

Severe Duty Stainless Steel Models

High Purity

PRESSURE REGULATORS

Description: The complete stainless steel construction of these regulators allows for the high-purity design to function in the most severe environments. Harsh corrosive environments which have high levels of sea salt, fluorides, unnaturally occurring chlorides, sulfides or other acidic/caustic elements in the ambient atmosphere will cause premature degradation of brass and most vinyl plastics. The near bullet-proof design of the Airgas Severe Duty Regulator provides exact pressure regulation while resisting the negative effects of a corrosive environment.

These regulators also have a check valve CGA that prevents contaminants from entering the gas stream during cylinder change out.

The internal threadless seat design of these single and two-stage stainless steel regulators is the same as used in our high-purity Y11-C444 & Y12-C445 series. The convoluted Hastelloy C-22 diaphragms provide excellent regulating characteristics and allow for internal vacuum purging. A 1/4-turn packless diaphragm outlet valve with a 1/4" compression fitting is provided to maintain optimum system purity. Captured bonnet vent ports are plugged with sintered mufflers which minimize the negative corrosive effects on the control spring assemblies. The regulator bodies are ultrasonically cleaned for the most demanding high-purity service.



Design Features

- **Stainless Steel Bonnets**
provides superior protection against corrosive environments.
- **Metal Pressure Control Knob**
anodized to resist any premature degradation.
- **Convoluted Hastelloy C-22 Diaphragms**
provide superior leak integrity without contamination from a non-metallic liner or seal.
- **Integral Check Valve in CGA**
virtually eliminates atmospheric contamination that occurs during cylinder change out.
- **1/4 Turn Diaphragm Packless Outlet Valve**
provide metal-to-metal positive shutoff
1/4" compression outlet fitting
- **Threadless Seat Design**
provides longer regulator life

Materials

| | |
|-----------------------------------|------------------------|
| Body | 316 Stainless Steel |
| Bonnet | 303 Stainless Steel |
| Seat | PCTFE |
| Diaphragm | Hastelloy C22 |
| Gauges | 2 1/2" Stainless Steel |
| Filter | 316 Stainless Steel |
| Outlet Valve & Fitting | 316 Stainless Steel |
| Trim | 316 Stainless Steel |

Specifications

| | |
|--------------------------------------|---|
| Maximum Rated Inlet Pressure | 4,000 psig |
| Outlet Pressure Ranges | 2-30 psig, 3-60 psig, 4-100 psig, 5-250 psig |
| Ambient Operating Temperature | -40° F to +150°F |
| Designed Leak Rate | 2 x 10 ⁻⁸ ccs (helium) |
| Weight | 6 lbs. |
| Outlet | 1/4" TOD Compression Fitting |

Single-Stage Ordering Information

| Product Number | Material | Max Inlet Pressure (psig) | Max Outlet Pressure (psig) | Capacity (scfh @ Max Del. Pressure) | Inlet Gauge Range (psig) | Delivery Gauge Range (psig) |
|-----------------|----------|---------------------------|----------------------------|-------------------------------------|--------------------------|-----------------------------|
| Y11-SD474A(CGA) | 316 SS | 4,000 | 30 | 900 | 0 - 4000 | 0-60 |
| Y11-SD474B(CGA) | 316 SS | 4,000 | 60 | 1,250 | 0 - 4000 | 0-100 |
| Y11-SD474D(CGA) | 316 SS | 4,000 | 100 | 1,750 | 0 - 4000 | 0-200 |
| Y11-SD474F(CGA) | 316 SS | 4,000 | 250 | 2,700 | 0 - 4000 | 0-400 |

Two-Stage Ordering Information

| Product Number | Material | Max Inlet Pressure (psig) | Max Outlet Pressure (psig) | Capacity (scfh @ Max Del. Pressure) | Inlet Gauge Range (psig) | Delivery Gauge Range (psig) |
|-----------------|----------|---------------------------|----------------------------|-------------------------------------|--------------------------|-----------------------------|
| Y12-SD474A(CGA) | 316 SS | 4,000 | 30 | 190 | 0 - 4000 | 0-60 |
| Y12-SD474B(CGA) | 316 SS | 4,000 | 60 | 270 | 0 - 4000 | 0-100 |
| Y12-SD474D(CGA) | 316 SS | 4,000 | 100 | 380 | 0 - 4000 | 0-200 |
| Y12-SD474F(CGA) | 316 SS | 4,000 | 250 | 850 | 0 - 4000 | 0-400 |