CM Precision Pressure Gauge

FEATURES

- ±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

CM
6″, 8½″, 12″, 16″ dial sizes

SPECIFICATIONS

Accuracy:	±0.1% of span (ASME B40.100 Grade 4A) Includes NIST Traceable Calibration Certification
Hysteresis:	<0.1% of span Hysteresis may exceed ±0.1% of span for ranges equal to greater than 75,000 psi (±0.3% typical not to exceed ±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 9/16″-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 9/16 -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 intregal panel mounting flange
Mounting Options:	Intregal 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°F

WETTED COMPONENTS

Model	Inlet Fitting	303SS
CM	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
CM	Enclosure Rating	Case is not sealed, recommended for weather protected environment only

KEY BENEFITS

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

OPTIONS

Thermal Compensation: Bimetalic compensator corrects effects of ambient temperature on bourdon tube to maintain accuracybetween -25°F and +125°F

Slotted Link: Protects gauge movement from damage caused bysudden 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.

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

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

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CM Precision Pressure Gauge

ORDERING CODE Example:	CME	L	G	V	200	B	C
Model Code/Dial Size							
CMD - 6″ dial							
CME - 8½″ dial	CME						
CMF - 12″ dial							
CMG - 16″ dial							
Process Connection Size							
A - ⅛ NPT Male back							
B - ¼ NPT Male back							
C - ⅛ NPT Female back							
D - ¼ NPT Female back							
E - 9⁄16-18 Thread back Female back							
F - MS-33656-4 Male back							
G - MS-33649-4 Female back							
H - ¾-16 Thread Male back							
J - 9⁄16-18 UNF3A Male back							
K - ⅛ NPT Male bottom							
L - ¼ NPT Male bottom		L					
M - ⅛ NPT Female bottom							
N - ¼ NPT Female bottom							
P - 9⁄16-18 Thread bottom Female 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 in psi (Consult factory for more ranges and units) (See pressure range table for additional ranges)							
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 - 1000 psi							
1500 - 1500 psi							
2000 - 2000 psi							
2500 - 2500 psi							
3000 - 3000 psi							
4000 - 4000 psi							
5000 - 5000 psi							
6000 - 6000 psi							
7500 - 7500 psi							
10000 - 10000 psi							
15000 - 15000 psi							
20000 - 20000 psi							
25000 - 25000 psi							
30000 - 30000 psi							
40000 - 40000 psi							
50000 - 50000 psi							
60000 - psi 60000 (available in 8½″, 12″ and 16″)							
75000 - 75000 psi (available in 8½″, 12″ and 16″) (see note1)							
100000 - 100000 psi (available in 8½″, 12″ and 16″) (see note 1)							
Dial Type							
A - 6″ Photo							
B - 8.5″ Photo						B	
C - 12″ Photo							
D - 16″ Photo							
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 - 8½″ Peak load indicator							
K - 12″ Peak load indicator							
L - 16″ Peak load indicator							
M - 6″ Wall mount							
N - 8½″, 12″, 16″ Wall mount							
W - Special cleaning, oxygen 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_2O	mmHg
Vacuum	-30 to 0	-	-
Positive Pressure	0-30	-	-
	0-40	-	-
	0-50	-	-
	0-60	-	-
	0-75	-	-
	-	0-450	-
	-	0-500	-
	-	0-600	-
	-	0-750	-
	-	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	-	-	
Positive Pressure	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	-	
	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

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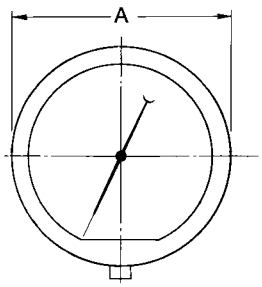
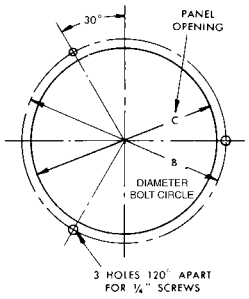
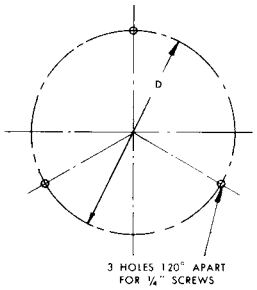
DIMENSIONS in [ ] are millimeters

For reference only, consult Ashcroft for specific dimensional drawings

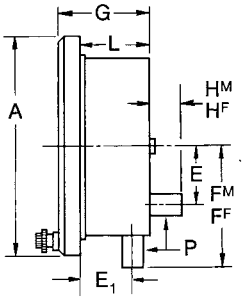
FRONT VIEW



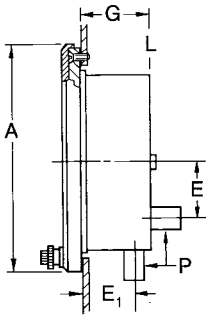




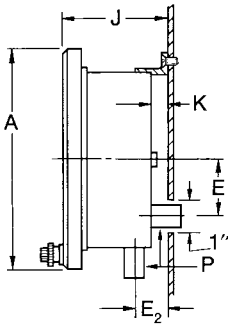
SIDE VIEW



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″	7⅞ [200]	7 [177.8]	6½ [165.1]	7 [177.8]	2 [50.8]	1⅞ [47.6]	1¼ [31.8]	4⁹⁄₁₆ [115.8]	4¼ [107.9]	3¼ [82.5]	1¹⁄₁₆ [27]	1⅜ [34.9]	3²⁷⁄₃₂ [97.6]	⅝ [15.9]	2¹⁵⁄₃₂ [62.7]
8½″	10⁵⁄₁₆ [261.9]	9⅜ [238.1]	8¹⁵⁄₁₆ [227]	9½ [241.3]	2 [50.8]	1⅞ [47.6]	1¼ [31.8]	5⁴³⁄₆₄ [144]	5²³⁄₆₄ [136.1]	3¼ [82.5	1¹⁄₁₆ [27]	1⅜ [34.9]	4¹⁄₃₂ [102.4]	⅝ [15.9]	2²¹⁄₃₂ [67.4]
12″	13²¹⁄₃₂ [346.9]	12¾ [323.9]	12⅜ [314.3]	9½ [241.3]	2 [50.8]	1⅞ [47.6]	1¼ [31.8]	5⁴³⁄₆₄ [144]	5²³⁄₆₄ [136.1]	3¼ [82.5]	1¹⁄₁₆ [27]	1⅜ [34.9]	4¹⁄₃₂ [102.4]	⅝ [15.9]	2²¹⁄₃₂ [67.4]
16″	17²³⁄₃₂ [450.1]	16¾ [425.5]	16⅜ [415.9]	9½ [241.3]	3¼ [82.5]	1⁵⁄₁₆ [33.3]	1⁶³⁄₆₄ [50.4]	5⁹⁄₁₆ [141.3]	5¼ [133.4]	3²⁵⁄₆₄ [86.1]	1¹⁄₁₆ [27]	1⅜ [34.9]	4¹⁄₁₆ [103.1]	41⁄64 [16.3]	2²¹⁄₃₂ [67.4]

Pressure Connection* (P)	Pressure Connection is illustrated in both back and bottom configurations				
Approximate Weight	Dial Size (inches)	6″	8½″	12″	16″
	Net Weight (lbs)	4½	7¾	10¾	14¼
	Shipping Weight	7	10	15	21

*Standard Process Connection: ¼ NPT Female Back Connection for ranges up to and including 10,000 psi, ⁹⁄₁₆″-18 UNF-2B Female for ¼ HP tubing compatible with AMINCO 45-11310 or AUTOCLAVE F-250-C for ranges over 10,000 psi

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.

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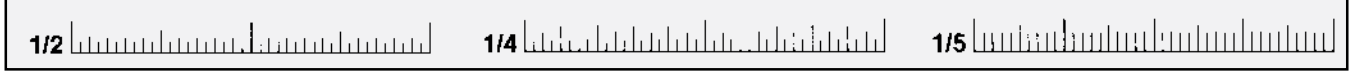
GRADUATION TABLES

	6″ & 8½″ CM				12″ CM				16″ CM			
Scale for All Units of Measure	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



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