MAX-3

A/C Recovery, Recycling and Recharge Machine

Operating Manual

CONTENTS

SAFETY

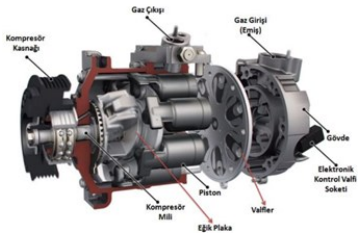
- Read this manual carefully and understand all the procedures outlines in this manual before operating the unit. Failure to follow these procedures could result in personal injury or property damage.
- Allow only qualified personnel to operate this unit. The operator must have basic knowledge of air conditioning and refrigeration systems, including potential hazards associated with the handling of refrigerants and systems under high pressure.
- Always wear safety goggles and appropriate protective clothing. Avoid contact of liquid refrigerant with the eyes and prolonged skin exposure.
- Pressurized tank contains liquid refrigerant.
- Never fill the refrigerant tank to more than 80% of its maximum capacity.
- Hoses may contain refrigerant under pressure.
- Make sure to use a properly grounded AC outlet.
- Do not operate the unit with a damaged cord or plug. Extension cords should not be used unless absolutely necessary.
- Disconnect unit from power supply before removing any protective cover.
- Do not expose the unit to wet environment.
- Only use the correct refrigerants.
- Avoid breathing in refrigerant vapors. Use only in well ventilated areas.
- The unit must be transported in a vertical position.
- The refrigerant scale must be fixed in place before transport.

TECHNICAL SPECIFICATIONS

Model	MAX3
Refrigerant type	R134a
Power	220 V ±10% / 50Hz
Display	10’’ touch tft display
Storage Tank Capacity	25 kg
Scale resolution	±5 gr
Compressor	1/3 HP 12 cc hermetic
Vacuum Pump	10 m^3/h
Recovery rate	450 gr/min maximum
Filter Capacity	150 kg
Operating range	8°C / 49°C
Low pressure gauge	15 bar
High pressure gauge	30 bar
Hose Length	300 cm
Dimensions	58 cm x 134 cm x 61 cm
Weight	114 kg

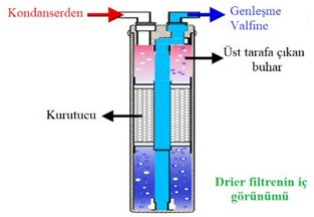
A/C SYSTEM

COMPRESSOR: Pumps out refrigerant vapor under high pressure and high heat to the condenser.

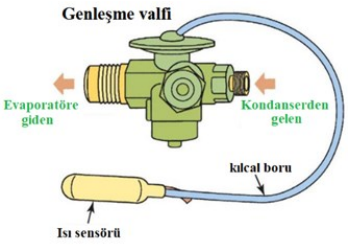


CONDENSER: Takes the heated high pressure refrigerant vapor from the compressor and cools it, changing it to liquid state.

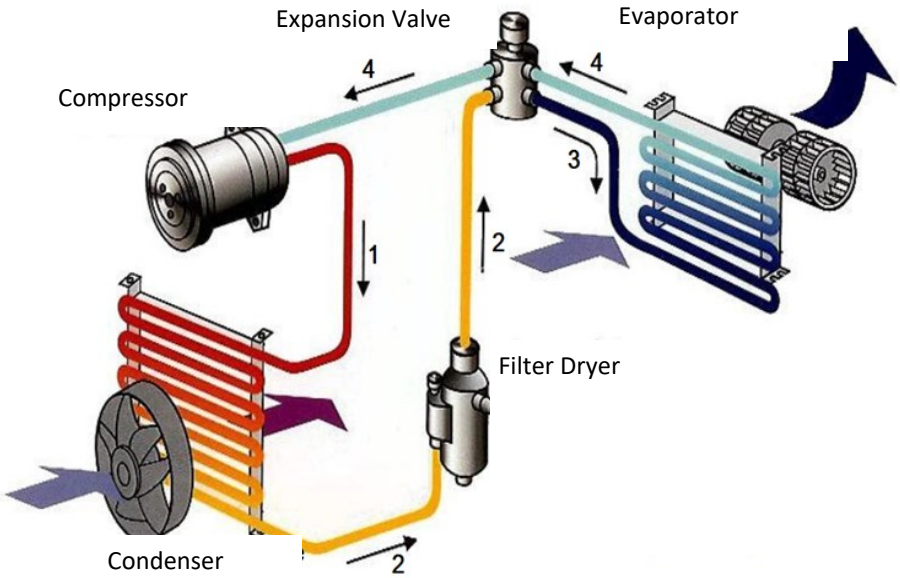
FILTER DRIER: Removes moisture from the refrigerant which can damage and block the air conditioning system if allowed to circulate.



EXPANSION VALVE: Removes pressure from the liquid refrigerant, allowing it to expand and revert back to gas.



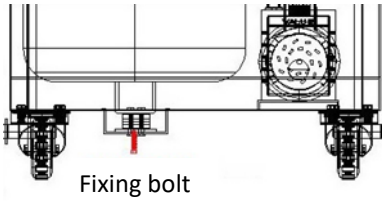
EVAPORATOR: Takes the cold low pressure refrigerant from the expansion valve and vaporizes it, absorbs heat from the air in the passenger compartment.



CONTROL PANEL

SETUP

1. Place the unit on a level surface.
2. Connect quick-action coupler valves to the service hoses (DO NOT OVERTIGHTEN).
3. Remove fixing bolt located under the unit.
4. Plug the power cable into a grounded power outlet.
5. Turn on the power switch.
6. Perform a vacuum calibration.


Fixing bolt

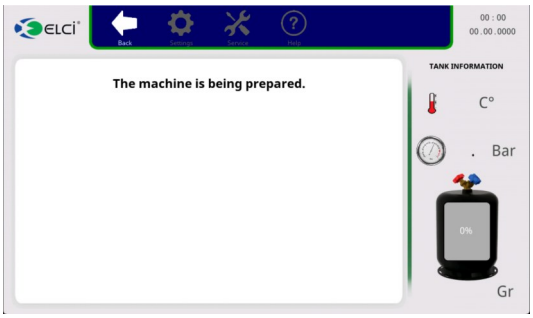
WARNING The scale is factory calibrated. Recalibration is not required.

OPERATIONS

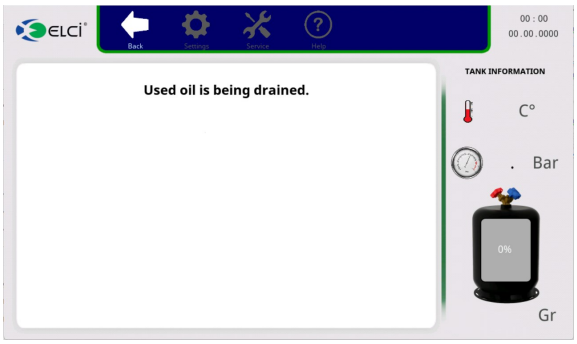
GAS FROM VEHICLE

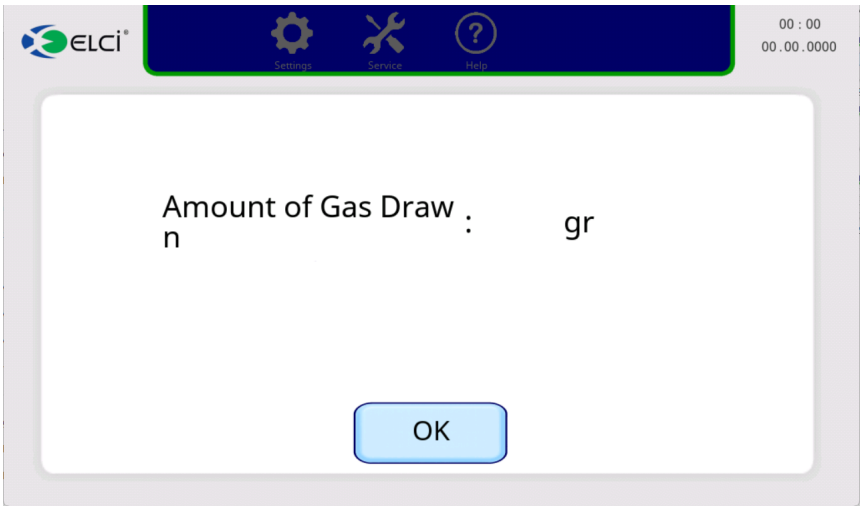
Recover refrigerant from a vehicle, filter to remove acid, particulates and moisture, then transfer to the storage tank.

- Connect service hoses to the vehicle and open adapters.
- Press RECOVER REFRIGERANT button.
- Unit will start recovering refrigerant from the A/C system.



- Any oil removed from the system will automatically drain into the used oil bottle.
- Touch screen will read PROCESS COMPLETE.





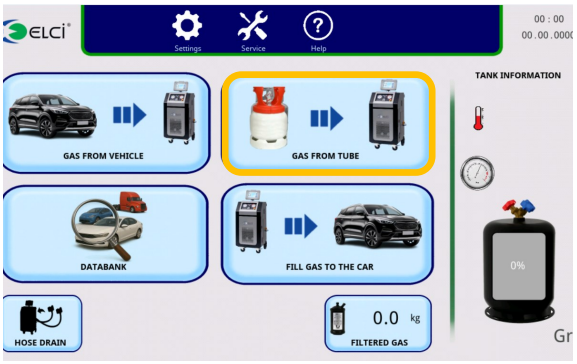
OPERATIONS

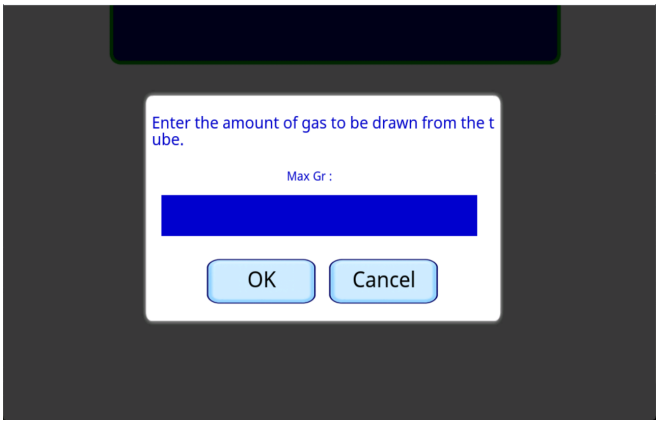
GAS FROM TUBE

Add refrigerant to the storage tank.

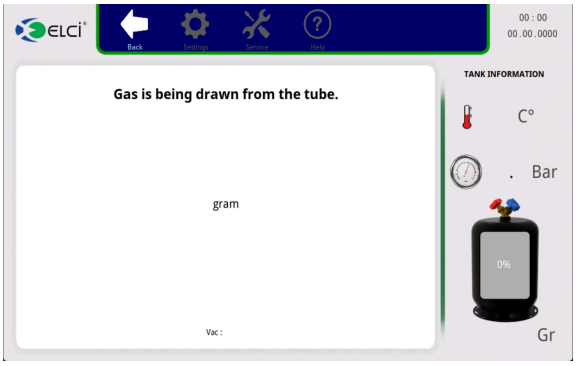
WARNING: Do not fill the storage tank to its full capacity.

1. Connect any one of the service blue hose to the external tank and open its valve.
2. Open the valve of the service hose.
3. Press GAS FROM TUBE button.
4. Use keypad to enter the desired amount.



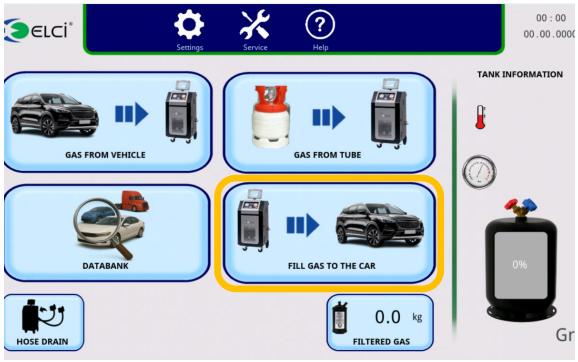


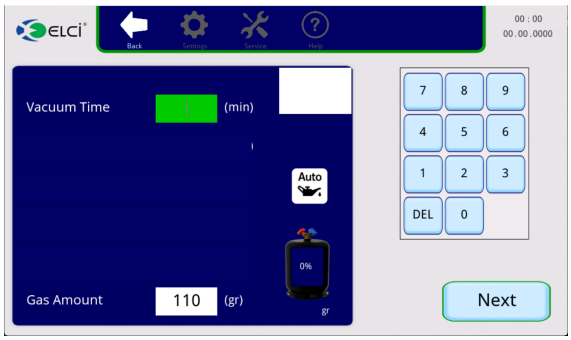
5. Operation will automatically stop when the storage tank is full or the external tank is empty.
6. Stop the operation by closing external tank's valve.
7. Touch screen will read TANK REFILL COMPLETE.



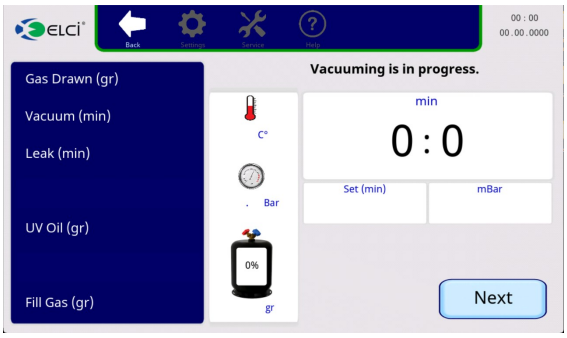
OPERATIONS

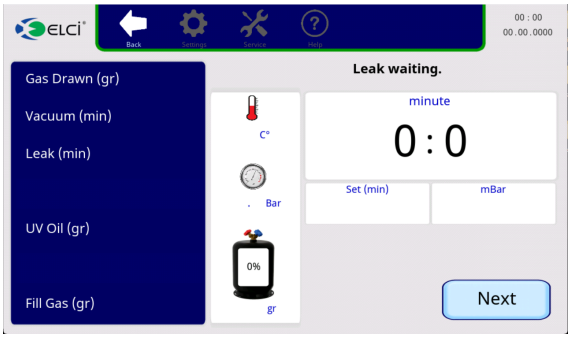
FILL GAS TO THE CAR





Uses to fill gas to the car A/C system with refrigerant. Connect the exposed end of the service hoses to the vehicle and turn the quick couples on. This process will done manually





VACUUM TIME: The purpose of this process is to remove the air, water vapor and other non-condensable gases from the air conditioning system for better efficiency.

LEAK CONTROL: The purpose of this process is to see that the vacuum level does remain constant or not, if not constant that means there is leak in the system.

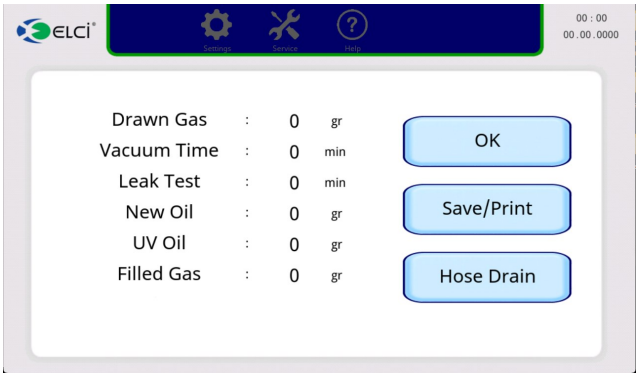
NOT: Vacuum operation is required before Leak Control.

GAS AMOUNT: The purpose of this process is to enter the amount of gas which you want to apply to system.

OPERATIONS

1. Screen will display LEAK CONTROL TIME.
2. To skip leak control process, set the time of this section as zero.
3. Device will stop the operation Automatically and displays LEAK IN SYSTEM in case of a leakage.

After the gas filling process is complete, a summary f the last operation will appear on the screen.

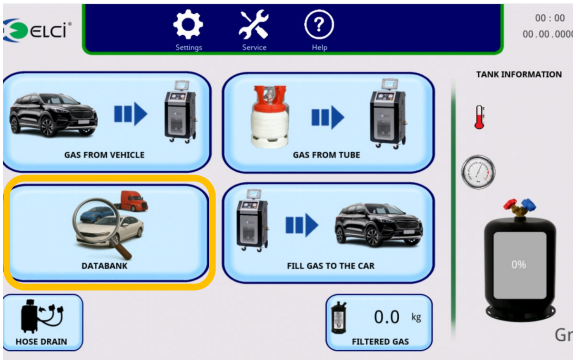


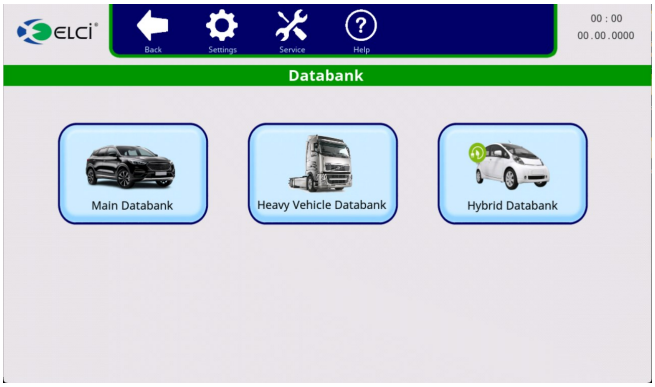
Hose drain: After the process is complete, remove the adapters from the vehicle and perform this operation.

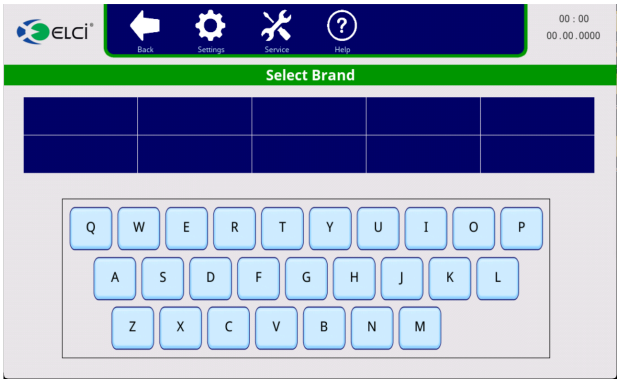
Save / Print: You can print a summary of the last operation.

DATABANK

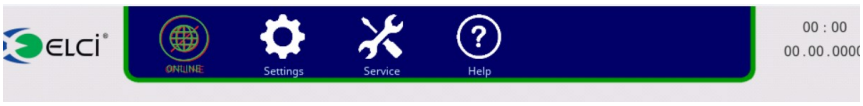
It's used to automatically refuel your vehicle's air conditioning system. Once you've selected the make and model of vehicle you'll be working on, the vacuum time, leak detection, and refueling amount data will be automatically entered, and the process will begin when you press the start button.







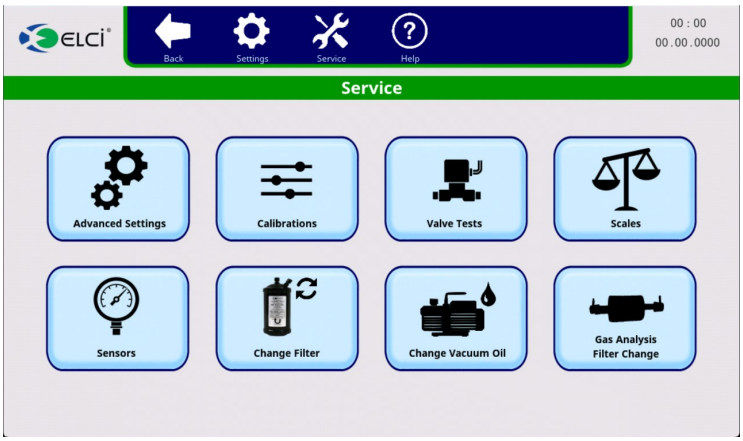
SERVICE & CALIBRATIONS

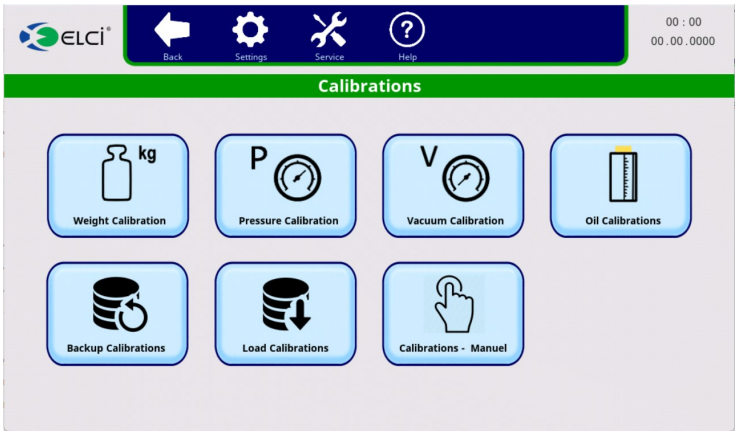


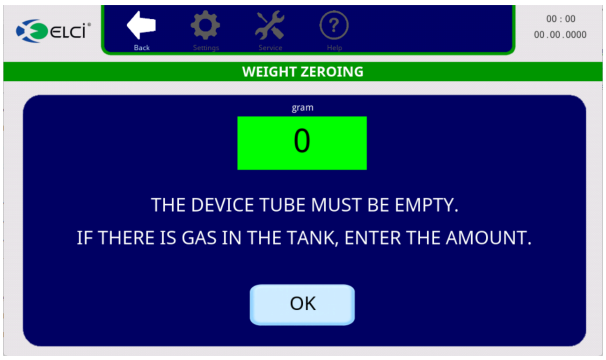
When you press the Service button in the main menu, you will see the following menu.
NOTE: To access SERVICE, please request a password from the manufacturer.

WEIGHT CALIBRATION

- Firstly we need an object that we know the net weight of it (min 2000 gr).Open the back cover of the device.
- Write the weight of the object in the white box on the screen
- Press the OK button.
- After calibration is complete, remove the object you placed on the tank and close the back cover of the device.



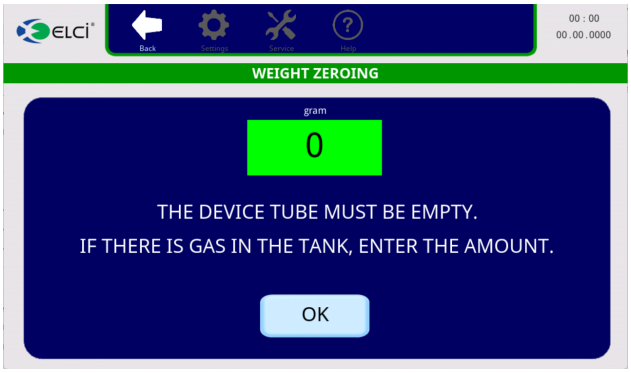




SERVICE & CALIBRATIONS

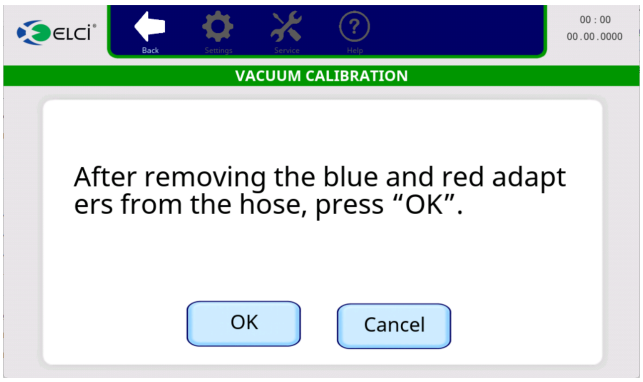
WEIGHT ZEROING

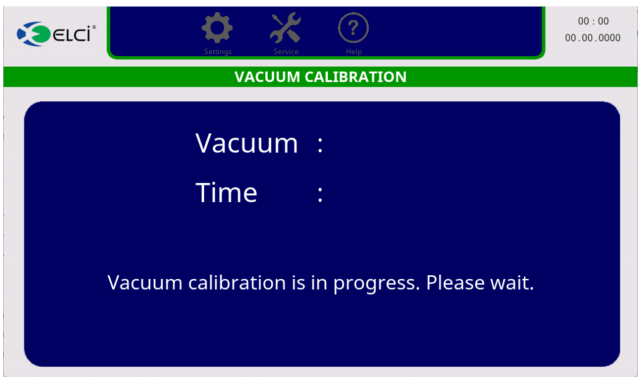
The gas tank must be empty for this process.
If the tank is not empty, you must know the exact amount of gas in it.
Click OK and wait for the process to complete.

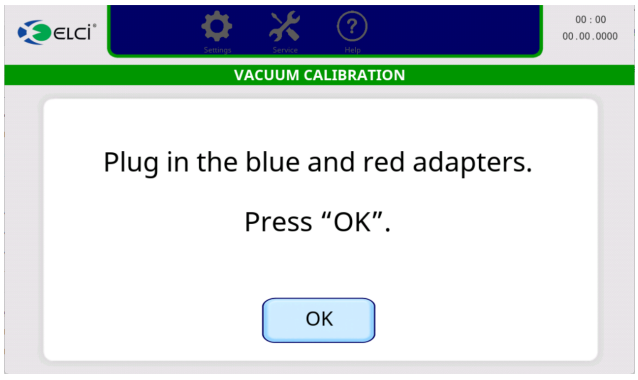


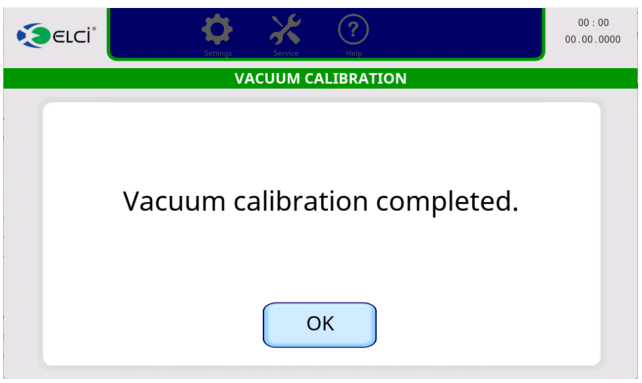
VACUUM CALIBRATION

Remove the vehicle adapters from the service hoses.
Press the OK button and wait.
Attach the adapters to the service hoses.
Press the OK button and wait for the vacuum pump to complete the process.
When the process is complete, a "COMPLETE" message will appear on the screen.





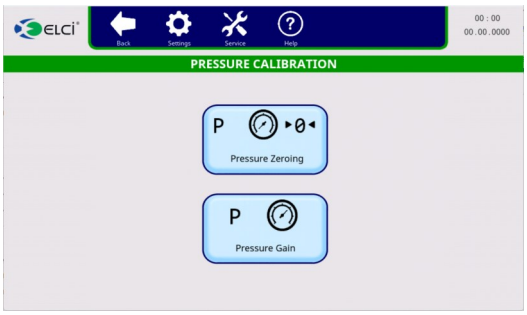


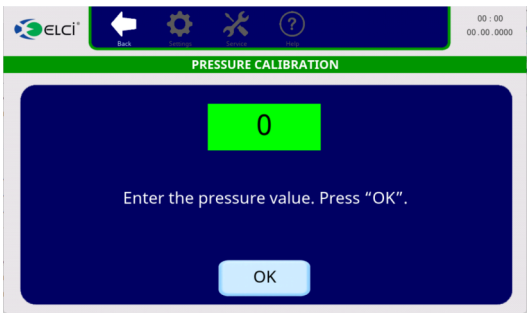


SERVICE & CALIBRATIONS

PRESSURE ZEROING

The gas tank must be empty for this procedure. To reset the pressure even if there is gas in the tank Close the tank's blue valve, disconnect the blue hose from the valve using a suitable wrench, and then press the pressure reset button after completely draining the remaining gas from the hose.

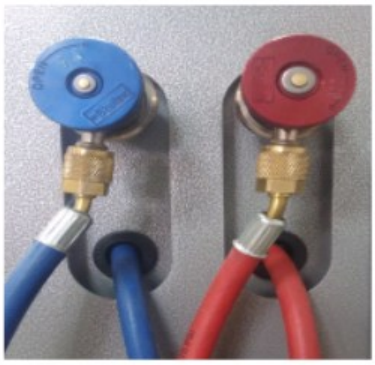


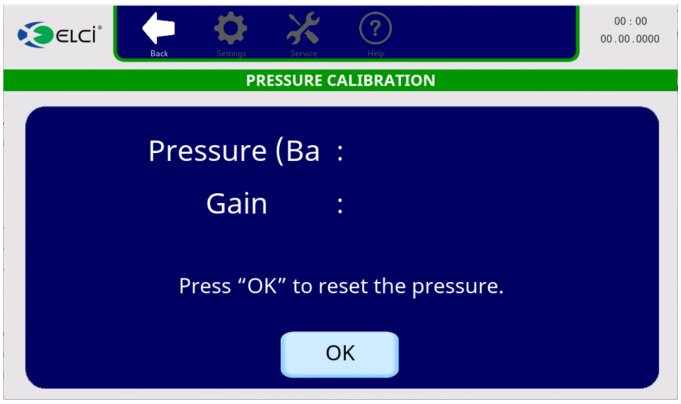


Press the OK button to reset the pressure.
Once the reset process is complete, reattach the disconnected blue hose, tighten it with a suitable wrench, and turn the blue valve to the open position.

PRESSURE CALIBRATION

Attach the vehicle adapters to the service hoses.





Fill the hoses with 300 grams of gas from the "Fill the Vehicle with Gas" menu.
Note the readings on the device's pressure gauges.

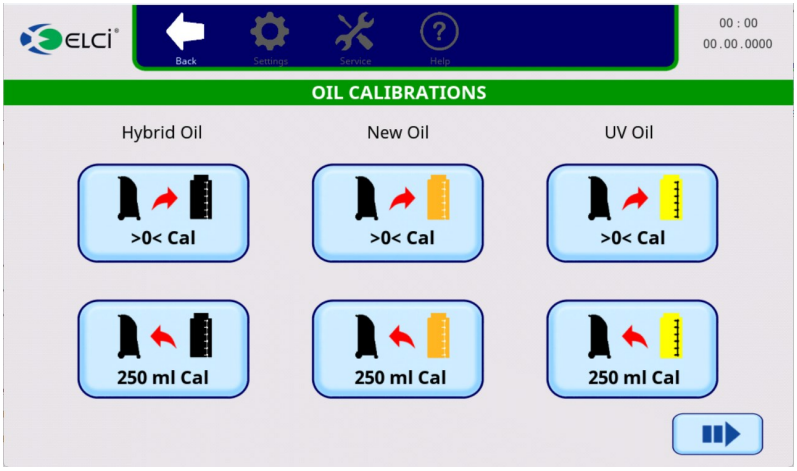
In the Pressure (Bar) section, enter the pressure values you have noted using the arrow keys.

Press the OK button.

Wait for the process to complete.

SERVICE & CALIBRATIONS

NEW OIL CALIRATION



Press the New Oil Calibration button.
Remove the oil container.
Press the OK button to reset and wait for the beep.

Fill the new oil container with 250 milliliters of oil. (Due to the difference in viscosity of the oils, UV oil should be used for UV oil calibration, and hybrid oil should be used for hybrid oil calibration.)
Reattach the filled oil container to the location where you removed it.
Press the OK button.

Wait for the process to complete

NOTE: These calibration procedures are also valid for other oil container calibrations.

MAINTENANCE

Compressor Maintenance

This is done to replenish the compressor's oil level. This should be done after every three filter changes.
Remove the new oil canister and add 70 ml of oil. Do not install it on the device.
Attach the adapters to the service hose.
Using the "Fill the vehicle with gas" menu, inject 100 grams of gas into the hoses.
Select the "Fill the vehicle with gas" procedure. When the pressure gauge reads zero, disconnect the hose from the compressor filter and submerge it in the new oil canister.
After completely draining the oil, reattach the hose and the new oil container.

Vacuum Pump Maintenance

For the vacuum pump to operate effectively, the oil must be changed at regular intervals. Using oil that has lost its properties can cause irreversible damage to mechanical components. Vacuum pump oil should be changed in the following situations:

Every 30 operating hours or every filter change

When the oil becomes darker or cloudy

Oil change process

- Provide an empty container to collect the old oil.
- Disconnect the device from the power supply.
- Remove the oil filler cap.
- Remove the drain plug.
- Wait for the old oil to drain out.
- Reinstall the drain plug.
- Using the filler cap, fill with new oil to half the level.
- Install the oil filler cap.
- Turn on the device using the power switch.
- Clear the vacuum oil change warning by pressing the Vacuum Oil Change button.

Filter Drier

- The air conditioning refrigerant transferred to the unit tank passes through a drier filter, keeping it clean and moisture-free. For proper operation, the filter must be replaced at regular intervals. Using an expired filter voids the warranty. The MAX3 model's filter life is 150 kg. Once the unit has filtered 150 kg of gas, it will alert the user each time it is turned on.
- Order a new filter.
- Open the filter cover on the side of the device.
- Replace the filter in the device with a new one and put the cover back on.
- Turn on the device using the power switch.
- To clear the warning, click the change filter button.

TROUBLESHOOTING

Gas filling is not possible.

Ensure that the device's scales are weighing correctly. If they are not, calibrate the weight.

Ensure that the blue and red valves on the device's gas tank are open.

Ensure there is sufficient gas in the device's tank.

Perform a valve test. (Please contact the manufacturer to perform this procedure.)

Vacuum is not being achieved.

Check the pressure gauges during vacuuming. (They should drop below zero.)

If there is no drop in the pressure gauges:

Make sure the vacuum pump is working.

Make sure the hose connections are fully tightened.

Make sure there are no major leaks in the vehicle.

If there is no drop in the pressure gauges and the display indicates insufficient vacuum, enter the Service Menu and verify the vacuum calibration.

The vacuum pump is not working.

Check the on/off switch on the pump.

Make sure the socket to which the vacuum pump cable is connected is plugged into the circuit board. Unplug and replug the socket.

Connect the device's power cable directly to the mains. Do not use an extension cord.

If the above suggestions do not resolve the issue, contact technical service.

Compressor not working

If the compressor is overheated, wait for it to cool down. If it has cooled down but still doesn't work:

Make sure the socket to which the compressor cables are connected is plugged into the circuit board. Unplug and replug the socket.

Connect the device's power cable directly to the mains. Do not use an extension cord.

If the above suggestions don't solve the problem, contact technical service.

TROUBLESHOOTING

Compressor Health Check

Disconnect the copper connection on the compressor's pressure line.
Disconnect the Drier filter hoses to allow the compressor to draw suction.
Connect the red service hose on the unit to the pressure line you disconnected from the compressor.
Start the compressor using the valve test menu and observe the high-pressure gauge rising.
When the pressure gauge reaches 20 bar, stop the compressor.
Check that the high-pressure gauge is not falling.
If the high-pressure gauge is falling, the compressor needs to be replaced.

If the Weight Sensor Does Not Weigh

- Check the weight sensor connector.
- Check the weight sensor screws for tightness.
- Make sure there are no objects touching the tank under or around it.
- Re-calibrate the weight (page 10).
- If the steps above do not resolve the issue, there may be a problem with the weight sensor or the electronic board. Contact Technical Service.

Grounding Problems

Poor grounding can cause instability in the operation of the device's electronic components.

To meet safety requirements, all conductive surfaces exposed to the equipment must be within the safe touch voltage range of 30 Volts. Voltages above this value can cause life-threatening electric shock.

WARRANTY

WARRANTY TERMS

1. Warranty period is (2) years and commences on the delivery date of the product.
2. The entire product except the hoses and the adapters is warranted by our company.
3. The warranty certificates without the sales date written by the seller/dealer and stamp and signature are invalid.
4. If the product becomes defective within the warranty period, the time elapsed during repair is added to the warranty period. The repair period of the product is maximum 30 (thirty) working days. This period starts as of the date the defect of the product is notified to the service station, or if a service station is not available, to any one of the product's seller, distributor, agency, representative, importer or manufacturer. If defect of the product is not remedied within 15 working days, the manufacturer and importer must allocate another industrial product with similar functions to the use of the consumer until repair of product is completed. National, legal and religious holidays and weekends are not considered as working days.
5. If the product becomes defective within its warranty period due to faults of material and workmanship or assembly, its repair shall be performed without demanding any charges as a cost of workmanship or replaced part, or by any other means.
6. Malfunctions taking place due to the use that is other than the ones stated in the operating manual of the product will not be covered under the scope of the warranty.
7. The warranty will expire automatically whenever one of the following occurs: failure to perform maintenance; use of non-original spare parts, non recommended oils and/or gases; use of expired filters; use of unsuitable refrigerants and/or lubricants; damage caused by shocks, fires, or other accidental events.
8. Even though the consumer uses its right of repair, if;
9. As of the delivery date of the product to the consumer, within one year, provided that the determined warranty period is valid; the same failure recurs more than twice, or different failures occur more than four times, or total of different failures within the determined warranty period is more than six, and also if these failures prevent benefiting from the product continuously; The required maximum repair period is exceeded; It is determined that the defect cannot be remedied with a report prepared by the service station of the company, and if a service station is not available, by any one of the product's seller, distributor, agency, representative, importer or manufacturer, respectively; the consumer may request the replacement of the product free of charge, or return of the cost or a discount in the cost at the rate of defect.
10. The manufacturer declines any and all responsibility for damage to vehicles on which recovery/recycling and recharging are performed if said damage is the result of unskillful handling by the operator or of failure to observe the basic safety rules set forth in the instruction manual.
11. This warranty does not cover damage arising during transportation. The product for which repair under guarantee is requested must be shipped to the manufacturer under the customer's exclusive responsibility.
12. The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time, loss of refrigerant, cross-contamination of refrigerant, and unauthorized shipping and/or labor charges.
13. For the problems that may arise concerning the certificate of warranty, you may refer to the General Directorate for the Protection of Consumers and Competition of the Ministry of Industry and Trade.

WARRANTY

WARRANTY CERTIFICATE

MANUFACTURING COMPANY

TITLE	**ELCİ ELEKTRONİK KLİMA SANAYİ VE TİCARET LTD. ŞTİ.**
ADDRESS	İVEDİK ORGANİZE SANAYİ BÖLGESİ AĞAÇ İŞLERİ SİTESİ 1354. CAD. 1357. SOK. NO: 30 YENİMAHALLE / ANKARA TÜRKİYE
TELEPHONE	0312 395 53 53 (PBX)
FAX	0312 395 18 86

PRODUCT

TYPE	A/C RECOVERY RECYLING AND RECHARGE MACHINE
BRAND	ELCİ
MODEL	MAX - 3
SERİAL NUMBER	.....
PLACE AND DATE OF DELIVERY	.....
WARRANTY PERIOD	.....
MAXIMUM REPAIR PERIOD	30 WORKING DAYS

DEALER OR DISTRIBUTOR COMPANY

TITLE	.....
ADDRESS	.....
TELEPHONE	.....
FAX	.....
INVOICE DATE AND NUMBER	.....