

# North American Pressure Gauges and Thermometers

## 8735 Pressure Gauges with English and Metric Scales

Gauge Designation	Range (from zero unless otherwise indicated)	Male Pipe Connection Location	Type	Wetted Material	Fluid Medium	Accuracy	Case Material	Glass Material	Working Range
8735-15I 8735-30I 8735-60I/+60I 8735-60I 8735-5P	15" wc      400 mm wc 30" wc      760 mm wc -60" X +60"wc - 1250 X +1250 mm wc 60" wc      1500 mm wc 5 psi        35 kpa	Lower	Dry	Copper Alloy	Gaseous (air, natural gas)	+1.5% of span	Steel Case NEMA 2 IP 32	Acrylic	Steady = Full Scale  Fluctuating = 0.9 x full scale
8735-15P 8735-15P-B 8735-15P-LF 8735-15P-BLF	15 psi      100 kpa 15 psi      100 kpa 15 psi      100 kpa 15 psi      100 kpa	Lower Back	Dry ***	Copper Alloy	Liquid and Gaseous (air, natural gas, oil)	+2.5% of span	304 Stainless Steel with vent plug NEMA 4X IP 65	Polycarbonate with Buna N Gasket	Steady = 0.75 x Full Scale  Fluctuating = 0.67 x full scale  Short time: Full Scale
8735-30P 8735-30P-B 8735-30P-LF 8735-30P-BLF	30 psi      200 kpa 30 psi      200 kpa 30 psi      200 kpa 30 psi      200 kpa	Lower Back	Liquid Filled						
8735-60P 8735-60P-B 8735-60P-LF 8735-60P-BLF	60 psi      400 kpa 60 psi      400 kpa 60 psi      400 kpa 60 psi      400 kpa	Lower Back	Dry ***						
8735-100P 8735-100P-B 8735-100P-LF 8735-100P-BLF	100 psi     700 kpa 100 psi     700 kpa 100 psi     700 kpa 100 psi     700 kpa	Lower Back	Liquid Filled						
8735-160P 8735-160P-B 8735-160P-LF 8735-160P-BLF	160 psi     1100 kpa 160 psi     1100 kpa 160 psi     1100 kpa 160 psi     1100 kpa	Lower Back	Dry ***						
8735-300P/SST * 8735-300P-B/SST * 8735-300P-LF/SST * 8735-300P-BLF/SST *	300 psi     2000 kpa 300 psi     2000 kpa 300 psi     2000 kpa 300 psi     2000 kpa	Lower Back	Liquid Filled						
8735-30HG15P/SST * 8735-30HG15P-B/SST * 8735-30HG15P-LF/SST * 8735-30HG15P-BLF/SST *	-30" hg X 15psi    -100kpa X 100kpa -30" hg X 15psi    -100kpa X 100kpa -30" hg X 15psi    -100kpa X 100kpa -30" hg X 15psi    -100kpa X 100kpa	Lower Back	Dry ***						
		Lower Back	Liquid Filled						
		Lower Back	Dry ***						
		Lower Back	Liquid Filled						
		Lower Back	Dry ***						
		Lower Back	Liquid Filled						
		Lower Back	Dry ***						
		Lower Back	Liquid Filled						
		Lower Back	Dry ***						
		Lower Back	Liquid Filled						

\* See maximum temperature listed under standard features

\*\*\* Suitable for liquid filling

Note: Wetted materials in the selection chart include connection and capsule or bourdon tube element

### STANDARD FEATURES

**Dial Size:** 2 1/2 inch

**Pipe Connection:** 1/4" NPT or 1/4 BSPT (see ordering instructions)

**Dial:** Aluminum

**Pointer:** Aluminum

**Weight:** Approximately 0.5 lb (0.23 kg)

**Maximum Temperature:** 140F (60C) except\* models from the selection chart are 212F (100C)

**Minimum Temperature:** -4F (-20C)

**Temperature Error (from reference):** +/-0.4% span for every 18F (10C), rising or falling

**Zero Feature:** Both liquid filled gauges and dry gauges which are suitable for liquid filling (noted Dry\*\*\* in the selection charts) do not have a zero adjustment on the dial

**Liquid Filled Gauge Fluid:** Glycerine

## SIZING and INSTALLATION

- Select gauge for double the range of anticipated pressures. Note: Maximum accuracy is obtained in the middle third of the gauge range.
- For shutoff when gauge is not being read, install a valve ahead of each gauge.

## LIQUID FILLED GAUGES

### Advantages

- The liquid absorbs vibration as well as pulsation and spikes in pressure.
- The dampening action of the liquid enables the operator to take readings during conditions of rapid dynamic loading and vibration.
- The liquid lubricates all moving elements, dramatically reducing wear in the movement.
- Because most liquid-filled gauges are filled with non-aqueous liquid and hermetically sealed, they perform in corrosive environments and are immune to moisture penetration and icing. Also, shock effects are lessened.

### Commissioning into Service

For liquid filled pressure gauges, case venting (after the gauge is installed) is necessary to preserve the accuracy. Temperature fluctuations during shipment and in

the process application cause the liquid filling to expand and contract which in turn increases and decreases case pressure. As a result, accuracy can be decreased and the pointer may not return to zero properly until the gauge is vented to atmosphere.

To vent liquid filled gauges, move the lever to the open position which will release any pressure or vacuum build up in the case. The gauge should always be installed in an upright position. The lever can be left in the open position.



### Ordering Instructions

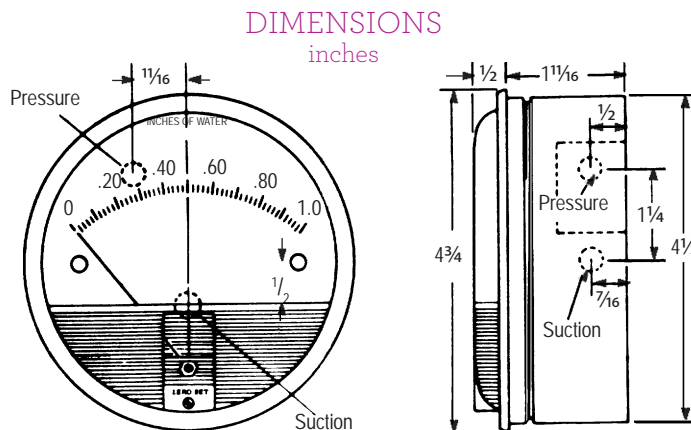
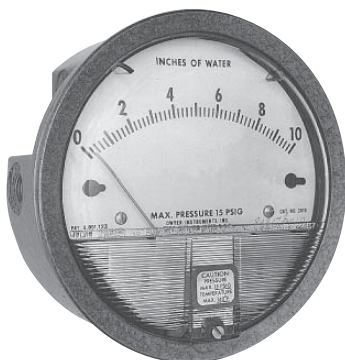
Use gauge designation in the selection chart for ordering 1/4" NPT pipe connection versions. For 1/4 BSPT pipe connection versions, simply add an "M" to the front of the part number in the selection chart. For example, to order the 1/4 BSPT version of 8735-151, simply order M8735-151. Metric versions will not be stocked, therefore will have longer delivery times. For gauges with special ranges, scales, dial sizes and materials contact the engineering department.

## North American Differential Pressure Gauges

Used to measure low air or gas pressures--positive, negative (vacuum), or differential.

They are accurate within  $\pm 2\%$  of full scale throughout range (at 70 F). Their design has high resistance to shock, vibration, and over-pressures.

Gauges can be flush- or surface-mounted with standard hardware supplied. A 4 1/2" hole is required for flush panel mounting. Although calibrated for vertical position, ranges above 1"wc can be used at any angle by simply re-zeroing.



**WARNING:** Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.

## SPECIFICATIONS

Ambient Temperature Limits: 20 to 140 F  
 Maximum Pressure: 15 psig  
 Connections: 1/8" npt high and low pressure taps,  
 duplicated--one pair on side and one pair on  
 back.  
 Housing: Die cast aluminum, baked dark gray  
 hammerloid finish.  
 Weight: 1 lb 2 oz.

### Standard Ranges

Product Number	Range "wc	Minor Division "wc
8735-DM2005†	5	0.10
8735-DM2010	10	0.20
8735-DM2015†	15	0.50
8735-DM2020	20	0.50
8735-DM2030†	30	1.0
8735-DM2040	40	1.0
8735-DM2301	+0.5 to -0.5	0.02
8735-DM2330†	+15 to -15	1.0

† Not stocked by North American.

## North American 8737 Thermometers



A

### 8737-A: 40 F to 260 F

For hot water, gas, or oil. Magnifying glass tube with red liquid. White enameled pressed steel case with black graduations and numbers. Overall length 10 1/4". Has 1/2" mpt bottom connection with 1 3/4" stem extension. Wt. 1/2 lb.

### 8737-B: 200 F to 1000 F

Gases or liquids. Laboratory dial type with 9" stainless steel stem and 1/2" mpt center back connection. 3" silver dial in chrome case with black graduations and numbers. Insert stem a minimum of 4" into hot gases or 3" into liquids. Wt. 3/4 lb.

### 8737-C: 50 F to 300 F, 10 C to 150 C

Hot oil thermometer. Dial type with 2 1/2" stem and 1/2" mpt center back connection. 1 3/4" white dial in 2" silver case with black (Fahrenheit) and red (Celsius) graduations and numbers. Wt. 1/4 lb.

### 8737-D: 200 F to 1000 F, 100 C to 550 C

Back-connected thermometer for gases or liquids. Dial type with 2" diameter dial, 2 1/2" stem length, 1/4" npt connection. Suitable for measuring radiant tube TwinBed® II plenum temperatures. Wt. 2 oz.

### 8737-E: 50 F to 500 F, 10 C to 260 C

Back-connected thermometer with a dial size of 2". A 6" stem and 1/4" npt connection. 300 SS case with external reset. Wt. 0.4 lbs.

### 8737-F: 50 F to 500 F, 10 C to 260 C

Back-connected thermometer for gases or liquids. Dial type, 2" diameter dial, 6" stem length, 1/4" npt connection. Suitable for measuring direct fired TwinBed® II plenum temperatures. Wt. 2 oz.



B



C



D, E & F

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC.  
 IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.