

McDaniel

All Stainless Gauges

1½", 2", 2½", 4" and 6"

Safe

• Accurate

• Reliable

• Durable



Range: Vac., Compound, 6" wc – 60,000 psi



McDaniel All-Stainless Steel Gauges 1½", 2", 2½", 4" and 6"

Features

All Stainless Construction
Laminated Safety Glass Lens
Full Blow-Out Protection
Fillable Case

Accuracy: ½% on 4" and 6" gauges -
ASME B40.1 Grade 2A
1% on 2" and 2½" gauges -
ASME B40.1 Grade 1A
1.5% on 1½" gauges -
ASME B40.1 Grade A

Adjustable pointer standard on 4" and 6" only

Safe and Reliable

McDaniel designs and manufactures its gauges to minimize failure and to protect personnel and property. The use of laminated safety glass, rather than plexiglass or single strength glass, prevents dangerous pressure build-up in the case; the 2" glass breaks at 60 psi, the 2 ½" at 40 psi, the 4" at 15 psi and the 6" at 8 psi. The brittle glass cracks uniformly and the laminate remains intact. Additionally, the laminated safety glass won't craze or discolor.

Every 4" or 6" McDaniel gauge is designed to withstand:

- 300% full scale pressure without rupture of the bourdon tube.
- 130% full scale pressure without loss of accuracy.
- 15,000 cycles of pressure pulsation from 10% to 90% full scale at a rate of 60 times a minute. The gauge is allowed to rest for 5 minutes and then can have no greater error than 1% at any place on the dial.

Pulse/Vibration Protection

McDaniel offers liquid-filled gauges for applications involving vibration or pulsation. Glycerin is an excellent damper of bourdon tube movement. Emersion of the entire measuring assembly in a protective liquid envelope provides lubrication and shuts out corrosive or dirty atmospheres — thereby minimizing wear of moving parts and prolonging gauge life significantly.

Choice of Filling

When you order a McDaniel fillable gauge you may choose to fill it yourself or you may order it factory-filled with the liquid of your choice. Thus, you can maximize inventory utility and minimize inventory cost.

Glycerin filling has a lower operating temperature limit of 32°F (0°C) undiluted. The mixture of distilled water in proportions up to 35% will lower the limit commensurately, to -40°F (-40°C).

Silicone can extend the lower temperature limit to -60°F (-50°C).

The maximum temperature limit is not determined by the fluid but by the gauge's synthetic case seal. At elevated temperatures the seal may bake and lose its elasticity.

Warning: Glycerin filled gauges should not be used in applications involving strong oxidizing agents such as chlorine, nitric acid or hydrogen peroxide. (Refer to ASME B40.1)

Repair Feature

If any McDaniel gauge requires repair, downtime can be minimal because all gauges are field-repairable — quickly and easily — with only a screwdriver needed for disassembly.

If circumstances permit and factory repair is preferred, we will make the repair at a nominal service charge. See "WARRANTY & REPAIR" for further details.



Case Styles

- 1½" (40MM) Filled or Fillable**
Model S - ¼" NPT*
 *STANDARD — Also available in ¼" NPT on Request. (Center Back Conn. Only)
- 2" (50MM) Filled or Fillable**
Model Q - ¼" NPT*
 *STANDARD — Also available in ½" NPT on Request.
- 2½" (63MM) Filled or Fillable**
Model K - ¼" NPT*
 *STANDARD — Also available in ½" NPT on Request.

- 4" (100MM) Non-Fillable**
Model A - ¼" NPT
Model C - ½" NPT
- 4" (100MM) Filled or Fillable**
Model E - ¼" NPT
Model G - ½" NPT
- 6" (160MM) Non-Fillable**
Model B - ¼" NPT
Model D - ½" NPT
- 6" (160MM) Filled or Fillable**
Model F - ¼" NPT
Model H - ½" NPT

Range Selection * * 6" wc to 250" wc available. To order wc, mercury or other pressure calibrations, describe desired range, (rather than use a range code) after specifying code for case size.

Range Code	Range (psi)
3	0 - 3
5	0 - 5
6	0 - 6
10	0 - 10
A	0 - 15
B	0 - 30
C	0 - 60
D	0 - 100
E	0 - 160
F	0 - 200
G	0 - 300
H	0 - 400
I	0 - 600
J	0 - 800
K	0 - 1000
L	0 - 1500
M	0 - 2000

Range Code	Range (psi)
N	0 - 3000
O	0 - 5000
6k	0 - 6000
P	0 - 10000
Q	0 - 15000
R	0 - 20000
30k	0 - 30000
35k	0 - 35000
S	30" Hg - 0
T	REC 3 - 15
U	COMP 30"Hg + 15
V	COMP 30"Hg + 30
W	COMP 30"Hg + 60
X	COMP 30"Hg + 100
Y	COMP 30"Hg + 160
2k	COMP 30"Hg + 200
Z	COMP 30"Hg + 300

Choice of Mounting Style

Mountings are specified by using the following suffixes as codes:

- P** = Panel mount/center back connection (Models S and Q) Panel mount/lower back connection (Models A, C, E, G, B, D, F, H, K)
- L** = Center back connection (Models S and Q) or lower back connection without panel mount flange (Models A, C, E, G, B, D, F, H, K)
- U** = U-Clamp for panel mounting (Center back on S and Q)
- R** = Rear flange for wall-mounting (2½", 4" and 6" gauges only)

Special Configuration Adder Codes

- B** = psi/Bar (dual scale)
K = psi/kPa (dual scale)
O = O₂ (cleaned for oxygen service)
S = Solid front/blow-out back (2½", 4" & 6" gauges only)

NOTE: Model K available with center back connection by special order.

Choice of Mounting Style



**Standard
Bottom Connection**



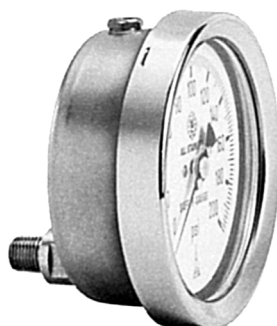
**Solid Front/
Blow-out Back (S)**



Rear Flange (R)



**U-Clamp
Panel Mount (U)**



Back Connection (L)



**Front Flange
Panel Mount (P)**

Choice of Scale

McDaniel offers from inventory many dual scale ranges. These include psi/kPa with the psi scale primary and kPa secondary; psi/Bar with the psi scale primary and Bar secondary; psi/kg/cm² with psi primary and kg/cm² secondary; kg/cm²/psi with kilograms per cm² primary and psi secondary.

A word about Non-Standard Ranges: McDaniel offers more ranges and special calibrations than any other manufacturer of gauges — for only a nominal charge if any. Consult your McDaniel distributor.

How to Order by Code Number

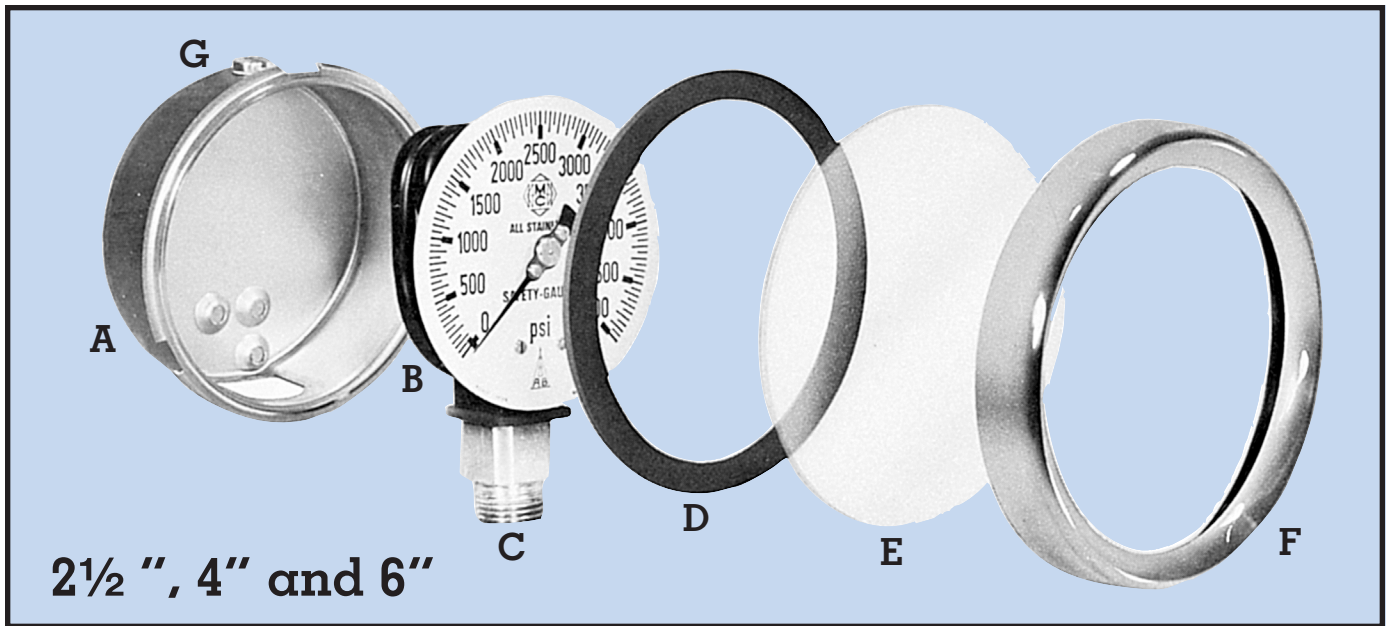
1. Select case style.
2. Select pressure range (Describe if requesting inches of water column, mercury, etc.).
3. Add mounting style if other than a standard bottom connection.
4. Add special configurations if needed — either by code or by written description.
5. Add choice of filling, if appropriate. (GF = Glycerin Filled, SF = Silicone Filled, or FF = Flourlube Filled)

Example:

Model	Range Code	Type of Mounting	Special Configuration	Type of Filling
E	6k	P	—	GF

Order: A 4" sealed gauge with a scale of 0 – 6000 psi, panel-mounted/lower back 1/4" NPT connection, filled at the factory with glycerin (E6kP-GF).





Durable

The best-known construction materials available are used in the manufacture of McDaniel gauges.

- A. 304 Stainless Steel Heavy Duty Case
- B. 316 Stainless Steel Heavy Duty Movement
- C. 316 Stainless Steel Heavy Duty Connection, Socket and Bourdon Tube
- D. Neoprene Gaskets
- E. Laminated Safety Glass Lens
- F. Polished 304 Stainless Steel Bayonet Ring
- G. Stainless Steel Blowout Assembly

Spiral Bourdon Tube

Bourdon tube work hardening can cause premature rupture in a pulsation type service, especially if that service is above 1,000 psi, where heavy wall thickness of the Bourdon tube is encountered.

McDaniel, therefore, incorporates an annealed spiral bourdon tube as the sensing element of all gauge ranges above 1,000 psi to minimize bourdon tube failure possibilities.

Spiral Bourdon Tube
(annealed)

Pointer shaft

Stainless sector gear

Vacuum Stop

All Stainless Steel Movement

"S" link

Pulsation dampner plate

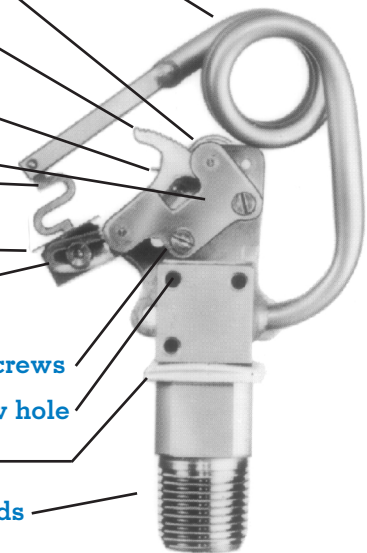
Span adjustment

Movement mounting screws

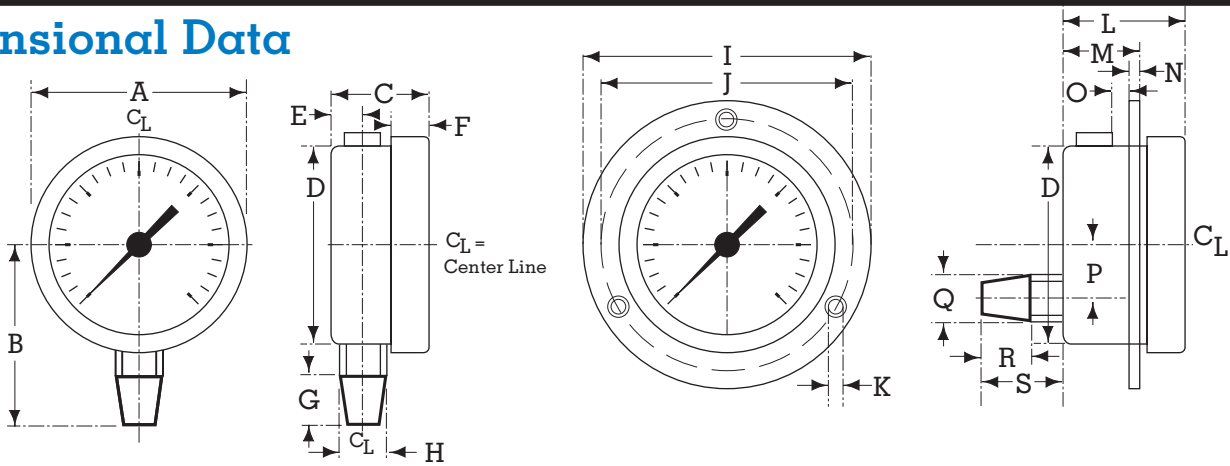
Case attachment screw hole

Case Seal

"Rolled", not cut threads



Dimensional Data



Model	Nominal Size	Case Diameter	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	
S	1½"	MM	38.5	40	34	27.5	38.5 ⁽¹³⁾	-	11	10	14	61 ⁽⁸⁾	51	3.5	29.5	29	1	-	CB ⁽²⁾	14	10	16
		In.	1.52	1.58	1.34	1.08	1.52	-	0.43	0.39	0.55	2.4	2	0.14	1.16	1.14	0.04	-	-	0.55	0.39	0.63
Q	2"	MM	51	52	45	28	51	10	9 ⁽⁷⁾	11	14	77 ⁽¹⁾	60	4	28	18	3 ⁽⁶⁾	2	CB ⁽²⁾	14	11	23 ⁽⁸⁾
		In.	2.00	2.05	1.77	1.1	2.01	0.39	0.35	0.43	0.55	3.03	2.36	1.6	1.1	0.71	0.12	0.08	-	0.55	0.43	0.91
K	2½"	MM	63	68.5	57	31	62	9	11	15	14	85 ⁽⁹⁾	75	3.5	37	24	3	6	8	14	15	25
		In.	2.48	2.7	2.24	1.22	2.44	0.35	0.43	0.59	0.55	3.3	2.9	0.14	1.46	0.94	0.12	0.24	0.71	0.55	0.59	0.98
A,C,E,G	4"	MM	100	112	88	48	99	16	17	22	22	132	116	4.5	48	33	4	11	34	21.3	15	36 ⁽¹¹⁾
		In.	3.94	4.41	3.46	1.89	3.9	0.63	0.67	0.59	0.87	5.2	4.57	0.18	1.89	1.3	0.16	0.43	1.34	0.84	0.59	1.42
B,D,F,H	6"	MM	160	173	117 ⁽⁶⁾	49.5	160	16	17	15 ⁽¹⁰⁾	22	196	178	5.8	56	38	4	15.5	52	21.3	15	36 ⁽¹¹⁾
		In.	6.30	6.81	4.61	1.95	6.3	0.63	0.67	0.59	0.87	7.72	7.01	0.23	2.2	1.5	0.16	0.61	2.05	0.84	0.59	1.42
K†	2½"	MM	62	64	57	41	62	12	14	15 ⁽¹⁰⁾	14	85	75	2.3	41	35	1	-	18	14	15	21
		In.	2.44	2.52	2.24	1.61	2.44	0.47	0.55	0.59	0.55	3.35	2.95	0.09	1.61	1.38	0.04	-	0.71	0.55	0.59	0.83
E,G†	4"	MM	100	101	87	59	99	29.5	17.5	22 ⁽¹²⁾	22	132	116	4.8	59	54.5	1	-	31	21.3	15	21
		In.	3.94	3.98	3.43	2.32	3.9	1.16	0.69	0.87	0.87	5.2	4.57	0.19	2.32	2.15	0.04	-	1.22	0.84	0.59	0.83
F,H†	6"	MM	160	162	118	76	160	40	19	21.5 ⁽¹²⁾	22	196	178	5.8 ⁽⁵⁾	76	72	2	-	BM ⁽⁷⁾	BM ⁽⁷⁾	BM ⁽⁷⁾	BM ⁽⁷⁾
		In.	6.3	6.38	4.65	2.99	6.3	1.57	0.75	0.85	0.87	7.72	7.01	0.23	2.99	2.83	0.08	-	-	-	-	

† Solid Front – Blow-out Back
 CB Center-Back connection only
 BM Bottom-Mount connection only

(1) U-clamp mount reduced to 55.9 MM (2.20")
 (2) U-clamp mount on S and Q are CB
 (3) U-clamp mount reduced to 68.5 MM (2.70")
 (4) U-clamp mount reduced to 45.9 MM (1.81")
 (5) Mounting screws supplied are 4 MM (0.16")
 (6) U-clamp mount – Bezel is 7 MM (0.28")

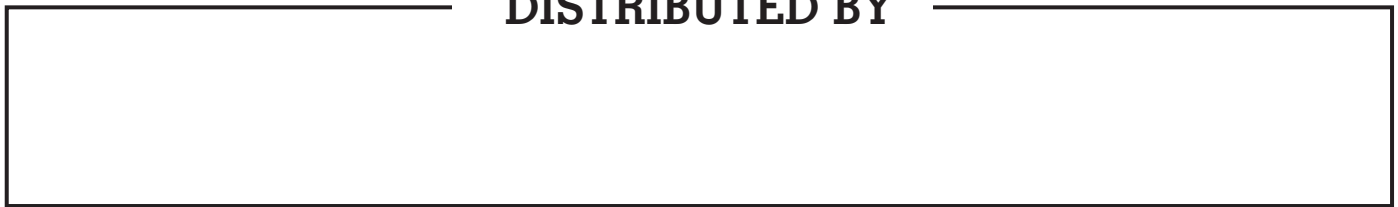
(7) Panel Mount, front flange, bottom-mount only
 (8) ¼" NPT = 19 MM (0.75")
 (9) ¼" NPT = 110 MM (4.33")
 (10) ½" NPT = 21.5 MM (0.85")
 (11) ½" NPT = 43 MM (1.69")
 (12) ¼" NPT = 15 MM (0.59") – [E and F model]

(13) U-clamp model = 42MM (1.58")

McDaniel also makes gauges in other materials, in sizes and ranges to fit a wide variety of applications, and in many special configurations.

Ask your representative about McDaniel gauges with brass internals, gauges with Polyamid B cases, All-brass gauges, test gauges, or other requirements.

DISTRIBUTED BY



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