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Dwyer 2330

Dwyer® Magnehelic® Differential Pressure Gage

Model: 2330

1. Introduction

This manual provides essential information for the proper installation, operation, and maintenance of the Dwyer® Magnehelic® Differential Pressure Gage, Model 2330. The Magnehelic® gage is designed for high accuracy in measuring low air or non-corrosive gas pressures, including positive, negative (vacuum), or differential pressures. Its robust design resists shock, vibration, and over-pressures, and it operates without manometer fluid, eliminating associated issues.
For optimal performance and longevity of your device, please read this manual thoroughly before use.

2. Safety Information

WARNING:

- Always ensure the pressure limits of the gage are not exceeded. The maximum pressure limit for this model is 15 psig.
- Do not use with combustible gases unless the specific natural gas option is installed and verified. This standard model is for air and non-combustible, compatible gases only.
- Ensure proper ventilation when working with any gas systems.
- Installation and maintenance should only be performed by qualified personnel.
- Disconnect pressure sources before attempting any maintenance or connection changes.

Observe all local and national safety regulations when installing and operating this device.

3. Setup and Installation

3.1 Unpacking

Carefully remove the Magnehelic® gage from its packaging. Inspect for any signs of damage during transit. Report any damage to the carrier immediately.

3.2 Mounting Orientation

The gage is designed for optimal accuracy when the diaphragm is in a vertical position. For other mounting orientations, consult the manufacturer for specific instructions or calibration adjustments.

3.3 Process Connections

The gage features 1/8" female NPT duplicate high and low pressure taps. There is one pair of taps on the side and one pair on the back of the unit. Connect your pressure lines to the appropriate taps using suitable fittings.





Figure 1: Side view of the Magnehelic Gage, illustrating the 1/8" female NPT process connections for pressure lines.

3.4 Zero Adjustment

Before initial use, and periodically thereafter, check and adjust the zero point. The zero adjustment screw is typically located on the front of the gage. With no pressure applied, the needle should rest precisely on the zero mark. Turn the screw gently until the needle aligns with zero.



Figure 2: Front view of the Magnehelic Gage, showing the dial with a zero center range and the location of the zero adjustment screw (small screw below the dial).

4. Operating Instructions

The Magnehelic® gage operates on the principle of a frictionless magnetic linkage, providing accurate and rapid indication of pressure. It is designed for continuous measurement of air and non-combustible, compatible gases.

4.1 Pressure Measurement

1. Ensure the gage is properly installed and zeroed as per Section 3.
2. Apply the pressure to be measured to the appropriate high and low pressure taps.
3. Read the pressure directly from the dial. The Model 2330 has a zero-center range of 15-0-15" w.c., allowing for both positive and negative differential pressure readings.
4. Avoid applying pressures exceeding the maximum rated pressure of 15 psig.

4.2 Temperature Limits

The gage is designed to operate within a temperature range of 20 to 140°F (-6.67 to 60°C). Operating outside this range may affect accuracy or damage the device.

5. Maintenance

The Dwyer® Magnehelic® gage is designed for minimal maintenance due to its frictionless movement. However, periodic checks are recommended to ensure continued accuracy and performance.

5.1 Cleaning

Clean the exterior of the gage with a soft, damp cloth. Do not use abrasive cleaners or solvents, as they may damage the housing or display window.

5.2 Recalibration

While the gage is highly stable, recalibration may be necessary if accuracy is critical or if the gage has been subjected to severe conditions. Consult Dwyer Instruments, Inc. for recalibration services.

5.3 Storage

When not in use for extended periods, store the gage in a clean, dry environment within its specified temperature limits.

6. Troubleshooting

Problem	Possible Cause	Solution
Needle does not return to zero.	Zero adjustment needed; residual pressure in lines; gage not mounted vertically.	Adjust zero screw; ensure pressure lines are clear; verify vertical mounting.
Inaccurate readings.	Incorrect mounting orientation; temperature outside limits; damaged diaphragm; clogged pressure taps.	Verify mounting; ensure operating temperature is within range; inspect for damage; clear taps. Consider professional recalibration.
No needle movement.	No pressure applied; blocked pressure lines; internal damage.	Verify pressure source; check for blockages in lines; contact manufacturer for repair if internal damage is suspected.

If troubleshooting steps do not resolve the issue, contact Dwyer Instruments, Inc. technical support.

7. Specifications

Model: 2330

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

Accuracy: ±2% of full scale

Pressure Limits: -20 in Hg. to 15 psig

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

Mounting Orientation: Diaphragm in vertical position (consult factory for others)

Process Connections: 1/8" female NPT duplicate high and low pressure taps (one pair side, one pair back)

Housing Material: Aluminum

Item Weight: 1.2 Pounds

Dimensions (Package): 5.8 x 5.5 x 3 inches

Manufacturer: Dwyer Instruments, Inc.

First Available: July 18, 2011

8. Warranty

Dwyer Instruments, Inc. products are warranted to be free from defects in material and workmanship for a period of one year from the date of shipment. This warranty does not cover defects resulting from improper installation, misuse, abuse, accident, or unauthorized repair. For full warranty details, please refer to the official Dwyer Instruments, Inc. website or contact their customer service.

9. Customer Support

For technical assistance, replacement parts, or service, please contact Dwyer Instruments, Inc. directly.

Manufacturer: Dwyer Instruments, Inc.

Website: www.dwyer-inst.com

Refer to the official website for contact information, including phone numbers and email addresses for technical support.

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