REGO CRYO - FLOW PRODUCTS

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REGO Cryo-Flow Products
Operating Instructions for BR-1780 Series Heavy Duty Pressure Regulators
Suitable for use on Ar, N_2, O_2, N_2O, CO_2, Compressed Air, and Mixtures of these gases
Maximum Allowable Pressure 28 bar

WARNING: Installation and use of this product must be in compliance with all Engineered Controls International, Inc. instructions as well as requirements and provisions of all applicable national and local standards, codes, regulations and laws.

Inspect regularly. Replace as required. The safe useful life of a regulator is less than 15 years in most applications. Only qualified personnel should perform installation, maintenance and inspections; and all instructions read and understood before installation, operation and maintenance. It is required to pass these instructions to the end user of the products. CAUTION: Contact or vapor inhalation of Ar, N_2, N_2O, He, H_2, and CO_2 can cause serious injury or death! Vent gases outdoors in air currents that will insure dispersion to prevent exposure to people and livestock. H_2 gas must be kept far enough from any open flame or other source of ignition to prevent fire or explosion! While O_2 gas is not flammable, it is an accelerator, therefore keeping it from open flames and materials that may promote auto ignition - such as hydrocarbon fuels and oil - is highly advised.

NOTE: All REGO products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion and aging of components made of materials such as metal and rubber. As a general recommendation, replace regulators in 15 years or less depending on the type of service and environment. The environment and conditions of use will determine the safe service life of these products. Periodic inspection and maintenance are essential.

Because REGO products have a long and proven record of quality and service, dealers may forget the hazards that may occur because a regulator is used beyond its safe service life. The environment surrounding the regulator determines the useful life of that regulator. Therefore the dealer knows more about this environment, and the effect that environment will have on the life of a regulator.

Installation:

1. Refer to REGO Cryo-Flow Products catalog for sizing and selection information.
2. Apply a pipe joint compound suitable for use of the gas service (such as PTFE tape) to the male threads on the piping.
3. Clean dirt and foreign material from all piping and fittings.
4. Be sure the inlet and outlet of the regulator is correctly installed in-line according to the designed flow pattern and markings on the regulator body.
5. Pressure gauges must also be suitable for this service.
6. Position Regulators to protect vents from the elements of ice, snowdrifts, rain, dirt, bugs, paint, or other foreign material.
7. Follow all local and national codes and standards for pressure testing and leak testing the installation.

Operation:

Note: REGO regulators are pressure accessories according to the European Pressure Equipment Directive (97/23/EC). Should the design pressure of the downstream system(s) be lower than the pressure that can occur up stream, protect the lowest design pressure element from the highest overall system pressure.

The 1780 Series Regulators are designed to reduce maximum inlet pressure of 28 bar to a delivery pressure between .34 and 14 bar. This regulator may be set for flowing or lock-up (no flow) pressures. The pressure stated on the regulator's bonnet and in the table below is for the lock-up pressures. Setting the regulator under flowing conditions will decrease the maximum obtainable of the spring's pressure range.

Regulator Series	Service	Part No. Suffix	Delivery Pressure Range	
			BAR	PSIG
BR-1784 BR-1786 BR-1788	O_2, N_2, Ar, He, H_2, N_2O, Air, Mixes	C	6.9-13.8	100-200
		B	2.8-7.6	40-110
		A	.3-3.8	5-55
BR-1784E BR-1786E BR-1788E	CO_2, N_2O	C	6.9-13.8	100-200
		B	2.8-7.6	40-110
		A	.3-3.8	5-55

If set under flowing conditions, shut the flow off downstream to check the lock-up pressure. If this lock-up pressure is above the desired maximum allowed system pressure, reduce the inlet flow to reduce the lock-up pressure. If this is not possible, then the regulator is too small for the application, and a larger volume regulator is necessary.

To set the regulator's outlet pressure:

1. Remove the bonnet cap to expose the adjusting screw.
2. Loosen the lock nut by turning counterclockwise.
3. To increase pressure, turn the adjusting screw clockwise. To decrease pressure, turn the adjusting screw counterclockwise.
4. After achieving the desired pressure, cycle the regulator several times by operating the downstream flow control device. Readjust if necessary.
5. While holding the adjusting screw from turning, tighten the lock nut by turning clockwise.
6. Replace the bonnet cap.

Maintenance and Inspection:

Periodically check for:

1. Any signs of corrosion due to salt water, industrial pollutants, chemicals, and roadway contaminants;
2. Any physical damage that would prevent proper sealing and usage or that may cause product failure under pressure;
3. Leaks in the end connections of the regulator;
4. Proper operation as foreign matter may affect the performance of the regulator.

Keep all equipment clean, and replace damaged equipment immediately.

Hazards:

- These regulators are suitable for use in gas service. However, when used in gas service where the application involves confining gas between the regulator and a shut-off valve, either upstream or downstream of the regulator, a relief valve of appropriate size to the system must be install.
- Piping systems that confine gas without appropriate protection against over pressurization
- Never uncouple the regulator from the piping system until all pressure has been released from the lines

General Warning:

All REGO products are mechanical devices that will eventually become inoperative due to wear, contaminants, corrosion, and aging components. Periodic inspection and maintenance are essential. The safe useful life of this product varies on environment, the frequency of inspection, and maintenance program that is used.

For more information, refer to REGO Cryo-Flow Products catalog or www.regoproducts.com/cryoflow.

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