

# LAUNCH

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AUTOMATIC A/C SERVICE UNIT

VALUE-601A


















VALUE-601YF

USE AND INSTRUCTION MANUAL

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### FULLY AUTOMATIC A/C SERVICE UNIT VALUE-601A VALUE-601YF USE AND INSTRUCTION MANUAL

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## Preliminary instructions/proper use

The present recycling and recharging unit for A/C systems is meant for commercial purposes and is thought to be used by trained personnel only being aware of the principles of refrigeration, conscious of the hazards which may derive from equipment working under pressure with substances at very low boiling temperature.



We advise to read the present instruction manual carefully and to **strictly comply** with the given information, paying particular attention to the safety regulations. We shall decline any responsibility resulting from the improper use of the equipment, use for purposes other than those described in the present operating manual, incorrect operation, damages resulting from external influences.

Always keep the unit in vertical position in order to avoid oil leaks and the compressor to be damaged.

## General safety regulations



- **Read** the instructions for use careful before starting to operate with this Aircon service unit;
- **Follow** the information and the instructions of the refrigerant manufacturer;
- **Observe** any instructions on servicing vehicle A/C systems which apply at your company;
- **Use** with refrigerant indicated on the data plate only (**HFO-1234YF or R134a**).
- **Do not** make modifications to the service unit;
- **Only employ original spare parts** and accessories;
- **Use** authorized additives or consumables only(ask for advice from an authorized reseller);
- **Before starting** the machine first **check each time** whether the charging hoses and the quick couplers are undamaged and are not leaking;
- **Recover** refrigerant from the hoses before releasing the quick connections;
- **Do not** leave the unit unattended when switched on; Use the main switch to switch off the unit after its use;
- Always **wear** personal safety equipment, in particular **gloves** and **protective goggles** apart from following the general safety rules which apply to your company;
- **Avoid inhaling** the refrigerating gas;
- **Avoid the contact** with the skin by refrigerating gas, danger of freezing;
- **Never abandon** the refrigerating gas **in the environment**;
- **Do not use** the unit in potentially **explosive environments**; (for instance: battery charging rooms);
- **Do not smoke** whilst using the recharging unit;
- During the operations, **locate the unit on a flat** and leveled surface;
- **Do not use** the unit **near flames** or sources of heat; at high temperatures the refrigerating gas can generate poisonous substances for inhalation;
- **Do not use** the unit in **very humid and wet environments** or in the rain;
- **Use** the unit in **airy environments**;
- During maintenance operations **disconnect the unit from the electrical power**.








## GENERAL INFO

- **Avoid removing the connecting hoses** if not necessary; in case always make a vacuum in the hoses before using again;
- Maintenance operations have to be carried out by **specialized and authorized personnel**.
- **Do not** violate for any reason at all **the safety devices** the unit is equipped with, like the high pressure valve of the internal reservoir.
- **Do not** fill compressed air in the lines of the service unit or in the vehicle aircon system (a mixture of air and refrigerant can be flammable or explosive);

Please be aware that whatsoever damages due to a wrong or improper use of the recharging station will not be covered by our warranty. Consumables like packing and seals for hoses and quick couplings, fuses and damages occurred during transport are not part of the warranty.

### Warning icons used in the present manual

Caution!	Connected to 230V socket 50Hz	Wear gloves when handling refrigerants	Wear goggles when handling refrigerants	Protect against moisture, humidity	Read instruction manual carefully
					

### Safety devices

A) Pressure relief valve on internal gas tank: releases pressure if 18 Bar are exceeded in the gas tank.

B) Safety fan: ventilates the unit continuously when in use. The software displays a warning message in case of failure of this fan. **This device applies to models designed for R1234YF refrigerant**

### Scrapping of the unit

- Do not treat the unit as mixed solid waste for scrapping but take it to pieces (waste separation).

- Refer to the specific collection points for waste of electric and electronic devices (AEE), according to the relevant **CEE RAEE 2002/95/EC, 2002/96/EC2003/108/EC** regulation.

- The vacuum pump and the containers of new and used oil contain mineral and synthetic oil. Therefore, specific regulations for scrapping have to be followed. The same procedure has to be followed for **refrigerant gas** residuals in the storage bottle. Also the **exhaust oil** drained from the pump is a specific waste and has to be collected according to the relevant regulations in force.





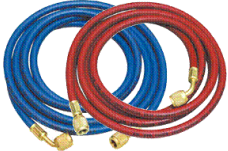
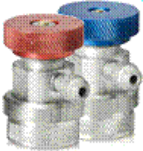


## INSTALLATION

### Installation and preparing for use

#### Unpacking and checking of the unit

Check the integrity of the packaging to exclude damages occurred during transport. Check the entirety of the equipment and of the relevant accessories. Not conformities, if any, have to be pointed out immediately and written on the transport documents.

#### Checking the accessories delivered with the unit

Charging hoses 3 m HP+LP	Quick couplings HP+LP	Feeding cable	Calibration hook
			

#### Preparing for use

#### Removal of the safety device

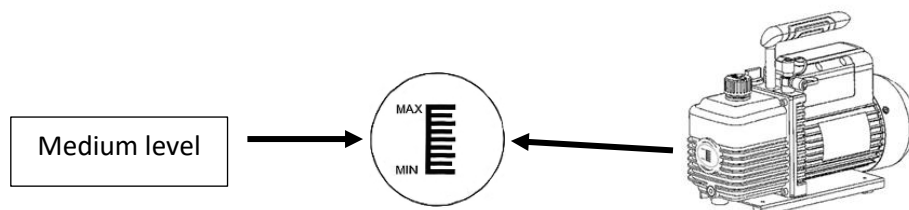
Before using, the unit for the first time remove the safety screw, which is screwed to the tank load cell for protection (see fig. 1). It is recommended to check the regular functioning of the load cell, for example by hooking a known weight to the bottle to check the correspondence with the weight shown on the display (see relevant paragraph).



1	Threaded hole for transport safety blocking screw
2	Threaded hole for the connection of the calibration hook to the load cell
3	Load cell locking pins

#### Oil level checking of vacuum pump

Check the level of hydraulic oil in the vacuum pump and, if necessary, fill up to the level (about half of the spyglass)





## INSTALLATION

### Connection of tubes and leak test

Connect the charging hoses to the unit (high pressure = RED, low pressure = BLUE). Make sure that the quick couplings are in position “**CLOSED**” (eventually, turn handle **counter-clockwise** to close)

Carry out a vacuum cycle of one/two minutes followed by a leak test under vacuum. The above procedure avoids that air residuals are left in the hoses and checks for eventual leaks. (See the relevant instructions) The vacuum and the following leak test the test should be repeated whenever the charging hoses could have been contaminated with air.

Check if the setting relevant to the length of the hoses is correct (select “OPTIONS AND SETTINGS” then “HOSE LENGTH” and modify if needed, by means of the buttons “UP” and “DOWN” (3 Mis default setting)

**If the hose length, on the opposite, is set to “0” (zero), at the end of the working cycle, the unit will not calculate the gas remaining in the hoses at the end of the working cycle and will lead the user to suction the gas residuals in the A/C system of the vehicle, instead.**

(in case of a pressure test which is not preceded by a standard working cycle, the unit recovers the gas residuals in the vehicle by default, regardless to the above setting)

### Filling of internal bottle

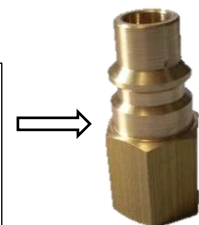


The unit is delivered with the empty internal gas bottle for safety reasons. It is therefore necessary to fill the bottle with a refrigerant g quantity not lower than 2 Kg and not higher than eighty percent of the maximum nominal capacity of the reservoir (this percentage may vary according to local safety rules). In order to fill the internal tank please follow the relevant instructions of the present manual. To connect to the bottle, use the HP hose with the HP quick coupling (a special coupling is required to couple the quick coupling to the bottle, see hereunder)

Adapter for **R134a** bottles



Universal adapter for **R1234yf** bottles



### Connecting to power feeding



Connect to proper power feeding according to the unit's technical specifications

### Position on an even surface



During the operations, the unit must be located on a flat and leveled surface in order to correctly perform the weight measurements and in order to comply to the safety rules.



## UNIT DESCRIPTION

### Components description, use of buttons

#### Preliminary test

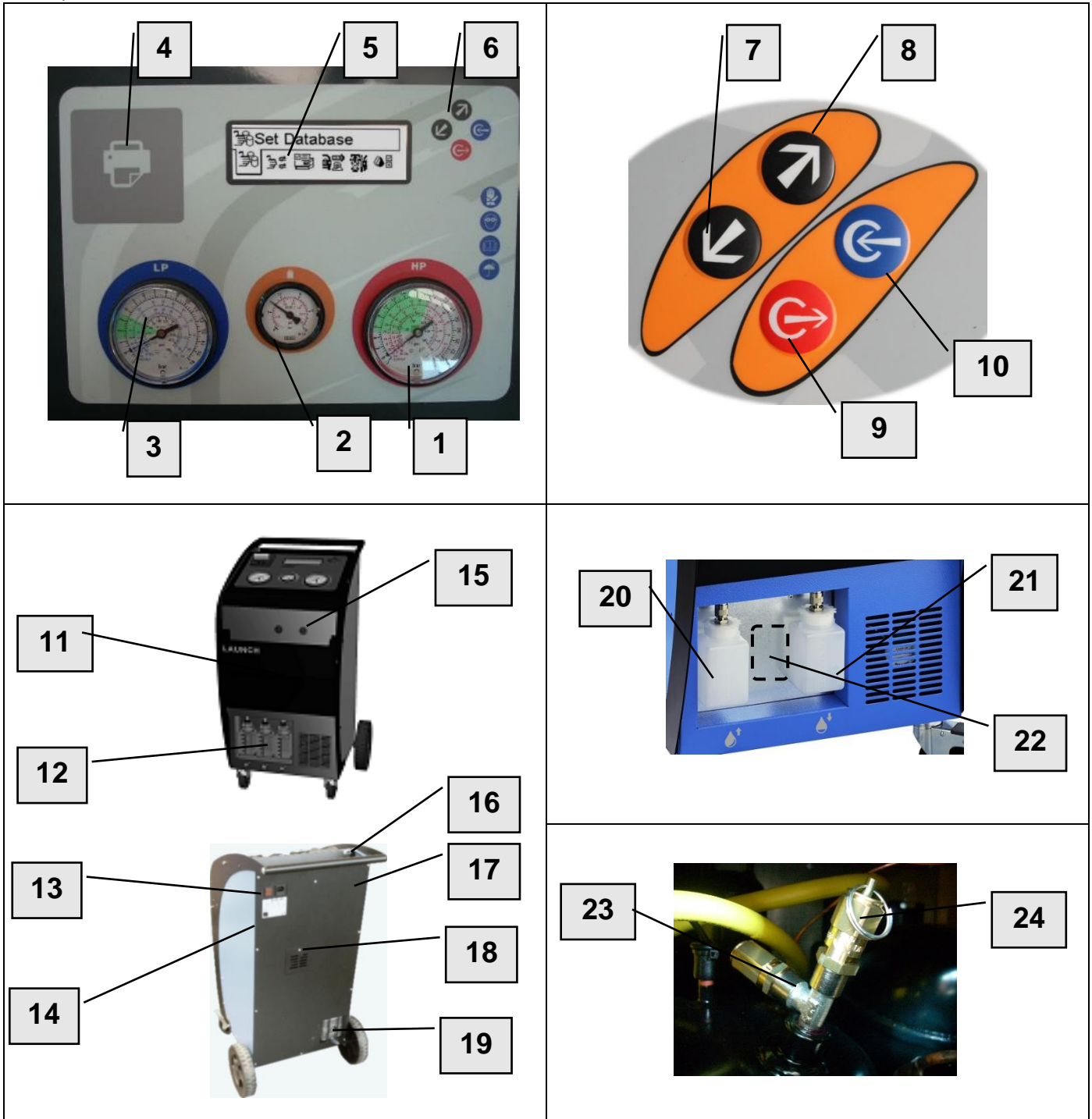
Connect the feeding cable to the mains (220V AC single phase) and turn on the main switch.

Check that the refrigerant used by the A/C system to be serviced is the one the service unit is intended for: **R134a**

Check oil levels (vacuum pump and new oil reservoir).








After having turned on the unit, check the level of the refrigerant in the internal reservoir and refill, if needed.

Description of the unit





## UNIT DESCRIPTION

Re.:	Description	Note
1	High Pressure Gauge	For the inspection and diagnosis of the A/C system
2	Tank Pressure Gauge	To check the pressure inside the gas storage reservoir.
3	Low Pressure Gauge	For the inspection and diagnosis of the A/C system and for the control of the vacuum.
4	Thermal printer position	(OPTIONAL) prints a report on the carried out cycles
5	LCD Display	Visualizes the operations of the unit
6	Buttons	Control buttons
7	Button "Down"	 To browse the menus or decrease the values of the various parameters
8	Button "UP"	 To browse the menus or increase the values of the various parameters
9	Button "EXIT"	 Interrupts any whatsoever operation, to exit and return to the previous menu
10	Button "ENTER"	 To select and confirm the different functions, or to enter the following menu
11	Hoses storage	To place instruction manual or hoses when not in use
12	New/old oil bottles	Store the new oil and the drained oil
13	Main switch	Shows the machine data (serial no., year of construction)
14	Identification plate	To connect the charging hoses LP / HP
15	Main LP(blue) and HP(red) couplings	To power the machine (220-240V 50 Hz)
16	Serial port	To update the databank of the unit
17	Ventilation fan	Internal ventilation fan ( <b>ECOS200YF model only</b> )
18	Safety valves inspection door	To inspect the safety and the NCG release valve
19	Vacuum pump ventilation grid	To ventilate and inspection the vacuum pump
20	New oil bottle	 New oil storage / new oil storage for hybrid vehicles
21	Old oil bottle	 Drained oil storage
22	Dye bottle <b>OR</b> hybr.oil bottle position NOT IN USE	 Dye storage <b>OR</b> hybrid oil storage ( <b>OPTIONAL</b> )
23	Non-condensable gas release valve	Automatically releases non-condensable gases
24	Max pressure valve	Automatically releases pressure if max pressure is reached. Allows to manually release NCG gases, if present

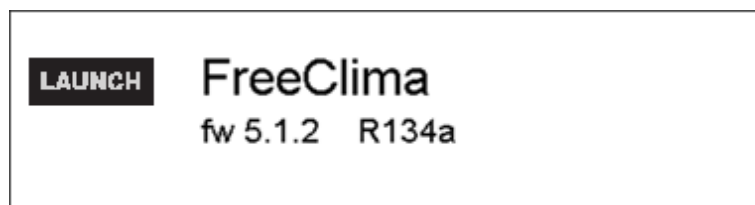


## MENU DESCRIPTION

### Main menu and main working cycle description

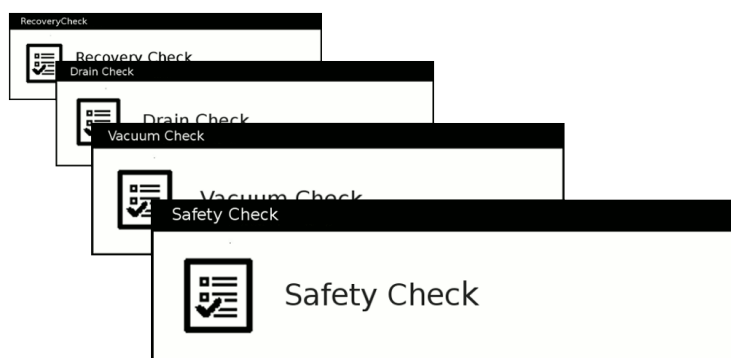
After switching on the unit displays the SW version and performs an automatic test to check if there are any gas leaks in the machine and, eventually, stops the operation.

Switch on the unit which will display Firmware version and refrigerant type

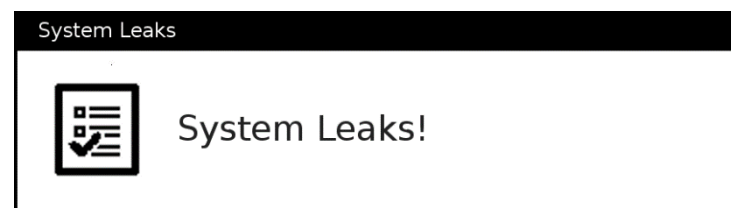


The unit automatically starts a series of tests:

- A. Recovery check
- B. Drain check
- C. Vacuum check
- D. Safety Check

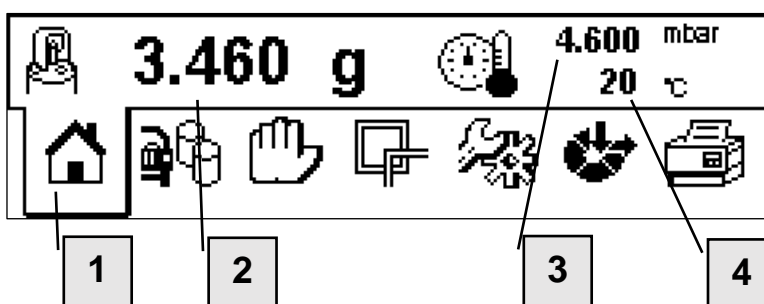


In case the test fails, the unit displays a warning message (in the case at the right, a leak in the system). Call the service if such a message appears.



After the test you land in the "Home Page":

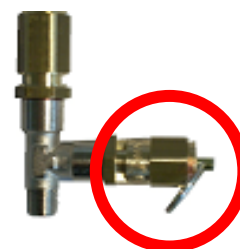
- 1 – Home page Icon
- 2 – Gas quantity in the tank
- 3 – **Theoretical** tank pressure
- 4 – **Actual** gas temperature



#### NOTE:



##### Release of Non-Condensable Gases

If the **theoretical gas tank** pressure shown on the home page (see above n. 3) calculated on the base of the gas temperature is significantly **lower** than the **actual** tank pressure (shown on the gas tank manometer) the refrigerant is contaminated by **non-condensable gases** (NCG's) The unit automatically releases NCG's during the vacuum cycle, but the user (for instance in case of failure of the NCG release valve) may also manually release by pulling the ring on the max pressure valve until the theoretical and the actual presur evalues comply. **NOTE:** If the **theoretical** gas pressure, on the opposite, is **higher** than the actual value shown on the tank manometer the **gas quantity** in the tank is too low .





## MENU DESCRIPTION

By means of the buttons  "UP" (see above n. 8) and  "DOWN" (see above n. 9) you reach the different program choices:



"**DATABASE**" to access the choice of the model from the internal database



"**MANUAL**" to set the working parameters manually or to work step by step



"**ACCESSORIES**" to choose the accessory functions like the flushing with refrigerant or the test under pressure with the use of nitrogen



"**SETUP**" to set the basic parameters (date and time language etc.)



"**OPTIONS**" to access optional settings or functions



"**PRINT**" to print the data stored in the unit or the data of the last service cycle





## DATABASE

### Model choice through the internal DATABASE

Select the DATABASE working mode to browse the list of car manufacturers, choose the type and the version of the car you are going to service.



Select the "DATABASE" working mode...



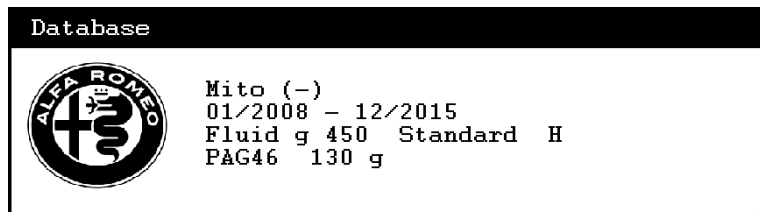
...browse the list of car to choose manufacturer...



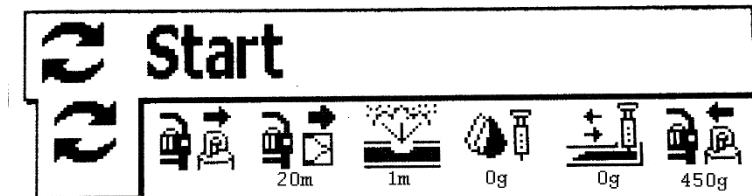
... the type ...



...and the version of the car, info about **total** oil quantity in the system and if Hybrid/Electric vehicles (H)



The single parameters can be changed by pressing **ENTER**, changing the values with the buttons UP and DOWN and by pressing EXIT to return to the main menu.



Press **ENTER** to start the complete automatic working cycle (see **AUTOMATIC CYCLE with MANUAL PARAMETER SETTING** for detailed description of all the working cycles)





## WORKING CYCLE

### Automatic A/C service cycle, with automatic or manual working parameter setting

**NOTE:** always wear safety gloves and protection glasses when servicing an A/C system!



You may perform the **A/C service cycle** in three ways :

- A) **AUTOMATIC** working cycle  $\implies$  all working phases performed in one step
- B) **MANUAL** working cycle  $\implies$  single working phases performed one by one
- C) **SEMI-AUTOMATIC** working cycle  $\implies$  recovery, oil drain, vacuum first step. Oil/dye and gas charging made after the setting of the oil quantity by the user.

In all cases, there is no setting needed for the **recovery** phase. The **vacuum/vacuum test time** and the **refrigerant quantity**

1. Can be taken from the internal **DATABASE** or
2. Can be defined by the user (manual setting of the parameters)

The **dye** quantity has to be set by the user (default is 0 g)

The **new oil** quantity, can be set in two ways:

1. It can be set by the user with no regard to the the recovered oil ("**MANUAL**" oil setting)
2. It can be set by the user according to the recovered quantity. In this case, the oil quantity has to be set on **SA** Pressing on the DOWN button below 0 the letters **SA** ("SemiAutomatic") are displayed and the unit stops after the vacuum to allow the user to evaluate the recovered oil quantity) and set the same new oil amount.



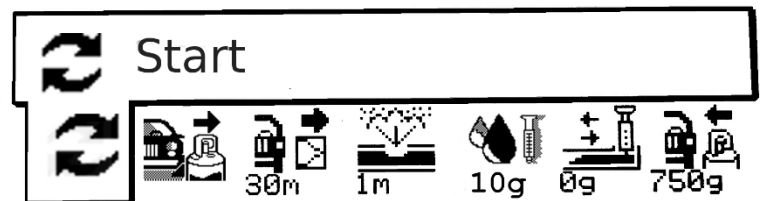
Choose the vehicle's model from the **DATABASE** or ...



... select the **AUTOMATIC CYCLE / MANUAL PARAMETER SETTING** mode (drawing at the right) and reach the following menu



By selecting **START** and clicking on **ENTER**, the unit performs an automatic cycle according to the displayed parameters. In the example to the right: 30 min vacuum, 1 min vacuum test, 10 g of new oil, 0 g of dye, 750 g refrigerant charging .







## WORKING CYCLE



If you have selected the semi-automatic mode, the unit will display **SA** under the oil-charging icon. The unit will stop after the vacuum/vacuum test cycle and allow the user to check the oil drain and set the new oil accordingly.



In the example to the right: 30 min vacuum, 1 min vacuum test, oil charged in SEMI-AUTOMATIC mode, 0 g of dye, 750 g refrigerant charging .



When all settings are defined choose **START** and press on **ENTER**



The unit first asks you to confirm the A/C type:

- Hybrid** (with electric driven Compressor) or electric vehicle
- Standard** (belt driven compressor)

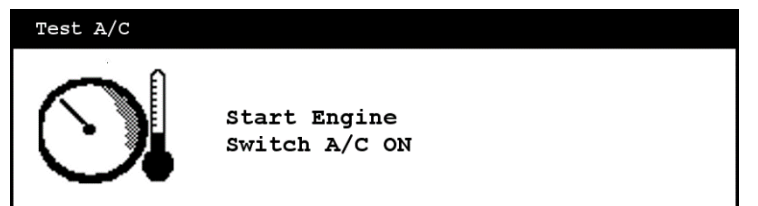
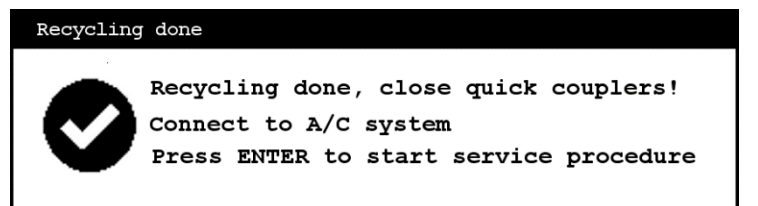
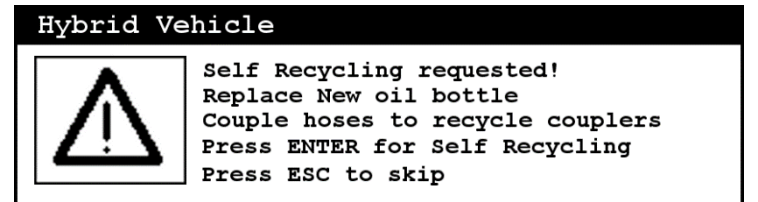
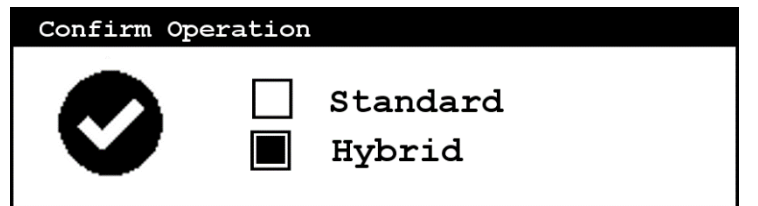
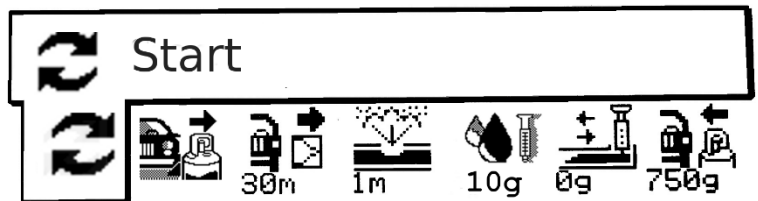
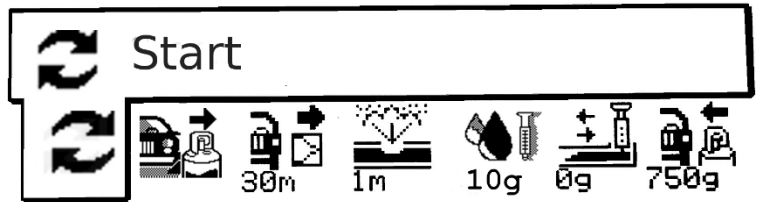
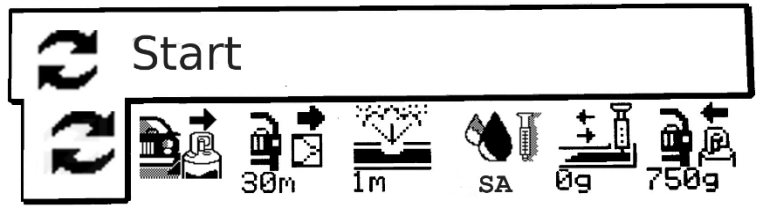
If **HYBRID** mode is confirmed you are asked to perform a “self-recycling”. Follow the instructions on screen (you will need a service coupling which is not included in standard outfit).



The unit performs a recycling in order to flush oil residuals in the unit. When finished, connect to the vehicle A/C system



At the end of the **whole cycle**, the unit skips to the A/C system pressure test: press **ENTER** to confirm or **EXIT** to skip the test. See **A/C PRESSURE TEST** instructions for details





### WORKING CYCLE



**EXIT** to finish the cycle. Follow the instructions on screen and close/disconnect hoses to recover the gas residuals.



**ENTER** to confirm The unit recovers any gas residuals left in hoses before ending the procedure.



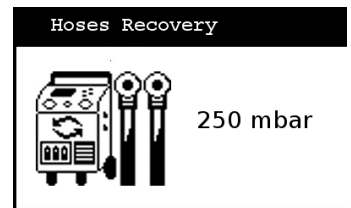
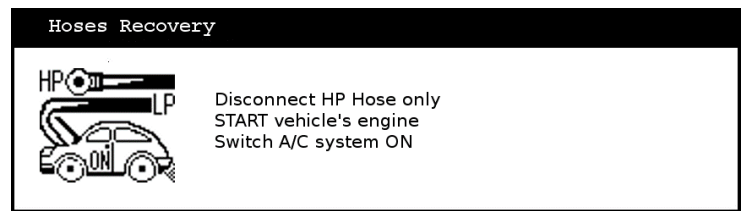
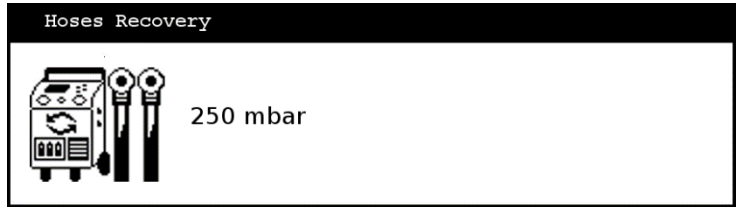
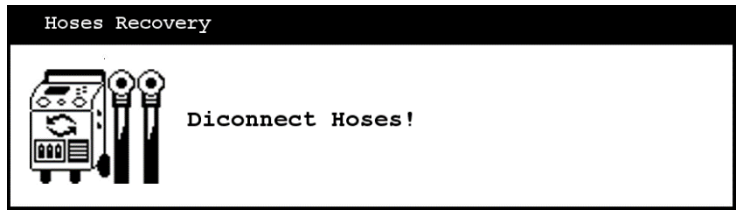
Alternatively, if **the hoses length has been set at "0"** (see SETTINGS instructions), recovers the residuals in the A/C system. In this case **CLOSE HP** quick coupling only (**LP open**)



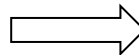
Even after the recovery **into the A/C system**, there will be still small quantities of vapors left in the hose to be recovered.



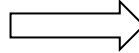
Press **ENTER** and wait until the unit ends the recovery from the hoses and shows the operation report page.



At the very end of the cycle, **ENTER** to print the result



Press **EXIT** to return to the main menu



B) To perform each single working phases in MANUAL mode (manual setting of the working parameters):



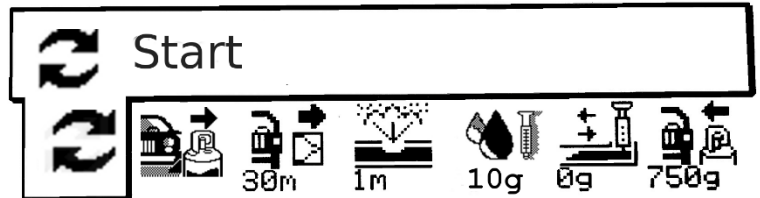
### WORKING CYCLE



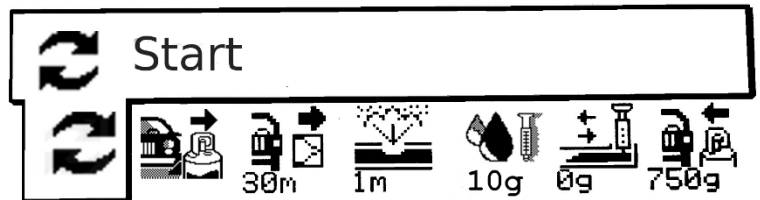
Select the **AUTOMATIC CYCLE / MANUAL PARAMETER SETTING** mode (drawing at the right) and reach the following menu



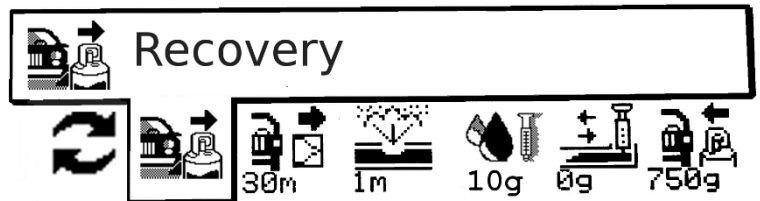
**NOTE:** by choosing **START** and pressing on **ENTER**; the unit performs all the cycles with the shown parameters.



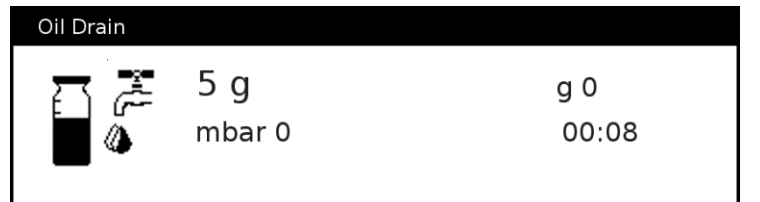
To perform the single phases, choose the working phase, press **ENTER** and change parameters (if any) by means of the buttons **UP/DOWN**



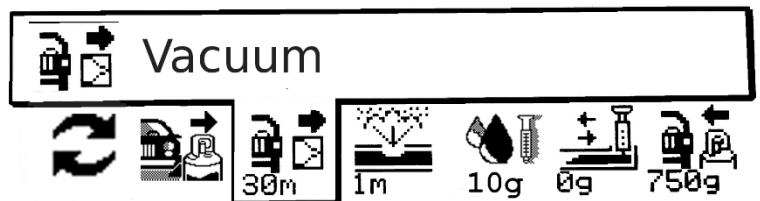
**RECOVERY:** immediate start of the gas recovery from the vehicle only (recovery followed by the oil drain). Press **ENTER** to start the recovery cycle only.



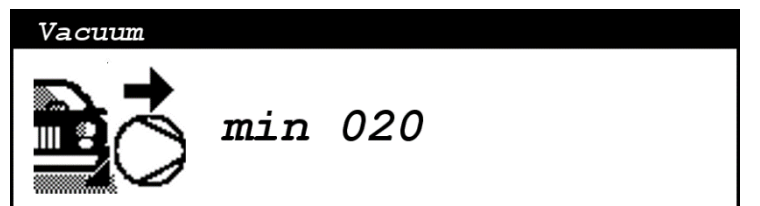
**NOTE:** After the recovery of the refrigerant, the unit displays the oil drain phase. Always allow the oil drain phase to finish



**VACUUM:** press **ENTER** to change the vacuum settings.



Change the settings by means of the buttons **UP/DOWN**. Press **ENTER** to start the cycle





## WORKING CYCLE



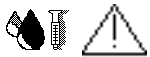
**VACUUM TEST:** press **ENTER** to change the test settings, **ENTER** to start the cycle (the test is also included in the VACUUM cycle).



**OIL INJECTION:** press **ENTER** to select the oil charging settings UP/DOWN buttons to adjust the quantity. **ENTER** to perform the oil charge, **EXIT** to esc.



To adjust the quantity of the oil to be charged use UP/DOWN buttons. By decreasing below **0**, you select the **SA** (semi-automatic) mode.



**NOTE:** if the oil charging icon is on OFF mode please go on **OPTIONS** → **SET OIL REFILL** and set oil refill mode to **ON**



**DYE INJECTION:** press **ENTER** to select the dye quantity, **ENTER** again to start the cycle. **NOTE:** the oil or dye injection must be preceded by a vacuum cycle and followed by a gas recharging cycle.

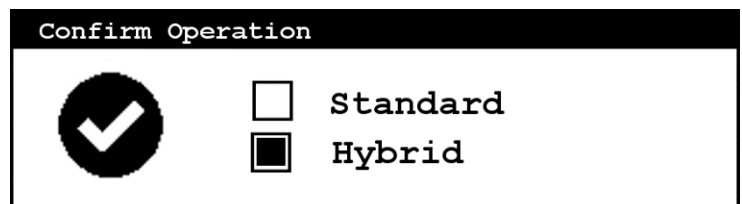
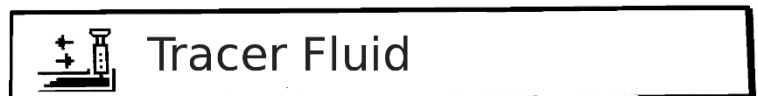
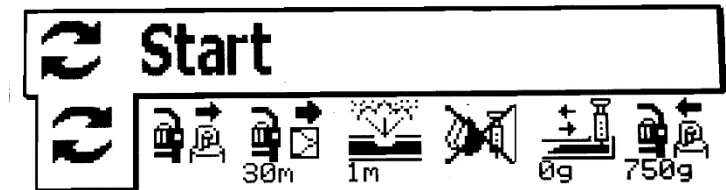
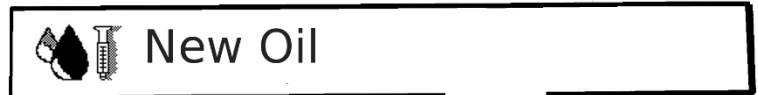


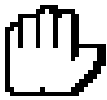
**FLUID REFILL:** press **ENTER** to change the settings, **ENTER** to start the gas charging **NOTE:** the charging must be preceded by a vacuum (which includes a tank heating phase)



The unit asks you to confirm the A/C type:

- Hybrid/Elec. (**electric Compressor**)
- Standard (belt driven compressor)





### WORKING CYCLE

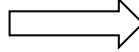
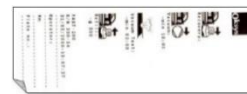
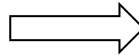


If **HYBRID** mode is confirmed (electric or hybrid – **with electr.compressor** – vehicles), you may be asked to perform a self-recycling. Follow the instructions on screen




The unit performs a recycling in order to flush any wrong oil residuals in the unit. When finished, connect to the vehicle A/C system and start the charging.

Press **ENTER** to **print** the results  
Press **EXIT** to **return** to the main menu




**Hybrid Vehicle**

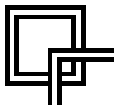


Self Recycling requested!  
 Replace New oil bottle  
 Couple hoses to recycle couplers  
 Press **ENTER** for Self Recycling  
 Press **ESC** to skip

**Recycling done**



Recycling done, close quick couplers!  
 Connect to A/C system  
 Press **ENTER** to start service procedure



## ACCESSORY

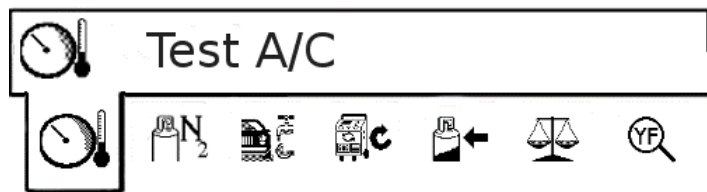
### Description of the accessory functions menu



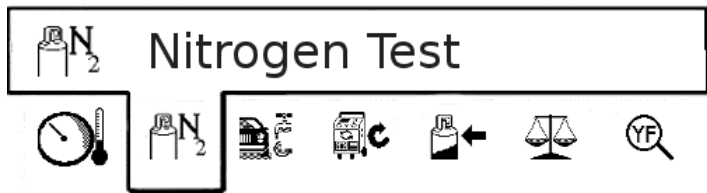
Choose the **ACCESSORY FUNCTIONS** menu and press **ENTER** to access the list of available functions



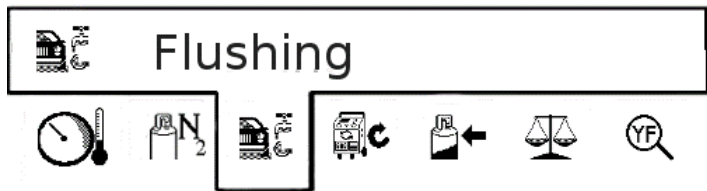
**TEST A/C:** test of the LP/HP working pressures and of A/C air outlet temperature (if temperature probe available, **passed/failed** diagnosis)



**NITROGEN TEST:** leak test under pressure with the use of nitrogen /forming gas (a kit not included in the standard outfit needed)



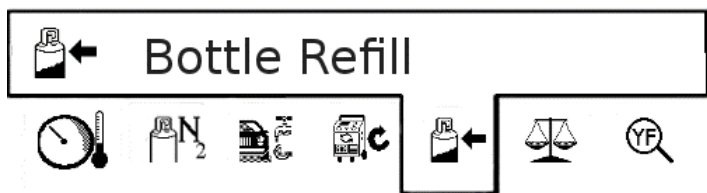
**FLUSHING:** flushing of the A/C system with the use of refrigerant (accessor kit, not included in the standard outfit needed)

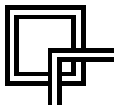


**SELF RECYCLING:** flushing of the internal lines with the use of refrigerant



**BOTTLE REFILL:** refilling of the internal refrigerant tank





## ACCESSORY




**WEIGHT TEST:** test of the weight scales of the unit (test only. To calibrate the scales see service manual)



**YF GAS ANALYZER:** analyzes the purity level of the refrigerant of the A/C system



NOTE: "YF analyser" function  is available in the **R1234yf** models **FAST200YF** and **FAST222YF** only





## PRESSURE TEST

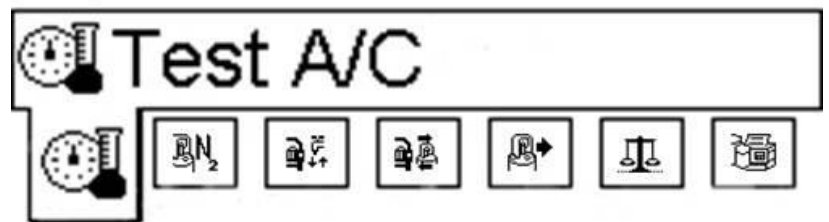
### Vehicle's A/C system test cycle



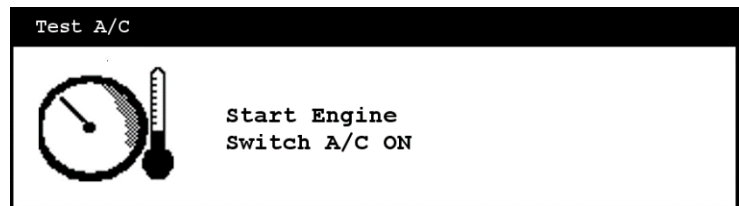
Choose the accessory functions menu in the main page.



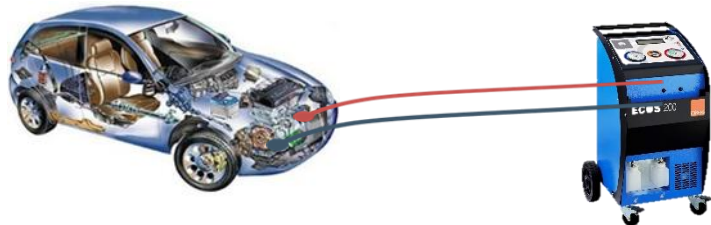
Choose "A/C test" in the accessory functions menu



The **A/C TEST** is also proposed **automatically after every complete service cycle**.



Connect the **HP** and **LP** quick couplings of the unit to the A/C system. Open the quick couplings by turning them **clockwise**



Start the engine of the vehicle, set **2.000-2.500 RPM**



Start the vehicle's A/C system with following settings :



air intake on "recirculated air"



temperature control to the min value



fan speed control at max speed value





# PRESSURE TEST

Press **ENTER** to start the A/C test



The test starts with the measurement of the **HP** side. Allow **2-3** minutes for the measurement to stabilize.

A/C Pressure test			
	LP	HP	
	--	--	15,3

then switch to the **LP** side by pressing **ENTER** and wait **2-3** minutes

A/C Pressure test			
	LP	HP	
	1,2	--	15,3

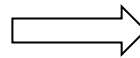
Press **EXIT** to stop the test



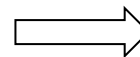
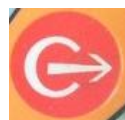
The unit will display the data of the test and the result

Test A/C	
	<p>A/C Test Report</p> <p>LP 1,00 bar [ 0,8 - 1,20 bar]</p> <p>HP 16,00 bar [15,00 - 17,00 bar]</p>

Press **ENTER** to **print** the result



**EXIT** to **return** to the main menu





## NITROGEN TEST

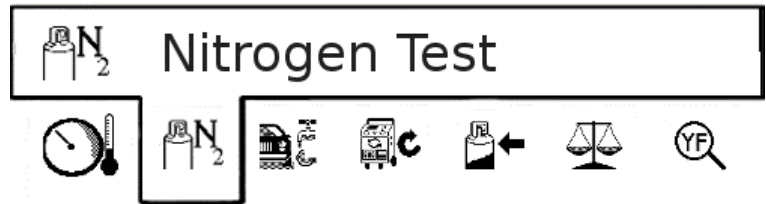
### Leak test under pressure with the use of nitrogen/forming gas



Choose the accessory functions menu in the main page.



Choose **NITROGEN TEST** and press ENTER.



To perform the test you will need a Nitrogen/Forming gas bottle and the nitrogen test kit (not included in the outfit of the A/C unit)

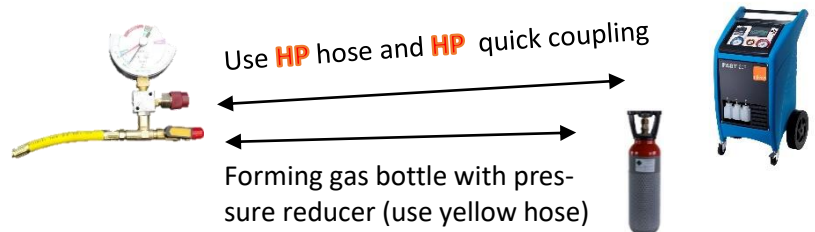


#### Nitrogen Kit

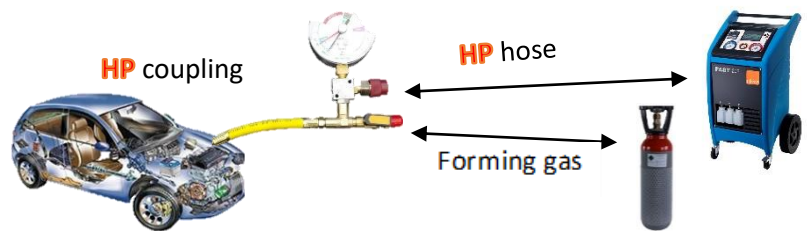
- 1 Pressure reducer
- 1 Connection hose
- 1 Manifold with gauge
- Various quick couplings



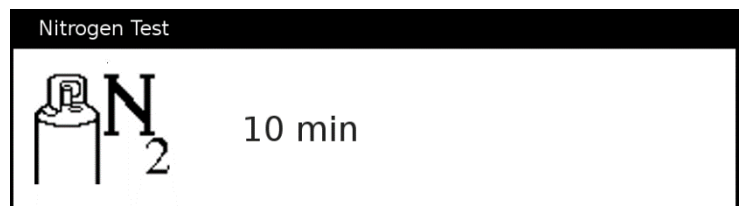
- Connect the unit to the manifold (use HP hose and quick coupling)
- Mount reducer on N bottle and connect to the manifold using the yellow hose



- Connect the manifold to the A/C system using the included quick coupling
- Reduce pressure to 8-10 Bar and open the tap and the quick couplings (on the vehicle and on the manifold)



Adjust test time (example: for a medium size A/C system, 8-10min) Press **ENTER**

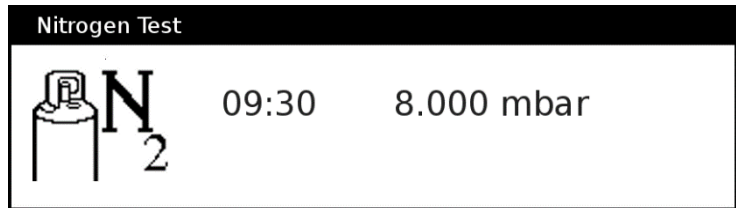




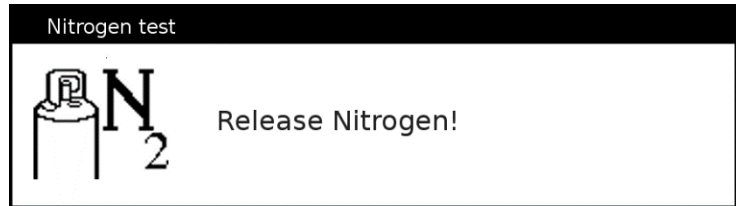
## NITROGEN TEST



The unit displays the remaining time and the pressure in the A/C system (which is also shown on the gauge of the pressure reducer and of the manifold)



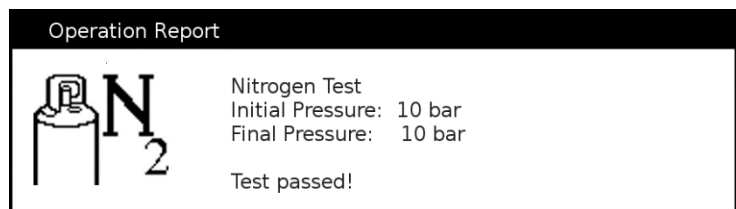
When requested, close the gas bottle, close the tap on the manifold, disconnect the hose from the manifold and release nitrogen by slowly opening the tap.



Close the tap again to allow the unit to perform the mandatory vacuum cycle at the end of the test



At the end of cycle, the unit displays the result of the test. Press **ENTER** to print ESC to exit





## A/C system flushing with refrigerant



Choose the accessory functions menu in the main page.

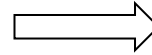


Choose **FLUSHING** and press **ENTER**.



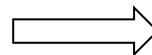
To perform a flushing cycle, you need a flushing Filter code **ACC-SGLAS-RE-HD** not included in the standard outfit of the unit.

Filter/Oil separator code  
**ACC-SGLAS-RE-HD**

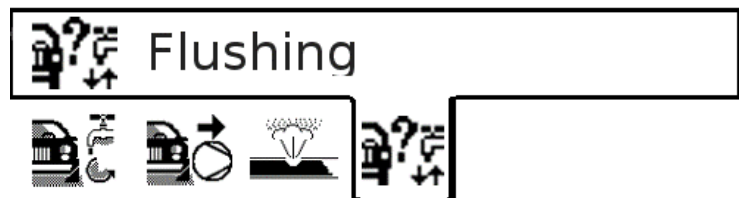


In case of flushing on parts of the A/C system, you will need universal adapters code **ACC-13.511**. Refer to the [separate flushing instructions for details](#)

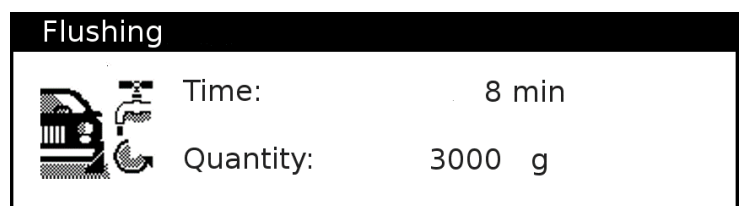
Universal adapters code  
**ACC-13.511**



Choose **FLUSHING** and press **ENTER** in order to set the parameters of the flushing cycle



Set the refrigerant quantity to be used for the flushing and the max time allowed to the cycle

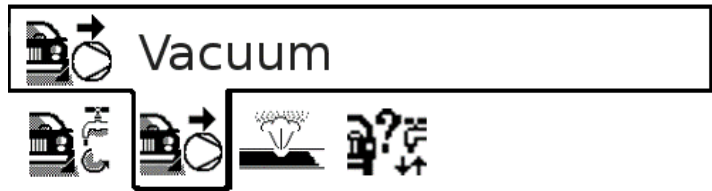




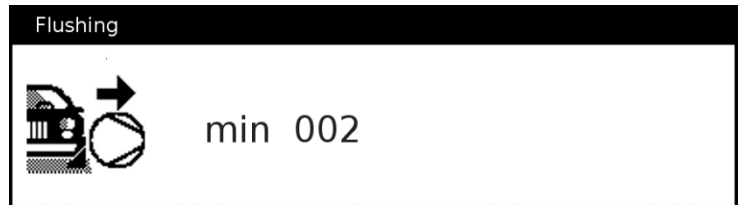
## FLUSHING



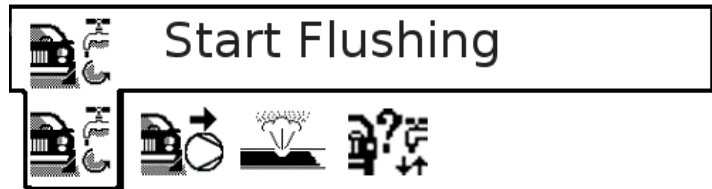
Chose **VACUUM** and **VACUUM TEST** to set the length of the vacuum cycle.



Set the length of the vacuum cycle and press **ENTER** to continue. The vacuum and the vacuum test are mandatory to avoid any gas leakage into the environment.



Select **START FLUSHING** and press **ENTER** to set the flushing parameters



Choose the number of the cycles to be performed. Between one cycle and the other and after the vacuum cycle, you may invert the hoses to change the flushing direction.





## SELF RECYCLING

### Internal Flushing procedure



Choose the accessory functions menu in the main page.



Select **SELF RECYCLING** and press **ENTER**  
Follow the instructions on screen



Replace the new oil bottle if the oil lines have to be cleaned as well



Connect the HP and LP quick couplings through the recycling coupler. Open the quick couplings by turning them clockwise.



Set the RECYCLING phase time and set the vacuum time and the vacuum test time.  
Press **ENTER** to start the internal flushing.  
Follow the instructions



**NOTE:** if the quick couplings have not been opened yet, the unit will display a warning



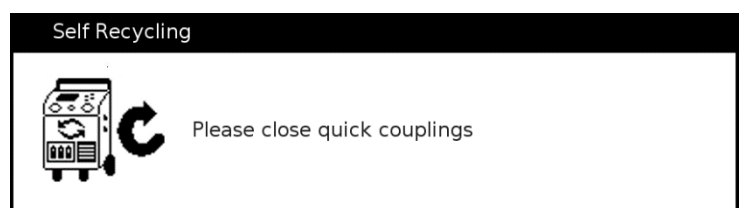
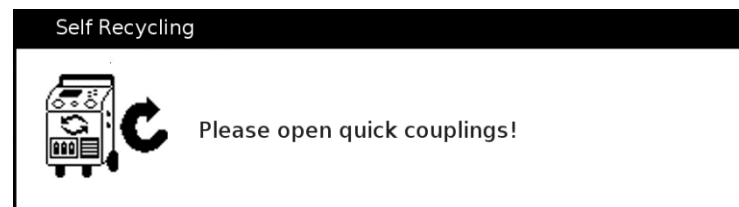
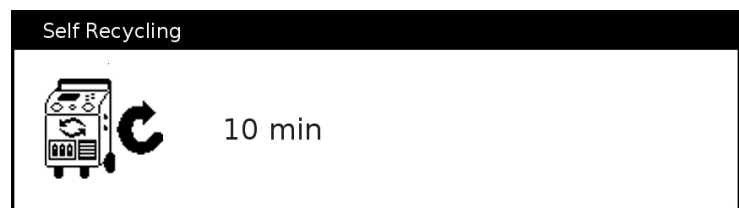
You are asked to close the quick couplings (turn counter-clockwise). The unit recovers the gas left in the hoses and ends the cycle



Replace NEW OIL bottle



Couple HP and LP hoses together





# WEIGHTTEST

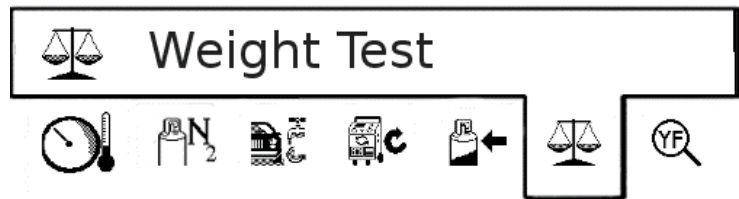
## Testing procedure of the weighing scales



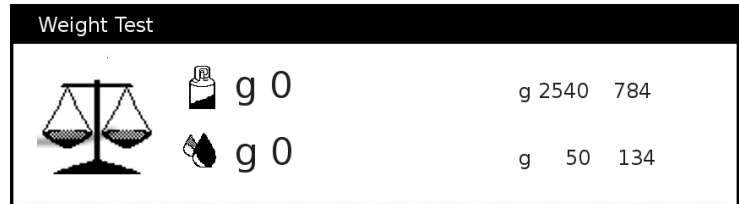
Choose the accessory functions menu in the main page.



Choose **WEIGHT TEST** and press **ENTER**.

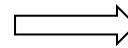


The data on the left side show the measured weight of the sample (gas tank and oil scales), the data on the right the analogic and digital values currently read.



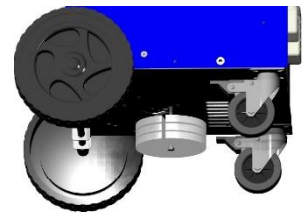
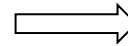
To perform the weight test, you need a sample weight (4 to 6 Kg for the gas tank cell, 100-200 g for the oil scale)

Hook sample weight to the load cell.

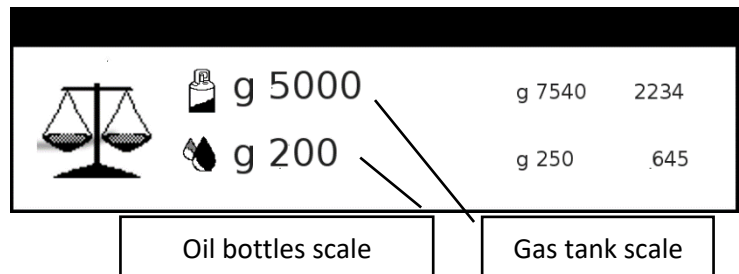


or the calibration kit code **ACC-CAL**.

Scale calibration kit code **ACC-CAL**



After having hooked the sample weights to the cell, the measured data must correspond to the sample weights.



**NOTE:** the above procedure is carried out to control the efficiency of the scales. In order to calibrate the scales, please refer to the specific service instructions.



## SETTINGS

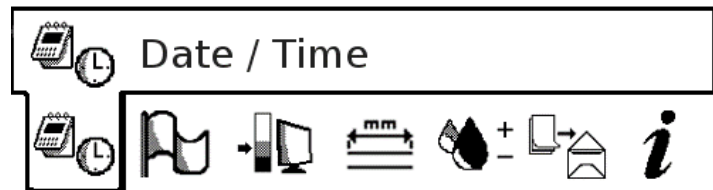
### Working parameter settings of the unit



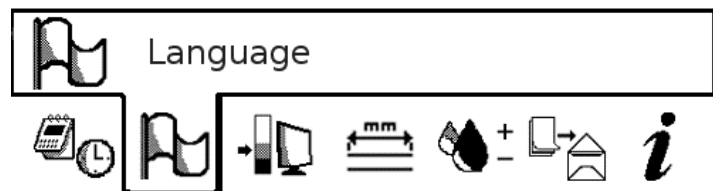
Choose the accessory functions menu in the main page.



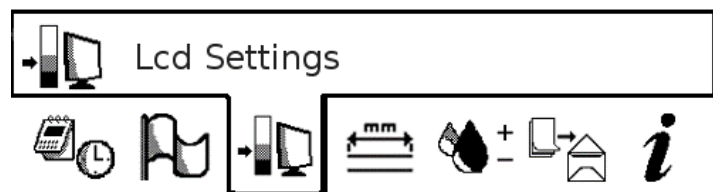
Set current Date and Time and press **ENTER** to confirm and exit the setting



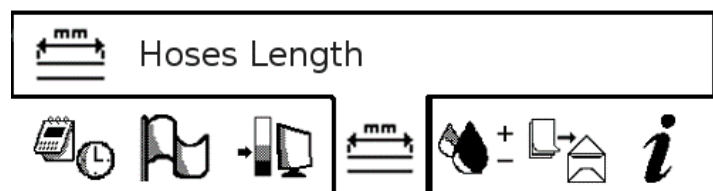
Set the language to be used by the unit and press **ENTER** to confirm and exit the setting



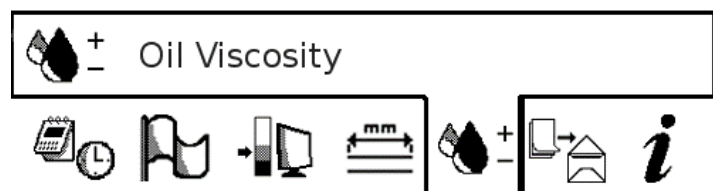
Set the desired LCD brightness/contrast values and press **ENTER** to confirm and exit the setting



Set length of the charging hoses (default is 3000 cm). **NOTE: if the hose length is set to "0" the unit will recover any gas residuals left in the hoses to the A/C system instead of recovering it into the unit again.**



Adjust the oil viscosity value **when your unit does not have an oil scale** and you notice that the charged oil quantity to be incorrect. Increasing the value leads to longer valve opening times and **higher oil quantities**



Press **ENTER** to display information about the firmware version, the total and partial recovered and charged oil and gas values.







## OPTIONS

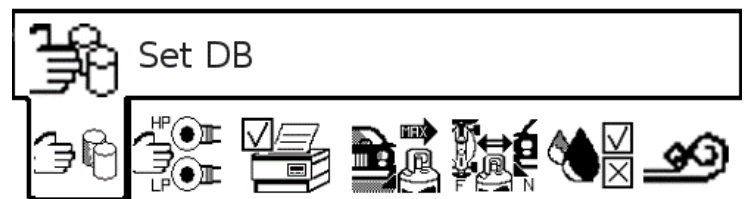
### Optional parameter setting



Choose the **OPTIONS** functions menu in the main page and press **ENTER**



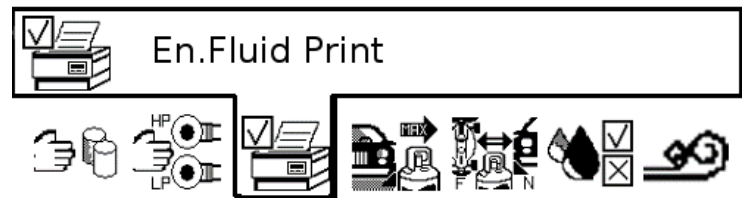
Set the Database to be displayed and press **ENTER** (**option not working on current firmware update**)



Set if both of the two hoses (LP, HP) have to be used during the service operations or if only one of the hoses has to be used and press **ENTER**



Set if the recovered gas quantity from the vehicle's A/C system has to be printed (YES/NO) and press **ENTER**



To set the "maximum recovery" option



You may **increase only** the length of the pressure increasing test after the recovery and add an additional recovery time (suggested is 01 min)

Set Max Recovery		
	Recovery Test	03 min
	Addit. Recovery	01 min




## OPTIONS



The refill type can be chosen from two options: **NORMAL** and **BUS**:

select **NORMAL** in case of A/C systems with refrigerant cap. < 2 Kg OR if a **gear pump** is **present** on your unit

Select **BUS** for A/C systems with refrigerant cap. > 2 Kg and a gear pump is **NOT** present

 The wrong setting of the charging mode setting may lead to charging inaccuracies.



**Excludes** or **includes** the oil oil charging cycle from the automatic procedure (ON/OFF choice). The setting allows the user to exclude the oil charging even if an automatic oil charging mode with scale has been chosen



The incondensable release by means of a solenoid valve is available on **special models only**. If the unit is provided with such a feature it warns the user of the presence of air in the tank. When requested you may release NCG's by pressing on **ENTER** (each pressure opens for a set time) until the NCG's are released and pressure values comply to the given limits.





PRINT

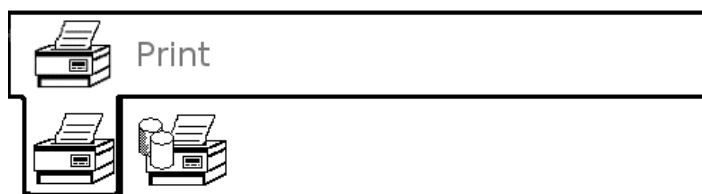
### Printing the last service cycle or statistic data of the unit



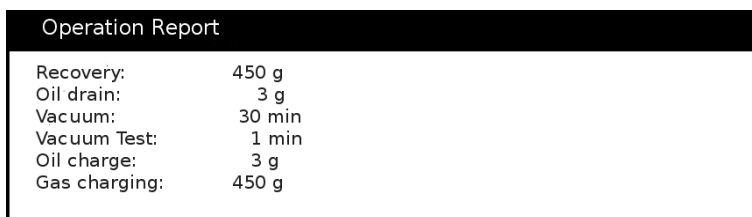
Choose the PRINT functions menu in the main page and press **ENTER**



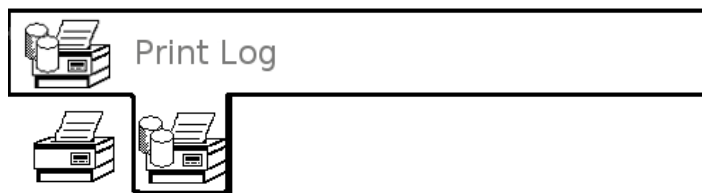
Press **ENTER** to print the last stored service operation



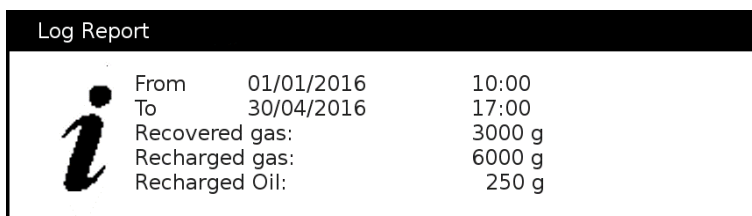
To print the shown report, press **ENTER**. Press **EXIT** to return to the previous page.



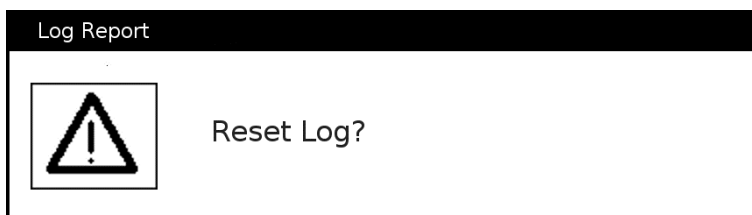
Press **ENTER** to print a report of the refrigerant and on the oil quantity recovered and recharged since the last reset point



To print the shown report, press **ENTER**. Press **EXIT** to return to the previous page.



After having printed the report or after having decided to **EXIT**, the unit asks you to confirm the resetting of the counters. Press **ENTER** to reset, or **EXIT** to return to the previous page





## MAINTENANCE

### Ordinary maintenance

The replacement of the filters and of the oil of the vacuum pump has to be carried out by skilled personnel. It is advisable that the maintenance service is made by an authorized centre in order to make sure that the warranty of the product is not interrupted. The unit registers service operations in order to monitor the working hours of the filters and the vacuum pump oil, the software version installed in the unit and the data bank version (if available in your model) These counters have to be reset by the service personnel.

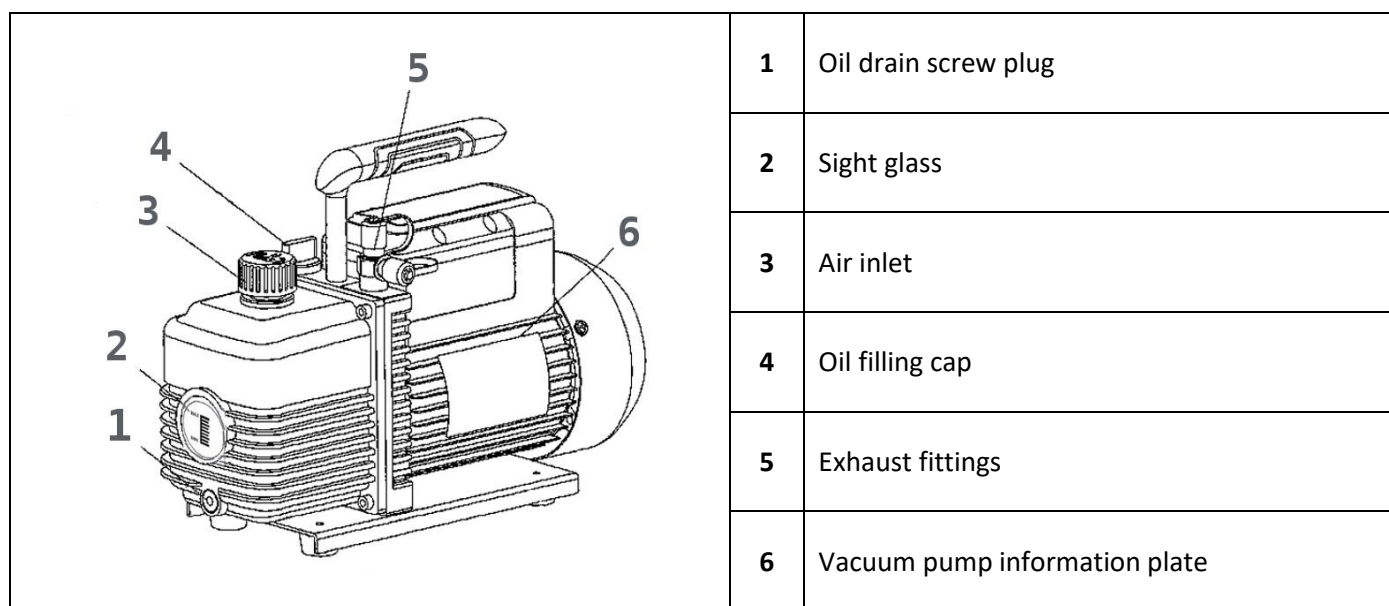
### Filter replacement

Replace the filter once a year at least or when the unit warns you that a filter change is required. Avoid the refrigerant to contaminate atmosphere. Recover the gas residuals left in the charging hoses and in the filter. Replace with original filters only.

**ATTENTION!** The filters have to be mounted according to the flow direction indicated by the arrow signed on the filters itself.



### Oil replacement of vacuum pump



Replace the oil in the vacuum pump once a year at least or when the unit warns to change the oil

- Check the oil level by means of the relevant sight glass (2). The level of the oil (when the pump is not working) should be at the middle of the sight glass.
- In order to replace the oil, remove the screw plug (1) switch on the pump for few seconds (max 5-10 seconds!) drain the oil in a container. Screw the oil drain plug in position again and add new oil by means of the cap (4) until you reach the normal level (middle of the sight glass) Use specific hydraulic oil only to fill into the vacuum pump! Put the oil-filling cap (4) in position and switch on the pump for a final check.
- Replace the oil of the vacuum pump every 120 working hours, or, at least, once a year. By reaching the max working time the unit will display the message "SERVICE REQUIRED to inform that it is necessary to perform an ordinary maintenance service on the unit
- **IMPORTANT:** the exhaust oil drained from the pump is a special waste and as such, it has to be scrapped according to the regulations in force.



**Warning:** switch off the unit and unplug from electrical socket before operating on the vacuum pump. Electrical shock hazard!

## **DECLARATION OF CONFORMITY**

### **DICHIARAZIONE DI CONFORMITA'**



**(Community directives about Machinery, Low Voltage Electrical Devices and Electro-magnetic Compatibility)**

**Oksys srl Via Dell'Albereto 33/B - 50041 Calenzano (FI) (Italy)**

hereby declares that the following products: / *dichiariamo che i seguenti prodotti:*

**R134 refrigerant recovery and recharge unit  
*Unità di recupero e ricarica refrigeranti R134***

**VALUE-601  
VALUE-601YF**

Have been designed, manufactured and distributed meeting in full the essential requirements specified by the following European Directives concerning safety of machinery, safety of low voltage electrical apparatus and electro-magnetic compatibility:

*È stata progettata, prodotta e distribuita in accordo totale con i requisiti essenziali specificati dalle seguenti Direttive Comunitarie riguardanti la sicurezza dei macchinari, la sicurezza delle apparecchiature in bassa tensione e la compatibilità elettro-magnetica.*

**MACHINERY DIRECTIVE (*Direttiva macchine*) (2006/42/CE);  
LOW VOLTAGE DIRECTIVE (*Direttiva Bassa tensione*) (2006/95/CE);  
ELECTROMAGNETIC COMPATIBILITY DIRECTIVE (*Direttiva Compatibilità Elettromagnetica*)  
(2004/108/CE)**

The conformity is declared with reference to the following harmonized standards:

*La conformità è dichiarata con riferimento alle seguenti norme armonizzate:*

EN 61010-1:2010; EN 62233 :2008

EN 61000-6-1:2007; EN 61000-6-3:2007;

EN 61326-1:2007

EN 61000-3-2 :2006/A1:2009/A2:2009; EN 61000-3-3:2008;

The machines are built according to RoHS European Directive requirements  
*Le macchine sono costruite secondo le Direttive Europee RoHS (2002/95/CE)*

Calenzano, 26/05/2019

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