Redundant Overpressure Protection Regulators for Model 101A, 101B & 101C Units

Model RR-4, RR-6, & RR-8

Overpressure Protection Redundant Regulators

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Application

Model RR Redundant Regulators are intended to satisfy NFPA 496 requirements for preventing the possibility of enclosure over-pressurization due to excessive protective gas supply pressure.

Each regulator features a removable adjustment knob to render it tamper-proof at the user's discretion. The regulators feature a 0-30 psi gauge, and when installed upstream of a Model 101A, 101B or 101C Enclosure Pressurization Unit, and properly calibrated as recommended on page 2, will serve as an up-stream protective gas supply safety device.

Model RR Redundant Regulators are identical to the Enclosure Pressure Control Regulators of the Units they protect, so the adjustment knobs of both regulators are interchangeable if needed.

Optional Installation Kits

Model RR Redundant Regulators are suitable for in-line mounting and may be adequately supported by threaded pipe headers.

However, we offer optional industrial grade mounting hardware and tube fittings to facilitate the proper installation of these regulators.

The kits include a 14 gauge 316 stainless steel regulator bracket, a regulator mounting ring, neoprene o-ring sealing screws, neoprene gasket backed 18-8 stainless steel sealing washers, 316 stainless steel nylon locking nuts and two 316 stainless steel 90 degree elbow tube fittings.

Alternative Solution

In certain circumstances, such as an analyzer or process measurement meter application, a protected enclosure may contain other potential sources of high pressure gases, in either combustible, flammable or inert compositions.

We therefore offer Model PV Purge Vents as a viable alternative for protection against excessive protective gas supply pressure and over-pressurization due to other sources of internal overpressure. Consider this alternative if warranted by your application, and contact a Sales Associate for more information.

Model PV Vents can act to relieve excessive protective gas supply AND internal sources of overpressure!

All Models are offered with optional Mounting Hardware & Tube Fitting Kits!

Best Purging Systems
Enclosure Purging & Pressurization Solutions

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Installation & Calibration

Installation Procedure

1. Install the Enclosure Pressurization Unit on the enclosure to be protected and connect the supply and reference tubing as recommended in the Installation, Operation and Maintenance Manual provided with the Unit.
2. Install the Redundant Regulator in close proximity to the unit, using suitable support and fittings of your choice or the optional fittings and mounting brackets, ensuring that the Unit's Enclosure Pressure Gauge will be easily visible while adjusting the Redundant Regulator.
3. Connect the supply inlet port of the Redundant Regulator to a suitable source of protective gas not exceeding a maximum pressure of 125 PSI.
4. Connect the supply outlet port of the Redundant Regulator to the supply inlet connection of the Unit's Enclosure Pressure Control Regulator.

Calibration Procedure

READ ALL INSTRUCTIONS AND IMPORTANT CALIBRATION PROCEDURE NOTES TO THE RIGHT BEFORE PROCEEDING

Model RR-4 Redundant Regulators Knobs are engaged by pulling them outward and locked by pushing them inward.

Model RR-6 & RR-8 Redundant Regulators Knobs are engaged by pushing them inward and locked by pulling them outward.

1. Close the protected enclosure, ensuring all doors, covers are fully shut and all electrical conduit seals are poured.
2. Adjust the Redundant Regulator and Unit's Enclosure Pressure Control Regulator to the lowest possible pressure settings, by engaging the knobs and turning them gently counter-clockwise to the full limit of travel.
3. Supply a suitable source of protective gas to the Redundant Regulator slowly, ensuring that no pressure is read on the Redundant Regulator's gauge.
4. Adjust the Unit's Enclosure Pressure Control Regulator to it's highest possible pressure setting, by turning the adjustment knob gently clockwise to the full limit of travel.
5. Slowly adjust the Redundant Regulator to set a pressure of 0.5" on the protected enclosure, using the Enclosure Pressure Gauge as a reference to achieve just at or under the full range of scale pressure.
6. Lock the Redundant Regulator Knob or pull firmly to remove the knob and render the regulator tamper-proof.
7. Slowly adjust the Unit's Enclosure Pressure Control Regulator by turning it counter-clockwise to set a pressure of 0.25" on the protected enclosure, using the Enclosure Pressure Gauge as a reference to achieve just at or under the mid range of scale pressure.
8. Lock the Unit's Enclosure Pressure Control Regulator Knob or pull firmly to remove the knob and render the regulator tamper-proof.
9. Fully instruct all protected enclosure operators and maintenance personnel of the Redundant Regulator's function, calibration procedure and purpose.

Model Number Matrix

Typical Model Number: **RR - 4 - E**

Model Series Number

Regulator Size

4 - Compatible with Model YZ101A
6 - Compatible with Model YZ101B
8 - Compatible with Model YZ101C

Mounting Hardware & Tube Fittings Kit

E - Regulator Bracket, Mounting Ring, Screws & Fittings
X - Excluded

Material Specifications

Redundant Regulators & Gauges

Model RR-4 Regulator Body:	Anodized Aluminum
Model RR-6 & RR-8 Bodies:	Enamel Coated Aluminum
Regulator Heads & Knobs:	Acetal Polymer Plastic
Regulator Seals:	Buna N Elastomer
Supply Pressure Gauges:	Painted Steel Case Plastic Lens w/ Chrome Ring Brass Bourdon Tube & Body

Optional Mounting Hardware & Tube Fittings Kits

Tube Fitting Bodies & Ferrules:	316 Stainless Steel
Tube Fitting Nuts:	Molybdenum disulfide coated 316 Stainless Steel
Bracket:	14 Gauge 316 Stainless Steel
Sealing Screws:	316 Stainless Steel w/ Neoprene O-Ring
Sealing Washers:	18-8 Stainless Steel w/ Neoprene Gasket
Locking Nuts:	316 Stainless Steel w/ Nylon Insert

IMPORTANT CALIBRATION PROCEDURE NOTES

By following the calibration procedure to the left, the redundant regulator will limit pressure on the protected enclosure to an amount no greater than full scale of the Unit's Enclosure Pressure Gauge.

If this setting seems excessive or if any surface or door of the protected enclosure bulges during the calibration procedure, adjust the calibration procedure accordingly to set a lower maximum pressure on the protected enclosure with the Redundant Regulator under Step 4.

Given the wide range of potential enclosure integrity levels, you should anticipate that the Redundant Regulator will operate at a pressure of somewhere between 2 and 10 PSI, depending on the size and integrity of the protected enclosure.

If the Redundant Regulator setting must exceed 10 PSI to achieve a reading of 0.5" on the Unit's Enclosure Pressure Gauge, all doors, covers and electrical conduit entries should be carefully examined for potential leakage.

If leakage of any significant degree is detected, remove the protective gas supply, repair or resolve the leakage issues and carefully repeat the calibration process.