

EVO-TEC

R1234YF & R134A

Service Stations

Instruction Manual





Read the contents of this manual carefully even before you start using the equipment for the first time. This knowledge is essential for safety aspects and for the correct and profitable use of the equipment itself.

GENERAL INFORMATION

Dear Customer, All information contained in this manual complies with the laws at the time of publication of this manual.

Our company is not to be held responsible for damage to property or persons resulting from incorrect use other than that indicated in this manual.

The company reserves the right to make changes to the product without the obligation to communicate such changes and without any obligation to notify you of the changes made.

Evolve srl is not responsible for accidental damages or loss of profit.

The Evolve srl equipment complies with the laws mentioned below, good use, compliance with safety requirements and the procedures indicated in the manual are absolutely necessary conditions for professional use.

Failure to read this manual directly implies not using the station correctly for its potential and at the same time may increase the risk of malfunction with potential direct or indirect problems to health, safety and the environment, as well as malfunction of the air conditioning system of the vehicle to which the equipment has been connected.

Proper safety management of this equipment goes through the following 3 points:

- Read the manual carefully in all its parts
- Pay particular attention to the safety instructions
- Keep this manual so that it can always be consulted by the operators, possibly on board the station

GUARANTEE

Dear customer, the duration of the warranty of our equipment is set at 12 months from the date of purchase. Evolve srl is certain of the quality of its product and invites you again to read this manual in order not to need extraordinary maintenance for a long time.

The warranty covers all parts found to be defective within the 12-month period. The supply of the defective part as well as the shipment is to be considered free of charge. No parts or operations will be allowed under warranty if the equipment is misused, other than for its purpose, using refrigerants or oils that may damage internal parts.

General Warranty Terms and Conditions

1. Warranty Costs

In the event that the Evolve srl equipment, after analysis by our technicians, is recognized as non-functional and the problem can be traced back to a manufacturing defect, Evolve srl undertakes to repair free of charge

directly or indirectly through its distribution network in order to get the equipment back on track.

2. Procedure for obtaining the warranty

The warranty covers a period of 12 months from the time of purchase. Since Evolve srl equipment is sold through our distribution network, the purchase document will be authentic. In order to obtain the warranty intervention, in addition to the technical aspects that will be set out below, the above requirement is binding to proceed with the technical analysis.

3. The warranty shall not be managed if any of the following occurs:

1. Problems arising due to the use of the equipment in particular environments (presence of explosives, corrosive acids, salt mists);
2. Problems related to failure to follow the warnings, safety aspects, and operating procedures outlined in this manual;
3. Problems relating to installation, activation, repair, ordinary and extraordinary maintenance that is not carried out by personnel qualified and trained by Evolve srl to carry out these operations;
4. Presence of foreign bodies inside the equipment;
5. Defects related to damage caused by natural events or socio-political events;
6. Problems originating from an electricity supply that is not in line with standards, both in voltage and frequency. This also includes any electromagnetic fields whose perturbations could give rise to malfunctions.
7. Problems that have arisen due to the use of spare parts and consumables that are not approved by this company;
8. Use of refrigerants or oils other than those for which the machine was designed and for which indications are indicated on the label on the machine.

4. Costs not included in the warranty

- 1) Any ancillary costs such as lost labour, lost turnover related to station downtime, refrigerant leaks, unauthorized transport costs are not considered under warranty.

LABELLING



EVOLVE SRL Via Sofia n.12 - 43010 Fontevivo (PR)





MADE IN ITALY

Stazione di ricarica/Refill machine Modello/Model: EVOTEC-1		Refrigerante/Refrigerant R134a
Numero Seriale/ S.N.	Anno fabbricazione Manufacturing year	Direttiva/Directive 2014/68/UE G 2 CAT. I
Pressione/Pressure (PS) MPa: 1.9 - bar: 19	Temperatura Min./Max (TS) °C: 10/50	Volume/Volume 10L
Tensione/Frequenza Voltage/Frequency (V/Hz) 230/50	Corrente/Current (A) 4	Potenza/Power (kW) 1.0



EVOLVE SRL Via Sofia n.12 - 43010 Fontevivo (PR)



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MADE IN ITALY

Stazione di ricarica/Refill machine Modello/Model: EVOTEC-2		Refrigerante/Refrigerant R1234yf
Numero Seriale/ S.N.	Anno fabbricazione Manufacturing year	Direttiva/Directive 2014/68/UE G 1 CAT. II
Pressione/Pressure (PS) MPa: 1.9 - bar: 19	Temperatura Min./Max (TS) °C: 10/50	Volume/Volume 10L
Tensione/Frequenza Voltage/Frequency (V/Hz) 230/50	Corrente/Current (A) 4	Potenza/Power (kW) 1.0

These nameplates are just one example. The plate, complete with all the data, can be found on the machine.

DECLARATION OF CONFORMITY

REFER TO THE DOCUMENT ACCOMPANYING THE INSTRUCTION MANUAL

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REFER TO THE ATTACHED DOCUMENT OF THE INSTRUCTION MANUAL

SYMBOLGY to READ

	DANGER WITH YELLOW BACKGROUND: Danger due to situations or problems that may affect the safety of persons, injuries or risk of death.
	DANGER WITH LIGHT BACKGROUND: Danger due to situations or problems related to the efficiency of the station that do not affect the safety of persons.
	PROHIBITION: Do not carry out certain operations in order not to damage or impair the proper functioning of the equipment.

AUTHORIZED TECHNICAL ASSISTANCE

Apart from all the daily operations carried out by the operators, all other operations, from activation to extraordinary maintenance following a breakdown, must be carried out by personnel trained and authorized by Evolve srl.

This is required, in addition to maintaining the warranty, also to preserve all actors involved in the use of the equipment. Intervention by unauthorized personnel may result in the station malfunctioning or, worse, injury to the people working with the equipment or who may be next to them at the time the problem arises.

The authorized technical assistance also uses spare parts authorized by Evolve srl for which it guarantees their quality, compatibility and correct use.

It should be remembered that routine maintenance must also be carried out by authorized technicians with the help of original spare parts.

- OPERATOR:

Personnel in charge of using the station for normal work cycles using the actuators on the helm station served by all active safety devices.

- TECHNICIAN

Personnel trained by Evolve srl to carry out routine maintenance, cleaning, level control and adjustments related to the type of fluid present in the station.

- SERVICE TECHNICIAN

Technical staff trained and authorized by Evolve srl to carry out maintenance work.

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1 INTENDED USE

The charging station, described in this manual, is an automatic system with a database, for the maintenance of automotive air conditioning systems. The intervention operations are: refrigerant gas recovery and recycling, exhaust oil discharge of the recovered gas, vacuum, vacuum maintenance control, fresh oil refill and refrigerant refill. All operations are controlled by an electronic system. The charging station has been designed to be used specifically with the refrigerant indicated on the CE label.

-The EVO-TEC 1 station is designed to be used with the refrigerant **R134a**.

-The EVO-TEC 2 station is designed to be used with the refrigerant **R1234yf**



Absolutely avoid mixing lubricants of different kinds together. Always check the types of oils to be used in the different A/C systems (depending on the type of compressor they use), which can be identified by means of specific technical data sheets.

2 SPECIFICATIONS

EVOLVE Station	EVO-TEC R134A	EVO-TEC R1234YF
Refrigerant Type	R134a	R1234yf
Technical Specifications		
HP-LP Solenoid Valves	Automatic	Automatic
Service hose length	3.0 m	3.0 m
Hermetic compressor	1/4 hp	1/4 hp
Resilience	300 rpm in liquid phase	300 rpm in liquid phase
Vacuum pump flow rate	85 l/min	85 l/min
Coolant cylinder capacity	10L [8.8 kg]	10L [8.8 kg]
Cylinder heating band	Automatic electrical and electronic management	Automatic electrical and electronic management
Thermal Printer	Paper width: MAX 58mm outer diameter MAX 50mm	Paper width: MAX 58mm outer diameter MAX 50mm

EVOLVE Station	EVO-TEC R134A	EVO-TEC R1234YF
HP-LP Analog Pressure Gauges	100 mm with pulse-free movement CL.1.0	100 mm with pulse-free movement CL.1.0
Fresh oil container	1 x 150 ml non-reusable airtight type (1 x 500 ml optional)	1 x 150ml Non- Reusable airtight type (1 x 500 ml optional)
Waste oil container	1 x 250ml Standard Refilabile Bottle	1 x 250ml Standard Refilabile Bottle
Cylinder scale resolution	5 g	5 g
Oil Scale Resolution	1 g	1 g
Control Panel	Functions via Rotary switch and LED functions	Functions via Rotary switch LED functions
Display	5.1" backlit graphic display	5.1" backlit graphic display
Serving temperatures	10°C / 50°C	10°C / 50°C
Operating Voltage	220-240 50Hz	220-240 50Hz
Front wheels	Swivel with brake	Swivel with brake
Rear wheels	Fixed in sturdy anti-vibration rubber	Fixed in sturdy anti-vibration rubber

Dimensions (H x W x D)	113 X 48 X 56 CM	113 X 48 X 56 CM
Station Weight	110 kg	110 kg
Fresh oil injection	Automatic (load cell)	Automatic (load cell)
Refrigerant refill	Automatic (load cell)	Automatic (load cell)
Discharge of non-condensed gases	Automatic (electronic system)	Automatic (electronic system)
Cylinder refill	Automatic (load cell)	Automatic (load cell)
Compatible with hybrid or electric vehicles	Yes	Yes
Certifications	CE - PED	CE - PED

For the voltage value for the connection to the power supply, please refer to the information on the CE plate of the charging station.

The measured sound pressure value is less than 70 dB(A) and therefore no special precautions are required for the operator even in the case of continuous use.

In any case, it remains the responsibility of the employer, in accordance with the provisions of current legislation on occupational health and safety, to assess the level of exposure to noise of workers.

2.1 OPERATOR STATION

The charging station does not have an operator station as the request for presence is not continuous but is only necessary to manage the control and monitoring commands in the event of malfunction or alarm signals.

3 SAFETY ASPECTS

3.1 WARNINGS

	Do not use the equipment without carefully reading this manual. Its use is professional, therefore, it must be done by adults and responsible. Keep away from children for unintentional use.
	If the need arises, call the technical assistance number, making sure to have this number available at all times.
	When cleaning the station, do not use aggressive cleaning agents, especially in plastic or rubber parts.
	The wheels under the equipment are suitable for small movements within the rooms where it is used. For longer distances, follow the instructions in the dedicated chapter.

3.2 WORKING ENVIRONMENT

	Do not use the equipment or have it stationed in places where there are open flames (including no smoking near the equipment) or heating elements that could cause the temperature and therefore the pressure of the elements inside the equipment to rise. In any case, it is forbidden to use the equipment where there is a risk of explosion or fire. In general, it is advisable to use the equipment where there is good ventilation of the rooms and good lighting of the same.
	Storage during prolonged periods of non-use as well as during daily use, must be done in dry places free of excessive humidity. Do not expose to direct rain. The equipment may be damaged if water in any state gets into it.

3.3 UNINTENDED USE

Here is the non-exhaustive list of what is not possible to do with Evolve srl equipment.

	Use of the equipment for purposes other than those for which it was designed and manufactured; see chapter "Intended use". The equipment has been designed and built only for the refrigerant gas indicated on the nameplate, gases similar in physico-chemical characteristics, molecular structure or similar application, are not permitted and can cause serious damage. Use of the equipment with an internal cylinder other than the one supplied. Use of oils containing corrosive material and not provided for by the vehicle manufacturer. Use of oil collection containers other than those supplied and/or dispersion of used oils not in accordance with the provisions of current legislation
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3.4 RISKS ASSOCIATED WITH THE USE OF THE EQUIPMENT

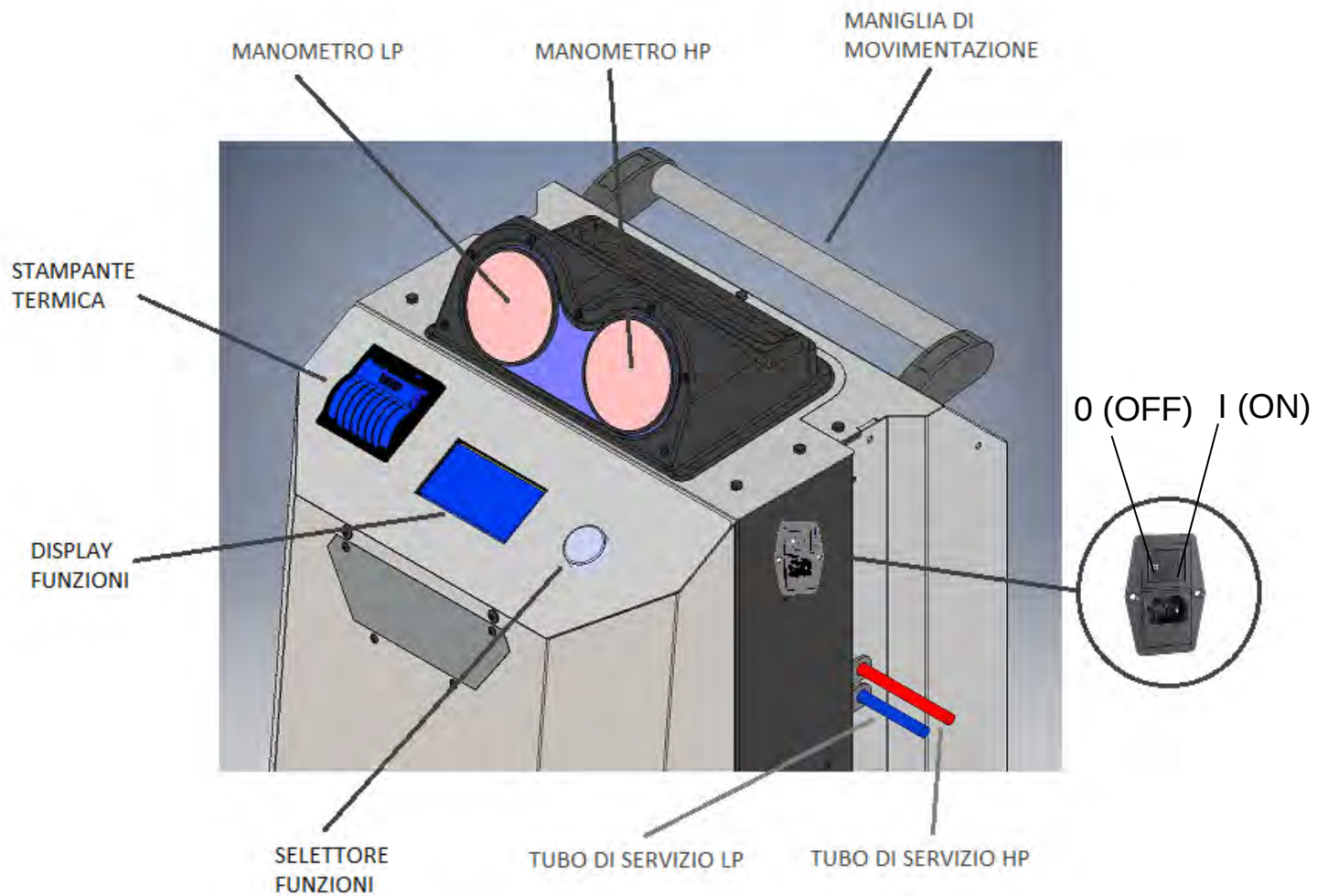
Pay particular attention to any puffs of refrigerant gas as it could cause significant damage to:

- Eye contact with severe visual impairment:
- contact with the skin of the body with possible cold burns

In case of accidental contact with the gas in any of the 2 cases, rinse thoroughly with running water and immediately contact the health authorities indicating the product safety data sheet.

For safety reasons, in the event of a power failure, when the power is restored, the equipment will not keep a record of the activity carried out and it will be necessary to resume the activity from the beginning.

3.5 DASHBOARD DESCRIPTION



3.6 USE OF PERSONAL PROTECTIVE EQUIPMENT

In order to ensure the safety of operators, the use of PPE is mandatory. These symbols are also displayed as reminders on the front of the equipment.

	Use safety glasses.
	Use protective gloves

3.7 PRACTICAL INDICATIONS

	In order to avoid accidents or compromise of the equipment, it is recommended to use the latter only one operator at a time. In case of emergency, press the switch-off button on the right side of the station or pull the cable out of the cable/plug coupling. When the switch is switched on again, it will be necessary to repeat the interrupted cycle.
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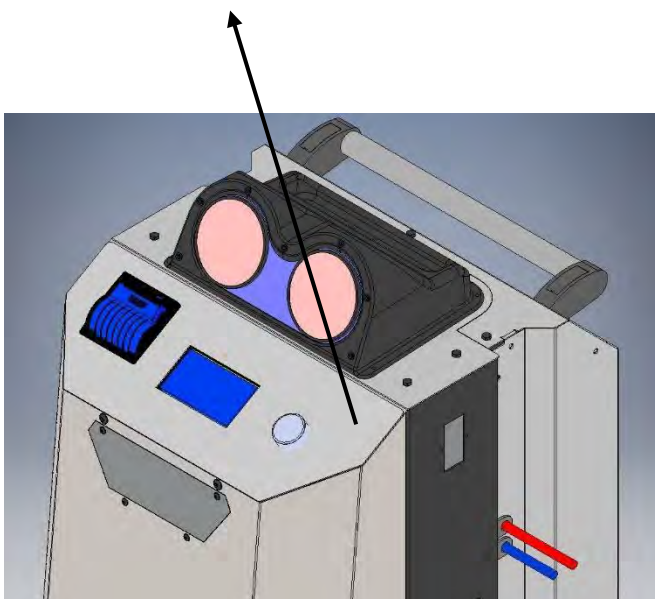
3.8 RESIDUAL RISKS

	These labels are present both internally and externally on the equipment, This indicates that there are live parts and that care must be taken for the danger of electrocution.
	In the event of fluid leakage due to breakage of pressurized parts (from pipes, fittings, pressure vessels,), pay particular attention to protect from contact: • with the eyes, with possible serious damage to eyesight • with the skin of the body, with possible cold burns In case of accidental contact with the gas in either case, rinse thoroughly with running water and immediately contact the health authorities indicating the safety data sheet of the product.

3.9 SAFETY WARNINGS - STICKERS & SYMBOLS

Below are the stickers and symbols with which the charging station is equipped, indicating the relative position. For the meaning, please refer to what is described in this document:

Position	Label	Description
Control panel		Wear protective goggles in order to protect the safety of the operator in the event of a refrigerant leak.
		Wear protective gloves in order to protect the safety of the operator in the event of a coolant leak.
		Refer to your vehicle's manual for the type of coolant before using this charging unit.
		Use and store this charging station in a dry environment that is not exposed to wind, rain, or direct light.



3.10 FEEDING

The electrical supply upstream of the equipment must comply with the values indicated on the label of the equipment itself. Compliance with this condition results in the integrity of the equipment but above all the safety of the operators.

It is therefore necessary to:

- Connect the equipment with the mains through the appropriate plug and cable provided at the time of purchase;
- In case of damage, loss or breakage, purchase the official spare part through the official distributor.

	If it is necessary to use an extension cord, make sure that the cross-section of the cable is suitable for its length and power consumption. For safety reasons and for the proper functioning of the equipment, make sure that the mains to which the equipment is connected is connected to the earth and the "life-saving" residual current circuit breaker. Check that the connection point to the electricity source guarantees the existence of all the protections and of the provisions in force (earthing and residual current circuit breaker).
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4 INSTRUCTIONS FOR USE

4.1 HANDLING AND TRANSPORT

Before moving, check the stability of the charging station on the work floor. When moving, take care to identify any obstacles along the way.

During the transport phase, it is recommended to:

- Place hoses and power cord correctly in the appropriate rear supports.
- Use the handle to move the hand. Proceed at walking pace when moving the station to avoid possible instabilities that could lead to incorrect calibration of the calibrations carried out (Fig.1)
- Use a lifting device to place the charging station on a pallet (Fig.2), lock the front wheels and secure the wheels to the pallet using zip ties.
- Drain all refrigerant from the charging station.
- Lock the cylinder (Fig.3).

Fig. 1

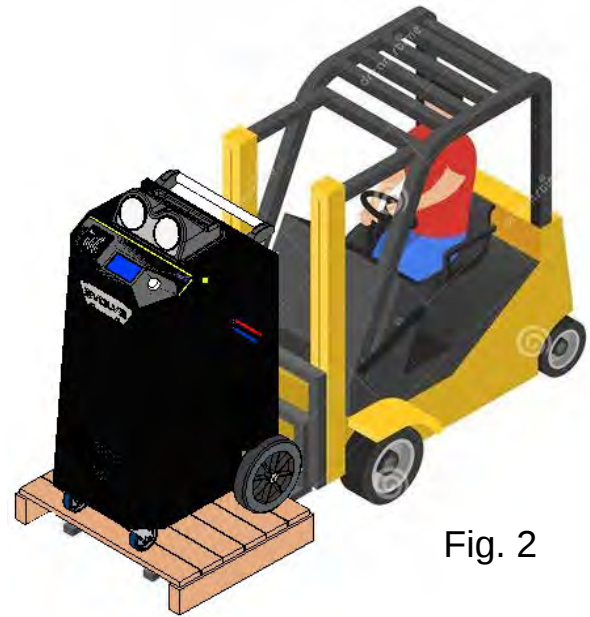
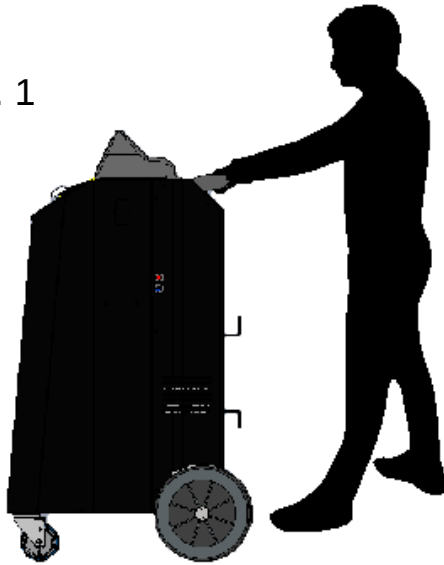
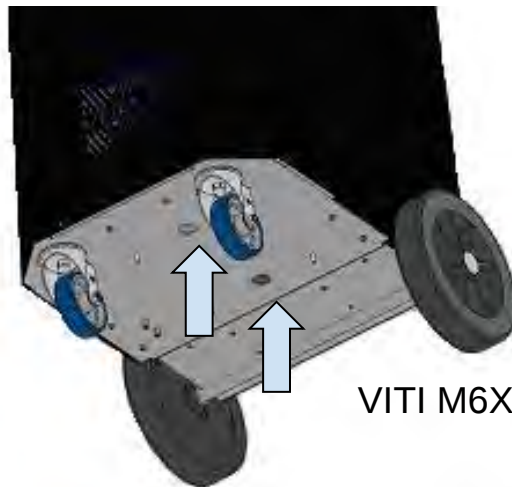


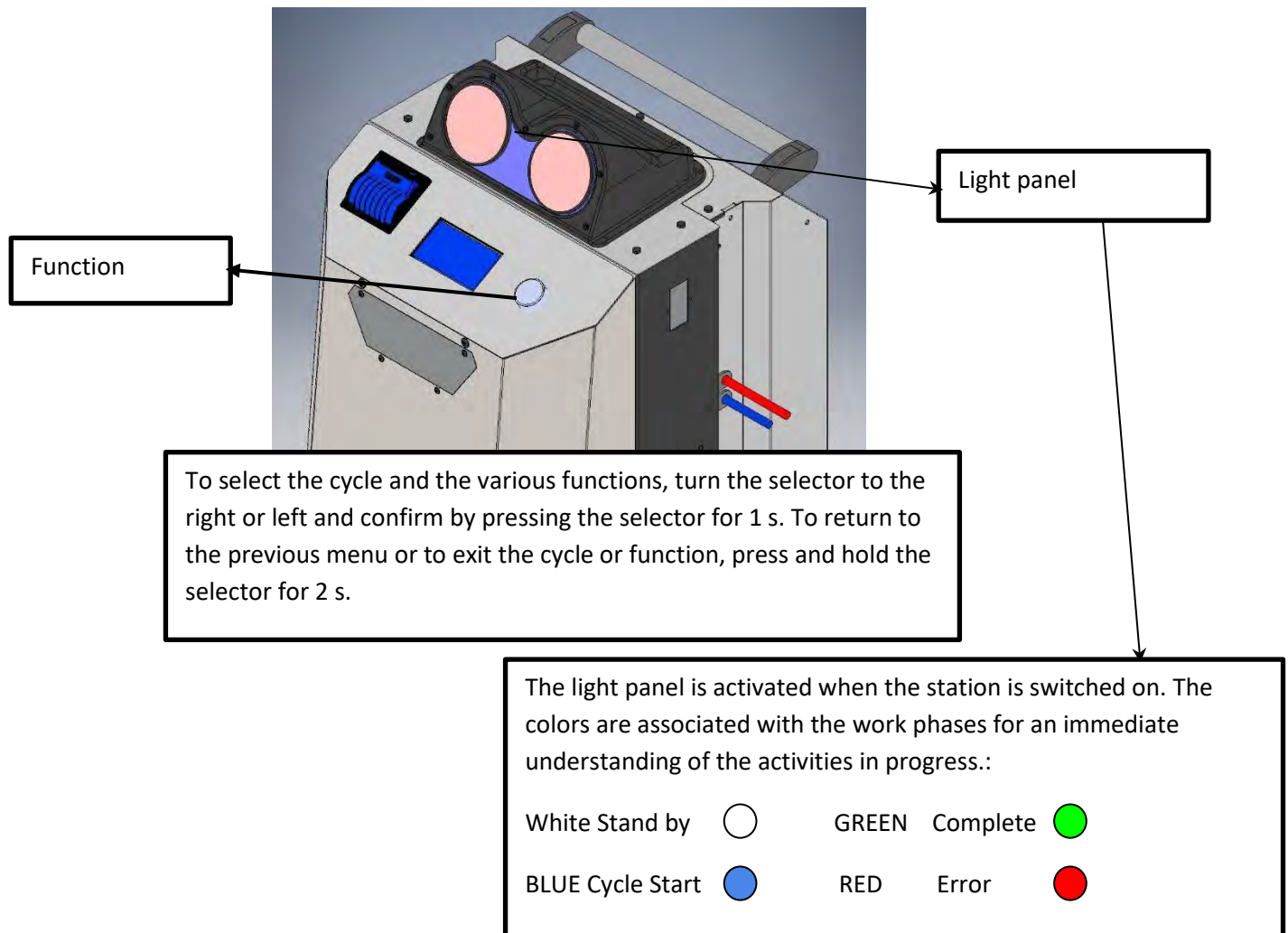
Fig. 2

Fig. 3



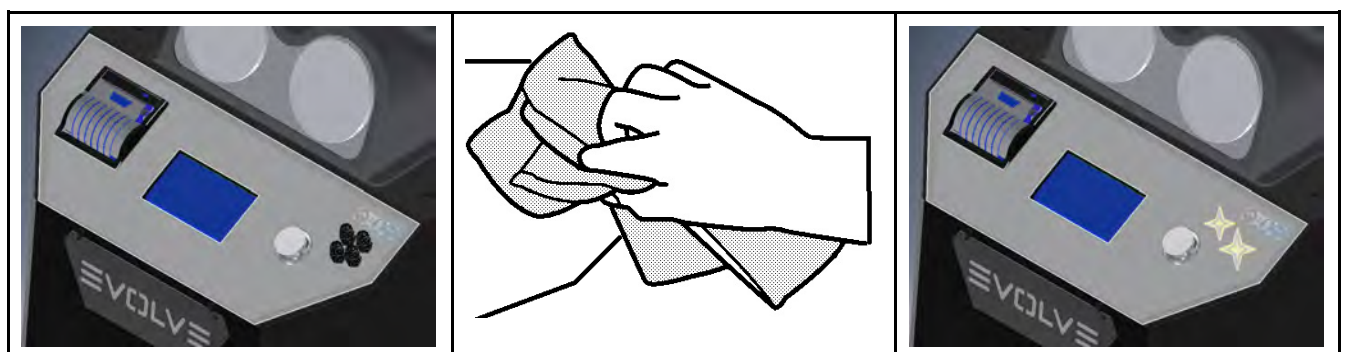
VITI M6X40 HEX 10

4.2 FUNCTION SELECTOR AND CONTROL PANEL

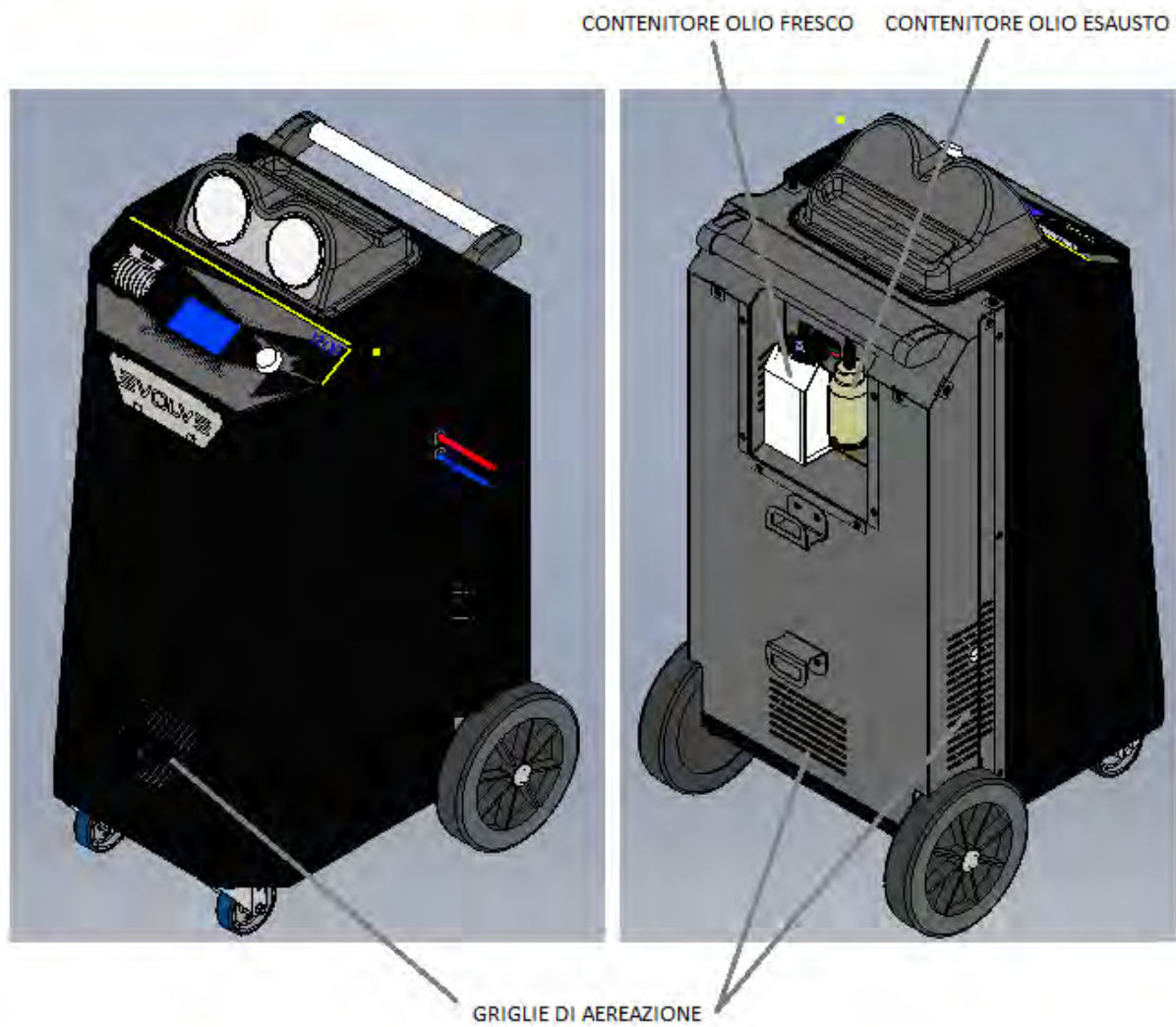


4.3 CLEANING THE CONTROL PANEL

- Turn off the machine and unplug the power cord.
- Moisten the microfiber cloth with distilled water and alcohol, wring out well and wipe over the panel.
- Dry the panel with another dry microfiber cloth.
- Repeat cleaning as often as necessary.



4.4 FRONT AND REAR EXTERIOR VIEWS



5 MAIN FUNCTIONS

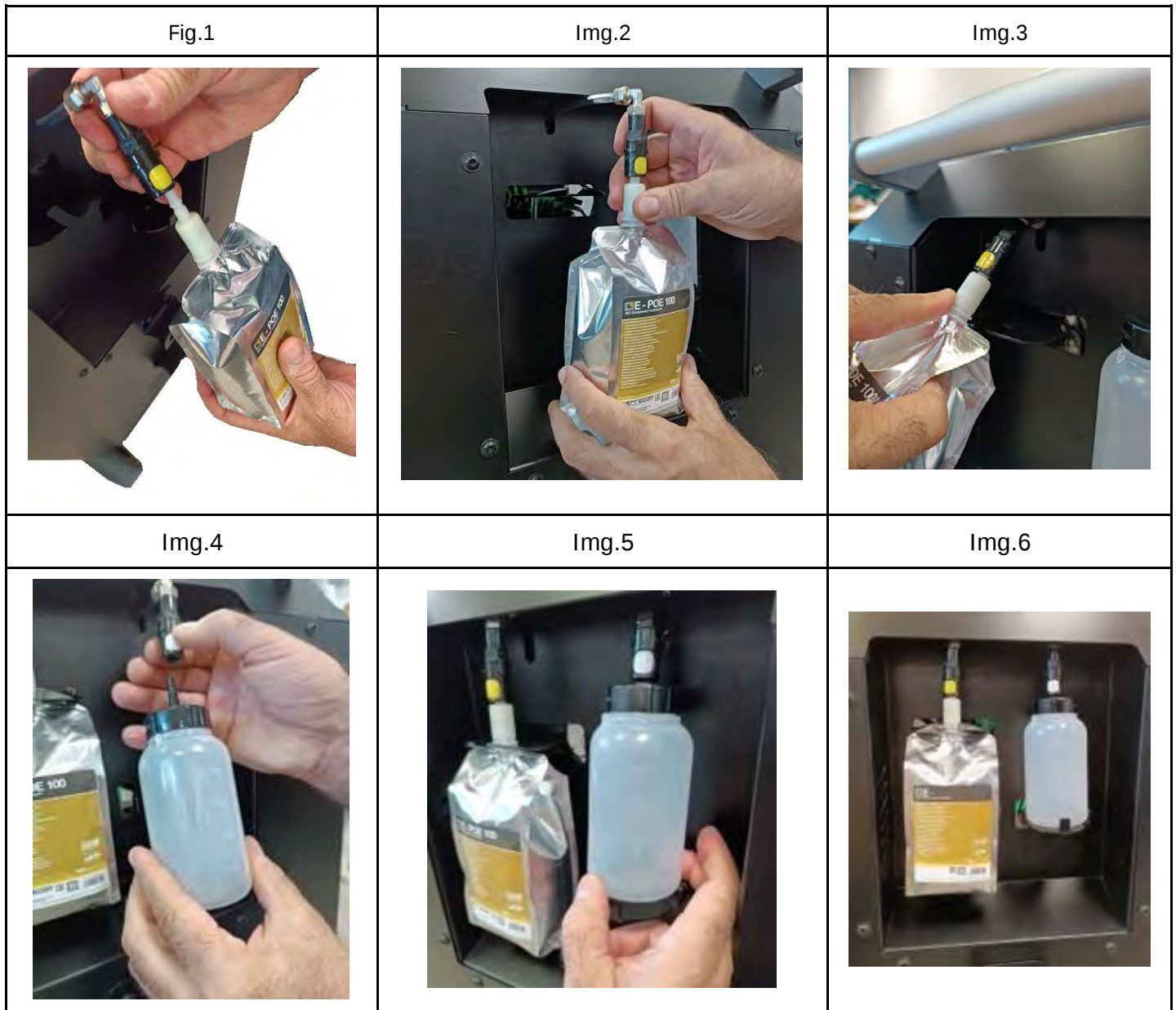
The main menu functions of this charging station are as follows:

- Automatic operation:
The cycle performs: refrigerant gas recovery, waste oil discharge, gas recycling, vacuum, leak test, refill of new oil/UV tracer and refrigerant gas.
- Refrigerant Recovery:
The cycle performs: the recovery of refrigerant gas from the vehicle's air conditioning system. During this cycle, the station recycles the recovered refrigerant gas, making it reusable through the complete filtration and distillation process from the waste oil.
- Vacuum of the air conditioning system:
The cycle performs: removal of moisture from the vehicle's air conditioning system. At the end of the vacuum time, the vacuum tightness check is carried out.
- Refrigerant refill:
The cycle performs: refills the refrigerant gas and new oil in the air conditioning system. Charging ends automatically when the preset amount is reached.
- Internal tank refill:
The cycle performs: refilling the internal coolant tank from an external tank. To ensure good performance during the charging cycle, the recommended fill amount is 5 kg.
- Emptying service pipes:
The cycle performs: the return of the residual gas in the pipes in the vehicle's air conditioning system and the recovery of residual gas at the end of the operating pressure check.
- Service:
The service menu is used for various system settings, data control and maintenance/
Calibrating the charging station

5.1 CHECK OIL CONTAINERS

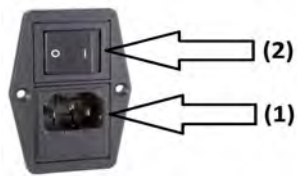
Make sure that the new oil and waste oil container are properly positioned.

- The black quick coupling with yellow button is for connecting the fresh oil container
- The black quick coupling with white button is for connecting the waste oil container
- Condition the fresh oil container according to the instructions on the package.
- Pull out of the machine's clutter the black quick coupling with yellow button and insert it into the connector of the fresh oil container (Fig.1 and Fig.2)
- Gently place the container on the bracket by sliding it into the appropriate guide as far as it will go (Fig.3)
- Pull out of the space of the machine the black quick socket with white button and insert it into the connector on the cap of the waste oil container (Fig.4)
- Gently place the container on the base plate (Fig.5)
- Correct final position of the oil containers (Fig.6)



5.2 INSTRUCTIONS FOR TURNING ON THE STATION

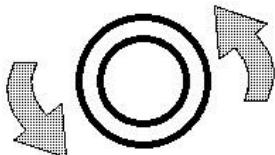
- Plug in the supplied power cord (1)
- Set the power button (2) to "I"



When the station starts, it is set up on the stand-by screen where the following information is indicated:

- Logo
- Firmware version
- Database Version
- Live data (g/m/a/h/min)
- Gas weight available in the tank

To move through the menu and select the functions/cycles, you need to act on the selector as follows:

Rotate Forward Backward (Right-Left)	Press 1s x confirm and 2s to exit
	

5.3 DESCRIPTION OF CYCLE OPERATION

AUTOMATIC

The cycle performs: refrigerant gas recovery, waste oil discharge, gas recycling, vacuum, leak test, refill of new oil/UV tracer and refrigerant gas.

- Connect the hoses to the A/C system;
- Select AUTOMATIC cycle;
- Select DATABASE or MANUAL;
- Select vehicle model and/or charging values;
- Choice of pipes to be connected (HP-LP-HP+LP);
- Press the cycle start selector.

At the end of the cycle, you can confirm or exclude the printing of the test report of the completed cycle. In the event of an error or malfunction, printing will be carried out with the indications of the last phase performed.

RECOVERY

The cycle performs: the recovery of refrigerant gas from the vehicle's air conditioning system. During this cycle, the station recycles the recovered refrigerant gas, making it reusable through the complete filtration and distillation process from the waste oil.

- Connect the hoses to the A/C system;
- Select RECOVERY cycle;
- Select whether FULL or PARTIAL ☐ set the amount of gas to be recovered;
- Select the pipes to be connected (HP-LP-HP+LP);
- Press the selector switch to start the cycle.

At the end of the cycle, you can confirm or exclude the printing of the test report of the completed cycle. In the event of an error or malfunction, printing will be carried out with the indications of the last completed cycle

VACUUM

The cycle performs: removal of moisture from the vehicle's air conditioning system. At the end of the vacuum time, the vacuum tightness check is carried out.

- Connect the hoses to the A/C system;
- Select VACUUM cycle;
- Indicate vacuum time (minutes);
- Select the pipes to be connected (HP-LP-HP+LP);
- Press the selector switch to start the cycle.

At the end of the selected time, it automatically performs a check of the degree of vacuum reached for 5 minutes (vacuum leak control).

At the end of the cycle, you can confirm or exclude the printing of the test report of the completed cycle. In the event of an error or malfunction, printing will be carried out with the indications of the last completed cycle.

REFRIGERANT REFILL

The cycle performs: refills the refrigerant gas and new oil in the air conditioning system. Charging ends automatically when the preset amount is reached.

- Connect the hoses to the A/C system;
- Select REFRIGERANT RECHARGE cycle (vehicle or Gas and oil quantity);
- Select DATABASE or MANUAL;
- Select vehicle model and/or charging values;
- Select the pipes to be connected (HP-LP-HP+LP). In the case of the HP tube only, choose where the coolant will be recharged in the vehicle; before the condenser, select "steam", after the condenser, select "liquid";
- Press the cycle start selector.

At the end of the cycle, you can confirm or exclude the printing of the test report of the completed cycle. In the event of an error or malfunction, printing will be carried out with the indications of the last completed cycle.

INTERNAL TANK REFILL

The cycle performs: refilling the internal coolant tank from an external tank. To ensure good performance during refill and retrieval cycles, the recommended fill amount is 5 kg from new.

- Connect the HP or LP service hose;
- Select the quantity to be transferred;
- Press the selector switch to start the cycle. Before completing the cycle, the display will indicate to close the external tank and press the selector to remove the residual gas in the pipes.

At the end of the cycle, you can confirm or exclude the printing of the test report of the completed cycle. In the event of an error or malfunction, printing will be carried out with the indications of the last completed cycle.

EMPTYING SERVICE PIPES

The cycle performs: the return of the residual gas in the pipes in the vehicle's air conditioning system and the recovery of the residual gas at the end of the verification of the operating pressures.

- Select service pipes connected to the vehicle (HP-LP-HP+LP);
- Start the vehicle and turn on the A/C system;
- Follow the on-screen wizard;
- Press rotary switch to start cycle;
- Close LP quick coupler;
- Press the selector to confirm;
- The end of the cycle is indicated on the display.

SETTINGS

SETTING THE DATE AND TIME

Date time settings ☐ format YEAR/MONTH/DAY – TIME 24h

This function is accessible: OPERATOR/SPECIALIST TECHNICIAN

6 ERROR CODE LIST

In the event of an error during a cycle/function, the system indicates the code corresponding to the anomaly found.

The table shows the error codes, the description and to whom the intervention that must perform the indicated operation is addressed.

Once the problem has been eliminated, repeat the operation you were performing from the beginning.

If the problem persists, contact technical support.

Error code	System Error	Meaning	Intervention
001	PRESSURE TRANSDUCER	NON-RESTORABLE FAULT	SERVICE TECHNICIAN
002	TEMPERATURE SENSOR	NON-RESTORABLE FAULT	SERVICE TECHNICIAN
003	TANK LOAD CELL REF	NON-RESTORABLE FAULT	SERVICE TECHNICIAN
004	FRESH OIL LOAD CELL	NON-RESTORABLE FAULT	SERVICE TECHNICIAN
005	WASTE OIL LOAD CELL	NON-RESTORABLE FAULT	SERVICE TECHNICIAN
010	NEW OIL CONTAINER	PRESENCE OF PRESSURE	SERVICE TECHNICIAN
011	MAXIMUM TANK PRESSURE REF	TEMPORARY FAILURE	SERVICE TECHNICIAN
012	SAFETY ELECTRIC FAN	NON-RESTORABLE FAULT	SERVICE TECHNICIAN

1) AUTOMATIC CYCLE

100	FULL INTERNAL TANK	Maximum coolant level in the inner tank reached	SERVICE TECHNICIAN
101	FILTER CHANGE	Filter level signaling. 80% used filter	SERVICE TECHNICIAN
102	USED OIL CONTAINER FULL	Waste oil container at maximum level.	Empty Waste Oil Bottle
103	INSUFFICIENT REFRIGERANT	Low coolant level in the inner tank	OPERATOR. Perform the internal tank refill cycle
104	INSUFFICIENT REFRIGERANT AND OIL	Low level of new oil and coolant in the cylinder	OPERATOR. Run the internal tank and fresh oil refill cycle
105	INTERRUPTED	Interrupted Cycle	OPERATOR. Repeat the operation

2) RECOVERY

200	PRESSURE TOO LOW	There is no refrigerant to recover	Run Vacuum Cycle
201	FULL INTERNAL TANK	Maximum refrigerant level in the inner tank reached	SERVICE TECHNICIAN
202	TIME OUT	Time available for the expired cycle	OPERATOR. Repeat the operation
203	INTERRUPTED	Interrupted Cycle	OPERATOR. Repeat the operation
204	FILTER CHANGE	Filter level signaling. 80% used filter	SERVICE TECHNICIAN
205	USED OIL CONTAINER FULL	Waste oil container at maximum level.	OPERATOR. Empty the container and repeat the operation

3) VACUUM

300	PRESSURE TOO HIGH	The system is under pressure	OPERATOR. Perform the Recovery Cycle
301	TIME OUT	Time available for the expired cycle	OPERATOR. Repeat the operation
302	LOSS	Presence of vacuum leakage in the A/C system.	OPERATOR. Repair the leak and repeat the operation
303	PRESSURE TOO HIGH	Sudden rise in pressure during vacuum	OPERATOR. Repeat the operation
304	TIME OUT	Time available for the expired cycle	OPERATOR. Repeat the operation
305	USED OIL CONTAINER FULL	Waste oil container at maximum level.	OPERATOR. Empty the container and repeat the operation

4) REFRIGERANT REFILL

400	INSUFFICIENT REFRIGERANT	Low coolant level in the inner tank	OPERATOR. Perform the internal tank refill cycle
401	NOT ENOUGH OIL	Low fresh oil level	OPERATOR. Reset the oil level and repeat the operation
402	INSUFFICIENT COOLANT AND OIL	Low level of new oil and coolant in the cylinder	OPERATOR. Run the internal tank and fresh oil refill cycle
403	LOSS	Pressure loss in the A/C system when refrigerant refill starts	OPERATOR. Repair the leak and repeat the operation
404	INSUFFICIENT PRESSURE	Insufficient vacuum to load oil	OPERATOR. Repeat the operation
405	TIME OUT	Time Expired to Complete Oil Charge Cycle	OPERATOR. Repeat the operation
406	TIME OUT	Time Expired to Complete Refrigerant Charge Cycle	OPERATOR. Repeat the operation
407	INTERRUPTED	Interrupted Cycle	OPERATOR. Repeat the operation

5) INTERNAL TANK REFILL

500	PRESSURE TOO LOW	There is no refrigerant to recover	OPERATOR. Check the outer container
501	FULL INTERNAL TANK	Maximum coolant level in the inner tank reached	SERVICE TECHNICIAN
502	TIME OUT	Time available for the expired cycle	OPERATOR. Repeat the operation
503	INTERRUPTED	Interrupted Cycle	OPERATOR. Repeat the operation
504	FILTER CHANGE	Filter level signaling. 80% used filter	SERVICE TECHNICIAN

6) FILTER CHANGE

600	INCORRECT SERIAL NUMBER	Incorrect new filter serial number	SERVICE TECHNICIAN
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601	TIME OUT	Time available for the expired cycle	OPERATOR. Repeat the operation
602	LOSS	Presence of vacuum leakage in the filter.	SERVICE TECHNICIAN
603	INTERRUPTED	Interrupted Cycle	SERVICE TECHNICIAN
604	USED OIL CONTAINER FULL	Waste oil container at maximum level.	SERVICE TECHNICIAN

7 PRINTER

Carefully follow the instructions below for replacing the roll paper.

- Pull the lever to open the door (Fig.1 and Fig.2), remove any remaining part of the spent roll of paper.
- Load the new roll of paper (Fig.3) paying attention to the direction indicated in the image.
- Gently close the door by pressing only and exclusively in the center of the door shown in the image, keeping a few centimeters of paper out of the door (Fig.4). Avoid braiding the paper. **Do not press the lever to close the door.**
Be careful not to touch the paper tear bar inside the printer with your fingers.
- Once the paper is loaded, press the FEED light to align the paper. After a few centimeters, release the button and remove the remaining paper.

Fig. 1

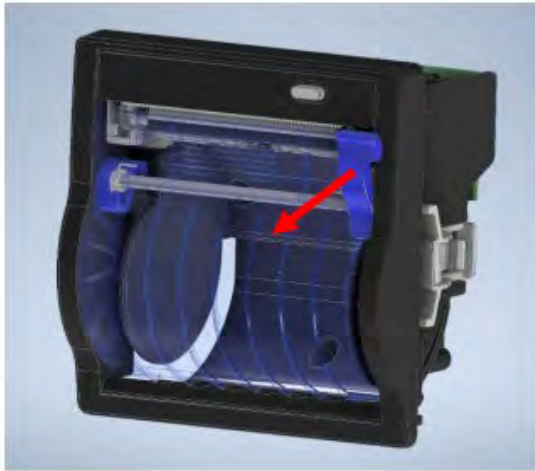


Fig.2

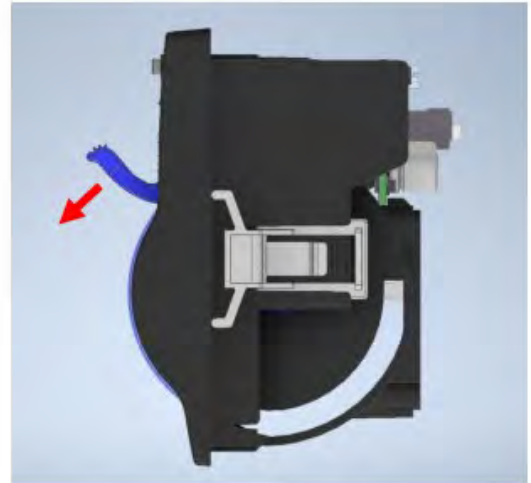
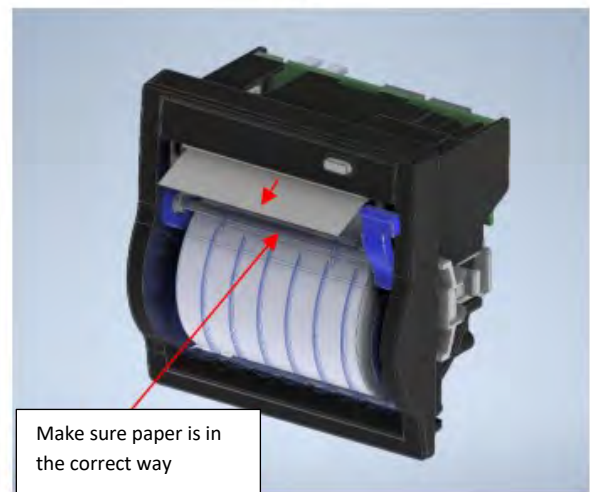


Fig.3



Fig.4



8 MAINTENANCE INSPECTION

Under no circumstances should the operator use flammable liquids or detergents to clean the machine.

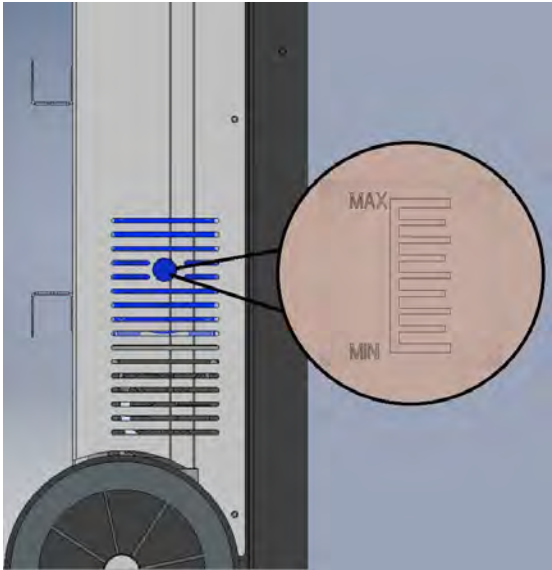
Always wait a few minutes after shutting down to allow the system to return to resting conditions (temperature and pressure).

During the maintenance phases, do not disperse any residues in the environment, but comply with the provisions of current regulations.

NEVER disassemble the cylinder unless specifically instructed.

Do not carry out repairs or maintenance when the station is in operation or connected to the mains power supply.

Carry out only the maintenance and repair operations indicated in the paragraphs of this manual. Please note that work carried out by inexperienced personnel alters the overall safety rating of the machine and exposes the operator to serious risks.

Periodic check of the vacuum pump oil level Periodically check that the oil level is within the Min-Max indications visible on the vacuum pump specula through the hole located on the ventilation grilles on the left side of the machine. In case of a level above or below the limits, please contact your sales network for technical assistance.	
Replacement of external gaskets for quick couplings The O-Ring seals in the quick couplings are subject to wear and tear caused by frequent use. To replace, follow these steps: • Recover residual pressure in the pipes. • Unscrew the red/blue ring counterclockwise. • Push back the bushing indicated in the magnification with the red arrow to replace	



This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.