

1005, 1005P, 1005S Pressure Gauges

FEATURES

- Patented PowerFlex™ movement
- True Zero™ indicator, a unique safety feature
- Customizable dial printing
- Bulk packaging available
- FlutterGuard™ (optional) reduces movement wear and pointer flutter

SPECIFICATIONS

Accuracy:	±3-2-3% of span (ASME B40.100 Grade B)
Movement:	1005 1005P, 1005S: PowerFlex™ with polyester segment
Pointer:	Black aluminum

WETTED COMPONENTS

Model	Bourdon Tube	Process Connection Materials
1005, 1005P & 1005S	Bronze	Brass

NON-WETTED COMPONENTS

Model	Case	Window
1005	Black painted steel	Polycarbonate
1005P	Black ABS	Polycarbonate
1005S	SS	Polycarbonate

MIN/MAX TEMPERATURE LIMITS

Version	Process
1005	-40°F to 150°F (-40°C to 65°C)



ORDERING CODE

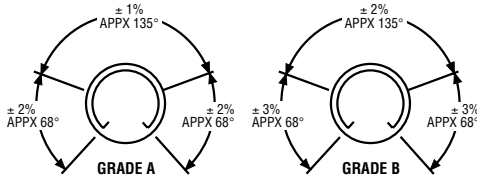
Example:

Dial Size	20	W	1005	P	H	02	L	XAP	400#
15 - 1 1/2"									
20 - 2"	20								
25 - 2 1/2"									
35 - 3 1/2"									
Movement type		W							
W - PowerFlex™									
Model			1005						
1005									
Case/Window Material				P					
Blank - Steel/Polycarbonate									
P - ABS/Polycarbonate									
S - SS/Polycarbonate									
Process Connection Material					H				
H - Brass									
Process Connection Size						02			
01 - 1/8" NPT									
02 - 1/4" NPT									
KJ - 1/4" straight BSPT; PT 1/4" JIS									
KA - 1/4" tapered BSPT; PT 1/4" JIS									
KG - 1/8" BSPT; R 1/8"									
13 - G 1/4" B									
76 - G 1/8" with spigot									
77 - G 1/8" no spigot									
Process Connection Location							L		
L - Lower									
B - Center back									
T - Top									
E - Left side									
D - Right side									
Options (see table 1 on page 46 for additional options (If choosing an option(s) must include an "X")								X	
AP - Adjustable pointer									AP
Ranges (coding example see range table on page 46 for all standard ranges)									
Single Scale									
400# - 400 psi									400#

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.