

A4A Precision Pressure Gauge

FEATURES

- $\pm 0.1\%$ of span accuracy (ASME B 40.100 Grade 4A)
- Ranges from vacuum to 100,000 psi, gauge, absolute and compound pressure
- Mirror band dial and knife edge pointer to eliminate parallax error
- Solid front protective case
- External zero adjustment

SPECIFICATIONS

Accuracy: $\pm 0.1\%$ of span (ASME B40.100 Grade 4A)
Includes NIST Traceable Calibration Certification

Hysteresis: $< 0.1\%$ of span
Hysteresis may exceed $\pm 0.1\%$ of span for ranges equal to greater than 75,000 psi
($\pm 0.3\%$ typical not to exceed $\pm 0.4\%$ of span)

Case Size: 6", 8½", 12" or 16"

Enclosure Rating: Case is not sealed, recommended for weather protected environment only

Process Connection Size: ¼ NPT Female
⅛ NPT Male or female
¼ NPT Male or female
⅝"-18 UNF-2B Female for ¼" HP tubing
MS33649-4 Female only
MS33656-4 Male only
MS-16142 Female only
Mil-G-18997D Male only

- Standard Inlet Fittings: ¼ NPT Female back connection for ranges up to and including 10,000 psi.
- Ranges greater than 10,000 psi ⅝"-18 UNF Female compatible with AND10050-4, Aminco 45-11310 and Autoclave F-250-C.

Process Connection Location: Back, bottom

Case Style: Solid front, blow out rear cover, with integral panel mounting flange

Mounting Options: Integral panel mount or optional wall mount bracket

Pointer Travel: 350 Degrees up to 30,000 psi
300 Degrees 40,000 to 50,000 psi
270 Degrees 60,000 thru 100,000 psi

Options: Thermal compensation from -25°F to $+125^{\circ}\text{F}$

WETTED COMPONENTS

Model	Inlet Fitting	303SS
A4A	Bourdon Tube	Beryllium copper: 0/15 psi through 0/40 psi 403 SS: 0/50 psi through 0/100,000 psi

NON-WETTED COMPONENTS

Model	Case Material	Cast Aluminum
A4A	Enclosure Rating	Case is not sealed, recommended for weather protected environment only



A4A
6", 8½", 12" or 16" dial sizes

KEY BENEFITS

- High accuracy for precision pressure measurement
- Many process connection options
- Dual engineering unit scale optional

OPTIONS

Thermal Compensation: Bimetallic compensator corrects effects of ambient temperature on bourdon tube to maintain accuracy between -25°F and $+125^{\circ}\text{F}$

Slotted Link: Protects gauge movement from damage caused by sudden release of pressure, such as burst testing applications

Peak Load Indicator: "Max Hand" red pointer which remains in position after being pushed by the primary pointer. External knob allows for manual reset.

Peak Load Indicator: Special units of measure and dual scales can be customized to meet customer requirements.

Custom Scales: Special units of measure and dual scales can be customized to meet customer requirements.

Hand Carry Case: Sturdy lightly padded case for storage and hand carry of gauge. Not suitable for use as stand alone shipping container.

A4A Precision Pressure Gauge

ORDERING CODE	Example:	A4AD	L	G	V	200	C
Model Code/Dial Size							
A4AD - 6" dial		A4AD					
A4AE - 8 1/2" dial							
A4AF - 12" dial							
A4AG - 16" dial							
Process Connection Size/Location							
A - 1/4 Male NPT back							
B - 1/4 Male NPT back							
C - 1/2 Female NPT back							
D - 1/4 Female NPT back							
E - 9/16-18 Thread back							
F - MS-33656-4 Male back							
G - MS-33649-4 Female back							
J - 9/16-18 UNF3A Male back							
K - 1/2 Male NPT bottom							
L - 1/4 Male NPT bottom			L				
M - 1/2 Female NPT bottom							
N - 1/4 Female NPT bottom							
P - 9/16-18 Thread bottom							
R - MS-33656-4 Male bottom							
S - MS-33649-4 Female bottom							
U - 9/16-18 UNF3A Male bottom							
X - MS-16142 9/16-18 Female bottom							
Z - MS-16142 9/16-18 Female back							
Pressure Type							
G - Gauge				G			
A - Absolute							
V - Vacuum							
C - Compound							
Tube Material							
J - Berillium copper (up to 40 psi)							
V - 403 Stainless steel (50 psi and greater)					V		
Pressure Range							
12 - 12 psi							
15 - 15 psi							
20 - 20 psi							
25 - 25 psi							
30 - 30 psi							
40 - 40 psi							
50 - 50 psi							
60 - 60 psi							
75 - 75 psi							
100 - 100 psi							
150 - 150 psi							
200 - 200 psi						200	
250 - 250 psi							
300 - 300 psi							
400 - 400 psi							
500 - 500 psi							
600 - 600 psi							
750 - 750 psi							
1000 - 1,000 psi							
1250 - 1,250 psi							
1500 - 1,500 psi							
2000 - 2,000 psi							
2500 - 2,500 psi							
3000 - 3,000 psi							
4000 - 4,000 psi							
5000 - 5,000 psi							
6000 - 6,000 psi							
7500 - 7,500 psi							
10000 - 10,000 psi							
15000 - 15,000 psi							
20000 - 20,000 psi							
25000 - 25,000 psi							
30000 - 30,000 psi							
40000 - 40,000 psi							
50000 - 50,000 psi							
60000 - 60,000 psi (available in 8 1/2", 12" or 16")							
75000 - 75,000 psi (available in 8 1/2", 12" or 16") (see note 1)							
100000 - 100,000 psi (available in 8 1/2", 12" or 16") (see note 1)							
Optional Features							
C - Slotted link							C
D - Temperature compensated							
E - Special calibration							
F - Special scale							
G - Dual scale							
H - Special cleaning for oxygen service							
I - 6" Peak load indicator							
J - 8 1/2" Peak load indicator							
K - 12" Peak load indicator							
L - 16" Peak load indicator							
M - 6" Wall mount							
N - 8 1/2", 12" or 16" Wall mount							
P - Cleaned for general gas service							
S - Laminated safety glass							
W - Special cleaning, O ₂ clean, do not apply warning labels							

NOTE: Product codes are specified in psi based on maximum capability of the bourdon tube assembly. Full scale pressure range and units of measure must be specified by special instructions in addition to the product code. For example 10,000 psi range would be specified and special instructions "Calibrate 0-600 Bar"

NOTE:
1.) Hysteresis may exceed 0.1% of span for ranges of 75,000 psi or greater. 0.3% is typical, not to exceed 0.4%.

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STANDARD RANGES			
	inHg	inH ₂ O	mmHg
Vacuum	-30 to 0	-	-
	0-30	-	-
	0-40	-	-
	0-50	-	-
	0-60	-	-
	0-75	-	-
	-	0-450	-
	-	0-500	-
	-	0-600	-
	-	0-750	-
Positive Pressure	-	0-800	-
	-	-	-
	0-100	-	-
	0-125	-	-
	0-150	-	-
	0-200	-	-
	0-250	-	-
	0-300	-	-
	0-400	-	-
	0-500	-	-
	0-600	-	-
	0-750	-	-
	-	-	0-760
	0-1000	-	-
	-	-	0-1000
	-	-	0-1250
	-	-	0-1500
	-	-	0-2000
	-	-	0-2500
	-	-	0-3000
-	-	0-4000	
-	-	0-5000	

STANDARD RANGES				
	bar kg/cm ² kp/cm ²	kPa	mPa	Notes
Vacuum	-1 to 0	-	-	
	0.2-1	-	-	
	0-1	0-100	-	
	0-1.6	0-160	-	
	0-2	0-200	-	
	0-2.5	0-250	-	
	0-3	0-300	-	
	0-4	0-400	-	
	0-5	0-500	-	
	0-6	0-600	-	
Positive Pressure	0-7.5	0-750	-	
	0-10	0-1000	0-1	
	0-12	0-1200	0-1.50	
	0-16	0-1600	0-1.6	
	0-20	0-2000	0-2	
	0-25	0-2500	0-2.5	
	0-30	0-3000	0-3	
	0-40	0-4000	0-4	
	0-50	0-5000	0-5	
	0-60	0-6000	0-6	
	0-75	0-7500	0-7.5	
	0-100	0-10000	0-10	
	0-125	-	0-12.5	
	0-160	-	0-16	
	0-200	-	0-20	
	0-250	-	0-25	
	0-400	-	0-40	
	0-500	-	0-50	
	0-600	-	0-60	
	0-750	-	0-75	
	0-1000	-	0-100	
	0-1250	-	0-125	
	0-1600	-	0-160	
	0-2500	-	0-250	
	0-4000	-	0-400	Available in 8½", 12" or 16." Dial face diamerts only
	0-6000	-	0-600	Available in 8½", 12" or 16." Dial face diamerts only
	0-7000	-	0-700	Available in 8½", 12" or 16." Dial face diamerts only

Data Sheet

A4A Precision Pressure Gauge

DIMENSIONS in [] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

PRESSURE TYPE DEFINITIONS

Gauge Pressure Gauge:

Indicates pressure using ambient atmospheric pressure as the zero datum point.

Compound Pressure Gauge:

Indicates pressure both above and below ambient atmospheric pressure using atmospheric pressure as the zero datum point.

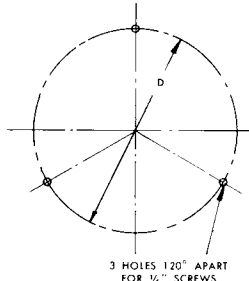
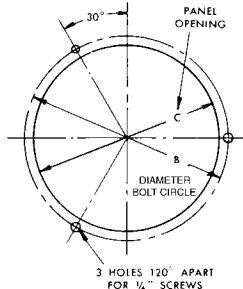
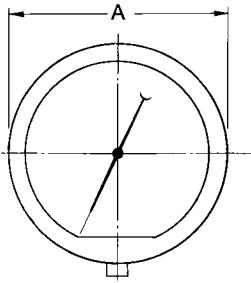
Vacuum Gauge:

Indicates pressure below ambient atmospheric pressure using atmospheric pressure as the zero datum point.

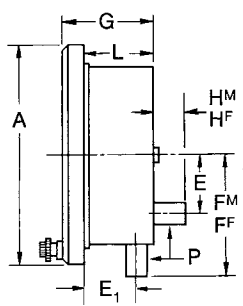
Absolute Pressure Gauge:

Indicates pressure above zero absolute pressure (full vacuum). Heise absolute pressure gauges DO NOT incorporate automatic atmospheric barometric pressure compensation. The barometric pressure at the time of use must be set in the gauge using the external adjustment dial.

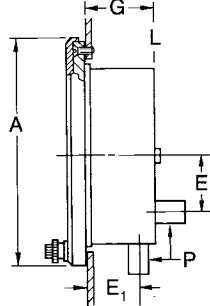
FRONT VIEW



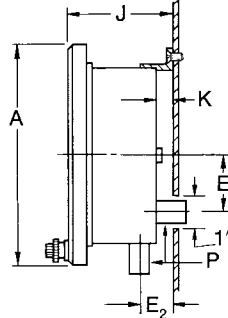
SIDE VIEW



PANEL MOUNTING



WALL MOUNTING



Dial Size (inches)	A	B	C	D	E	E ₁	E ₂	F ^M	F ^F	G	H ^F	H ^M	J	K	L
6"	7 ⁷ / ₈ [200]	7 [177.8]	6 ¹ / ₂ [165.1]	7 [177.8]	2 [50.8]	1 ¹ / ₈ [47.6]	1 ¹ / ₄ [31.8]	4 ⁹ / ₁₆ [115.8]	4 ¹ / ₄ [107.9]	3 ³ / ₄ [82.5]	1 ¹ / ₁₆ [27]	1 ¹ / ₈ [34.9]	3 ² / ₃₂ [97.6]	5 ¹ / ₈ [15.9]	2 ¹ / ₂ [62.7]
8 ¹ / ₂ "	10 ⁹ / ₁₆ [261.9]	9 ⁹ / ₁₆ [238.1]	8 ¹ / ₁₆ [227]	9 ¹ / ₂ [241.3]	2 [50.8]	1 ¹ / ₈ [47.6]	1 ¹ / ₄ [31.8]	5 ⁹ / ₆₄ [144]	5 ²³ / ₆₄ [136.1]	3 ³ / ₄ [82.5]	1 ¹ / ₁₆ [27]	1 ¹ / ₈ [34.9]	4 ¹ / ₃₂ [102.4]	5 ¹ / ₈ [15.9]	2 ²¹ / ₃₂ [67.4]
12"	13 ² / ₃₂ [346.9]	12 ³ / ₄ [323.9]	12 ² / ₈ [314.3]	9 ¹ / ₂ [241.3]	2 [50.8]	1 ¹ / ₈ [47.6]	1 ¹ / ₄ [31.8]	5 ⁹ / ₆₄ [144]	5 ²³ / ₆₄ [136.1]	3 ³ / ₄ [82.5]	1 ¹ / ₁₆ [27]	1 ¹ / ₈ [34.9]	4 ¹ / ₃₂ [102.4]	5 ¹ / ₈ [15.9]	2 ²¹ / ₃₂ [67.4]
16"	17 ²³ / ₃₂ [450.1]	16 ³ / ₄ [425.5]	16 ¹ / ₈ [415.9]	9 ¹ / ₂ [241.3]	3 ¹ / ₄ [82.5]	1 ¹ / ₁₆ [33.3]	1 ⁶ / ₆₄ [50.4]	5 ⁹ / ₁₆ [141.3]	5 ¹ / ₄ [133.4]	3 ²⁵ / ₆₄ [86.1]	1 ¹ / ₁₆ [27]	1 ¹ / ₈ [34.9]	4 ¹ / ₁₆ [103.1]	4 ¹ / ₆₄ [16.3]	2 ²¹ / ₃₂ [67.4]

Pressure Connection* (P)	Pressure Connection is illustrated in both back and bottom configurations				
Approximate Weight	Dial Size (inches)	6"	8 ¹ / ₂ "	12"	16"
	Net Weight (lbs)	4 ¹ / ₂	7 ³ / ₄	10 ³ / ₄	14 ¹ / ₄
	Shipping Weight	7	10	15	21

*Standard Process Connection: 1/4 NPT Female Back Connection for ranges up to and including 10,000 psi, 3/16-18 UNF-2B Female for 1/4 HP tubing compatible with AMINCO 45-11310 or AUTOCLAVE F-250-C for ranges over 10,000 psi

Data Sheet

A4A Precision Pressure Gauge

GRADUATION TABLES

Scale for All Units of Measure	6" & 8 1/2" CM				12" CM				16" CM			
	Total fNumber of Divisions	Value per Division	Division Pattern	Numeral Value	Total fNumber of Divisions	Value per Division	Division Pattern	Numeral Value	Total fNumber of Divisions	Value per Division	Division Pattern	Numeral Value
0-1	500	.002	1/5	.05	1000	.001	1/5	.05	1000	.001	1/5	.05
0-1.6	800	.002	1/5	.1	800	.002	1/5	.1	800	.002	1/5	.1
0-2	400	.005	1/2	.1	1000	.002	1/5	.1	1000	.002	1/5	.1
0-2.5	500	.005	1/2	.1	1000	.0025	1/4	.1	1250	.002	1/5	.1
0-3	600	.005	1/2	.2	600	.005	1/2	.2	1500	.002	1/5	.1
0-4	400	.01	1/5	.2	800	.005	1/2	.2	800	.005	1/2	.2
0-5	500	.01	1/5	.2	1000	.005	1/2	.2	1000	.005	1/2	.2
0-6	600	.01	1/5	.2	600	.01	1/5	.2	1200	.005	1/2	.2
0-7.5	750	.01	1/5	.5	750	.01	1/5	.5	1500	.005	1/2	.5
0-10	500	.02	1/5	.5	1000	.01	1/5	.5	1000	.01	1/5	.5
0-15	750	.02	1/5	1	750	.02	1/5	1	1500	.01	1/5	.5
0-16	800	.02	1/5	1	800	.02	1/5	1	800	.02	1/5	1
0-20	400	.05	1/2	1	1000	.02	1/5	1	1000	.02	1/5	1
0-25	500	.05	1/2	1	1000	.025	1/4	1	1250	.02	1/5	1
0-30	600	.05	1/2	2	600	.05	1/2	2	1500	.02	1/5	1
0-40	400	.1	1/5	2	800	.05	1/2	2	800	.05	1/2	2
0-50	500	.1	1/5	2	1000	.05	1/2	2	1000	.05	1/2	2
0-60	600	.1	1/5	2	600	.1	1/5	2	1200	.05	1/2	2
0-75	750	.1	1/5	5	750	.1	1/5	5	1500	.05	1/2	5
0-100	500	.2	1/5	5	1000	.1	1/5	5	1000	.1	1/5	5
0-150	750	.2	1/5	10	750	.2	1/5	10	1500	.1	1/5	5
0-160	800	.2	1/5	10	800	.2	1/5	10	800	.2	1/5	10
0-200	400	.5	1/2	10	1000	.2	1/5	10	1000	.2	1/5	10
0-250	500	.5	1/2	10	1000	.25	1/4	10	1250	.2	1/5	10
0-300	600	.5	1/2	20	600	.5	1/2	20	1500	.2	1/5	10
0-400	400	1	1/5	20	800	.5	1/2	20	800	.5	1/2	20
0-500	500	1	1/5	25	1000	.5	1/2	20	1000	.5	1/2	20
0-600	600	1	1/5	25	600	1	1/5	25	1200	.5	1/2	20
0-750	750	1	1/5	50	750	1	1/5	50	1500	.5	1/2	50
0-760	760	1	1/5	40	760	1	1/5	40	1520	.5	1/2	40
0-1000	500	2	1/5	50	1000	1	1/5	50	1000	1	1/5	50
0-1500	750	2	1/5	100	750	2	1/5	100	1500	1	1/5	50
0-1600	800	2	1/5	100	800	2	1/5	100	800	2	1/5	100
0-2000	400	5	1/2	100	1000	2	1/5	100	1000	2	1/5	100
0-2500	500	5	1/2	100	1000	2.5	1/4	100	1250	2	1/5	100
0-3000	600	5	1/2	200	600	5	1/2	200	1500	2	1/5	100
0-4000	400	10	1/5	200	800	5	1/2	200	800	5	1/2	200
0-5000	500	10	1/5	250	1000	5	1/2	200	1000	5	1/2	200
0-6000	600	10	1/5	250	600	10	1/5	250	1200	5	1/2	200
0-7500	750	10	1/5	500	750	10	1/5	500	1500	5	1/2	500
0-10000	500	20	1/5	500	1000	10	1/5	500	1000	10	1/5	500
0-15000	750	20	1/5	1000	750	20	1/5	1000	1500	10	1/5	500
0-20000	400	50	1/2	1000	1000	20	1/5	1000	1000	20	1/5	1000
0-25000	500	50	1/2	1000	1000	25	1/4	1000	1250	20	1/5	1000
0-30000	600	50	1/2	2000	600	50	1/2	2000	1500	20	1/5	1000
0-40000	400	100	1/5	2000	800	50	1/2	2000	800	50	1/2	2000
0-50000	500	100	1/5	2500	1000	50	1/2	2000	1000	50	1/2	2000
0-60000	600	100	1/5	2500	600	100	1/5	2500	1200	50	1/2	2000
0-75000	750	100	1/5	5000	750	100	1/5	5000	1500	50	1/2	5000
0-100000	500	200	1/5	5000	1000	100	1/5	5000	1000	100	1/5	5000

Division Pattern

