

# Marshall Excelsior



## Gas Connections

### MEGR-1630 HIGH FLOW GAS REGULATOR

#### Instruction Manual- Look Inside For:

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**DESCRIPTION:**

MEGR-1630 is a spring loaded, self operated pressure regulator for use with inlet pressures as high as 1500 PSIG and outlet pressures between 3 and 500 PSIG.

**INSTALLATION:**

Qualified personnel only should perform installation, operation and maintenance in accordance with NFPA 54 & 58 and other local, State and Federal Regulations.

**WARNING!**

**Over-pressurizing the regulator or any of its adjacent piping could cause equipment damage, property damage, or personal injury as a result of the bursting of any of the pressure containing parts. It is highly recommended that a pressure limiting device (usually required by an appropriate code, regulation, or standard) be installed to prevent operating conditions from exceeding any limits.**

The regulator can be mounted in any position. An arrow on the bonnet, above the nameplate, indicates the proper direction of the flow. Inspect the piping and the regulator for any contaminants before installing. Always apply pipe sealant to the male threads of the piping.

**OVERPRESSURE PROTECTION:**

The MEGR-1630 pressure regulator has rated outlet pressures that are lower than their rated inlet pressures. Pressure relief devices must be used if either the inlet or outlet pressure can exceed their rated limit. See the tables and notes below for those limits. After any overpressure condition, check the regulator and any piping for damage.

**WARNING!**

**The use of a pressure-relieving device is recommended to ensure that both the inlet and outlet pressures do not exceed their rated limits. Damage to the regulator, or personal injury, could result from an overpressure condition.**

Orifice Size	Maximum Inlet Pressure (psig)	Maximum Pressure Differential (psi)
1/8" and 3/16"	1500	1500
1/4"	1500	1000
3/8"	1000	500
1/2"	750	250

Outlet Pressure Range (psig)	Maximum Outlet Pressure (psig) <i>Above the Pressure Setting</i>	Maximum Emergency Outlet Pressure (psig)
27-50	200	550
46-95	200	550
90-150	200	550
200-275	200	550
275-500	200*	550

**NOTE:** The sum of the outlet pressure and the maximum pressure differential must be greater than the inlet pressure.

**CAUTION:** The maximum outlet emergency pressure (casing pressure) is 550 psig. This number takes precedence over the maximum outlet pressure above the pressure setting.

**VENTS:**

The MEGR-1630 pressure regulator is supplied with a screened vent assembly in the 1/4 NPT bonnet vent hole.

**WARNING!**

**The vent should be inspected periodically to insure that it has not become plugged. Make sure the vent remains free from any foreign debris, or weather related contaminants. If the regulator is to be used in an enclosed area, vent lines should be piped to a ventilated area.**

**START UP:**

To start up the regulator, open the upstream shut-off valve allowing gas pressure to enter. The use of gauges to monitor pressures is strongly advised. The outlet pressure range is noted on the nameplate. In the event that the desired pressure setting is outside the rated pressure range of the regulator, substitute the correct range spring. Make sure the nameplate is changed to reflect the new outlet pressure range.

**WARNING!**

**To prevent placing the range spring under excessive stress, always use the correct adjustment screw for the range selected.**

Dangerous conditions, which may damage internal components, may result from outlet pressures exceeding the set pressure by more than 200 psig. This excess pressure must never exceed the maximum casing pressure of 550 psig. To prevent overpressure conditions, make certain the new pressure setting does not exceed the limits of the range spring being used. The use of a pressure gauge when making adjustments is strongly recommended.

**SHUTDOWN:**

Slowly close the upstream shut-off valve and relieve the system of all pressure. The use of pressure gauges is recommended to ensure that there is no upstream or downstream pressure still applied to the regulator or pressure system.

**MAINTENANCE:**

During the course of the regulator's service it may become necessary to replace or repair certain components.

**WARNING!**

**These procedures are for gaining access to the range spring, diaphragm assembly, and the lever. All spring pressure must be released from the regulator before these steps can be performed. While**

**following these procedures, refer to the diagram for item number locations unless otherwise directed. Assembly is the reverse of these procedures.**

Replacing the Orifice, Valve Disk Assembly and Lever

1. Disconnect the piping from the inlet housing (item 19)
2. Remove 4 screws (item 18) and the housing
3. Remove the orifice (item 22), and the 2 gaskets (item 21)
4. If necessary, disconnect the remote vent pipe
5. Remove the 2 screws that attach the diaphragm housing (item 14) to the inlet body (item 20) and separate
6. Remove the pin (item 16) and slide out the lever (item 15). When replacing the lever, make sure the slot in the lever contacts the connector (item 13).
7. Remove the carrier assembly (item 24) from the inlet body.
8. Using a 3/4" socket wrench, remove the valve disk and holder assembly (item 23).
9. Replace those parts that show wear, and reassemble.

Note: New gaskets (item 17 and 21) should always be installed when rebuilding a MEGR-1630 Regulator.

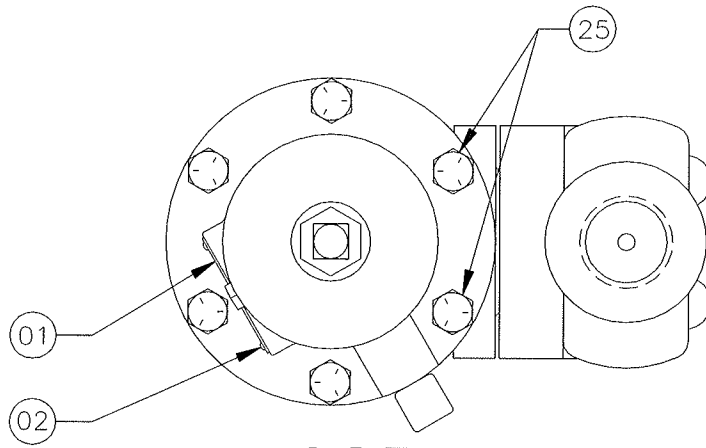
Replacing the Diaphragm

1. Loosen locknut (item 4) and turn adjustment screw (item 3) counterclockwise until all spring compression is removed.
2. If necessary, disconnect the remote vent pipe.
3. To remove the bonnet (item 6), unscrew the nuts (item 11) and remove the bolts (item 12).  
NOTE: Nuts will not be present on units with steel enclosures.
4. Separate the diaphragm assembly (items 8,9, 10 and 13) from the lever (item 15) and remove.
5. Unscrew the screw (item 8) from the connector assembly (item 13).
6. Install the new diaphragm, being certain that it is centered, and reassemble.

**NOTE: Be careful not to twist the diaphragm/lever attachment during assembly. When installing the bonnet, install the screws finger tight, turn the adjusting screw clockwise to slightly compress the spring and take up any slack in the diaphragm, then finish tightening the screws and nuts.**

Table 1		
Spring Range (psig)	Adjusting Screw	Spring Color Code
27-50	Specify Spring Range when Ordering	Red Stripe
46-95		Olive Drab
90-150		Silver
150-200		Green Stripe
200-275		Blue Stripe
275-500		Yellow Stripe

PARTS LIST	
ITEM	DESCRIPTION
1	Nameplate
2	Drive Screws (4 Req'd)
3	Adjusting Screw (See Table 1)
4	Hex Nut
5	Upper Spring Guide (0-275 psig Pressure Range) Upper Spring Guide (over 275 psig Pressure Range)
6	Bonnet - Iron
7	Spring (See Table #1)
8	Screw
9	Lower Spring Guide (0-275 psig Pressure Range) Lower Spring Guide (over 275 psig Pressure Range)
10	Diaphragm - Neoprene
11	Hex Nut (4 Req'd)
12	Build Screw (4 Req'd)
13	Connector Piston Assembly - Aluminum Trim
14	Diaphragm Housing - Iron
15	Lever Assembly
16	Pin
17	Gasket
18	Build Screw (4 Req'd) 2" Body
19	Inlet Adapter - 2" NPT Iron
20	Body - 2" NPT Iron
21	Body Gaskets (2 Req'd)
22	Orifice - 1/8" Orifice - 3/16" Orifice - 1/4" Orifice - 3/8" Orifice - 1/2"
23	Valve Disk Assembly-Nylon Disk
24	Valve Carrier
26	Vent Protector Assembly
27	Cap Screws (Body to Housing)



SIDE VIEW

