

## Series MV, High Pressure Gas Control Valve User Instructions

### Scope and Intended Use:

These user instructions are applicable for all Generant Series MV and MVP High Pressure Control Valves.

The intended use of these products is to control the flow of high-pressure gases in systems operating at elevated pressures.

Generant MV control valves are optimized for the demanding requirements of Gas Cylinder Fill Plants, Manifold, and Piping system applications.

These products can be used with the following media: Inert Gases, Oxygen, potential Oxidizer gases > 21%, Hydrogen, and Carbon Dioxide.

### Technical Data:

All MV series valves are 100% factory tested for internal and external leakage.

MV series valves with the copper seal option (Material Code "C") were third party tested to confirm that they meet the requirements of ISO 7291(O<sub>2</sub> Surge) and ASTM G175 (Promoted Ignition) for Oxygen Safety.

These valves are engraved with the full part number, set pressure, and manufacturing date code.

Copper seal option (Material Code "C") valves are available for use with many gases including oxygen and oxidizers. The PCTFE seal option (Material Code "K") version is not recommended for use in Oxygen but is recommended for applications where positive sealing is required.

The Flow Coefficient (C<sub>v</sub>) is 2.5 for all valve configurations.

### Operating Parameters:

Temperature Range: -40° to 165° F (-40° to 74° C)

Pressure Range: Vacuum to 5500 PSI\* (380 Bar) @ 70°F (MAWP Rating per ASME BPVC Section VIII Division 1)

\*Note: Valves with NPSM Connections (1" – 11.5 NPSM) are de-rated to 3500 PSI (242 bar) due to the maximum pressure rating of CGA 1340 and 1350 connections.

### Maintenance:

MV series are designed to be field serviceable and fully repairable.

Repair kits are readily available and can be supplied as convenient pre-assembled cartridges or as loose replacement parts. Instructions on how to order replacement parts / repair kits and repair your MV unit are available upon request.

## **WARNING**

Generant MV valves with the copper seal option (Material Code "C") are supplied Cleaned for Oxygen Service and are shipped from the factory individually 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 entire system.

### Installation:

#### To make a proper connection:

1. All MV series control valves are 100% factory tested for leakage.
2. The piping system should be complete before installation of the control valve.
3. All upstream piping and connection ports must be free from particulate contamination that is naturally generated during the assembly of the piping system. This should be accomplished by purging the system with clean, dry nitrogen gas.
4. Visually inspect the port for cleanliness before installing the control valve.

#### For NPT Connections Only:

1. Teflon tape should be used to seal the connection between the control valve and the piping system.
2. Beginning with the first thread, wrap tape in the direction of the male tapered thread spiral, and join with a slight overlap.
3. Make sure tape does not overhang the first thread, as the tape could shred and get into the system.
4. Cut off excess tape. Draw the free end of the tape around the thread tautly so that it conforms to the threads. Press in firmly at the overlap point. The connection is now ready for makeup. If any additional pipe sealant is being used, **do not** apply it to the first thread of the valve.
5. Thread the control valve into the connection port hand tight. Tighten with an open end wrench until leak tight.

### **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.