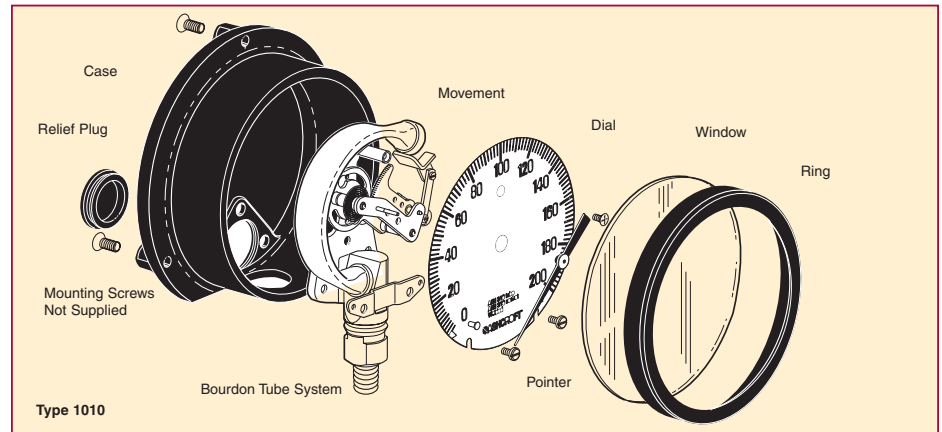


## Product Selection Information Industrial Gauges



### Consult ASME B40.1 for guidance in gauge selection

**WARNING:** To prevent misapplication, pressure gauges should be selected considering media and ambient operating conditions. Improper application can be detrimental to the gauge, causing failure and possible personal injury or property damage. The information contained in this bulletin is offered as a guide to assist in making the proper selection of a pressure gauge. Additional information is available from Ashcroft Inc.

**Pressure Ranges:** As recommended by ASME B40.1, select a gauge with a full scale pressure range of approximately twice the normal operating pressure. The maximum operating pressure should not exceed approximately 75% of the full scale range. Failure to select a gauge range within these criteria may ultimately result in fatigue failure of the Bourdon tube.

**Operating Conditions:** The operating conditions to which a gauge will be subjected must be considered. If the gauge will be subjected to severe vibration and/or pressure pulsation, a liquid-filled gauge with a throttle plug will be necessary to obtain normal product life. With the exception of Types 5503 and 5509 industrial pressure gauges cannot be liquid-filled. When pulsation or vibration are present on a gauge that cannot be liquid-filled, the gauge should be isolated from the process using flexible line assembly.

To ensure long life and accurate readings, pressure gauges with standard glass windows, can withstand continuous operating temperatures up to 250°F. Liquid-filled gauges can withstand 200°F but glycerin fill and acrylic window will tend to yellow. Accuracy will be affected by approximately 1.5% per 100°F. Gauges with welded joints will withstand 750°F (450°F with silver brazed joints) for short times without rupture, although other parts of the gauge will be destroyed and calibration will be lost.

Proper selection of the bourdon, diaphragm or bellows system material is dependent on the process fluid to which the system will be subjected. If the correct material is not available, the use of a diaphragm seal may be necessary to protect the system from the process fluid. Liquid-filled gauges with throttle plugs are recommended for the discharge side of positive displacement pumps.

**Pressure Elements:** Available in a wide variety of materials, including: phosphor bronze, alloy steel, 316 stainless steel and K Monel.

**Cases:** Depending on the type, Ashcroft industrial gauges are available in aluminum, stainless steel or cast iron case materials. With the exception of Ashcroft Types 5503 and 5509, industrial gauges are not weatherproof or hermetically sealed. They are furnished standard with a pressure-relief plug.

**Rings:** The ring, which retains the window, is bayonet (cam), or slip depending on the type number.

**Movements:** Movements are designed and materials of construction selected to reduce friction and extend wear life.

**Dials:** Dials are uniformly graduated, and have highly legible markings depending on the gauge type. Industrial gauges are offered with brushed aluminum dials with black markings or white dials with black markings.

**Windows:** Depending on the size and type, Ashcroft industrial gauges are available with acrylic, shatterproof glass or glass windows.

**Pointers:** Depending on the type, Ashcroft industrial gauges are available with adjustable or fixed pointers.