



# Mity Mite

Back Pressure Regulator Replacement

REPLACES THE ORIGINAL MITY MITE AS MANUFACTURED BY GROVE

# General Information

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## THE EQUILIBAR MITY MITE REPLACEMENT REGULATOR



Equilibrar manufactures a direct replacement for select models of the Mity Mite back pressure regulator formerly made by Grove Valve & Regulator Company. The ports in the Equilibrar® Mity Mite Replacement Regulator are located in the exact locations of the original Mity Mite from Grove and will fit directly into installations with hard piping. The internal components are identical and the repair parts kit for the Equilibrar model will also retrofit into existing Mity Mite regulators. The part number table will help you to select the appropriate Equilibrar Mity Mite Replacement Regulator part number.

Equilibrar's Mity Mite Replacement is a dome-loaded back pressure regulator with a 1:1 ratio. The pressure of the inlet port is maintained approximately equal to the pressure of the pilot port on the top of the regulator. The pilot pressure can be provided by a separate inert gas using a manual or electro-pneumatic regulator. Many Mity Mite users also supply the pilot pressure by capturing process gas from upstream of the Inlet port and controlling the pilot port pressure with block and bleed valves.

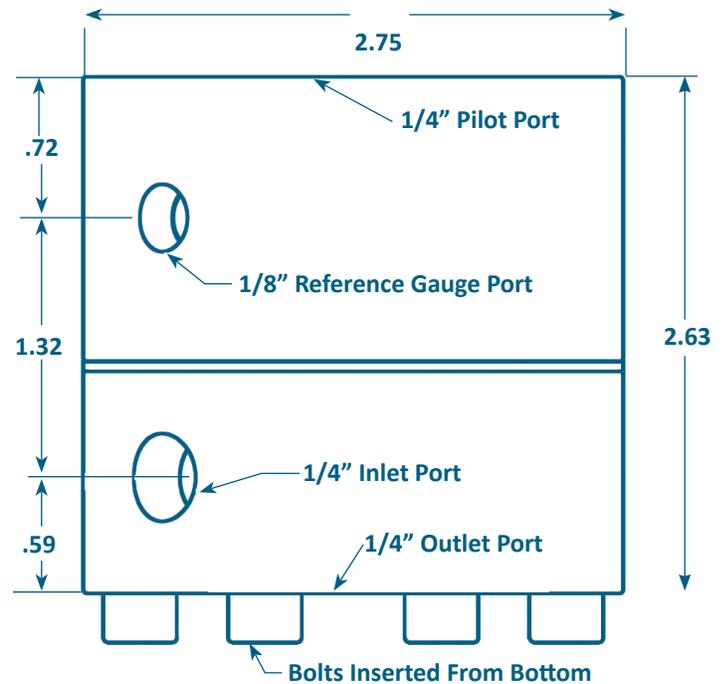
## HAVING PROBLEMS WITH YOUR MITY MITE?

Many applications exposed issues with the original Mity Mite design. Equilibrar also manufactures a separate line of back pressure regulators with the following improvements over the Mity Mite:

- No leaking after thermal cycles: The original Mity Mite would leak to the exterior after thermal cycling.
- Higher pressure ratings: The original Mity Mite is limited to 6000 psi MAWP. Equilibrar® back pressure regulators come in models rated up to 10,000psi.
- Higher Temperature capabilities: The original Mity Mite is limited to 200F MAWT. Some Equilibrar® back pressure regulator designs are rated up to 450 C MAWT
- Higher accuracy at lower pressures: The original Mity Mite is not accurate at low pressures. Equilibrar offers regulators as low as 0 to 10 inches of water column full scale.
- Mixed phase flow capabilities: The original Mity Mite was good at regulating pressure of mixed gas and liquid phases. The Equilibrar® back pressure designs offer superior performance with mixed phases.
- More options for materials of construction: The SS316 and PTFE models of the original Mity Mite are good for most applications. However, Equilibrar® back pressure regulators are available in Hastelloy, Titanium, Zirconium, PEEK, Pure PTFE, and custom combinations of materials, offering a more diverse selection for challenging pressure control applications.

# Specifications

| PART NUMBER ALIGNMENT |                       |
|-----------------------|-----------------------|
| GROVE PART NUMBER     | EQUILIBAR PART NUMBER |
| 90W                   | Consult Equilibar     |
| SD90W                 | Consult Equilibar     |
| S90W                  | Consult Equilibar     |
| 91LW                  | S91LW-EQ <sup>1</sup> |
| SD91LW                | S91LW-EQ              |
| S91LW                 | S91LW-EQ              |
| 91W                   | S91W-EQ <sup>1</sup>  |
| SD91W                 | S91W-EQ               |
| S91W                  | S91W-EQ               |
| 91XW                  | S91XW-EQ <sup>1</sup> |
| SD91XW                | S91XW-EQ              |
| S91XW                 | S91XW-EQ              |
| 91                    | Consult Equilibar     |



<sup>1</sup>This model is a suitable replacement assuming that Stainless Steel 316 is a suitable replacement for Aluminum as a wetted material.

## TECHNICAL SPECIFICATIONS / ORDERING INFORMATION

| PART NUMBER | BODY AND CAP MATERIAL | DIAPHRAGM MATERIAL | CV   | TEMPERATURE RANGE | PRESSURE RANGE  |
|-------------|-----------------------|--------------------|------|-------------------|-----------------|
| S91LW-EQ    | Stainless Steel 316   | PTFE               | 0.44 | -65°F to 200°F    | 25 to 400 psi   |
| S91W-EQ     | Stainless Steel 316   | PTFE               | 0.38 | -65°F to 200°F    | 100 to 2000 psi |
| S91XW-EQ    | Stainless Steel 316   | PTFE               | 0.17 | -65°F to 200°F    | 100 to 3000 psi |



| SPARE DIAPHRAGM PART NUMBERS |             |
|------------------------------|-------------|
| PART NUMBER                  | FITS MODELS |
| DI-S91LW                     | S91LW       |
| DI-S91(X)W                   | S91W, S91XW |

# About Equilibar

Equilibar provides innovative and robust pressure control technology for researchers and engineers worldwide. We are proud to design, manufacture and test our patented back pressure regulators in our factory overlooking the Blue Ridge Mountains near Asheville, NC.

## APPLICATION ENGINEERING – WHAT SETS US APART

Unlike mass-market regulator distributors, we focus on working with you, the scientist or engineer with a complex pressure control scenario.

Our application engineers work collaboratively with clients to identify the optimal model, trim, and diaphragm for each application's unique challenges. No matter where you are on the globe, you can stay in close contact with your engineer by email, telephone, videoconferencing or fax.

After installation, your application engineer will support you with start-up information and fine-tuning as needed.



Each application is reviewed by our engineering team to ensure quality performance of our products.



Our engineers offer custom designed solutions for the most difficult pressure control challenges. Feel free to contact us to discuss your situation.



Made in the  
**USA**

Equilibar's quality system is  
**ISO 9001:2015** certified.