

Marshall Excelsior



Gas Connections

MEGR-1289 SERIES RELIEF VALVES

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APPLICATIONS:

Pressure Reducing Regulators
Fuel Gas Relief Valves
Gas Gathering Relief Valves

SPECIFICATIONS:

Port Size.....1" & 2"
Approximate Weight.....2 lbs
Temperature Range.....-20 to 180° F
Maximum Relief Inlet Pressure.....100 PSIG (1")
Maximum Relief Inlet Pressure.....25 PSIG (2")

MATERIALS OF CONSTRUCTION:

Body, Bonnet.....Aluminum (1")
Body.....Iron (2")
Bonnet.....Aluminum (2")
Diaphragm.....Nitrile
Gaskets.....Neoprene
O-Rings.....Nitrile
O-Ring Piston and Spacer.....Aluminum
Pitot tube.....Aluminum
Spring.....Zinc Plated Steel
Diaphragm Piston.....Zinc Plated Steel

INTRODUCTION:

The MEGR-1289 functions as a high flow pneumatic relief valve with an adjustable set point. It can be used in place of a standard relief valve to provide protection against over pressurization in the downstream system. The design of a large diaphragm area and a pitot tube booster allow the valve to respond quickly and relieve the excessive pressure smoothly, especially in low pressure settings.

INSTALLATION:

Qualified personnel only should perform installation, operation, and maintenance in accordance with NFPA 54 & 58 and other local, State and Federal Regulations. The valve can be mounted in any position, however the flow through the body must be in the direction from inlet to outlet (inlet connection is marked on the body). Also make sure to position the regulator to prevent any contamination, rain and debris from entering the screened vent. Prior to installation, inspect the relief valve and the piping lines for any debris or contamination. After installation, periodically inspect the relief valve for damage, especially after any overpressure condition.

WARNING!

In applications involving flammable or hazardous gases, the vented gas may accumulate and lead to fire or explosion. To prevent personal injury and property damage, it may become necessary to vent the gas to a safe, well ventilated area with piping or tubing. Periodically check the vent opening and line for any restrictions due to clogging or condensation.

REMOTE VENT LINE INSTALLATION:

For remote venting, use the largest diameter piping possible. The pipe compound should be connected to the vent port by an adaptor. Do not apply pipe compound to the internal body threads directly. For best results, limit the number of bends and keep the line as short as possible.

START UP AND ADJUSTMENT:

WARNING!

The use of pressure gauges to prevent overpressure conditions, which might cause personal injury or equipment damage, is highly recommended. Before starting up the valve, relieve the downstream pressure on the diaphragm. Failure to do so may result in personal injury or equipment damage.

When starting up the regulator, slowly open the upstream shutoff valve, and then slowly open the downstream shutoff valve. Check all piping and connections for leaks before making any final pressure adjustments. The nameplate provides the range of allowable pressure settings. For pressure settings outside the allowable range, change to appropriate range spring and

remember to change the nameplate accordingly. When changing the range spring, make sure that the diaphragm is properly installed and not damaged. Check unit for external leakage after rebuilding.

Note: The use of a pressure measuring device is highly recommended when making any pressure adjustments with the relief valve.

MAINTENANCE:

Severity of conditions and the requirement of both state and federal laws determine the frequency to which the relief valves need to be inspected. Debris in the process line, exterior damage, and normal wear could require the replacement of parts such as the diaphragm assembly. The procedures below will provide assistance when attempting to replace these parts.

1. Loosen the hex nut (Item 2), and then relieve spring compression by turning the adjustment screw (Item 1) counterclockwise.
2. Remove 8 build screws (Item 22) to separate the bonnet (Item 25) from body (Item 16), remove the spring guide (Item 3) and spring (Item 4).
3. Remove the hex nut (Item 24), the piston retainer (Item 5), piston (Item 6) and diaphragm (Item 7). Inspect the diaphragm.
4. Remove 2 machine screws (Item 20), and then take the stem assembly (Item 8) and attached parts from body (Item 16)
5. Disassemble the washer (Item 23), gasket (Item 21), spacer (Item 10), pitot tube (Item 12), O-rings (Item 11, Item 17), O-ring spacer (Item 18) and O-ring piston (Item 19) from the stem assembly.
6. Inspect the O-rings, the gaskets, the spacer, the orifice, and the seating surface for damage, and if necessary, replace them.
7. Apply anti-seizing sealant to the adjustment screw threads, and to the end of the adjustment screw that contacts the spring guide.
8. Apply the lubricants on the internal rim of O-Ring piston (Item 19). Press the O-ring (Item 17) and O-Ring spacer into O-Ring piston.
9. Slide the O-Ring (Item 11), the piston-spacer assembly, the spacer, the stem guide assembly, the gasket, and the washer onto the pitot tube.
10. Reinstall the stem guide assembly with attached parts into the valve body, then secure this assembly with machine screws (Item 20).
11. Reinstall the diaphragm, the piston (Item 6), and the piston retainer (Item 5), then tighten the hex nut with a torque of 50 ft. lbs.
12. Reinstall the spring and spring seat, and then the bonnet.
13. Screw the hex nut (Item 2) and adjustment screw (Item 1) into the bonnet. Adjust the spring compression according to the procedures outlined in the Start-up section.

Part No.	Description	Inlet/Outlet	Max. Inlet PSIG	Set Point	Set Point Range
MEGR-1289H/1	Back Pressure Regulator/ Relief Valve	2" FNPT	25	9" WC	7-18" WC
MEGR-1289H/2	Back Pressure Regulator/ Relief Valve	2" FNPT	25	1 PSIG	.5 - 2.25 PSIG
MEGR-1289H/3	Back Pressure Regulator/ Relief Valve	2" FNPT	25	3 PSIG	1.75 - 7 PSIG
MEGR-1289H/4	Back Pressure Regulator/ Relief Valve	2" FNPT	25	6 PSIG	4 - 10 PSIG
MEGR-1289H/41	Back Pressure Regulator/ Relief Valve	1" FNPT	100	2 PSIG	1 - 4.5 PSIG
MEGR-1289H/42	Back Pressure Regulator/ Relief Valve	1" FNPT	100	8 PSIG	4 - 15 PSIG
MEGR-1289H/43	Back Pressure Regulator/ Relief Valve	1" FNPT	100	15 PSIG	10 - 20 PSIG
MEGR-1289H/49	Back Pressure Regulator/ Relief Valve	1" FNPT	100	25 PSIG	15 - 50 PSIG
MEGR-1289HH-1	Back Pressure Regulator/ Relief Valve	1" FNPT	100	50 PSIG	45 - 75 PSIG

PART ORDERING:

When ordering replacement parts, always reference the Type number which is found on the nameplate, and the item number of each needed part as found in the following list.

Part Listing		
Item #	Description	Qty
1	Adjusting Screw	1
2	Hex Nut	1
3	Spring Guide	1
4	Spring (Specify Model Number)	1
5	Piston Retainer	1
6	Piston, (All ranges except 45-75 PSIG) Piston, (45-75 PSIG ONLY)	1
7	Diaphragm	1
8	Stem guide Assembly	1
9	Pipe Plug	1
10	Spacer Tube	1
11	O-Ring, Nitrile	2
12	Pitot tube	1
13	Retaining Ring	1
14	Screen	1
15	Gasket	1
16	Machined Body	1
17	O-Ring, Nitrile	1
18	O-Ring Spacer	1
19	O-ring Piston	1
20	Machine Screw	2
21	Gasket	1
22	Machine Screw	8
23	Washer	1
24	Hex Nut	1
25	Bonnet	1
26	Label (not shown)	1

