

MATERIAL CODE : PDI1505

TYPE : SERIES 2000

MANUFACTURER : DWYER

Magnehelic Differential Pressure Gages\Indicate Positive, Negative or Differential, Accurate within 2%\SERIES
\2000\RANGE=0 TO 60\MAX PRESSURE 15 PSIG\FOR TAGE PDI1505





MAGNEHELIC®

MAX. PRESSURE 15 PSIG
Dwyer Instruments, Inc.
MICHIGAN CITY, IN 46360, U.S.A.

2000-60MBAR
W05V EB

CAUTION
MAX. PRESSURE
15 PSIG (100 kPa)
MAX. TEMPERATURE
140 °F (60 °C)

16EN18736
PDI 1505 C



Series
2000

Magnehelic® Differential Pressure Gages

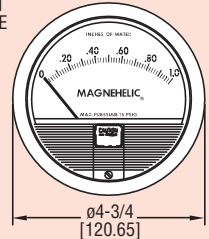
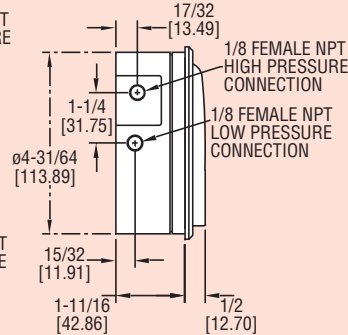
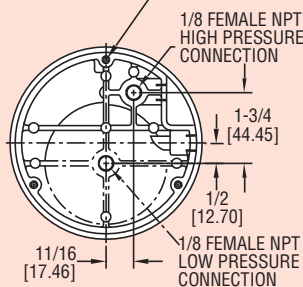
Indicate Positive, Negative or Differential, Accurate within 2%



Patent Nos. 4,030,365
5,012,678

Standard Magnehelic® Pressure Gage has a large, easy-to-read 4" dial.

(3) #6-32 x 3/16 [4.76]
DP HOLES EQUALLY SPACED
ON A ϕ 4-1/8 [104.78] BOLT
CIRCLE FOR PANEL MOUNTING



Dimensions, Standard Series 2000 Magnehelic® Pressure Gages.
(Slightly different on medium and high pressure models)

Select the Dwyer® Magnehelic® gage for high accuracy – guaranteed within 2% of full scale – and for the wide choice of 81 models available to suit your needs precisely. Using Dwyer's simple, frictionless Magnehelic® gage movement, it quickly indicates low air or non-combustible gas pressures – either positive, negative (vacuum) or differential. The design resists shock, vibration and over-pressures. No manometer fluid to evaporate, freeze or cause toxic or leveling problems. It's inexpensive, too.

The Magnehelic® gage is the industry standard to measure fan and blower pressures, filter resistance, air velocity, furnace draft, pressure drop across orifice plates, liquid levels with bubbler systems and pressures in fluid amplifier or fluidic systems. It also checks gas-air ratio controls and automatic valves, and monitors blood and respiratory pressures in medical care equipment.

Note: May be used with Hydrogen. When ordering a Buna-N diaphragm pressures must be less than 35 psi.

MOUNTING. A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. With the optional **A-610** Pipe Mounting Kit they may be conveniently installed on horizontal or vertical 1-1/4" - 2" pipe. Although calibrated for vertical position, many ranges above 1" may be used at any angle by simply re-zeroing. However, for maximum accuracy, they must be calibrated in the same position in which they are used. These characteristics make Magnehelic® gages ideal for both stationary and portable applications. A 4-9/16" hole is required for flush panel mounting. Complete mounting and connection fittings plus instructions are furnished with each instrument.



Flush ...Surface...or Pipe Mounted

VENT VALVES

In applications where pressure is continuous and the Magnehelic® gage is connected by metal or plastic tubing which cannot be easily removed, we suggest using Dwyer A-310A vent valves to connect gage. Pressure can then be removed to check or re-zero the gage.



HIGH AND MEDIUM PRESSURE MODELS

Installation is similar to standard gages except that a 4-13/16" hole is needed for flush mounting. The medium pressure construction is rated for internal pressures up to 35 psig and the high pressure up to 80 psig. Available for all models. Because of larger case, the medium pressure and high pressure models will not fit in a portable case size. Installation of the A-321 safety relief valve on standard Magnehelic® gages often provides adequate protection against infrequent overpressure.



SPECIFICATIONS

Service: Air and non-combustible, compatible gases. (Natural Gas option available.)

Wetted Materials: Consult factory.

Housing: Die cast aluminum case and bezel, with acrylic cover. Exterior finish is coated gray to withstand 168 hour salt spray corrosion test.

Accuracy: $\pm 2\%$ of full scale ($\pm 3\%$ on -0, -100 Pa, -125 Pa, 10MM and $\pm 4\%$ on -00, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).

Pressure Limits: -20" Hg. to 15 psig.† (-0.677 bar to 1.034 bar); MP option: 35 psig (2.41 bar), HP option: 80 psig (5.52 bar).

Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only.

Temperature Limits: 20 to 140°F.* (-6.67 to 60°C).

Size: 4" (101.6 mm) Diameter dial face.

Mounting Orientation: Diaphragm in vertical position. Consult factory for other position orientations.

Process Connections: 1/8" female NPT duplicate high and low pressure taps - one pair side and one pair back.

Weight: 1 lb 2 oz (510 g), MP & HP 2 lb 2 oz (963 g).

Standard Accessories: Two 1/8" NPT plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapter and three flush mounting adapters with screws. (Mounting and snap ring retainer substituted for 3 adapters in MP & HP gage accessories.)

*Low temperature models available as special option.

†For applications with high cycle rate within gage total pressure rating, next higher rating is recommended. See Medium and High pressure options at lower left.

OPTIONS AND ACCESSORIES

Transparent Overlays

Furnished in red and green to highlight and emphasize critical pressures.



Adjustable Signal Flag

Integral with plastic gage cover. Available for most models except those with medium or high pressure construction. Can be ordered with gage or separate.



LED Setpoint Indicator

Bright red LED on right of scale shows when setpoint is reached. Field adjustable from gage face, unit operates on 12-24 VDC. Requires MP or HP style cover and bezel.



A-432 Portable Kit

Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft (2.7 m) of 3/16" I.D. rubber tubing, standhang bracket and terminal tube with holder.



A-605 Air Filter Gage Accessory Kit

Adapts any standard Magnehelic® gage for use as an air filter gage. Includes aluminum surface mounting bracket with screws, two 5 ft (1.5 m) lengths of 1/4" aluminum tubing two static pressure tips and two molded plastic vent valves, integral compression fittings on both tips and valves.

Quality design and construction features

Bezel provides flange for flush mounting in panel.

Clear plastic face is highly resistant to breakage. Provides undistorted viewing of pointer and scale.

Precision litho-printed scale is accurate and easy to read.

Red tipped pointer of heat treated aluminum tubing is easy to see. It is rigidly mounted on the helix shaft.

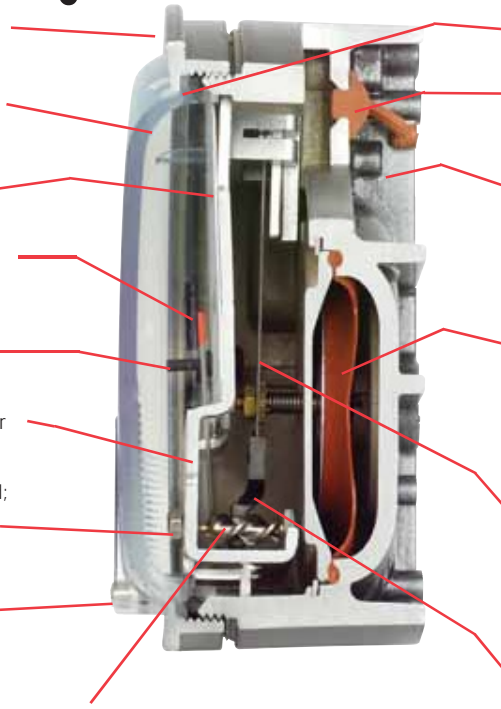
Pointer stops of molded rubber prevent pointer over-travel without damage.

"Wishbone" assembly provides mounting for helix, helix bearings and pointer shaft.

Jeweled bearings are shock-resistant mounted; provide virtually friction-free motion for helix. Motion damped with high viscosity silicone fluid.

Zero adjustment screw is conveniently located in the plastic cover, and is accessible without removing cover. O-ring seal provides pressure tightness.

Helix is precision made from an alloy of high magnetic permeability. Mounted in jeweled bearings, it turns freely, following the magnetic field to move the pointer across the scale.



O-ring seal for cover assures pressure integrity of case.

Blowout plug of silicone rubber protects against overpressure on 15 psig rated models. Opens at approximately 25 psig.

Die cast aluminum case is precision made and iridite-dipped to withstand 168 hour salt spray corrosion test. Exterior finished in baked dark gray hammerloid. One case size is used for all standard pressure options, and for both surface and flush mounting.

Silicone rubber diaphragm with integrally molded O-ring is supported by front and rear plates. It is locked and sealed in position with a sealing plate and retaining ring. Diaphragm motion is restricted to prevent damage due to overpressures.

Calibrated range spring is flat spring steel. Small amplitude of motion assures consistency and long life. It reacts to pressure on diaphragm. Live length adjustable for calibration.

Samarium Cobalt magnet mounted at one end of range spring rotates helix without mechanical linkages.

Dual Scale English/Metric Models		
Model Number	Range, In. W.C.	Range, Pa or kPa
2000-0D	0-0.5	0-125 Pa
2001D	0-1.0	0-250 Pa
2002D	0-2.0	0-500 Pa
2003D	0-3.0	0-750 Pa
2004D	0-4.0	0-1.0 kPa
2006D	0-6.0	0-1.5 kPa
2008D	0-8.0	0-2.0 kPa
2010D	0-10	0-2.5 kPa

SERIES 2000 MAGNEHELIC® GAGE — MODELS AND RANGES

The models below will fulfill most requirements. Page V also shows examples of special models built for OEM customers. For special scales furnished in ounces per square inch, inches of mercury, metric units, etc., contact the factory.

Model Number	Range Inches of Water	Model Number	Range Zero Center Inches of Water	Dual Scale Air Velocity Units		Model Number	Range, CM of Water	Model Number	Range, Pascals
				Model Number	Range in W.C. Velocity, F.P.M.				
2000-00N†••	.05-0-.2	2300-0†•	.25-0-.25	2000-00AV†••	0-.25/300-2000	2000-15CM	0-15	Zero Center Ranges	
2000-00†••	0-.25	2301	.5-0-.5	2000-0AV†•	0-.50/500-2800	2000-20CM	0-20	2300-60PA 2300-100PA 2300-120PA 2300-250PA 2300-500PA	30-0-30 50-0-50 60-0-60 125-0-125 250-0-250
2000-0†•	0-.50	2302	1-0-1	2001AV	0-1.0/500-4000	2000-25CM	0-25		
2001	0-1.0	2304	2-0-2	2002AV	0-2.0/1000-5600	2000-50CM	0-50		
2002	0-2.0	2310	5-0-5	2010AV	0-10/2000-12500	2000-80CM	0-80		
2003	0-3.0	2320	10-0-10	For use with pitot tube.		2000-100CM	0-100		
2004	0-4.0	2330	15-0-15			2000-150CM	0-150		
2005	0-5.0					2000-200CM	0-200		
2006	0-6.0					2000-250CM	0-250		
2008	0-8.0					2000-300CM	0-300		
2010	0-10					Zero Center Ranges			
2015	0-15	2201	0-1	2000-6MM†••	0-6	2300-4CM	2-0-2	2000-1KPA 2000-1.5KPA 2000-2KPA 2000-3KPA 2000-4KPA 2000-5KPA 2000-8KPA 2000-10KPA 2000-15KPA 2000-20KPA 2000-25KPA 2000-30KPA	0-1 0-1.5 0-2 0-3 0-4 0-5 0-8 0-10 0-15 0-20 0-25 0-30
2020	0-20	2202	0-2	2000-10MM†••	0-10	2300-10CM	5-0-5		
2025	0-25	2203	0-3	2000-25MM	0-25	2300-30CM	15-0-15		
2030	0-30	2204	0-4	2000-50MM	0-50	Zero Center Ranges			
2040	0-40	2205	0-5	2000-80MM	0-80				
2050	0-50	2210*	0-10	2000-100MM	0-100				
2060	0-60	2215*	0-15	Zero Center Ranges					
2080	0-80	2220*	0-20						
2100	0-100	2230**	0-30						
2150	0-150								
Accessories A-299, Surface Mounting Bracket A-300, Flat Flush Mounting Bracket A-310A, 3-Way Vent Valve A-321, Safety Relief Valve A-432, Portable Kit A-605, Air Filter Kit A-610, Pipe Mount Kit				Options — To order, add suffix: I.E. 2001-ASF ASF (Adjustable Signal Flag) HP (High Pressure Option) LT (Low Temperatures to -20°F) MP (Med. Pressure Option) SP (Setpoint Indicator)		2000-60PA†•• 2000-100PA†• 2000-125PA†• 2000-250PA 2000-300PA 2000-500PA 2000-750PA		0-60 0-100 0-125 0-250 0-300 0-500 0-750	
Scale Overlays — Red, Green, Mirrored or Combination, Specify Locations									

†These ranges calibrated for vertical scale position.
 • Accuracy +/-3%. •• Accuracy +/-4%

1011R01-0298P

Magnehelic gauges & accessories

Dwyer series 2000 Magnehelic Gauges have easy to read 100 mm dials that indicate positive, negative or differential pressure. The gauges are manufactured from die cast aluminium to resist vibration, shock and over pressure.

The gauges require no maintenance except for occasional zero setting by opening the plastic vents then turning and adjusting the external front screw.



Mark II molded plastic Manometer

Dwyer MKII inclined manometers are available with a range of -10 to 700 Pascals. The curved inclined-vertical tube provides higher ranges with more easily read increments at low readings. The gauges are constructed from molded white acrylonitrile housing, indicating tube and fluid wells, molded ABS knobs and zero adjust plunger, shock mounted glass level vial and leak proof "0" ring seals. Moderate overflow pressures are accommodated by an overflow tank.



Standard inclusions with the gauge are; 2.4 mt of flexible double column plastic tubing, two tubing connectors, two mounting screws, 3/4 oz. of indicating fluid, red & green indicating flags and complete instructions.

Standard gauge mounting accessories furnished are two 1/8" NPT plugs for duplicate pressure taps, two 1/8" pipe thread to rubber tubing adapters and flush mounting adapters and screws



Optional accessory adjustable signal flags with plastic gauge cover can be fitted to the front face of the gauge for immediate visual reference to maximum allowable pressure drop.

Optional Accessory kit A605 contains a mounting panel with screws, two static pressure tip with compression fittings, two 1.5 mt. lengths of aluminium tubing and two molded pressure vent valves



Magnehelic gauges & accessories



Series 2000 Magnehelic



Series 2-5000 Minihelic

Part No.	Description	Size	Range
11-0000	Series 2000 Magnehelic gauge	100mm	0~250Pa
11-0001	Series 2000 Magnehelic gauge	100mm	0~60Pa
11-0002	Series 2000 Magnehelic gauge	100mm	0~125Pa
11-0003	Series 2000 Magnehelic gauge	100mm	0~500Pa
11-0004	Series 2000 Magnehelic gauge	100mm	0~750Pa
11-0005	Series 2000 Magnehelic gauge	100mm	-60Pa~+60Pa
11-0018	Series 2000 Magnehelic gauge	100mm	0~3000Pa (3kPa)
11-0060	Series 2-5000 Minihelic gauge	50mm	0~2000Pa (2kPa)
11-0070	Series 2-5000 Minihelic gauge	50mm	0~2500Pa (2.5kPa)
11-0020	Incline manometers	190/150mm	0~700Pa
11-0100	Red manometer fluid	125ml bottle	
11-0050	Dwyer Mag. gauge installation kit		



Incline manometer



Installation kit