



MMR Technologies, Inc.

WHAT KIND OF HIGH PRESSURE GAS REGULATOR IS USED WITH A JOULE THOMSON REFRIGERATOR SYSTEM?

Joule Thomson refrigerators work through the Joule Thomson expansion of gases, where a high pressure gas expands to a lower pressure, resulting in a drop in temperature. Because the initial pressure going into the cooling stage is 1800 psi, it is important that the correct type of regulator is used to promote optimal cooling performance and to minimize damage to the system.

THE HIGH PRESSURE GAS REGULATOR

The high pressure gas regulator must be able to deliver gas at pressures of 1800-1900 psi. Typically the upper limit is 2500 psi. It must be able to accommodate the maximum pressure of the gas tank when it is initially delivered in the cylinder. Typically the upper limit is 3000 psi. Special regulators are available to be used with cylinders with even higher delivery pressures. It is best to consult with the supplier of the high pressure nitrogen gas to make sure that the regulator is compatible with the gas cylinders in which the gas will be delivered.

APPLICATIONS

The Model 3040 provides high purity control for high outlet pressure gases in applications where the delivery pressure is monitored. These regulators are recommended for use in applications where the outlet pressure of the gas is required to be relatively high. Typically these applications include use of regulators in manufacturing processes, charging systems and purging systems. The regulators are compatible with gases that are non-corrosive in nature and gases that are compatible with the materials in the process stream.

► NOTE

If the regulator is to be ordered from MMR Technologies, use Model Number G4580.

DESIGN FEATURES

- Brass Barstock construction
- Optional low pressure relief port available
- Equipped with an outlet diaphragm valve
- Metal to metal seals throughout
- Reliable piston style operation
- Materials of Construction
 - Body: B16 Brass Barstock
 - Bonnet: Brass Barstock
 - Piston: 316 Stainless Steel
 - Seat: KEL-F81
 - Seals: Teflon

SPECIFICATIONS

- Maximum Inlet Pressure: 3000 psi (20,700 kPa)
- Maximum Flow Rate (at 2500 psi, N₂): 4600 CFH (2000 lpm)
- Flow Coefficient (Cv): 0.06 without outlet valve
- Operating Temperature: -15 to 165 F (-26 to 74 C)
- Porting: 1/4" NPT female
- Porting Configuration: 2 High, 2 Low
- Delivery Pressure Range: 100-2500 psi
- Delivery Pressure Gauge: 0-3000 psi
- Cylinder Pressure Gauge: 0-3000 psi

OPTIONS

- Bonnet venting kit
- Bonnet panel mounting kit

FURTHER QUESTIONS

If you have further questions, please do not hesitate to contact MMR Technologies, Inc.:

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