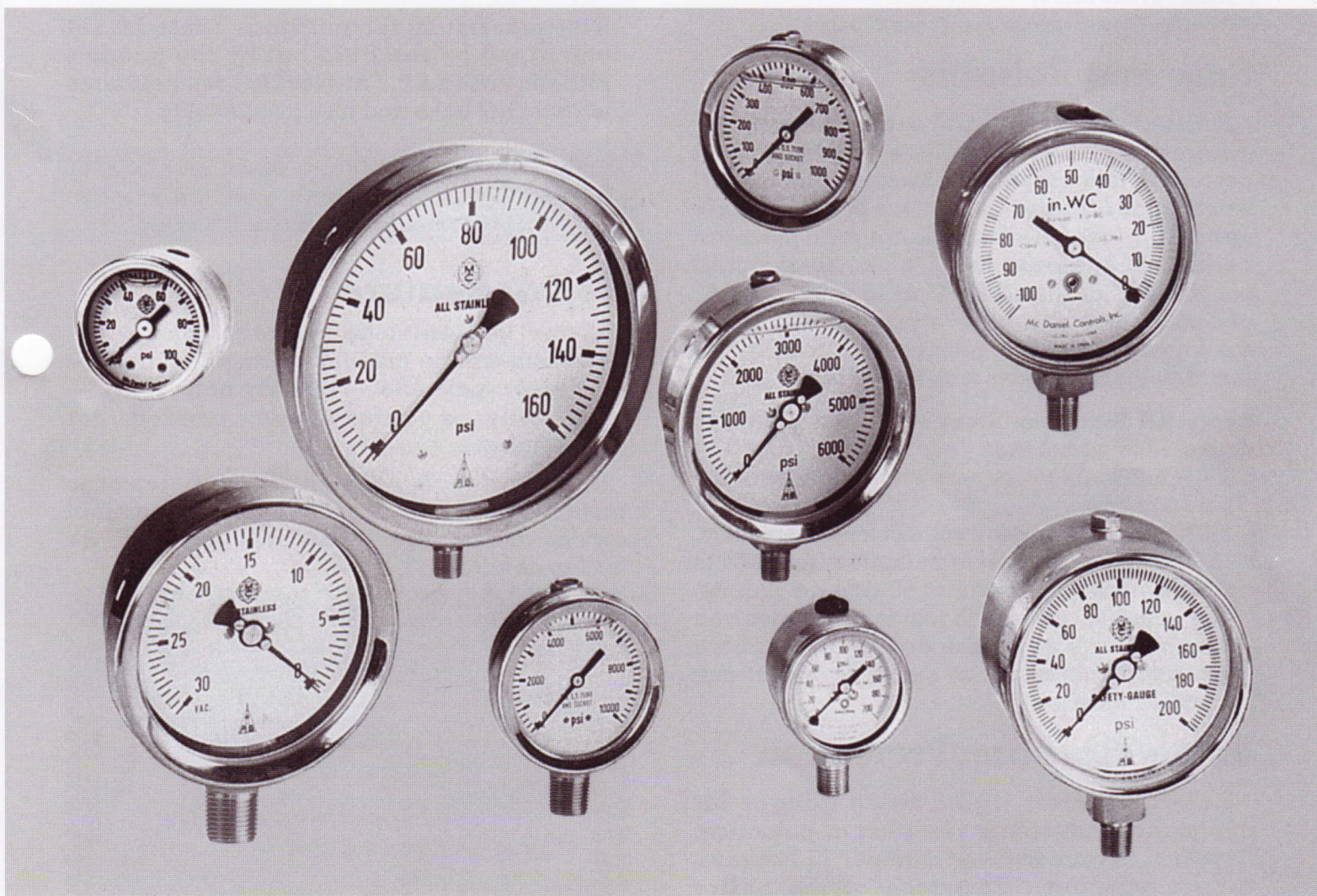


McDaniel

All Stainless Gauges

1 1/2", 2", 2 1/2", 4" and 6"

Safe • Accurate • Reliable • Durable • Guaranteed



Ranges: Pressure, Vacuum, Compound, Receiver 3-15 PSI
1.6 inches of water column up to 60,000 psi



To order parts and items, go to www.Instrumentation.com or call (800) 346-4620

McDaniel All Stainless Steel Gauge

Features

All Stainless Construction
Laminated Safety Glass Lens
Blowout Relief Grommet
Fillable Case

Accuracy: *1.5% on 1 1/2" gauges -
ASME B40.1 Grade A
*1% on 2" and 2 1/2" gauges -
ASME B40.1 Grade 1A
*1/2% on 4" and 6" gauges -
ASME B40.1 Grade 2A

(* 10,000 PSI and below)

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 1/2" 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 All Stainless Steel 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% above it's original accuracy as stated above; 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.

Warranty

McDaniel warrants our pressure gauges to be free of defects in material and workmanship: Replacement of any defective gauge will be made at no cost to the purchaser. Gauge failures determined to be caused by abuse, over-range and incompatibility with environment or process media will not be considered under this warranty.

Repair / Refurbish

We will repair any regular stock McDaniel gauge for a cost of \$15.00 on 4" and 6" sizes; \$7.50 on 2 1/2" and smaller (excluding Utility Gauges). Damaged sockets or bourdon tubes cannot be repaired. (Special Units, contact McDaniel for pricing) Prices are F.O.B. Boutte, Louisiana 70039 U.S.A.

Gauges 1½", 2", 2½", 4" and 6"

Case Styles

1½" (40MM) **Filled or Fillable**

Model S - 1/8" NPT*

*STANDARD — Also available in
1/4" NPT on Request. (Center-Back Conn. Only)

2" (50MM) **Filled or Fillable**

Model Q3 - 1/4" NPT*

*STANDARD — Also available in
1/8" NPT on Request.

2½" (63MM) **Filled or Fillable**

Model K - 1/4" NPT*

*STANDARD — Also available in
1/8" NPT on Request.

4" (100MM)

Non-Fillable

Model A - 1/4" NPT

Model C - 1/2" NPT

4" (100MM)

Filled or Fillable

Model E - 1/4" NPT

Model G - 1/2" NPT

6" (160MM)

Non-Fillable

Model B - 1/4" NPT

Model D - 1/2" NPT

6" (160MM)

Filled or Fillable

Model F - 1/4" NPT

Model H - 1/2" NPT

Range Selection *

* 1.6" inches of water column 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 - 1,000
L	0 - 1,500
M	0 - 2,000

Range Code	Range (psi)
N	0 - 3,000
O	0 - 5,000
6k	0 - 6,000
P	0 - 10,000
Q	0 - 15,000
R	0 - 20,000
30k	0 - 30,000
35k	0 - 35,000
S	30" Hg - 0 Vacuum
T	Receiver 3 - 15 psi
U	Compound 30"Hg-0-15 psi
V	Compound 30"Hg-0-30 psi
W	Compound 30"Hg-0-60 psi
X	Compound 30"Hg-0-100 psi
Y	Compound 30"Hg-0-160 psi
2k	Compound 30"Hg-0-200 psi
Z	Compound 30"Hg-0-300 psi

Choice of Mounting Style

Mountings are specified by using the following suffixes as codes:

- P** = Panel mount/center-back connection (Models S and Q3) Panel mount/lower-back connection (Models A, C, E, G, B, D, F, H, K)
- L** = Lower-back connection* (Models A, C, E, G, B, D, F, H, K)
Center-back connection (Model S)
- C'** = Center-back connection Model Q3 only
- U** = U-Clamp for panel mounting (Center-back on S and Q3)
- R** = Rear flange for wall mounting (2½", 4" and 6" gauges only) (Models A, C, E, G, B, D, F, H, K)

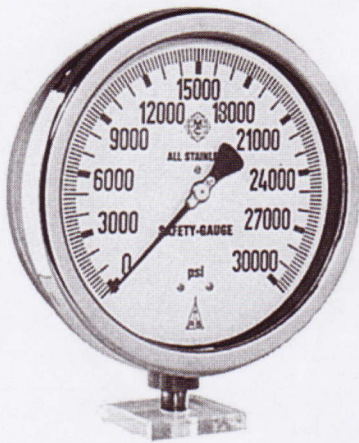
(* Model Q3 center-back connection uses "C" to denote center-back connection not "L")

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 case (2½", 4" & 6" gauges only)
- C** = **Model K available with center-back connection by special order for psi ranges.**

(* inches of water column ranges, 4 inch dial models A & C, have center-back connection and still use "L" to designate, not "C")

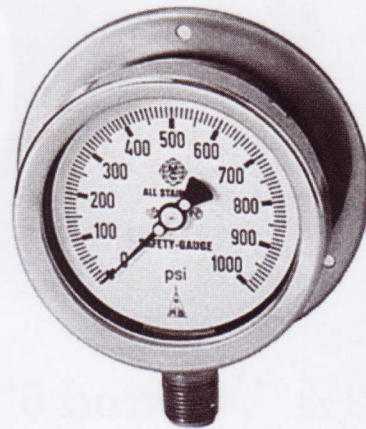
Choice of Mounting Style



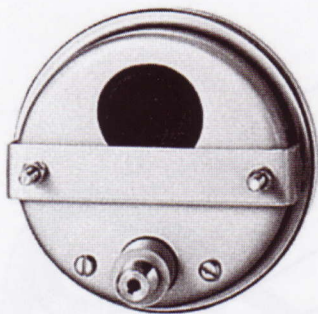
**Standard
Bottom Connection**



**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 = Fluorolube Filled)

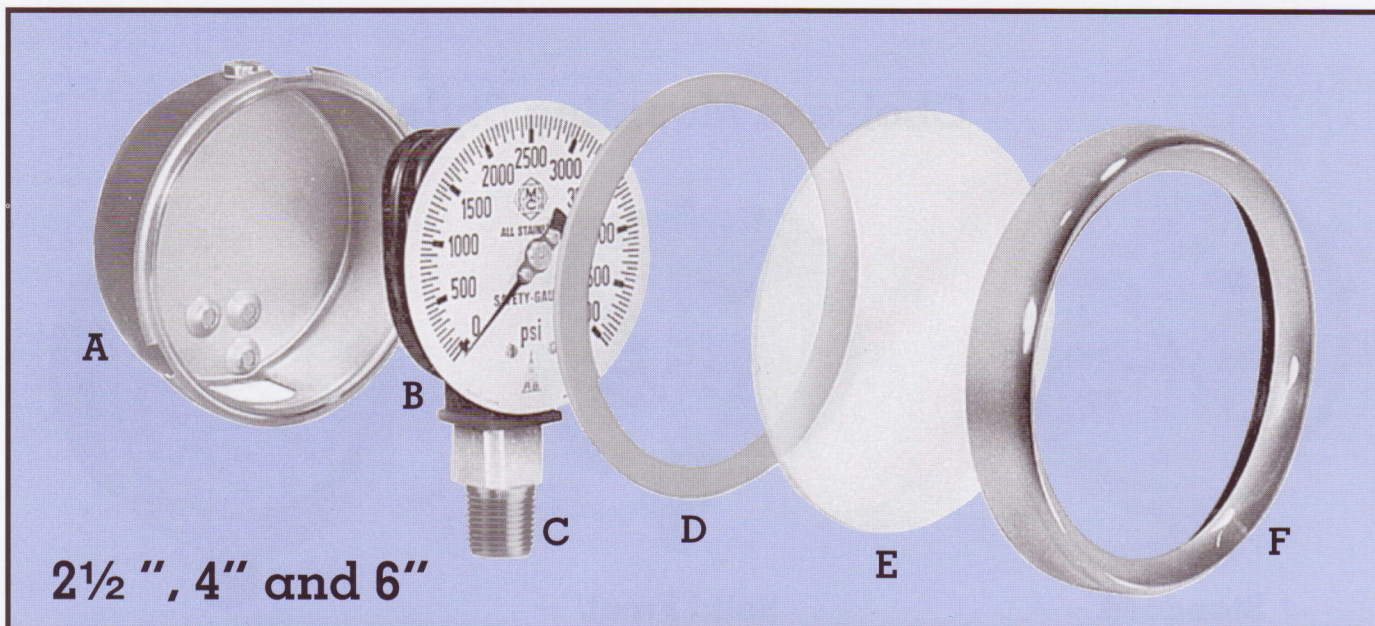
Example:

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

Spiral Bourdon Tube

Bourdon tube work hardening can cause premature rupture in a pulsation type service, especially if that service is above 800 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 800 psi to minimize bourdon tube failure possibilities.

Spiral Bourdon tube
(annealed)

Pointer shaft

Stainless sector gear

Vacuum Stop

All Stainless Steel
movement

"S" link

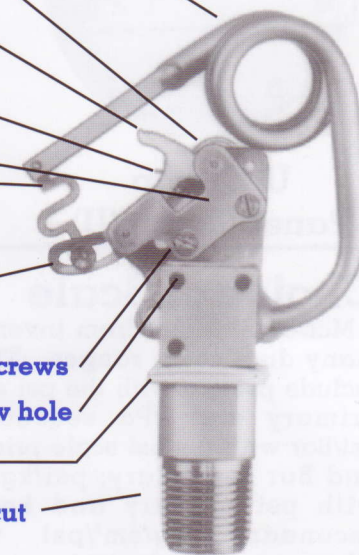
Span adjustment

Movement mounting screws

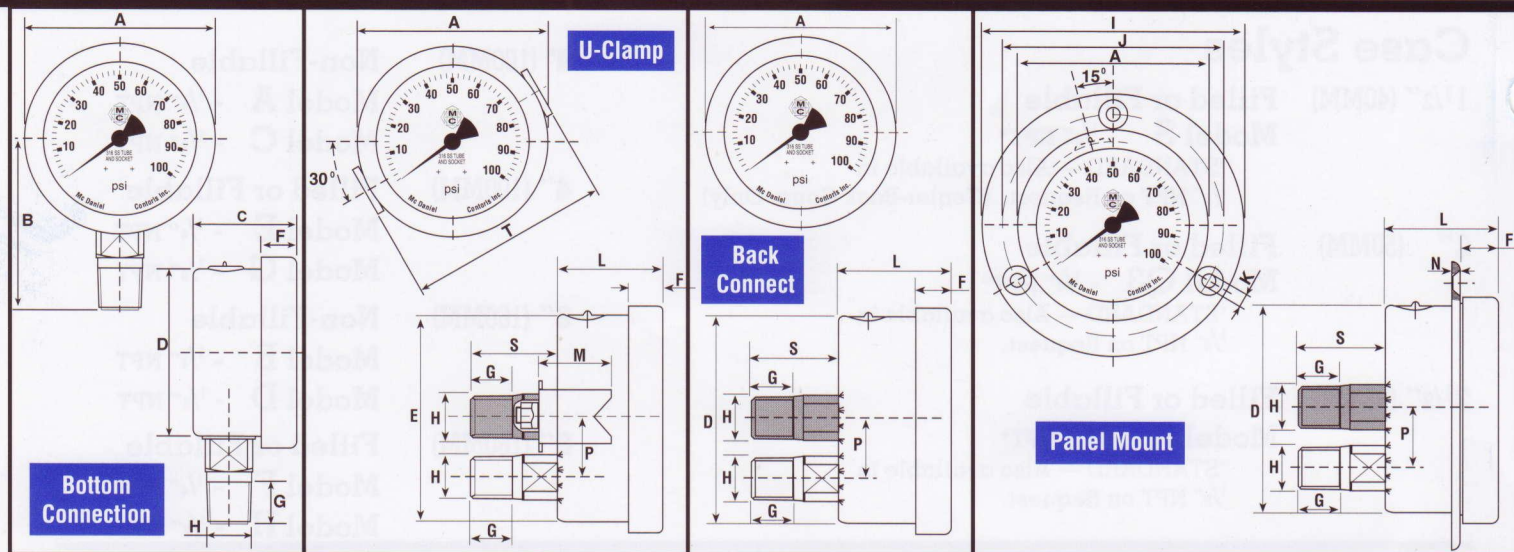
Case attachment screw hole

Stem gasket

Threads "rolled", not cut



Dimensional Data



Model	Nominal Size	Case Diameter	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	S	T
S	1½"	MM 38.5	40	34	28	38.5	41.8	10.6	10	14	61	51	3.6	30	29	0.8	CB	16 ⁽¹⁾	58
		In. 1.52	1.58	1.34	1.10	1.52	1.65	0.42	0.39	0.55	2.40	2.01	0.14	1.18	1.14	0.03	CB	0.63	2.28
Q3	2"	MM 50	56	50 ⁽²⁾	30.5	49	49	10.5	12	14	77	65	4	30.5	22	2.5	CB	20.5 ⁽⁶⁾	59
		In. 2.00	2.20	1.93	1.20	1.92	1.92	0.41	0.47	0.55	3.03	2.56	1.6	1.20	0.89	0.10	CB	0.81	2.32
K	2½"	MM 63	68.5	57	31	62	62	11	15	14	85	75	3.6	37	31	3	8	25	71
		In. 2.48	2.7	2.24	1.22	2.44	2.44	0.43	0.51	0.55	3.3	2.9	0.14	1.46	1.22	0.12	0.71	0.98	2.80
A,C, E,G	4"	MM 100	112	88	48	99	100	17	21.5	22	132	116	4.8	49	39.5	5	34	36 ⁽⁷⁾	110
		In. 3.94	4.41	3.46	1.89	3.9	3.94	0.67	0.85	0.87	5.2	4.57	0.19	1.93	1.56	0.2	1.34	0.59	4.33
B,D, F,H	6"	MM 160	173	117 ⁽³⁾	49.5	160	160	17	21.5 ⁽⁴⁾	22	196	178	5.8	56	38	4	52	43 ⁽⁵⁾	172
		In. 6.30	6.81	4.61	1.95	6.3	6.3	0.67	0.85	0.87	7.72	7.01	0.23	2.2	1.50	0.16	2.05	1.69	6.77
K†	2½"	MM 62	64	57	41	62	-	14	15	14	85	75	2.3	41	35	1	18	21	-
		In. 2.44	2.52	2.24	1.61	2.44	-	0.55	0.51	0.55	3.35	2.95	0.09	1.61	1.38	0.04	0.71	0.83	-
E,G†	4"	MM 100	101	87	59	99	-	17.5	22	22	132	116	4.8	59	54.5	1	31	21	-
		In. 3.94	3.98	3.43	2.32	3.9	-	0.69	0.87	0.87	5.2	4.57	0.19	2.32	2.15	0.04	1.22	0.83	-
F,H†	6"	MM 160	162	118	76	160	-	19	21.5	22	196	178	5.8	76	72	2	BM	BM	-
		In. 6.3	6.38	4.65	2.99	6.3	-	0.75	0.85	0.87	7.72	7.01	0.23	2.99	2.83	0.08	-	-	-

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

(1) 30, 60, 100 PSI range = 13.5 MM, (0.53 Inches)
(2) ½" NPT = 45 MM (1.77 Inches)
(3) ¼" NPT = 110 MM (4.33 Inches)

(4) ¼" NPT = 15 MM (0.59 Inches)
(5) ¼" NPT = 36 MM (1.42 Inches)
(6) ⅝" NPT = 16.5 MM (0.65 Inches)

(7) ½" NPT = 43 MM (1.69 Inches)

Models S & Q3 are Center-Back
= (*inches of water ranges, 4" dial models
A & C are center-back)

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.

McDaniel Controls, Inc.