Vacuum Manifolds and AIRFREE® Products

Chemglass Airfree® glassware has been designed for the convenient manipulation of highly reactive and moisture sensitive compounds using inert gas to exclude air and moisture. It is a highly comprehensive line of glassware designed for organometallic and inorganic chemistry.

Vacuum Manifold, Inert Gas Line, 5-Ports, Airfree®, Schlenk

Line has five ports (A) with 4 mm solid double oblique high vacuum stopcocks having a constant pressure retaining device, and 24/40 inner joints with hooks just above the grind. Ports are spaced 150 mm center to center and have rod bracing to vacuum bank. Large inner diameter of vacuum bank (40 mm) provides for a substantial reservoir to quickly evacuate vessels up to 1000 ml. End of the vacuum bank (B) has a 35/25 ball joint and is supplied with a 35/25 socket joint cap style stopper to help prevent induction of grease into line. A valved gauging port (C) is placed on the main vacuum line and has a 12/5 ball joint.

The inert gas line has two ports (D) for connection of the inert gas source and a bubbler. A valved, cross over line (E) is provided for evacuation of the entire system. End of the inert gas line (F) has a 14/20 inner joint and is supplied with a 14/20 outer joint cap style stopper.

Pre-trap (G) is 51 mm outer diameter x 250 mm long with two 28/15 socket joints which connect the manifold and main trap assembly which have 28/15 ball joints. Main trap body (H) is 58 mm outer diameter x 235 mm long with a reversed 75/50 ball and socket joint connection. A valved gauging port (I) is placed between the main and pre-trap and has a 12/5 ball joint. Connection to the diffusion pump or mechanical pump is made via a 1" OD tube (J) on the main trap assembly. Both traps can be isolated from the line for cleaning by the 0 - 12 mm Chem-Vac™ Chem-Cap® valves (K). Spacing between the two traps is 175 mm for easy placement of dewar flasks.

Complete system consists of one five-ports vacuum/inert manifold, one pre-trap, one main trap assembly, one main trap body, two # 28, one # 35 and one # 75 stainless steel pinch clamps, two 1/2" stainless steel springs, one 14/20 outer stopper with hooks, and one 35/25 socket stopper.

System is available in right or left handed configurations. Overall dimensions are 102 cm (width) x 61 cm (height).

Cat. No.	Description
AF-0450-01	5-Ports Vacuum Manifold, Right Handed Trap Assembly, Double Bank
AF-0450-02	5-Ports Vacuum Manifold, Left Handed Trap Assembly, Double Bank

Replacement Components and Acccessories on request

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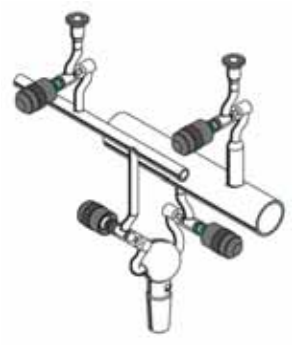
Vacuum Manifold, Inert Gas Line, 4-Ports, Airfree®, Schlenk



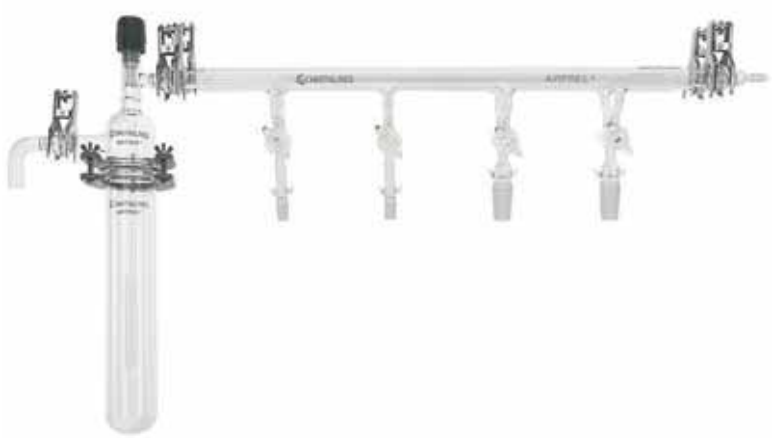
Similar to the AF-0450 five-ports line, except that the line is constructed using 0 - 4 mm Chem-Vac™ Chem-Cap® valves (A) instead of the greased glass stopcocks on all of the four ports. The end cap on the vacuum line is a # 30 o-ring joint while the inert gas line has a # 9 o-ring joint. All gauging ports (B) are constructed using # 9 o-ring joints and are supplied complete with adapters from the o-ring joint to 9 mm outer diameter tubulation for use with 3/8" Cajon® fittings.

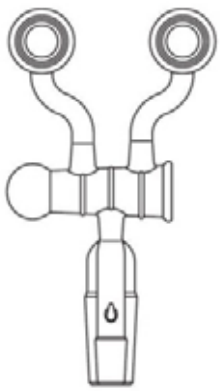
Line uses the same main and pre-trap as the AF-0450 line. Overall dimensions are 87 cm (width) x 61 cm (height).

Complete system consists of one four-ports vacuum/inert manifold, one pre-trap, one main trap assembly, one main trap body, two # 28, one # 50, one # 75, four # 18-L stainless steel pinch clamps, one # 9 o-ring joint cap stopper, one # 30 o-ring joint cap stopper, three # 9 o-ring joint to 3/8" tubulation for Cajon® adapters, four # 112 Viton o-rings, and one # 223 Viton o-ring.

Cat. No.	Description
AF-0451-01	4-Ports Vacuum Manifold, Right Handed Trap Assembly, Double Bank
AF-0451-02	4-Ports Vacuum Manifold, Left Handed Trap Assembly, Double Bank

Vacuum Manifold, Inert Gas Line, 4-Ports, Airfree®, Schlenk





Flexible and compact, this four-ports line is constructed using 4 mm double oblique hollow high vacuum greased stopcocks on all four ports. Ports are fitted with two 14/20 inner joints and two 24/40 inner joints and are spaced 127 mm center to center.

All four ends of the manifold have # 15 o-ring joints permitting the trap assembly to be attached to either the right or left side of the vacuum bank. Manifold is supplied with two # 15 stoppers and three # 15 o-ring joints to serrated hose adapters. Additional adapters can be offered, which enables the manifold to be set up using any number of variations.

Trap assembly is a rugged 2 piece design with a 0 - 12 mm Chem-Vac™ Chem-Cap® valve as the shut off. Stopper and body connection is made via a 57 mm flat o-ring flange and is supplied complete with a clamp and # 331 Viton o-ring. Trap body is 57 mm outer diameter x 300 mm long. Trap is supplied complete with one # 15 o-ring joint to 3/4" straight tubing adapter and one # 15 o-ring joint to 3/4" bent tubing for connection to heavy wall flexible vacuum tubing. Adapters to fit different inner diameter vacuum tubing are available.

Overall dimensions are 76 cm (width) x 46 cm (height).

Supplied complete with five # 28 stainless steel pinch clamps and # 116 Viton o-rings.

Cat. No.	Description
AF-0452-01	4-Ports Vacuum Manifold, Double Bank

Vacuum Manifold, Inert Gas Line, 4-Ports, Okuda, Airfree®, Schlenk

Main vacuum line with four 24/40 inner ports (A) having a unique configuration of 0 - 4 mm Chem-Vac Chem-Cap® valves. The valves are sealed to either the vacuum or inert gas side of the manifold and then bent to a 90º angle, forming a strong but very compact assembly. This configuration permits the line to be set up with the trap assembly on either the right or left side. Port spacing is 170 mm center to center. The cleanout at the end of the vacuum line (B) has a # 25 o-ring joint and is supplied complete with a cap style stopper. A valved gauging port is placed on the main vacuum line (C) and has a 18/9 ball joint.

The inert gas line has a port for connection to a bubbler or inert gas source (D) and has a 18/9 ball joint. A valved, cross-over line (E) is used for evacuation of the entire system. Both of the end cleanouts on the inert gas line (F) have a # 9 o-ring joint and are supplied complete with a cap style stopper.

The manifold is connected to the dual trap assembly with a 35/20 ball joint with a 0 - 12 mm Chem-Vac™ Chem-Cap® shutoff valve (G) to isolate the line from the traps. The pre-trap (H) is 50 mm outer diameter x 205 mm in length and has two 35/20 socket joints to connect it to the manifold and main trap. Main trap assembly has two 0 - 12 mm Chem-Vac™ Chem-Cap® valves (I), which permits the trap to be totally isolated from vacuum for cleaning. There is a valved gauging port (J) placed between the main and pre-trap having a 18/9 ball joint. Main trap (K) has a lower body 45 mm outer diameter x 210 mm in length with a 40 mm o-ring joint. Connection to vacuum source (L) is 22 mm outer diameter for use with heavy wall rubber vacuum tubing. Modified connections to the vacuum source can be offered.

Overall dimensions are 117 cm (width) x 58 cm (height).

Supplied complete with two # 18, three # 35, and one # 65 stainless steel pinch clamps, two # 112 Viton o-rings, and one # 226 Viton o-ring.

Cat. No.	Description
AF-0454-01	4-Ports Vacuum Manifold, Right Handed Trap Assembly, Double Bank

Bubblers, Airfree®, Schlenk

AF-0513-20: Used to monitor gas flow to reactions while providing a vent to the atmosphere, reservoir prevents oil from being sucked back into the system, volume below the sidearm is approx. 40 ml, 8 mm tubulations

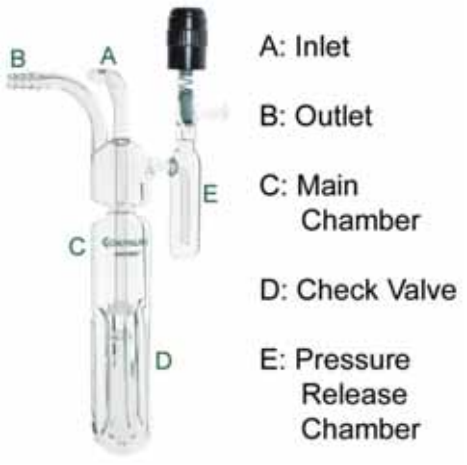
AF-0085-01: Bubbler has an integral valve to control the flow of inert gas into the system, requires a minimal amount of oil due to the inner tube being within 5 mm of the bottom, both sidearms are 9 mm for use with 3/8‘‘ Cajon® fittings, approx. 220 mm height

Cat. No.	Description
AF-0513-20	Bubbler
AF-0085-01	Bubbler, Cajon Connections

Please enquire for more Bubblers in our portfolio:

In-Line, Manometer, Adjustable, Double, Horizontal, Midget, High Capacity, Horizontal

Bubblers, Pressure Release, Lafler, Airfree®, Schlenk



Unique design of bubbler allows for fine control of purge gas within an inert gas system such as a manifold.

Purge gas enters bubbler through hose connection (A) and exits through connection (B) which is connected to manifold. The large capacity of the main chamber (C) allows for rapid purging with check valve protection of the inert gas source (D). The constriction of the large chamber prevents oil from being drawn back into the system. The small chamber (E) is equipped with a pressure release valve which is adjustable from 2 to 49 PSI (4 PSI is recommended for most vacuum, inert systems). When charging the system to the correct pressure setting, the bubbler in the main chamber will cease to operate and permit any over-pressure to escape through the small chamber (E).

Please note: Chamber (D) and (E) must be filled half way with mineral oil for proper operation.

Approx. dimensions are 150 mm width x 300 mm height.

Hose connections are 11 mm outer diameter at the largest ring.

Designed and developed by: Mr. Barry Lafler, Brookhaven National Laboratories, Upton, NY

Cat. No.	Description
AF-0512-01	Bubbler, Pressure Release, Lafler

Reaction flasks, Airfree®, Schlenk

Round bottom single neck flasks have a standard taper outer joint with a Chem-Vac™ Chem-Cap® valve sidearm.

Plug may be removed for sampling from flask while a purge of inert gas is maintained through the sidearm

50, 100, 250 ml: 14/20 outer joint; 250, 500, 1.000 ml: 24/40 outer joint

50, 100, 250 ml: 0 - 4 mm valve; 250, 500, 1.000 ml: 0 - 8 mm valve

A large choice of other reaction flasks, vessels and tubes can be offered.

Cat. No.	Description
AF-0529	Reaction Flasks with Joint Connection and Valve, 50 to 1.000 ml capacity

Airfree® products from Chemglass:

please enquire

Adapters, Bubblers, Cannulas, Diffusion Pumps, Distillation Apparatus, Flasks, Funnels, Reaction Tubes, Schlenk Lines, Vacuum Manifolds