

BUBBLER

Air-Tite Double Gas Bubblers



Made of borosilicate glass, this gas bubbler features a double trap design and is designed for bubble counting. Overall height is 7" with 25mm O.D. bubble chambers. Supplied with 5/16" hose connectors.

CATALOG NO.	HEIGHT	QUANTITY / PACK	PRICE
IG-149-100	7"	1	\$87.29

Air-Tite Gas Bubbler



Made of borosilicate glass, this gas bubbler is designed for bubble counting. It is supplied with 5/16" hose connectors.

CATALOG NO.	QUANTITY / PACK	PRICE
IG-148-100	1	\$101.21

Air-Tite Horizontal Bubblers



These horizontal bubblers are used for monitoring flow of gaseous reagents into organic reaction systems. Inert gases such as nitrogen or argon can be used. Made of borosilicate glass and supplied with 3/8" hose connections.

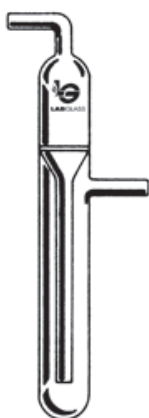
CATALOG NO.	JOINT	QUANTITY / PACK	PRICE
IG-147-100	ST 14/20	1	\$207.54
IG-147-102	ST 24/40	1	\$218.19



Air-Tite Nitrogen Bubbler, Improved

Used with reaction systems featuring Standard Taper outer joints, this borosilicate glass nitrogen bubbler is suitable for distillations or reactions where an inert atmosphere is required. Seal lower inner tube with approximately 10mL mineral oil.

CATALOG NO.	JOINT	QUANTITY / PACK	PRICE
IG-146-100	ST 24/40	1	\$254.17



Air-Tite Mineral Oil Bubbler

This bubbler is used with mineral oil to observe gaseous addition to reactions. It may be used to vent a reaction mixture to the atmosphere. Made of borosilicate glass with 8mm O.D. tubing connections.

CATALOG NO.	QUANTITY / PACK	PRICE
IG-145-100	1	\$54.54

GAS WASHING



Gas Washing Bottles with Fritted Disc

Generally used to saturate or dry gas streams, these borosilicate glass gas washing bottles have Standard Taper 45/50 top joint and stopper component containing gas inlet and outlet tubes. The lower inlet tube has a coarse (C) disc sealed on to provide a stream of fine bubbles into the bottle. Complete units are supplied with an LG-1004-116 plastic clamp.

CATALOG NO.	DESCRIPTION	CAPACITY	STOPPER NUMBER	QUANTITY / PACK	PRICE
LG-3750-100	Complete Gas Wash Apparatus	125mL		1	\$241.98
LG-3750-102	Complete Gas Wash Apparatus	250mL		1	\$281.23
LG-3750-110	Bottle	125mL		1	\$87.11
LG-3750-112	Bottle	250mL		1	\$125.62
LG-3750-120	Stopper Assembly	125mL	1	1	\$155.11
LG-3750-122	Stopper Assembly	250mL	1	1	\$184.54



Gas Washing Bottles with Fritted Discs

These borosilicate glass gas washing bottles are generally used to saturate or dry gas streams. Complete units consist of a bottle and a Standard Taper 40/35 stopper assembly with an inlet tube that is sealed through the center of a Coarse (C) fritted glass disc. Inlet tube extends nearly to the base of the bottle.

CATALOG NO.	DESCRIPTION	CAPACITY	STOPPER NUMBER	QUANTITY / PACK	PRICE
LG-3765-124	Complete Gas Wash Apparatus	125mL		1	\$203.34
LG-3765-126	Complete Gas Wash Apparatus	250mL		1	\$212.59
LG-3765-128	Complete Gas Wash Apparatus	500mL		1	\$231.05
LG-3765-130	Complete Gas Wash Apparatus	1000mL		1	\$286.93
LG-3765-116	Bottle	125mL		1	\$84.51
LG-3765-118	Bottle	250mL		1	\$91.29
LG-3765-120	Bottle	500mL		1	\$112.69
LG-3765-122	Bottle	1000mL		1	\$136.90
LG-3765-132	Stopper Assembly	125mL	1	1	\$125.24
LG-3765-136	Stopper Assembly	500mL	1	1	\$119.43
LG-3765-138	Stopper Assembly	1000mL	1	1	\$152.78



Gas Washing Bottles with Fritted Cylinders

These gas washing bottles are made of borosilicate glass and have a stopper component that contains gas inlet and outlet tubes. The lower inlet tube, extending nearly to the base of the bottle, contains a Coarse (C) or Extra-Coarse (EC) sealed-on fritted cylindrical disc (12mm O.D. x 25mm length) providing a stream of fine bubbles into the bottle. Bottle and stopper are joined by Standard Taper 29/42 joint. Complete units are supplied with a LG-1004-110 plastic clamp.

CATALOG NO.	DESCRIPTION	CAPACITY	QUANTITY / PACK	PRICE
Coarse				
LG-3761-100	Complete Apparatus with Coarse Disc	125mL	1	\$217.31
LG-3761-102	Complete Apparatus with Coarse Disc	250mL	1	\$223.00
LG-3761-104	Complete Apparatus with Coarse Disc	500mL	1	\$231.30
LG-3761-110	Bottle	125mL	1	\$67.62
LG-3761-112	Bottle	250mL	1	\$70.43
LG-3761-114	Bottle	500mL	1	\$85.23
LG-3761-120	Stopper Assembly with Coarse Disc	125mL	1	\$152.84
LG-3761-122	Stopper Assembly with Coarse Disc	250mL	1	\$144.34
LG-3761-124	Stopper Assembly with Coarse Disc	500mL	1	\$159.75
Extra Coarse				
LG-3762-100	Complete Apparatus with Extra-Coarse Disc	125mL	1	\$217.31
LG-3762-102	Complete Apparatus with Extra-Coarse Disc	250mL	1	\$226.62
LG-3762-104	Complete Apparatus with Extra-Coarse Disc	500mL	1	\$231.30
LG-3762-110	Bottle	125mL	1	\$62.62
LG-3762-112	Bottle	250mL	1	\$70.45
LG-3762-114	Bottle	500mL	1	\$85.23
LG-3762-120	Stopper Assembly	125mL	1	\$113.57
LG-3762-122	Stopper Assembly with Extra-Coarse Disc	250mL	1	\$144.34
LG-3762-124	Stopper Assembly with Extra-Coarse Disc	500mL	1	\$149.58



Dreschel Gas Wash Bottles

These Dreschel tall form gas washing bottles are made of borosilicate glass and have a stopper component that contains gas inlet and outlet tubes. Bottle and stopper are joined by full length Standard Taper 29/42 joint. Complete units are supplied with a LG-1004-110 plastic clamp.

CATALOG NO.	DESCRIPTION	CAPACITY	STOPPER NUMBER	QUANTITY / PACK	PRICE
LG-3690-100	Complete Apparatus	250mL		1	\$153.16
LG-3690-102	Complete Apparatus	500mL		1	\$169.00
LG-3690-110	Bottle	250mL		1	\$93.88
LG-3690-112	Bottle	500mL		1	\$113.65
LG-3690-120	Stopper Assembly	250mL	1	1	\$55.09
LG-3690-122	Stopper Assembly	500mL	1	1	\$60.15



Gas Washing Tubes

These borosilicate glass gas washing tubes come complete with tube and stopper equipped with Standard Taper joints. Stopper has two hose connections and a center tube with a fine (F) porosity fritted cylinder at its base.

CATALOG NO.	DESCRIPTION	JOINT	O.D. OF TUBE	APPROX TUBE LENGTH	APPROX OVERALL HEIGHT	QUANTITY / PACK	PRICE
ML-1490-702	Complete Assembly	ST 19/22	22mm	110mm	170mm	1	\$134.97
ML-1490-722	Tube	ST 19/22	22mm	110mm	140mm	1	\$43.82
ML-1490-712	Stopper	ST 19/22				1	\$91.06

GAS SAMPLING

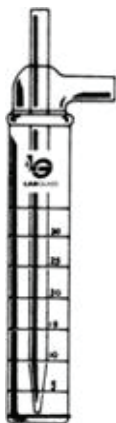


Gas Collection Tubes with PTFE Plug and Side Outlet

Featuring a side outlet in the body for a self sealing syringe stopper, these borosilicate glass Gas Collecting Tubes are useful in gas chromatography or mass spectroscopy. Stopcocks have PTFE plugs. For additional rubber stoppers, see ML-1940 .

CATALOG NO.	CAPACITY	LENGTH	O.D.	STOPCOCK SIZE	QUANTITY / PACK	PRICE
LG-8601T-102	50mL	250mm	28mm	2	1	\$201.50
LG-8601T-104	125mL	300mm	38mm	2	1	\$202.23
LG-8601T-108	500mL	380mm	64mm	4	1	\$259.11

GRADUATED IMPINGER



Midget Graduated Impingers

Calibrated in 5mL subdivisions, these borosilicate glass, graduated, midget impingers are used to collect samples of pollutants in air. They are particularly suitable for determinations of sulfur dioxide by the West and Gaeke method and of oxidants, including ozone, by the alkaline potassium iodide method.* The orifice at the bottom of the bubbler tube is 1mm. It passes 0.09-0.11 CFM of air at a vacuum of 12" H₂O. Adaptable to any air sample running steadily at 0.1 CFM. Complete unit is supplied with tube, stopper, and flask with Standard Taper joint.

NOTE: *For details of the methods see "Selected Methods for the Measurement of Air Pollutants," U.S. Public Health Service Publication No. 999-AP-1 1 (May 1965).

CATALOG NO.	DESCRIPTION	CAPACITY	JOINT	STOPPER NUMBER	QUANTITY / PACK	PRICE
LG-6890-100	Complete Impinger	25mL	ST 24/40		1	\$73.41
LG-6890-102	Complete Impinger	30mL	ST 24/40		1	\$75.22
LG-6890-110	Impinger Tube	25mL	ST 24/40		1	\$29.13
LG-6890-112	Impinger Tube	30mL	ST 24/40		1	\$31.19
LG-6890-120	Stopper	25mL	ST 24/40	1	1	\$43.47
LG-6890-122	Stopper	30mL	ST 24/40	1	1	\$55.58



Midget Graduated Bubblers

Calibrated in 5mL subdivisions, these borosilicate glass, graduated, midget impingers are used to collect samples of pollutants in air. Bubbler has extra coarse (EC) fritted dispersion tube which maximizes absorption by trapping liquid.

Complete unit is supplied with tube, stopper, and flask with Standard Taper joint. Reference: R.I.3360 Bureau of Mines

CATALOG NO.	DESCRIPTION	CAPACITY	JOINT	STOPPER NUMBER	QUANTITY / PACK	PRICE
LG-6893-100	Complete Impinger	25mL	ST 24/40		1	\$81.46
LG-6893-102	Complete Impinger	30mL	ST 24/40		1	\$81.61
LG-6893-122	Stopper	30mL	ST 24/40	1	1	\$56.93

DISPERSION TUBE



Cylindrical Gas Dispersion Tubes

Cylindrical, and made of borosilicate glass, these 250mm long gas dispersion tubes with 8mm stem O.D. have a sealed-in closed bottom fritted glass cylinder (approx 12mm x 25mm) and comes in Fine (F), Medium (M), Coarse (C), and Extra-Coarse (EC) porosities. They are useful when gas must be introduced through a narrow opening.

CATALOG NO.	POROSITY	QUANTITY / PACK	PRICE
LG-8680-100	Extra Coarse	1	\$38.11
LG-8680-110	Coarse	1	\$34.96
LG-8680-120	Medium	1	\$35.62
LG-8680-130	Fine	1	\$35.62



Tilted Gas Dispersion Tubes

Cylindrical, and made of borosilicate glass, these tilted gas dispersion tubes with 8mm stem O.D. come equipped with a sealed-in closed bottom fritted glass cylinder, angled at 15°. The angle allows passage through a small opening and the fritted disc comes in Medium (M) and Coarse (C) porosities. They are useful when gas must be introduced through a narrow opening.

CATALOG NO.	OPENING	POROSITY	APPROX DIAMETER OF DISC	QUANTITY / PACK	PRICE
LG-8700-110	25mm	Coarse	20mm	1	\$66.17
LG-8700-114	50mm	Coarse	40mm	1	\$79.56
LG-8700-120	25mm	Medium	20mm	1	\$57.55
LG-8700-122	37mm	Medium	30mm	1	\$68.99
LG-8700-124	50mm	Medium	40mm	1	\$81.12



Horizontal Gas Dispersion Tubes

Cylindrical, and made of borosilicate glass, these 250mm long gas dispersion tubes have an 8mm O.D. stem that is sealed through the center of a horizontal 30mm O.D., Coarse (C) or Extra-Coarse (EC), fritted disc. They are useful when gas must be introduced through a narrow opening.

CATALOG NO.	POROSITY	QUANTITY / PACK	PRICE
LG-8705-100	Extra Coarse	1	\$60.56
LG-8705-104	Coarse	1	\$60.56

MANIFOLDS

Double Vacuum Manifold



This borosilicate glass Air-Tite vacuum gas manifold (Schlenk line) is designed with double oblique pressure/vacuum stopcocks with 4mm bores and a 16.2/56 plug size. The stopcocks simplify evacuation or pressurization with an inert atmosphere. Manifold is 1" O.D.

CATALOG NO.	OUTSIDE DIAMETER	STOPCOCK BORE SIZE	QUANTITY / PACK	PRICE
IG-357-100	1"	4 at 4mm	1	\$1326.92

Vacuum Manifolds with PTFE Vacuum Valves



Manifold utilizes grease-free PTFE high vacuum valves with two lines entering the valve assembly. User has the option of one line for low vacuum; the other for high vacuum applications. May also utilize an inert gas with another connected to a vacuum source. Contact surface is borosilicate glass and PTFE. Valves are 0-4mm PTFE. Outlets are 9mm O.D. and distance between them is 100mm. Replacement O-Ring Set LG-10284-100.

CATALOG NO.	DESCRIPTION	DEPTH	LENGTH	HEIGHT	QUANTITY / PACK	PRICE
LG-11083-100	3 Places	85mm	300mm	150mm	1	\$712.04
LG-11083-102	5 Places	85mm	500mm	150mm	1	\$965.06

Vacuum Manifolds with PTFE Plugs

Made of borosilicate glass, this general purpose vacuum manifold has 4, 5, or 6 ports each and 4mm PTFE bore plug stopcocks with serrated hose connections. The main tube is 1" O.D. with a serrated hose connection on left or right side for vacuum connection. Spacing between stopcocks is approximately 75mm.



CATALOG NO.	CONNECTION SIDE	NUMBER OF PORTS	APPROXIMATE OVERALL LENGTH	STOPCOCK BORE DIAMETER	QUANTITY / PACK	PRICE
IG-36T-100	Right	4	310mm	4mm	1	\$523.01
IG-36T-104	Right	6	460mm	4mm	1	\$756.20
IG-36T-110	Left	4	310mm	4mm	1	\$523.01
IG-36T-114	Left	6	460mm	4mm	1	\$756.21

Pressure Release Valve

Item incorporates 0-4 mm high vacuum valve and is suited for grease-free operation. Suggested for use between gas source and manifold or related apparatus. PTFE valve is connected to a low pressure gas source then to the apparatus. Approximately 3mL of silicone oil is added to the bubbler which is retained by the ball check valve which prevents oil or air from entering the apparatus.



CATALOG NO.	DEPTH	HEIGHT	HOSE CONNECTOR	WIDTH	QUANTITY / PACK	PRICE
LG-11084-100	100mm	130mm	3/8"	80mm	1	\$178.94

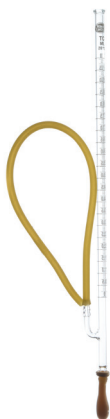
Transfer Manifold

Used for purification and transfer of solvents under inert conditions. Solvents are transferred from a boiling flask directly into an evacuated storage flask then cooled to a low temperature with dry ice or liquid nitrogen.



CATALOG NO.	HEIGHT	JOINT	WIDTH	QUANTITY / PACK	PRICE
IG-204-100	380mm	ST 24/40	140mm	1	\$174.51

FLOWMETERS

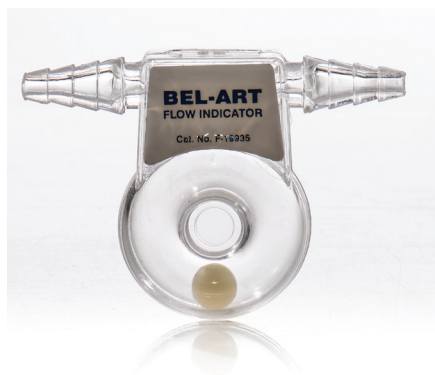


Soap Film Flowmeters

Made of borosilicate glass, these soap film bubble flowmeters are used in routine analytical laboratory gas chromatography to measure flow rate of the carrier gas. A soap bubble, formed in the bottom of the graduated tube, is pushed upward by gas from exit end of the chromatograph. Flow rate is determined by measurement of the volume through which the bubble travels in a definite period of time.

Includes LG-4340-100 rubber bulb.

CATALOG NO.	CAPACITY	GRADUATION	SUBDIVISIONS	QUANTITY / PACK	PRICE
LG-8612-095	10mL	0.1mL	0.1mL	1	\$110.09
LG-8612-100	25mL	1.0mL	1.0mL	1	\$152.93
LG-8612-102	50mL	1.0mL	1.0mL	1	\$158.90
LG-8612-104	100mL	1.0mL	1.0mL	1	\$182.78



Flow Indicator

A highly visible, nylon indicator ball housed in clear polycarbonate rotates in a circular channel during flow for simple flow monitoring.

- Continuity and relative flow rate indicated by speed of ball's rotation
- Arrow shows direction of flow
- A minimum water flow rate of 100/ml per minute in a horizontal position and 140ml per minute in a vertical position is required to mobilize the ball
- Upper flow limit is in excess of 1 liter/minute
- Maximum working pressure is 10 p.s.i.g. (69 kN/m²)
- Dimensions: 30 x 57mm (1¹/₈ x 2¹/₄") with two 23mm (0.9") long tube extensions
- Accepts 6.4mm (1/4") to 9.5mm (3/8") I.D. tubing
- Overall size: 76 x 57mm (3 x 2¹/₄")

CATALOG NO.	QUANTITY / PACK	PRICE
LG-9560T-100	1	\$26.34