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Dwyer 1211-36

Dwyer® Slack Tube® Manometer, Model 1211-36

Instruction Manual

INTRODUCTION AND OVERVIEW

The Dwyer Slack Tube Manometer is a precision instrument designed for accurate measurement of static pressure, vacuum, or differential pressure. It combines laboratory-grade accuracy with a portable, durable design, making it suitable for various field applications.

Key features include:

- Over-pressure safety traps in both columns to prevent fluid loss from surges.
- Suitable for intermittent total pressure up to 50 psi and vacuum not exceeding 20" Hg.
- Flexible vinyl-plastic columns and a flexible spring steel scale calibrated in inches of water (with water) or inches of mercury (with mercury).
- Center-mounted scale with a full 2" sliding zero adjustment to eliminate parallax error.
- Molded nylon tubing connector assemblies with rapid shutoff design for corrosion-proof, leak-proof operation.



Figure 1: Front view of the Dwyer Slack Tube Manometer, showing the scale and fluid columns.

SETUP INSTRUCTIONS

1. **Unroll and Position:** Carefully unroll the manometer from its compact storage position. The flexible design allows it to be easily straightened for use.
2. **Mounting:** The manometer can be firmly attached to any steel surface using its magnetic clips. Alternatively, it can be hung on a nail or hook using the integrated hanging loop. Ensure the manometer is vertically aligned for accurate readings.
3. **Fluid Filling:** Fill the manometer with the appropriate fluid. Use water for measurements in inches of water and mercury for measurements in inches of mercury. **Do not use red gage fluid.**
4. **Zero Adjustment:** Locate the sliding zero adjustment on the scale. Before taking any measurements, adjust the scale so that the fluid level in both columns aligns with the zero mark. This eliminates parallax error.
5. **Tubing Connection:** Connect the tubing to the nylon connector assemblies. To prepare the instrument for use, turn the connector counter-clockwise one full turn. This opens the tubes.



Figure 2: The Dwyer Slack Tube Manometer in its rolled-up, compact form, demonstrating its portability.

OPERATING INSTRUCTIONS

The Dwyer Slack Tube Manometer is designed for straightforward operation to measure pressure, vacuum, or differential pressure.

1. **Connect to Pressure Source:** Attach the appropriate tubing from the system being measured to the manometer's nylon connectors. Ensure connections are secure to prevent leaks.
2. **Open Connectors:** If not already done during setup, turn the nylon tubing connectors counter-clockwise one full turn to open the fluid columns to the pressure source.
3. **Read Measurement:** Observe the fluid levels in both columns. The difference in height between the two fluid levels indicates the pressure, vacuum, or differential pressure. Read the value directly from the calibrated scale. The scale is center-mounted to aid in accurate readings.
4. **Shutoff After Use:** After taking your measurement, turn the nylon tubing connectors clockwise to seal the tubes completely. This prevents fluid loss and protects the instrument during transport or storage.

Applications: This manometer is suitable for determining velocity and static pressures, conducting leakage tests, fan and blower tests, calibrating control devices, and checking gas pressure, among other applications.

MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Dwyer Slack Tube Manometer.

- **Cleaning:** Clean the manometer only with soap and water. Avoid harsh chemicals or abrasive cleaners that could damage the acrylic or vinyl-plastic components.
- **Temperature Exposure:** Avoid exposing the manometer to temperatures above 130°F (54°C). High temperatures can affect the integrity of the materials.
- **Pressure Limits:** Do not exceed the specified pressure limits (intermittent total pressure to 50 psi and vacuum not exceeding 20" Hg). Continuous high total pressure should also be avoided.

- **Fluid Management:** Regularly check the fluid level and quality. Replace fluid if it appears contaminated or discolored. Always use only water or mercury as specified.
- **Storage:** When not in use, ensure the tubing connectors are sealed. Roll up the manometer compactly for easy and safe storage.

TROUBLESHOOTING

If you encounter issues with your manometer, consider the following common troubleshooting steps:

- **Inaccurate Readings:**
 - Ensure the manometer is perfectly vertical and level.
 - Verify that the zero adjustment has been correctly set before measurement.
 - Check for air bubbles in the fluid columns; gently tap the manometer to dislodge them if present.
 - Confirm the correct fluid (water or mercury) is being used and that it is clean.
- **Fluid Loss:**
 - Check all tubing connections for tightness.
 - Ensure the nylon shutoff connectors are fully sealed when not in use.
 - Verify that the pressure being measured does not exceed the manometer's maximum intermittent pressure rating (50 psi).
- **Difficulty Rolling Up:**
 - Ensure all fluid has been drained or sealed off before attempting to roll up.
 - Avoid forcing the roll; the material is flexible but can be damaged by excessive force.

For issues not resolved by these steps, please refer to the support section.

SPECIFICATIONS

Specification	Detail
Model Number	1211-36
Pressure Range	18-0-18" w.c. (inches water column)
Maximum Intermittent Pressure	50 psi
Maximum Vacuum	20" Hg (inches mercury)
Fluid Compatibility	Water, Mercury (Do not use red gage fluid)
Material	Acrylic (body), Vinyl-plastic (columns), Nylon (connectors)
Product Dimensions (L x W x H)	7.2 x 7.3 x 2.8 inches
Item Weight	1.25 Pounds
Manufacturer	Dwyer Instruments, Inc.

WARRANTY AND SUPPORT

Specific warranty information for the Dwyer Slack Tube Manometer Model 1211-36 is typically provided with the product

packaging or can be obtained directly from Dwyer Instruments, Inc. Please retain your proof of purchase for warranty claims.

For technical support, service, or further inquiries, please contact Dwyer Instruments, Inc. through their official website or customer service channels. Contact information is usually available on the manufacturer's website or product documentation.

