

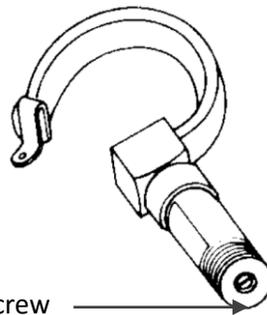
THROTTLE SCREW OR PLUG SELECTION

PIP #: ASH-PI-7

Applicable to:
Pressure Gauges

Throttle screws or throttle plugs are the most economical method to dampen pulsation and pressure spikes. Orifices sizes are selected based on the process viscosity, pulsation, and dampening preference. A smaller orifice should be used on low viscosity applications, high frequency pulsation or pressure surges to reduce pointer amplitude. Ashcroft pressure gauges are designed so the throttle screw threads into the pressure gauge process connection (see figure 1 for reference). Throttle plugs are pressed into the pressure gauge process connection in most industrial pressure gauges with dial sizes less than 4 ½”.

A throttle screw or plug is standard on liquid filled or weatherproof or hermetically sealed pressure gauges.



Throttle Screw
Picture 1 – Bourdon Tube with Throttle Screw Installed

Factors Governing Selection of Orifice Size

- The greater the pulsation frequency, the smaller the orifice.
- The greater the pressure, the smaller the orifice.
- The shorter the pointer travel desired, the smaller the orifice (pulsating effect).
- The greater the viscosity of the pressure media, the larger the orifice.
- The greater the volume of the Bourdon tube, the larger the orifice (the lower the pressure range, the greater the volume).

General Recommendations	
Orifice Size	Service
0.006”	Gases
0.0135”	Water, fuel oil and other low viscosity fluids below 20 centistokes
0.020”	Lubricant oil 20 to 300 centistokes
0.031”	Fluids over 300 centistokes
0.040”	Available
0.070”	Available

Table 1 – Orifice Size General Recommendations

Orifice Size Provided If Not Specified

0.020” – Process gauges (1209, 1259, 1279, 1377, 1379, 2462, T5500, T6500, and 4 ½” and 6” 1009).

0.0135” – Industrial Gauges (1008 and 1009).

0.031” – 1082 and 1084 test gauges.

0.020” – 1490 and 1495 only with HH connection only.