

## SINGLE-STAGE ALUMINUM BODY REGULATORS FOR CORROSIVE GASES (MODEL ARG)

Model ARG is a single-stage regulator designed for use with Anhydrous Ammonia, Hydrogen Sulfide and other gases compatible with aluminum.

**WARNING:** Do not use this regulator with Oxygen.



ARG Regulator

### STANDARD FEATURES

- Aluminum Body can be used with certain gases not compatible with brass, without the expense associated with stainless steel.
- Filter in Inlet traps foreign matter, extends regulator life and reduces maintenance.
- Outlet Metering Valve provides flow control.
- 1/8" NPT Female Bonnet Vent Port allows bonnet to be connected to a vent line or disposal system as a precaution in the unlikely event of a diaphragm failure.

### OPTIONAL FEATURES

- Mounting Ring permits regulator to be panel mounted.

### SPECIFICATIONS

Maximum Inlet Pressure:

ARG-3: 3000

ARG-2: 800

ARG-1: 300

Inlet Pressure Gauge: See Table I

Delivery Pressure Range: See Table I

Delivery Pressure Gauge: See Table I

Gauge Size: 2" Dial

Operating Temperature Range:

-15°F to +140°F

Flow Coefficient:

Regulator: Cv = 0.06

Outlet Valve: Cv = 0.35

Inlet Connection: CGA 290, 320, 330, 660 or 705 as ordered

Outlet Connection:

1/4" NPT male (on outlet valve)

Supply Pressure Effect: 1 psi per 100 psi

Approximate Weight: 3 lbs

### MATERIALS OF CONSTRUCTION

Body: Aluminum Bar Stock

Outlet Valve and Gauges:  
Type 316 Stainless Steel

Bonnet: Electroless Nickel-Plated  
Aluminum

Other Metal Parts Exposed to Gas:  
Aluminum and Stainless Steel

Seat: PCTFE in regulator

Diaphragm: Type 316 Stainless Steel

Seals: Teflon®

TABLE I

Part No.	Inlet Pressure		Delivery Pressure		
	Gauge (dual scale) (psig)	(bar)	Range (psig)	Gauge (dual scale) (psig)	(bar)
ARG-3-30-(CGA)	0-4000	0-275	2-30	-30" Hg-0-60	-1-0-4
ARG-3-75-(CGA)	0-4000	0-275	4-75	-30" Hg-0-100	-1-0-7
ARG-3-150-(CGA)	0-4000	0-275	10-150	-30" Hg-0-200	-1-0-14
ARG-2-30-(CGA)	0-1000	0-69	2-30	-30" Hg-0-60	-1-0-4
ARG-2-75-(CGA)	0-1000	0-69	4-75	-30" Hg-0-100	-1-0-7
ARG-2-150-(CGA)	0-1000	0-69	10-150	-30" Hg-0-200	-1-0-14
ARG-1-30-(CGA)	0-400	0-27	2-30	-30" Hg-0-60	-1-0-4
ARG-1-75-(CGA)	0-400	0-27	4-75	-30" Hg-0-100	-1-0-7
ARG-1-150-(CGA)	0-400	0-27	10-150	-30" Hg-0-200	-1-0-14

Where "(CGA)" is indicated above, insert appropriate Compressed Gas Association connection number to complete the part number. Example: ARG-3-75-705. Order by complete part number.

### OPTIONAL EQUIPMENT

Equipment	Part No.
Panel Mounting Ring*	PM3803
Compression Fittings* (female connectors)	
1/4" NPT female x 1/8" compression	SG6733
1/4" NPT female x 1/4" compression	SG6734
Safety Mounting Brackets*	See page 86
Purge Assemblies* (Cross purge assemblies are recommended)	See page 42

\* If selected, these items are not installed on the regulator. They are shipped as separate items.

## SINGLE-STAGE, TIED SEAT, HIGH FLOW, REGULATORS FOR CORROSIVE GASES (MODEL CRH)

The special internal design makes these corrosive-resistant regulators extremely reliable for use with so-called "dirty gases such as Hydrogen Chloride, Sulfur Dioxide or Chlorine. It features a large seat and attached poppet (tied seat) design which reduces its susceptibility to clogging from particulate matter. In the unlikely event that a seat leak occurs from contamination or other sources, the regulator provides for positive shut-off by pulling the poppet tighter against the seat as pressure rises. The large Cv factor on this regulator also makes it an excellent choice for corrosive gas applications requiring high flow rates.



CRH Regulator

### STANDARD FEATURES

- Type 316 Stainless Steel Bar Stock Construction provides maximum corrosion resistance.
- High Purity Design assures maximum diffusion resistance and permits vacuum purging of regulator.
- Tied Seat (tied diaphragm) ensures positive shutoff if particulate matter should lodge in the seat, a common problem with corrosive gases.
- Diaphragm Seal Outlet Valve maintains gas purity.
- Unique Regulator Design allows regulator to be used at very low inlet pressures.
- 2½" Stainless Steel Gauges read easily for more precise settings.
- Threaded Holes in Rear of Regulator permit front panel mounting.

### OPTIONAL FEATURES

- Bonnet Vent Connector provides a ½" NPT female port allowing bonnet to be connected to a vent line or disposal system as a precaution in the unlikely event of a diaphragm failure.
- Packed 316SS Needle Valve in place of standard diaphragm seal valve, provides flow control at an economical price.
- Internal (Inboard) Helium Leak Test and Test Report determines inboard leak rate; test report certifies leak rate of less than  $2 \times 10^{-8}$  sccs air equivalent.
- External (Outboard) Helium Leak Test and Test Report determines leak rate of gas from regulator to atmosphere; test report certifies leak rate of less than  $5 \times 10^{-7}$  sccs air equivalent.

### SPECIFICATIONS

Maximum Inlet Pressure: See Table I  
 Inlet Pressure Gauge: See Table I  
 Delivery Pressure Range: See Table I  
 Delivery Pressure Gauge: See Table I  
 Gauge Size: 2½" Dial

### Flow Coefficient:

Regulator: Cv = 0.624  
 Outlet Valve: Cv = 0.26

Inlet Connection: CGA 290, 330, 350, 510, 660 or 705 as ordered

Outlet Connection:  
 ¼" NPT female (on outlet valve)

Supply Pressure Effect:  
 1 psi per 100 psi (approximate)

Approximate Weight: 7 lbs

### MATERIALS OF CONSTRUCTION

Body: Type 316 Stainless Steel Bar Stock

Outlet Valve and Gauges:  
 Type 316 Stainless Steel

Bonnet: Nickel-Chrome Plated Brass

Other Metal Parts Exposed to Gas:  
 Type 316 Stainless Steel

Seats (Regulator and Outlet Valve): PCTFE

Diaphragm: Type 316 Stainless Steel

Seals: Teflon®

TABLE I

Part No.	Inlet Pressure (psig)		Delivery Pressure (psig)	
	Maximum	Gauge	Range	Gauge
CRH-3-75-(CGA)	3000	0-4000	3-75	0-100
CRH-3-150-(CGA)	3000	0-4000	10-150	0-200
CRH-2-75-(CGA)	800	0-1000	3-75	0-100
CRH-2-150-(CGA)	800	0-1000	10-150	0-200
CRH-1-75-(CGA)	300	0-400	3-75	0-100
CRH-1-150-(CGA)	300	0-400	10-150	0-200

Where "(CGA)" is indicated above, insert appropriate Compressed Gas Association connection number to complete the part number. Example: CRH-3-75-330. Order by complete part number.

To order regulator with optional packed needle valve, suffix regulator part number with PV.

Example CRH-3-75-330-PV.

### OPTIONAL EQUIPMENT

Equipment	Part No.
Bonnet Vent Connector*	SG5647
Inboard Helium Leak Test and Test Report	HT1000
Outboard Helium Leak Test and Test Report	HT1001
Outlet Fittings* (male connectors)	
¼" NPT male x ½" compression	SG6713
¼" NPT male x ¼" compression	SG6714
Check Valves*	See page 99
Safety Mounting Brackets*	See page 86
Packed Needle Valve	See Table I Footnote
Purge Assemblies* (Cross purge assemblies are recommended)	See page 42

\* If selected, these items are not installed on the regulator. They are shipped as separate items.

## SINGLE-STAGE, TIED SEAT, HIGH PURITY REGULATORS FOR ACID-FORMING GASES (MODEL ASB)

The Model ASB regulator has been specifically designed for use with acid-forming gases such as Hydrogen Chloride or Boron Trifluoride. It is constructed primarily of Aluminum-Silicon-Bronze metal, which has shown superior corrosion-resistant properties in these demanding services.

The ASB also features a Monel® nozzle, and Monel® filter screens, along with a stainless steel diaphragm which has been lined with Hastelloy C-22®. This combination allows for its use in high purity applications, while also enhancing its resistance to corrosion.



ASB Regulator

### STANDARD FEATURES

- Aluminum-Silicon-Bronze Construction provides superior corrosion resistance to acid-forming gases such as HCl.
- Stainless Steel Diaphragm Lined with Hastelloy C-22® maintains gas purity while also providing enhanced resistance to corrosion.
- High Purity Regulator Design permits vacuum purging of regulator.
- Tied Seat (tied diaphragm) ensures positive shutoff if particulate matter should lodge in the seat, a common problem with corrosive gases.
- Threaded Holes in Rear of Regulator permit front panel mounting.
- Aluminum-Silicon Bronze Diaphragm Seal Outlet Valve maintains gas purity.

### OPTIONAL FEATURES

- Bonnet Vent Connector provides a 1/8" NPT female port allowing bonnet to be connected to a vent line or disposal system as a precaution in the unlikely event of a diaphragm failure.
- Internal (Inboard) Helium Leak Test and Test Report determines inboard leak rate; test report certifies leak rate of less than  $2 \times 10^{-8}$  sccs air equivalent.
- External (Outboard) Helium Leak Test and Test Report determines leak rate of gas from regulator to atmosphere; test report certifies leak rate of less than  $5 \times 10^{-7}$  sccs air equivalent.

### SPECIFICATIONS

Maximum Inlet Pressure: See Table I  
 Inlet Pressure Gauge: See Table I  
 Delivery Pressure Range: See Table I  
 Delivery Pressure Gauge: See Table I  
 Gauge Size: 2 1/2" Dial  
 Flow Coefficient:  
 Regulator: Cv = 0.624  
 Outlet Valve: Cv = 0.26  
 Inlet Connection:  
 CGA 330, 350, or 660 as ordered  
 Outlet Connection:  
 1/4" NPT female (on outlet valve)  
 Supply Pressure Effect:  
 1 psi per 100 psi (approximate)  
 Approximate Weight: 7 lbs

### MATERIALS OF CONSTRUCTION

Body and Outlet Valve:  
 Aluminum Silicon Bronze  
 Gauges: Type 316 Stainless Steel  
 Bonnet: Nickel-Chrome Plated Brass  
 Other Metal Parts Exposed to Gas:  
 Type 316 Stainless Steel, Monel®,  
 and Inconel®  
 Seats (Regulator and Outlet Valve): PCTFE  
 Diaphragm: Type 316 Stainless Steel lined  
 with Hastelloy C-22®  
 Seals: Teflon®

TABLE I

Part No.	Inlet Pressure (psig)		Delivery Pressure (psig)	
	Maximum	Gauge	Range	Gauge
ASB-3-75-(CGA)	3000	0-4000	3-75	0-100
ASB-3-150-(CGA)	3000	0-4000	10-150	0-200
ASB-2-75-(CGA)	800	0-1000	3-75	0-100
ASB-2-150-(CGA)	800	0-1000	10-150	0-200
ASB-1-75-(CGA)	300	0-400	3-75	0-100
ASB-1-150-(CGA)	300	0-400	10-150	0-200
ASB-0-75-(CGA)	3000	none	3-75	0-100
ASB-0-150-(CGA)	3000	none	10-150	0-200

Where "(CGA)" is indicated above, insert appropriate Compressed Gas Association connection number to complete the part number. Example: ASB-3-75-330. Order by complete part number.

### OPTIONAL EQUIPMENT

Equipment	Part No.
Bonnet Vent Connector*	SG5647
Inboard Helium Leak Test and Test Report	HT1000
Outboard Helium Leak Test and Test Report	HT1001
Check Valves*	See page 99
Purge Assemblies* (Cross purge assemblies are recommended)	See page 42

\* If selected, these items are not installed on the regulator. They are shipped as separate items.