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User Manual

Elitech LMG-10W, LMC-100A+, ILD-200

Elitech 2-Way Valve Manifold Gauge LMG-10W, Refrigerant Scale LMC-100A+, Infrared Refrigeration Leak Detector ILD-200 User Manual

Model: LMG-10W, LMC-100A+, ILD-200

INTRODUCTION

This user manual provides comprehensive instructions for the Elitech HVAC/R service kit, which includes the Elitech LMG-10W 2-Way Valve Manifold Gauge, the Elitech LMC-100A+ Refrigerant Scale, and the Elitech ILD-200 Infrared Refrigeration Leak Detector. This kit is designed for professional HVAC/R technicians to perform accurate refrigerant charging, recovery, and leak detection tasks.



Figure 1: Elitech HVAC/R Service Kit components.

PRODUCT COMPONENTS

Elitech LMG-10W 2-Way Valve Manifold Gauge

The LMG-10W is a digital manifold gauge designed for precise measurement of pressure, temperature, and vacuum in HVAC/R systems. It features a clear display and robust construction for reliable performance.

- **APP Control:** Seamless integration with the Elitech Tools App for remote monitoring and control.
- **Remote Firmware Upgrade:** Allows for convenient updates to the device's software.
- **Accurate Tightness Test Results:** Provides precise data for system integrity checks.
- **Instant Report Export:** Generate and export reports for documentation.
- **Automatic Calculation:** Calculates subcooling and superheat automatically.

- **Long Battery Life:** Up to 200+ hours of operation.
- **Measuring Range:** -14.5 to 800 psi.
- **Accuracy:** $\pm 0.5\%$ FS.
- **Units:** psi, kg/cm³, kPa, MPa, bar.
- **Working Temperature Range:** 14~122°F / -10~50°C.



Figure 2: Elitech LMG-10W Digital Manifold Gauge with included accessories.

More Than Accurate Data



APP Control



Remote Firmware
Upgrade



Accurate Tightness
Test Results



Instant Report
Export



Automatic Calculation,
Reading Subcooling
and Superheat



200h+ Battery Life



Figure 3: Key features and display of the Elitech LMG-10W.



- Measuring Range: -14.5~800 psi
- Accuracy: +0.5% FS
- Units: psi, kg/cm³, kPa, MPa, bar
- Battery life: 200H
- Working Temperature Range: 14~122°F/-10~50°C

Figure 4: Dimensions and detailed specifications of the Elitech LMG-10W.

Elitech LMC-100A+ Refrigerant Scale

The LMC-100A+ is a high-capacity electronic refrigerant charging and recovery scale, essential for accurate refrigerant handling.

- **Capacity:** Up to 220lbs (100kg).
- **Accuracy:** $\pm 0.05\%$ readings +10g.
- **Units:** Kg/Lb/Oz.
- **Long Battery Life:** Up to 40 hours.
- **Auto Shut-off:** After 10 minutes of inactivity to conserve battery.



Figure 5: Elitech LMC-100A+ Refrigerant Scale within its carrying case.



**Long Battery Life
up to 40 Hours**



**Auto Shut-off
After 10 Minutes Unused**



Figure 6: Battery life and auto shut-off features of the Elitech LMC-100A+.

Elitech ILD-200 Infrared Refrigeration Leak Detector

The ILD-200 is an advanced infrared leak detector designed to quickly and accurately pinpoint refrigerant leaks in HVAC/R systems.

- **Detects All Halogenated Gases:** Including CFCs, HFCs, HCFCs, HCs, HFOs, and mixed refrigerants (e.g., R11, R22, R404a, R410a, R600a, R1234yf, AZ-50, HP62, MP39).
- **Anti-interference & High Precision:** Ensures reliable detection in various environments.
- **NDIR Sensor:** Provides longer sensor life.
- **Instant Response:** Quick detection of leaks.
- **Standards Compliance:** Meets SAE-2791 and SAE-2913 standards.
- **Max Sensitivity:** 0.1oz/yr.
- **Battery:** 3.7V 3000mAh.

- **CE Certificate:** Certified for safety and quality.



Figure 7: Elitech ILD-200 Infrared Refrigerant Leak Detector.

Infrared Refrigerant Leak Detector Reliable, Sensitive and Efficient



Anti-interference
& High Precision



NDIR Sensor
Longer Life



Instant
Response

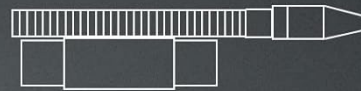


Meet SAE-2791
& SAE-2913 standards

Figure 8: Key features of the Elitech ILD-200.



Probe overall length



15.5 in

Weight



0.93 lbs

- Max Sensitivity: 0.1oz/yr
- Response Time: Immediate
- Battery: 3.7V 3000mAh
- Meet EN14624, SAE-162, SAE-2791 and SAE-2913 standards
- CE Certificate

Figure 9: Dimensions and detailed specifications of the Elitech ILD-200.

SETUP

Before operating the Elitech HVAC/R service kit, ensure all components are properly set up and charged.

1. **Unpacking:** Carefully remove all items from the packaging. Verify that all components listed in the packing list are present and undamaged.
2. **Battery Installation/Charging:**
 - **LMG-10W:** Ensure the manifold gauge is charged or has sufficient battery life. Refer to the individual LMG-10W manual for specific battery type and charging instructions.
 - **LMC-100A+:** Install batteries as per the scale's instructions.
 - **ILD-200:** Charge the leak detector using the provided charger until the battery indicator shows full.
3. **App Installation (Optional but Recommended):** Download the "Elitech Tools" app from your device's app store (iOS and Android). This app allows for integrated management of Elitech tools.

4. Initial Calibration/Zeroing:

- **LMG-10W:** Power on the manifold gauge. Perform a zero calibration as instructed in its specific manual to ensure accurate pressure readings.
- **LMC-100A+:** Place the scale on a flat, stable surface. Power it on and press the "Z/T" button to zero the scale before placing any refrigerant cylinders on it.
- **ILD-200:** Allow the leak detector to warm up as per its instructions. Ensure it is in a clean air environment when powered on to establish a baseline.

5. **Hose Connection (LMG-10W):** Connect the appropriate refrigerant hoses to the LMG-10W manifold gauge and to the HVAC/R system service ports as required for your specific task (e.g., charging, recovery, evacuation).

OPERATING INSTRUCTIONS

This section provides general operating guidelines for using the Elitech HVAC/R service kit. Always refer to the specific manuals for each device for detailed operational procedures.

Refrigerant Charging/Recovery (Using LMG-10W and LMC-100A+)

1. **Connect Hoses:** Connect the LMG-10W to the HVAC/R system's high and low-pressure service ports using the appropriate hoses. Connect the center hose to the refrigerant cylinder or recovery machine.
2. **Place Cylinder on Scale:** Place the refrigerant cylinder on the LMC-100A+ scale. Ensure the scale is zeroed before placing the cylinder.
3. **Monitor Readings:** Use the LMG-10W to monitor system pressures and temperatures. The LMC-100A+ will display the refrigerant weight.
4. **Charge/Recover:** Open the manifold valves as required for charging or recovery. Monitor the LMC-100A+ to ensure the correct amount of refrigerant is transferred.
5. **Disconnect:** Once the process is complete, close all valves and carefully disconnect the hoses.

Leak Detection (Using ILD-200)

1. **Power On:** Turn on the ILD-200 leak detector. Allow it to warm up and self-calibrate in a clean air environment.
2. **Adjust Sensitivity:** Adjust the sensitivity setting (Low, Medium, High) based on the suspected leak size and environment. Start with a higher sensitivity for general scanning.
3. **Scan System:** Slowly move the probe tip around suspected leak areas (e.g., joints, fittings, valves, coils). The detector will alarm and indicate the presence of refrigerant.
4. **Pinpoint Leak:** Once a leak is detected, move the probe slowly back and forth to pinpoint the exact source. The alarm intensity will typically increase as you get closer to the leak.
5. **Verify:** After identifying a leak, ventilate the area and re-scan to confirm the leak location.

MAINTENANCE

Proper maintenance ensures the longevity and accuracy of your Elitech HVAC/R service kit.

- **Cleaning:**
 - Wipe down all devices with a soft, damp cloth after each use.
 - Do not use abrasive cleaners or solvents.

- Keep the manifold gauge ports and scale platform free of debris.

- **Storage:**

- Store all components in their original carrying cases or a protective environment when not in use.
- Store in a cool, dry place away from direct sunlight and extreme temperatures.

- **Battery Care:**

- For rechargeable devices (LMG-10W, ILD-200), charge regularly, especially before long periods of storage.
- Remove batteries from the LMC-100A+ if storing for extended periods to prevent leakage.

- **Sensor/Probe Care (ILD-200):**

- Keep the sensor tip clean and free from contaminants.
- Avoid exposing the sensor to excessive moisture or oil.

- **Hose Inspection (LMG-10W):**

- Regularly inspect refrigerant hoses for cracks, wear, or damage. Replace if necessary to prevent leaks.

TROUBLESHOOTING

This section addresses common issues you might encounter with your Elitech HVAC/R service kit.

Problem	Possible Cause	Solution
LMG-10W: Inaccurate pressure readings.	Needs zero calibration; sensor contamination; faulty hose connection.	Perform zero calibration. Clean sensor if accessible. Check hose connections for leaks or blockages.
LMG-10W: Display not turning on.	Low battery; power button issue.	Charge the device. Press and hold the power button firmly.
LMC-100A+: Inaccurate weight readings.	Scale not zeroed; unstable surface; battery low.	Zero the scale before use. Place on a flat, stable surface. Replace batteries.
LMC-100A+: Scale not turning on.	Dead batteries; incorrect battery installation.	Replace batteries. Ensure batteries are inserted with correct polarity.
ILD-200: No leak detection/false alarms.	Sensor contaminated; low sensitivity setting; strong air currents.	Clean sensor tip. Increase sensitivity. Shield the area from drafts.
ILD-200: Device not powering on.	Battery depleted; power button issue.	Charge the device fully. Press and hold the power button.

SPECIFICATIONS

Detailed specifications for each component of the Elitech HVAC/R service kit.

Elitech LMG-10W 2-Way Valve Manifold Gauge

- **Measuring Range:** -14.5 to 800 psi

- **Accuracy:** $\pm 0.5\%$ FS
- **Units:** psi, kg/cm³, kPa, MPa, bar
- **Battery Life:** 200+ hours
- **Working Temperature Range:** 14~122°F / -10~50°C
- **Dimensions:** Approximately 4.3 x 7.1 x 1.8 inches
- **Weight:** Approximately 2.1 lbs

Elitech LMC-100A+ Refrigerant Scale

- **Capacity:** Up to 220 lbs (100 kg)
- **Accuracy:** $\pm 0.05\%$ readings +10g
- **Units:** Kg/Lb/Oz
- **Battery Life:** Up to 40 hours
- **Auto Shut-off:** After 10 minutes of inactivity
- **Material:** Plastic

Elitech ILD-200 Infrared Refrigeration Leak Detector

- **Max Sensitivity:** 0.1oz/yr
- **Response Time:** Immediate
- **Battery:** 3.7V 3000mAh
- **Sensor Life:** 10 years (Infrared Sensor)
- **Standards:** Meets EN14624, SAE-162, SAE-2791, and SAE-2913 standards
- **Dimensions:** Approximately 3.3 x 7.9 x 1.5 inches (main body), Probe overall length 15.5 inches
- **Weight:** Approximately 0.93 lbs

WARRANTY AND SUPPORT

Elitech provides dedicated customer support for its products.

For technical questions, troubleshooting assistance, or warranty inquiries, please contact Elitech's US-based customer service team. They are available 24/7 via email or phone.

Refer to the Elitech official website or product packaging for the most current contact information.