Series MVA, Pneumatically Actuated High Pressure Gas Control Valve User Instructions

Scope and Intended Use:
These user instructions are applicable for all Generant Series MVA Pneumatically Actuated High Pressure Control Valves.

The intended use of these products is to autonomously control the flow of high-pressure gases in systems operating at elevated pressures. Generant MVA 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. For information on other media, please consult the factory.

Technical Data:
All MVA series valves are 100% factory tested for internal and external leakage.

All 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. MVA series valves with the copper seal option (Material Code "C") were third party tested to confirm that they meet the requirements of ISO 7291(O2 Surge) and ASTM G175 (Promoted Ignition) for Oxygen Safety. 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_v) is 2.5 for all valve configurations.

The MVA comes in two configurations: Normally Open (NO) and Normally Closed (NC) and comes standard with a ¼" NPT Actuation (Pressure / Vent) Port. For Normally Closed (NC) valves this will be the port closest to the valve body, for Normally Open (NO) valves it will be the port further from the valve body. Do not pressurize the actuation port above 125 PSIG.

Operating Parameters:
Temperature Range: -40° to 165° F (-40° to 74° C)
Cylinder Operating Pressure Range: 85 to 125 PSIG
Valve Operating 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.

⚠ WARNING

Maintenance:
MVA 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.

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

Valve Actuators are Spring Loaded Devices and are extremely dangerous if improperly disassembled.
Do not attempt to disassemble or service the Valve Actuator.

Generant MVA 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 MVA 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.

Generant Company, Inc.
1865 Route 23 South P.O. Box 768 Butler, New Jersey 07405 Phone 973.838.6500 Fax 973.838.4888
www.generant.com

EN-FR-215
Rev A
DCR6252