

# Pneumatic Flow Meter

## Application Information

### SELECTING A HEDLAND PNEUMATIC FLOW METER

Flow meters are offered in Aluminum, Brass, T303 and T316 Stainless Steel. This wide alloy selection allows for application from relatively benign dry compressed air to corrosive gases such as hydrogen chloride or sulfur dioxide.

Aluminum, Brass and Type 303 Stainless Steel are available in four configurations. Standard inlet and outlet ports, an extended inlet cap fitted with a pressure gauge, an extended inlet cap with a 1/4-inch NPTF plugged gauge port, and a test kit with an extended inlet cap fitted with a 160 psi pressure gauge and control valve on the outlet.

Consult the factory for the configuration best suited to your application.

### STANDARD FLOW RATE SCALES – AIR/GASES

The Hedland Pneumatic Flow Meter is offered with a standard Multi-Pressure Flow Scale.

The **Multi-Pressure Flow Scale** (Fig. 1) has a vertically graduated scale, calibrated for air in standard cubic feet per minute (scfm) at 1.0 s.g. (70°F at 100 psi), or liters per second (lps) at 1.0 s.g. (21°C at 6.9 bar). The multi-pressure scale design allows for use at line pressures from 40 to 130 psi in 10 psi increments (3.0 to 9.0 bar in 1 bar increments). This configuration requires that a pressure gauge be installed at the meter inlet.

To use, the operator reads the inlet gauge pressure and selects the appropriate vertical line or interpolated value closest to the gauge reading and follows the line until it intersects the brightly colored horizontal indicator bar. The flow rate in scfm/lps is read by taking the intersection point and following the slope of the closest diagonal line to a scale value and interpolating the scfm/lps flow rate. No further calculations are required. See Figure 1, Multipressure Scale, for further details.

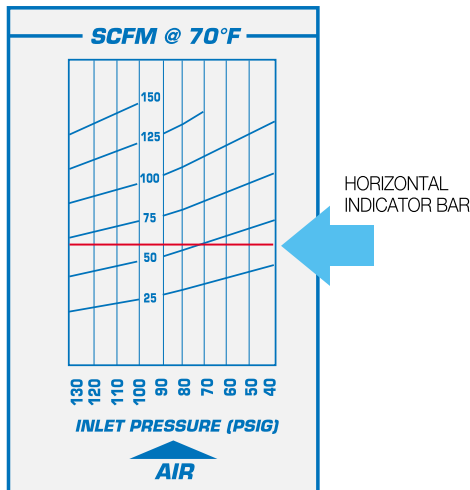


Figure 1. Multi-pressure Flow Scale

A special **Single Pressure Flow Scale** is available in U.S. and metric units for an additional charge, see Price and Availability Digest, Form 000141. This is a graduated scale, calibrated for air in standard cubic feet per minute (scfm) at 1.0 s.g. (70°F at 100 psi), or liters per second (lps) at 1.0 s.g. (21°C at 6.9 bar), see Figure 2. Single Pressure Flow Scale for further details. A standard cubic foot of air is defined as a cubic foot of air at 70°F, at atmospheric pressure 14.7 psia at sea level. Since it is impossible to flow air at "standard" conditions the scale is calibrated for an inlet condition of 100 psi (6.9 bar) at 70°F (21°C). A correction factor must be calculated to determine the actual air volume. Each meter is supplied with the Conversion Chart shown in Figure 3.

Hedland can also supply a specially calibrated scale for higher or lower fixed pressures in any measurement unit, and other fluid specific gravity. Consult factory for details.

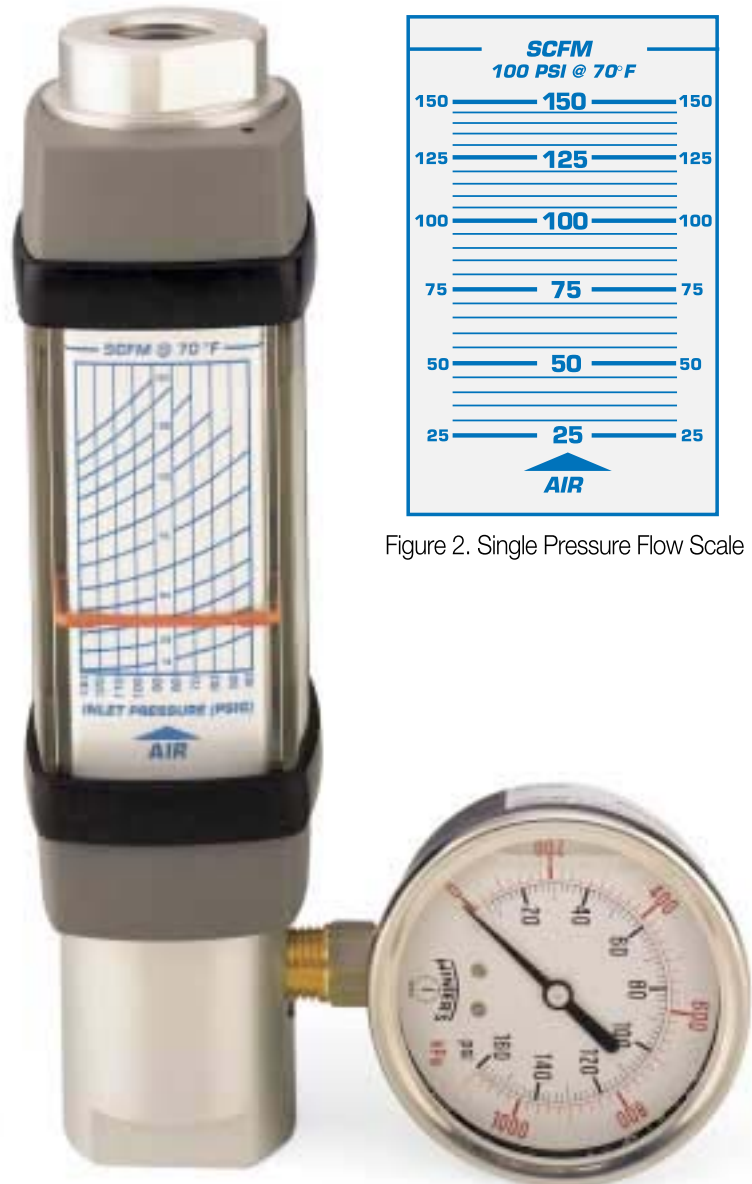


Figure 2. Single Pressure Flow Scale