

PRICE INQUIRY



To: Royal Oak Mines
Giant Mine
Bag 3000
Yellowknife, NWT
X1A 2M2

Atten: Brian Cross
Fax: 403-920-2627
Phone: 403-669-3733

QTY	UNIT	SIZE	PRICE	DESCRIPTION	PRICE	DELIVERY
1.	each	3P	01.002.50 15852-1 11051-9	Certified Gas Standard 1.5% Sulfur Dioxide Balance Air Cylinder rental: 30 free days after expired, \$0.36 per day	\$ 293.00	2.5 weeks
2.	each		31.736.66.3	Model # 3510-660 Regulator for Sulfur Dioxide Stainless steel Inlet 3000 psi, Outlet 4-100 psi	\$ 736.00	stock
3.	each		31.000.00	E1-4A101 (list flow here) Please see the attached	\$ 312.00	stock

Note: A \$2.50 PER INVOICE ENVIRONMENTAL SURCHARGE IS APPLICABLE ON ALL SPECIALTY GASES.
IF YOU HAVE ANY QUESTIONS REGARDING THIS SURCHARGE, PLEASE DO NOT HESITATE TO CONTACT
OUR OFFICE.

Cylinder Terms:
Freight on Board
Tax:
Terms:

Extra as applicable
Our dock.
Extra as applicable.
As set forth in our 1993 and 1996 catalog.
Please contact our office for more information.

Matheson Gas Products

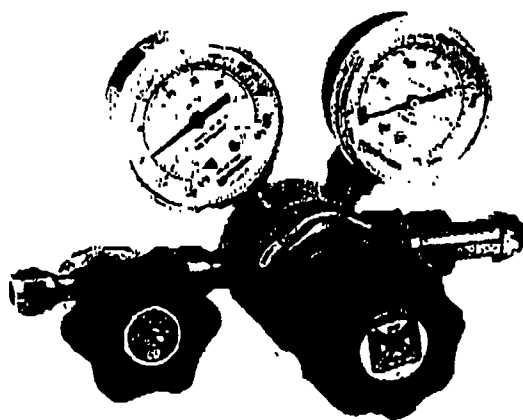
Beverlie Geldart

12143 68th Street
Edmonton, Alberta T5B 1P9
Phone: (403) 471-4036
Toll Free: 1 (800) 263-2620
Fax: (403) 471-3117

Regulators & Gauges

Model 3510 Series

Single Stage High Purity Stainless Steel Regulator



The Model 3510 Series regulators provide high purity control for applications where the delivery pressure is monitored.

Applications

The Model 3510 Series regulators are recommended for use in applications where a slight pressure rise is acceptable due to declining cylinder pressure as gas is withdrawn. Typically these applications include use of the regulators in some semiconductor manufacturing processes, trace analysis, semi-corrosive services and high purity critical laboratory situations. The Model 3510 Series is compatible with gases that are non-corrosive or semi-corrosive in nature.

Design Features

- 316 stainless steel construction
- Bonnet ported and threaded to pipe gases away from work area
- Can be helium leak certified to 2×10^{-4} scc/sec
- Equipped with an outlet diaphragm valve with Integral Gyrolok® 1/4" compression tube fitting
- Metal to metal seals throughout
- Bonnet threaded for panel mounting as standard
- Body screw thread tapped for back mounting
- Optional porting

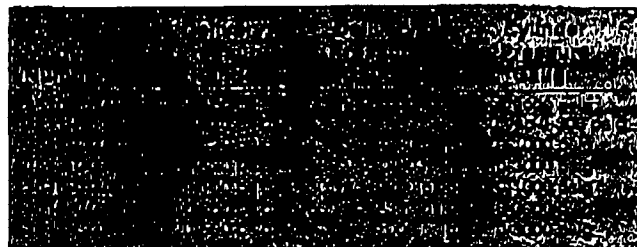
Materials of Construction

Body:	316 Stainless Steel
Bonnets:	Nickel Plated Brass
Diaphragms:	316 Stainless Steel
Seats:	PFA Teflon®
Seals:	Metal to Metal

Specifications

Maximum Inlet Pressure:	3000 psig (24,200 kPa)
Maximum Flow Rate: [*] (At 2500 psig, N ₂)	Model 3510: 660 SCFH (240 SLPM) Model 3511: 136 SCFH (60 SLPM) Model 3512: 210 SCFH (95 SLPM) Model 3513: 210 SCFH (95 SLPM) Model 3515: 550 SCFH (240 SLPM) Model 3516: 1350 SCFH (600 SLPM)
Operating Temperature:	-40 to 185°F (-40 to 74°C)
Body Porting:	1/4" NPT female
Porting Configuration:	2 High, 2 Low
Optional:	3 High, 3 Low
Shipping Weight:	5 lbs

Models Available



NOTE: Certain CGA limitations may apply.

^{*}Dome loaded versions of Models 3510, 3511, 3512, 3513, and 3515 available for use with ER-3000 system (see page 256).

Options

Model Description	Number	Reference
Swagelok® 1/4" Tube Fitting	OPN-0301-SA	
Bonnet Vent Fitting	ADP-0047-BK	
Too Purge Assembly	4754-CGA	page 326
Cross Purge Assembly	4774-CGA	page 326
Bonnet Panel Mounting Kit	KIT-0204-SA	
Bonnet Vent Adapter to 1/8" FNPT	ADP-0016-BA	
Inboard Helium Leak Rate Certification	MSP-0012-XX	page 226
Combination Inboard/Outboard Helium Leak Rate Certification	MSP-0013-XX	page 226

^{*} For flow diagrams refer to page 272.

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Rotameters



Flow Measurement
& Control

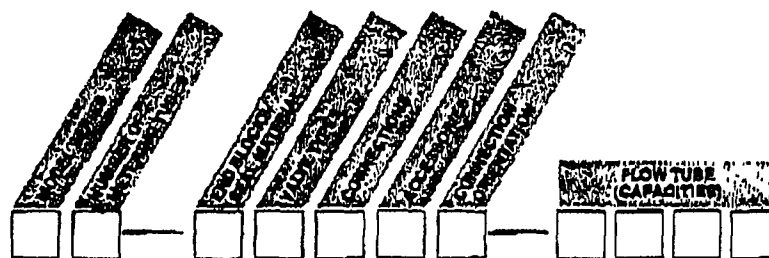
Flow Tube Capacities for FM-1050 Series Flowmeters, Reference Scales

Tube No.	Float Material	CO ₂ Carbon Dioxide (SCCM)	Argon (SCCM)	O ₂ Oxygen (SCCM)	Air (SCCM)	N ₂ Nitrogen (SCCM)	Natural Gas (SCCM)	He Helium (SCCM)	H ₂ Hydrogen (SCCM)	Utility Valve Size	HA Valve Size
E910*	Glass	0.34-108	0.23-88	0.25-97	0.13-104	0.28-108	0.47-162	0.26-144	0.58-269	7	1
E100	Glass & Stainless Steel	6.8-200	4.8-140	5.2-145	6-150	6.5-175	8-270	5.3-160	11.7-360	7	2
E200	Glass & Stainless Steel	11-280	7-220	8-240	10-270	10.5-278	14.6-410	9-260	19-560	7	2
E300	Glass & Stainless Steel	36-750	32-690	35-770	38-840	38-850	56-1180	47-1350	99-2500	7	3
E406	Glass & Stainless Steel	72-1450	75-1490	83-1880	88-1800	90-1850	111-2430	183-3680	278-5880	7	4
		(SLPM)	(SLPM)	(SLPM)	(SLPM)	(SLPM)	(SLPM)	(SLPM)	(SLPM)		
E500	Glass & Stainless Steel	0.22-4.4	0.21-4.13	0.24-4.69	0.23-4.6	0.25-6	0.85-6.9	0.51-10.4	0.81-16.2	8	5
E606	Glass & Stainless Steel	0.34-6.8	0.34-6.7	0.38-7.4	0.4-7.6	0.42-7.9	0.53-10	0.81-16.5	1.3-26.4	8	6
E700	Glass & Stainless Steel	0.77-14.4	0.76-14.3	0.85-15.1	0.88-16	0.91-17.2	1.28-22.6	2.39.8	3.09-59.6	9	6
E800	Glass & Stainless Steel	2.05-37.4	2.06-38.1	2.32-43.1	2.4-44	2.47-46	3.21-58.3	5.71-110.7	8.6-161.1	9	6

*Flow rates are at 70°F and 14.7 psia

NOTE: Reference tubes are supplied with correlation charts for air and water flow rates at STP. If you require a correlation chart for other gases or liquids, or at pressures or temperatures other than standard, please indicate such when ordering.

*100 calibrated correlated reference tube scale only



Model Number Generator for FM-1050 Series Glass Tube Flowmeters

MODEL SERIES Model FM-1050 Glass Tube Flowmeter with 150mm tube	VALVE TYPES A = Utility Valve on Inlet B = Utility Valve on Outlet C = High Accuracy Valve on Inlet D = High Accuracy Valve on Outlet G = Valve Plug on Inlet H = Valve Plug on Outlet K = Valve Cavity only V = No Valve/No Plug	ACCESSORIES 0 = None 1 = Bezel & Bracket — Clear Anodized Aluminum 5 = Base Plate Assembly 7 = Bezel & Bracket — Black Anodized Aluminum 9 = Clean for Oxygen Service Z = ± 1% Accuracy (Full Scale)
NUMBER OF METERING TUBES Single tube Unit Two tube Unit Three tube Unit Four tube Unit	CONNECTIONS 1 = 1/8" NPT Female 2 = 1/4" NPT Female 3 = 1/2" Tube 4 = 1/2" Tube 5 = 1/8" Hose with 1/2" Hose Adapter 6 = 1/4" Hose with 1/2" Hose Adapter 7 = 1/2" NPT Inlet & 1/4" Hose Outlet 8 = 1/8" NPT Inlet & 1/2" Tube Outlet 9 = 1/2" NPT Inlet & 1/2" Tube Outlet	CONNECTION ORIENTATION 1 = Back In and Back Out
FLOW TUBE SEAL MATERIAL Aluminum with Buna-N Seal Chrome Plated Brass with Buna-N Seal Stainless Steel with Viton Seal Aluminum with Viton Seal Stainless Steel with Viton Seal Aluminum with Viton Seal Stainless Steel with Viton Seal Aluminum with Viton Seal Stainless Steel with Viton Seal Aluminum with Viton Seal Stainless Steel with Viton Seal Aluminum with Viton Seal Stainless Steel with Viton Seal		FLOW TUBE (CAPACITIES) E900 = See Capacity Table For FM-1050 Series Flowmeters These are Reference Scale Flowmeters. Be sure to request calibration data for the gas(es) you will be measuring.

CLAMP