

ECO NEXT ONE “B” – ECO NEXT ONE HYBRID “B” – ECO NEXT ONE HFO “B”
R134a or R1234yf Refrigerant
Recovery / Recycle / Recharge
Service Vehicle A/C System

Instructions manual

[MANUK7N.0B0]

ed.3

INDEX

INDEX.....	3
SAFETY.....	5
INTRODUCTION.....	10
<i>CERTIFICATION</i>	10
<i>ABOUT THIS MANUAL</i>	10
<i>ABOUT YOUR AIR CONDITIONING SERVICE CENTER</i>	10
CONDITIONS OF WARRANTY.....	11
GENERAL INFORMATION.....	12
PRINCIPLES OF OPERATION.....	13
SETUP.....	14
<i>RELEASE REFRIGERANT SCALE</i>	14
<i>LOCK REFRIGERANT SCALE</i>	14
THE MACHINE.....	15
<i>PLASTIC COVER</i>	15
<i>CONTROL PANEL</i>	15
<i>DISPLAY ICONS</i>	17
<i>BASIC COMPONENTS</i>	18
<i>LIGHT SIGNALS</i>	25
<i>ALARMS</i>	25
<i>ERROR CODES</i>	25
PRELIMINARY OPERATIONS.....	26
<i>QUICKSETUP</i>	27
AUTOMATIC PROCEDURE.....	28
<i>EDIT VACUUM DATA:</i>	28
<i>EDIT OIL DATA</i> (<i>ECO NEXT ONE "B" only</i>).....	29
<i>EDIT GAS FILLING DATA:</i>	29
<i>START AUTOMATIC PROCEDURE:</i>	30
MANUAL PROCEDURE.....	35
<i>RECOVERY</i>	35
<i>VACUUM</i>	38
<i>OIL INJECTION</i> (<i>ECO NEXT ONE "B" only</i>).....	41
START PROCEDURE.....	42
SETUP.....	54
<i>VACUUM SETTING</i>	54
<i>OPTIONS</i>	55
<i>GAS ANALYZER</i> (<i>optional for ECO NEXT ONE "B" and NEXT HYBRID "B"</i>).....	55
<i>SETUP HEADER PRINT</i>	56
<i>SET DATE / TIME</i>	57

<i>LANGUAGE</i>	58
<i>MEASURE UNITS</i>	58
MAINTENANCE	59
<i>TANK FILLING</i>	59
<i>AIR PURGE MANUAL</i>	61
<i>GAS ANALYSIS</i> <small>(ECO NEXT ONE HFO "B" only)</small>	61
<i>EMPTY HOSES</i>	63
<i>CHANGE DRYER FILTER</i>	64
<i>VACUUM PUMP</i>	67
M.1) OIL TOP-UP	67
<i>CHANGE ANALYZER FILTER</i> <small>(ECO NEXT ONE HFO "B" only)</small>	72
<i>A/C PRESSURES CHECK</i>	74
<i>MAINTENANCE REPORT</i>	76
<i>SERVICES ARCHIVE</i>	77
SEARCH BY PLATE	77
SEARCH BY DATE	78
EXTRACT ARCHIVE	79
<i>COUNTERS</i>	79
<i>EMPTYING THE USED OIL CONTAINER</i>	81
<i>REPLACING THE PRINTER PAPER</i>	82

SAFETY

The following safety information is provided as guidelines to help you operate your new system under the safest possible conditions. Any equipment that uses chemicals can be potentially dangerous to use when safety or safe handling instructions are not known or not followed. The following safety instructions are to provide the user with the information necessary for safe use and operation. Please read and retain these instructions for the continued safe use of your service system.

SAFETY INFORMATION

Every craftsman respects the tools with which they work. They know that the tools represent years of constantly improved designs and developments. The true craftsman also knows that tools are dangerous if misused or abused. To reduce risk of discomfort, illness, or even death, read, understand, and follow the following safety instructions. In addition, make certain that anyone else that uses this equipment understands and follows these safety instructions as well.

READ ALL SAFETY INFORMATION CAREFULLY before attempting to install, operate, or service this equipment. Failure to comply with these instructions could result in personal injury and/or property damage.

RETAIN THE FOLLOWING SAFETY INFORMATION FOR FUTURE REFERENCE.

Published standards on safety are available and are listed at the end of this section under **ADDITIONAL SAFETY INFORMATION**.

The National Electrical Code, Occupational Safety and Health Act regulations, local industrial codes and local inspection requirements also provide a basis for equipment installation, use, and service.

The following safety alert symbols identify important safety messages in this manual.

When you see one of the symbols shown here, be alert to the possibility of personal injury and carefully read the message that follows.

EXPLOSION HAZARDS

Warning



Risk of explosion

- **Do not fill the tank to more than 80% of the maximum capacity.**
Explosion can cause death or personal injury.

HEAT/FREEZING HAZARDS

Warning



Risk of personal injury

- **Handle refrigerants and pressure vessels with caution.**
- **Wear safety glasses, gloves, and suitable clothing.**
- **Avoid contact with the skin.**
- **Avoid breathing A/C refrigerant and lubricant vapor mist.**



Contact with refrigerant can cause health risks, blindness, and other physical damage (frostbite) and possibly death.



Risk of personal injury and equipment damage

- **Always use an identifier before recovering refrigerant from a vehicle.**
- **Recover only the refrigerant the product was certified to be used with.**



Recovery of refrigerents other than the one the unit was certified for may cause injury, equipment damage and possible death. Alternate refrigerants may contain flammables such as butane or propane and can explode or cause a fire.



GENERAL SAFETY MESSAGES

⚠Warning

Risk of electric shock



- **Unplug unit before attempting any maintenance or cleaning.**
- **Do not operate unit with damaged cord or plug.**

Electric shock can cause injury or death.

⚠Warning

Risk of equipment or circuit damage



- **Always unplug equipment from electrical outlet when not in use.**
- **Never use the cord to pull plug from an outlet. Grasp the plug and pull it to disconnect.**
- **If an extension cord is necessary, a cord with a current rating equal to or more than the equipment should be used. Cords rated for less current may overheat.**
- **DO NOT adapt your unit for a different refrigerant — system failure will result. R134a or R1234yf systems have special fittings (per SAE specifications) to avoid cross contamination.**

Improper use of equipment can cause equipment or circuit damage.

⚠Warning

Risk of unexpected vehicle movement



- **Block drive wheels with chocks before performing a test with engine running.**
- **Unless instructed otherwise, set parking brake, and put gear selector in neutral or park.**
- **If the vehicle has an automatic parking brake release, disconnect the release mechanism for testing and reconnect when finished.**
- **Do not allow bystanders to stand in front of or behind the vehicle while testing.**
- **Do not leave a running engine unattended.**

A moving vehicle can cause death or serious injury.

⚠Warning

Risk of personal injury



- **Keep yourself, clothing and other objects clear of hot or moving parts.**
- **Keep hoses and cords clear of moving parts.**
- **Do not wear watches, rings, or loose clothing when working in an engine compartment.**

*Contact with hot or moving parts can cause injury.***FUME HAZARDS****⚠Warning**

Risk of fume, gas, and vapor hazards



- **Avoid breathing A/C refrigerant and lubricant vapor mist.**
- **Always perform vehicle service in a properly ventilated area.**
- **Never run an engine without proper ventilation for its exhaust.**

*Fume, gas, and vapors can cause irritation to eyes, nose, and throat, cause illness or death.***ADDITIONAL SAFETY INFORMATION**

For additional information concerning safety, refer to the following standards.

ANSI Standard Z87.1 — SAFE PRACTICE FOR OCCUPATION AND EDUCATIONAL EYE AND FACE PROTECTION - obtainable from the American National Standards Institute, 11 West 42nd St., New York, NY 10036, Telephone (212) 642-4900, Fax (212) 398-0023 -

www.ansi.org**⚠Caution**

Risk of ventilation hazards



- **Must have at least four air changes per hour or equipment should be located at least 18" (457 mm) above the floor.**

Poor ventilation can cause irritation to eyes, nose, and throat, illness, or death.

Risk of explosion



- **Do not pressure test or leak test R134a or R1234yf equipment and/or vehicle air conditioning systems with compressed air.**

*Explosion can cause injury or death.***NOTE: Use only new lubricant to replace the amount removed during the recycling process. Used lubricant should be discarded per applicable federal, state, and local requirements.****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.****⚠Danger**

Risk of explosion



- **Ensure that you are only recovering from the fitting on the AC system.**
- **Some car manufacturers on the fuel intake manifold install a connector identical to the A/C low pressure fitting.**

Explosion can cause injury or death.

⚠Warning

Risk of personal injury



- **Do not operate equipment with damaged cord or hoses.**
- **Do not operate the unit if it has been damaged until it has been examined by a qualified service personnel.**

Damaged parts can cause injury or death.

HOSES CONNECTION

Hoses may contain refrigerant under pressure. Before disconnecting the quick coupler verify the corresponding pressure in the service hoses (gauge).

SAFETY DEVICES

The machine is equipped with the following safety devices:

SAFETY PRESSURE SWITCH: Stops the compressor in case of excessive pressure.

SAFETY VALVE: Opens when the pressure inside the system reaches a level of pressure above the estimated limits.

MAIN SWITCH: Connects and disconnects machine AC electrical power. Disconnect main power cord from electrical power source before servicing.

ANY KIND OF TAMPERING OF THE SAFETY DEVICES MENTIONED ABOVE IS NOT ALLOWED.

REFRIGERANT AND LUBRICANT - PERSONAL PROTECTIVE EQUIPMENT AND PRECAUTIONS

⚠Warning

Risk of personal injury



- **Handle refrigerants and pressure vessels with caution.**
- **Wear safety glasses, gloves, and suitable clothing.**
- **Avoid contact with the skin.**

Contact with refrigerant can cause health risks, blindness, and other physical damage (frostbite).



Risk of equipment damage and personal injury

- **Should be operated by certified personnel.**
- **Do not remove the seals of the safety valves and control systems.**
- **Do not use external tanks or other storage containers that are not approved.**
- **Do not block air vents and ventilation equipment.**

Improper use of equipment can cause equipment damage and personal injury.



PRECAUTIONS FOR HANDLING AND USE OF R134a OR R1234yf FLUIDS

⚠Warning

Risk of personal injury. Risk for handling pressurized R134a or R1234yf containers

- **Avoid inhaling highly concentrated vapors.**
- **Avoid use of R134a or R1234yf near open flames and incandescent elements.**
- **Wear protective garments such as to ensure that no jets of liquid or gas can come into contact with the skin.**
- **Wear goggles to avoid contact with the eyes.**
- **Avoid dispersing the R134a or R1234yf refrigerant fluid utilized in the machine into the atmosphere.**

Mishandling of pressurized R134a or R1234yf containers can cause loss of Consciousness, injury or death.

LEAK STOP

Warning

- Recovery/recycling equipment must be used with refrigerants authorized by the manufacturer.
- The authorized refrigerants are listed in the user manual or are available through technical assistance.
- The manufacturer prohibits the use of recovery/recycling equipment on A/C systems containing chemical and other leak sealants.
- The use of unauthorized refrigerants or sealants will invalidate the warranty.

INTRODUCTION

Model No. ECO NEXT ONE "B", ECO NEXT ONE HYBRID "B", ECO NEXT ONE HFO "B" are ETL Laboratories approved, in compliance with SAE J2788 and J2843. We are dedicated to solving the issues surrounding the safe containment and proper management of refrigerants. Your new machine incorporates the latest technology and state of the art features to aid you in servicing R134a or R1234yf air conditioning and refrigeration systems. We hope you get as much enjoyment using this equipment as we did designing and building it.

CERTIFICATION

All technicians opening the refrigeration circuit in automotive air conditioning systems must now be certified in refrigerant recovery and recycling procedures to be in compliance with Section 609 of the Clean Air Act Amendments of 1990. For information on certification call MACS Worldwide at (215) 631-7020.

ABOUT THIS MANUAL

⚠CAUTION



This manual includes a safety summary, machine preparation for use, operation procedures, and maintenance instructions, for your Air Conditioning Service Center.



Anyone intending to use the machine should become familiar with ALL the information included in this manual (especially the safety summary) before attempting to use it.

Before operating this machine for the first time, perform all preparation for use instructions.

If your new machine is not properly prepared to perform a service, your service data could be erroneous. In order to properly perform a complete air conditioning service, follow all procedures in the order presented. Please take the time to study this manual before operating the machine. Then keep this manual close at hand for future reference. Please pay close attention to the safety summary and all warnings and cautions provided throughout this manual. To activate the published warranty, mail the attached warranty card.

⚠CAUTION



The machine is intended for indoor use only.

ABOUT YOUR AIR CONDITIONING SERVICE CENTER

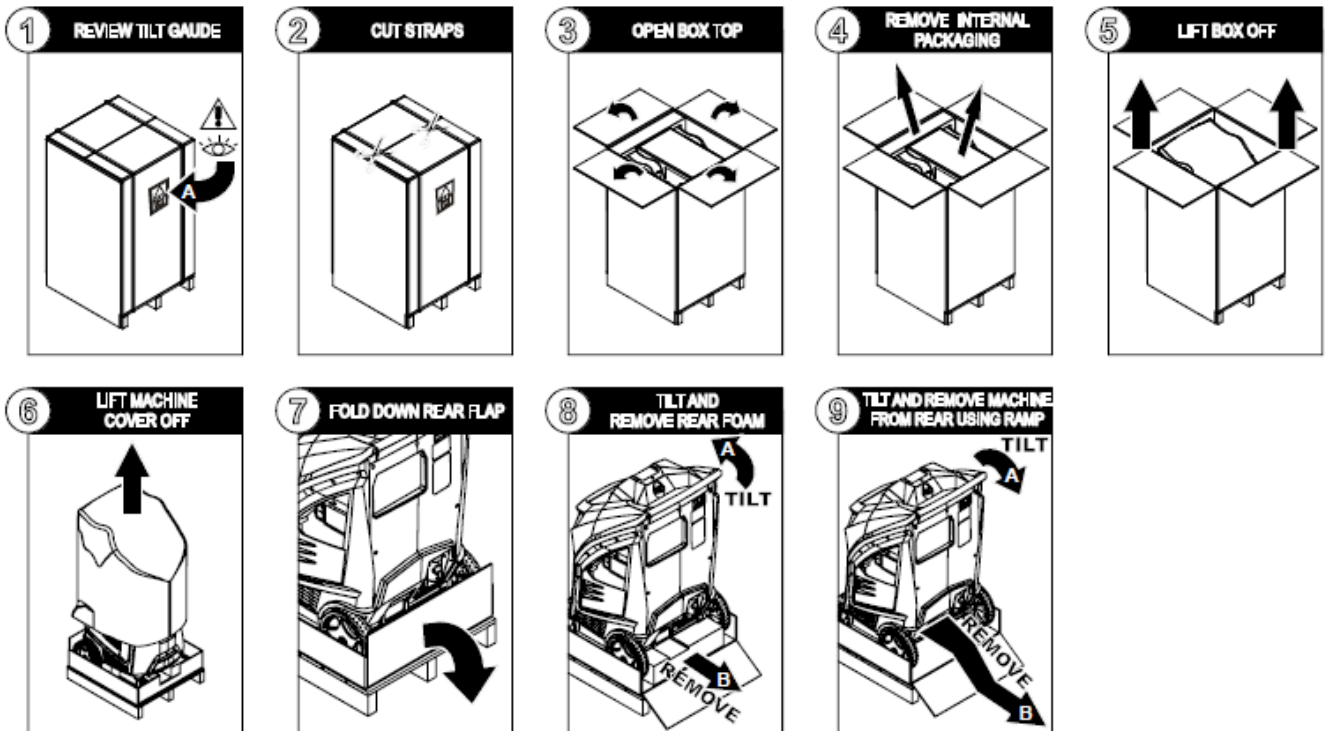
Your machine incorporates a highly accurate electronic scale for determining charging weights, etc. Other functions can also be performed with the electronic scale as you will discover during the operating procedures. Either standard or metric units of measure can be selected. This machine is a piece of equipment designed to recover R134a or R1234yf from air conditioning systems (A/C) for vehicles, to operate within the objectives of the Montreal Protocol.

CONDITIONS OF WARRANTY

Refer to CONDITIONS OF WARRANTY booklet supplied with the machine.

- 1 Review tilt gauge and accessory kit seal
- 2 Cut straps
- 3 Open box top
- 4 Remove internal packaging
- 5 Lift box off
- 6 Lift machine cover off
- 7 Fold down rear flap
- 8 Tilt and remove rear foam
- 9 Tilt and remove machine from rear using ramp

UNPACKING INSTRUCTIONS



NOTE: Keep the original packaging, and reuse it for further transport

NOTE: use the handle (ref.7, Fig.9) to move the machine.

GENERAL INFORMATION

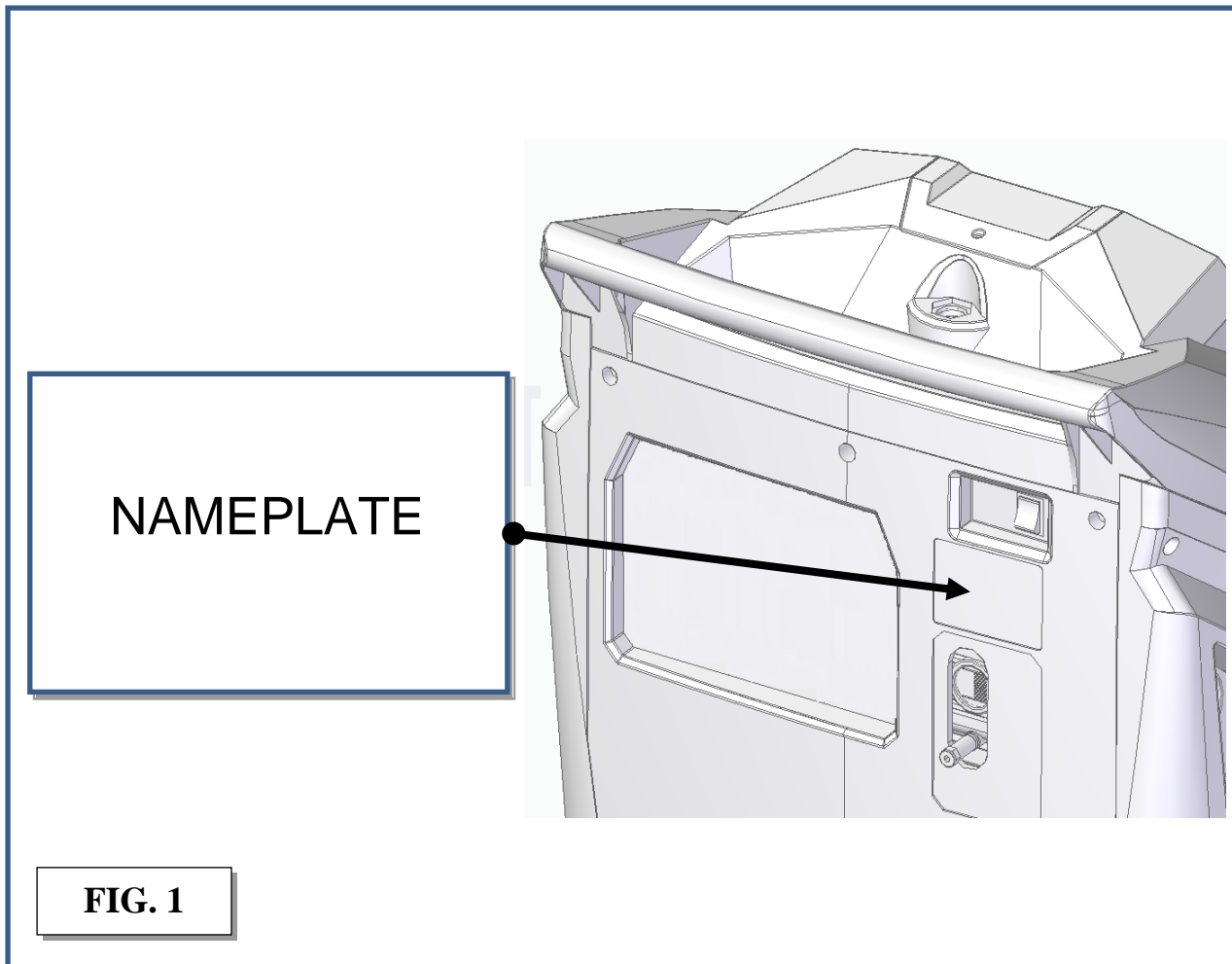
Machine model information are printed on the data plate (see Fig.1). General features of the machine::

Height: 1080 mm Width: 660 mm
Depth: 690 mm Weight: 63 kg
Operating temperature 10/50°C Storage temperature -25/+50°C

Voltage (V)	Power (W)	Frequency (Hz)
110	1100	50/60

Like any equipment with moving parts, the machine inevitably produces noise. The construction system, paneling, and special provisions adopted by the Manufacturer are such that during work the average noise level of the machine is not in excess of 64 dB (A).

CAUTION: avoid the use of external extensions and verify that all electrical systems and devices connected comply with the regulations in force and in good state of preservation



PRINCIPLES OF OPERATION

In a single series of operations, the machine permits recovering and recycling refrigerant fluids (R134a for ECO NEXT ONE "B" and ECO NEXT ONE HYBRID "B" or R1234yf for ECO NEXT ONE HFO "B", depending on machine model) with no risk of releasing the fluids into the environment, and also permits purging the A/C system of humidity and deposits contained in the oil.

The machine is in fact equipped with a built-in evaporator/separator that removes oil and other impurities from the refrigerant fluid recovered from the A/C system and collects them in a container for that purpose.

The fluid is then filtered and returned perfectly recycled to the bottle installed on the machine.

The machine also permits running certain operational and seal tests on the A/C system.

SETUP

RELEASE REFRIGERANT SCALE

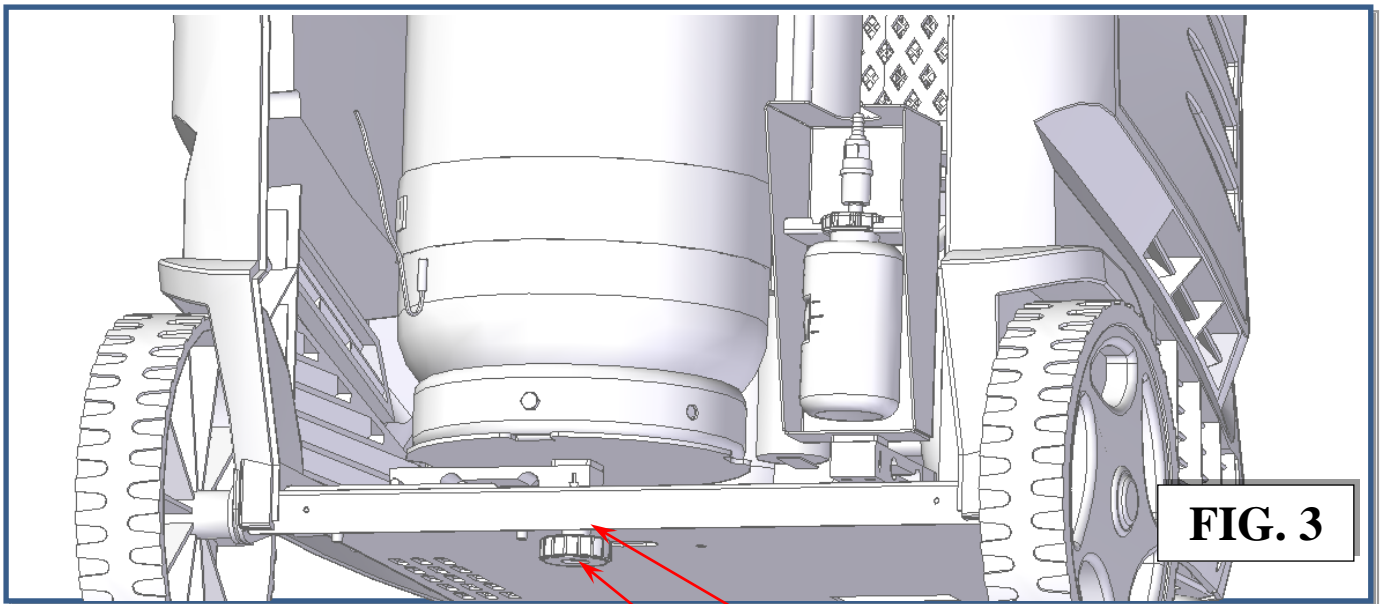
1. In order to remove the protections under the refrigerant scale the locking nut has to be untightened (ref.1, Fig.3), the knob (ref.2, Fig.3) has to be unscrewed, removed and stored in a safe place.
2. Connect the machine to the electrical supply and switch it on
3. Check if the value of refrigerant scale is correct.

LOCK REFRIGERANT SCALE

NOTE: in the event that the equipment has to be transported, the refrigerant bottle scale should be locked in place as follows:

1. Switch the machine on.
2. Tighten the knob (ref.2, Fig.3) until the display signals ZERO availability. Tighten the nut (ref.1, Fig.3)

NOTE: Check that the oil containers are properly placed in their housing



1

2

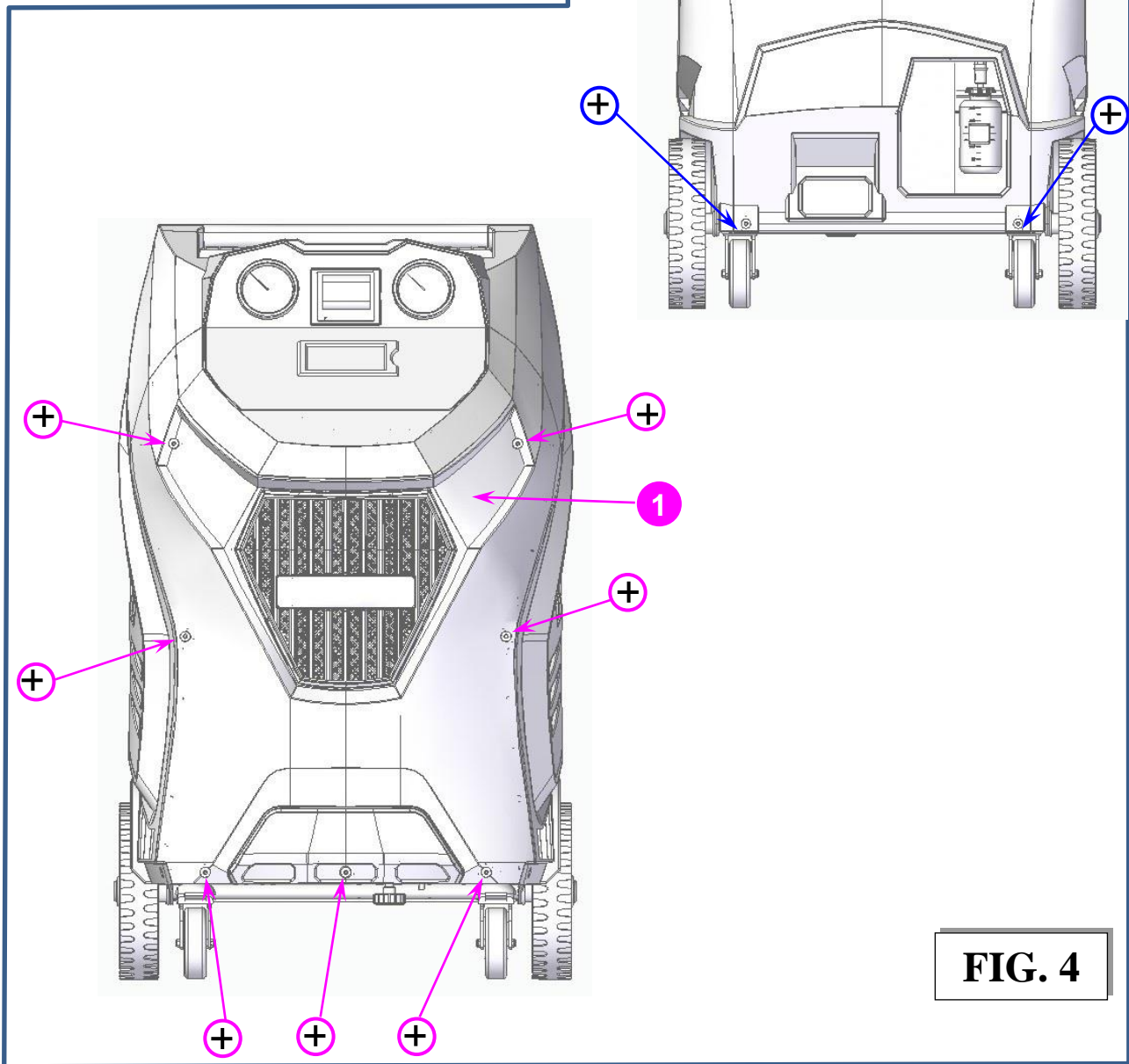
THE MACHINE

PLASTIC COVER

Refer to Fig.4.

1. Front plastic cover
2. Rear plastic cover
3. Upper plastic cover

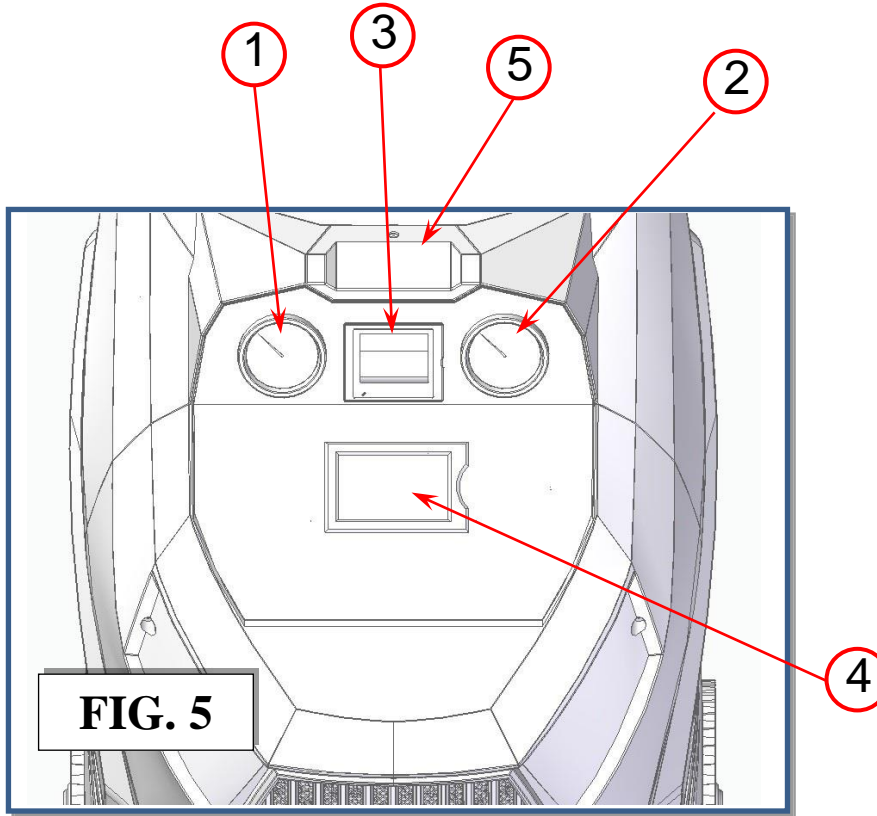
Disassembly: Screw off screws marked (+)

















CONTROL PANEL

Refer to Fig.5:

- 1) High pressure gauge
- 2) Low pressure gauge
- 3) Printer
- 4) 5" touchscreen display
- 5) Status light



DISPLAY ICONS

ICON	DESCRIPTION	FUNCTION
	AUTOMATIC PROCEDURE	activates a menu that helps the user set up an automatic recover/vacuum/leak test/charge sequence.
	MANUAL PROCEDURE	activates a menu that helps the user to perform a manual operation:
	STANDARD RECOVERY	activates a menu that helps the user to perform a recovery/recycling phase (without SAE J-2788 or SAE J-2843 compliance)
	VACUUM	activates a menu that helps the user to perform a vacuum phase
	OIL INJECTION	activates a menu that helps the user to perform a oil injection followed by a gas filling phase
	GAS CHARGE	activates a menu that helps the user to perform a gas CHARGE phase
	SETUP	activates the setup menu of the service station
	MAINTENANCE	activates the maintenance menu of the service station
	DATA	activates a menu that contains all the information of the service station
	ENTER	Enter symbol, to confirm
	BACK	Back symbol, to return back without confirm
	STOP	Stop symbol, to stop a phase
	PRINT	Print symbol, to print data
	ARROW	Arrow symbol, to move in the menu

BASIC COMPONENTS

Refer to Fig.7, Fig.8, Fig.9, Fig.10, Fig.11, Fig.12, Fig.13:

- a) USB port
- b) Status light
- c) Main switch
- d) Magnet for reference weight
- e) Gas analyzer (option on ECO NEXT ONE HYBRID "B", ECO NEXT ONE HFO "B")
- f) Printer
- g) ---
- h) Ventilation grid
- i) ---
- j) Oil cartridge
- k) Oil scale
- l) Tank scale
- m) Condenser + Fan
- n) Front swirling wheel
- o) Manifold
- p) Revolving control panel
- q) ---
- r) Oil pump filling cap
- s) Refrigerant tank lock knob
- t) Rear wheel
- u) New oil container (ECO NEXT ONE "B" only)
- v) Used oil container
- w) Refrigerant tank
- x) ---
- y) ---
- z) Dryer filter
- 1) Vacuum pump
- 2) Compressor
- 3) LP hybrid quick fitting (ECO NEXT ONE HYBRID "B", ECO NEXT ONE HFO "B" only)
- 4) HP hybrid quick fitting (ECO NEXT ONE HYBRID "B", ECO NEXT ONE HFO "B" only)
- 5) LP service hose outlet
- 6) HP service hose outlet
- 7) Handle
- 8) Contaminated purge connection
- 9) Motherboard

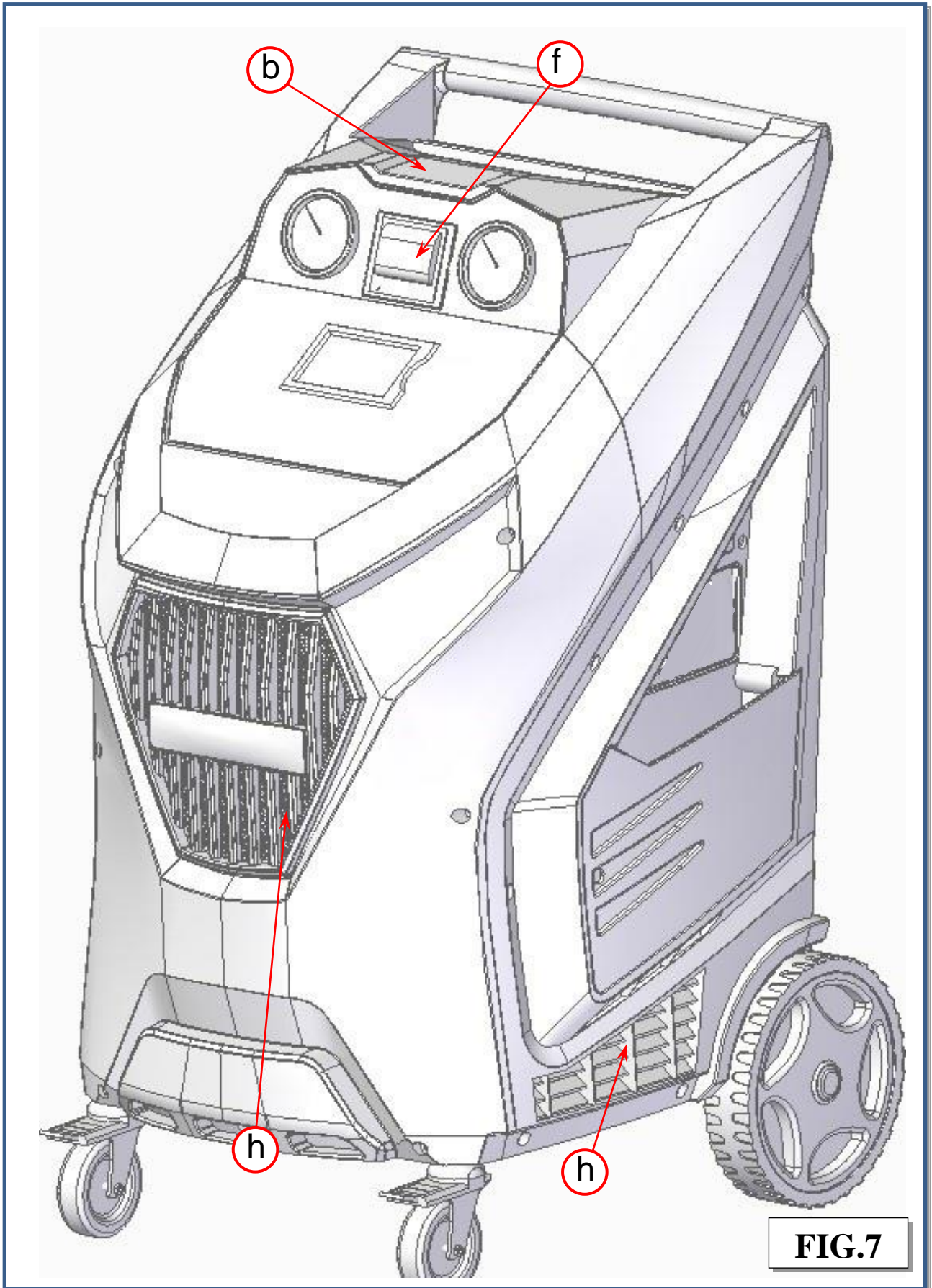
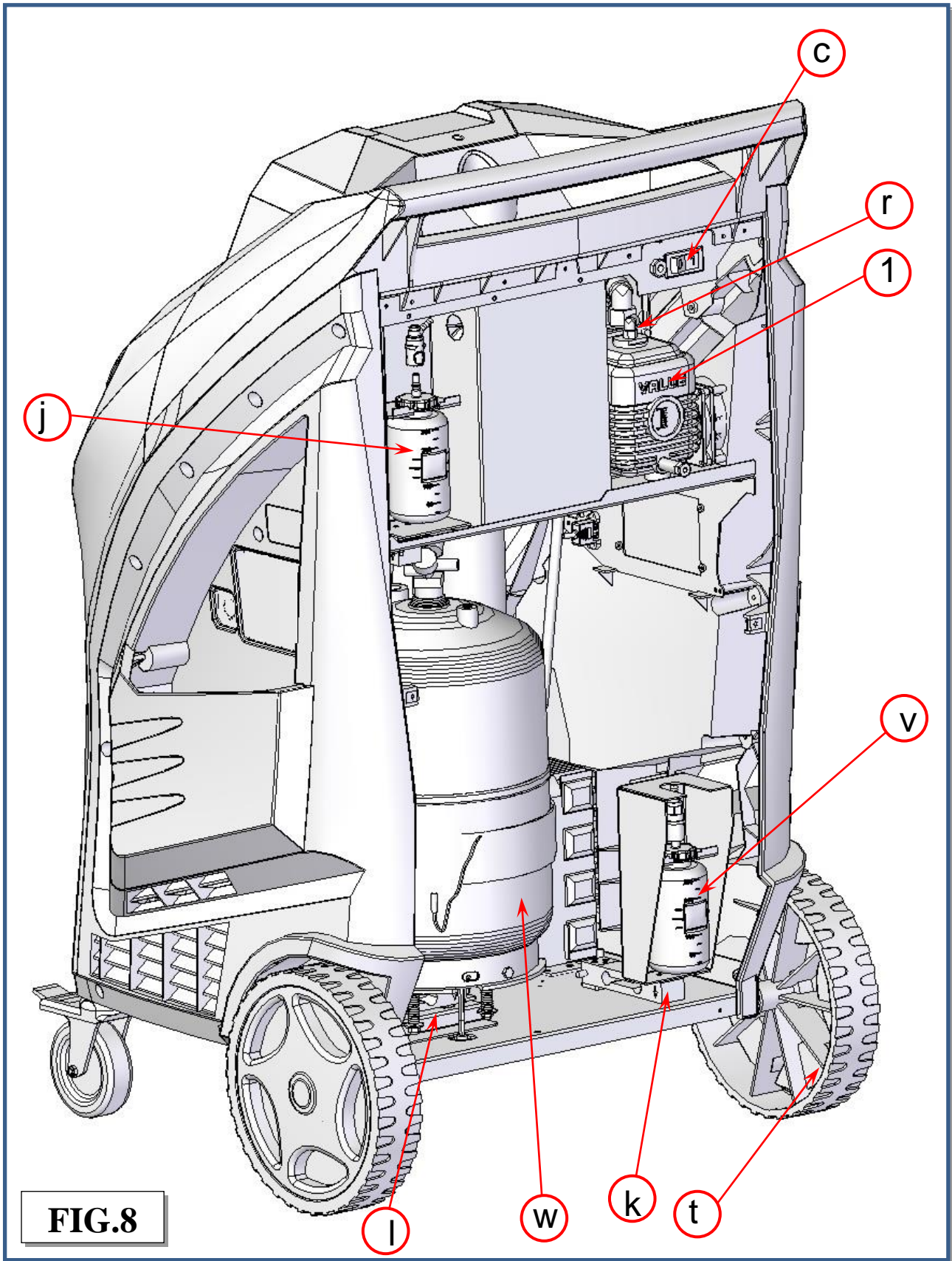


FIG.7



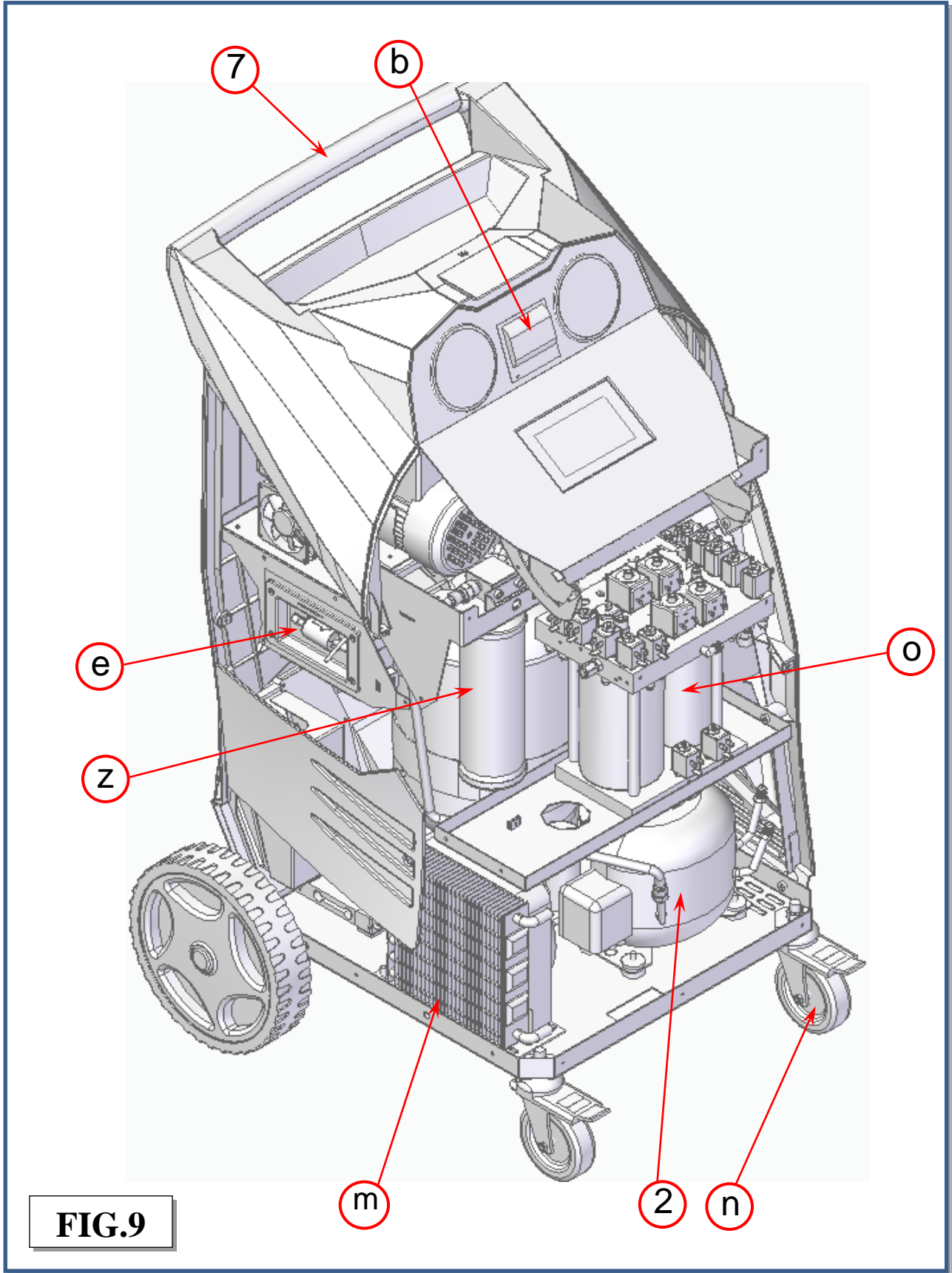
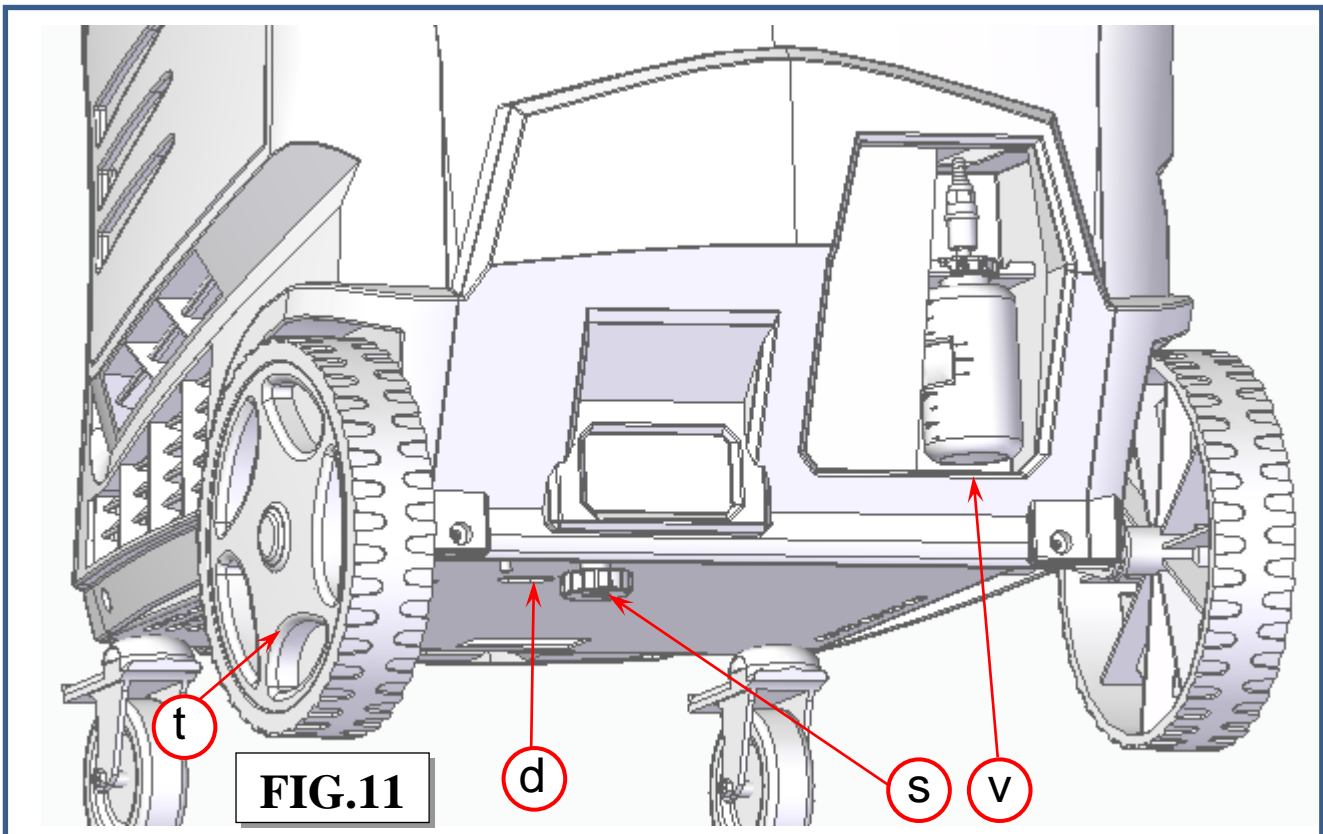
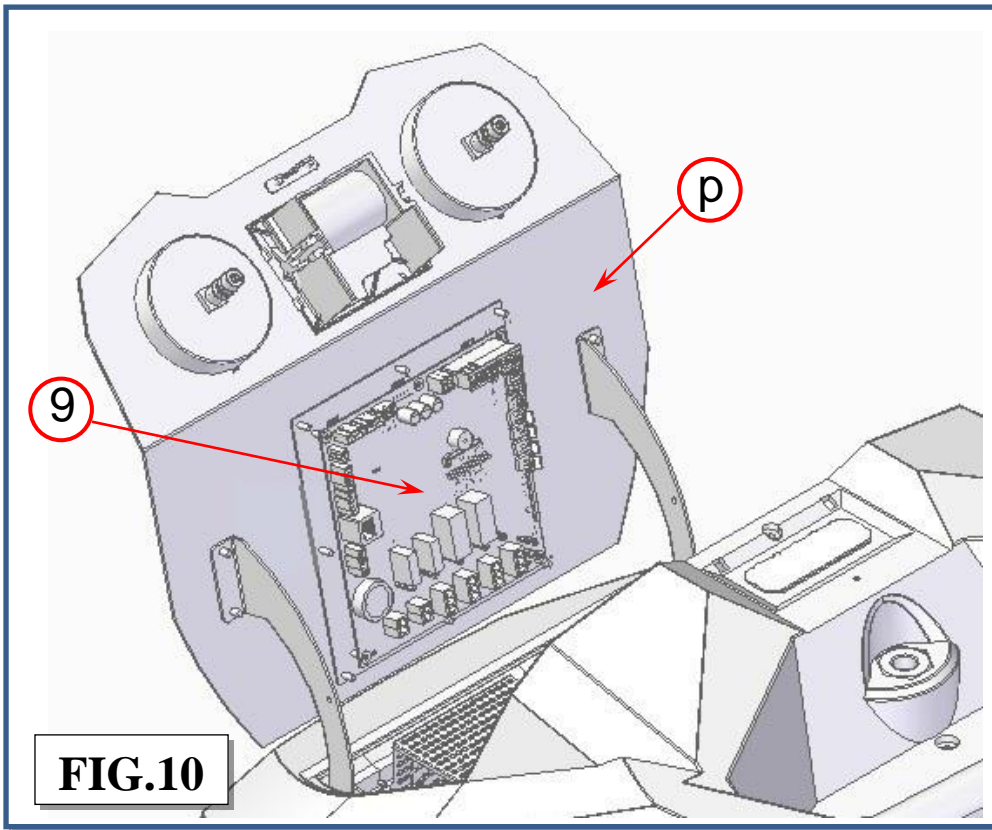


FIG.9



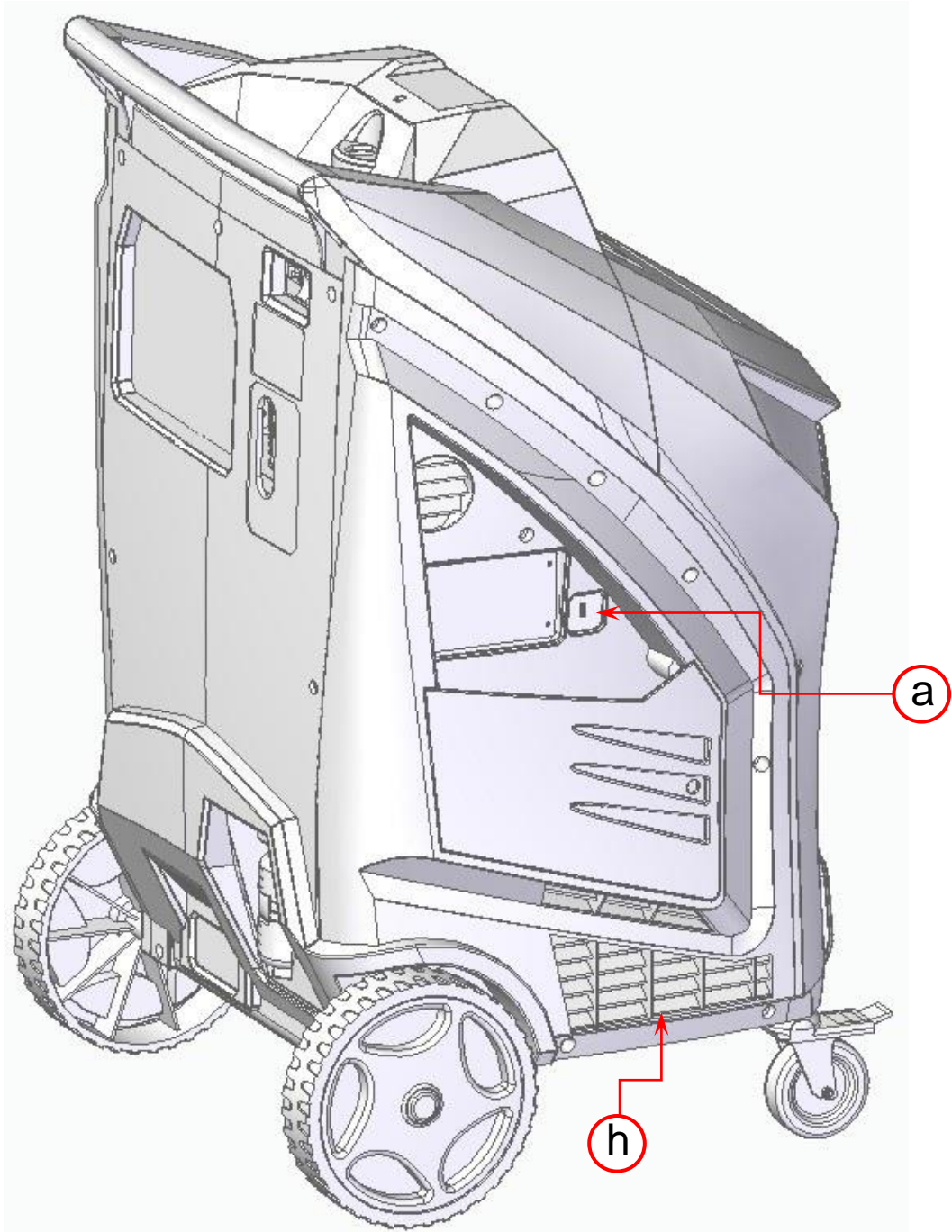


FIG.12

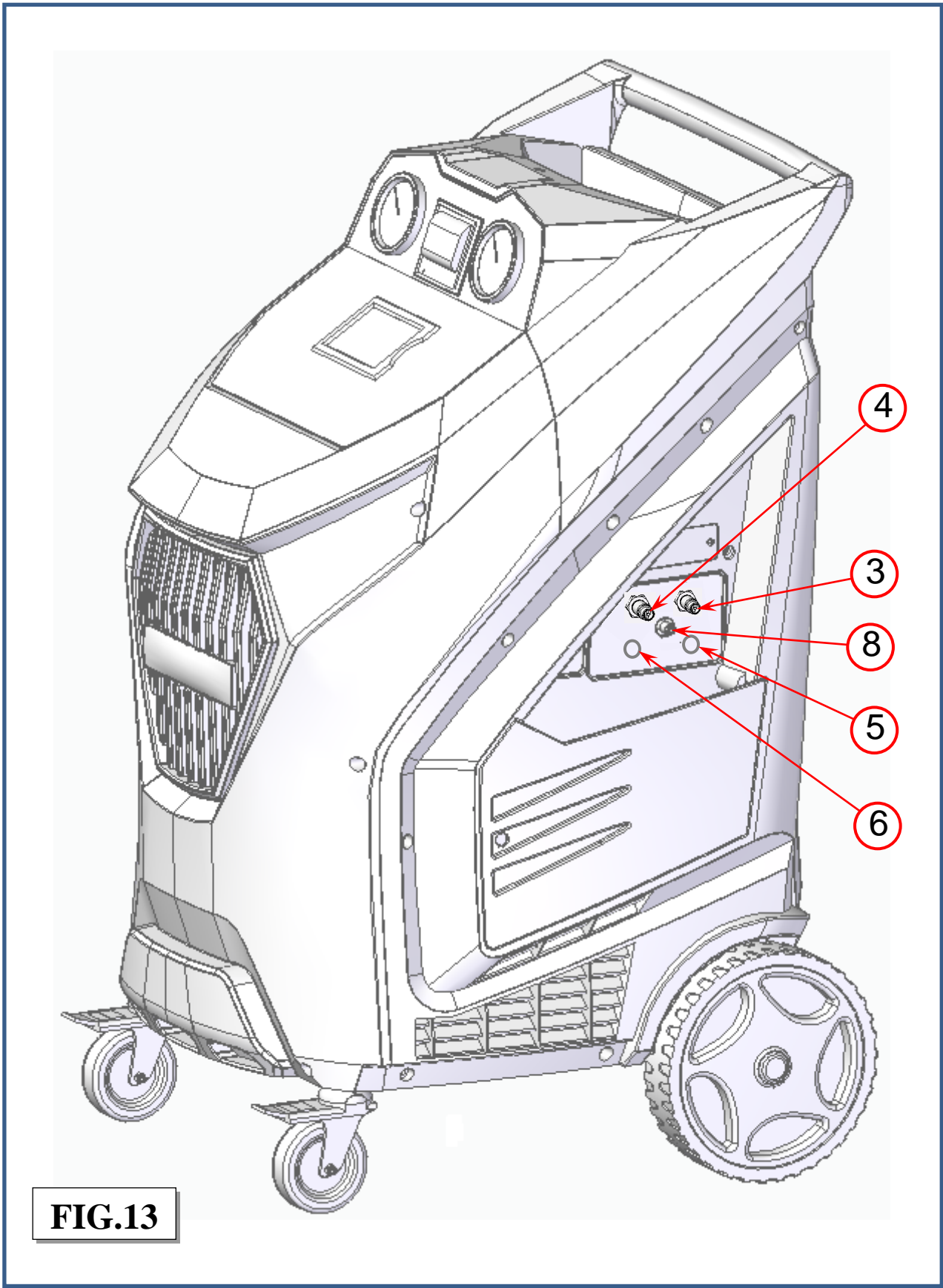


FIG.13

LIGHT SIGNALS

The machine is provided with a STATUS Light (ref b, Fig. 7).

Light signals are the following:

- GREEN (STEADY): Unit ready
- GREEN (FLASHING): Action completed
- YELLOW: Unit working
- RED: Needs attention or there is a problem

ALARMS

HIGH PRESSURE ALARM: Beeper advise when the pressure of the fluid in the circuit is too high (20bar). The recovery operation is automatically interrupted.

TANK FULL: Beeper advise when the tank is filled to more than 80% of maximum capacity (10kg for 12l tank). The RECOVERY operation is automatically interrupted (to cancel this alarm, charge one or more A/C systems before recovering any more refrigerant).

TANK EMPTY: Beeper advise when the quantity of refrigerant fluid contained in the tank is low (less than 2kg)

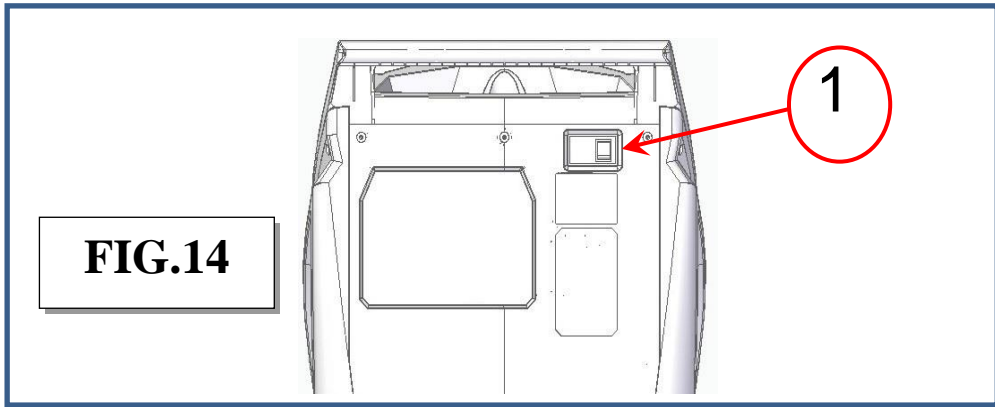
SERVICE ALARM: Beeper advise whenever the total recovered refrigerant amounts to 70 kg for R134a or 140 kg for R1234yf. To deactivate the alarm, replace the filters and the vacuum pump oil. A code for canceling the alarm is supplied with the spare filters.

ERROR CODES

- System leaks
- Presence of refrigerant into the a/c system
- Low vacuum
- Empty oil container
- Low gas availability
- Vacuum leaks (a/c system flushing)
- Pressure leaks (a/c system flushing)
- System empty
- Communication error
- Low oil volume
- Check connections
- Empty external bottle
- High pressure alarm

PRELIMINARY OPERATIONS

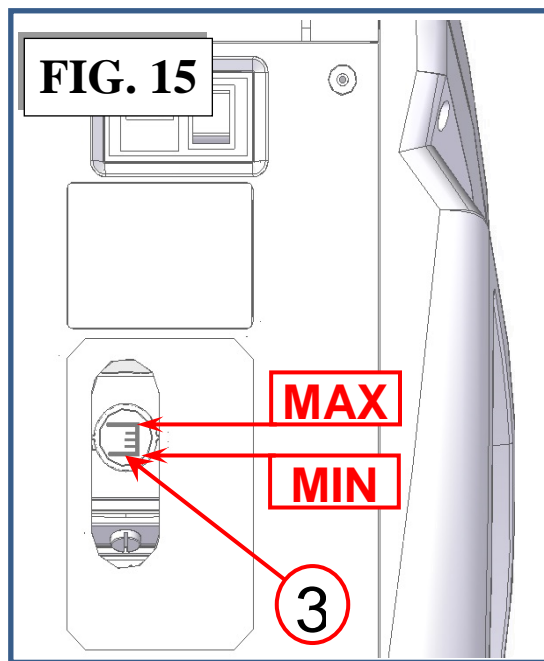
Check that the main switch (ref.1, Fig.14) is set to O. Connect the machine to the electrical supply and switch on.



1 The user can verify the all data of the machine:

- Check that the OIL containers aren't empty, if necessary operate the substitution as described in ORDINARY MAINTENANCE section.
- Check that the oil level in the used oil container is < 200 cc, if necessary empty it as described in ORDINARY MAINTENANCE section.
- Check on the machine display that there are at 1360 g / 3 lbs of refrigerant in the tank. Should this not be the case, fill the on-board machine tank from an external tank of appropriate refrigerant following the procedure described in the TANK FILLING (ORDINARY MAINTENANCE)

Check that the vacuum pump oil level indicator (ref.3, Fig.15) shows at least one-half full. If the level is lower, add oil as explained in the MAINTENANCE section.



QUICKSETUP

NOTE : The QUICKSETUP is shown after the activation of the machine

The first time the machine is used, a quicksetup guide appears: the operator is guided through the steps described at the start of the PRELIMINARY OPERATIONS section. The quicksetup can also be found in the SETUP MENU, select QUICKSETUP. The following screen is displayed:



Press ENTER to proceed with QUICKSETUP, the user will be guided through the following steps:

- Language
- Measure units
- License plate recording
- Date and time
- Setup header print
- Vacuum settings
- Leak check test
- Tank filling

Follow the instructions displayed. At the end of the procedure, press ENTER to print a summary report of the guided procedure. Press ESC to exit.

NOTE: If the guided procedure is not completed, it will be displayed again the next time the machine is switched on.

NOTE: To display the QUICKSETUP at any time, select from the menu of the same name under SETUP.

AUTOMATIC PROCEDURE

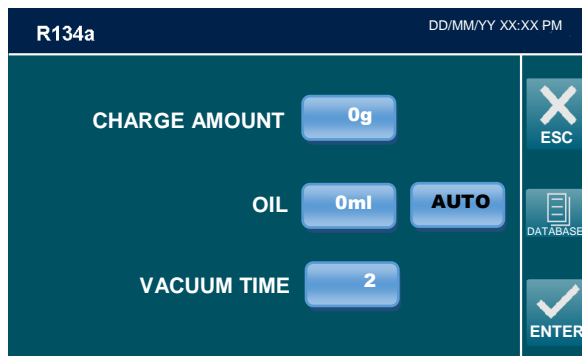
In the automatic mode, all the operations are performed automatically: recovery and recycling, oil discharge, vacuum, new oil reintegration, and charging. The values for the quantity of gas recovered, quantity of oil recovered, vacuum time, quantity of oil reintegrated, and quantity of gas charged into the system are displayed and printed (optional) at the end of each single operation.

Connect the hoses to the A/C system with the quick-connect couplings bearing in mind that BLUE must be connected to the low-pressure side and RED to high pressure. If the A/C system is equipped with a single quick-connect coupling for high or low pressure, connect only the relative hose.

From the MAIN MENU:



Select the AUTOMATIC PROCEDURE , the following screen is displayed:



EDIT VACUUM DATA:

Use the KEYPAD to insert the new value of the VACUUM TIME, press ENTER to confirm, ESC to return back.

NOTE: use the VACUUM SETTING to change the duration of the LEAK CHECK.

EDIT OIL DATA (ECO NEXT ONE "B" only)

Select the OIL display zone, then use the keys 0 to 9 to type the volume of oil to be injected, or select AUTO to reintegrate the same quantity of oil extracted during Recovery.



EDIT GAS FILLING DATA:

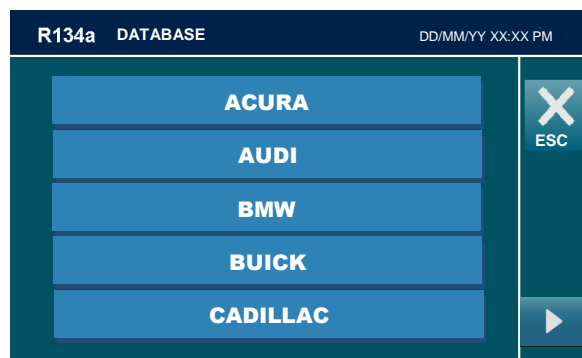
NOTE: For most systems the quantity of fluid to be refilled is indicated on a plate that is in the vehicle's engine compartment. If this quantity is not known, look for it in the relevant manuals.

Select CHARGE AMOUNT **0g**, then use the touchscreen keys 0 to 9 to type the quantity (in grams) of refrigerant to be charged into the A/C system.

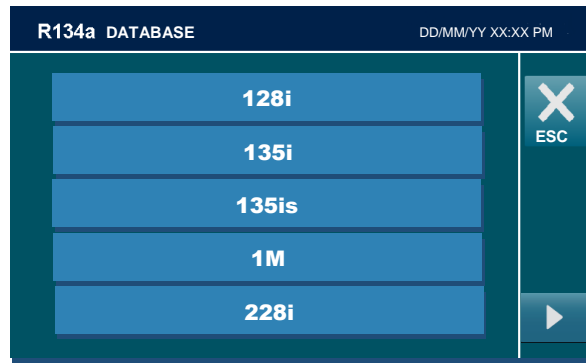


Or, in installed, press DATABASE button, the following screen will be displayed:

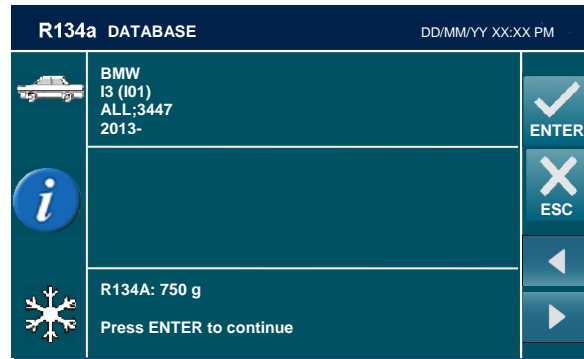
Select the vehicle typology



Select the brand of vehicle you are servicing, (use the arrow keys to change page if necessary), the following screen is displayed (i.e. for BMW):

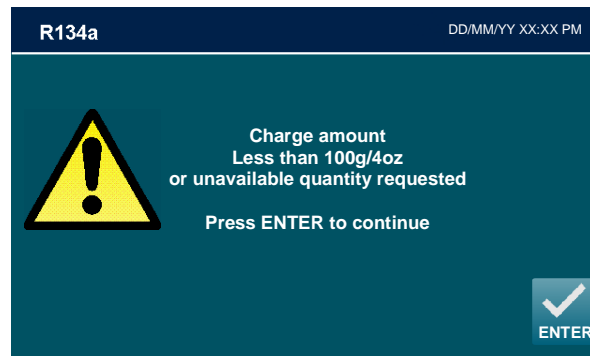


Select the model of vehicle you are servicing. (If you wish to install DATABASE contact the machine dealer.), all the information about this model is displayed:



Press ENTER to confirm, and insert the value into the GAS FILLING field.

NOTE: if gas filling is lower than 100 grams the following popup warning will be displayed:




Gas filling lower than 100 grams is not allowed, press ENTER then digit an higher amount of gas filling.

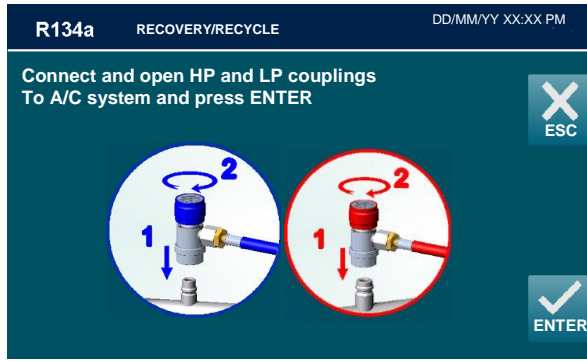
START AUTOMATIC PROCEDURE:

After selected all the procedure data, press ENTER to continue.

NOTE: if ECO NEXT ONE HFO "B" or with analyzer enabled, the gas analysis will be performed before recovery

NOTE: the STOP button  literally pause the running procedure. From the pause it is possible to exit to the main menu from all the procedure except the recovery and the charge ones. This because by not completing a recovery procedure it is possible that some refrigerant remain in the internal circuit and it may compromise the next procedure. In the final phase of the charge the procedure hasn't to be paused or stopped to avoid to compromise the precision of the procedure.

AUTOMATIC PROCEDURE will start, and the following screen will be displayed:

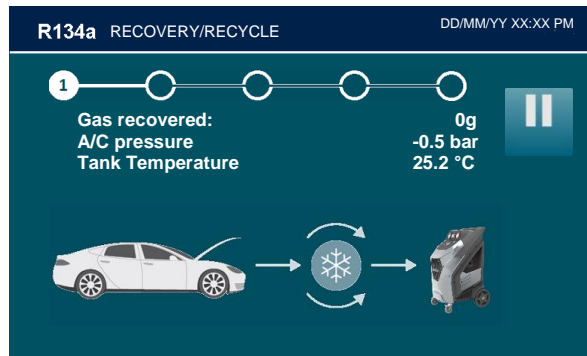


Connect and open the coupling connected to the A/C system, then press ENTER, press ESC to return back

The following screen will be displayed reminding you to check if the used oil container is not full.

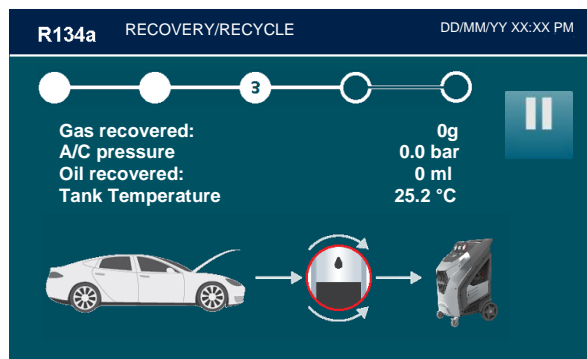


Press ENTER



During the recovery phase, the machine displays the quantity of refrigerant recovered, in grams. Upon completion of recovery, the machine will stop and discharge, while automatically displaying the used oil extracted from the A/C system during the recovery phase.

The oil discharge operation lasts 4 minutes.

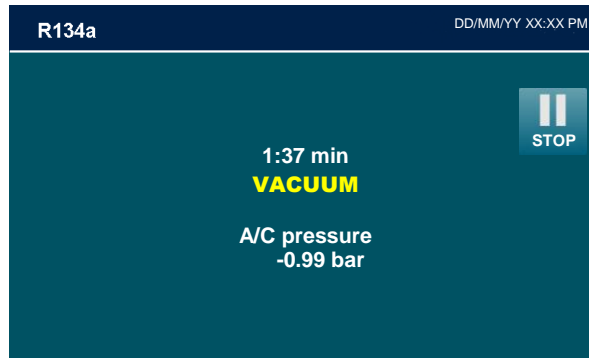


The machine checks whether or not there is air in the tank and, if necessary, purges the non-condensable gas; The machine will automatically discharge any non-condensable gas.

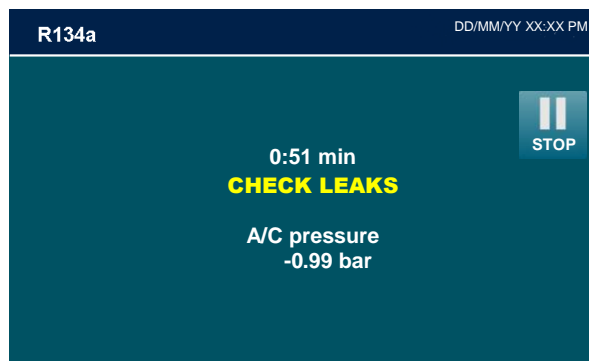
Allowing the machine to fully complete the procedure will reduce the risk of return flows, which may cause excessive non-condensable gas to be recharged into the air conditioning system. If

any residual refrigerant in the A/C system should increase in pressure during this phase, the machine will automatically begin recovering the refrigerant.

Completed the recovery phase, the machine automatically goes on to running the vacuum phase for the preset time:



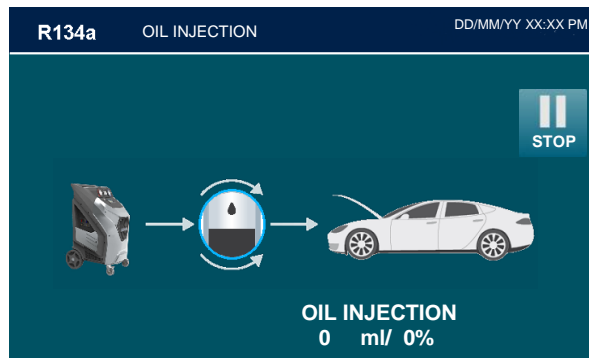
At the end of this phase, the machine will test for leaks in the A/C system:



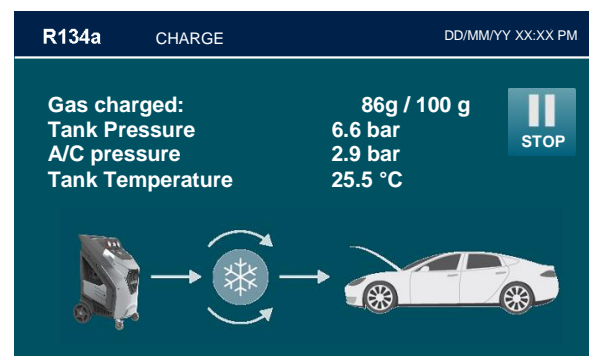
(WARNING! If vacuum time < 15 minutes this test is not reliable). If leaks are found, the machine will stop automatically and display the A/C SYSTEM LEAKS alarm.

Detection of micro-leaks is not guaranteed.

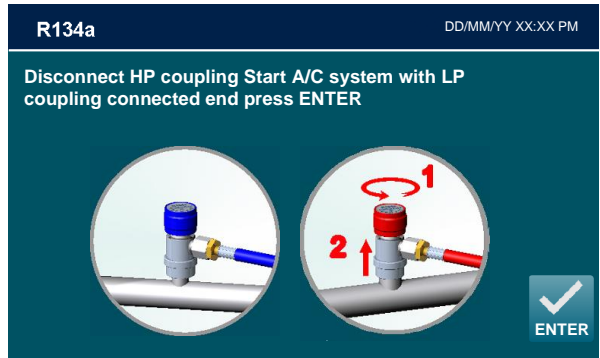
Upon completion of the vacuum phase, new oil will be automatically reintegrated: the volume will be equal to that of the used oil discharged or to the volume set by the operator.



When completed, the system will go on to charging with the preset quantity of refrigerant.

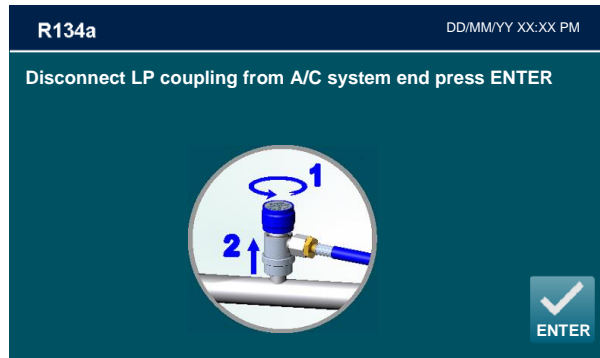


Then the following screen will be displayed.

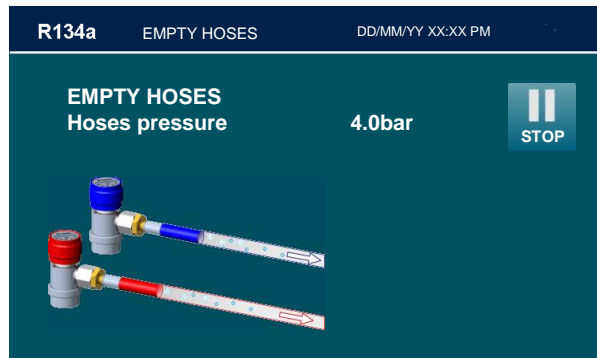


Disconnect HP coupling. Start A/C system with LP coupling connected, press ENTER

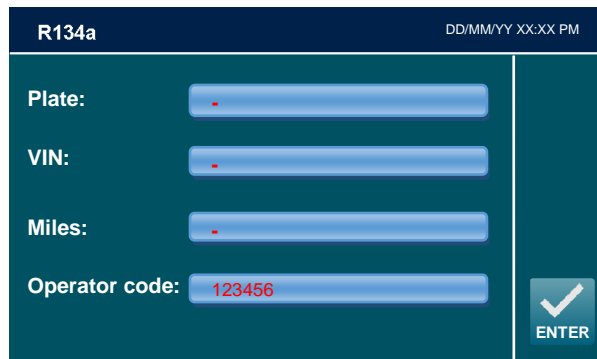
The A/C system will recover the refrigerant into the service hoses, then the following screen will be displayed:



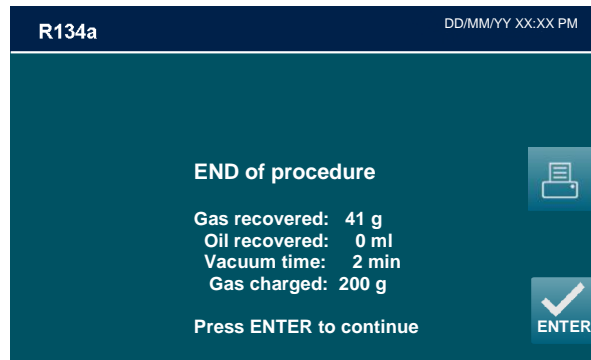
Disconnect LP coupling from A/C system, then press ENTER to continue:



The machine will recover the residual refrigerant into the service hoses, then the following screen will be displayed:



You are asked to enter the vehicle's PLATE, the FRAME NUMBER, the KM/Miles and the Operator Code. Press ENTER.



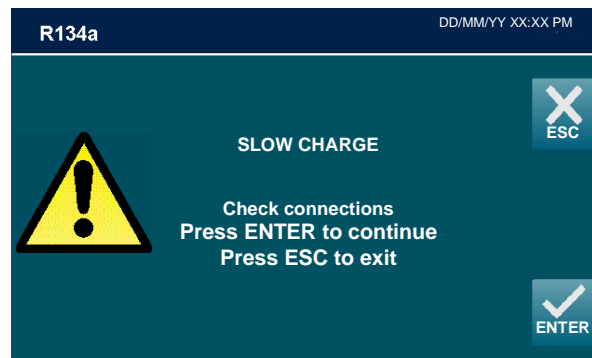
A summary of the amount of gas recovered, oil recovered, minutes of the vacuum phase and the amount of gas charged is displayed.

Press the symbol  for printing (Optional)

Automatic procedure completed successfully, press ENTER to return to the main page.

NOTE: The automatic procedure may be run even if the A/C system is empty. In this case the machine will begin with the vacuum phase.

NOTE: near the end of the charge could be displayed the following alarm message:



The SLOW CHARGE alarm occurs when the tank pressure and the system pressure equalize (due to low pressure, excessive system temperatures, etc.). Check connections then press ENTER to continue, or press ESC to exit.

MANUAL PROCEDURE

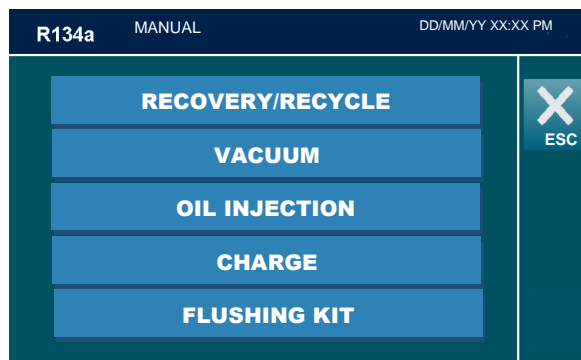
In the MANUAL PROCEDURE, all the operations can be performed singly to the exception of the recovery/recycling phase, which is automatically followed by used oil discharge.

The values for the quantity of gas recovered, quantity of oil recovered, vacuum time, quantity of oil reintegrated, and quantity of gas charged into the system are automatically printed at the end of each single operation.

From the MAIN MENU:




Select the MANUAL PROCEDURE , the following screen will be displayed:



RECOVERY

Connect the hoses to the A/C system with the quick-connect couplings, bearing in mind that BLUE must be connected to the low-pressure side and RED to high pressure.

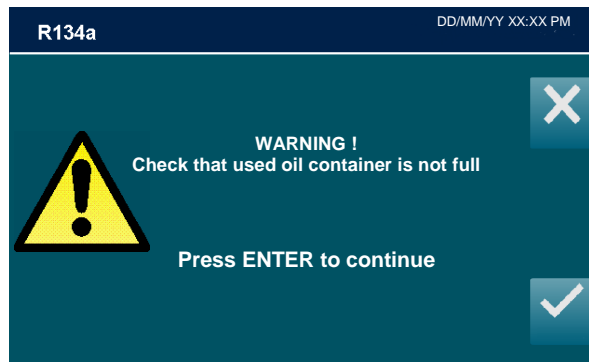
If the A/C system is equipped with a single quick-connect coupling for high or low pressure, connect only the relative hose.

NOTE: the STOP button  literally pause the running procedure. From the pause it is possible to exit to the main menu from all the procedure except the recovery and the charge ones. This because by not completing a recovery procedure it is possible that some refrigerant remain in the internal circuit and it may compromise the next procedure

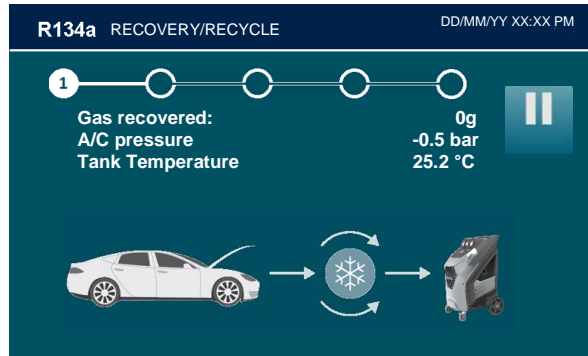
From MANUAL PROCEDURE, RECOVERY/RECYCLE, the following screen will be displayed:

NOTE: if ECO NEXT ONE HFO "B" or with analyzer enabled, the gas analysis will be performed before recovery

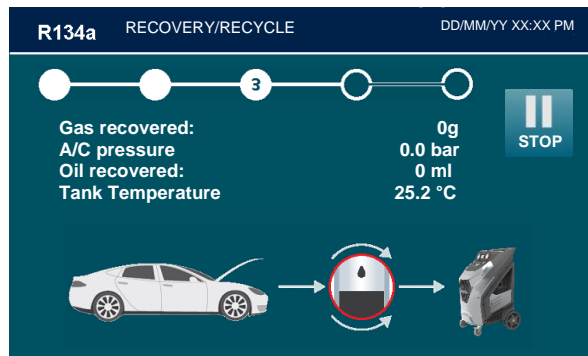
The following screen will be displayed reminding you to check if the used oil container is not full.



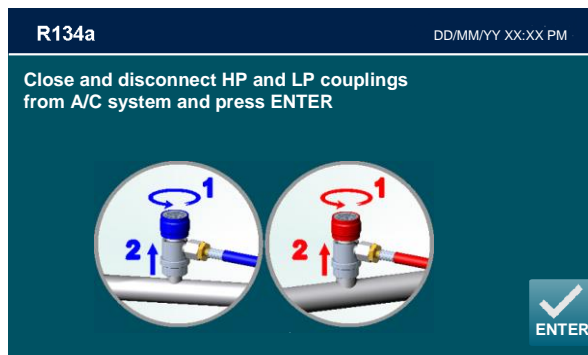
The RECOVERY PROCEDURE will start, and the following screen will be displayed:



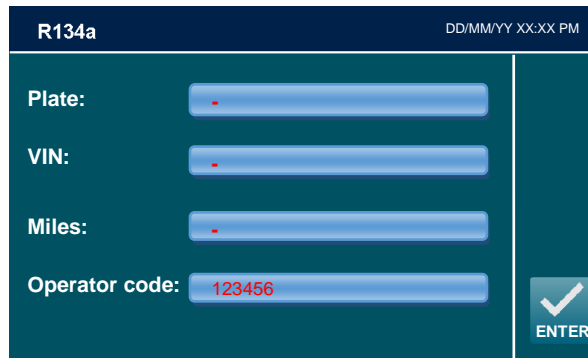
During the recovery phase, the machine displays the quantity of refrigerant recovered, in grams.



Upon completion of recovery, the machine will stop and discharge, while automatically displaying the used oil extracted from the A/C system during the recovery phase. The oil discharge operation lasts 4 minutes

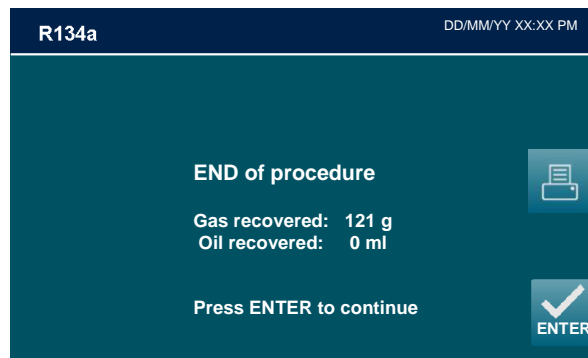


Unscrew and disconnect HP and LP coupling from A/C system end press ENTER.



The screenshot shows a dark blue interface for the R134a recovery procedure. At the top left is the label 'R134a' and at the top right is the date and time 'DD/MM/YY XX:XX PM'. Below this are four input fields: 'Plate:', 'VIN:', 'Miles:', and 'Operator code:'. The 'Operator code:' field contains the value '123456'. To the right of the input fields is a button with a white checkmark and the text 'ENTER'.

You are asked to enter the vehicle's PLATE, the FRAME NUMBER, the KM/Miles and the Operator Code. Press ENTER.



The screenshot shows the completion screen for the R134a recovery procedure. At the top left is the label 'R134a' and at the top right is the date and time 'DD/MM/YY XX:XX PM'. The main text reads 'END of procedure'. Below this, it displays 'Gas recovered: 121 g' and 'Oil recovered: 0 ml'. At the bottom, it says 'Press ENTER to continue'. There are two buttons on the right: a printer icon and a button with a white checkmark and the text 'ENTER'.

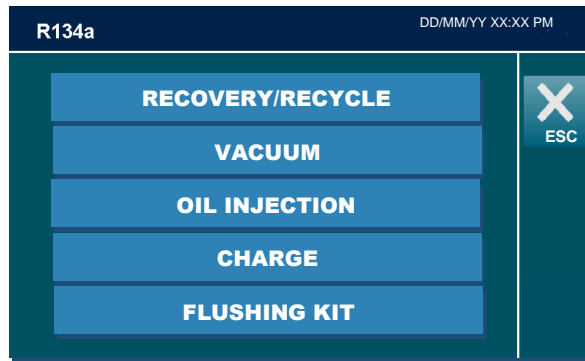
A summary of the amount of gas recovered and oil recovered, is displayed.

Press the symbol  for printing

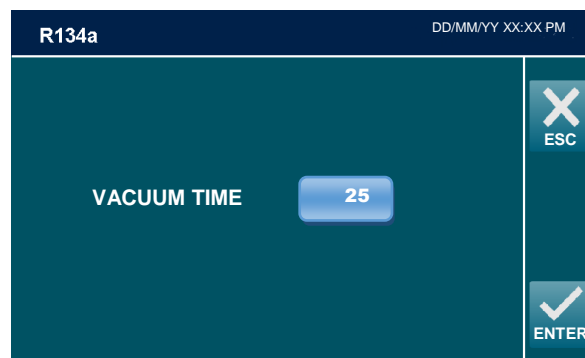
Manual recovery procedure completed successfully, press ENTER to return to the manual operation page.

VACUUM

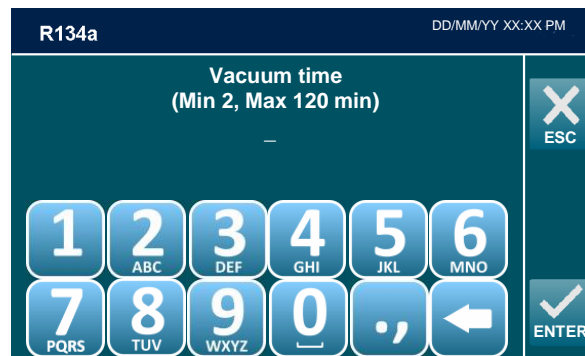
From the MANUAL PROCEDURE, select VACUUM.



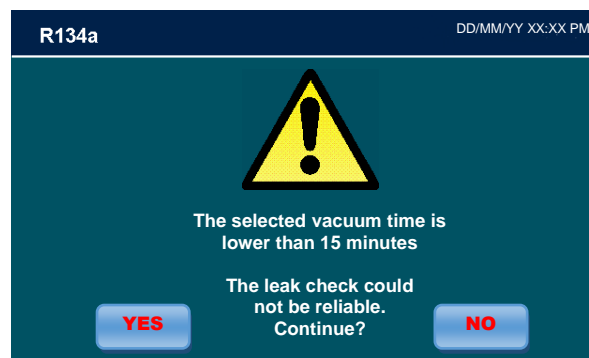
The following screen will be displayed:



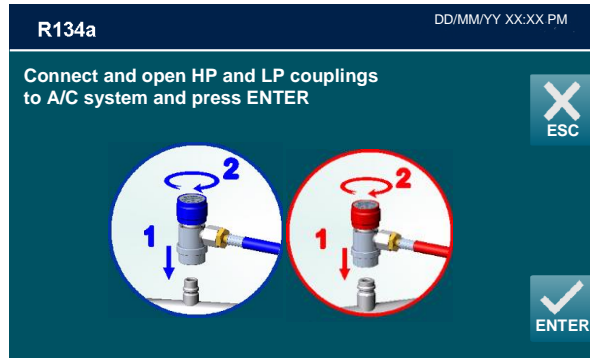
Use the KEYPAD to insert the new value of the VACUUM TIME min, press ENTER to confirm, ESC to return back.



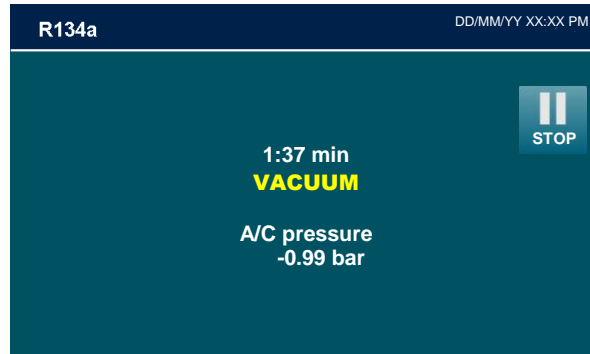
NOTE: if selected VACUUM TIME is lower 15 minutes the following popup warning will be displayed:



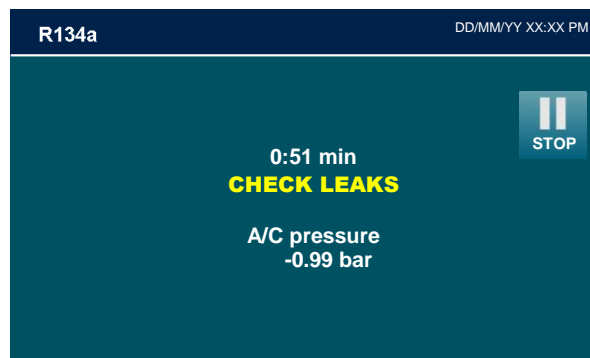
Press YES to continue, or press NO to go back.



Connect and open the coupling connected to the A/C system, then press ENTER to start the vacuum phase, press ESC to return back



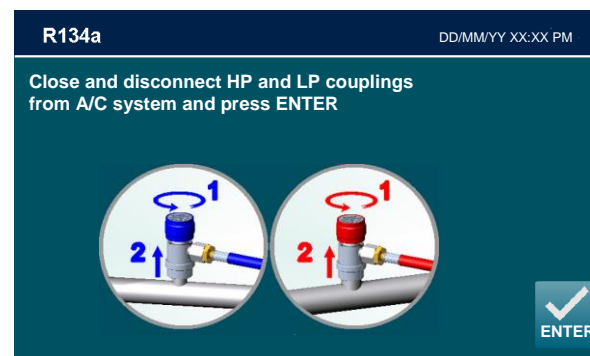
When time of check is reached, the machine will test for leaks in the A/C system:



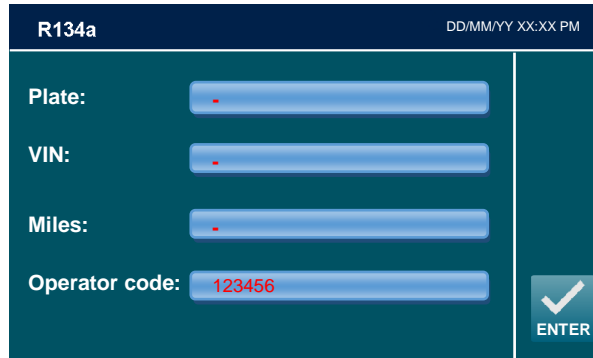
(WARNING! If vacuum time is lower than 15 minutes this test is not reliable). If leaks are found, the machine will stop automatically and display the A/C SYSTEM LEAKS alarm.

Detection of micro-leaks is not guaranteed.

At the end of the preset vacuum time, the machine will sound and alarm and the following screen will be displayed:



Close and disconnect HP and LP coupling from A/C system, then press ENTER to return to the MAIN MENU; VACUUM PROCEDURE is now successfully completed.



R134a DD/MM/YY XX:XX PM

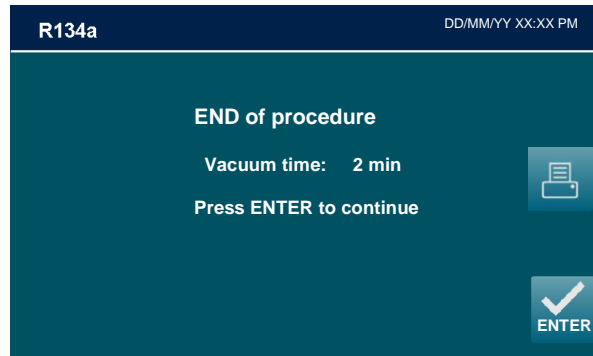
Plate:

VIN:

Miles:

Operator code:

You are asked to enter the vehicle's PLATE, the FRAME NUMBER, the KM/Miles and the Operator Code. Press ENTER.




R134a DD/MM/YY XX:XX PM

END of procedure

Vacuum time: 2 min

Press ENTER to continue

A summary of the amount minutes of the vacuum phase is displayed.

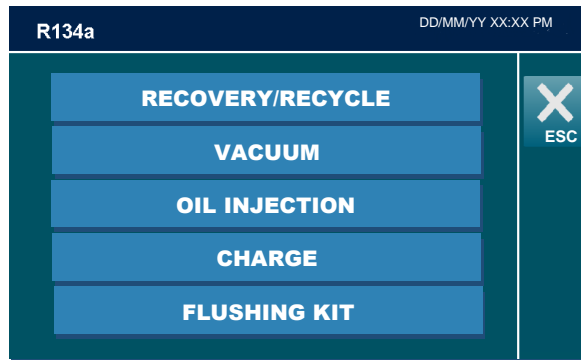
Press the symbol  for printing

VACUUM procedure completed successfully, press ENTER to return to the manual procedure page.

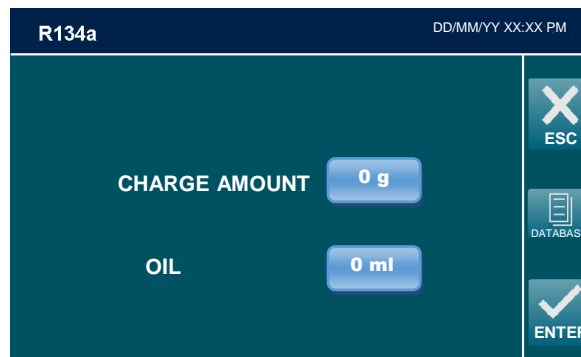
OIL INJECTION (ECO NEXT ONE "B" only)

This operation can be carried out ONLY following a VACUUM operation.

From the MANUAL PROCEDURE, select OIL INJECTION:

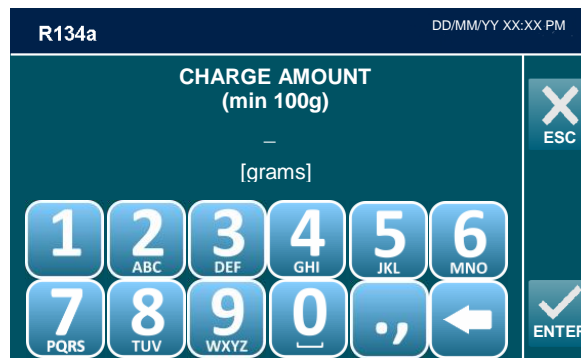


The following screen will be displayed:



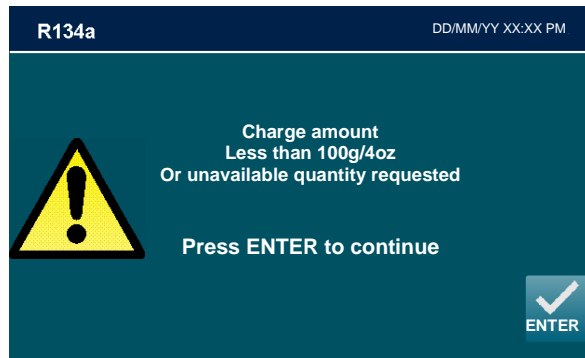
NOTE: For most systems the quantity of fluid to be refilled is indicated on a plate that is in the vehicle's engine compartment. If this quantity is not known, look for it in the relevant manuals.

Select the CHARGE AMOUNT quantity field, see the keypad on the display to enter the amount (in grams) of REFRIGERANT that will be loaded into the A / C system.



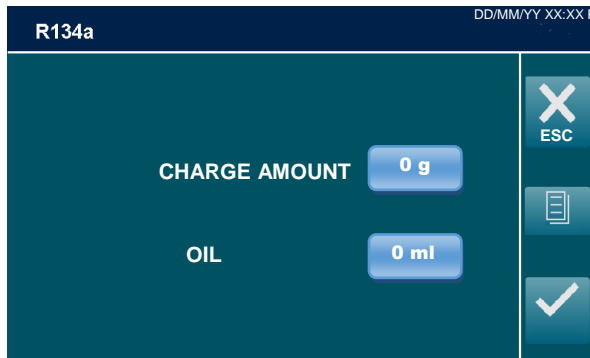
NOTE: If DATABASE is installed, can be used to insert the value of refrigerant into the GAS FILLING field.

NOTE: if gas filling is lower than 100 grams the following popup warning will be displayed:



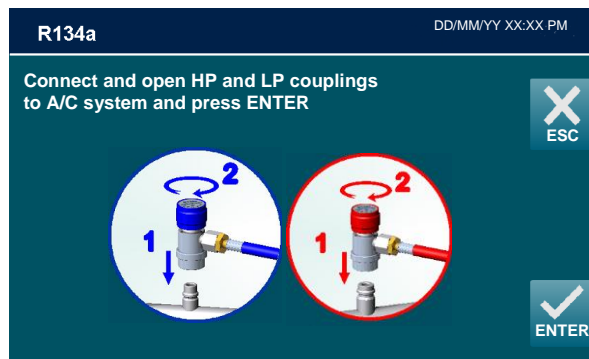
Gas filling lower than 100 grams is not allowed, press ENTER then digit an higher amount of gas filling.

Select the OIL quantity field, see the keypad on the display to enter the amount (in grams) of OIL that will be loaded into the A / C system.



START PROCEDURE

After selected all the procedure data, press ENTER to continue, the following screen will be displayed:



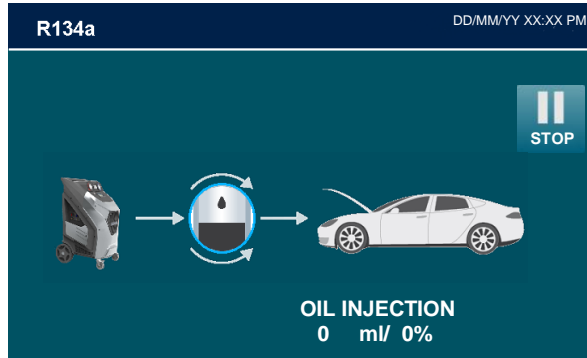
Connect and open the coupling connected to the A/C system, then press ENTER, press ESC to return back.

If the vacuum is not sufficient, this screen will be displayed:

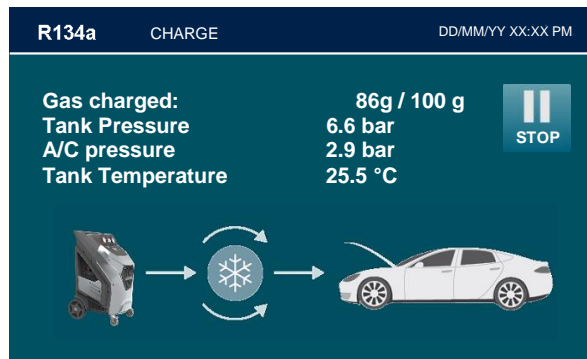


Then run a VACUUM procedure.

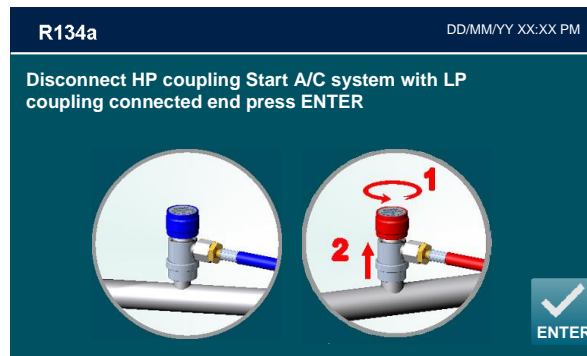
Instead with sufficient VACUUM the machine will proceed to inject the amount of oil set



Subsequently the machine will proceed with the quantity of gas set

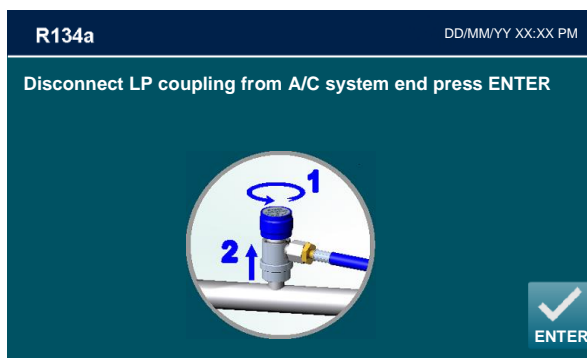


Then the following screen will be displayed.



Disconnect HP coupling. Start A/C system with LP coupling connected, press ENTER

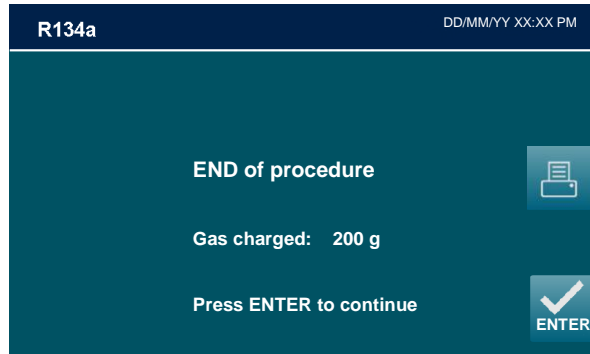
The A/C system will recover the refrigerant into the service hoses, then the following screen will be displayed:



Disconnect LP coupling from A/C system, then press ENTER to continue:



The machine will recover the residual refrigerant into the service hoses, then the following screen will be displayed:

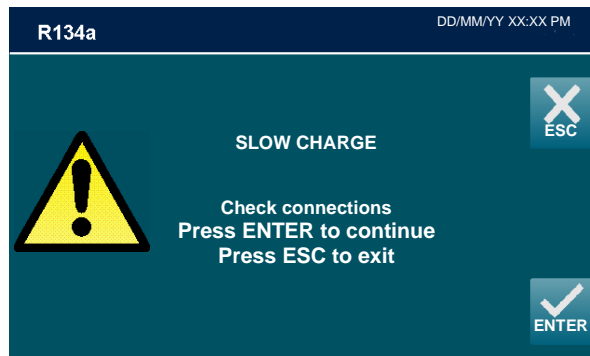


A summary of the amount gas of the CHARGE phase is displayed.

Press the symbol  for printing (Optional)

OIL INJECTION procedure completed successfully, press ENTER to return to the manual procedure page.

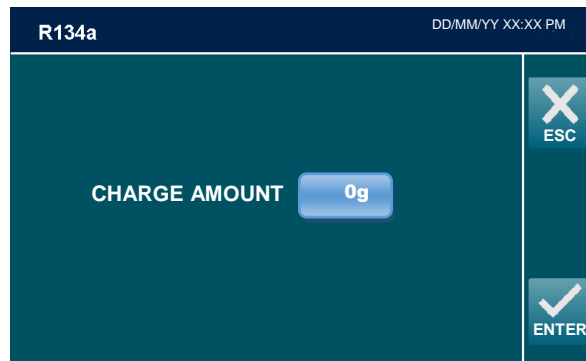
NOTE: near the end of the charge could be displayed the following alarm message:



The SLOW CHARGE alarm occurs when the tank pressure and the system pressure equalize (due to low pressure, excessive system temperatures, etc.). Check connections then press ENTER to continue, or press ESC to exit.

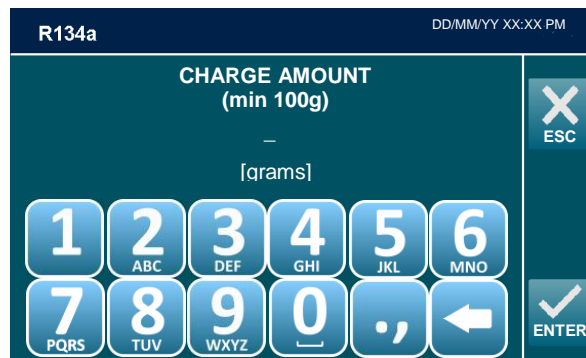
CHARGE (for ECO NEXT ONE “B” and ECO NEXT ONE HYBRID “B”)

From the MANUAL PROCEDURE, select CHARGE, the following screen will be displayed:



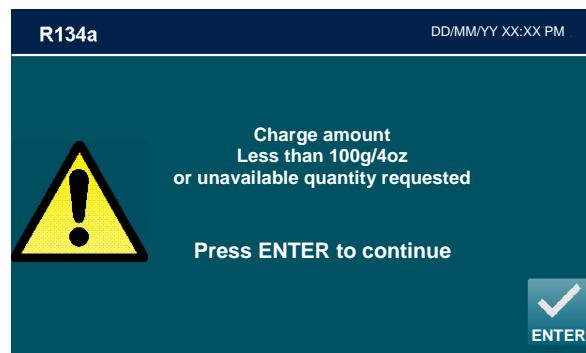
NOTE: For most systems the quantity of fluid to be refilled is indicated on a plate that is in the vehicle's engine compartment. If this quantity is not known, look for it in the relevant manuals.

Select the CHARGE AMOUNT quantity field, see the keypad on the display to enter the amount (in grams) of REFRIGERANT that will be loaded into the A / C system.




NOTE: If DATABASE is installed, can be used to insert the value of refrigerant into the GAS FILLING field.

NOTE: if gas filling is lower than 100 grams the following popup warning will be displayed:

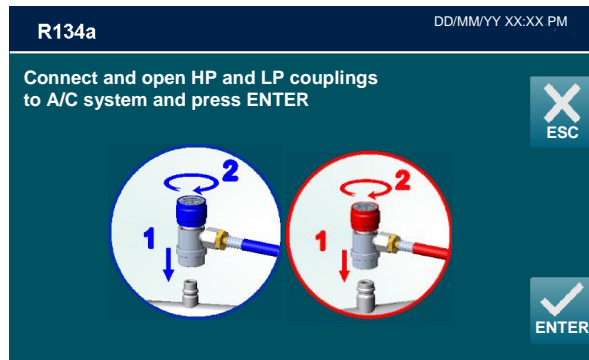


Gas charge lower than 100 grams is not allowed, press ENTER then digit an higher amount of gas filling.

START PROCEDURE

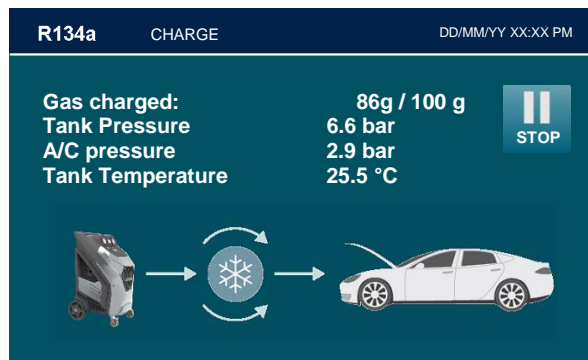
NOTE: the STOP button  literally pause the running procedure. In the final phase of the charge the procedure hasn't to be paused or stopped to avoid to compromise the precision of the procedure.

After selected all the procedure data, press ENTER to continue, the following screen will be displayed:

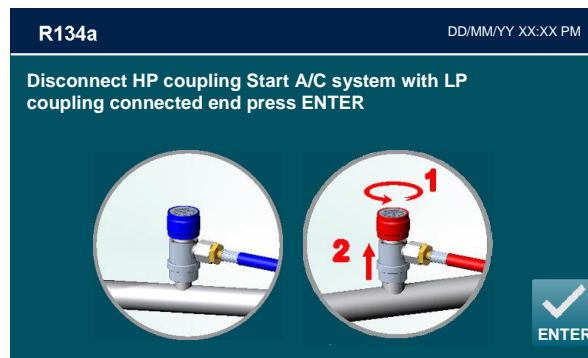


Connect and open the coupling connected to the A/C system, then press ENTER, press ESC to return back.

Subsequently the machine will proceed with the quantity of gas set

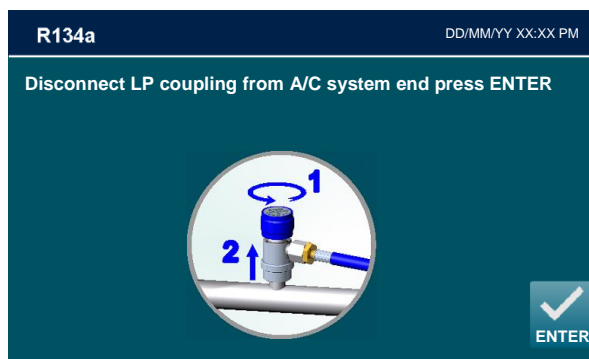


Then the following screen will be displayed.



Disconnect HP coupling. Start A/C system with LP coupling connected, press ENTER

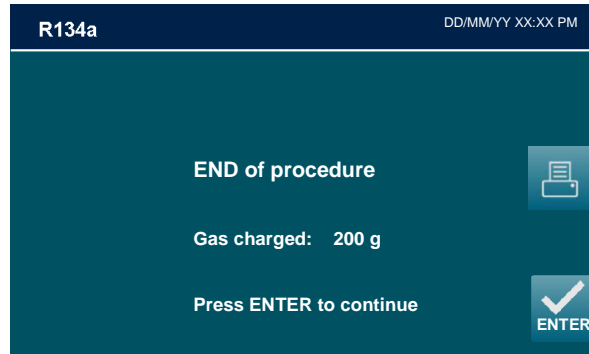
The A/C system will recover the refrigerant into the service hoses, then the following screen will be displayed:



Disconnect LP coupling from A/C system, then press ENTER to continue:



The machine will recover the residual refrigerant into the service hoses, then the following screen will be displayed:

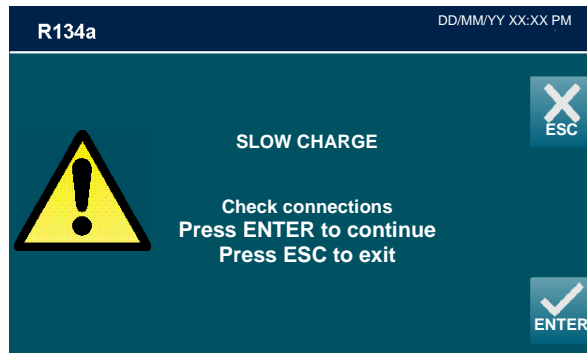


A summary of the amount gas of the CHARGE phase is displayed.

Press the symbol  for printing (Optional)

CHARGE procedure completed successfully, press ENTER to return to the manual procedure page.

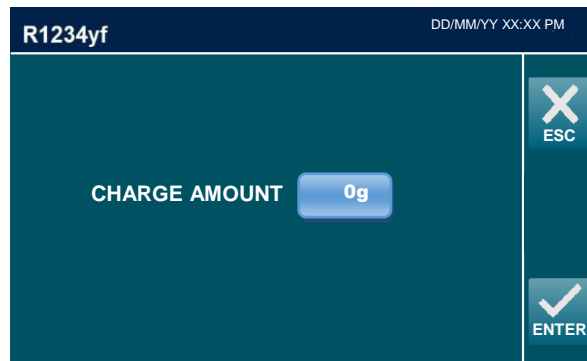
NOTE: near the end of the charge could be displayed the following alarm message:



The SLOW CHARGE alarm occurs when the tank pressure and the system pressure equalize (due to low pressure, excessive system temperatures, etc.). Check connections then press ENTER to continue, or press ESC to exit.

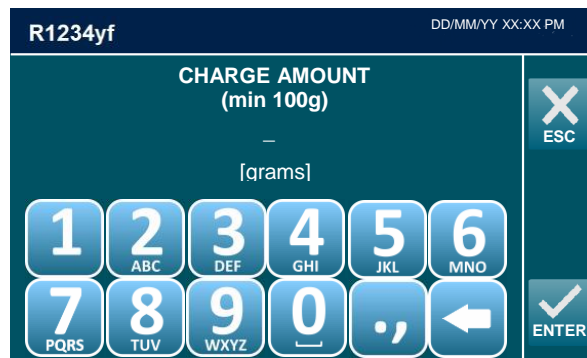
CHARGE (ECO NEXT ONE HFO "B" only)

From the MANUAL PROCEDURE, select CHARGE, the following screen will be displayed:



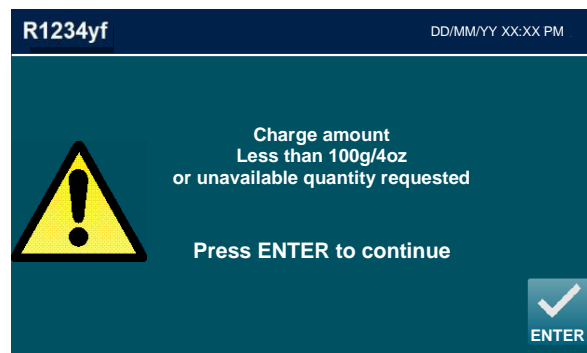
NOTE: For most systems the quantity of fluid to be refilled is indicated on a plate that is in the vehicle's engine compartment. If this quantity is not known, look for it in the relevant manuals.

Select the CHARGE AMOUNT quantity field, see the keypad on the display to enter the amount (in grams) of REFRIGERANT that will be loaded into the A / C system.




NOTE: If DATABASE is installed, can be used to insert the value of refrigerant into the GAS FILLING field.

NOTE: if gas filling is lower than 100 grams the following popup warning will be displayed:

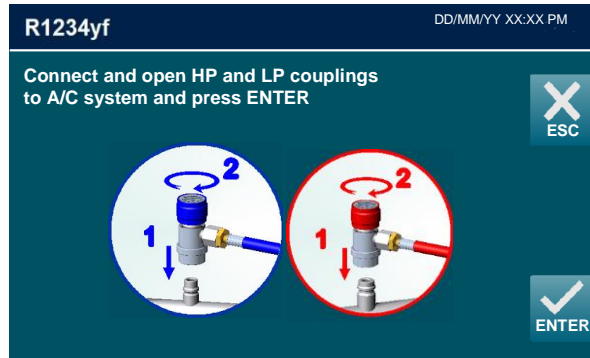


Gas charge lower than 100 grams is not allowed, press ENTER then digit an higher amount of gas filling.

START PROCEDURE

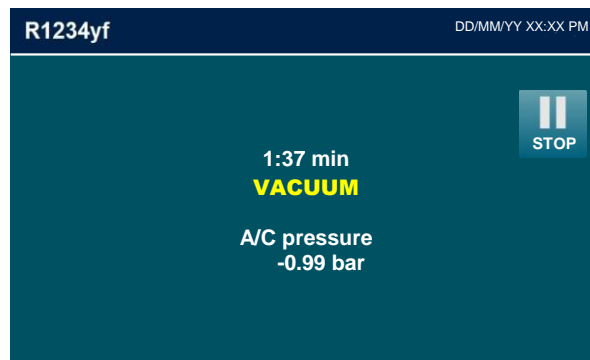
NOTE: the STOP button  literally pause the running procedure. In the final phase of the charge the procedure hasn't to be paused or stopped to avoid to compromise the precision of the procedure

After selected all the procedure data, press ENTER to continue, the following screen will be displayed:

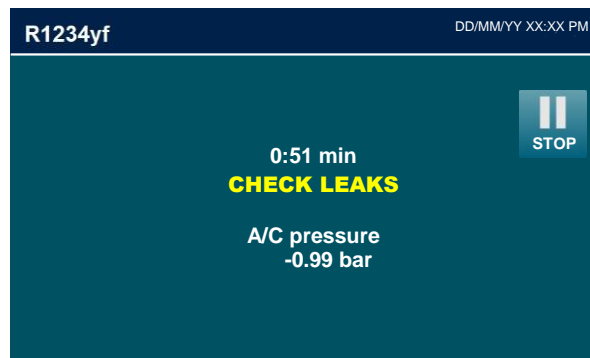


Connect and open the coupling connected to the A/C system, then press ENTER, press ESC to return back.

The machine will perform 5 minutes of vacuum:



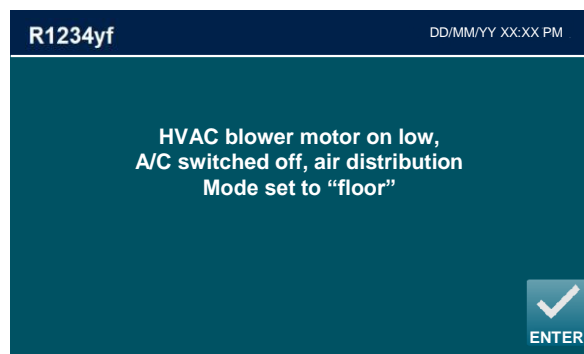
At the end of this phase, the machine will test for leaks in the A/C system:



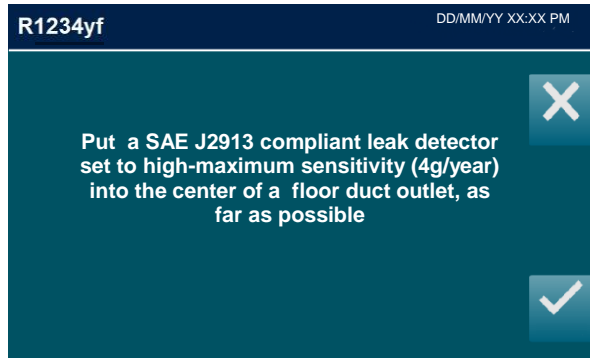
(WARNING! If vacuum time is lower than 15 minutes this test is not reliable). If leaks are found, the machine will stop automatically and display the A/C SYSTEM LEAKS alarm.

Detection of micro-leaks is not guaranteed.

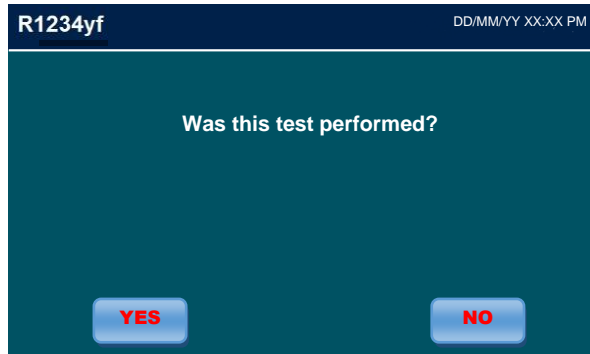
At the end of the preset vacuum time, the machine will sound and alarm and the following screen will be displayed:



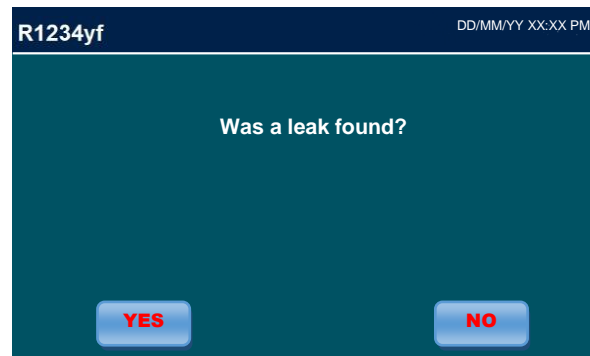
Set HVAC blower motor on low, A/C switched off, air distribution mode set to "floor", then press ENTER to continue



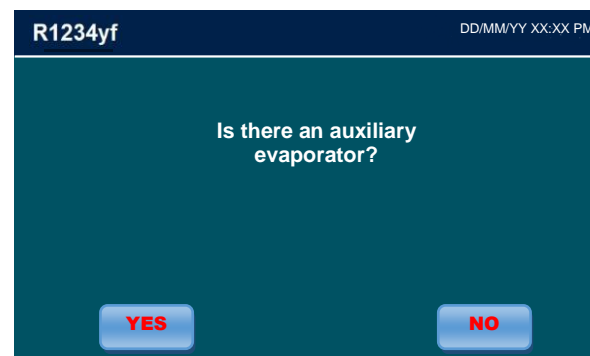
Put a SAE J2913 compliant leak detector set to high-maximum sensitivity (4g/year) into the center of a floor duct outlet, as far as possible, then press ENTER to continue



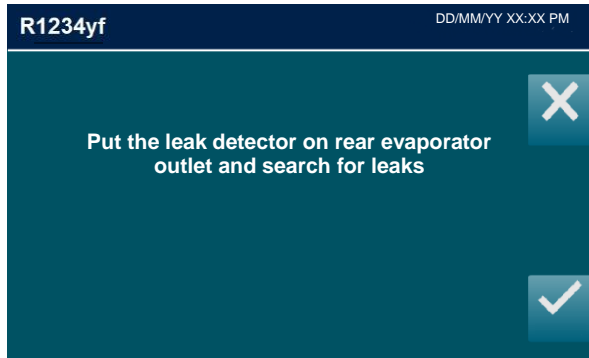
A pop-up message is displayed asking confirmation, press YES or NO to continue:



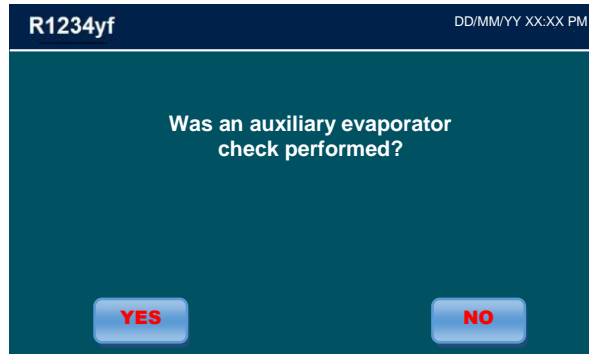
Press NO if no leak was found, the following screen will be displayed:



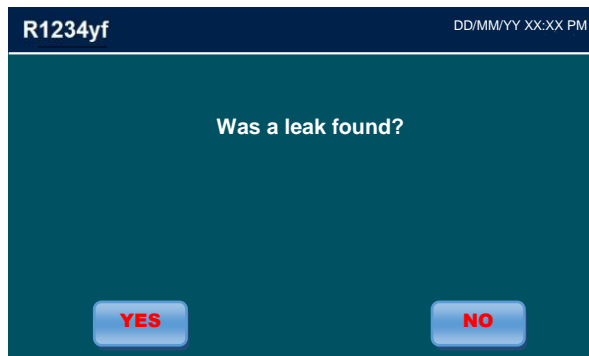
Select YES to perform a leak check on the auxiliare evaporator:



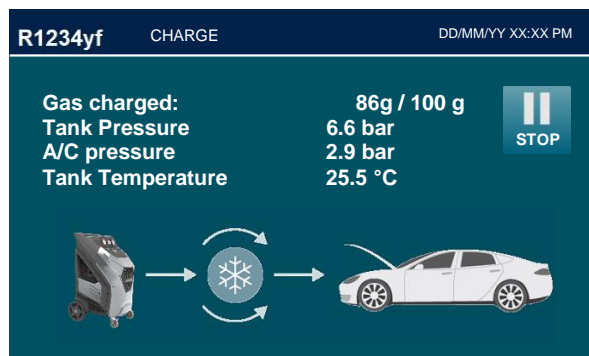
Put the leak detector on rear evaporator outlet and search for leaks, then press ENTER to continue:



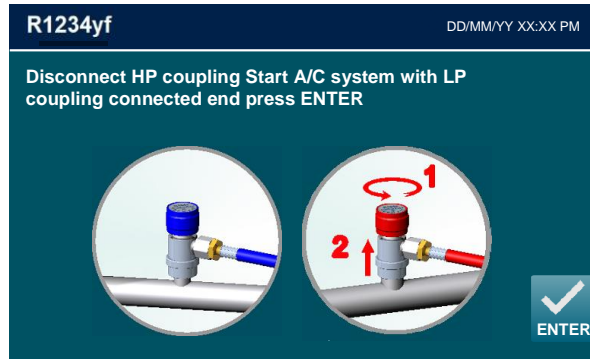
A pop-up message is displayed asking confirmation, press YES or NO to continue:



Press NO if no leak was found, upon completion of the PRE-CHARGE TEST, the system will go on to charging with the present quantity of refrigerant .



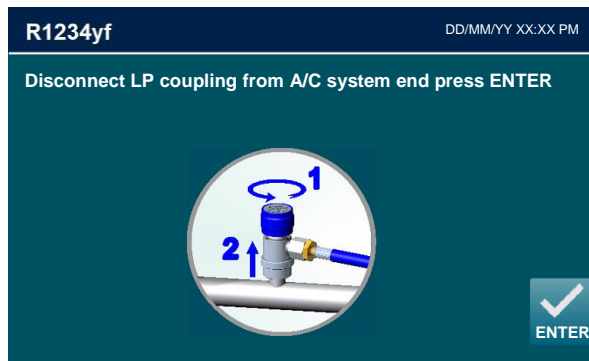
Then the following screen will be displayed.



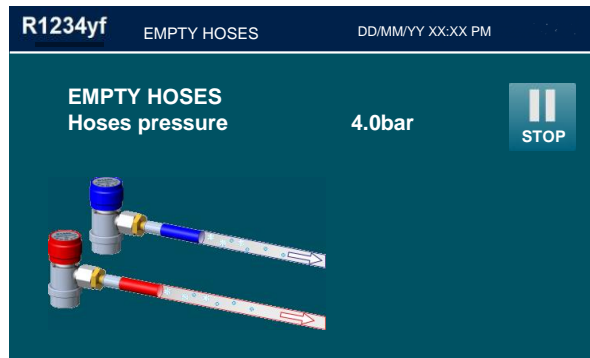
Disconnect HP coupling. Start A/C system with LP coupling connected, press ENTER

NOTE: During this phase the message "Please wait" may appear on the screen, its duration is a function of the A / C pressure and can last for a maximum of 1 minute

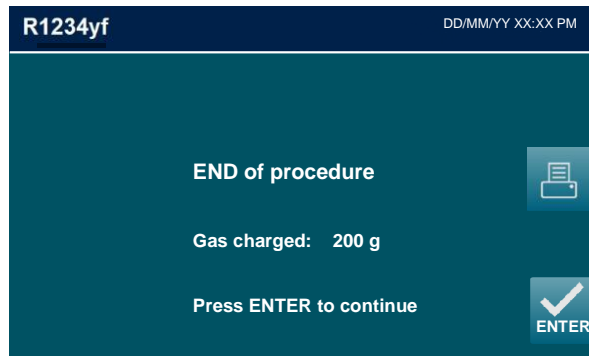
The A/C system will recover the refrigerant into the service hoses, then the following screen will be displayed:



Disconnect LP coupling from A/C system, then press ENTER to continue:



The machine will recover the residual refrigerant into the service hoses, then the following screen will be displayed:

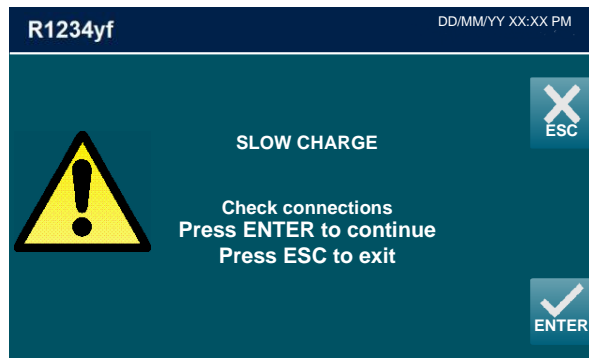


A summary of the amount gas of the CHARGE phase is displayed.

Press the symbol  for printing

CHARGE procedure is now successfully completed, press PRINTER to print the receipt of the procedure, press ENTER to return to exit.

NOTE: near the end of the charge could be displayed the following alarm message:



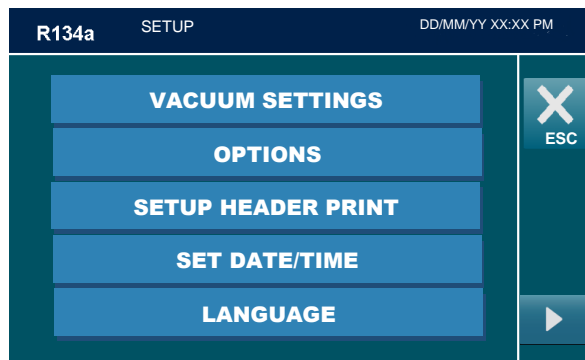
The SLOW CHARGE alarm occurs when the tank pressure and the system pressure equalize (due to low pressure, excessive system temperatures, etc.). Check connections then press ENTER to continue, or press ESC to exit.

SETUP

From the MAIN MENU:

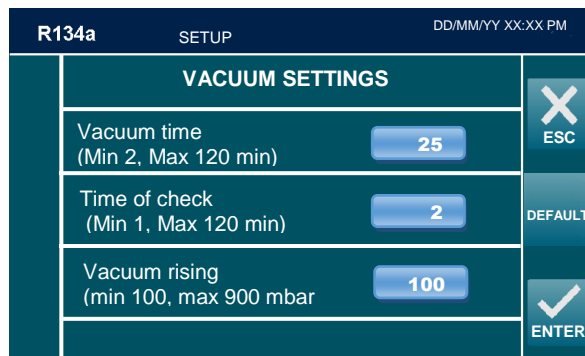


Select the SETUP , the following screen will be displayed:



VACUUM SETTING

From the SETUP, select VACUUM SETTINGS, default setting is displayed:



Allows to modify the default vacuum time and the default time of check. Each value can be modified, within the values shown in parentheses.

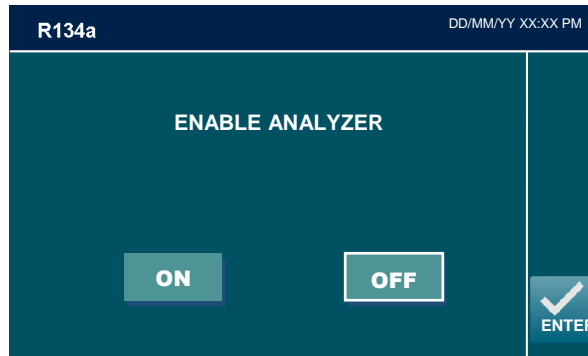
NOTE: press DEFAULT to restore default values:

- Vacuum time 25 min
- Time of check 2 min
- Vacuum rising 0,1 mbar

OPTIONS

Select OPTIONS, insert the OPTION code:43210791

Enable ANALYZER press ENABLE ANALYZER, the following screen will be displayed:



Choose ON to enable the analyzer and OFF to disable it then press ENTER.
Enable Wi-Fi press WI-FI the following screen will be displayed:



Choose ON to enable the Wi-Fi and OFF to disable it then press ENTER.

GAS ANALYZER (optional for ECO NEXT ONE “B” and NEXT HYBRID “B”)

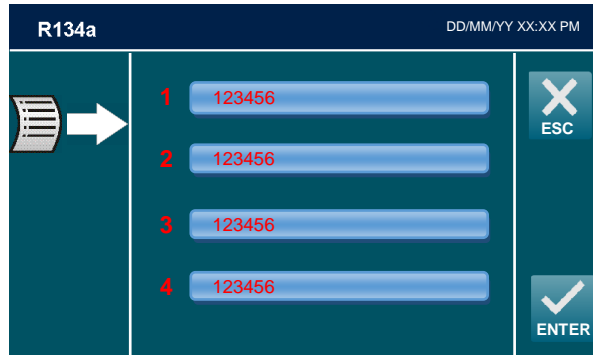
From the MAINTENANCE MENU, select GAS ANALYSIS:

Then select GAS ANALYZER; if gas analyzer is installed, The machine will test the purity of the refrigerant gas in the A/C system (refer to Analyzer Installation Procedure – MANU085.KAN).

SETUP HEADER PRINT

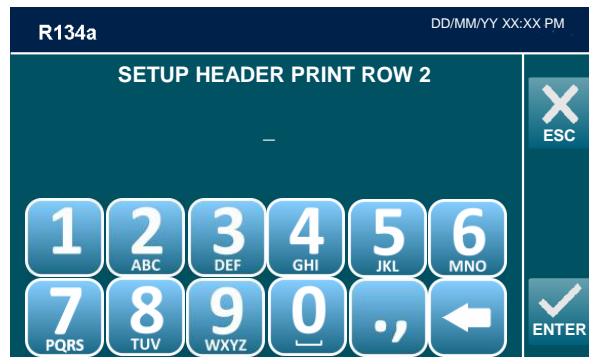
The printout can be personalized by entering 4 lines containing the workshop's details (e.g. Name, address, telephone n° and e-mail).

From the SETUP, select SETUP HEADER PRINT:



The screenshot shows the R134a SETUP menu. At the top, it displays 'R134a' and 'DD/MM/YY XX:XX PM'. A printer icon with an arrow points to the 'SETUP HEADER PRINT' option, which is highlighted. Below this, there are four input fields, each containing the text '123456'. To the right of the input fields are two buttons: 'ESC' (with a red 'X') and 'ENTER' (with a checkmark).

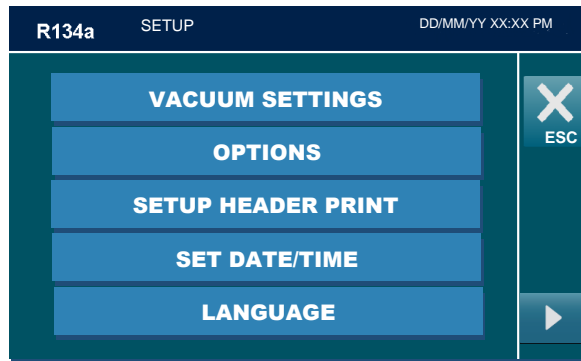
Use the keypad to modify the 4 lines, then press ESC to return to SETUP menu.



The screenshot shows the R134a keypad for editing the 'SETUP HEADER PRINT ROW 2'. The keypad has a grid of buttons: '1', '2', '3', '4', '5', '6' in the top row, and '7', '8', '9', '0', ',', and a left arrow in the bottom row. Below each number is its corresponding alphabet: 'ABC' for 2, 'DEF' for 3, 'GHI' for 4, 'JKL' for 5, 'MNO' for 6, 'PQRS' for 7, 'TUV' for 8, and 'WXYZ' for 9. The '0' button has a right arrow below it. To the right of the keypad are two buttons: 'ESC' (with a red 'X') and 'ENTER' (with a checkmark).

NOTE: the numerical keys include an alphabet that is used similar to text messaging; for example: press "2" once to display "A", twice to display "B", three time for "C", four time for "2"

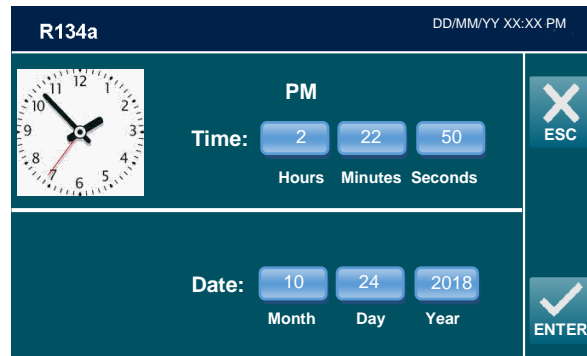
SET DATE / TIME



From the SETUP, select the arrow  to change page

The machine keeps date and time settings even if it is not used for around one year.

From the SETUP MENU, select SET DATE / TIME:



Use keypad to change date and time, press ENTER to confirm, or press ESC to return to SETUP menu without saving the changes.


LANGUAGE

Select LANGUAGE :

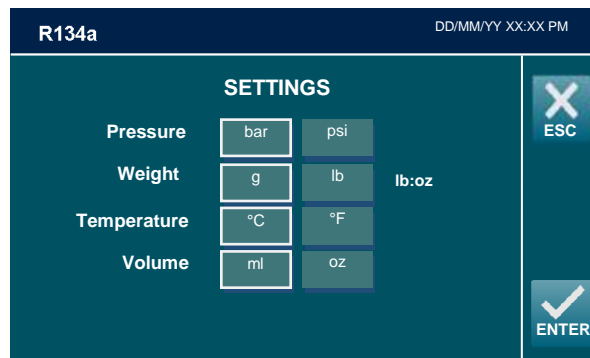


Select a language.

MEASURE UNITS

From SETUP menu, Select the arrow  to change page.

Select then MEASURE UNITS:



NOTE: current MEASURE UNITS is indicated by squaring.

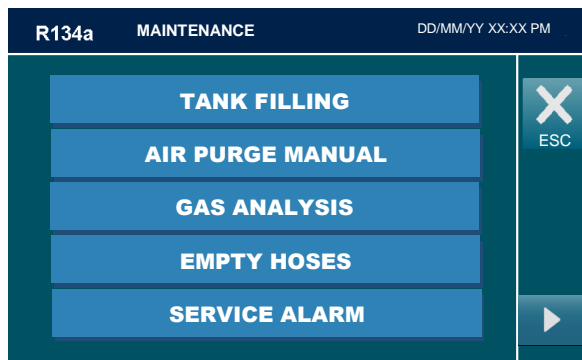
Select a MEASURE UNITS, then press ENTER.

MAINTENANCE

From the MAIN MENU:



Select the MAINTENANCE , the following screen will be displayed:



TANK FILLING

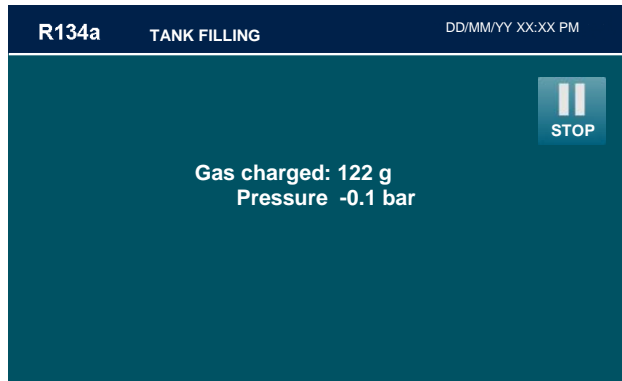
This operation must be performed whenever the available refrigerant fluid in the tank is less than 3 kg and must in any case be performed when the “empty tank” alarm is displayed.

From MAINTENANCE, select TANK FILLING, the following screen will be displayed:

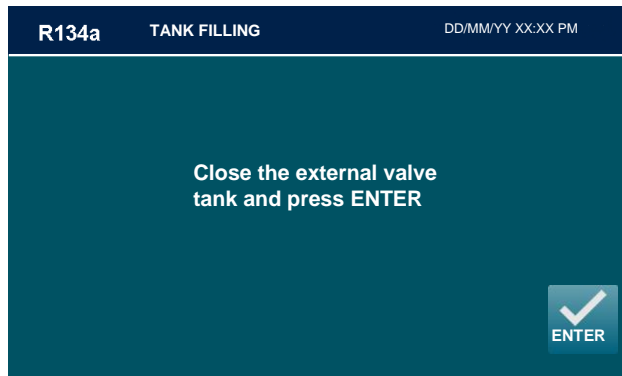


Procure a tank of appropriate refrigerant (R134a or R1234yf depending on machine model), connect and open LP coupler to the liquid side of the external tank and open the liquid valve, then Use the keypad to insert the amount of refrigerant, then press ENTER to continue.

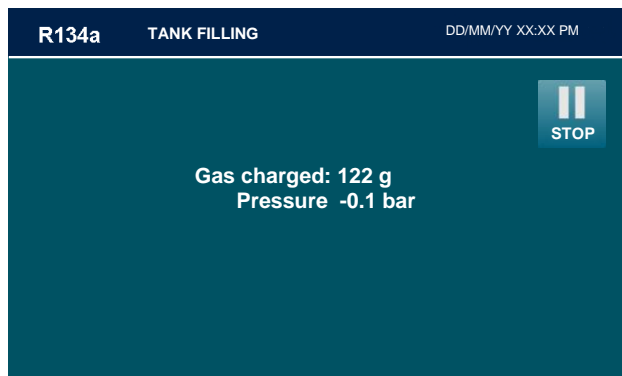
The TANK FILLING will start.



The machine will now fill the machine tank with the preset quantity ~ 500g. When the quantity minus 500 grams is reached, the machine will stop and display:



Close the liquid valve of the external tank and press ENTER, the machine will recover the residual refrigerant from the hoses. The refrigerant that is recovered in this phase is estimated to be 500g but can charge depending on many factors (the pressure of the external bottle, the refrigerant flow or the pressure inside the internal bottle, for example). Then will display the following screen:



Close and disconnect LP coupling from external tank and press ENTER.

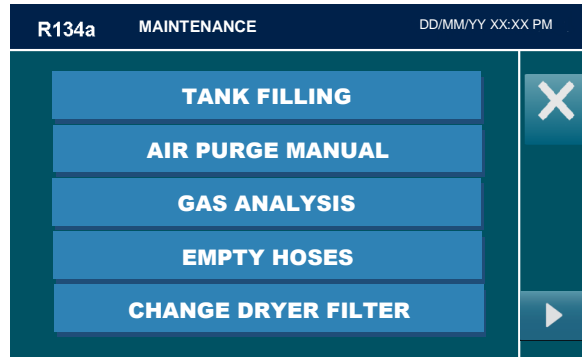


Tank filling procedure successfully completed. Switch the machine off.

NOTE: if the external tank is not supplied with a liquid side coupling, upend it to recover liquid refrigerant.

AIR PURGE MANUAL

Before each service check the presence of air in the cylinder, select the MAINTENANCE MENU and press AIR PURGE MANUAL.



The following screen will be displayed:



If “PRESS ENTER TO PURGE” is displayed, there is air in the tank. In this case, press ENTER: the machine will begin discharging the air.

Press ESC to pause the Air Purging process.

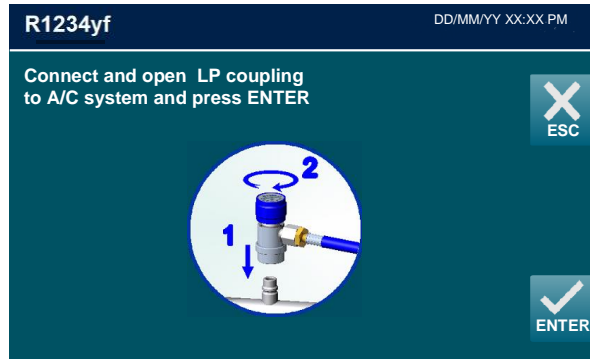
NOTE: If there isn't air into the tank, the following message is displayed: AIR PURGE NOT NECESSARY.

Press ESC to terminate the Air Purging process, and return to the MAINTENANCE menu.

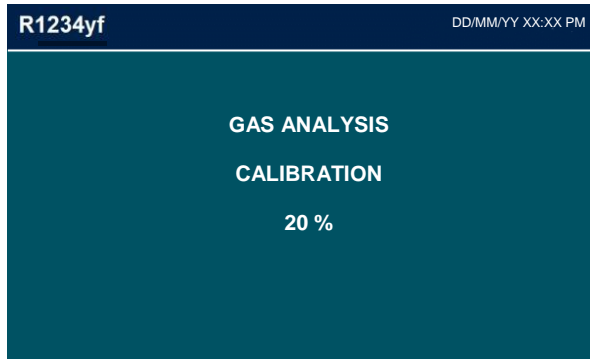
GAS ANALYSIS (ECO NEXT ONE HFO “B” only)

The machine will test the purity of the refrigerant gas in the A/C system before beginning recovery. Contaminated refrigerant cannot be recovered, since it would contaminate all the refrigerant contained in the storage bottle. Purity testing is conducted after a sample of the refrigerant gas to be analyzed is taken.

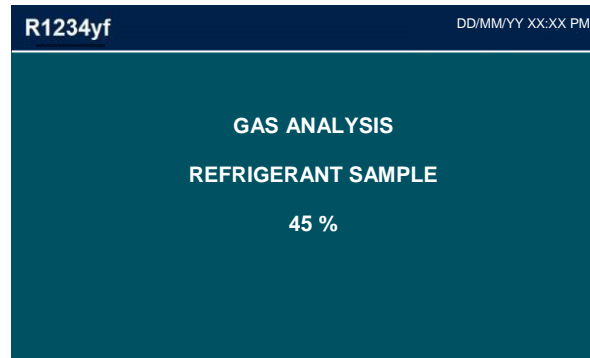
From MAINTENANCE, select GAS ANALYSIS, the following screen will be displayed:



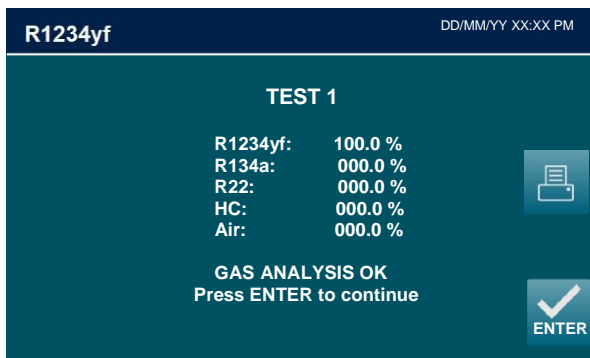
Connect and open the LP coupling connected to the A/C system, then press ENTER:



The analyzer will begin the calibration, then after few second will start gas analysis:



If the refrigerant is PURE the machine will display the following screen



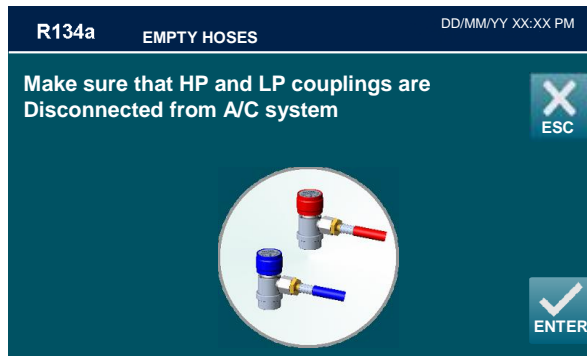
Press the symbol  for printing

GAS ANALYSIS procedure is now successfully completed, press PRINTER to print the receipt of the procedure, press ENTER to return to exit.

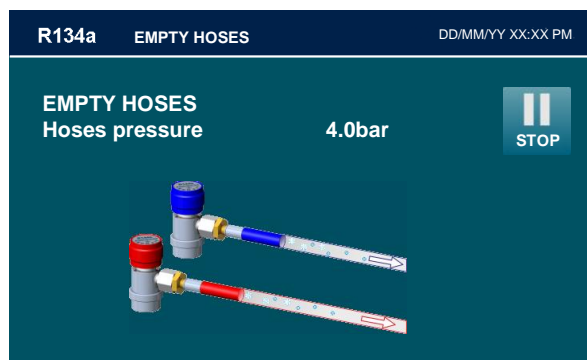
NOTE: If the refrigerant is CONTAMINATED the machine will ask the connect an external recovery unit in order to remove the contaminated refrigerant from machine. In order to complete the cleaning of internal circuit the machine will run 10 minutes of vacuum.

EMPTY HOSES

From MAINTENANCE, select EMPTY HOSES, the following screen will be displayed:



Make sure that HP and LP couplings are disconnected from A/C system:



The machine will recover all the refrigerant into the service hoses; then the machine will sound and alarm and the following screen will be displayed:



Press ESC to return to the MAINTENANCE MENU; EMPTYING HOSES is now successfully completed.

NOTE: Periodically check the tightening of the LP and HP couplings to service hoses and of the service hoses to the unit

CHANGE DRYER FILTER

Replace the filter whenever the machine gives the service alarm signals the presence of humidity in the circuit.

Before performing any operation, check that the replacement filter is the same type as these installed on the machine.

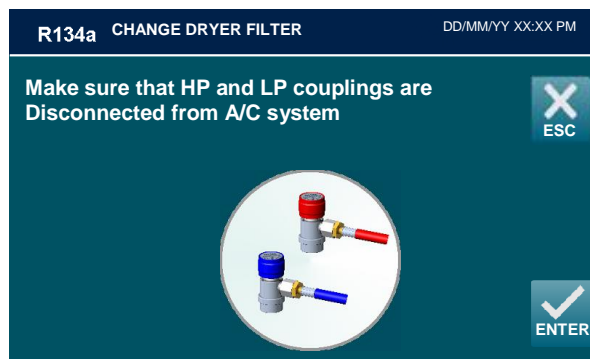
Then proceed as described below:

- 1) **Wear protective gloves and glasses**
- 2) Connect the machine to the electrical supply and it turn on
- 3) Note down the release code on the new filters.

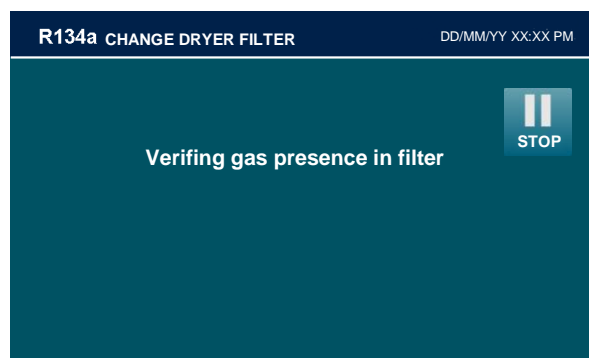
IMPORTANT: Filter replacement must be performed as quickly as possible in order to avoid possible contamination by moisture in the ambient air.

NOTE: If possible, check the seal on the couplings of the new filter, using an electronic leak tester.

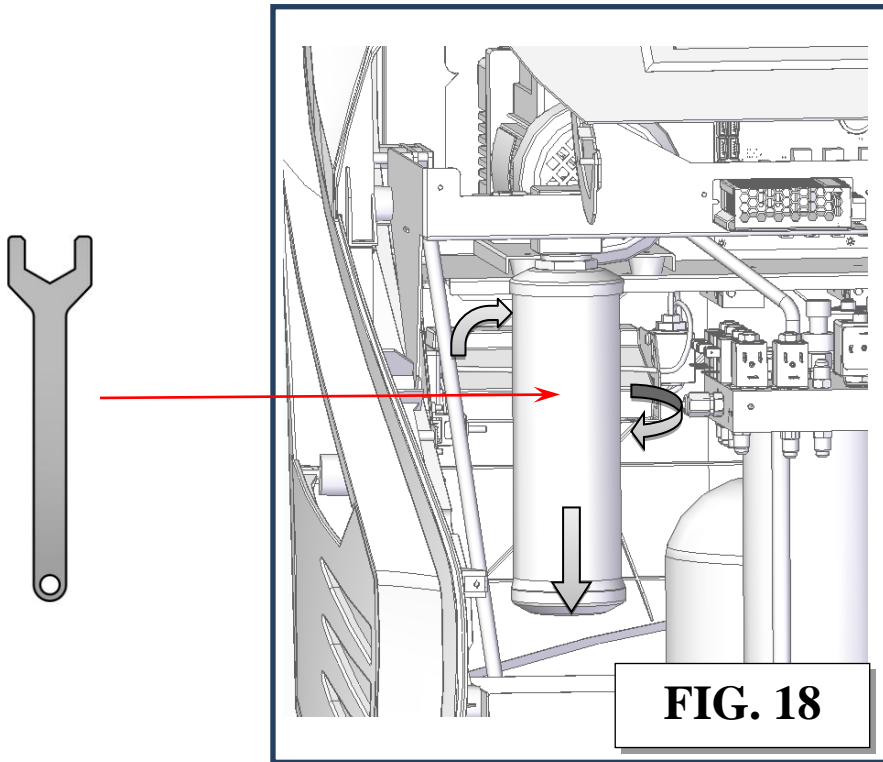
- 4) From MAINTENANCE, select SERVICE ALARM, the following warning message is visualized:



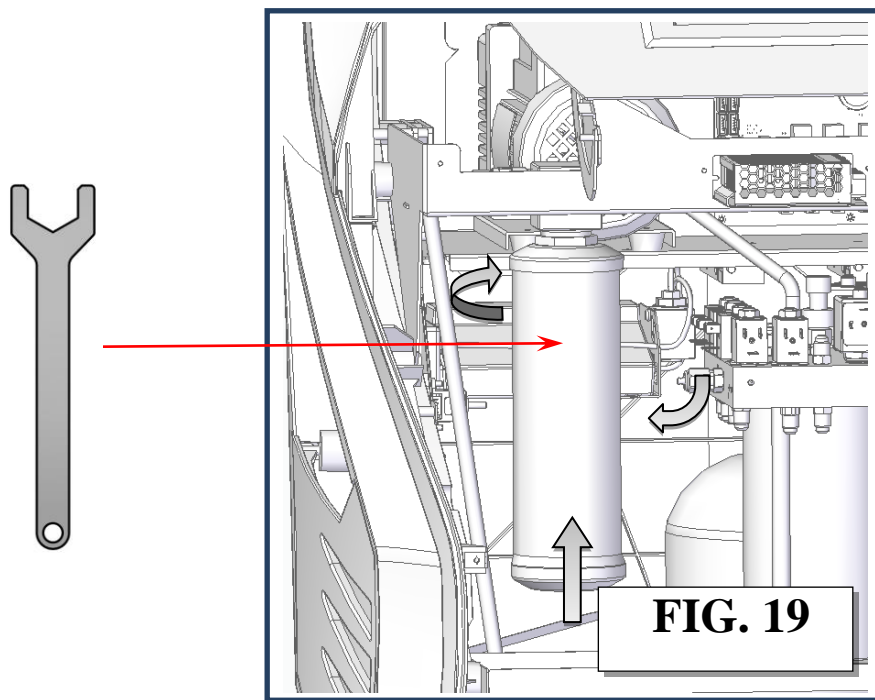
An accidental leakage of refrigerant may cause serious damage to skin and eyes, wear protective gloves and goggles. Make sure that HP and LP coupling are disconnected from A/C system or else and press ENTER, machine will check presence of refrigerant:



- 5) And if necessary will recover it
- 6) Remove the dryer filter, use the special wrench (ref Fig.18)

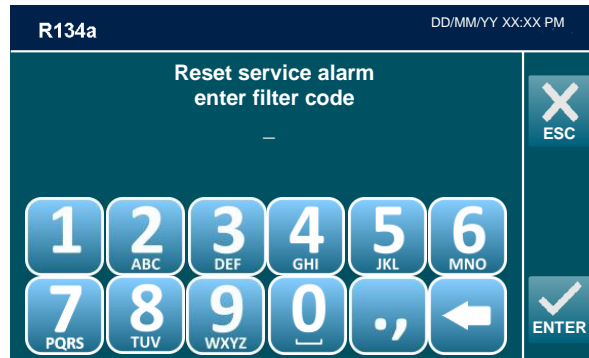


- 7) Take the new filter, wet with clean POE oil both o-rings, and verify that they are correctly placed into their seats

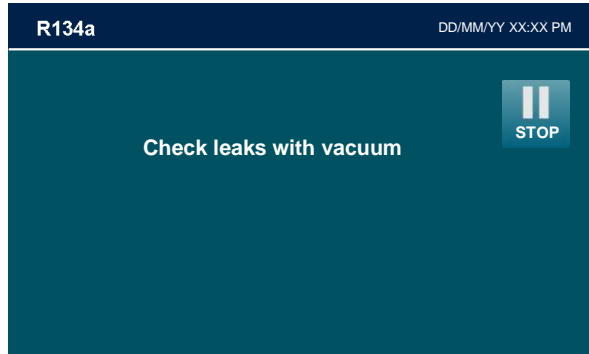


R134a	DD/MM/YY XX:XX PM
After changing the filter Following the user manual, Press ENTER to insert the counter reset code	
<input type="checkbox"/> ESC	
<input checked="" type="checkbox"/> ENTER	

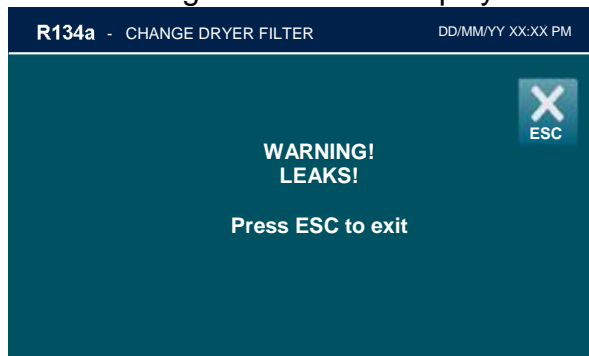
- 8) Type the filter code and press ENTER to delete the alarm. If the filter code is not available, call the Service Center:



- 9) Press ENTER to continue with vacuum check:



- 10) If leaks are detected the following screen will be displayed:



Check filter tightening and press ESC to restart the vacuum check.

- 11) After few minutes, if no leaks are detected the following screen will be displayed:



Press ENTER; DRYER FILTER CHANGE is now successfully completed.

VACUUM PUMP

At the same time as the filter change the machine will ask to change the vacuum pump oil
Perform the operations listed below on a routine basis in order to ensure good operation of the vacuum pump:

M1) Oil top-up.

M2) Oil change.

When topping-up or replacing the pump oil, use only the oil recommended by the manufacturer.
Contact your retailer for information concerning the correct type of oil.

M.1) OIL TOP-UP

This operation must be performed when the level of the oil falls to less than half on the indicator (ref.3, Fig.20A).

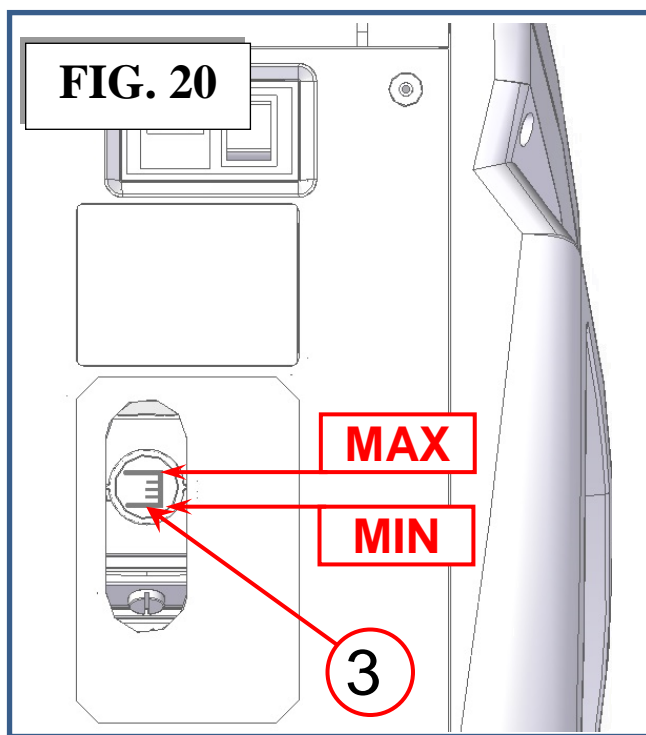
NOTE: in order to correctly check the oil level, run the pump for at least 1 minute (running a vacuum procedure in the hose for 1 minute) so that the oil fluidifies.

Check the oil level when the pump stops.

To refill the oil, perform the steps listed below in the order given.

Disconnect the *machine* from the mains supply. Remove the rear plastic cover

Locate the filling cap (ref 1, Fig.20A) and screw it completely off.



The following screen is displayed:

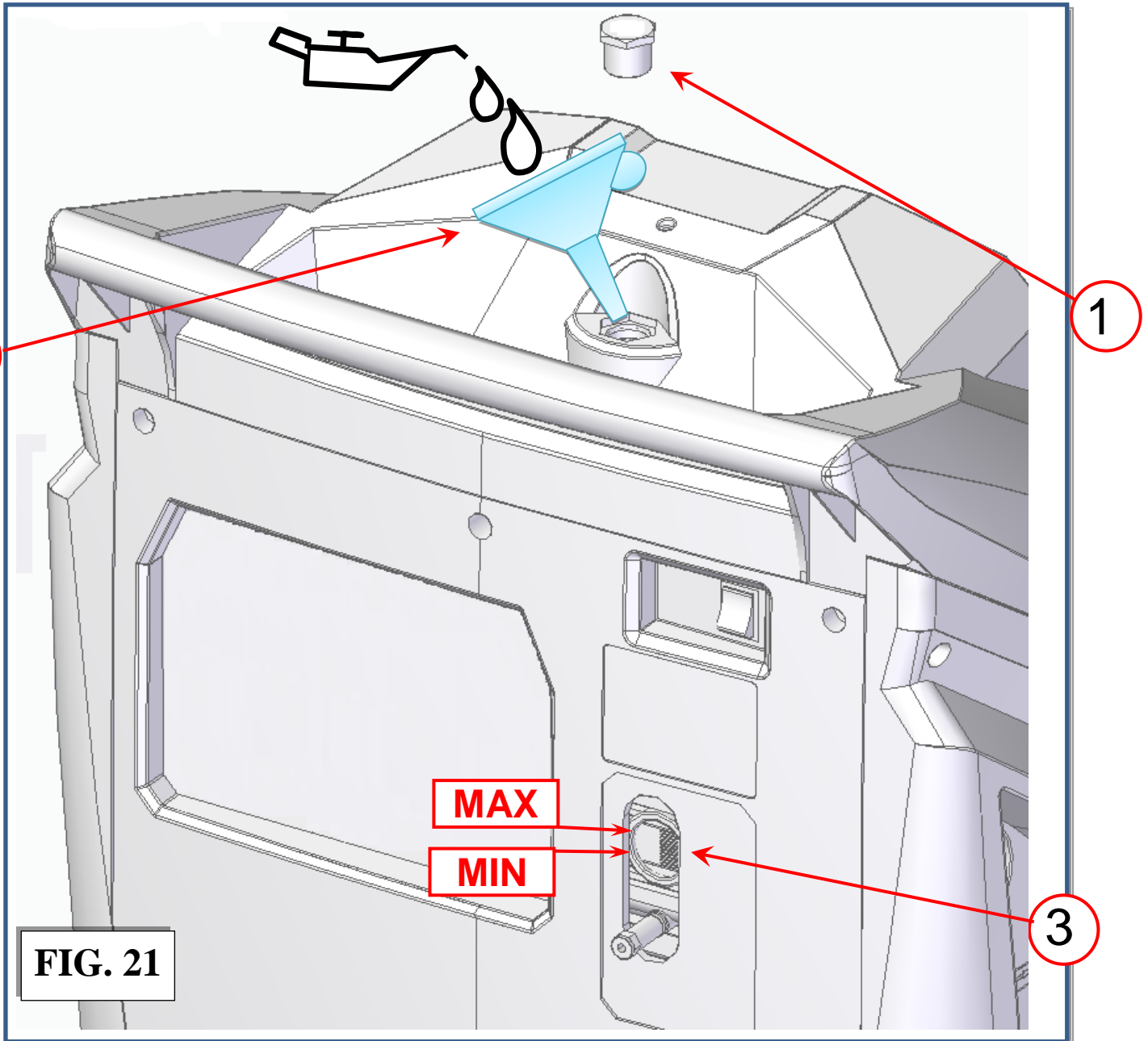
R134a

DD/MM/YY XX:XX PM

Refill vacuum pump with new oil
 To the center of the control glass
 Then replace filling cap.
 When done press ENTER to exit.



The oil must be added through the hole in which the oil cap was lodged by using a proper funnel (ref 5, Fig.21).



Add oil a little at a time, waiting for the level to rise before each successive addition, until the oil level is about $\frac{1}{2}$ cm above the red mark on the indicator (ref 3, Fig.21).

Replace the filling cap (ref 1, Fig.21) and tighten down.

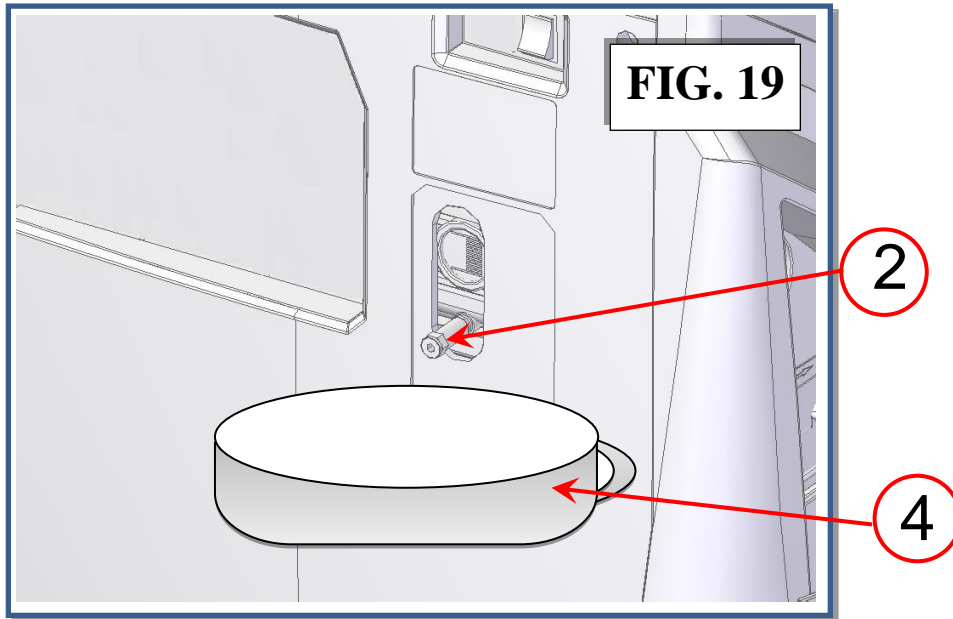
M.2) OIL CHANGE

The vacuum pump oil must be replaced every 20 hours of functioning and in any case every time the refrigerant filters are replaced.

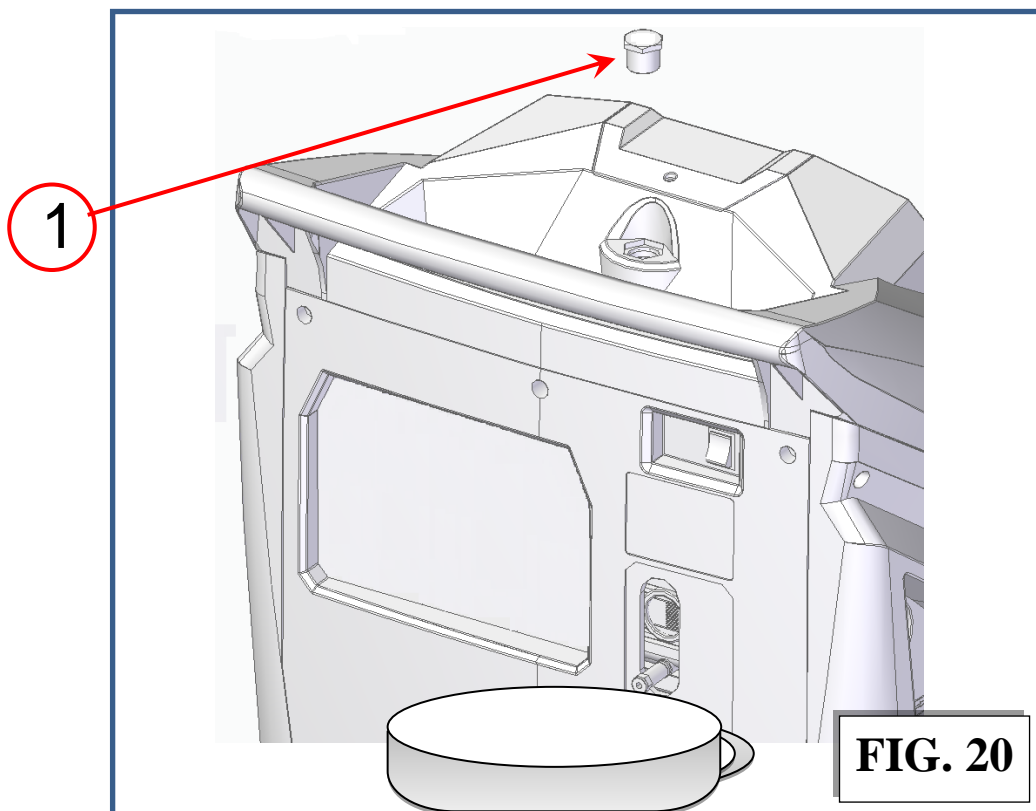
NOTE: alarm message is visualized, to remove alarm message refer to VACUUM PUMP OIL CHANGE paragraph.

The oil must also be replaced whenever it changes color due to absorption of humidity. Before beginning the oil change procedure, procure a container of at least 500 cc capacity in which to collect the used oil. The pump contains about **250 cc of oil**. Use only the oils recommended by the manufacturer (consult your retailer); the use of a non-recommended oil may impair the proper functioning of the pump and void the warranty.

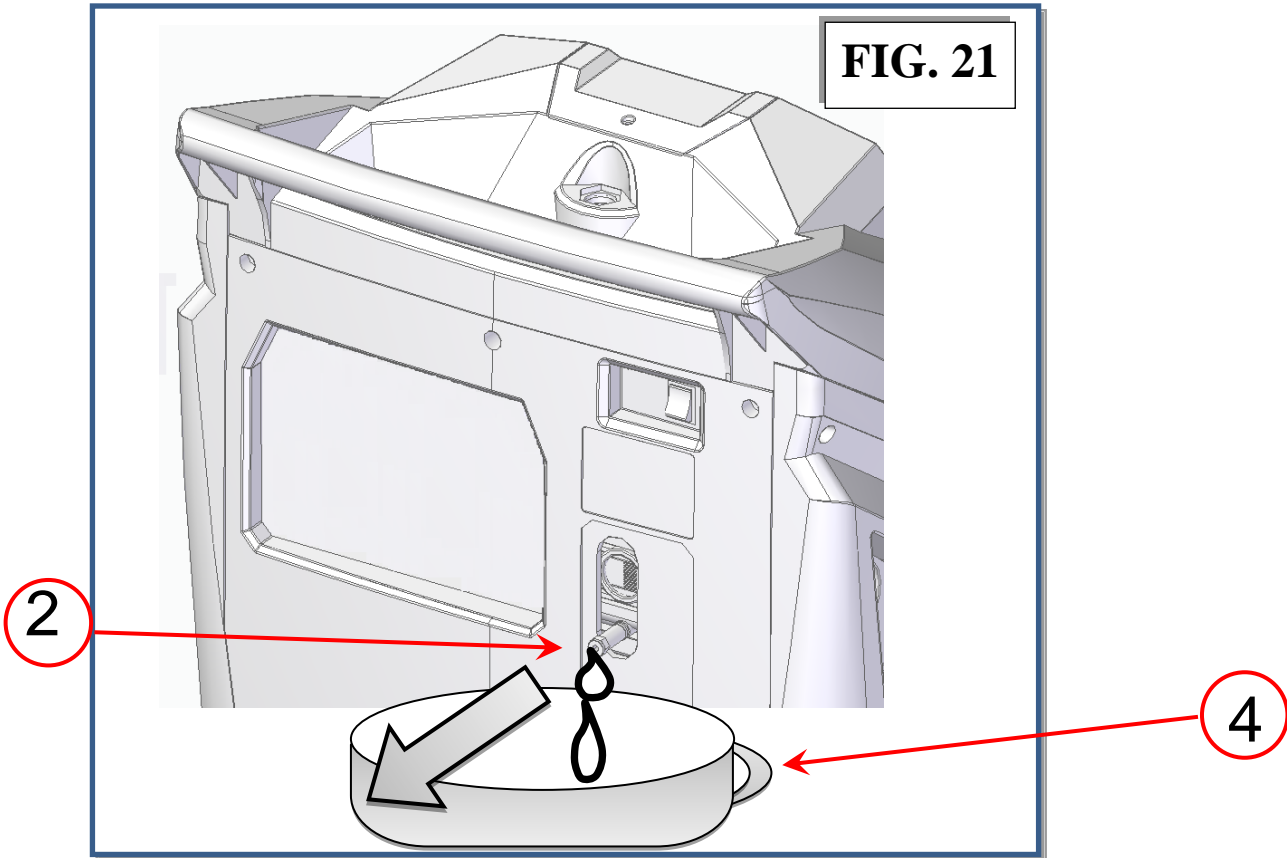
- 1) Disconnect the machine from the mains supply.
- 2) Place a container (ref 4 Fig.19). under the drain cap (ref 2, Fig.19).



- 3) Unscrew the filling cap (ref 1, Fig.20).

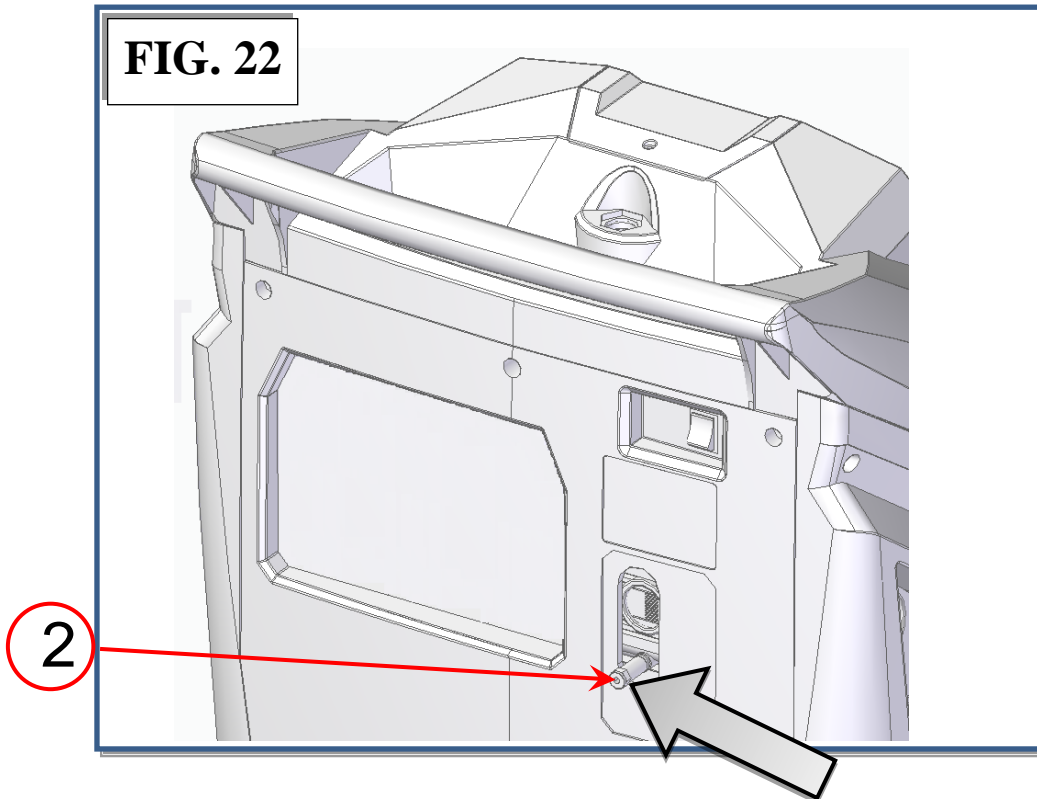


4) Unscrew the drain cap (ref 2, Fig.21).

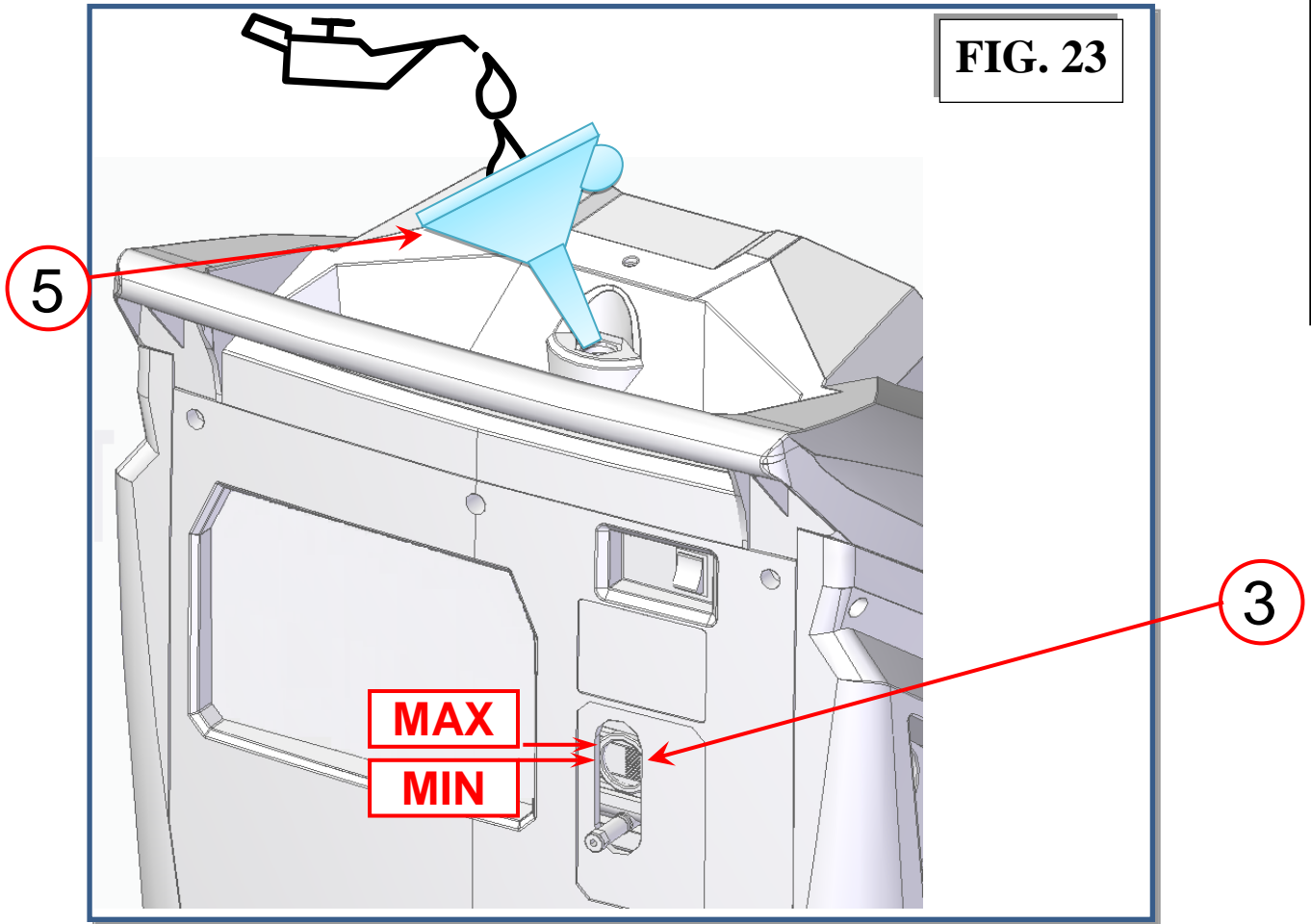


Allow all the oil to run out into a disposal container (ref 4 Fig.21) (with height < 10 cm).

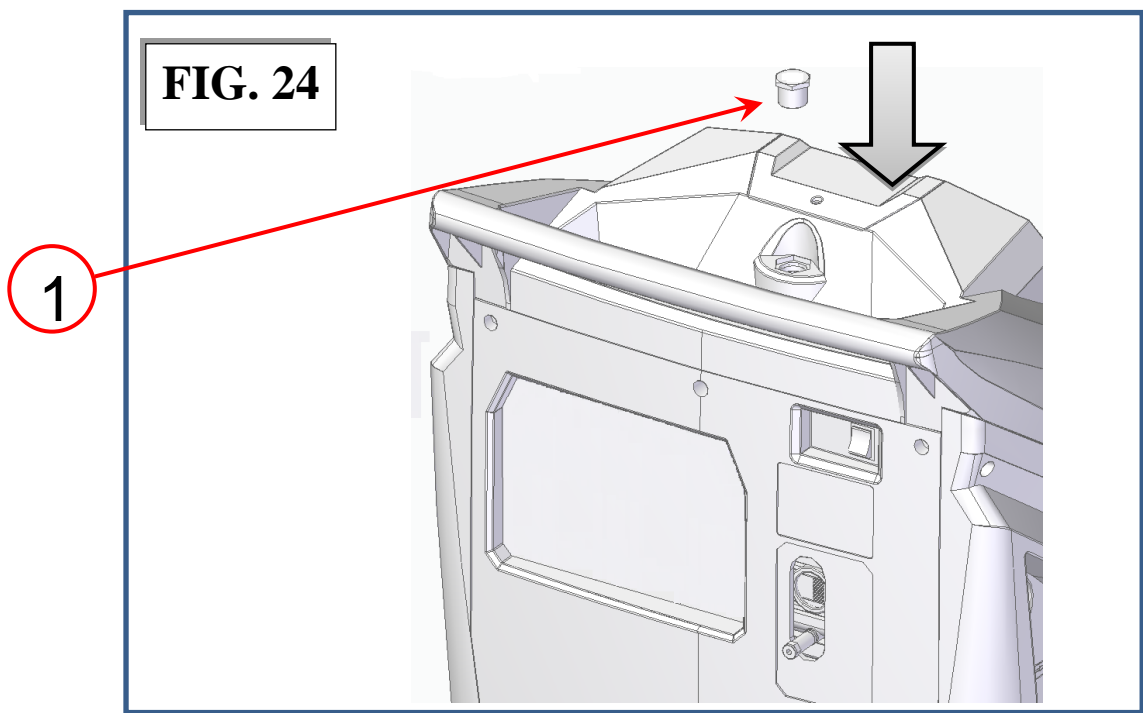
5) Close the drain cap (ref 2, Fig.22).



- Pour in new oil through the filling hole, using a proper funnel (ref 5, Fig.23), until the level rises to the midpoint on the indicator (ref 3, Fig.23).



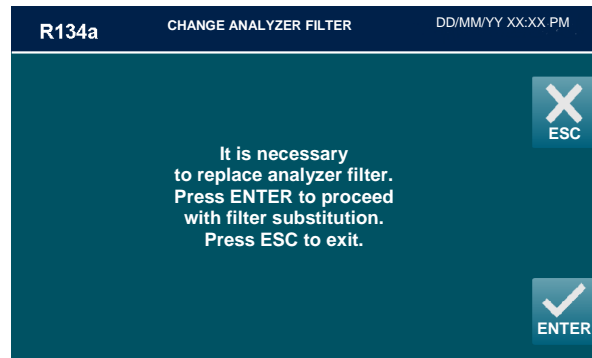
- Replace the filling cap (ref 1, Fig.24) and tighten down.



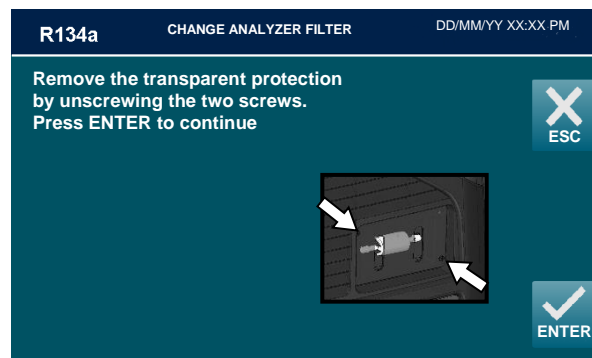
CHANGE ANALYZER FILTER (ECO NEXT ONE HFO “B” only)

NOTE: Wear protective gloves and glasses

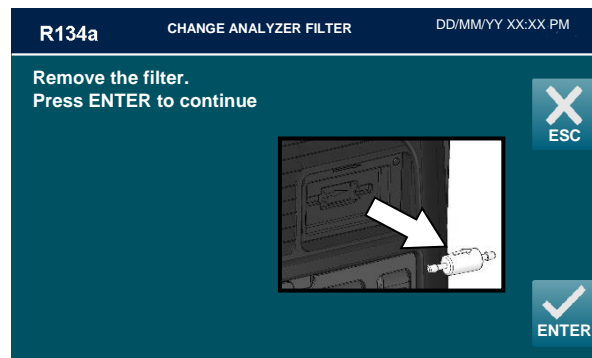
The gas analyzer filter must be replaced when the machine visualize the “change analyzer filter” alarm message (usually every 150 analysis):



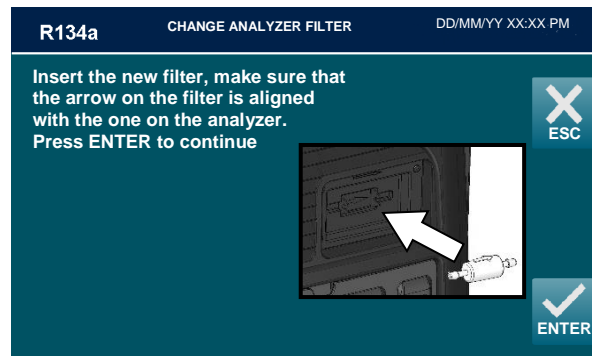
Press ENTER to proceed with filter substitution, the following screen will be displayed:



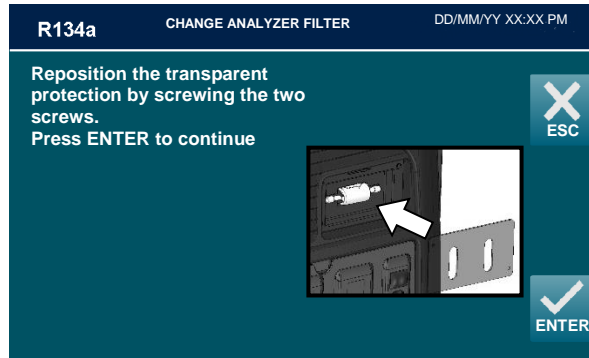
Remove the transparent protection by unscrewing the two screws. Press ENTER to continue, the following screen will be displayed:



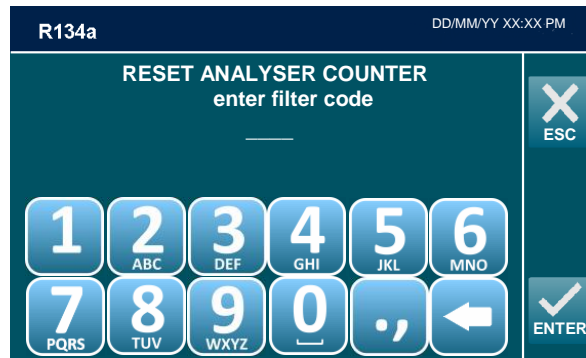
Remove the filter. Press ENTER to continue, the following screen will be displayed:



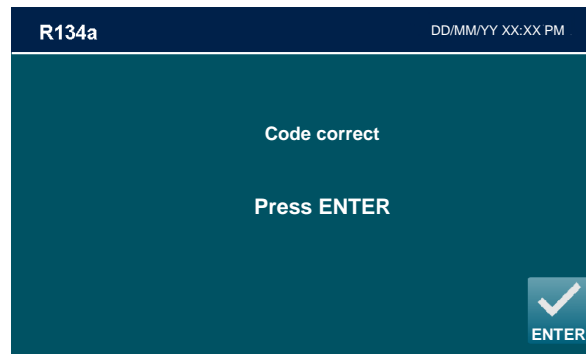
Insert the new filter, make sure that the arrow on the filter is aligned with the one on the analyzer. Press ENTER to continue, the following screen will be displayed:



Reposition the transparent protection by screwing the two screws. Press ENTER to continue, the following screen will be displayed:




Type the RESET CODE from the spare pair filters box, then press ENTER to continue, the following screen will be displayed:

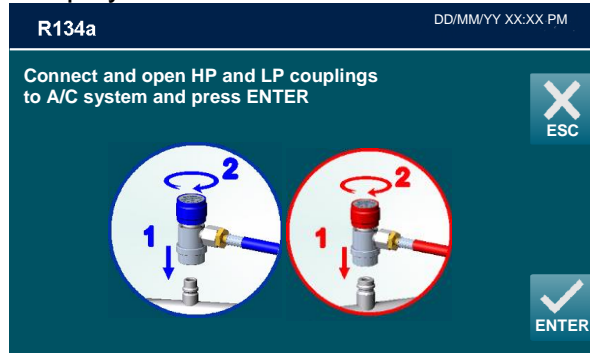


RESET ANALYZER FILTER COUNTER is now successfully completed, press ENTER to exit.

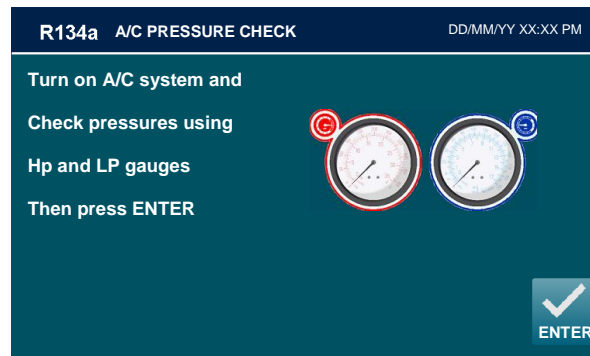
NOTE: Failure to replace the filters could result in oil damage to the analyzer and the voiding of the warranty.

A/C PRESSURES CHECK

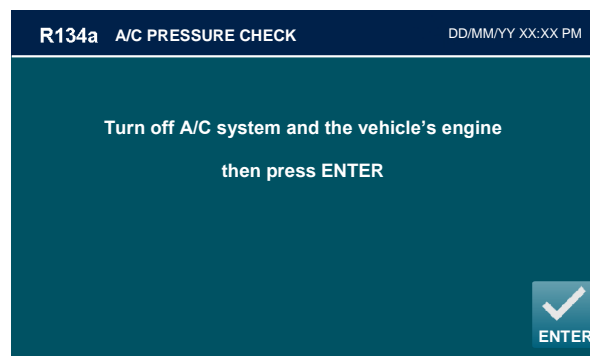
From MAINTENANCE scroll to page 2 with the arrow  and select A/C PRESSURES CHECK, the following screen will be displayed:



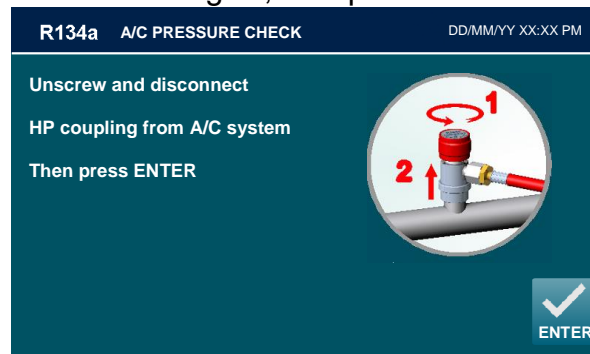
Connect and open the coupling connected to the A/C system, then press ENTER, press ESC to return back; the following screen is displayed:



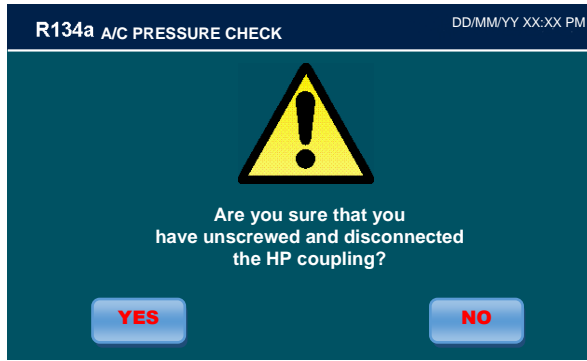
Turn on A/C system and check pressure using HP and LP gauges, then press ENTER:



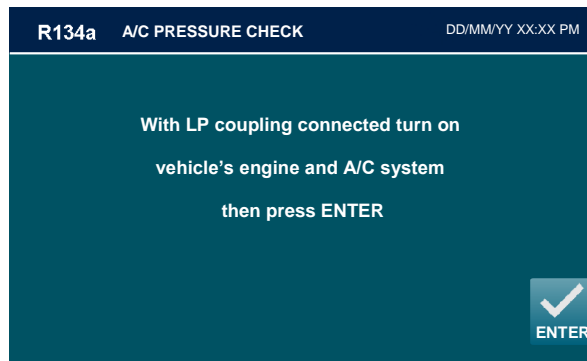
Turn off A/C system and the vehicle's engine, then press ENTER:



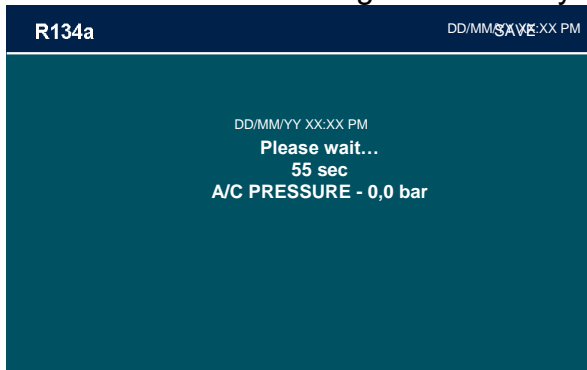
Unscrew and disconnect HP coupling, then press ENTER:



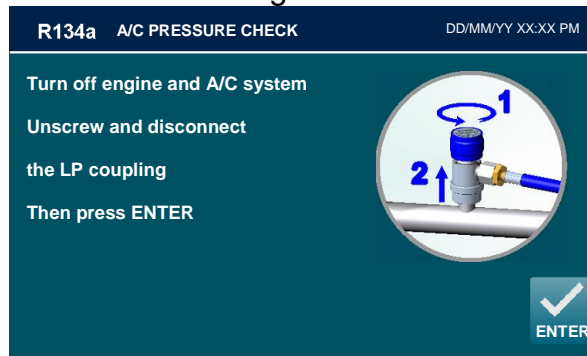
Press YES to confirm:



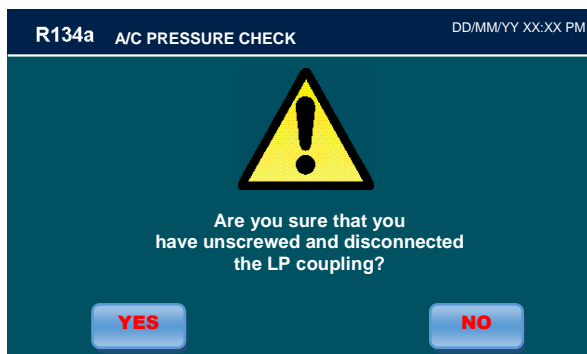
With LP coupling connected turn on the vehicle's engine and A/C system, then press ENTER:



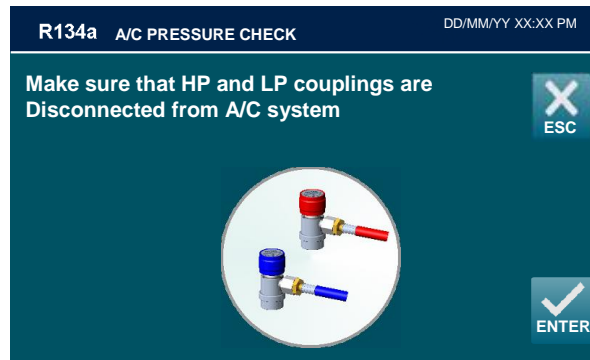
The vehicle's A/C system will recover the refrigerant from the service hoses, then:



Turn off engine and A/C system, unscrew LP coupling without disconnect it, then press ENTER:



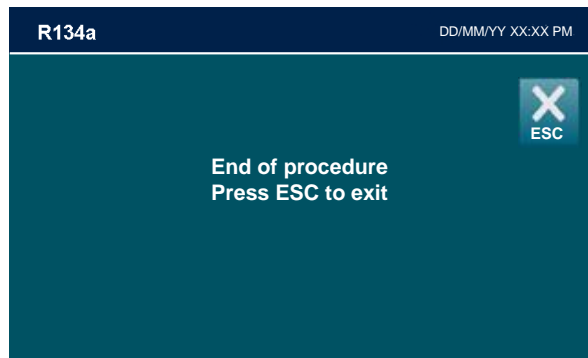
Press YES to confirm:



Make sure that HP and LP couplings are disconnected from A/C system:




The machine will recover the residual refrigerant into the service hoses, then the following screen will be displayed:

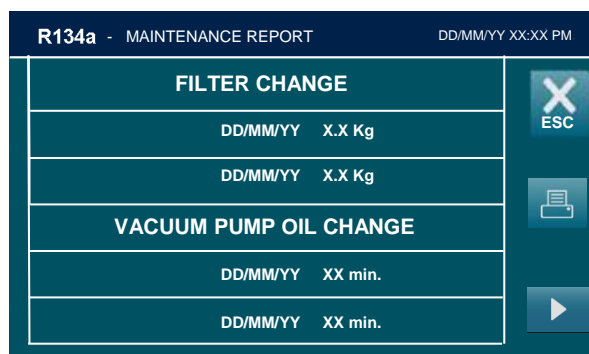


Disconnect coupling from A/C system, press ESC to return to the MAINTENANCE MENU; A/C PRESSURES CHECK is now successfully completed.

MAINTENANCE REPORT


The machine keeps track of the maintenance operations done.

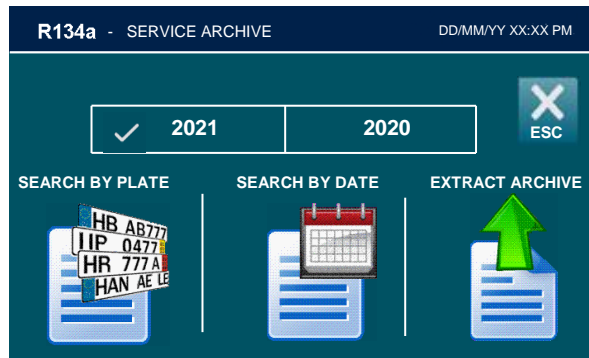
From MAINTENANCE scroll to page 2 with the arrow  and select MAINTENANCE REPORT the following screen will be displayed:



SERVICES ARCHIVE

The machine keeps track of the operations done on refrigerant fluid: recovery, system refilling, inner tank filling. For any operation, a record is made with date, time, type of operation, quantities involved, operator nr., inner tank refrigerant fluid availability.

From MAINTENANCE scroll to page 2 with the arrow  and select STATIC DIAGNOSIS the following screen will be displayed:

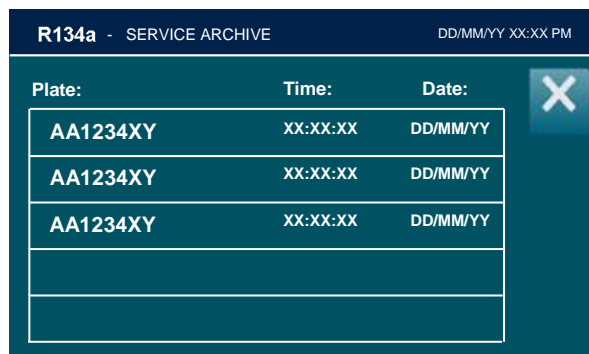


SEARCH BY PLATE

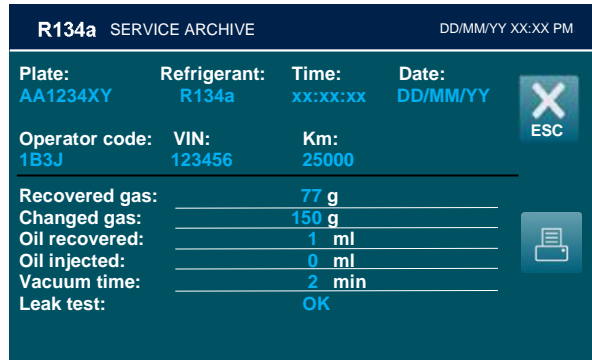
Selecting SEARCH BY PLATE, the following screen will be displayed:




Use the keypad to insert plate number to search, then press ENTER:



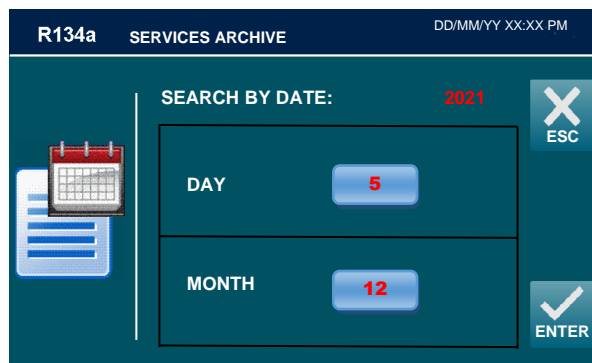
A list will be displayed, select service for detailed info:



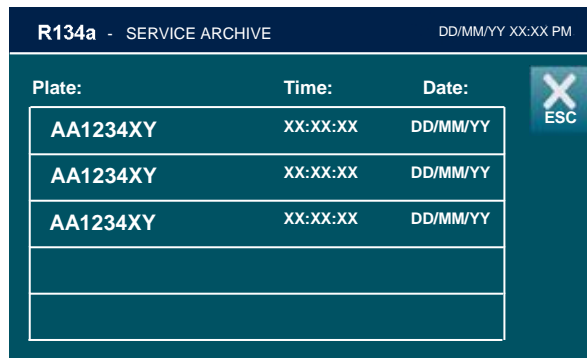
Press  to print the report of the service, or press ESC to return to previous menu.

SEARCH BY DATE

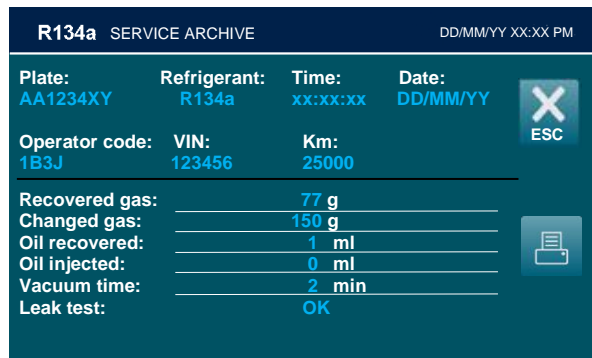
Selecting SEARCH BY DATE, the following screen will be displayed:




Insert date to search, then press ENTER:



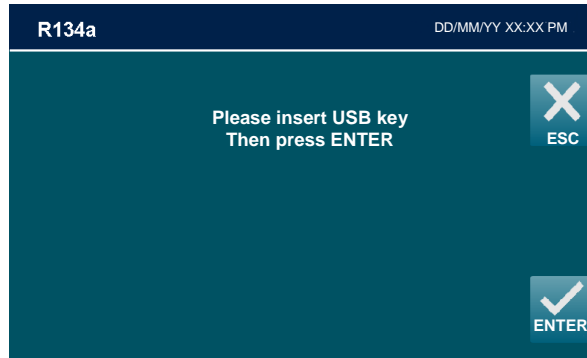
A list will be displayed, select service for detailed info:



Press  to print the report of the service, or press ESC to return to previous menu.

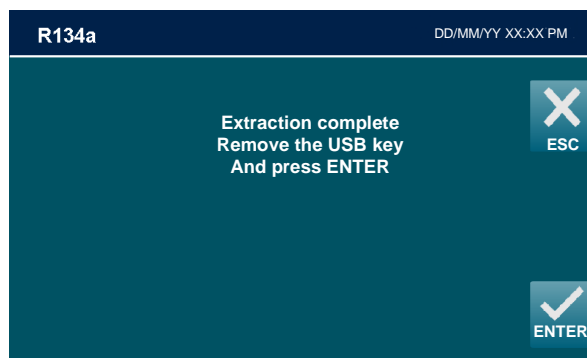
EXTRACT ARCHIVE

Selecting EXTRACT ARCHIVE, the following screen will be displayed:



Insert the storage device (FAT32, 256mb min.) in the USB port and press ENTER, to save to copy a .CSV file with all the operations into the Pendrive.

The following screen will be displayed for few seconds:



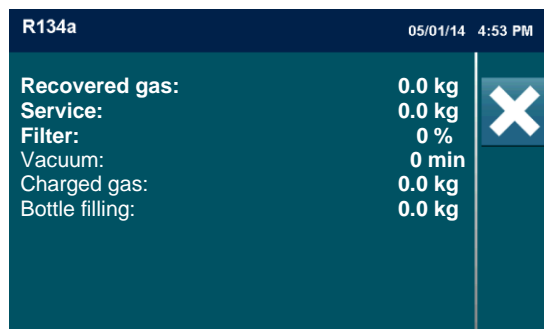
Extraction is now completed, the machine will return to the previous menu.

COUNTERS

This is used to check total COUNTERS of: recovered gas, service alarm meter, total vacuum minutes, injected gas, gas recovered into the tank with the tank refilling function.

From MAINTENANCE scroll to page 2 with the arrow  and select COUNTERS

the following screen will be displayed:



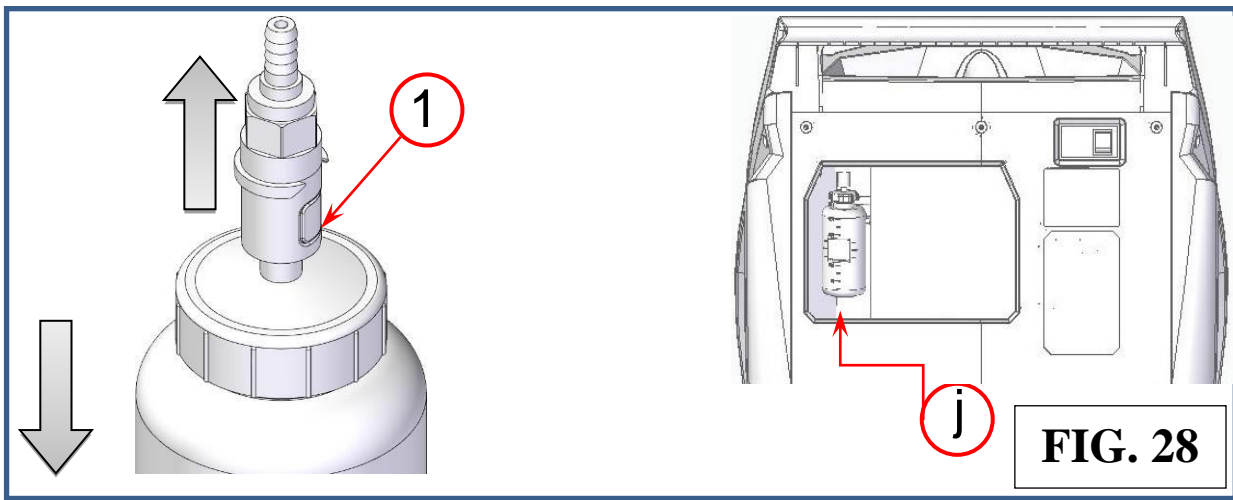
This screen displays the total values for: gas recovered, service alarm COUNTERS, total vacuum time (minutes), gas injected, gas recovered in the internal tank.

FILLING THE NEW OIL CONTAINER (ECO NEXT ONE "B" only)

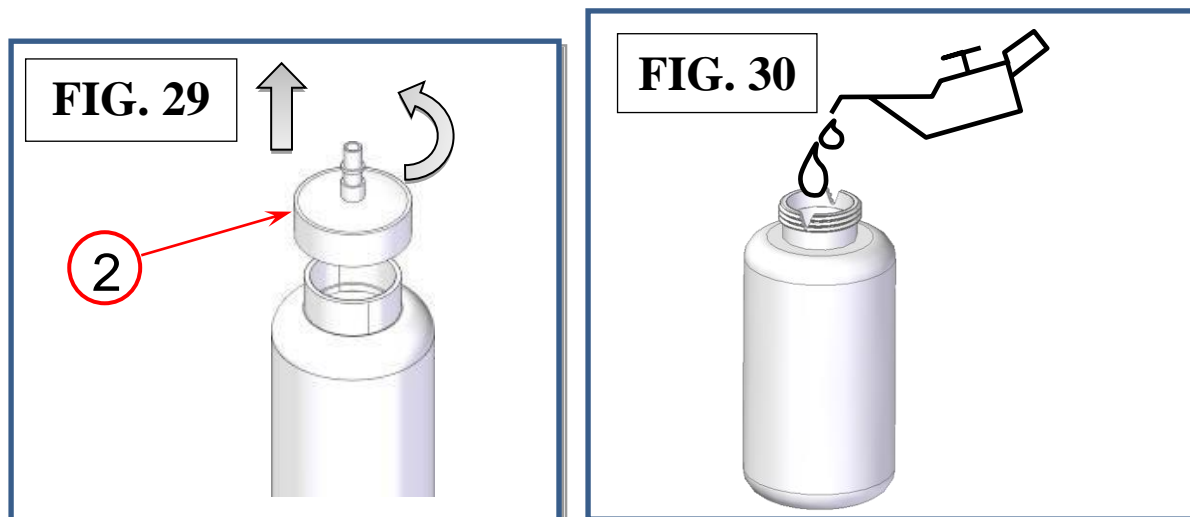
Types of oil: use only oils recommended by the manufacturer or by the car manufacturers. Always refer to the information provided by the A/C system manufacturer. Never use waste oil.

Procedure:

1. Press quick connection button (ref 1, Fig.28) to disconnect the oil container OIL container (ref j, Fig.28);
2. Remove the container from its lodging



3. Hold the container and unscrew the cap (ref 2, Fig.29). Fill the container (Fig.30) with the correct quantity (about 250-260ml) of oil for compressors, of suitable type and grade.



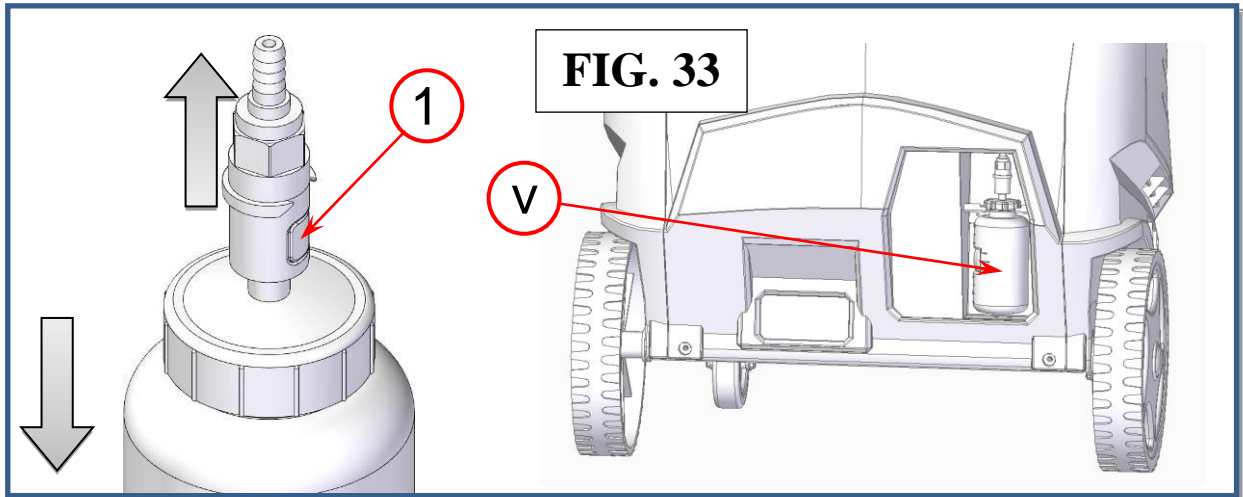
NOTE: in order to reduce humidity and air contamination of new oil, the collapsible container has to be filled almost to the brim.

4. Screw the cap (ref 2, Fig.29) back into the container.
5. Replace the container and hook it up to the quick connection taking care not to exert pressure on the scale in order not to damage it.

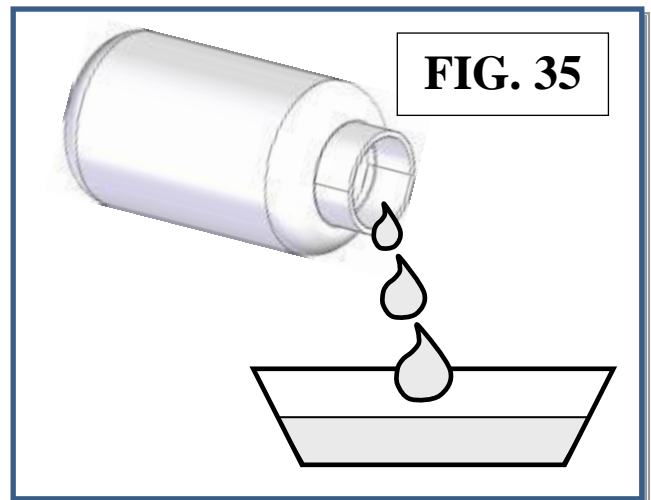
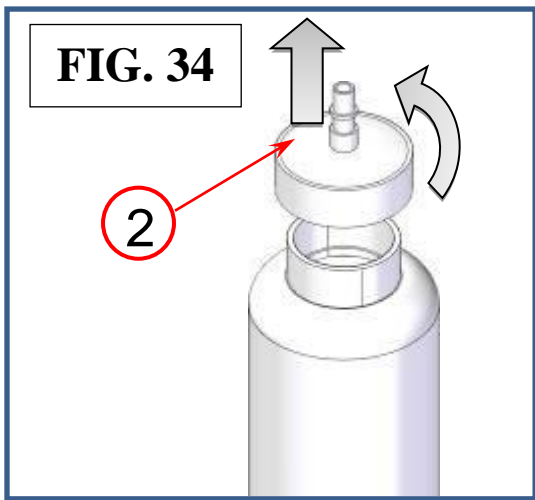
EMPTYING THE USED OIL CONTAINER

Procedure:

1. Press quick connection button (ref 1, Fig.33) to disconnect the used oil container
2. Lift the used oil container out of its lodging (ref v, Fig.33) without exerting pressure on the scale.



3. Unscrew the cap (ref 2, Fig.34) while holding the container; empty the used oil into a suitable container for used oils (Fig.35).



4. Screw the cap back into the container.
5. Replace the container and hook it up to the quick connection taking care not to exert pressure on the scale in order not to damage it.

NOTE: In order to avoid damage to the oil scale, never exert pressure on it either from above or from below.

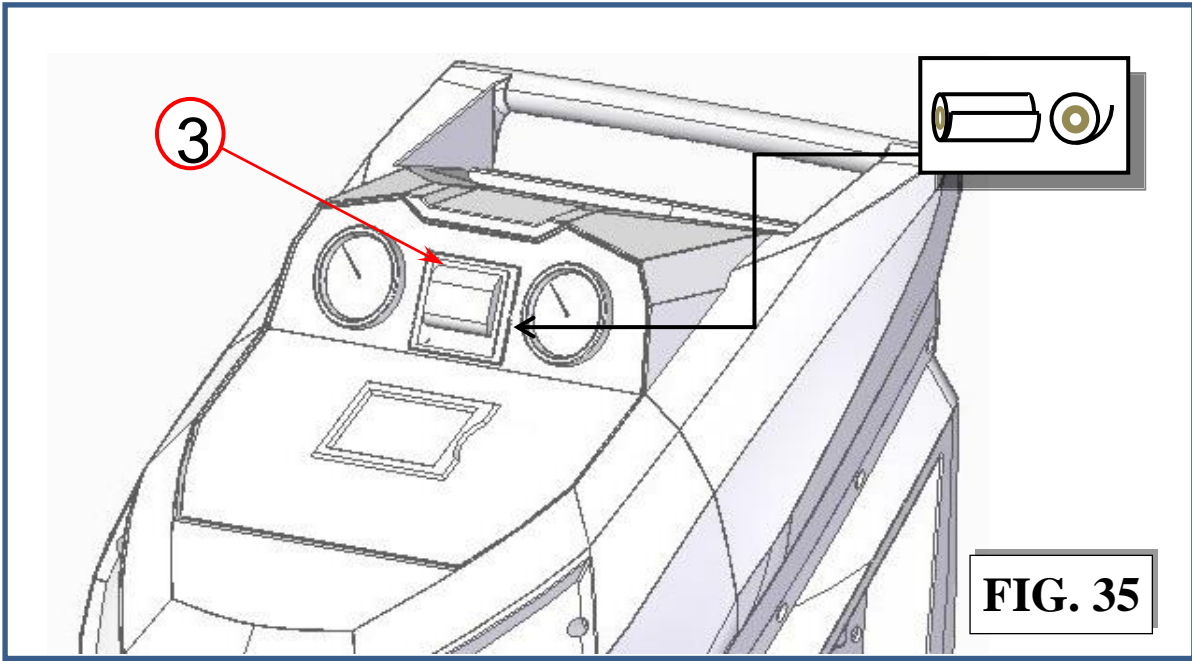
REPLACING THE PRINTER PAPER

Open the print cover (ref 3, Fig.35), and replace the paper roll with a new one

Use only heat-sensitive paper of the type described below.

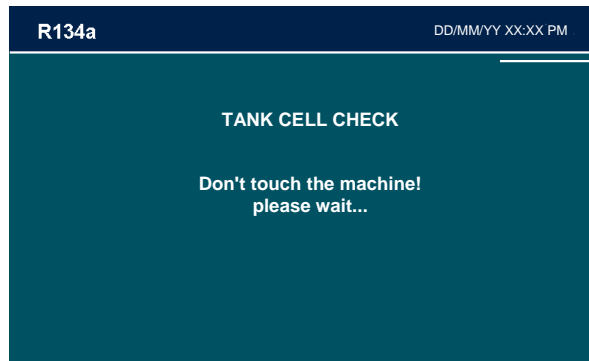
Paper width: 58 mm

Maximum paper roll diameter: 40mm

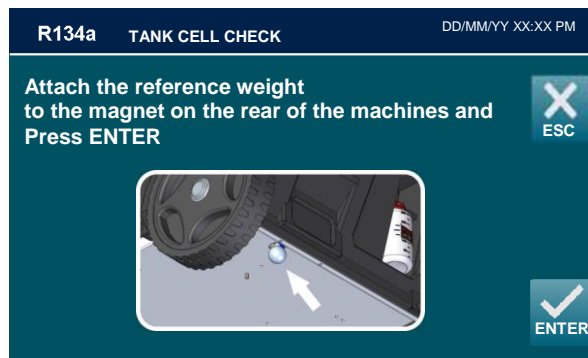


TANK CELL CHECK

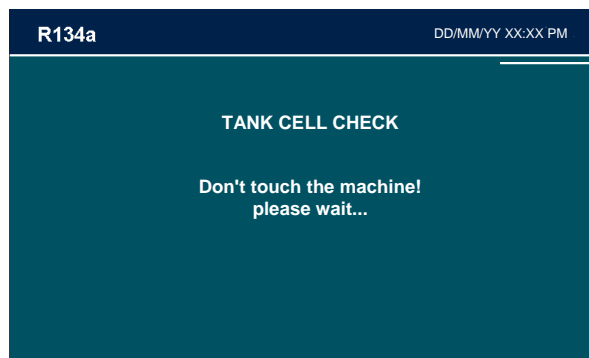
From MAINTENANCE, select TANK CELL CHECK, the following screen will be displayed:



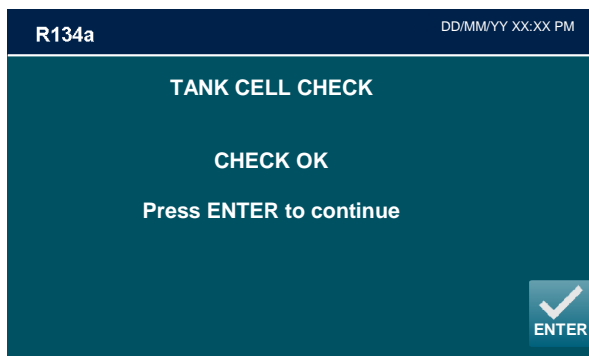
Wait few seconds, paying attention not to touch the machine, then the following screen will be displayed:



Attach the reference weight to the magnet on the rear of the machines and press ENTER. The following screen will be displayed:



Wait few seconds, then if the tank cell is correctly calibrated the following screen will be displayed:



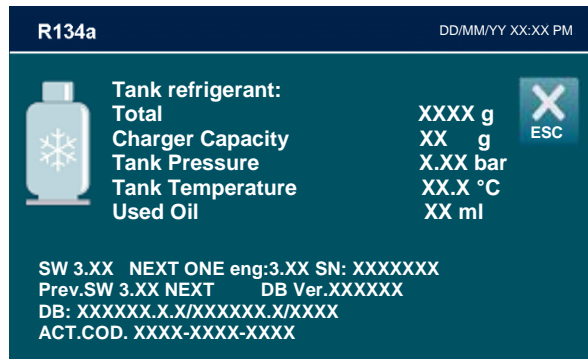
Press ENTER to return to MAINTENANCE MENU

DATA

This menu shows all data read by the machine. From the MAIN MENU:



Press “i” key , the following screen will be displayed:



- Tank refrigerant:
 - Total: amount refrigerant inside the refrigerant tank
 - Charger Capacity: amount of refrigerant available for charge (Total – 1360 g)
- Tank Pressure: internal tank pressure
- Tank Temperature: refrigerant storage tank temperature
- Used Oil: quantity of used Oil in the Used Oil containers
- SW V.: Software version

Press to return to MAIN MENU.

CODES SUMMARY

OPTION code: 43210791