DISTILLING COLUMN, HEMPLE

Plain distillation column with a row of indentations to support column packing material. Column length listed is for the straight portion above the row of indentations and below the joint. Column has a standard taper top outer and lower inner joint.

Part Number	Joint Size	Column I.D. (mm)	Column Length (mm)
CG-1228-05	14/20	10.0	130
CG-1228-08	19/22	10.0	250
CG-1228-09	24/40	12.5	300
CG-1228-11	24/40	25.0	300



CG-1227



CG-1228

# DISTILLATION COLUMNS

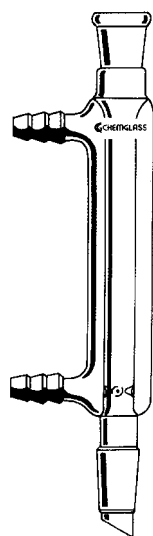


**CG-1229**

## CG-1229 DISTILLING COLUMN, VACUUM JACKETED

Hempel style distilling column, vacuum jacketed to improve performance. Indentations on the inner tube support the packing material. All sizes have an I.D. of approximately 10mm.

Part Number	Joint Size	Column Length (mm)	Overall Length (mm)
CG-1229-05	14/20	130	215
CG-1229-07	24/40	250	375



**CG-1230**

## CG-1230 DISTILLING COLUMN, WATER JACKETED

Jacketed distilling column has indentations on the inner tube to support packing material. The jacket allows the column to be used as a condenser. Column has a top outer and lower inner standard taper joint. Available in joint sizes other than those listed. All sizes have an I.D. of approximately 10mm.

Part Number	Joint Size	Column Length (mm)	Overall Length (mm)
CG-1230-05	14/20	110	180
CG-1230-06	14/20	200	270
CG-1230-07	19/22	110	200
CG-1230-08	19/22	200	290
CG-1230-09	24/40	200	305



**CG-1304**

## CG-1304 SNYDER DISTILLING COLUMN, IMPROVED

Three section Snyder column with improved design to prevent column flooding. Column has a 24/40 lower inner joint for use with CG-1308 Kuderna Danish Flask.

Part Number	Column Length (mm)	Overall Length (mm)
CG-1304-01	150	300

# DISTILLATION COLUMNS, HEADS

## CG-1231 DISTILLING COLUMN, VIGREUX

Vigreux style column with indentations that run the entire length of the column for improved vapor-liquid contact. Column length refers to the effective length, measured from the lowest to highest indent in the column. Column has a top outer and lower inner standard taper joint.

Part Number	Joint Size	Column Length (mm)	Overall Length (mm)
CG-1231-10	14/20	100	175
CG-1231-11	14/20	130	205
CG-1231-12	14/20	170	245
CG-1231-13	19/22	100	185
CG-1231-14	19/22	130	215
CG-1231-15	19/22	170	255
CG-1231-16	24/40	150	300
CG-1231-17	24/40	200	350
CG-1231-18	24/40	300	450
CG-1231-19	24/40	450	600
CG-1231-20	24/40	600	750
CG-1231-21	29/42	150	300
CG-1231-22	29/42	200	350
CG-1231-23	29/42	300	450
CG-1231-24	29/42	450	600
CG-1231-25	29/42	600	750



CG-1231

## CG-1233 DISTILLING HEAD, SOLVENT, MODIFIED\*\*

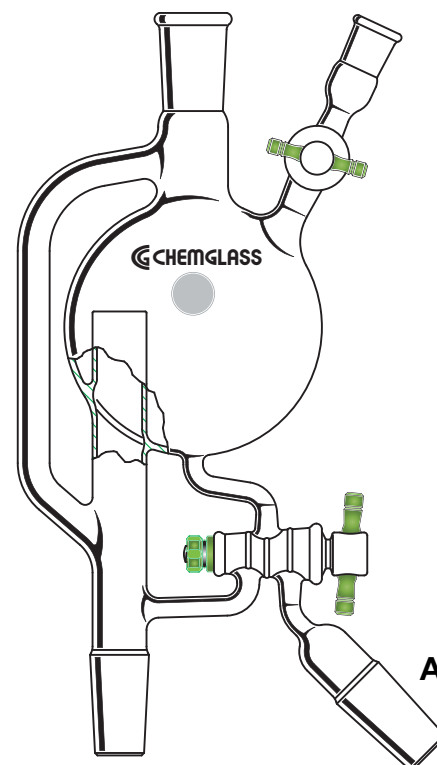
Designed to maintain distilled solvents in an inert atmosphere. Top of main vapor tube is open and an additional vapor tube has been added to decrease risk of pressure buildup. Upper sampling port has a 4mm Teflon stopcock with a 14/20 outer joint for use with CG-3022 septa. Lower drain is centered to allow total drainage of storage head. Double oblique 2mm bore Teflon stopcock on the 250 through 1000mL sizes allows for removal of distilled solvent or return to flask. The 2500mL size has a 4mm double oblique stopcock. Both the uptake tube and top outer joints are 24/40, while the take-off tube is supplied with either a 14/20 or 24/40 inner joint.

Part Number	Take-off Joint	Capacity (mL)
CG-1233-01	24/40	250
CG-1233-02	14/20	250
CG-1233-03	24/40	500
CG-1233-04	14/20	500
CG-1233-05	24/40	1000
CG-1233-06	24/40	2500

### Replacement Components:

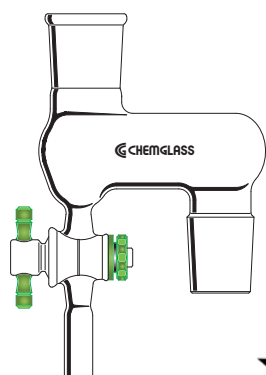
Part Number	Description
CG-424-75	Replacement 4mm Straight Bore TFE Plug
CG-446-60	Replacement 2mm Double Oblique TFE Plug
CG-446-58	Replacement 4mm Double Oblique TFE Plug

\*\*Design suggested by Dr. A.K. Saksena, Schering Plough Research Institute, Kenilworth, NJ.

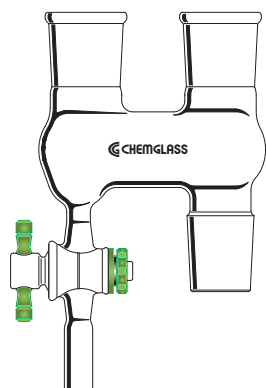


CG-1233

# DISTILLATION HEADS



**CG-1235**



## CG-1235 ADAPTER, DISTILLING, PROCESS REACTOR

Compact and simple distilling adapter for use with Chemglass process reactors. Vapor flows upward freely and distillate is collected into the small bowl below the joint and through the stopcock into a distilling receiver. Adapter has a lower inner joint and is available with one or two top outer joints. Lower stopcock is either a 6mm or a 10mm Teflon with a 1/2" or 3/4" OD distillate takeoff for use with a compression fitting and TFE tubing. Adapter is 6" overall wide with joints offset 95mm center to center.

### Adapter with Single Top Outer Joint:

Part Number	Joint Size	Stopcock Size	Compression Fitting Size
CG-1235-50	24/40	6mm	1/2"
CG-1235-51	29/42	6mm	1/2"
CG-1235-52	45/50	10mm	3/4"

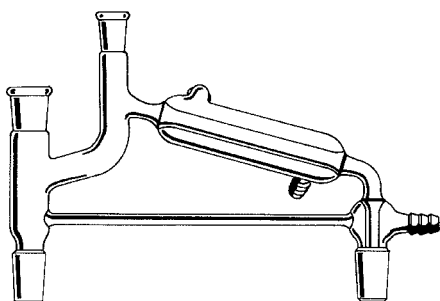
### Adapter with Two Top Outer Joints:

Part Number	Joint Size	Stopcock Size	Compression Fitting Size
CG-1235-56	24/40	6mm	1/2"
CG-1235-58	29/42	6mm	1/2"
CG-1235-59	45/50	10mm	3/4"

## CG-1237 DISTILLING HEAD

Useful for simple small scale vacuum distillation. Head has a Claisen adapter sealed to a Liebig style condenser and a vacuum adapter. All joints are 14/20 with the exception of the Claisen sidearm, which is a 10/18 outer joint for a 1" immersion thermometer.

Part Number	Joint Size	Approx. Height x Width (mm)
CG-1237-01	14/20	175 x 195



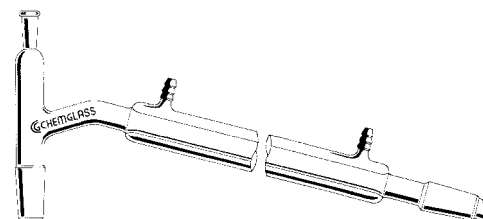
**CG-1237**

# DISTILLATION HEADS

## CG-1238 DISTILLING HEAD

Simple distillation head with a condenser sealed to the adapter at a 75° angle. The top outer joint on the 14/20 size can be converted to a 10/18 thermometer joint by using a CG-1016-27 bushing adapter. The sidearm is sealed at a height for use with a 1" immersion thermometer. The 24/40 and 29/42 sizes are made to accept a 10/30, 3" immersion thermometer. The inner drip tip joint on the condenser and inner joint on the uptake tube are the same size.

Part Number	Joint Size	Condenser Length (mm)	Approx. Height x Width (mm)
CG-1238-05	14/20	110	105 x 210
CG-1238-06	14/20	200	105 x 280
CG-1238-07	24/40	250	165 x 420
CG-1238-08	29/42	250	170 x 420



CG-1238

## CG-1239 DISTILLING HEAD, SHORT PATH

Designed for use with small quantities where hold up between the flask and receiver must be kept to a minimum. The thermometer bulb and stem serve as column packing. Upper hose connections are for cooling lines while the lower connection is for vacuum. Available with Vigreux indentations to improve efficiency.

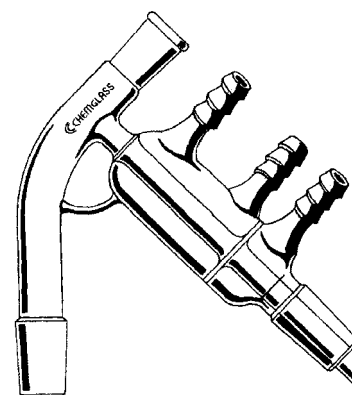
### Without Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1239-01	14/20	7/12	110 x 110
CG-1239-02	14/20	10/18	110 x 115
CG-1239-03	24/40	10/30	195 x 160
CG-1239-04	24/40	14/20	195 x 150
CG-1239-28	29/26	10/30	200 x 165
CG-1239-05	29/42	10/30	200 x 165

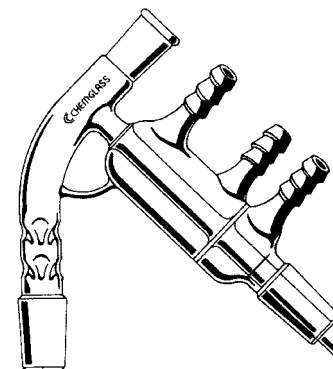
### With Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1239-10	14/20	7/12	110 x 110
CG-1239-11	14/20	10/18	110 x 110
CG-1239-12	24/40	10/30	195 x 160
CG-1239-13	24/40	14/20	195 x 150
CG-1239-29	29/26	10/30	200 x 165
CG-1239-14	29/42	10/30	200 x 165

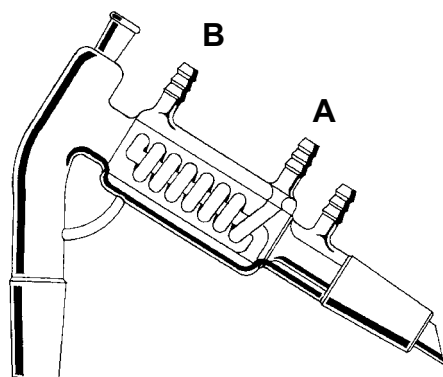
**NOTE:** The 14/20 size accepts a 1" immersion 7/12 or 10/18 thermometer, while the 24/40 and 29/42 sizes accepts a 2" immersion, 10/30 thermometer.



CG-1239



# DISTILLATION HEADS



**CG-1239-A**

## CG-1239-A DISTILLING HEAD, SHORT PATH, IMPROVED

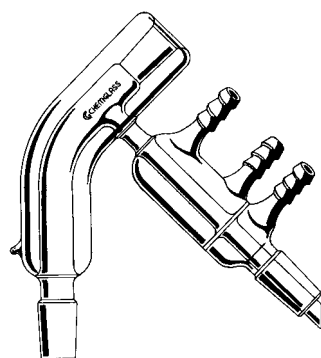
Similar to CG-1239, but with the condenser being a combination of a cold coil and Leibig. Water flows into hose connection "A" through the coil and exits the outer jacket through hose connection "B". Head is excellent for use when distilling medium to high boiling point solvents. Top outer joint is a 10/30 for use with a 2" immersion thermometer. Available with or without Vigreux indentations to further improve efficiency.

### Without Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1239-A-01	24/40	10/30	195 x 160
CG-1239-A-02	29/42	10/30	200 x 165

### With Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1239-A-03	24/40	10/30	195 x 160
CG-1239-A-04	29/42	10/30	200 x 165



**CG-1240**

## CG-1240 DISTILLING HEAD, SHORT PATH, JACKETED

Similar to CG-1239 but vacuum jacketed to improve efficiency. Available with Vigreux indentations in uptake tube to further increase the performance of the head.

### Without Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1240-04	14/20	7/12	105 x 100
CG-1240-05	14/20	10/18	105 x 105
CG-1240-06	24/40	10/30	200 x 150
CG-1240-07	24/40	14/20	200 x 150
CG-1240-28	29/26	10/30	205 x 155
CG-1240-08	29/42	10/30	205 x 155

### With Vigreux Indentations:

Part Number	Lower Inner Joint Size	Top Thermometer Joint	Approx. Height x Width (mm)
CG-1240-10	14/20	7/12	105 x 100
CG-1240-11	14/20	10/18	105 x 105
CG-1240-12	24/40	10/30	200 x 150
CG-1240-13	24/40	14/20	200 x 150
CG-1240-29	29/26	10/30	205 x 155
CG-1240-14	29/42	10/30	205 x 155

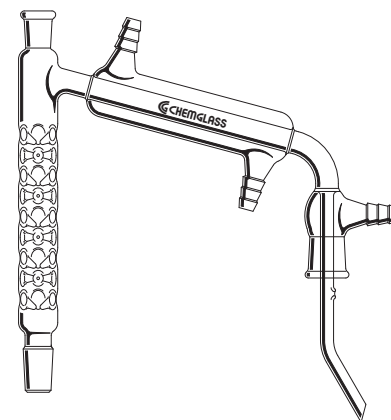
**NOTE:** The 14/20 size accepts a 1" immersion 7/12 or 10/18 thermometer, while the 24/40 and 29/42 sizes accept a 2" immersion, 10/30 thermometer.

# DISTILLATION HEADS

## CG-1241 DISTILLING HEAD, VIGREUX, MICRO

Distillation head with condenser sealed to a Vigreux column. Top thermometer joint is a 10/18 for use with a 1" immersion thermometer. Vacuum adapter has an outer joint and accepts a CG-1279-11 distribution adapter.

Part Number	Joint Size	Approx. Height x Width (mm)
CG-1241-05	14/20	195 x 185

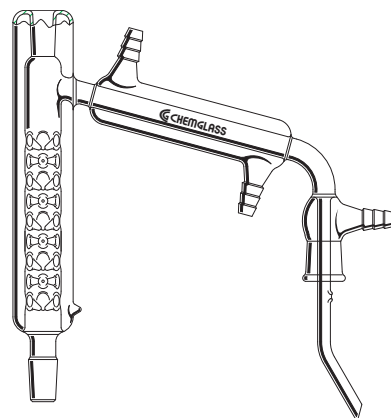


CG-1241

## CG-1242 DISTILLING HEAD, JACKETED, VIGREUX, MICRO

Similar to CG-1241 but with the Vigreux column vacuum jacketed to improve distillation performance.

Part Number	Joint Size	Approx. Height x Width (mm)
CG-1242-10	14/20	195 x 190

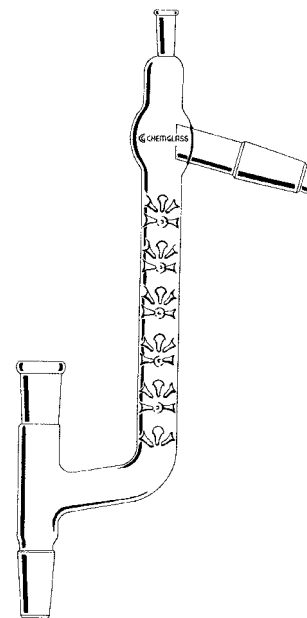


CG-1242

## CG-1243 DISTILLING HEAD, VIGREUX

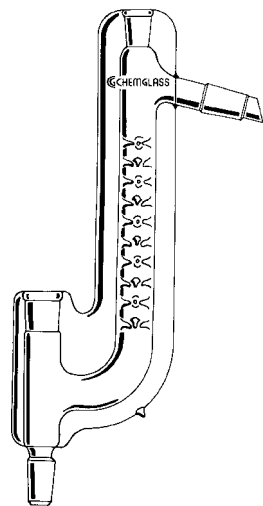
Indentations provide increased surface area for improved refluxing prior to condensation. Sealed on Claisen adapter having top outer and lower inner joints of the same size. The side tube is sealed through to reduce entrainment. The 14/20 and 19/22 heads have a 10/18 top outer joint for use with a 25mm immersion thermometer. The 24/40 and 29/42 heads have a 10/30 top outer joint for use with a 75mm immersion thermometer.

Part Number	Joint Size	Column Height (mm)	Approx. Height x Width (mm)
CG-1243-01	14/20	100	250 x 110
CG-1243-02	14/20	200	350 x 110
CG-1243-03	24/40	200	435 x 180
CG-1243-04	24/40	250	475 x 180
CG-1243-05	24/40	300	525 x 180
CG-1243-08	29/42	300	540 x 195



CG-1243

# DISTILLATION HEADS

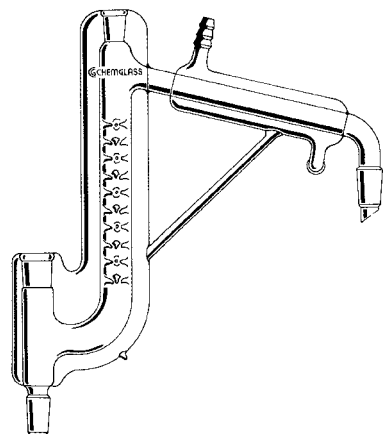


**CG-1244**

## CG-1244 DISTILLING HEAD, VIGREUX, JACKETED

Similar to CG-1243 but vacuum jacketed to improve distillation performance. With a 10/18 top outer joint for use with a 25mm immersion thermometer.

Part Number	Joint Size	Column Height (mm)	Approx. Height x Width (mm)
CG-1244-10	14/20	100	230 x 120
CG-1244-11	14/20	200	330 x 120

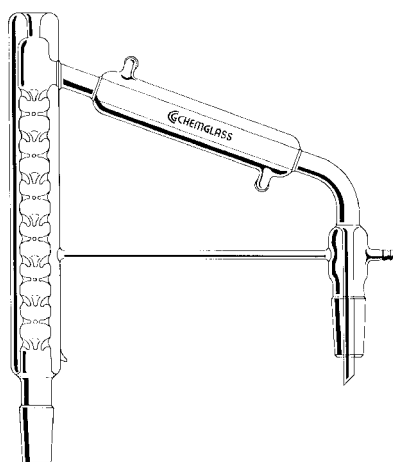


**CG-1245**

## CG-1245 DISTILLING HEAD, JACKETED, VIGREUX, MICRO

Vacuum jacketed Vigreux distillation head having a sealed on condenser, braced for strength. Both top outer joints are 10/18 for 1" immersion thermometers. The vertical 14/20 inner drip tip joint on the condenser is for distribution adapters or plain receivers.

Part Number	Joint Size	Approx. Height x Width (mm)
CG-1245-01	14/20	215 x 205



**CG-1246**

## CG-1246 DISTILLING HEAD, VIGREUX, JACKETED

Vacuum jacketed Vigreux distillation head having a sealed on condenser, braced for strength. The top outer joint is for a 1" immersion 10/18 or 10/30 thermometer. Vacuum adapter has an inner joint and a sealed in drip tip. Condenser length is 100mm on the 14/20 size and 200mm on the 24/40 and 29/42 sizes.

Part Number	Joint Size	Column Height (mm)	Thermometer Joint Size	Approx. Height x Width (mm)
CG-1246-10	14/20	100	10/18	200 x 180
CG-1246-11	14/20	150	10/18	250 x 180
CG-1246-12	24/40	200	10/30	325 x 350
CG-1246-13	24/40	300	10/30	425 x 350
CG-1246-14	29/42	200	10/30	330 x 360
CG-1246-15	29/42	300	10/30	430 x 360

# DISTILLATION HEADS

## CG-1247 DISTILLING HEAD, VIGREUX, VACUUM JACKETED

Jacketed fractionation distilling head for use under vacuum. The 10/18 top outer joint is for a 1" immersion thermometer while the 10/30 joints are for a 2" immersion thermometer. The 24/40 and 29/42 sizes use 4mm glass or Teflon stopcocks, and are positioned to permit changing of receiver without interruption of the distillation process. The 14/20 size uses 2mm bore glass or Teflon stopcocks.

### Glass Stopcocks:

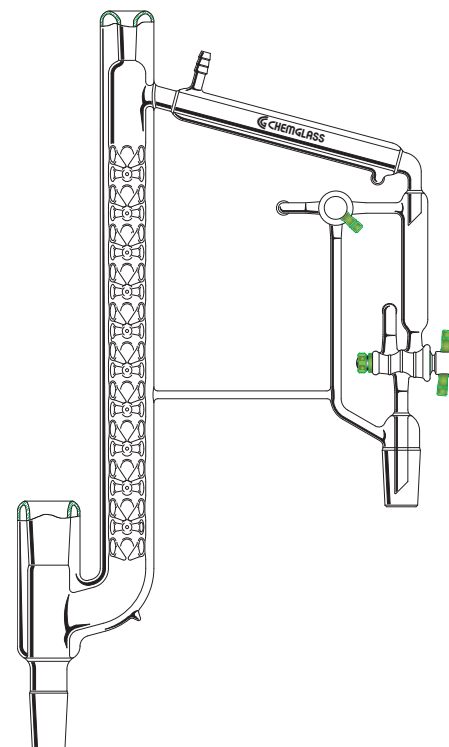
Part Number	Joint Size	Thermometer Joints	Approx. Height x Width (mm)
CG-1247-08	14/20	10/18	255 x 310
CG-1247-09	24/40	10/30	550 x 325
CG-1247-10	29/42	10/30	555 x 325

### Teflon Stopcocks:

Part Number	Joint Size	Thermometer Joints	Approx. Height x Width (mm)
CG-1247-11	14/20	10/18	255 x 310
CG-1247-12	24/40	10/30	550 x 325
CG-1247-13	29/42	10/30	555 x 325

### Replacement Components:

Part Number	Description
CG-414-83	2mm 3-Way Glass Plug
CG-410-91	2mm "T"-Bore Glass Plug
CG-446-60	2mm 3-Way Teflon Plug
CG-436-67	2mm "T"-Bore Teflon Plug
CG-414-82	4mm 3-Way Glass Plug
CG-410-89	4mm "T"-Bore Glass Plug
CG-446-58	4mm 3-Way Teflon Plug
CG-436-66	4mm "T"-Bore Teflon Plug



CG-1247

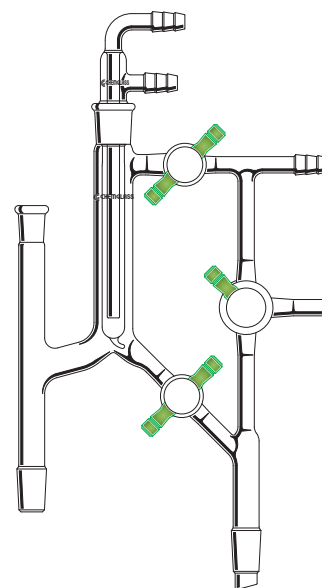
## CG-1248 DISTILLING HEAD, VARIABLE REFLUX, MICRO

The position of the cold finger condenser allows an adjustment of the reflux ratio. Removal of distillate or a receiver change is possible without interrupting the distillation process due to the positioning of the stopcocks. The 10/18 outer joint at the top of the uptake tube is for a 3" immersion thermometer. The cold finger condenser joint is 14/20. All stopcocks are 2mm bore Teflon. Complete item consists of distilling head and cold finger condenser.

Part Number	Column and Receiver Inner Joint Size	Approx. Height x Width (mm)
CG-1248-05	14/20	290 x 160

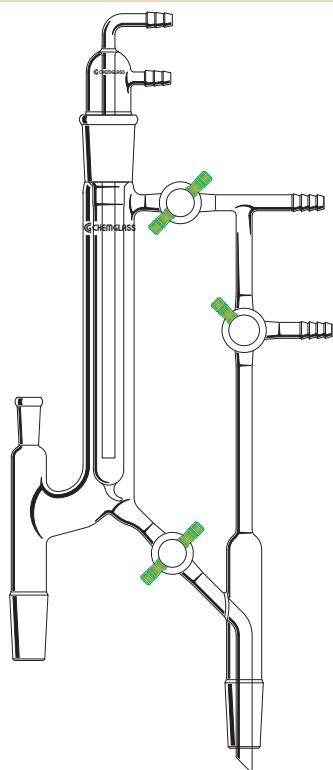
### Replacement Components:

Part Number	Description
CG-1248-06	Distilling Head Only, Teflon Stopcocks, 14/20
CG-1222-14	Cold finger Condenser Only, 14/20
CG-424-77	2mm Teflon Plug



CG-1248

# DISTILLATION HEADS



**CG-1249**

## CG-1249 DISTILLING HEAD, VARIABLE REFLUX

The position of the cold finger condenser allows an adjustment of the reflux ratio. Removal of distillate or a receiver change is possible without interrupting the distillation process due to the positioning of the stopcocks. The 10/30 outer joint at the top of the uptake tube is for use with a 3" immersion thermometer. Available with glass or Teflon stopcocks. Complete item consists of distilling head and cold finger condenser. The cold finger condenser joint is 29/42.

### Glass Stopcocks:

Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1249-05	24/40	460 x 210
CG-1249-06	29/42	465 x 210

### Replacement Components:

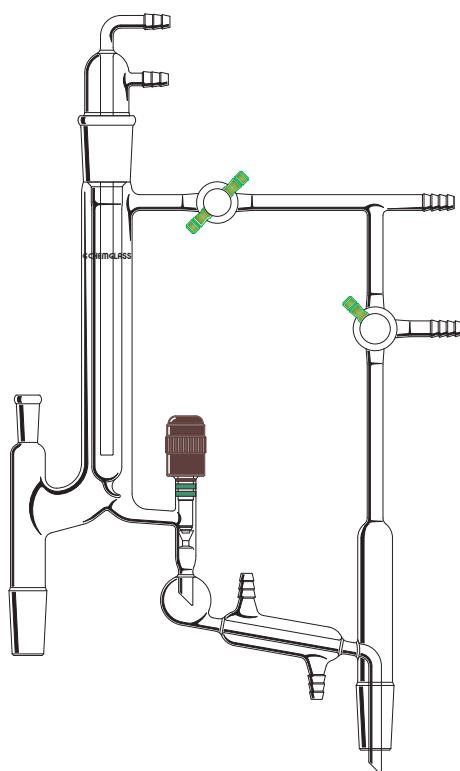
Part Number	Description
CG-1249-07	Distilling Head Only, Glass Stopcocks, 24/40
CG-1249-08	Distilling Head Only, Glass Stopcocks, 29/42
CG-1222-04	Cold finger Condenser Only, 29/42
CG-400-96	Replacement 4mm Glass Plug

### Teflon Stopcocks:

Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1249-09	24/40	460 x 210
CG-1249-10	29/42	465 x 210

### Replacement Components:

Part Number	Description
CG-1249-11	Distilling Head Only, Teflon Stopcocks, 24/40
CG-1249-12	Distilling Head Only, Teflon Stopcocks, 29/42
CG-1222-04	Cold finger Condenser Only, 29/42
CG-424-75	4mm Teflon Plug



**CG-1250**

## CG-1250 DISTILLING HEAD, VARIABLE REFLUX

The position of the cold finger condenser allows an adjustment of the reflux ratio. Removal of distillate or a receiver change is possible without interrupting the distillation process due to the positioning of the stopcocks. The addition of a 0-4mm metering valve in the receiver arm allows for the regulation of distillate flow. A short water condenser is sealed onto the distillate arm. Stopcocks are all 4mm bore Teflon. Supplied with cold finger condenser.

Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1250-12	24/40	470 x 290
CG-1250-13	29/42	475 x 290

### Replacement Components:

Part Number	Description
CG-1250-14	Distilling Head Only, Teflon Stopcocks, 24/40
CG-1250-15	Distilling Head Only, Teflon Stopcocks, 29/42
CG-1222-04	Cold finger Condenser Only, 29/42
CG-971-01	0-4mm Metering Plug
CG-424-75	4mm Straight Bore Teflon Plug
CG-436-66	4mm "T"-Bore Teflon Plug

# DISTILLATION HEADS

## CG-1251 DISTILLING HEAD, DEWAR STYLE

Dewar style distillation head for use with low boiling point solvents providing a rapid return of condensed liquid. The reservoir can be charged with dry ice / acetone or liquid nitrogen. Head has a drop counter on the receiver tube and a 10/30 outer joint for use with a 3" immersion thermometer joint. Reservoir has a cooling capacity of approx. 250ml. Available with glass or Teflon stopcocks.

### Glass Stopcocks:

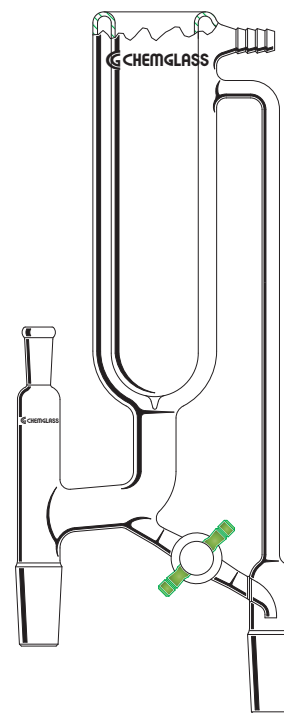
Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1251-05	24/40	360 x 135
CG-1251-06	29/42	365 x 135

### Teflon Stopcocks:

Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1251-07	24/40	360 x 135
CG-1251-08	29/42	365 x 135

### Replacement Components:

Part Number	Description
CG-400-96	4mm Glass Plug
CG-424-75	4mm Teflon Plug



CG-1251

## CG-1252 DISTILLING HEAD, VARIABLE REFLUX

Variable rate reflux head with the stopcocks positioned to permit the removal of the receiver without interrupting the distillation process. Top 10/30 outer joint is for use with a 3" immersion thermometer. Available with 4mm glass or Teflon stopcocks.

### Glass Stopcocks:

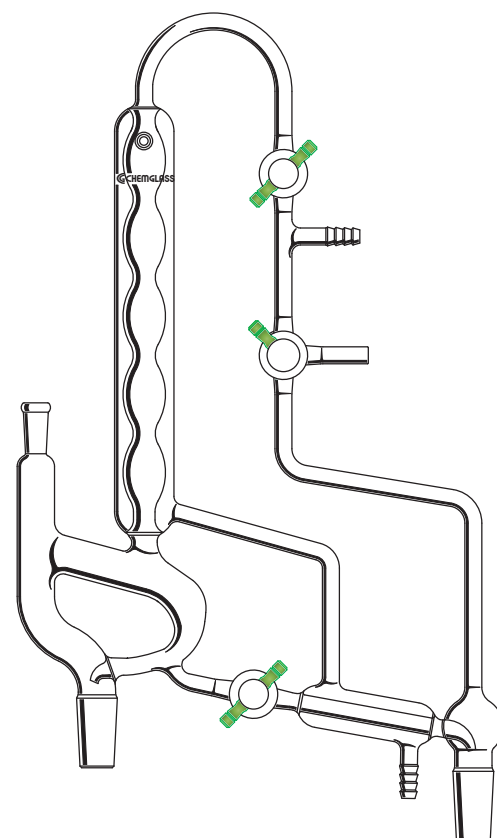
Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1252-01	24/40	495 x 300
CG-1252-02	29/42	500 x 300

### Teflon Stopcocks:

Part Number	Column and Receiver Inner Joint Size	Approx. Height. x Width (mm)
CG-1252-03	24/40	495 x 300
CG-1252-04	29/42	500 x 3

### Replacement Components:

Part Number	Description
CG-400-96	4mm Glass Plug
CG-410-89	4mm Glass "T"-Bore Plug
CG-424-75	4mm Teflon Plug
CG-436-66	4mm Teflon "T"-Bore Plug

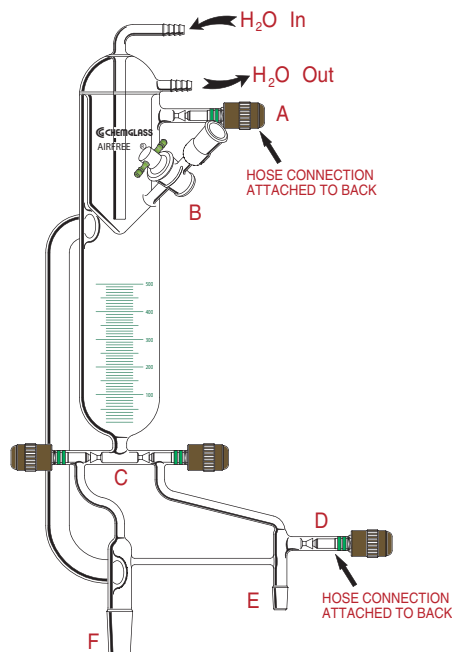


CG-1252

# AIRFREE® SOLVENT DISTILLATION

## AF-0700 SOLVENT DISTILLATION HEAD, AIRFREE®\*\*

Still head in 125 or 500mL capacity for use in re-purification of solvents under inert atmosphere. One piece design of condenser and storage reservoir eliminates multiple connections usually associated with distillation setup. 0-4mm Chem-Cap® valves provide for grease-free, leakproof seals. Lower 3-way valve (C) allows for solvent return to flask, take-off or storage in graduated reservoir. Syringe access port (B) incorporates a 4mm Teflon stopcock with a 14/20 outer joint for use with CG-3022 septum, permitting repeated syringe punctures or changes of the septum without breaching the integrity of the solvent. Valve (A) allows for isolation of the still from the inert gas source. Valve (D) permits evacuation and purging of the receiver flask. Uptake tube (F) is a 24/40 inner joint, while the takeoff connection (E) is a 14/20 inner joint.



**AF-0700**

Part

Number	Description
AF-0700-01	Solvent Still Head, 125ml
AF-0700-02	Solvent Still Head, 500ml

### Replacement Components:

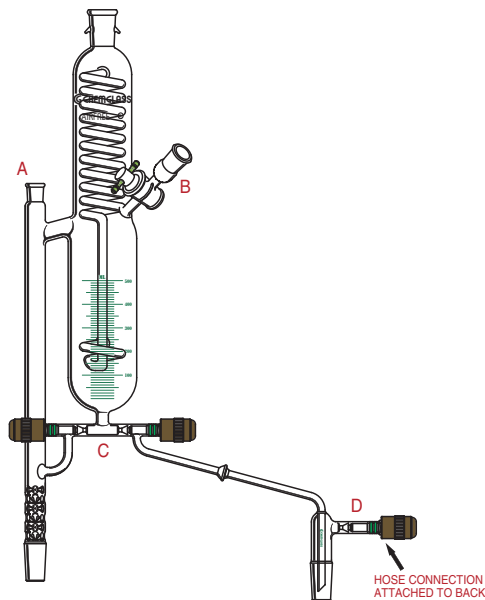
CG-961-01	0-4mm TFE Plug only
CG-424-75	4mm TFE Plug only

\*\*Design suggested by Dr. Thomas Oberhauser

## AF-0720 SOLVENT DISTILLATION APPARATUS, AIRFREE®

Apparatus for use in distillation of material such as THF or ether. Storage reservoir has a capacity of 125 or 500mL. Extremely efficient cold finger coil condenser has a section that is immersed into the distillate. This assures that the distillate is at room temperature instead of the distillation temperature. The 0-4mm Chem-Cap® valves provide for grease-free, leakproof seals.

Side vapor tube (A) is fitted with a 14/20 standard taper outer joint, to be used with a CG-1042-14 thermometer adapter which fits a plain stem thermometer. A short (50mm) vigreux section is provided to enhance separation. Syringe access port (B) incorporates a 4mm Teflon stopcock with a 14/20 outer joint for use with CG-3022 septum, permitting repeated syringe punctures or changes of the septum without breaching the integrity of the solvent. Lower 3-way valve (C) allows for solvent return to flask, take-off or storage in graduated reservoir. Delivery adapter is fitted with a 12/5 spherical joint for flexibility and a 0-4mm Chem-Cap® valve (D) for purging of the receiving vessel. Top outer joint is a 24/40 while the uptake tube is a 24/40 inner joint. Delivery adapter has a 14/20 or 24/40 inner joint and is supplied with the complete apparatus, along with a CG-150-02 stainless steel pinchclamp.



**AF-0720**

Part

Number	Description
AF-0720-01	Distillation Apparatus, Complete, 125ml
AF-0720-02	Distillation Apparatus, Complete, 500ml

### Replacement Components:

AF-0720-03	Delivery Adapter only, 14/20 Inner
AF-0720-04	Delivery Adapter only, 24/40 Inner
CG-1042-14	14/20 Thermometer Adapter
CG-150-02	#12 S.S. Pinchclamp
CG-961-01	0-4mm Chem-Cap plug only
CG-424-75	4mm TFE Plug only

## AF-0740 SOLVENT DISTILLATION APPARATUS, AIRFREE®\*\*

Similar in design to AF-0720 but without delivery adapter. Lower 3-way valve has been replaced with a single 0-4mm Chem-Cap® valve for draining distillate back into the flask. The uptake tube has one row of vigreux indentations, while the 14/20 top outer joint has been eliminated. Temperature can be measured by using a 2-neck flask with a thermocouple or thermometer adapter. The delivery tube has two 2mm Teflon straight bore stopcocks that can be operated in to purge the receiving vessel with inert gas. Capacity of solvent storage area is approx. 250mL with a 24/40 top outer and a 24/40 lower inner standard taper joints.

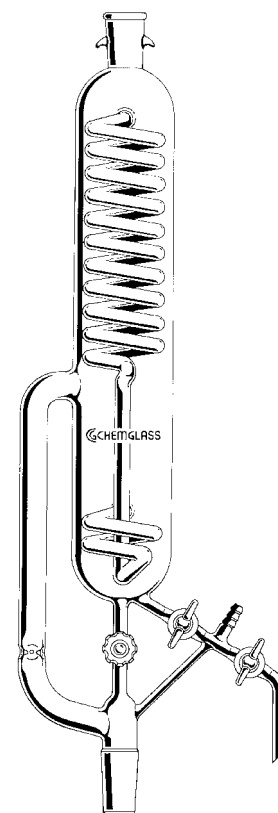
Part

Number	Description
AF-0740-01	Distillation Apparatus, Complete

### Replacement Components:

Part

Number	Description
CG-961-01	0-4mm Chem-Cap® plug only
CG-424-77	2mm TFE Plug Only

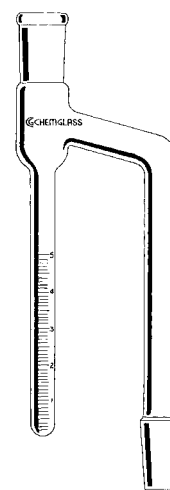


AF-0740

## CG-1257 DISTILLING RECEIVER, MOISTURE TEST, BIDWELL STERLING

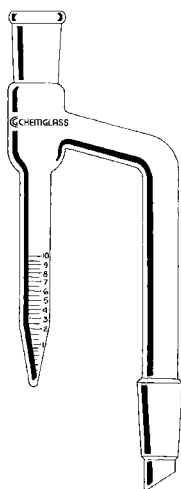
Bidwell-Sterling type receiver used to determine the moisture in foods and organics. Made to ASTM specification E123. Also conforms with many methods of American Oil Chemists Society. Both the 5 and 10mL capacities have subdivisions of 0.1mL.

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1257-01	14/20	5	250 x 80
CG-1257-02	14/20	10	255 x 80
CG-1257-03	24/40	5	275 x 90
CG-1257-04	24/40	10	280 x 90



CG-1257

# DISTILLATION RECEIVERS

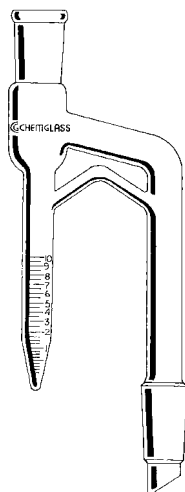


**CG-1258**

## **CG-1258 DISTILLING RECEIVER, MOISTURE TEST, DEAN-STARK**

Dean-Stark receiver used for determining the water content of various materials. Can be used with ASTM Method D-95 along with similar ASTM methods. The 10mL size has subdivisions of 0.1 from 0 to 2mL, and 0.2 from 2 to 10mL. The 25mL size has subdivisions of 0.1 from 0 to 2mL and 0.2 from 2 to 25mL.

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1258-14	14/20	10	225 x 80
CG-1258-15	14/20	25	300 x 80
CG-1258-01	24/40	10	250 x 90
CG-1258-02	24/40	25	330 x 90
CG-1258-03	29/42	10	250 x 90
CG-1258-04	29/42	25	330 x 90



**CG-1259**

## **CG-1259 DISTILLING RECEIVER, MOISTURE TEST, DEAN-STARK**

Similar to CG-1258 but with the addition of an overflow tube between the uptake tube and the graduated receiver.

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1259-01	14/20	10	220 x 80
CG-1259-02	14/20	25	300 x 80
CG-1259-03	24/40	10	250 x 90
CG-1259-04	24/40	25	330 x 95

# DISTILLATION RECEIVERS

## CG-1261 DISTILLING RECEIVER, MOISTURE TEST, BARRETT

Barrett style distilling receiver used to determine the water content in petroleum or bituminous material. Receiver is made according to ASTM specifications, with the addition of the top outer standard taper joint and lower stopcock. The 2mL has sub-divisions of 0.02mL; the 5mL has subdivisions of 0.20mL; 10mL has subdivisions of 0.1mL; the 20mL has subdivisions of 0.2mL from 0 to 3mL and 0.5mL from 3 to 20mL. Available with glass or Teflon stopcocks.

### Glass Stopcock:

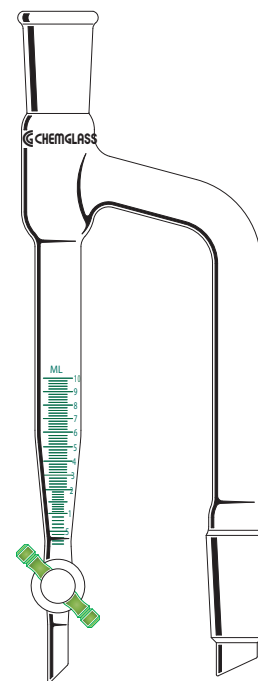
Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1261-05	14/20	2	225 x 65
CG-1261-06	14/20	5	205 x 65
CG-1261-07	14/20	10	190 x 65
CG-1261-11	24/40	10	275 x 95
CG-1261-12	24/40	20	325 x 95

### Teflon Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1261-20	14/20	2	225 x 65
CG-1261-21	14/20	5	205 x 65
CG-1261-22	14/20	10	190 x 65
CG-1261-23	19/22	2	225 x 75
CG-1261-24	19/22	5	205 x 75
CG-1261-25	19/22	10	190 x 75
CG-1261-26	24/40	10	275 x 95
CG-1261-27	24/40	20	325 x 95
CG-1261-32	29/26	10	275 x 95
CG-1261-33	29/26	20	325 x 95
CG-1261-34	29/42	10	275 x 95
CG-1261-35	29/42	20	325 x 95

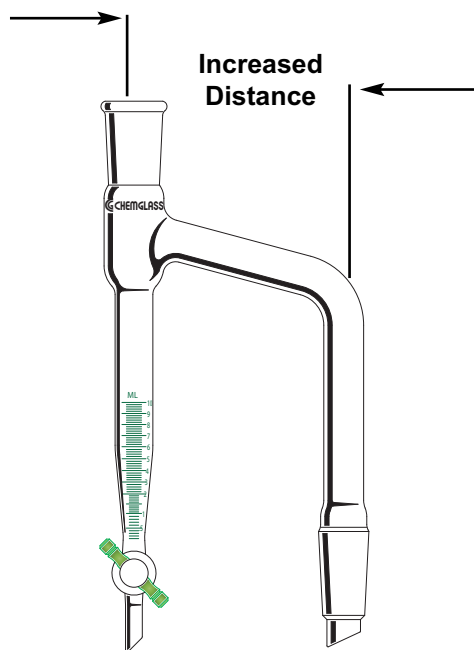
### Replacement Components:

Part Number	Description
CG-400-98	2mm Glass Plug
CG-424-77	2mm Teflon Plug

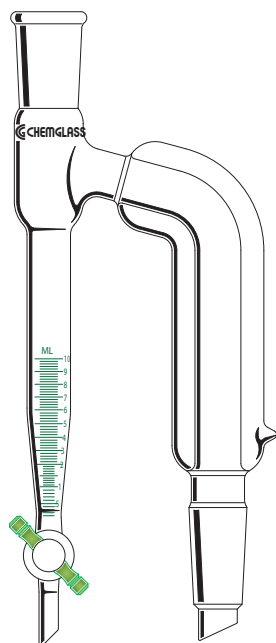


CG-1261

# DISTILLATION RECEIVERS



**CG-1261-A**



**CG-1262**

## CG-1261-A DISTILLING RECEIVER

Graduated distilling receiver with a standard taper outer joint on top and a standard taper lower drip joint. Stopcocks are either a 2mm or 4mm Teflon. Distance between the receiver and the uptake arm: 10 and 20mL are 100mm center to center; the 50, 100 and 250mL are 150mm center to center.

Part Number	Joint Size	Capacity (mL)	Stopcock Size	Approx. Height x Width (mm)
CG-1261-A-10	24/40	10	2mm	275 x 125
CG-1261-A-12	24/40	20	2mm	325 x 125
CG-1261-A-14	29/42	10	2mm	275 x 127
CG-1261-A-16	29/42	20	2mm	325 x 127
CG-1261-A-45	45/50	50	4mm	330 x 196
CG-1261-A-47	45/50	100	4mm	330 x 196
CG-1261-A-49	45/50	250	4mm	330 x 196

### Replacement Components:

Part Number	Description
CG-424-77	2mm Teflon Plug
CG-424-75	4mm Teflon Plug

## CG-1262 DISTILLING RECEIVER, MOISTURE TEST, BARRETT, VACUUM JACKETED

Similar to CG-1261 but with the uptake tube vacuum jacketed to improve distillation performance. The jacket eliminates the possibility of condensation or recrystallization of distillate in the sidearm. The 5mL has subdivisions of 0.20mL; 10mL has subdivisions of 0.1mL; the 20mL has subdivisions of 0.2mL from 0 to 3mL and 0.5mL from 3 to 20mL. Available with glass or Teflon stopcocks.

### Glass Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1262-05	14/20	5	205 x 75
CG-1262-06	14/20	10	190 x 75
CG-1262-09	24/40	10	275 x 105
CG-1262-10	24/40	20	325 x 105

### Teflon Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1262-20	14/20	5	205 x 75
CG-1262-21	14/20	10	190 x 75
CG-1262-22	19/22	5	205 x 85
CG-1262-23	19/22	10	190 x 85
CG-1262-24	24/40	10	275 x 105
CG-1262-25	24/40	20	325 x 105

### Replacement Components:

Part Number	Description
CG-400-98	2mm Glass Plug
CG-424-77	2mm Teflon Plug

# DISTILLATION RECEIVERS

## CG-1263 DISTILLING RECEIVER, MOISTURE TEST, BARRETT

Similar to CG-1261 but with the addition of an overflow tube between the uptake tube and the graduated receiver.

### Glass Stopcock:

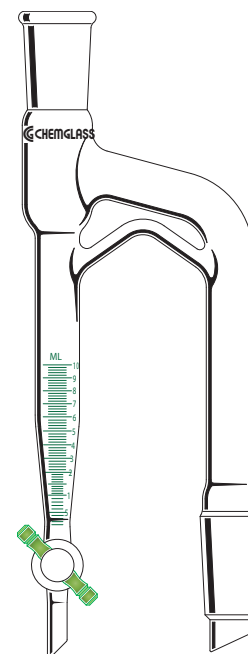
Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1263-05	24/40	10	275 x 95
CG-1263-06	24/40	20	325 x 95

### Teflon Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1263-10	24/40	10	275 x 95
CG-1263-11	24/40	20	325 x 95

### Replacement Components:

Part Number	Description
CG-400-98	2mm Glass Plug
CG-424-77	2mm Teflon Plug



CG-1263

## CG-1264 DISTILLING RECEIVER, MOISTURE TEST, MERLIC\*\*

Modified Dean-Stark trap allows for more efficient cooling and separation of the azeotrope during distillation. Graduated from 0 to 10mL in 0.1mL subdivisions.

### Glass Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1264-01	14/20	10	275 X 75
CG-1264-03	24/40	10	290 X 105

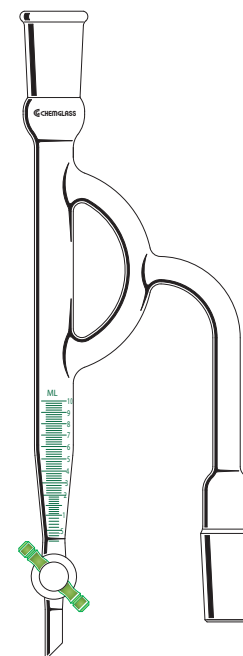
### Teflon Stopcock:

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1264-04	14/20	10	275 x 75
CG-1264-06	24/40	10	290 x 105

### Replacement Components:

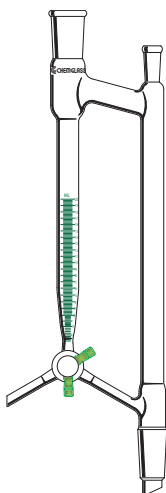
Part Number	Description
CG-440-64	2mm 120° Teflon Plug

\*\*Design suggested by Dr. Craig Merlic, University of California, Los Angeles, California.



CG-1264

# DISTILLATION RECEIVERS



**CG-1265**

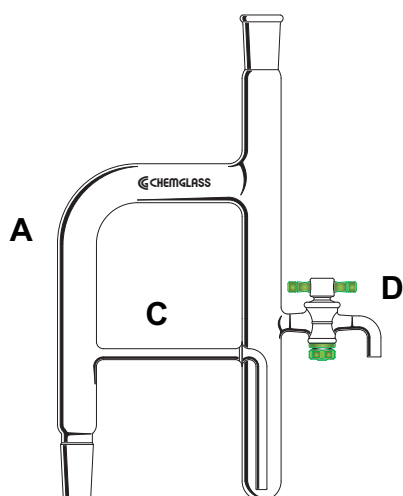
## CG-1265 DISTILLING RECEIVER, MOISTURE TEST

Modified Dean-Stark receiver designed for solvents that are either lighter or heavier than water. The lower three-way Teflon stopcock allows for the withdraw or return of the distillate during the distillation process. With a 10/30 outer joint on the top of the vapor tube for a 3" immersion thermometer. Graduations are the same as CG-1261.

Part Number	Joint Size	Capacity (mL)	Approx. Height x Width (mm)
CG-1265-05	14/20	5	270 x 120
CG-1265-06	24/40	20	400 x 130
CG-1265-07	29/42	20	400 x 130

### Replacement Components:

Part Number	Description
CG-440-64	2mm 120° Teflon Plug



**CG-1266**

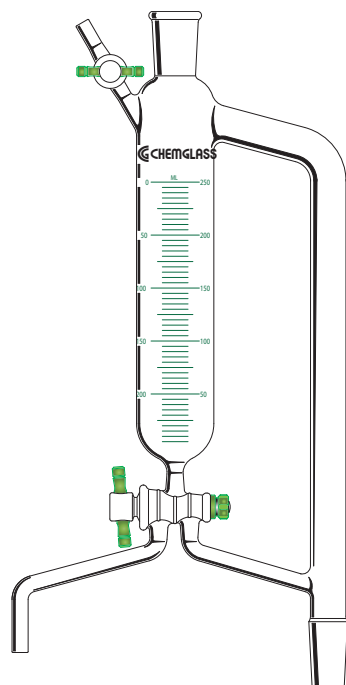
## CG-1266 DISTILLING RECEIVER, DEAN-STARK, MODIFIED

This innovative and compact Dean-Stark receiver is designed for azeotropic distillations using solvents that are heavier than water. The solvent vapor travels through tube "A" to a condenser inserted in the top standard taper outer joint. Vapors are condensed and collected in the reservoir section. The layers separate and the heavier than water solvent overflows through tube "C" back into the distillation flask. The upper water layer is drained out intermittently using the 4mm Teflon stopcock "D". Capacity of the lower reservoir is approx. 50mL.

Part Number	Joint Size	Approx. Height x Width (mm)
CG-1266-10	24/40	355 x 240

### Replacement Components:

Part Number	Description
CG-424-75	4mm Teflon Plug



**CG-1272**

## CG-1272 DISTILLING RECEIVER, SOLVENT RECOVERY, GRADUATED

Graduated distillation receiver with a 4mm three way stopcock to permit solvent removal through the 10mm O.D. tube or return to distillation flask. Upper sampling port has a 2mm Teflon stopcock. The top outer and lower inner joints are the same size.

Part Number	Joint Size	Capacity (mL)	Subdivisions (mL)	Approx. Height x Width (mm)
CG-1272-01	24/40	250	5.0	415 x 185
CG-1272-02	24/40	500	5.0	465 x 230
CG-1272-03	24/40	1000	10.0	550 x 230

### Replacement Components:

Part Number	Description
CG-424-77	2mm Straight Bore Teflon Plug
CG-446-58	4mm Oblique Bore Teflon Plug

# DISTILLATION RECEIVERS

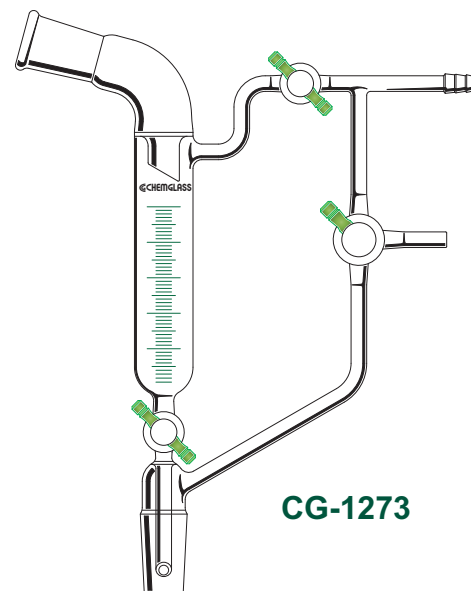
## CG-1273 DISTILLING RECEIVER, GRADUATED, VACUUM

Graduated distilling receiver with a top outer joint at a 105° angle. The Teflon stopcocks are positioned to permit removing the distillate without interrupting the distillation process. The 50 and 100mL sizes have a 2mm bore Teflon stopcock on the delivery tube while the 250 and 500mL sizes have a 4mm bore Teflon stopcock.

Part Number	Joint Size	Capacity (mL)	Subdivisions (mL)	Approx. Height x Width (mm)
CG-1273-01	24/40	50	1.0	325 X 230
CG-1273-02	24/40	100	1.0	420 X 230
CG-1273-03	24/40	250	2.0	485 X 270

### Replacement Components:

Part Number	Description
CG-424-77	2mm Teflon Plug
CG-424-75	4mm Teflon Plug
CG-436-01	2mm "T"-Bore Teflon Plug
CG-436-02	4mm "T"-Bore Teflon Plug



CG-1273

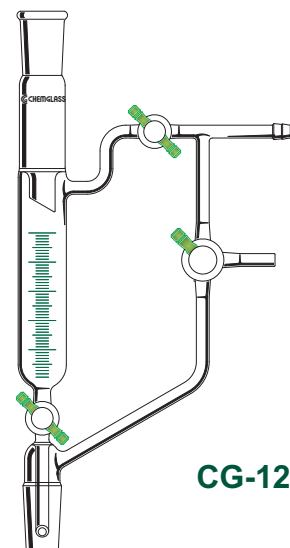
## CG-1274 DISTILLING RECEIVER, GRADUATED, VACUUM

Similar to CG-1273, but with the top outer joint vertical instead of a 105° angle.

Part Number	Joint Size	Capacity (mL)	Subdivisions (mL)	Approx. Height x Width (mm)
CG-1274-01	24/40	50	1.0	340 X 175
CG-1274-02	24/40	100	1.0	435 X 175
CG-1274-03	24/40	250	2.0	505 X 200

### Replacement Components:

Part Number	Description
CG-424-77	2mm Teflon Plug
CG-424-75	4mm Teflon Plug
CG-436-01	2mm "T"-Bore Teflon Plug
CG-436-02	4mm "T"-Bore Teflon Plug



CG-1274

## CG-1275 DISTILLATION RECEIVER

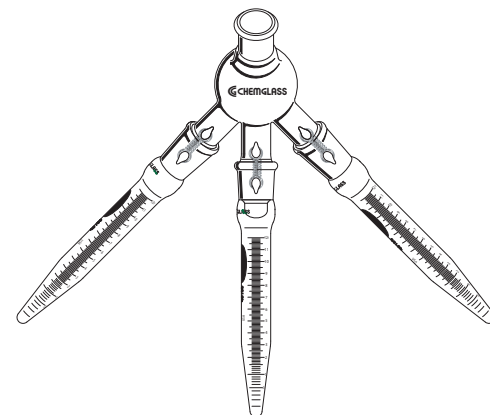
The 135° angle between the center line of the condenser and the receiver tubes allows the distillate to fall directly into the receiver tubes. This receiver can be used with short path style distilling heads. Complete receiver is supplied with distribution adapter, three 12mL receiver tubes, and six CG-110 stainless steel springs. Available with 14/20 or 19/22 joints.

### Complete Receiver:

Part Number	Joint Size	Receiver Capacity (mL)	Approx. Height x Width (mm)
CG-1275-14	14/20	12	175 x 240
CG-1275-19	19/22	12	180 x 245

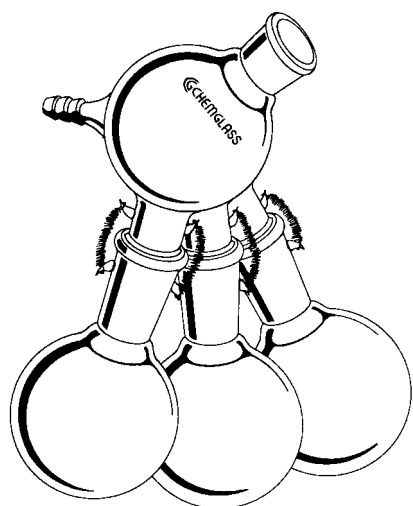
### Replacement Components:

Part Number	Description
CG-1275-20	Distribution Adapter, 14/20
CG-1275-21	Distribution Adapter, 19/22
CG-1278-01	Receiver Tube, 14/20, 12ml
CG-1278-03	Receiver Tube, 19/22, 12ml
CG-110-01	S.S. Springs, 6.35mm, Pkg. of 10

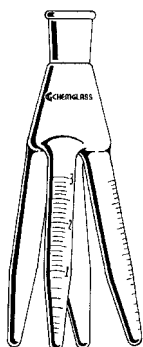


CG-1275

# DISTILLATION RECEIVERS



**CG-1276**



**CG-1277**



**CG-1278**

## CG-1276 DISTILLATION RECEIVER

Cow type design has three receivers 45° apart. Condensers with lower drip tip inner joints will protrude into the spherical section, permitting the distillate to fall directly into the receiving flasks. Distribution adapter has a serrated connection for attachment to vacuum source. Complete item supplied with distribution adapter, three flasks of the listed size and six stainless steel springs or Keck Clips.

### Complete Receiver:

Part Number	Joint Size	Receiver Capacity (mL)	Approx. Height x Width (mm)
CG-1276-14	14/20	14/20	15
CG-1276-19	19/22	19/22	15
CG-1276-01	24/40	24/25	250
CG-1276-02	29/42	29/26	250

### Replacement Components:

Part Number	Description
CG-1276-10	Distribution Adapter, 14/20
CG-1276-11	Distribution Adapter, 19/22
CG-1276-12	Distribution Adapter, 24/40
CG-1276-13	Distribution Adapter, 29/42
CG-1276-20	Receiving Flask, 24/40, 250mL
CG-1276-21	Receiving Flask, 29/42, 250mL
CG-1507-05	Receiving Flask, 14/20, 15ml
CG-1507-06	Receiving Flask, 19/22, 15ml
CG-110-01	S.S. Springs, 14/20-19/22, Pkg. of 12
CG-110-03	S.S. Springs, 24/40-29/42, Pkg. of 12

## CG-1277 DISTILLATION RECEIVER, GRADUATED

Cow type receiver has a single standard taper outer joint at the top. The four lower graduated receiver tubes can be accessed via a syringe for product recovery. Tubes are graduated from 0 to 3mL in 0.1mL subdivisions.

Part Number	Joint Size
CG-1277-14	14/20

## CG-1278 DISTILLATION RECEIVER, GRADUATED, WITH HOOKS

Centrifuge tube shaped receiver with an upper standard taper joint has two glass hooks 180° apart. Graduated from 0 to 2mL in 0.1mL subdivisions and from 2mL to 12mL or 15mL in 0.2mL subdivisions.

Part Number	Joint Size	Capacity (mL)	Overall Height (mm)
CG-1278-01	14/20	12	135
CG-1278-02	14/20	15	135
CG-1278-03	19/22	12	155
CG-1278-04	19/22	15	155

# DISTILLATION RECEIVERS

## CG-1279 DISTILLATION RECEIVER

Radial style distillation receiver allows four flasks to be progressively filled. Upper vacuum adapter is bent at a 105° angle. Complete item consists of a vacuum adapter, distribution adapter, four of the listed size flasks with hooks and ten CG-110 stainless steel springs.

### Complete Receiver:

Part Number	Joint Size	Receiver Capacity (mL)	Approx. Height x Width (mm)
CG-1279-14	14/20	15	210 x 90
CG-1279-19	19/22	15	220 x 95
CG-1279-01	24/40	50	413 x 160

### Replacement components for 14/20 size:

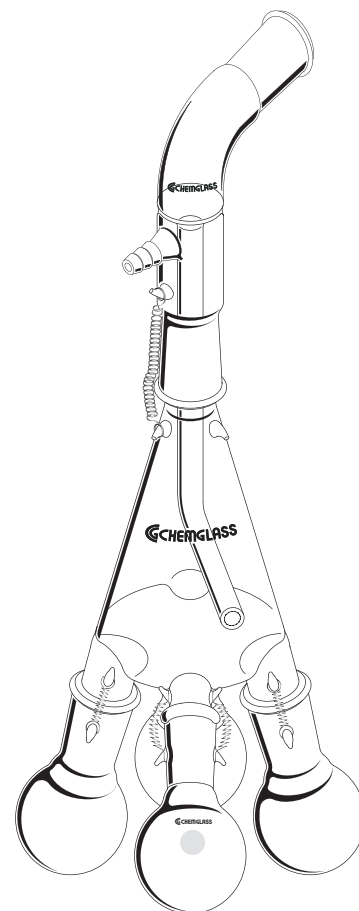
Part Number	Description
CG-1279-10	Vacuum Adapter Only, 14/20
CG-1279-11	Distribution Adapter Only, 14/20
CG-1507-05	Receiving Flasks, 15ml, 14/20
CG-110-01	S.S. Springs, 18mm, Pkg. of 10

### Replacement components for 19/22 size:

Part Number	Description
CG-1279-12	Vacuum Adapter Only, 19/22
CG-1279-13	Distribution Adapter Only, 19/22
CG-1507-06	Receiving Flasks, 15ml, 19/22
CG-110-02	S.S. Springs, 18mm, Pkg. of 10

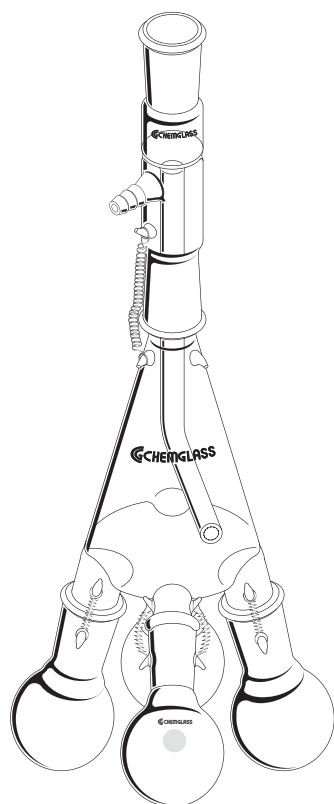
### Replacement components for 24/40 size:

Part Number	Description
CG-1279-02	Vacuum Adapter Only, 24/40
CG-1279-03	Distribution Adapter Only, 24/40
CG-1279-04	Receiving Flasks, 50ml, 24/40
CG-110-03	S.S. Springs, 25mm, Pkg. of 10

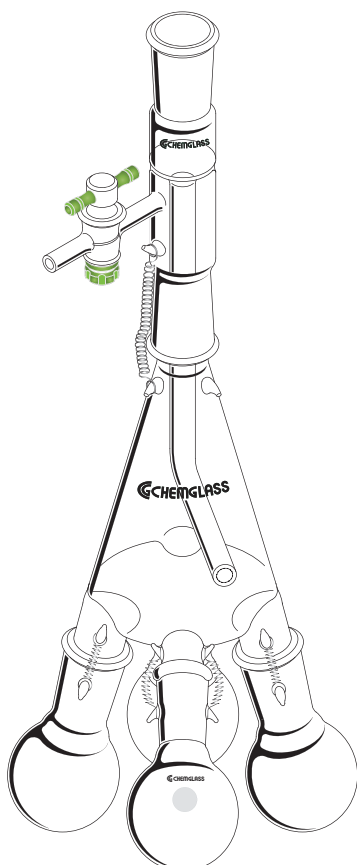


**CG-1279**

# DISTILLATION RECEIVERS



**CG-1281**



**CG-1282**

## CG-1281 DISTILLING RECEIVER

Similar to CG-1279 but with the top outer joint vertical instead of a 105° angle. Complete item consists of a vacuum adapter, distribution adapter, four of the listed size flasks with hooks and ten CG-110 stainless steel springs.

### Complete Receiver:

Part Number	Joint Size	Receiver Capacity (mL)	Approx. Height x Width (mm)
CG-1281-14	14/20	15	220 x 90
CG-1281-19	19/22	15	220 x 95
CG-1281-01	24/40	50	449 x 160

### Replacement components for 14/20 size:

Part Number	Description
CG-1281-10	Vacuum Adapter Only, 14/20
CG-1279-11	Distribution Adapter Only, 14/20
CG-1507-05	Receiving Flasks, 15ml, 14/20
CG-110-01	S.S. Springs, 18mm, Pkg. of 10

### Replacement components for 19/22 size:

Part Number	Description
CG-1281-12	Vacuum Adapter Only, 19/22
CG-1279-13	Distribution Adapter Only, 19/22
CG-1507-06	Receiving Flasks, 15ml, 19/22
CG-110-02	S.S. Springs, 18 mm, Pkg. of 10

### Replacement components for 24/40 size:

Part Number	Description
CG-1281-02	Vacuum Adapter Only, 24/40
CG-1279-03	Distribution Adapter Only, 24/40
CG-1279-04	Receiving Flasks, 50ml, 24/40
CG-110-03	S.S. Springs, 25mm, Pkg. of 10

## CG-1282 DISTILLING RECEIVER

Similar to CG-1281 but with the addition of a 2mm Teflon stopcock for vacuum control. Complete item consists of a vacuum adapter, distribution adapter, four of the listed size flasks with hooks and ten CG-110 stainless steel springs.

### Complete Receiver:

Part Number	Joint Size	Receiver Capacity (mL)	Approx. Height x Width (mm)
CG-1282-01	24/40	50	449 x 169

### Replacement components:

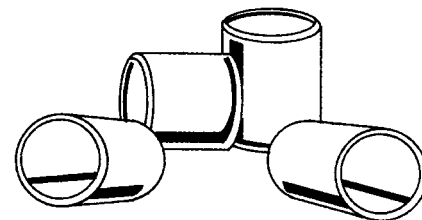
Part Number	Description
CG-1282-02	Vacuum Adapter Only
CG-1279-03	Distribution Adapter Only
CG-1279-04	Receiving Flasks, 50ml, 24/40
CG-110-03	S.S. Springs, 25mm, Pkg. of 10
CG-424-77	Replacement 2mm Teflon Plug

# DISTILLING, DRYING APPARA-

## CG-1283 DISTILLING COLUMN PACKING, RASCHING RINGS

Rings are made of borosilicate glass and sold in one pound packages.

Part Number	O.D. x Length (mm)
CG-1283-01	6 x 6
CG-1283-02	7 x 7
CG-1283-03	8 x 8
CG-1283-04	12 x 12



CG-1283

## CG-1284 DISTILLING COLUMN PACKING, PORCELAIN BERL SADDLES

Porcelain berl saddles having an O.D. of 6mm. Ideal for vacuum distillation, absorption and extraction. Saddles provide a highly useable surface area, lower gas flow resistance and excellent internal distribution. Available in packages of 200cc and 1000cc boxes.

Part Number	Package Size (cc)	Pieces/Pkg.
CG-1284-01	200	250
CG-1284-02	1000	1250



CG-1284

## CG-1101 BEADS, BOROSILICATE GLASS

Solid borosilicate spheres can be used as distillation column packing, boiling stones or to provide support for chromatography columns used in gel filtrations. Beads have excellent chemical resistance. Packed in boxes containing one pound.

Part Number	O.D. (mm)	Approx. Pcs. per lb.
CG-1101-06	1	135,000
CG-1101-01	2	46,000
CG-1101-02	3	12,500
CG-1101-03	4	5,500
CG-1101-04	5	3,000
CG-1101-05	6	1,500



CG-1101

## CG-1289 DRYING APPARATUS, ABDERHALDEN

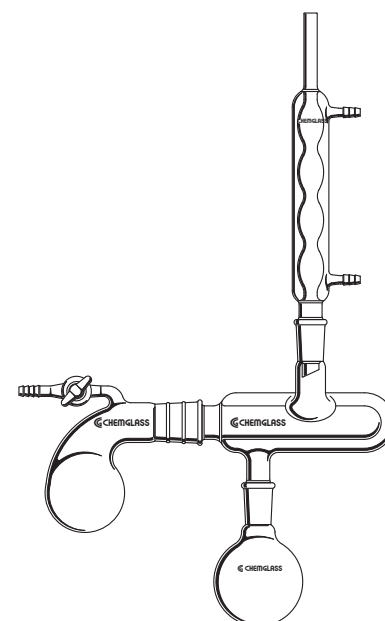
Abderhalden style for drying samples at a temperature as a function of the solvent boiling point. The desiccant flask has a 34/45 outer joint for connection to the drying chamber. All other joints are 24/40. Complete apparatus consists of a desiccant flask, drying chamber, round bottom flask and Allihn condenser.

### Complete Receiver:

Part Number	Approx. Height x Width (mm)
CG-1289-01	740 x 350

### Replacement components:

Part Number	Description
CG-1289-02	Drying Chamber Only
CG-1289-03	Desiccant Flask
CG-1207-03	Condenser, Allihn, 300mm
CG-1506-17	Boiling Flask, 250ml
CG-400-96	Replacement 4mm Glass Plug



CG-1289