

## Dwyer 25

# Dwyer Mark II 25 Manometer User Manual

Model: 25

## INTRODUCTION

The Dwyer Mark II 25 inclined differential manometer is a precision instrument designed for accurate measurement of air velocity, air filter performance, and pressure differences. Its robust construction and clear scale make it an essential tool for various industrial and scientific applications. This manual provides detailed instructions to ensure proper installation, operation, and maintenance of your manometer.

## WHAT'S IN THE BOX?

- Mark II 25 Manometer
- Red Gauge Fluid, 1oz.
- Flexible Double Column Plastic Tubing, 8 ft.
- (2) Tubing Connectors, 1/8"
- (2) Mounting Screws
- Red and Green Pointer Flags
- Instructions (this manual)

## SETUP AND INSTALLATION

Proper setup is crucial for accurate readings and long-term performance of your Dwyer Mark II 25 Manometer.

### Mounting

The manometer is designed for wall mounting on any vertical surface. Use the provided mounting screws to secure the unit firmly. A built-in spirit level simplifies the leveling process, ensuring the manometer is perfectly vertical for accurate measurements.



This image displays the Dwyer Mark II 25 Manometer, a liquid-filled, wall-mount device. It features a clear scale for measuring inches of water column, with markings from -0.05 to 3.0. The top of the unit has 'HIGH' and 'LOW' ports for tubing connections. A 'FILL' knob is visible on the upper left, and a 'ZERO SET' knob is located on the lower left for calibration. The Dwyer logo and 'MARK II' model designation are prominently displayed on the face.

### Fluid Filling

1. Ensure the manometer is mounted and level.
2. Locate the 'FILL' knob on the upper left side of the unit.
3. Carefully pour the provided red gauge fluid into the fill port until the fluid level reaches the '0' mark on the scale. The red gauge fluid is freeze-proof and has a lower evaporation rate, suitable for various environments.
4. Replace the fill knob securely.

### Tubing Connection

Connect the flexible double column plastic tubing to the 'HIGH' and 'LOW' ports at the top of the manometer using the provided 1/8" tubing connectors. Ensure connections are secure to prevent leaks.

## Zero Adjustment

Before taking any measurements, ensure the manometer is properly zeroed. Use the 'ZERO SET' knob on the lower left side of the unit to adjust the fluid level precisely to the '0' mark on the scale when no pressure is applied. This built-in zero level provides linear calibration.

## OPERATING INSTRUCTIONS

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The Dwyer Mark II 25 Manometer measures pressure differences using a liquid column. Understanding the scale and pressure types is key to accurate readings.

### Reading the Scale

The manometer displays measurements in 'INCHES OF WATER COLUMN' (inH<sub>2</sub>O). The inclined section of the scale provides expanded viewing for improved resolution, especially in the lower pressure ranges (e.g., 0 to 0.50 inH<sub>2</sub>O), which is critical for applications like furnace filter monitoring.

### Pressure Types

Manometers can measure various pressure types:

- **Gauge Pressure:** Pressure relative to ambient atmospheric pressure.
- **Absolute Pressure:** Pressure relative to a perfect vacuum.
- **Differential Pressure:** The difference between two pressures. This manometer is designed for differential pressure measurements.

### Applications

This manometer is commonly used for:

- Monitoring air velocity in ducts.
- Assessing air filter performance by measuring pressure drop across the filter.
- Taking pressure measurements above and below atmospheric pressure in various systems.

## MAINTENANCE

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The Dwyer Mark II 25 Manometer is designed for durability and requires minimal maintenance due to its analog nature and lack of moving parts.

### Fluid Level Checks

Periodically check the fluid level to ensure it remains at the '0' mark when no pressure is applied. If the level has dropped due to evaporation or minor leaks, refill with the specified red gauge fluid. The leakproof O-ring seals and overflow tank are designed to reduce the risk of fluid loss.

### Cleaning

Clean the exterior of the manometer with a soft, damp cloth. Avoid using abrasive cleaners or solvents that could damage the styrene-acrylonitrile housing or the epoxy-coated scales.

### Calibration

As an analog manometer, this unit does not require re-calibration under normal operating conditions, provided the initial zero adjustment is correctly performed.

## TROUBLESHOOTING

If you encounter issues with your manometer, consider the following common problems and solutions:

- **Inaccurate Readings:**
  - Ensure the manometer is perfectly level using the built-in spirit vial.
  - Verify the fluid level is at the '0' mark when no pressure is applied. Adjust using the 'ZERO SET' knob if necessary.
  - Check for any kinks or blockages in the tubing connections.
- **Fluid Loss:**
  - Confirm all tubing connections are tight and secure.
  - Inspect the unit for any visible cracks or damage to the housing.
  - Refill the fluid as described in the Maintenance section.
- **Sluggish Fluid Movement:**
  - Ensure the fluid is not contaminated.
  - Verify the operating temperature is within the specified range (Maximum temperature: 140°F/60°C).

## SPECIFICATIONS

| Feature                | Specification                                                 |
|------------------------|---------------------------------------------------------------|
| Model Number           | Mark II 25                                                    |
| Measuring Range        | 0 to 3 inH2O (inches of water column)                         |
| Accuracy               | ± 3% full scale                                               |
| Pressure Types         | Single and Differential                                       |
| Media Type             | Air                                                           |
| Fluid Type             | Red gauge fluid, 0.826 sp. gr.                                |
| Case Material          | Styrene-acrylonitrile                                         |
| Mounting               | Wall Mount, Vertical Mount                                    |
| Maximum Pressure       | 10 psi / 70 kPa                                               |
| Maximum Temperature    | 140°F / 60°C                                                  |
| Weight                 | 1.04 lbs. / 472g                                              |
| Dimensions (H x W x D) | 5-29/32 x 7-13/32 x 2-1/4 inches (approx. 15 x 18.8 x 5.7 cm) |

| Feature              | Specification     |
|----------------------|-------------------|
| Date First Available | February 17, 2007 |

### SUPPORT

For further assistance or inquiries regarding your Dwyer Mark II 25 Manometer, please contact Dwyer Instruments. Dwyer Instruments manufactures measurement and control instruments and is headquartered in Michigan City, IN. You may also refer to the official user manual PDF for additional details [Dwyer Mark II 25 User Manual PDF](#)

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Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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