

Models 90 & 91 Mity-Mite Back Pressure Regulator OPERATING AND MAINTENANCE

Introduction

Mity-Mite Back Pressure Regulators are of the air dome type, designed to maintain a constant upstream pressure.

Control pressure ranges and operating temperatures are as follows:

BASIC MODEL	RATED BLACK PRESSURE CONTROL RANGE	MAXIMUM TEMP.
90W	10-2,000 psi, Hycar diaphragm	150°F
91LW	25-400 psi, Teflon diaphragm	200°F
91W	100-2,000 psi, Teflon diaphragm	200°F
91XKW	100-3,000 psi, Teflon diaphragm	200°F

All basic models may be used to control either gases or liquids. The dome, however, must always be loaded with air or other gas.

Operation

The diaphragm and the nozzle part of the Mity-Mite body form a variable orifice similar in action to the valve and valve seat in other types of regulators.

Dome pressure acts over the exposed area of the diaphragm to seat it on the nozzle. When upstream pressure exceeds the desired level, it pushes the diaphragm up off the nozzle. The flow of fluid through the regulator relieves the pressure in the upstream system. As the upstream pressure drops off, the diaphragm moves down to reduce or shut off the flow, so that upstream line pressure is held constant.

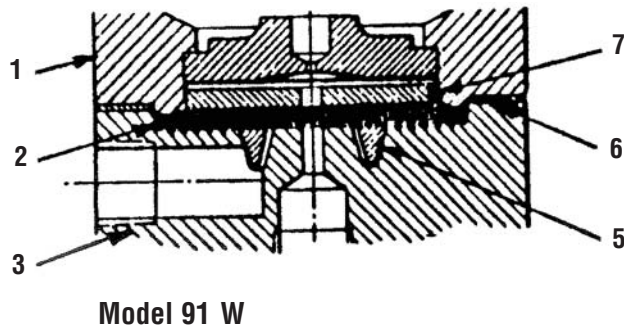
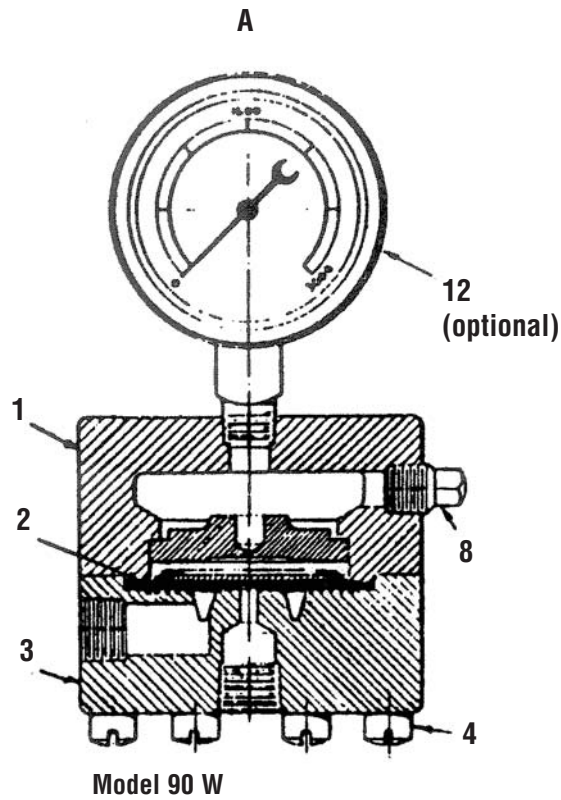
Due to internal design, the actual pressure in the dome will vary slightly from the back pressure setting. This does not affect the regulating action. The dome should be loaded so as to produce the desired back pressure as shown on a gage in the upstream line.

Dome Loading Procedure

All Model 90 and 91 back pressure regulators are of the externally dome loaded type and must be charged from an external source of gas pressure. The dome of the standard regulator has a 1/4" FNPT gauge connection in the top surface and a 1/8" FNPT plugged side connection to receive the dome charging line. Although a dome gauge is recommended to prevent dome overpressure during the charging operation, this gauge is not supplied with the regulator. Loading crosses and manifolds are available but must be ordered separately. Illustrations on sheet 3 show suggested methods of dome loading as follows:

- a. This is the regulator as it is supplied when no loading device is ordered. To place in service, plug, item 8, is removed and the customer provided dome charging equipment attached. Although a gauge may be mounted on the top of the dome, as shown, the true back pressure setting must be obtained by reference to a gauge in the upstream line. If a dome gauge is not used, this port must be tightly plugged.

Figure 1 - REDQ Models 90 & 91 Back Pressure Regulators



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