

## CG-1830-10 GAS SCRUBBER, COMPLETE

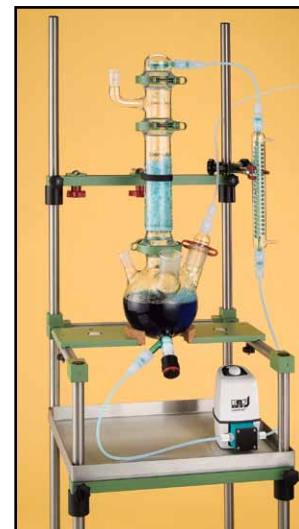
Laboratory scale gas scrubber for use in many air and exhaust cleanup tasks. Scrubber is available in two sizes 3 Liter and 20 Liter which is the capacity of the fluid reservoir. The 3 liter is a compact design and will fit into any laboratory hood, or can be used in walk in hoods when assembled on our CG-1951-100 mobile or CG-1950-100 bench-top reactor stands.

Gas scrubbing takes place when the exhaust enters the inlet in the round bottom flask and travels upward through the absorption column. The scrubbing fluid is pumped from the round bottom flask upwards into the shower head adapter and then flows counter-current to the exhaust gas through the packed column thereby causing intensive contact between the two. Scrubber can be used by creating either a positive flow through the reaction vessel using a carrier such as nitrogen, or by connection of a vacuum source to the column adapter.

**NOTE: The 3 Liter Scrubber can handle 3 Liters per minute of gas flow when pump is set at maximum. The 20 Liter Scrubber can handle 8 Liters per minute with the CG-1171-50 supplied pump.**

**Complete scrubber consists of:** lower reservoir, absorption column with glass-filled TFE packing support disc, glass rasching rings column packing material, exhaust gas outlet column, top shower head adapter, PTFE diaphragm liquid transfer pump, 3ea quick release column clamps, 3ea envelope style gaskets, fluid cooling condenser, gas inlet adapter, PTFE tubing and 5ea PFA compression fittings.

***PLEASE NOTE: STAND ALONG WITH SUPPORT CLAMPS MUST BE ORDERED SEPARATELY.***

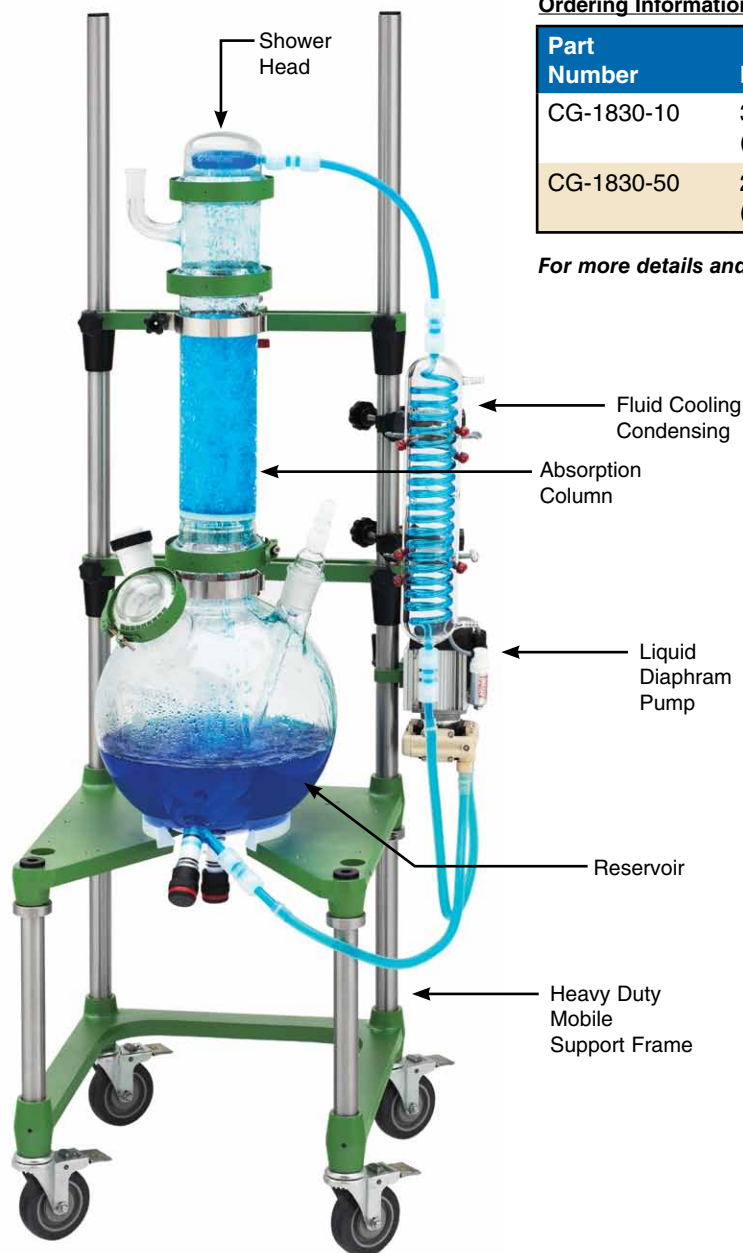


**CG-1830-10**

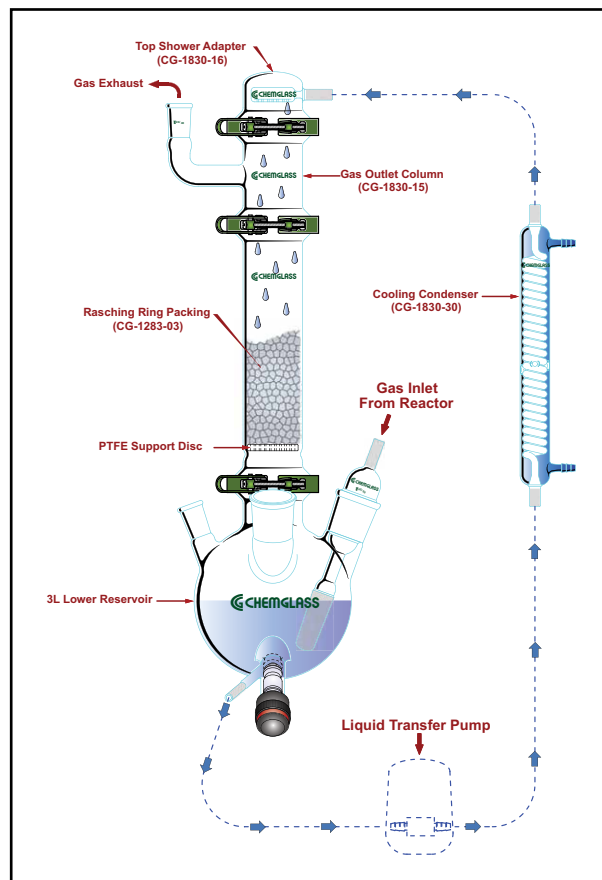
### Ordering Information:

Part Number	Description
CG-1830-10	3 Liter Gas Scrubber, Complete As Shown (Support Stand Sold Separately)
CG-1830-50	20 Liter Gas Scrubber, Complete As Shown (Support Stand Sold Separately)

*For more details and other gas scrubber accessories please see pages 474 - 477.*



**CG-1830-50**



**GAS SCRUBBER FLOW DIAGRAM**

# GAS SCRUBBER



CG-1830-12



CG-1830-13



CG-1830-15



CG-1830-16



CG-1830-30

## COMPONENTS:

### LOWER RESERVOIR

Heavy wall, round bottom flask lower reservoir for gas scrubber. Flask has either a 60 or 100mm flanged center neck and a 0-14mm Drain valve with Perfluoro o-rings. Valve is offset from the bottom of the flask to permit solids to settle and not clog the valve or damage the fluid pump head. Connection to the outlet of the valve is 1/2" Swagelok® glass tubing for use with CG-1975 compression fitting. The 3 Liter flask has two 24/40 and two 45/50 side necks while the 20 Liter has two 45/50 side necks.

Part Number	Description
CG-1830-12	3 Liter Lower Reservoir
CG-1830-51	20 Liter Lower Reservoir

### COLUMN, ABSORPTION, GAS SCRUBBER

Heavy wall column having either 60mm or 100mm flanges on both ends. Column has an indent to hold the glass filled PTFE packing support near the bottom of the column. Packing support sold separately.

Part Number	Description
CG-1830-13	Absorption Column, 3 Liter 60mm, 12" OAL
CG-1830-52	Absorption Column, 20 Liter 100mm, 15" OAL
CG-1830-44	Glass Filled PTFE Packing Support, 60mm
CG-1830-53	Glass Filled PTFE Packing Support, 100mm

### EXHAUST GAS OUTLET

Outlet adapter attaches to top of the absorption column and has a sidearm with a 24/40 outer joint. The 24/40 outer joint can be used with an adapter for connection to tubing for venting if necessary.

Part Number	Description
CG-1830-15	Exhaust Gas Outlet, 60mm
CG-1830-54	Exhaust Gas Outlet, 100mm

### SHOWER HEAD ADAPTER

Adapter attaches to the top of the exhaust gas outlet adapter and has an all glass shower head to dispense the scrubbing fluid down into the absorption column. Inlet connection is 1/2" Swagelok® tubing for use with CG-1975 compression fitting.

Part Number	Description
CG-1830-16	Shower Head Adapter, 60mm
CG-1830-55	Shower Head Adapter, 100mm

### CONDENSER, GRAHAM, GAS SCRUBBER

Graham style condenser for use in cooling of the scrubbing fluid. With 1/2" Swagelok® tubing for use with CG-1975 compression fitting. Hose connections have 10mm OD at the largest serration.

Part Number	Description
CG-1830-30	Condenser, Graham, for 3 Liter Scrubber, 350mm
CG-1830-57	Condenser, Graham, for 20 Liter Scrbber, 460mm

## COMPONENTS CONTINUED:

### ADAPTER, GAS INLET

Gas inlet adapter with 45/50 inner joint for connection of the gas source to the lower reservoir. Inlet connection is 1/2" Swagelok® tubing for use with CG-1975 compression fitting. Adapter is available in three styles.

**Style "A":** Adapter has a large 25mm x 70mm extra coarse fritted section that will dispense the gas sub-surface into the scrubbing fluid. This adapter is the best for hard to scrub gases.

**Style "B":** Adapter has an extension tube without the fritted section to insert the gas into the scrubbing fluid sub-surface. **PLEASE NOTE: THIS STYLE ADAPTER IS SUPPLIED WITH THE COMPLETE SCRUBBER.**

**Style "C":** Adapter permits the gas to enter the flask above the sub-surface of the scrubbing fluid. When using this adapter, all of the gas to liquid interaction takes place in the column.

Part Number	Description
CG-1830-18	Style "A" Gas Inlet, 45/50 for 3 Liter Scrubber
CG-1830-56	Style "A" Gas Inlet, 45/50 for 20 Liter Scrubber
CG-1830-19	Style "B" Gas Inlet, 45/50 for 3 Liter Scrubber
CG-1830-20	Style "C" Gas Inlet, 45/50 for 3 Liter Scrubber



Style "A"

Style "B"

Style "C"

### STANDS FOR GAS SCRUBBER

Stands for support of gas scrubber. The 3 Liter scrubber can be supported in a standard hood with a CG-1949 stand and can be used in a walk in hood using the CG-1951 Support stand. The 20 Liter support stand is for use in a walk in hood only.

Part Number	Description
CG-1949-100	Support Stand for 3 Liter Scrubber, Benchtop
CG-1951-100	Support Stand for 3 Liter Scrubber, Walk in Hood
CG-1830-60	Support Stand for 20 Liter Scrubber, Walk in Hood



CG-1949-100



CG-1951-100



CG-1830-60

### MISCELLANEOUS COMPONENTS FOR GAS SCRUBBER:

For more detailed listings see reactor section pages 474 - 477.

Part Number	Description
CG-141-T-11	Quick Release Clamp, 60mm, PTFE Coated
CG-141-T-12	Quick Release Clamp, 100mm, PTFE Coated
CG-147-G-01	PTFE Envelope Gasket, 60mm
CG-147-G-03	PTFE Envelope Gasket, 60mm
CG-1283-03	Rasching Rings, 8mm x 8mm, 1lb
CG-1975-20	1/4" to 1/2" PFA Compression Fitting
CG-1975-21	1/2" to 1/2" PFA Compression Fitting
CG-1975-01	1/4"OD X 1/8" ID PFA tubing
CG-1975-03	1/2" OD X 3/8" ID PFA tubing
CG-1171-20	PTFE Diaphragm Pump
CG-1171-50	PTFE Diaphragm Pump