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› Wisscool WS519 Digital HVAC Manifold Gauge User Manual

Wisscool WS519

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1. INTRODUCTION

This manual provides detailed instructions for the proper use and maintenance of the Wisscool WS519 Digital HVAC Manifold Gauge. This device is designed for professional and DIY use in HVAC systems, offering functions for refrigerant filling pressure inspection, vacuum pressure testing, and leak detection across various refrigerants.

2. SAFETY INFORMATION

Always observe the following safety precautions to prevent injury and damage to the equipment:

- Wear appropriate personal protective equipment (PPE), including safety glasses and gloves, when working with refrigerants.
- Ensure proper ventilation when handling refrigerants.
- Do not expose the gauge to extreme temperatures or direct sunlight for prolonged periods.
- Avoid dropping the device or subjecting it to severe impact.
- Only use the gauge with specified refrigerants and within its rated pressure limits.
- Disconnect the gauge from the system before performing any maintenance or battery replacement.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- 1 x Wisscool WS519 Digital Manifold Gauge
- 2 x AA 1.5V Batteries
- 1 x User Manual (this document)

4. PRODUCT OVERVIEW

Familiarize yourself with the components of your Wisscool WS519 Digital Manifold Gauge.



Figure 4.1: Front view of the Wisscool WS519 Digital HVAC Manifold Gauge, showing the LCD screen, control buttons, and manifold block with sight glass.

SUPPORT VARIOUS UNITS



Figure 4.2: Labeled diagram of the digital manifold gauge, highlighting the LCD display, function selection buttons (FN, ZERO, UNIT, °C/°F), valve, sight glass, and 1/4-inch inlets.

HIGH STABILITY CHIP COMFORTABLE SILICONE



✓ Built-in 32-bit digital processing unit

✓ More precise processing unit

✓ Soft flexible Silicone Buttons

Figure 4.3: Rear view of the Wisscool WS519 Digital HVAC Manifold Gauge, showing the battery compartment and integrated hanging hook.

5. SETUP

5.1 Battery Installation

1. Locate the battery compartment on the back of the gauge (refer to Figure 4.3).
2. Open the battery compartment cover.
3. Insert two (2) AA 1.5V batteries, ensuring correct polarity (+/-).
4. Close the battery compartment cover securely.

5.2 Initial Power On

Press and hold the **POWER** button (often integrated with the 'FN' or 'ZERO' button, refer to device markings) to turn on the gauge. The LCD display will illuminate.

6. OPERATING INSTRUCTIONS

The Wisscool WS519 offers multiple working modes and unit selections for comprehensive HVAC diagnostics.

SUPPORT MULTI WORKING MODES



Figure 6.1: Display modes for Evaporation Temperature, Condensation Temperature, Leak Detection, and Vacuum Measurement.

6.1 Power On/Off and Auto-Off Function

- To power on, press and hold the designated power button (often combined with FN or ZERO).
- To power off, press and hold the power button again.
- The gauge is equipped with an AUTO-OFF function to conserve battery life. It will automatically power off after a period of inactivity.

6.2 Refrigerant Selection

The gauge has a built-in database of 22 refrigerants. To select the appropriate refrigerant:

1. Press the **FN** button to cycle through available refrigerants (e.g., R123, R134A, R410A).
2. Stop when the desired refrigerant is displayed on the LCD screen.

6.3 Unit Selection

You can switch between various pressure and temperature units.

REAL TIME MONITORING

HIGH-PERFORMANCE DIGITAL MANIFOLD GAUGE



Figure 6.2: Display showing dual temperature units (°F, °C) and multiple pressure test units (Kpa, Mbar, bar, inHg, Psi, Kg/cm²).

- Press the **UNIT** button to cycle through pressure units (Kpa, Mpa, bar, inHg, PSI, Kg/cm²).
- Press the **°C/°F** button to switch between Celsius and Fahrenheit temperature units.

6.4 Pressure Measurement (Refrigerant Filling/Inspection)

1. Ensure the correct refrigerant type is selected.
2. Connect the gauge to the HVAC system's service port using appropriate hoses (not included).
3. Open the valve on the manifold block to allow refrigerant flow.
4. Read the pressure directly from the LCD display. The gauge may also display evaporation (EV) and condensation (CO) temperatures if applicable.

6.5 Vacuum Measurement Operation

This mode measures vacuum pressure to ensure proper system evacuation.

1. Ensure the system is isolated and ready for vacuum.

2. Connect the gauge to the system's vacuum port.
3. Initiate the vacuum pump. The gauge will display the vacuum level in Kpa (or selected unit).
4. Monitor the vacuum level until the desired deep vacuum is achieved.

6.6 Leak Detection Mode

This mode helps identify pressure changes over time, indicating potential leaks.

1. After charging or evacuating the system, isolate it from the gauge and any external sources.
2. Activate the leak detection mode (refer to Figure 6.1 for display example). This mode typically displays pressure change (ΔP) and leak time duration (hh:mm).
3. Monitor the pressure reading over a specified period. A significant change in pressure indicates a leak.

6.7 Zeroing the Pressure

Before taking a new measurement, it is recommended to zero the gauge to ensure accuracy.

- With the gauge disconnected from any pressure source and the valve open to atmosphere, press the **ZERO** button.
- The display should read 0 Kpa (or the selected pressure unit).

7. MAINTENANCE

7.1 Cleaning

- Wipe the gauge with a soft, damp cloth. Do not use abrasive cleaners or solvents.
- Ensure the sight glass is clean for clear visibility.

7.2 Battery Replacement

When the battery indicator on the LCD shows low power, replace the batteries promptly to ensure accurate readings.

1. Power off the gauge.
2. Open the battery compartment.
3. Remove the old AA batteries and dispose of them according to local regulations.
4. Insert new AA 1.5V batteries, observing polarity.
5. Close the battery compartment.

8. TROUBLESHOOTING

Refer to the following table for common issues and their solutions.

Problem	Possible Cause	Solution
Gauge does not power on	Dead or incorrectly installed batteries	Replace batteries, ensuring correct polarity.
Inaccurate pressure readings	Gauge not zeroed; incorrect refrigerant selected; sensor contamination; fluctuating system pressure	Zero the gauge before use. Verify refrigerant selection. Ensure connections are secure. Allow system to stabilize.

Problem	Possible Cause	Solution
Pressure reading stays at zero when connected to system	Valve closed; improper connection; system not pressurized	Ensure the manifold valve is open. Check hose connections for leaks. Verify the system has pressure.
Display is dim or flickering	Low battery power	Replace batteries.
Cannot select desired refrigerant	Incorrect button usage	Press the FN button repeatedly to cycle through the available refrigerants.

9. SPECIFICATIONS

Key technical specifications for the Wisscool WS519 Digital HVAC Manifold Gauge.



Figure 9.1: Diagram illustrating the physical dimensions and key specifications of the gauge.

Feature	Specification
Model Number	WS519
Pressure Test Range	-101 Kpa to 6000 Kpa (0 to 60 bar)
Pressure Test Accuracy	±0.5% (FS) + 5dgt
Vacuum Measurement Range	-101 Kpa to 0 Kpa
Pressure Overload Limit	10000 Kpa (10 Mpa; 100 bar)
Refrigerant Compatibility	22 NIST refrigerants (R123, R1234yf, R134A, R14, R141B, R142B, R22, R23, R290, R32, R404A, R407C, R410A, R417C, R438A, R449A, R452A, R507, R508B, R513A, R600)
Pressure Units	Kpa, Mpa, bar, inHg, PSI, Kg/cm²
Temperature Units	°C, °F
Power Supply	2 x AA 1.5V Batteries
Dimensions (L x W x H)	3.4 x 6.7 x 2 inches (87mm x 170mm x 50mm)
Item Weight	1.1 Pounds
Material	Brass, Glass, Metal, Plastic

10. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact Wisscool customer service directly. Keep your purchase receipt as proof of purchase for warranty claims.

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