# Series BPRX, Back Pressure Regulator User Instructions

Scope and Intended Use:
These user Instructions are applicable for all Generant Series BPRX Back Pressure Regulators. These regulators are intended for use as pressure limiting devices or as high-efficiency economizers for large cryogenic tanks, trailers, and systems.

Technical Data:
Series BPRX Regulators are 100% factory tested for leakage and factory pre-set. Every regulator is marked with Manufacturer, Part Number, Date Code, Maximum Inlet Pressure, Set Pressure Range, and Direction of Flow (Inlet & Outlet) markings. Regulators come factory pre-set based on the end customer specifications, to a pressure in the ranges listed below.

Outlet Pressure Ranges:
"A" Spring: 15 – 75 PSIG (1.0 to 5.2 bar)
"B" Spring: 50 – 200 PSIG (3.4 to 13.8 bar)
"C" Spring: 100 – 350 PSIG (6.9 to 24.1 bar)
"D" Spring: 300 – 600 PSIG (20.7 to 41.4 bar)

Regulator setpoint varies slightly depending on whether it is used in a vent-to-atmosphere or true economizer application. When a regulator is set vent-to-atmosphere and installed in a true economizer application (substantial outlet pressure is present), it will begin to open at a slightly lower pressure than its original vent-to-atmosphere setpoint. The factory standard setting is vent-to-atmosphere, but they can be set either way. Consult factory for more information.

BPRX Regulators sense pressure on the inlet and open when inlet pressure exceeds setpoint. This type of regulator features a lapped metal to metal internal seal for robust performance in cryogenic applications. Due to the nature of the sealing mechanism, a small amount of leakage through the device is allowed at pressures below setpoint. Consult factory for allowable leak rates, which vary by spring range.

**⚠ WARNING**

Generant Series BPRX Regulators are supplied "Cleaned for Oxygen Service" standard in heat sealed in poly bags. Once removed from the bag, the integrity of this cleaning has been compromised. Proper handling should be used to ensure the integrity and cleanliness of the system.

Maintenance:
The BPRX series regulators are designed to be fully field rebuildable, with repair kits readily available.

Consult factory for detailed repair instructions before attempting any field service or repair.

Adjusting the Regulator:

1. Ensure that the regulator is installed according to the directional flow indicators marked on the regulator body.

2. To adjust regulator, refer to the following table to adjust to desired setpoint from Factory Pre-Set pressure. Turn regulator adjusting screw CW to increase pressure and CCW to decrease pressure.
   *Note: Values in the table are for reference only.
   Actual pressure adjustments will vary slightly.

3. Once desired adjustment is made, the regulator can be locked by tightening the lock nut on the adjustment screw.

| SPRING | RANGE (PSIG) | PSI/TURN (APPROX) |
|---|---|---|
| A | 15 - 75 | 10 |
| B | 50 - 200 | 25 |
| C | 100 – 350 | 45 |
| D | 300 – 600 | 75 |

Safe Component Selection

When selecting a component, the total system design must be considered to ensure safe, trouble-free performance. Component function, materials compatibility, adequate ratings, proper installation, operation, cleanliness, and maintenance are the responsibility of the system designer and user.

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