

Elitech Ultimate Master HVAC Kit

Elitech Ultimate Master HVAC Kit Instruction Manual

Model: Ultimate Master HVAC Kit

INTRODUCTION

Welcome to the Elitech Ultimate Master HVAC Kit instruction manual. This comprehensive kit is designed for professional HVAC/R technicians, offering advanced tools for system diagnostics, refrigerant management, evacuation, and leak detection. This manual provides essential information for the setup, operation, maintenance, and troubleshooting of the included components: the EMG-40V 4-Valve Smart Manifold, LMC-310A Auto-Charging Refrigerant Scale, SVP-12 Pro 12 CFM High-Power Vacuum Pump, and ILD-300 10-Year IR Leak Detector.

KIT COMPONENTS OVERVIEW

Elitech EMG-40V 4-Valve Smart Manifold

The EMG-40V is an intelligent manifold system designed for precise HVAC/R system diagnostics, leak tests, and heat pump mode operations. It features a 5-inch touch screen and supports over 140 types of refrigerants, integrating seamlessly with the Elitech app for enhanced control and data management.



Image Description: The Elitech EMG-40V 4-Valve Smart Manifold with a 5-inch touch screen display, showing pressure and temperature readings. It features four valves and connections for hoses, indicating its comprehensive functionality.

Instant Data Analysis HVAC Pros Essentials

OTA

Real-time monitoring,
upgrading device
version via APP

60000^{Points}

Offline data recording
and export



Image Description: A diagram illustrating the EMG-40V's app integration for real-time monitoring, data recording, and export, highlighting its smart features and connectivity.

Elitech LMC-310A Auto-Charging Refrigerant Scale

The LMC-310A is an auto-charging solenoid scale engineered for precise refrigerant charging. It automatically stops charging once the target weight is reached, ensuring accuracy and safety. This scale offers wireless control and remote valve operation via the Elitech app.

FULLY WIRELESS. FULLY IN CONTROL



Precise Wireless Control

Set target weights and manage refrigerant transfer directly from your phone — no cables required



Real-Time Monitoring

Track live weight, battery level, and signal strength — with seamless unit switching.



Remote Valve Operation

Open and close valves from a safe distance. Auto-lock function activates when battery is low.



Automatic Data Logging

All transfer sessions are saved automatically. Offline mode supported for field use.

*Solenoid valves are standard on all 300 Series models. For 200 Series models, valves are sold separately.

Image Description: A hand holding a smartphone displaying the Elitech app, showing wireless control and monitoring of the LMC-310A refrigerant scale for precise charging operations.



Image Description: A diagram illustrating the auto-stop charging process of the LMC-310A scale, showing the flow of refrigerant and the precise dosing mechanism to prevent overcharging.

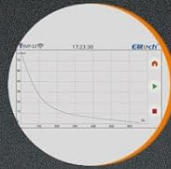
Elitech SVP-12 Pro 12 CFM High-Power Vacuum Pump

The SVP-12 Pro is a high-power vacuum pump designed for ultra-fast evacuation of HVAC/R systems. With a 12 CFM pumping rate, it significantly reduces evacuation time. It features intelligent control and a 4-inch touch screen for easy operation and monitoring.

Intelligent and Simple



Leakage Level



Vacuum Graph



Intelligent Control
Motor & Solenoid Valve



Estimate Complete
Time



4" Touch Screen



Data Logging

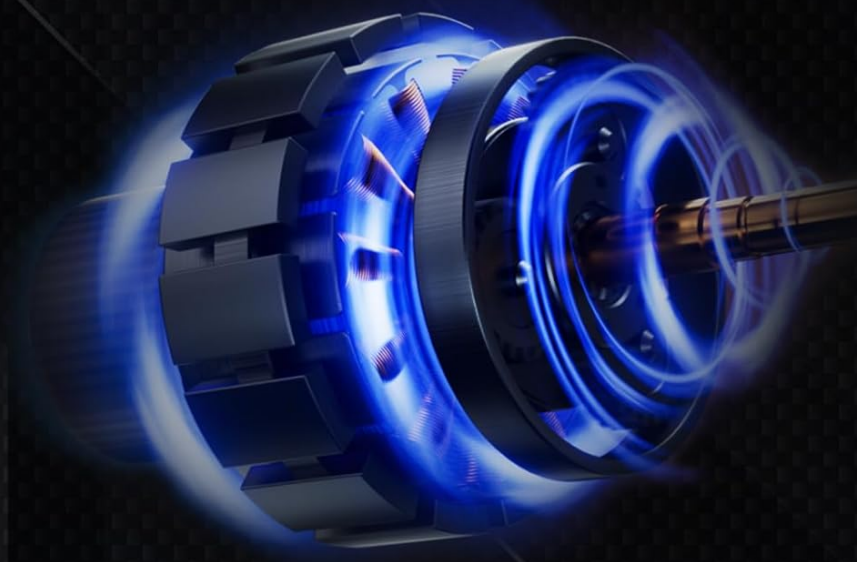


Image Description: The Elitech SVP-12 Pro Vacuum Pump with its 4-inch touch screen display, showing options for measure, graph, settings, and system, indicating its user-friendly interface.

**1 HP
(750 W)**
Motor Power

**2 Pa
(15 Microns)**
Limit Vacuum

**1/4 SAE
3/8 SAE**
Air Inlet



12CFM (5 L/S)
Pumping Rate – maximum performance and speed

Image Description: An illustration highlighting the internal motor of the SVP-12 Pro vacuum pump, detailing its 1 HP (750 W) motor power, 2 Pa (15 Microns) limit vacuum, and 12 CFM pumping rate for maximum performance.

Elitech ILD-300 10-Year IR Leak Detector

The ILD-300 is a best-in-class infrared (IR) leak detector, featuring a 10-year IR sensor and exceptional 0.1 oz/yr sensitivity. It comes with a large TFT screen for clear visual feedback and provides reliable detection of refrigerant leaks.

NO OVERTSHOOT, NO WASTE



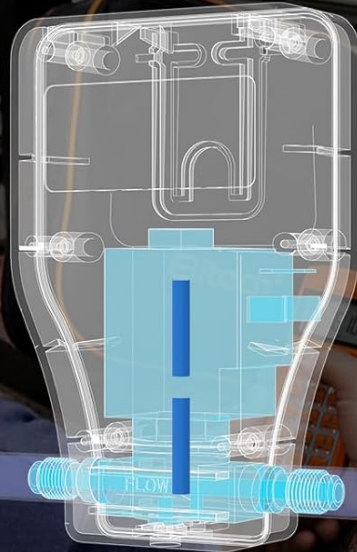
Auto-stop



Precise dosing



Cost-saving



1

**Start
Charging**

2

**Valve
Open**

3

**Stop
Charge**

4

**Valve
Closing**

Image Description: The Elitech ILD-300 Infrared Refrigerant Leak Detector, showing its ergonomic design, TFT screen, and various features like 10-year sensor life and 3 sensitivity levels.

TFT Screen PEAK Display

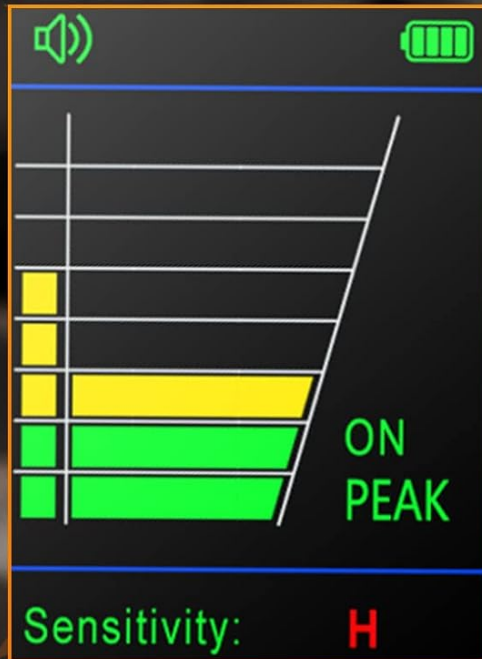


Image Description: A close-up of the ILD-300's TFT screen displaying a peak reading and sensitivity level, demonstrating its visual alarm capabilities for leak detection.

SETUP

Initial Inspection

Upon receiving the Elitech Ultimate Master HVAC Kit, carefully inspect all components for any signs of damage that may have occurred during transit. Verify that all listed items are present in the packaging.

Powering On

For the EMG-40V manifold and SVP-12 Pro pump, connect to a suitable power source as specified in their individual manuals. The LMC-310A scale and ILD-300 leak detector typically operate on internal batteries; ensure these are fully charged before their initial use.

App Connection (for Smart Manifold and Scale)

Download the Elitech app from your mobile device's app store. Follow the in-app instructions to pair the EMG-40V Smart Manifold and LMC-310A Auto-Charging Scale via Bluetooth. This enables remote monitoring and control functionalities.

OPERATING INSTRUCTIONS

Using the EMG-40V Smart Manifold

Connect the manifold hoses to the HVAC system and refrigerant tanks as required for pressure measurement, evacuation, or charging. Utilize the 5-inch touch screen or the Elitech app to select the desired operation mode, such as system diagnostics, leak test, or heat pump mode. Monitor real-time data and adjust settings as needed for accurate system analysis.

Operating the LMC-310A Auto-Charging Scale

Place the refrigerant tank securely on the scale platform. Connect the solenoid valve in-line with the charging hose. Use the Elitech app to set the precise target charging weight. The scale will automatically open and close the solenoid valve to achieve accurate refrigerant charging, stopping once the target weight is reached.

Running the SVP-12 Pro Vacuum Pump

Connect the vacuum pump to the HVAC system's service port using appropriate hoses. Ensure all connections are tight and leak-free. Power on the pump and monitor the vacuum level using the integrated display or an external micron gauge. The 12 CFM pumping rate facilitates rapid and efficient system evacuation.

Detecting Leaks with the ILD-300 IR Leak Detector

Power on the ILD-300 and allow it to complete its warm-up cycle. Select the appropriate sensitivity level for the application. Move the sensor probe slowly around suspected leak areas in the HVAC system. The device will provide clear audible and visual alarms (via the TFT screen display) upon detecting refrigerant leaks.

MAINTENANCE

General Cleaning

Regularly wipe down all components with a soft, dry cloth. Avoid using abrasive cleaners, solvents, or harsh chemicals that could damage surfaces or electronic components.

Vacuum Pump Oil Management

For the SVP-12 Pro vacuum pump, regularly check and change the vacuum pump oil according to the manufacturer's recommendations. This is crucial for maintaining optimal performance and extending the pump's lifespan. Refer to the pump's specific manual for detailed instructions on oil changes.

Sensor Care (ILD-300)

Keep the ILD-300 leak detector's IR sensor clean and free from any obstructions. Avoid exposing the sensor to extreme temperatures, high humidity, or contaminants, which could affect its accuracy and longevity.

Battery Charging

Ensure all battery-powered devices (LMC-310A, ILD-300, and EMG-40V if applicable) are charged regularly. This ensures they are always ready for use and maintains battery health.

TROUBLESHOOTING

Manifold Not Connecting to App

Ensure Bluetooth is enabled on your mobile device and the EMG-40V manifold. Restart both the manifold and the Elitech app. Check for any available app updates in your device's app store.

Scale Not Reading Correctly

Verify that the LMC-310A scale is placed on a flat, stable surface. Ensure no objects are touching the scale platform other than the refrigerant tank. If issues persist, refer to the LMC-310A manual for calibration procedures.

Vacuum Pump Not Pulling Vacuum

Check all hose connections for leaks, ensuring they are tightly secured. Confirm that the HVAC system being evacuated is properly sealed. Verify the vacuum pump oil level and condition, changing if necessary.

Leak Detector False Alarms

Ensure the working area is well-ventilated and free from other gases or vapors that could potentially trigger the ILD-300 sensor. If operating in a potentially contaminated environment, try reducing the sensitivity setting.

SPECIFICATIONS

Elitech EMG-40V 4-Valve Smart Manifold

- **Display:** 5-inch Touch Screen
- **Refrigerant Support:** 140+ types
- **Key Features:** System diagnostics, leak tests, heat pump mode, app integration

Elitech LMC-310A Auto-Charging Refrigerant Scale

- **Capacity:** 330 lbs (150 kg)
- **Key Features:** Auto-charging solenoid valve, wireless control, real-time monitoring, automatic data logging

Elitech SVP-12 Pro 12 CFM High-Power Vacuum Pump

- **Pumping Rate:** 12 CFM (5 L/s)
- **Motor Power:** 1 HP (750 W)
- **Limit Vacuum:** 2 Pa (15 Microns)
- **Display:** 4-inch Touch Screen

Elitech ILD-300 10-Year IR Leak Detector

- **Sensor Type:** Infrared (IR)
- **Sensor Life:** 10 years
- **Sensitivity:** 0.1 oz/yr
- **Display:** TFT Screen
- **Key Features:** 3 sensitivity levels, peak display, audible & visual alarm

