

1082 Test Gauge

FEATURES

- ±0.25% of span (ASME B40.1 Grade 3A)
- Solid front safety case



SPECIFICATIONS

Accuracy:	±0.25% of span (ASME B40.100 Grade 3A)
Process Connection:	¼ NPT or ½ NPT
Connection Location:	Lower or back
Case Style:	Solid front
Movement:	400 Series SS rotary design, Teflon® S coated bearings, micrometer span adjustment, bimetallic temp. compensator (0.005%/per °F max. temperature error)
Window Material:	Glass
Pointer:	Black-painted aluminum with red-painted, knife-edge tip
Mounting Options:	Lower or back

WETTED COMPONENTS

Model	Bourdon Tube	Process Connection Materials	Joints
1082	Bronze	Brass	Silver Brazed
	Monel®	Monel®	Welded

NON-WETTED COMPONENTS

Model	Case	Ring
1082	Aluminum, solid front, black epoxy coated	Hinged steel, black wrinkle finish

MIN/MAX TEMPERATURE LIMITS

Version	Ambient	Process	Storage
Dry	-20°F to 200°F (-29°C to 93°C)	-20°F to 250°F (-29°C to 121°C)	-40°F to 250°F (-40°C to 121°C)

ORDERING CODE

Example:

45 1082 P S 02 L 100#

Dial Size

45 - 4½" dial	45
60 - 6" dial	
85 - 8½" dial	

Model

1082 - Test gauge	1082
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System (tube and process connection)

A - Bronze tube and brass socket	
P - Monel® tube and socket	P

Case Style

S - Solid front	S
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Process Connection Size

02 - ¼ NPT Male	02
04 - ½ NPT Male	

Connection Location

L - Lower	L
B - Back	

Ranges

15# - 0-15 psi	
30# - 0-30 psi	
60# - 0-60 psi	
100# - 0-100 psi	100#
160# - 0-160 psi	
200# - 0-200 psi	
300# - 0-300 psi	
400# - 0-400 psi	
600# - 0-600 psi	
1000# - 0-1,000 psi	



1082
4½", 6", 8½" dial sizes

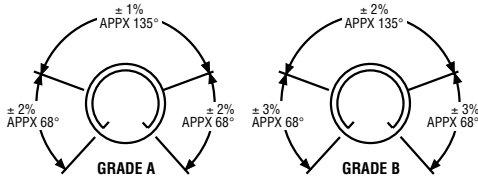


Pressure Gauges General Information

ACCURACY:

Accuracy – the conformity of indication to an accepted standard or true value. Accuracy is the difference (error) between the true value and the indication expressed as a percent of the span. It includes the combined effects of method, observer, apparatus and environment. Accuracy error includes hysteresis and repeatability errors but not friction error. It is determined under specific conditions. (Normal position, 73.4°F (23°C), and 29.92 in Hg barometric pressure.)

The following tables define the ASME B40.1* accuracy grades used by Ashcroft products.



Accuracy of a pressure gauge may be expressed as percent of span or percent of indicated reading. Percent of span is the most common method. Percent of indicated reading is usually limited to precision test gauges and unless specifically spelled out, it may be assumed that an accuracy of ±0.5% means ±0.5% of span.

GRADE 4A:

Gauges offering the highest accuracy and calibrated to ±0.1% of span over the entire range of the gauge. These gauges are called laboratory precision test gauges and are generally 8½", 12" or 16" dials. These high-accuracy gauges may be temperature compensated. They must be handled carefully in order to retain accuracy.

ACCURACY EXAMPLES

Range	Accuracy Span	Grade	Permissible Error % of Span
0/100 psi	100 psi	1A	1.0
0/400 kPa	400 kPa	2A	0.5
0/1000 bar	1000 bar	B	3 (0/250 & 750/1000 bar) 2 (250/750 bar)
-100/400	400 kPa	2A	0.5
30 inHg/ 30 psi	44.7 psi	4A	0.1

The last item (30 inHg/30 psi) deserves some explanation. The span is defined as the algebraic difference between the limits of the scale. 30 inHg = -14.7 psi Span = 30 psi - (-14.7) = 44.7 psi. 0.1% of 44.7 psi = 0.045 psi or 0.022 Hg.

*ASME B40.1 may be ordered from:
 American Society of Mechanical Engineers
 Three Park Avenue, New York, NY 10016

GRADE 3A:

Gauges are calibrated to an accuracy of ±0.25% of span over the entire range of these gauges. These gauges are called test gauges and are generally 4½", 6" or 8½" dials. The gauges are generally not temperature compensated (except Ashcroft Type 1082).

GRADE 2A:

Gauges are calibrated to an accuracy of ±0.5% of span over the entire range of the gauge. They are often referred to as process gauges and are usually supplied as 4½" and 6" cases and are not temperature compensated.

GRADE 1A:

Gauges are calibrated to an accuracy of ±1% over the entire range of the gauge. These gauges are high-quality industrial gauges and are supplied in 2½", 3½" and 4½" sizes.

GRADE A:

Gauges are calibrated to an accuracy of ±1% of span over the middle half of the scale and ±2% of span over the first and last quarters of the scale.

GRADE B:

Gauges are calibrated to an accuracy of ±2% of span over the middle half of the scale and ±3% of span over the first and last quarters of the scale. These gauges are often referred to as commercial or utility gauges and are supplied in 1½", 2", 2½", 3½" and 4½" case sizes.

GRADE C:

Gauges are calibrated to an accuracy of ±3% of span over the middle half of the scale and ±4% of span over the first and last quarters of the scale.

GRADE D:

Gauges are calibrated to an accuracy of ±5% of span over the entire scale.

ACCURACY EXAMPLES

Type of Gauge	Grade	Permissible Error % of Span			Max. Friction (% of Span)
		Lower 25%	Middle 50%	Upper 25%	
Precision Test (A4A)	4A	0.1	0.1	0.1	See Note
Test (1082)	3A	0.25	0.25	0.25	0.25
Process (1279)	2A	0.5	0.5	0.5	0.5
Industrial/Hydraulic (1009)	1A	1.0	1.0	1.0	1.0
Industrial/Hydraulic (1010, 1188, 1490)	A	2.0	1.0	2.0	1.0
Commercial/Utility (1005, 3005, 1008A)	B	3.0	2.0	3.0	2.0

Note: Grade 4A gauges must remain within 0.1% before and after being lightly tapped.