MAGNEHELIC® DIFFERENTIAL PRESSURE GAGES

Indicate Positive, Negative or Differential, Accurate within 1%

SELECT THE –HA HIGH ACCURACY MAGNEHELIC® OPTION FOR AN ACCURACY WITHIN 1%

- Resists shock, vibration, over-pressures and is weatherproof to IP67.
- Corrosive gas pressures—either positive, negative (vacuum) or differential. The design
- Assessing critical situations
  - Patented design provides quick response to pressure changes means no delay in
  - Easy to read gage through undistorted plastic face permits viewing from far away

APPLICATIONS
- Filter monitoring
- Air velocity with Dwyer pitot tube
- Fan pressure indication
- Duct, room or building pressures
- Clean room positive pressure indication

FEATURES/BENEFITS
- Easy to read gage through undistorted plastic face permits viewing from far away
- Patent design provides quick response to pressure changes means no delay in
- Durable and rugged housing and high-quality components combine to provide long-service life and minimized down-time
- High accuracy option is twice as accurate as the standard Magnehelic® gage.

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% (–HA model ±1) of FS (±3% (+HA ±1%) on -0, -100PA, -125PA, -10MM and ±4% (+HA ±2%) on -00, -60PA, -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 (-125PA, -10MM and ±4% (+HA ±2%) on -00, -60PA, -6MM ranges), throughout range at 70°F (21.1°C).
- Weight: .5 lb (227 g), MP & HP 1 lb 2 oz (510 g), HP gage accessories.
- 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.
- Overpressure: Relief plug opens at approximately 25 psig (1.72 bar), standard gages only.

ACCESSORIES

<table>
<thead>
<tr>
<th>Model</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-432</td>
<td>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&quot; ID rubber tubing, standhang bracket and terminal tube with holder</td>
</tr>
<tr>
<td>A-605</td>
<td>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&quot; aluminum tubing, two static pressure tips and two molded plastic vent valves, integral compression fittings on both tips and valves</td>
</tr>
<tr>
<td>A-605B</td>
<td>Air filter gage accessory kit; air filter kit with two plastic open/close valves, two 4&quot; steel static tips, plastic tubing and mounting flange</td>
</tr>
<tr>
<td>A-605C</td>
<td>Air filter gage accessory kit; air filter kit with two plastic open/close valves, two plastic static tips, plastic tubing and mounting flange</td>
</tr>
</tbody>
</table>

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

*Low temperature models available as special options.

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 retainers substituted for three adapters in MP & HP gage accessories.)

Agency Approvals: Meets the technical requirements of EU Directive 2011/65/EU (RoHS II). Note: -SP models not RoHS approved.
**Differential Pressure Gages**

**Example:** 0.5 in w.c. = 16,000 CFM.

**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.

**Screw-in 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.

**Die cast aluminum case** is precision made and indutively-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.

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**MODEL CHART**

<table>
<thead>
<tr>
<th>Model</th>
<th>Range, Inches of Water</th>
<th>Model</th>
<th>Range, PSi</th>
<th>Model</th>
<th>Range, MM of Water</th>
<th>Model</th>
<th>Range, kPa</th>
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<tbody>
<tr>
<td>2000-00N**</td>
<td>0-25</td>
<td>0-2</td>
<td>2000-00T**</td>
<td>0-25</td>
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<td>2000-00MT**</td>
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<td>2200*</td>
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<td>0-200</td>
<td>2300</td>
<td>0-300</td>
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</tbody>
</table>

**Zero Center Ranges**

<table>
<thead>
<tr>
<th>Model</th>
<th>Range, CM of Water</th>
<th>Model</th>
<th>Range, Pa</th>
<th>Model</th>
<th>Range, Pa</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005-30CM</td>
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<td>2006-40CM</td>
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<tr>
<td>2008-60CM</td>
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<td>2012-100CM</td>
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<td>2150</td>
<td>1-000</td>
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<tr>
<td>2160</td>
<td>1-500</td>
<td>2180*</td>
<td>0-100</td>
<td>2200*</td>
<td>0-200</td>
</tr>
</tbody>
</table>

**VELOCITY AND VOLUMETRIC FLOW UNITS**

Scales are available on the Magnehelic® that read in velocity units (FPM, m/s) or volumetric flow units (SCFM, m³/s, m³/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.

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<tr>
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</thead>
<tbody>
<tr>
<td>A-321</td>
<td>Safety relief valve</td>
</tr>
<tr>
<td>A-448</td>
<td>3-piece magnet kit for mounting Magnehelic® gage directly to magnetic surface</td>
</tr>
<tr>
<td>A-135</td>
<td>Rubber gasket for panel mounting</td>
</tr>
<tr>
<td>A-401</td>
<td>Plastic carry case</td>
</tr>
<tr>
<td>A-310A</td>
<td>3-way 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.</td>
</tr>
</tbody>
</table>

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**Dwyer Instruments, Inc.**

**www.dwyer-inst.com**
HIGH ACCURACY MAGNEHELIC® DIFFERENTIAL PRESSURE GAGE

- Twice as accurate as the standard Magnehelic® gage
- Mirrored scale overlay eliminates parallax error
- IP67 weatherproof housing
- Optional brushed SS bezel

OPTIONS - HIGH ACCURACY MAGNEHELIC® GAGE

<table>
<thead>
<tr>
<th>To order add suffix</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-HA</td>
<td>High Accuracy Magnehelic® Gage. Accuracy within 1% and weatherproof. Also includes mirrored scale overlay and a six point calibration certificate</td>
</tr>
<tr>
<td>-SS</td>
<td>Corrosion resistant brushed 304 stainless steel bezel</td>
</tr>
</tbody>
</table>

6-Point Calibration Certificate Included

ADDITIONAL GAGE OPTIONS

OPTION - LED SETPOINT INDICATOR

To order add suffix: -SP

Bright red LED on right scale shows when setpoint is reached. Field adjustable from gage face, unit operates on 12-24 VDC. Setpoint indicator option comes with medium pressure (MP) bezel.

Note: 4-13/16” hole for flush mounting.

OPTION - ADJUSTABLE SIGNAL FLAG

To order add suffix: -ASF

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

OPTION - MIRRORED SCALE OVERLAY

To order add suffix: -M

A mirrored scale overlay is also available to assist in reducing parallax error.

OPTION - INTEGRATED MOUNTING PLATE

To order add suffix: -AHU1

Furnished with attached surface mounting plate and including A-481 installer kit (2 plastic static pressure tips and 7’ of PVC tubing)

To order add suffix: -AHU2

Furnished with attached surface mounting plate

OPTIONS - OTHER OPTIONAL BEZELS

To order add suffix: -CB

Chrome bezel option: A chrome plated aluminum bezel for an aesthetically pleasing finish when mounting on metal surfaces such as control panels.

To order add suffix: -SB

Stainless steel bezel option: 304 stainless steel electro polished Ra 16 finished bezel.

To order add suffix: -SS

Corrosion resistant brushed 304 stainless steel bezel

OPTIONS - OTHER OPTIONAL BEZELS

To order add suffix: -CB

Chrome bezel option: A chrome plated aluminum bezel for an aesthetically pleasing finish when mounting on metal surfaces such as control panels.

To order add suffix: -SB

Stainless steel bezel option: 304 stainless steel electro polished Ra 16 finished bezel.

To order add suffix: -SS

Corrosion resistant brushed 304 stainless steel bezel

OPTION - TRANSPARENT OVERLAYS

To order add suffix: -G

Green (to highlight and emphasize critical pressures)

To order add suffix: -R

Red (to highlight and emphasize critical pressures)

To order add suffix: -Y

Yellow (to highlight and emphasize critical pressures)

OPTION - FOR HIGH STATE PRESSURE APPLICATIONS

To order add suffix: -HP

High pressure option: for pressures to 80 psig

To order add suffix: -MP

Medium pressure option: for pressures to 35 psig

OPTIONS

To order add suffix: -FC

Factory calibration certificate

To order add suffix: -LT

Low temperatures to -20°F (-28°C)

To order add suffix: -NIST

NIST traceable calibration certificate