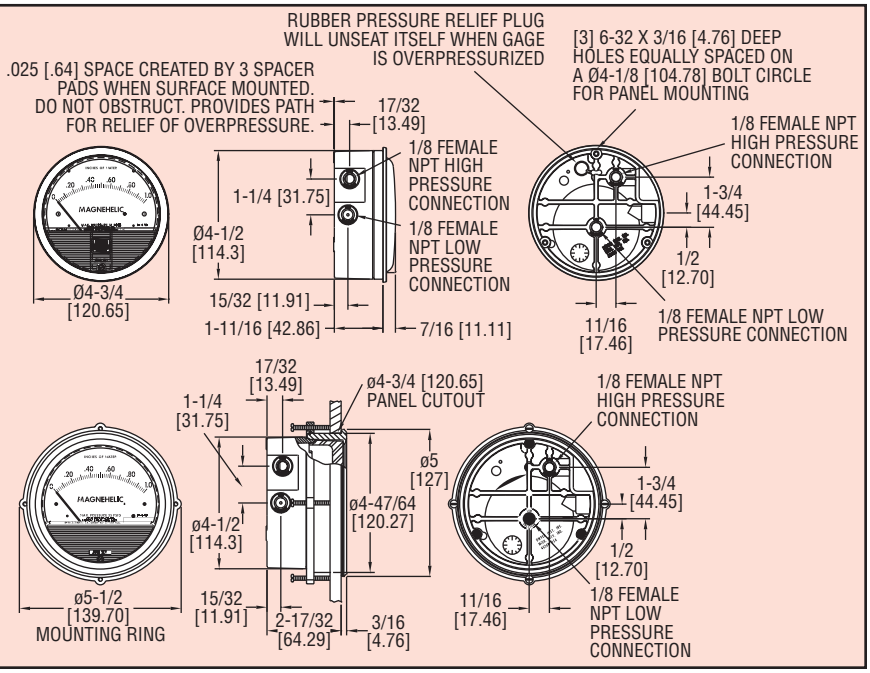
Series 2000

Magnehelic® Differential Pressure Gages

Indicate Positive, Negative or Differential, Accurate within 2%



Scan here to watch product video

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-corrosive 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.

MOUNTING

A single case size is used for most models of Magnehelic® gages. They can be flush or surface mounted with standard hardware supplied. 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.❶

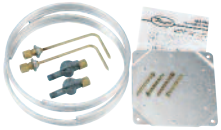
SPECIFICATIONS

Service: Air and non-combustible, compatible gases (natural gas option available). **Note:** May be used with hydrogen. Order a Buna-N diaphragm. Pressures must be less than 35 psi.
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: ±2% of FS (±3% on - 0, -100 Pa, -125 Pa, 10MM and ±4% on - 00, -60 Pa, -6MM ranges), throughout range at 70°F (21.1°C).
Pressure Limits: -20 in Hg to 15 psig† (-0.677 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.❷
Temperature Limits: 20 to 140°F* (-6.67 to 60°C). -20°F (-28°C) with low temperature option.
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 three adapters in MP & HP gage accessories.)
Agency Approval: RoHS. **Note:** -SP models not RoHS approved.

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

ACCESSORIES

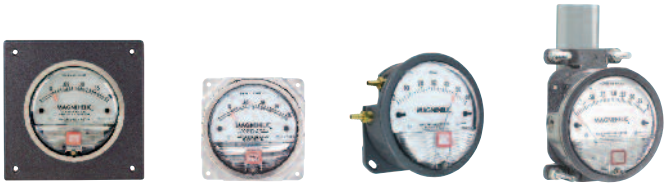
Model A-432 Portable Kit
Combine carrying case with any Magnehelic® gage of standard range, except high pressure connection. Includes 9 ft (2.7 m) of 3/16″ ID rubber tubing, standhang bracket and terminal tube with holder **$48.00**



Model 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 **36.25**

A-605B Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two 4″ steel static tips, plastic tubing and mounting flange **27.50**

A-605C Air Filter Gage Accessory Kit, Air filter kit with two plastic open/close valves, two plastic static tips, plastic tubing and mounting flange **22.25**



Flush, Surface, Integrated Plate or Pipe Mounted

Enclosure Mounted

❶See page 7 (Magnehelic® Gage Mounting Accessories)
❷Over Protection Note: See page 5 (Series 2000)

Series 2000

Magnehelic® Gage Models & Ranges

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.

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.

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

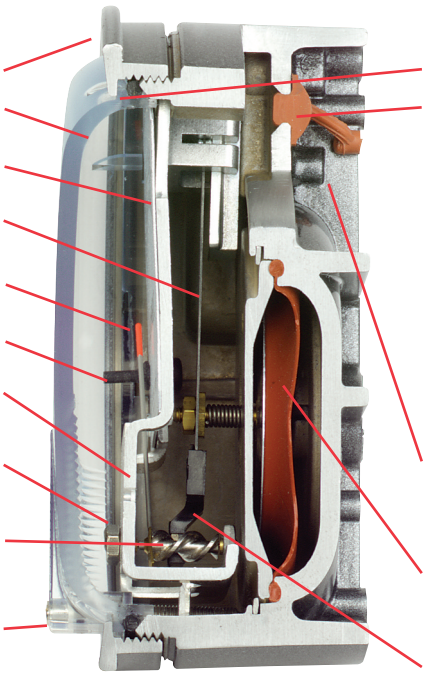
Pointer stops of molded rubber prevent pointer over-travel without damage.

"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.

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.

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



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

OVERPRESSURE PROTECTION
Blowout plug is comprised of a rubber plug on the rear which functions as a relief valve by unseating and venting the gage interior when over pressure reaches approximately 25 psig (1.7 bar). To provide a free path for pressure relief, there are four spacer pads which maintain 0.023″ clearance when gage is surface mounted. Do not obstruct the gap created by these pads.
The blowout plug is not used on models above 180″ of water pressure, medium or high pressure models, or on gages which require an elastomer other than silicone for the diaphragm.
The blowout plug should not be used as a system overpressure control. High supply pressures may still cause the gage to fail due to over pressurization, resulting in property damage or serious injury. Good engineering practices should be utilized to prevent your system from exceeding the ratings or any component.

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.

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

Model	Range Inches of Water	Price
2000-00N†••	.05-0-.2	$77.45
2000-00†••	0-.25	73.00
2000-0†•	0-.50	63.50
2001	0-1.0	63.50
2002	0-2.0	63.50
2003	0-3.0	63.50
2004	0-4.0	63.50
2005	0-5.0	63.50
2006	0-6.0	63.50
2008	0-8.0	63.50
2010	0-10	63.50
2012	0-12	63.50
2015	0-15	63.50
2020	0-20	63.50
2025	0-25	63.50
2030	0-30	63.50
2040	0-40	63.50
2050	0-50	63.50
2060	0-60	63.50
2080	0-80	63.50
2100	0-100	63.50
2120	0-120	63.50
2150	0-150	63.50
2160	0-160	63.50
2180*	0-180	148.50
2250*	0-250	148.50
Zero Center Ranges		
2300-00†••	0.125-0-0.125	$74.00
2300-0†•	.25-0-.25	74.00
2301	.5-0-.5	74.00
2302	1-0-1	74.00
2304	2-0-2	74.00
2310	5-0-5	74.00
2320	10-0-10	74.00
2330	15-0-15	74.00

Model	Range PSI	Price
2201	0-1	$67.95
2202	0-2	67.95
2203	0-3	67.95
2204	0-4	67.95
2205	0-5	67.95
2210*	0-10	127.95
2215*	0-15	127.95
2220*	0-20	127.95
2230**	0-30	207.50

Model	Range, CM of Water	Price
2000-15CM	0-15	$63.50
2000-20CM	0-20	63.50
2000-25CM	0-25	63.50
2000-50CM	0-50	63.50
2000-80CM	0-80	63.50
2000-100CM	0-100	63.50
2000-150CM	0-150	67.95
2000-200CM	0-200	67.95
2000-250CM	0-250	67.95
2000-300CM	0-300	67.95
Zero Center Ranges		
2300-4CM	2-0-2	$78.45
2300-10CM	5-0-5	78.45
2300-30CM	15-0-15	78.45

†These ranges calibrated for vertical scale position.
• Accuracy +/-3%
•• Accuracy +/-4%
*MP option standard
**HP option standard

Model	Range MM of Water	Price
2000-6MM†••	0-6	$73.00
2000-10MM†•	0-10	63.50
2000-15MM	0-15	63.50
2000-25MM	0-25	63.50
2000-30MM	0-30	63.50
2000-50MM	0-50	63.50
2000-80MM	0-80	63.50
2000-100MM	0-100	63.50
2000-125MM	0-125	63.50
2000-150MM	0-150	63.50
2000-200MM	0-200	63.50
2000-250MM	0-250	63.50
2000-300MM	0-300	63.50
Zero Center Ranges		
2300-6MM†••	3-0-3	$99.00
2300-10MM†•	5-0-5	74.00
2300-20MM†•	10-0-10	74.00

Model	Range, Pa	Price
2000-60NPA†••	10-0-50	$77.45
2000-60PA†••	0-60	73.00
2000-100PA†•	0-100	63.50
2000-125PA†•	0-125	63.50
2000-250PA	0-250	63.50
2000-300PA	0-300	63.50
2000-500PA	0-500	63.50
2000-750PA	0-750	63.50
2000-1000PA	0-1000	63.50
Zero Center Ranges		
Model	**Range, Pa**	**Price**
2300-60PA†••	30-0-30	$74.00
2300-100PA†•	50-0-50	74.00
2300-120PA	60-0-60	74.00
2300-200PA	100-0-100	74.00
2300-250PA	125-0-125	74.00
2300-300PA	150-0-150	74.00
2300-500PA	250-0-250	74.00
2300-1000PA	500-0-500	74.00

Model	Range, kPa	Price
2000-0.5KPA	0-0.5	$63.50
2000-1KPA	0-1	63.50
2000-1.5KPA	0-1.5	63.50
2000-2KPA	0-2	63.50
2000-2.5KPA	0-2.5	63.50
2000-3KPA	0-3	63.50
2000-4KPA	0-4	63.50
2000-5KPA	0-5	63.50
2000-8KPA	0-8	63.50
2000-10KPA	0-10	63.50
2000-15KPA	0-15	63.50
2000-20KPA	0-20	63.50
2000-25KPA	0-25	63.50
2000-30KPA	0-30	63.50
Zero Center Ranges		
2300-1KPA	.5-0-.5	$74.00
2300-2KPA	1-0-1	74.00
2300-2.5KPA	1.25-0-1.25	74.00
2300-3KPA	1.5-0-1.5	74.00

Dual Scale Air Velocity Units
For use with pitot tube

Model	Range in W.C./ Velocity F.P.M.	Price
2000-00AV†••	0-.25/ 300-2000	$98.00
2000-0AV†•	0-.50/ 500-2800	88.50
2001AV	0-1.0/ 500-4000	67.95
2002AV	0-2.0/ 1000-5600	67.95
2005AV	0-5.0/ 2000-8800	67.95
2010AV	0-10/ 2000-12500	67.95

Dual Scale English/Metric Models

Model	Range, in w.c.	Range, Pa or kPa	Price
2000-00D†••	0-.25	0-62 Pa	$73.00
2000-0D†•	0-0.5	0-125 Pa	67.95
2001D	0-1.0	0-250 Pa	67.95
2002D	0-2.0	0-500 Pa	67.95
2003D	0-3.0	0-750 Pa	67.95
2004D	0-4.0	0-1.0 kPa	67.95
2005D	0-5.0	0-1.25 kPa	67.95
2006D	0-6.0	0-1.5 kPa	67.95
2008D	0-8.0	0-2.0 kPa	67.95
2010D	0-10	0-2.5 kPa	67.95
2015D	0-15	0-3.7 kPa	67.95
2020D	0-20	0-5 kPa	88.50
2025D	0-25	0-6.2 kPa	88.50
2050D	0-50	0-12.4 kPa	88.50
2060D	0-60	0-15 kPa	88.50

VELOCITY AND VOLUMETRIC FLOW UNITS
Scales are available on the Magnehelic® that read in velocity units (FPM, m/s) or volumetric flow units (SCFM, m^3/s, m^3/h). Stocked velocity units with dual range scales in inches w.c. and feet per minute are shown above. For other ranges contact the factory.
When ordering volumetric flow scales please specify the maximum flow rate and its corresponding pressure. Example: 0.5 in w.c. = 16,000 CFM.

ACCESSORIES
A-321, Safety Relief Valve **$36.50**
A-448, 3-piece magnet kit for mounting Magnehelic® gage directly to magnetic surface **10.75**
A-135, Rubber gasket for panel mounting **1.50**
A-401, Plastic Carry Case **26.25**

A-310A 3-Way Vent Valves **17.50**
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.