ASHCROFT®
Trust the shield.®

FEATURES

- Multifunctional Digital Pressure Gauge with optional 4-20mA output 1 or 2 SPDT Switches
- Large LCD display
- ±0.25% of span, Terminal Point Accuracy
- Optional FM and CSA approved Intrinsically Safe, Class I, Div. 1

GOLD Service

SPECIFICATIONS

Accuracy:	±0.25% of span, terminal point
Process Connection Location:	Lower, top, left or right side
Input Power Requirements:	2074: Battery powered 2174: Loop Powered 4-20mA (12-36Vdc) 2274: DC line powered (12-36Vdc)
Enclosure Rating:	Weatherproof, IP65
Display:	Full 5 digital LCD
Backlight:	Optional, (battery backup required on 2174 loop powered)
Bar Graph:	10 segment
Battery Life:	3″ 450 hrs, 4½″ 2,500 hrs
Graph:	Program bar graph and scale 4-20 mA output
Switch Setpoint (Swset):	Programmable switch setpoints
Update Rate:	100 ms, 200 ms, 500 ms, 1 sec
Dampening:	None, average, 2, 4, 6, 8 times per 100 ms

WETTED COMPONENTS

Model	Diaphragm	Process Connection	Joints
2074, 2174, 2274	17-4 SS	316L SS	Laser weld

NON-WETTED COMPONENTS

Case Size	Case Material
3″	304 SS
4½″	Fiberglass reinforced thermoplastic or black epoxy coated aluminum

MIN/MAX TEMPERATURE LIMITS

Version	Process	Storage
2074, 2174, 2274	14°F to 140°F (10°C to 60°C)	–4°F to 158°F (–20°C to 70°C)

PRESSURE RATINGS

Overpressure:	Proof:	Burst:
15 to ≤2,000 psi ≥3,000 to ≤5,000 psi ≥7,500 to ≤20,000 psi	2 X Range 1.5 X Range 1.2 X Range	8 X Range 3 X Range 1.5 X Range

AGENCY APPROVALS

Optional Intrinsically Safe, FM (Class I Div. 1, Groups A-G) and CSA (Class I Div. I, Groups A-G, Class II Div. I, Groups E-G) 15,000 psi max full scale range

2074
4½″ case size

2174
3″ case size

2274
4½″ case size

ORDERING CODE Example:	45	2074	S	D	04	L	1000#	XFM
Case Size								
45 - 4.5″	45							
30 - 3.0″								
Model								
2074 - Battery Power		2074						
2174 - 4-20mA Loop								
2274 - 24Vdc Line Power								
System								
S - SS			S					
Case Style								
D - Dry				D				
Process Connection Size								
4.5″ Only								
04 - ½″ NPT					04			
15 - G ½″B								
09 - 9/16-18 UNF 2B Female								
LF - 7/16-20 w/ “O” ring seat								
3.0″ Only								
RX - 9/16-18 LH w/ Cone								
KJ - ¼″ BSPF								
SF - ¼″ VCR Swivel Female								
SM - ¼″ VCR Swive Male								
3.0″ & 4.5″								
02 - ¼″ NPT								
13 - G ¼″ B								
Process Connection Location								
L - Lower						L		
E - Left (9 o'clock)								
D - Right (3 o'clock)								
T- Top								
Range (consult factory for additional ranges and units of measure)								
Compound								
15#&V - Vac-15 psi								
30#&V - Vac-30 psi								
60#&V - Vac-60 psi								
100#&V - Vac-100 psi								
Gauge								
15# - 0-15 psi								
30# - 0-30 psi								
60# - 0-60 psi								
100# - 0-100 psi								
160# - 0-160 psi								
200# - 0-200 psi								
300# - 0-300 psi								
600# - 0-600psi								
1000# - 0-1,000 psi							1000#	
1500# - 0-1,500 psi								
2000# - 0-2,000 psi								
3000# - 0-3,000 psi								
5000# - 0-5,000 psi								
6000# - 0-6,000 psi								
8000# - 0-8,000 psi								
10000# - 0-10,000 psi								
15000# - 0-15,000 psi								
20000# - 0-20,000 psi (requires use of pressure connection 09 or RX)								
Options (if choosing an option(s) must include an “X”)								X__
BK - Battery backup								
BL - Back light for display (Model 2174 also require BK option)								
AO - 4-20mA Output (2274 only)								
U1 - 1 SPDT Switch (2274 only)								
U2 - 2 SPDT Switches (2274 only)								
FM - Factory Mutual Approval (FM not available with variation codes U1, U2, BL, AO, NH, MN, HN, AY)								FM
NH - Metal tag								
6B - Cleaned for oxygen service								
C4 - Individual certified calibration chart								
MF - Mercury free certificate								
TS - Throttle screw								
JZ - Special length cable								
3.0″ Only								
HN - Mini Hirschmann connector, 3″ only								
TU - Throttle Plug								
FF - Front flange for panel mount								
PP - Protective front cover								
B1 - Black rubber protective boot								
B2 - Orange rubber protective boot								
4.5″ Only								
EN - 3 feet jacketed cable								
AY - Aluminum case								
SU - Accu-Seal, sensor at end of process connection, 2000 psi max, ½″ NPT only)								

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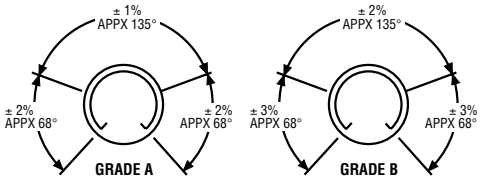
ACCURACY:

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.

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

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

ACCURACY EXAMPLES

Type of Gauge	Grade	Permissible Error % of Span: Lower 25%	Middle 50%	Upper 25%	Max. Friction (% of Span)
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.