

ROTARY R³AC50



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R³AC50

1 REVISION OF THE MANUAL

This document is the technical manual for the product:R³AC50

Document Revision Number:02

Date of Issue:17/02/2023

INFORMATION	<i>Read this manual before using the product.</i>
 	<i>Read the documents carefully whenever the General Risk symbol appears.</i>

2 INTRODUCTION

Dear Customer,

thank you for choosing this product for your workshop.

We are certain that you will get the greatest satisfaction from it and receive a great deal of help in your work.

Please read through the instructions in this manual carefully and keep it for future reference.

Reading and understanding the following manual will help you to avoid damage or personal injury caused by improper use of the product to which it refers.

We reserve the right to make any changes deemed necessary to improve the manual for any technical or marketing requirement, at any time and without prior notice.

This product is intended for use by technicians specialized in the automotive field only. Reading and understanding the information in this manual cannot replace adequate specialized training in this field.

The sole purpose of the manual is to illustrate the functioning of the product sold. It is not intended to offer technical training of any kind and technicians will therefore carry out any interventions under their own responsibility and will be accountable for any damage or personal injury caused by negligence, carelessness, or inexperience, regardless of the fact that this tool has been used following the information contained in this manual.

This manual should be considered an integral part of the product to which it refers. In the case it is resold the original buyer is therefore required to forward the manual to the new owner.

Reproduction, whole or in part, of this manual in any form without written authorization by the manufacturer is strictly forbidden.

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3 LEGEND OF THE SYMBOLS USED

Some of the symbols indicated below may not be used in the manual.

	Toxic material hazard		Laser beam hazard
	Explosive material hazard		Low temperature danger - freezing
	Electric shock hazard		General Risk
	Electromagnetic field hazard		Read instructions
	Flammable material hazard		Safety glasses required
	Hot surface hazard		Protective gloves required
	Corrosive substance hazard		Protective clothing required
	Risk of noise level above 80 dB(A)		Respiratory protection required
	Moving Parts Risk		Disconnect mains plug from electrical outlet
	Risk of crushing hands		Do not wet the device
	Floor level obstacle warning		

	This is not a safety symbol. It indicates a hazardous situation that, if not avoided, will result in serious permanent injury or death.
	This is not a safety symbol. It indicates a hazardous situation that, if not avoided, may result in serious permanent injury or death.
	This is not a safety symbol. It indicates a hazardous situation that, if not avoided, may result in minor injury.

<i>NOTICE</i>	This is not a safety symbol. It indicates a hazardous situation that, if not avoided, may result in material damage.
INFORMATION	This is not a safety symbol. It indicates important information.

4 SAFETY RULES

The technology used for the design and production control of the **R³AC50** charging stations make them simple, reliable and safe to use.

The personnel in charge of using the **R³AC50** charging stations are required to follow the general safety rules, use the charging stations for their intended use only and keep them properly, as described in this manual.

All the requirements based on the following must be assessed and applied:

- *Labor inspectorate.*
- *Trade associations.*
- *Vehicle manufacturers.*
- *Anti-pollution regulations.*

4.1 Intended Use

Product	Intended Use
R³AC50	charging and servicing A/C and climate control systems on cars, trucks and tractors.

4.2 Glossary

- **Equipment:** *R³AC50*
- **Operator:** *qualified individual in charge of using the equipment.*
- **External cylinder:** *new cylinder for refrigerant R134a used to fill the internal tank.*
- **Cycle:** *the carrying out of single phases.*
- **Operating phase:** *the carrying out of a single operation by the equipment (i.e. recycling).*
- **Non-condensable gas:** *air accumulated during the vapor phase in the refrigerant, extracted from the A/C system or from the tanks.*
- **UV tracer injection:** *introduction of UV tracer into the A/C system in order to check for leaks.*
- **Oil injection:** *introduction of oil into the A/C system in order to restore the correct quantity recommended by the manufacturer.*
- **Operator:** *qualified individual in charge of servicing air conditioning systems using a charging station.*
- **Recovery:** *removal of the refrigerant from the A/C system and the subsequent storage in the internal tank, without the need for analysis or treatment.*
- **Refrigerant:** *a liquid capable of vaporizing (R134a).*
- **Recycling:** *reduction of the contaminants in the refrigerants used by separating the oil, removing the non-condensable gases and passing the refrigerant once (or multiple times) through elements that reduce the humidity, acidity, etc.*
- **Refilling:** *refrigerant charging phase; it charges the A/C system with the amount of refrigerant recommended by the manufacturer.*
- **Internal tank:** *tank for storing the refrigerant.*
- **A/C system:** *air conditioning or climate control system.*
- **Disposal of the equipment:** *removal of the refrigerant destined to be stored in order to be disposed of later (destroyed or transferred to waste disposal plants).*
- **Vacuum:** *the evacuation of non-condensable gases and humidity from the A/C system exclusively through a vacuum pump.*

INFORMATION

The definition of "operator" cannot be applied to minors or to people with reduced physical, sensory or mental capabilities or without any experience or knowledge required.

4.3 General Rules



The operator must carefully read and understand all the information and instructions in the technical documents provided with the equipment. If the operator cannot read this manual, it is responsibility of the owner of the equipment/ employer/person in charge of the safety to illustrate the contents of this document and adequately train the operator in relation to the operating instructions and safety measures for a proper use of the equipment.

- The operator must have basic knowledge of refrigeration, the refrigeration system, refrigerants and the potential hazards that equipment under extreme pressure can cause.*
- The operator who works on vehicles must have basic qualifications and knowledge of mechanics, automotive engineering, vehicle repairing and of the potential dangers that may arise during self-diagnosis operations.*
- The operator must be completely clear-headed and sober and not take drugs nor drink alcohol before or when using the equipment.*
- The operator must follow all the instructions provided in the technical documents.*
- The operator is required to wear appropriate Personal Protective Equipment (PPE) at all times when using the equipment.*
- The operator must monitor the equipment during the operating phases wherever this is possible in compliance with the safety measures indicated below.*
- The operator must periodically check the electrical connections of the equipment, making sure they are in good condition and immediately replacing any damaged cables.*
- The operator must periodically check the parts that are subject to wear and replace them if needed, using only original spare parts or spare parts approved by the manufacturer.*
- The operator must stop using the equipment immediately should any failure occur, and promptly contact the technical assistance.*
- Contact your retailer for extraordinary maintenance operations.*
- Do not remove or damage the labels/tags and the warnings on the equipment; do not in any case make them illegible.*
- Do not remove or tamper with any safety devices the equipment is provided with.*

4.4 Safety Devices

The **R³AC50** charging stations are equipped with the following safety devices:

- Safety pressure switch:** *it stops the compressor when the pressure reaches a cut-off level.*
- Safety valve:** *it opens completely if the PS value is reached.*
- Main switch:** *it allows cutting off the power from the mains in case of an emergency or to carry out maintenance.*
- Safety level switch:** *it stops the compressor when the refrigerant inside the tank reaches its maximum level.*

Tampering with the above mentioned safety devices of any kind is strictly forbidden.

NOTICE

Maintenance on the safety devices must be carried out by authorized Assistance Services only.



4.5 Operator Safety

WARNING

Refrigerant fluids can cause blindness and other physical injuries.



Due to their low boiling temperature (approximately - 22 °F or - 30 °C), refrigerants can cause cold burns when they come into contact with the skin.

Safety Measures:

- The operator must avoid inhaling the vapors of the refrigerant liquids; use appropriate protection when required.
- The operator is required to wear appropriate safety glasses and gloves that prevent direct contact with the refrigerants.
- Do not use the equipment near open flames, sparks, hot surfaces: the refrigerant decomposes at high temperatures, letting off toxic chemical substances that are harmful to people and the environment.

CAUTION

The equipment has been designed to be steady both when being moved and once it is positioned.



However, you must pay attention while moving it.

Safety Measures:

- Do not tilt the equipment in any way.
- Do not step on the equipment.
- Do not hang loads that may compromise the stability of the equipment, causing it to tip over.
- To move the equipment, use the specific handle only and balance the station on its wheels.
- Avoid moving it on uneven surfaces.

CAUTION

The equipment was designed to be electrically safe and to work with specific supply voltage levels.



Improper use may expose the operator to the risk of electric shock, even though of low intensity.

Safety Measures:

- Wear appropriate personal protective equipment during all the operating phases.
- Do not handle or touch the equipment or any accessories (e.g. cables) with wet hands.
- Do not use extension cords to power the equipment.

WARNING



The current used during the operating phases may generate Electromagnetic Fields (EMF) near the equipment.

Even though of low intensity, these fields may interfere with medical prostheses, such as pacemakers.

Safety Measures:

- *Keep away from the equipment after launching the operating phases.*
- *If you have a medical prosthesis (e.g.: pacemaker), check with your doctor as to the appropriateness of using the equipment or being near it.*

4.6 Device Safety

NOTICE



The equipment was designed in compliance with the regulations on pressure equipment and assemblies, evaluating and reducing the risk where present and making appropriate considerations.

However, vibrations, pressure variations or excessive temperatures, especially if cyclic, should be avoided.

Safety Measures:

- *During use, do not move out of the TS operating temperature range and do not exceed the PS maximum operating pressure (see plate on the equipment).*
- *Only use the refrigerant R134a.*
- *Make sure you use the correct refrigerant for the model of the device you are using.*
- *Make sure you use the correct refrigerant for the vehicle you are working on.*
- *Connect the hoses correctly by following the colors indicated: Blue hose - LP coupler, Red hose - HP coupler.*
- *Make sure all the valves are closed before connecting the device to the A/C system or to an external cylinder.*
- *Make sure the operating phase has ended and that the valves are closed before disconnecting the device; this should be done to avoid the refrigerant from spreading into the atmosphere.*
- *It is absolutely forbidden to modify the calibration of the safety valves and the control systems.*
- *Do not smoke near the device or during the operating phases.*
- *Do not expose the device to direct sunlight, rain and bad weather conditions.*
- *Disconnect the hoses with extreme caution; they may contain refrigerant under high pressure.*
- *Make sure the couplers are not open when the hoses are placed back around the service hose holder.*
- *Do not leave the device connected to the power supply if you do not intend to use it immediately.*

NOTICE



The equipment was designed to be used in specific environmental conditions.

Using the equipment in environments with temperatures and humidity that differ from those specified may impair its efficiency.

Safety measures:

- *Place the equipment in a dry area.*
- *Do not expose or use the equipment near heat sources.*
- *Place the equipment where it can be properly ventilated.*
- *Do not use corrosive chemicals, solvents or harsh detergents to clean the equipment.*
- *If storing the device for a long period of time, disconnect it from the power mains and put it in a safe place, where it is not exposed to outside weather conditions.*

NOTICE



The equipment was designed to be mechanically sturdy and suitable for use in a workshop.

Careless use and excessive mechanical strain may compromise its efficiency.

Safety measures:

- *Do not drop, shake or bump the equipment.*
- *Do not place the equipment where it could fall into water. Avoid any contact with water.*
- *Do not place any objects on the cables or service hoses.*
- *Do not perform any kind of intervention that may damage the equipment.*
- *Do not use the touchscreen with sharp objects or any other kind of object that may damage it.*
- *Do not access the components inside the equipment unless explicitly requested by specific maintenance operations indicated in this manual.*

NOTICE



The equipment was designed to be electrically safe and to work with specific supply voltage levels.

Failure to comply with the specifications related to the power supply may impair its efficiency.

Safety measures:

- *Do not expose the equipment to water or other liquids.*
- *Do not use external batteries to power the equipment.*
- *Do not use extension cords to power the equipment.*

! WARNING



The electromagnetic compatibility tests carried out on the tool guarantee that it can be adapted to the technologies normally used on vehicles (e.g.: engine check, ABS, airbag, etc.). Nevertheless, if malfunctions occur you should contact the vehicle's dealer.

4.7 Safety Precautions to follow when using the Refrigerants

WARNING



Certain mixtures of air and R134a have proved to be flammable at high pressures.

These mixtures are potentially hazardous and can cause fires and explosions, causing personal injuries and damage to objects.

Further safety and medical information can be obtained from the lubricant and refrigerant manufacturers.

Safety Measures:

- *Do not use external tanks or other storage systems that have not been approved and/or that are not equipped with safety valves.*
- *Do not test the equipment or the vehicle A/C system containing R134a with compressed air.*

4.8 Workplace Safety

NOTICE



The equipment is designed to work at a maximum altitude of 1000 m / 3281 ft above sea level, with an operating temperature between 5 °C / 41 °F and 40 °C / 104 °F and a maximum humidity of 50% at 50 °C / 122 °F.

Safety Measures:

- *Never, under any circumstance, use the device in an environment where there is risk of explosion.*
- *Keep the device in environments with temperatures that do not exceed 50 °C / 122 °F.*
- *Only use the device in open or well-ventilated environments (at least 4 air changes per hour).*
- *Make sure the workplace is well-lit (average operating illuminance, for mechanic workshops and assembly on work benches for precision work, is 500-750-1000 lux).*

4.9 Guidelines for Handling the Refrigerants Used

4.9.1 Refrigerant Storing Precautions

The device has been designed and built to operate with R134a refrigerant only.

- *The refrigerant removed from the A/C system must be handled with care to prevent the refrigerants from mixing or in any case reduce the risk of this happening.*
- *The cylinders used for refrigerant storing must be specific for each refrigerant to avoid mixing the refrigerants.*
- *The cylinders must be perfectly clean and clearly labelled in order to identify the refrigerant they contain.*

4.9.2 Refrigerant and System Conditions

The installation procedures and the maintenance carried out during the operating life of the A/C system substantially affect the quality of the refrigerant.

Understanding these factors is essential in order to decide whether or not the refrigerant from a system should be recycled.

The systems that have not been properly maintained (not cleaned, not emptied correctly, etc.) can have high contamination levels, both in the refrigerant and in the oil.

If the history of the system is not known, the refrigerant recovered must at least be recycled before it is reused.

When the contamination level is not known, you may carry out some preliminary checks with the kit specifically for acidity and humidity measurements.

4.9.3 Recycling Capacity

The filtering systems of the device must be replaced regularly in order to guarantee device efficiency.

The recycling must always be carried out, even when tests do not show that they are required.

4.9.4 In General

Before carrying out the refrigerant refilling phase, the A/C system must be emptied and cleaned (a vacuum operation must be carried out).

Carry out all the procedures as described in this manual in order to guarantee that the A/C system is not contaminated.

Carry out the scheduled/regular maintenance on the device as required, especially after it has been used with a highly contaminated refrigerant: it is essential that the contamination from one operation is not passed on to the following one.

4.10 Additional Safety Rules

This manual contains different types of safety messages directed to the user and that the operator must follow.

These messages are defined as follows:

DANGER	This message indicates that you may risk severe personal injury or death.
CAUTION	This message indicates that you may risk damaging people, things or the charging station.
NOTES and OPERATING TIPS	These messages provide clear and useful information.

The safety messages written in this manual cover situations the manufacturer is aware of.

The manufacturer cannot be aware of, evaluate and inform you of all the possible risks.

You must make sure the conditions and procedures do not jeopardize your personal safety.

4.11 Disclaimer

The information, the images and the specifications in this manual are based on the latest information available at the time of the publication.

The manufacturer reserves the right to make changes at any time and without the obligation to notify such revisions or changes to any person or organization.

The manufacturer is not liable for errors in this document or for accidental or consequential damages (including lost profits) related to the supply, the performances or the use of this material.

If necessary, gather further information on health and safety from the specific national agencies and from the manufacturers of the vehicle, the refrigerant and the lubricant.

	<u>CAUTION – SHOULD BE OPERATED BY CERTIFIED PERSONNEL</u> Before using the charging station, read and follow the instructions and warnings contained in this manual. The operator must be familiar with the refrigeration and A/C systems, the refrigerants and the dangers that derive from pressurized components. If the operator is not able to read this manual, the operating instructions and the safety indications, they must be read and discussed in the operator's native language.
	<u>THE PRESSURIZED TANK CONTAINS REFRIGERANT</u> Do not overfill the internal storage tank as excessive filling could cause explosions, personal injuries or death. Do not recover refrigerants in non-refillable containers; only use refillable containers that are compliant with federal regulations.
	<u>THE HOSES MAY CONTAIN PRESSURIZED REFRIGERANT</u> Contact with the refrigerant may cause personal injuries. Wear protective equipment, including safety glasses. Disconnect the hoses using extreme caution.
	<u>AVOID BREATHING A/C REFRIGERANT AND LUBRICANT VAPOR OR MIST</u> Exposure could irritate eyes, nose and throat. To remove refrigerant from the A/C system, only use equipment certified for the type of refrigerant being removed to meet the requirements of SAE J2788. CAUTION - This equipment should be used in locations with mechanical ventilation that provides at least four air changes per hour. In case of accidental system discharge, ventilate the working area before resuming service. Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.
	<u>DO NOT USE ANY TYPE OF EXTENSION CORD</u> An extension cord may overheat and cause a fire. If you must use an extension cord, use the shortest one possible with a minimum size of 14 AWG. <u>REDUCE THE RISK OF FIRES</u> Do not use the charging station close to open or leaking containers that contain gas or other flammable substances.
	<u>CAUTION – DO NOT PRESSURE TEST OR LEAK TEST EQUIPMENT AND/OR VEHICLE AIR CONDITIONING SYSTEMS WITH COMPRESSED AIR</u> Some mixtures of air and refrigerant have proved to be flammable at high pressures. If ignited, these mixtures could cause damage to people or things. Additional health and safety information may be obtained from the refrigerant and lubricant manufacturers.

	<u>TO AVOID CROSS-CONTAMINATION, USE THIS CHARGING STATION ONLY WITH R134a REFRIGERANT</u> The charging station was designed to recover, recycle and recharge R134a refrigerant only. Do not try to adapt the charging station to another type of refrigerant. Do not mix different types of refrigerants inside the system or within the same container; the mixture of refrigerants will cause severe damage to the charging station and to the vehicle's A/C system.
	Only use new lubricant to replace the amount removed during the recycling process. Used lubricant must be disposed of in compliance with applicable federal, state and local procedures and regulations.
	<u>THE HIGH VOLTAGE CURRENT INSIDE THE CHARGING STATION IMPLIES A RISK OF ELECTRICAL SHOCK</u> Exposure could cause personal injuries. Disconnect the power before performing any maintenance operation on the charging station.

Further safety and medical information can be obtained from the lubricant and refrigerant manufacturers.

OPERATING NOTE:

At temperatures above 49 °C / 120 °F, wait 10 minutes between recovery operations.

5 NORMATIVE INFORMATION

FCC

R³AC50 meets the following requirements:

- *FCC (Federal Communications Commission) Part 15*

Its operation is subject to the following conditions:

- *this device cannot cause harmful interferences and*
- *this device must accept any interference it receives, including those that can cause an undesired operation.*

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the device.

6 OPERATION OF THE RADIO DEVICES

Wireless connection with Bluetooth and WiFi technology

Wireless connection with Wi-Fi and Bluetooth technologies supplies a standard and safe method for exchanging information between different devices using radio waves.

Besides our devices, this type of technology is also used by products such as: mobile phones, computers, printers, cameras, Pocket PCs, etc.

The Wi-Fi and Bluetooth interfaces search for compatible electronic devices based on the radio signal they generate and connect them.

Our devices make a selection and show only the compatible devices.

This does not exclude the presence of other sources of communication or interference.

THE EFFICIENCY AND THE QUALITY OF THE BLUETOOTH AND Wi-Fi COMMUNICATIONS MAY BE INFLUENCED BY THE PRESENCE OF RADIO DISTURBANCE SOURCES.

THE COMMUNICATION PROTOCOL HAS BEEN DEVELOPED TO MANAGE THESE TYPES OF ERRORS; HOWEVER, IN THESE CASES COMMUNICATION MAY BECOME DIFFICULT AND CONNECTION MAY REQUIRE SEVERAL ATTEMPTS.

SHOULD THE WIRELESS CONNECTION ENCOUNTER SERIOUS PROBLEMS THAT MAY COMPROMISE A REGULAR COMMUNICATION, THE SOURCE OF THE ENVIRONMENTAL ELECTROMAGNETIC INTERFERENCE MUST BE IDENTIFIED AND ITS INTENSITY REDUCED.

Position the tool so that the radio devices it is equipped with can work properly.

In particular, do not cover it with any shielding or metallic materials in general.

7 R³AC50 CHARGING STATIONS

The **R³AC50** charging stations are designed for servicing A/C and climate control systems on cars, trucks, buses and tractors.

The **R³AC50** charging stations are capable of carrying out, in complete safety and with maximum level performances among the devices in their category, the following operations: recovery, recycling, vacuum, oil injection, UV tracer injection, system refilling and A/C system performance evaluation.

The **R³AC50** stations are equipped with an **SD CARD** containing the vehicle database as a standard.

The **SD CARD** allows you to automatically store the data of each service carried out.

The database update can be performed through the **SD CARD**.

R³AC50 only operates with the **R134a** refrigerant.

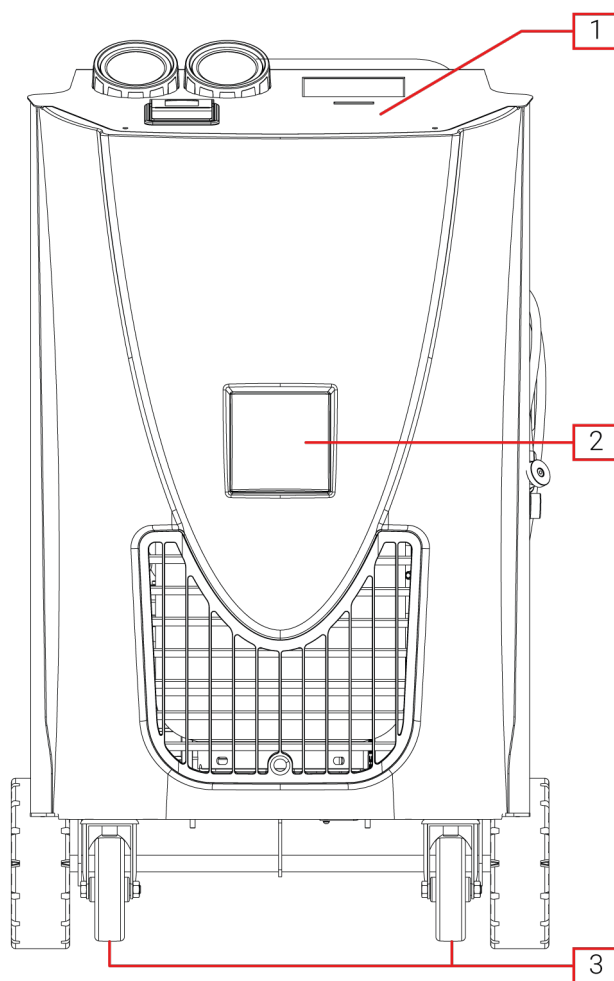
R³AC50 can operate on cars, trucks, and tractors.

MAIN FEATURES

- *R134a compatible*
- *High-visibility TFT color display*
- *DATABASE management and services carried out via SD CARD*
- *Pressure gauge unit*
- *Tank 50 lb (22.7 kg)*
- *Double stage vacuum pump*
- *High efficiency refrigerant recovery (over 95%)*
- *Automatic UV injection (timed function)*
- *High-precision automatic oil injection (scale)*
- *High-precision automatic oil drainage (scale)*
- *Operating modes:*
 - *DATABASE*
 - *CUSTOMIZED SERVICE*
 - *MANUAL SELECTION*
 - *MY DATABASE*
- *Multilingual software coverage*
- *Service hoses automatic length offset*
- *Automatic maintenance warning*
- *Simplified maintenance*

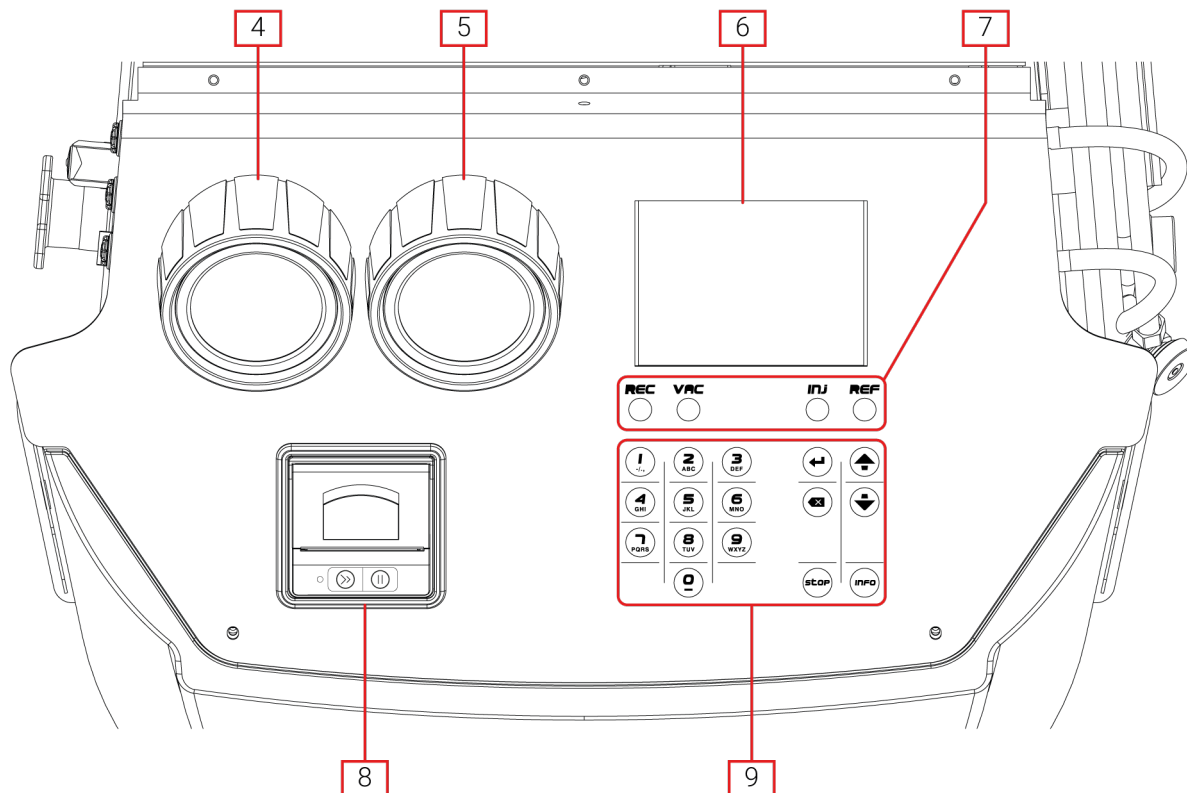


8 DESCRIPTION



- 1. Dashboard¹
- 2. Body of the recharging station
- 3. Castors with brakes

(¹)The Controller is built-in.



4. High Pressure gauge (HP)

5. Low Pressure gauge (LP)

6. Display

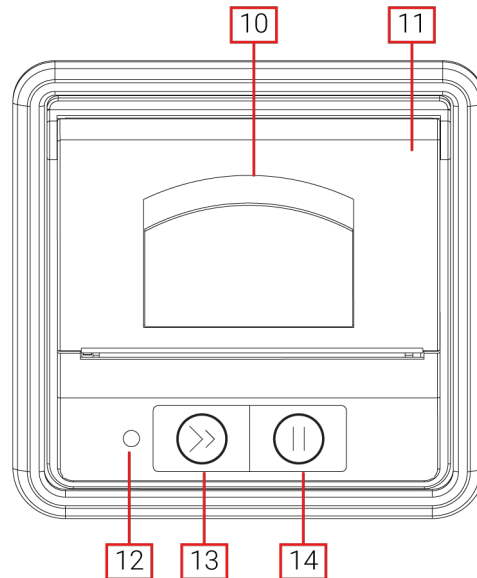
7. Status LED

- **REC-GREEN:**Recycling
- **VAC-BLUE:**Vacuum
- **INJ-ORANGE:**Injection
- **REF-RED:**Charge

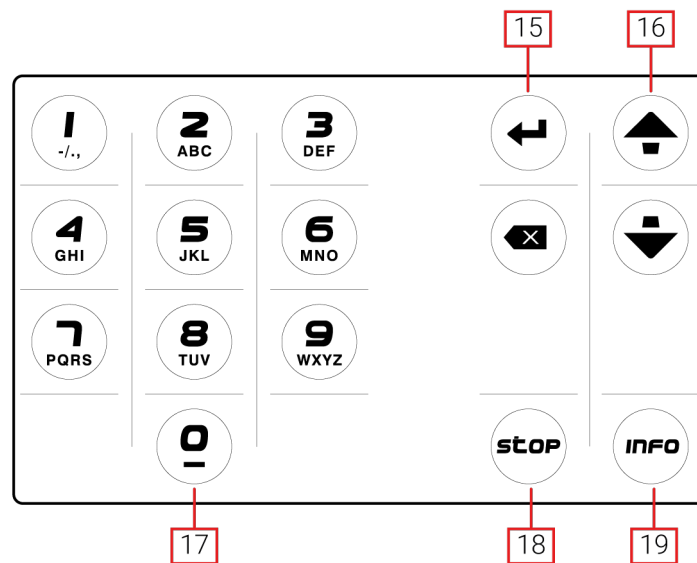
8. Printer²

9. Keyboard

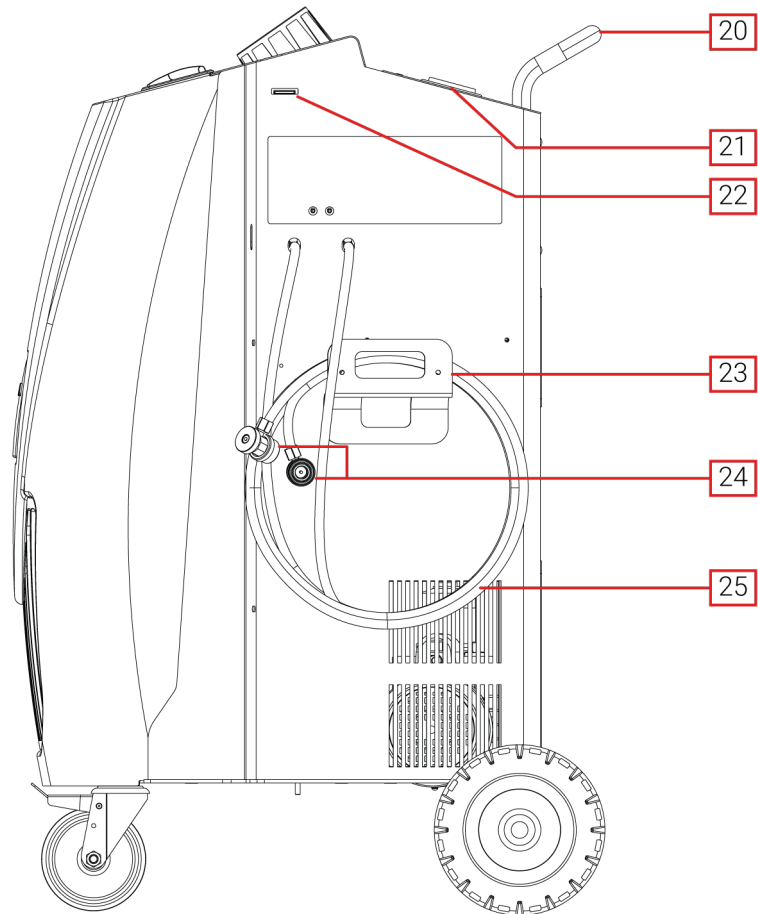
(²)Optional



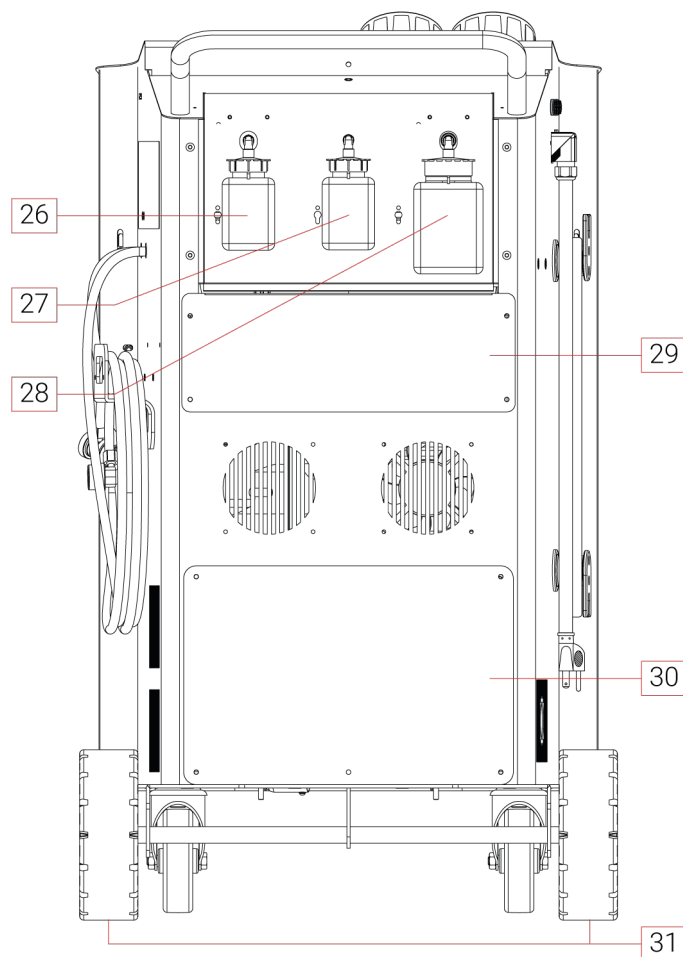
- 10. Paper compartment lever
- 11. Paper compartment cover
- 12. Printer Status LED - **GREEN**
- 13. **PAPER FEED** button
- 14. **ON/OFF** button



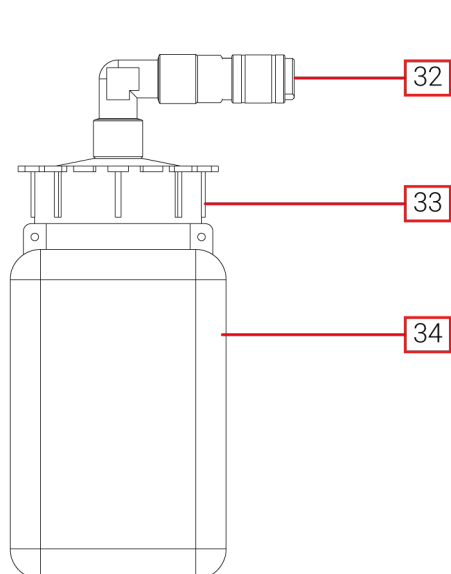
- 15. **ENTER** and **BACK/CANCEL** buttons
- 16. **UP** and **DOWN** arrow buttons
- 17. Numeric keypad
- 18. **STOP** button
- 19. **INFO** button



- 20. Handle
- 21. Set-up for WiFi module
- 22. **SD CARD** slot
- 23. Service hose holder
- 24. **HP/LP** quick couplers
- 25. Service hoses



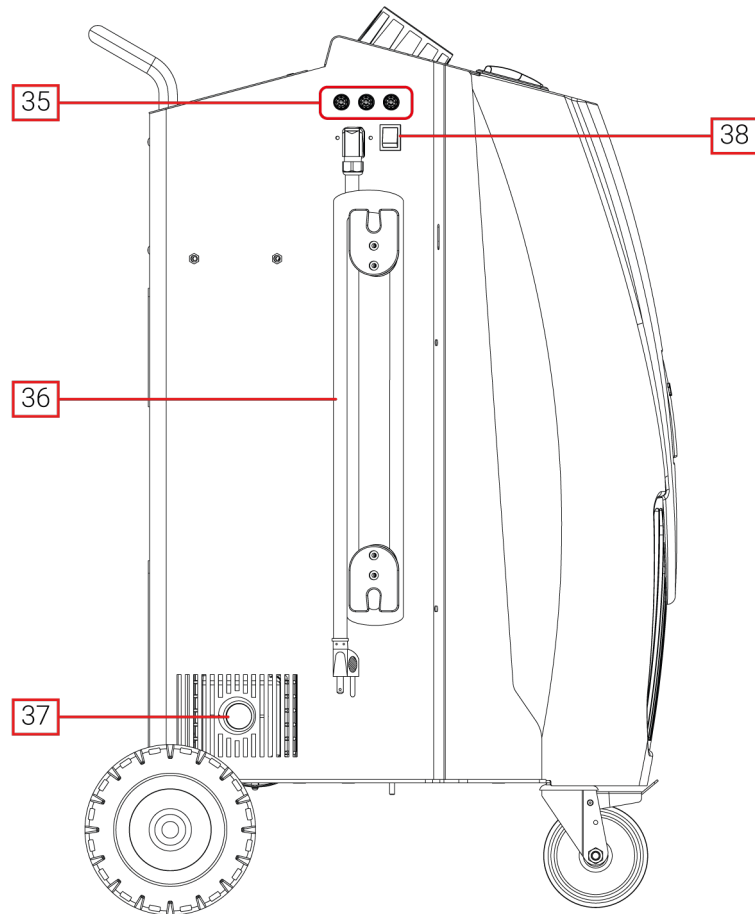
- 26. **OIL PAG/POE** bottle for specific oil
- 27. **UV** bottle for UV dye
- 28. **DRAIN** bottle for recovered oil
- 29. Service bulkhead to access the filter
- 30. Service bulkhead to access the pump
- 31. Wheels



- 32. Pneumatic connection
- 33. Tank cap
- 34. Tank

The standard bottles can be identified by their different capacity:

- **250 ml:** *PAG or POE oil*
- **250 ml:** *UV tracer*
- **500 ml:** *recovered oil*



35. Safety fuses:

- *Fast-acting fuse, 4 A*
- *Time-delay fuse, 15 A*
- *Time-delay fuse, 15 A*

36. Power cable

37. Pump oil level sight

38. Main switch

9 INSTALLATION

This chapter describes the procedures required to install the device properly.

NOTICE

The installation must be performed by qualified personnel only, carefully following the instructions provided in this manual.



The device is provided with the following:

- **Technical Manual:** *it contains the description of the device, user instructions to guarantee a correct use and correct maintenance.*
- **Documentation USB flash drive:** *it contains the technical and operating manual (user instructions for the equipment)*
- **SD CARD**
- **SD CARD READER**
- **TANK FILLING KIT:**
 - *Recharging cylinder hose adapter*
 - *Paper gasket for recharging cylinder hose adapter*
 - *Copper gasket for HP recharging cylinder hose adapter*

9.1 Unpacking the Device

This chapter gives the instructions for unwrapping/unpacking the equipment.

NOTICE

Perform the described operations with extreme care and on a flat surface to avoid tipping over the device.



Proceed as follows:

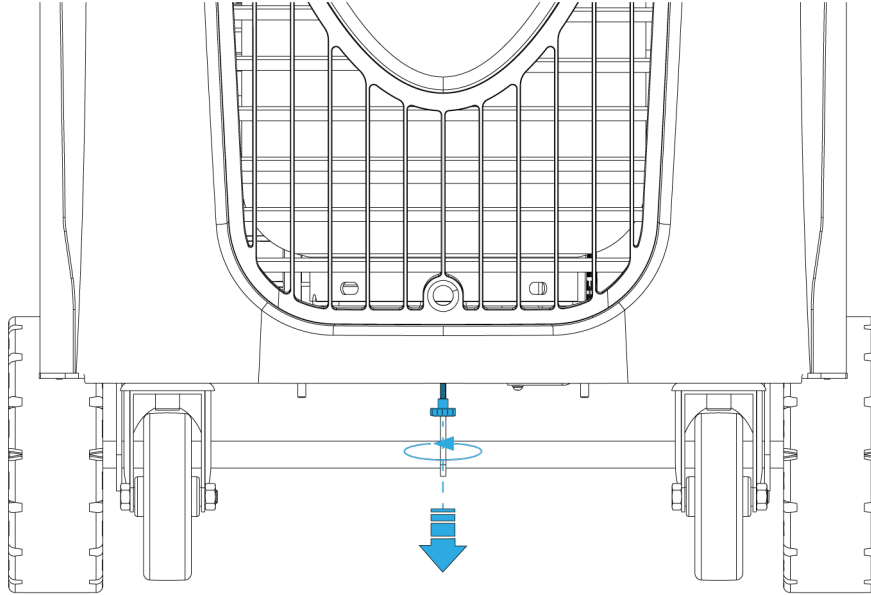
1. *Remove the cardboard.*
2. *Remove the bands that fasten the equipment to the pallet.*
3. *Remove the equipment from the pallet.*
4. *Unlock the wheels.*
5. *Make sure the equipment is in good condition and that it has not been tampered with and/or damaged.*
6. *Make sure no parts are missing.*

9.2 Transportation Lock Removal

On the equipment there is a screw that blocks the internal tank's oil scales to preserve its integrity during transportation.

This screw must be removed before starting to use the equipment.

Proceed as follows:



Proceed as follows:

1. *Stand in front of the equipment.*
2. *Locate the locking screw.*
3. *Unscrew the screw until it is completely removed.*
4. *Keep the screw in case it may be needed in the future when transporting the equipment.*

NOTICE

If the screw is not removed, the charging station may not work properly and/or be damaged during use.



10 HANDLING

This chapter describes the operations required to properly handle and position the equipment for use.

10.1 Moving the Device

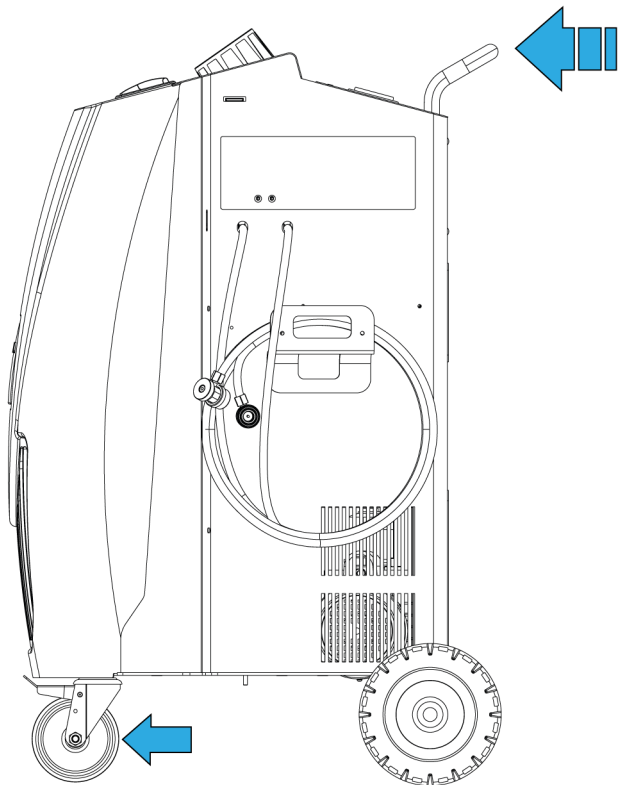
The equipment must be moved on its own wheels.

CAUTION



The equipment was specifically designed and created to lower the center of gravity, so the heavier components were placed on the bottom; however it was not possible to completely eliminate the risk of tipping over.

Do not handle the equipment on excessive slopes.



Proceed as follows:

1. *Disconnect the service hoses from the vehicle's A/C system.*
2. *Disconnect the power cable from the mains.*
3. *Lock the refrigerant scale.*
4. *Unlock the wheels (if required).*
5. *Push the cart using the specific handle located on the back of the equipment.*

10.2 Positioning

The device must be placed near the A/C system that must be checked; make sure it is on a flat surface and in an appropriate environment, as specified in the safety regulations in this manual.

Once the device has been positioned, we suggest locking the wheels with the specific mechanical brakes the wheels are equipped with.

NOTICE

Positioning the equipment on slopes, even though their inclination excludes the risk of tipping over, may interfere with proper equipment operation.



CAUTION

Position the equipment so that the main switch can be always reached easily.



11 POWER SUPPLY

The equipment is powered by the mains through a specific power cable.

The equipment must be connected to the mains through the supplied specific power cable; respect the applicable voltage, frequency and power values.

The voltage, frequency and power values that can be applied can be found on the tag located near the main switch.

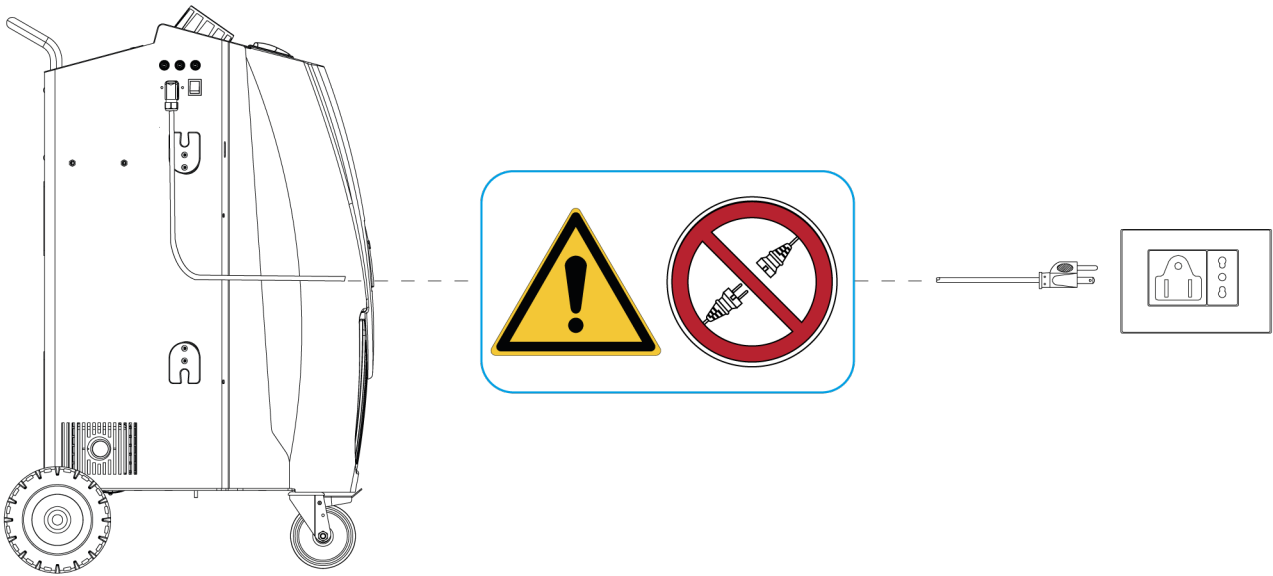


CAUTION

The mains plug must be used to disconnect from the mains.

Do not position the equipment so that it becomes difficult to disconnect it from the mains.

Do not use extension cords to power the equipment.

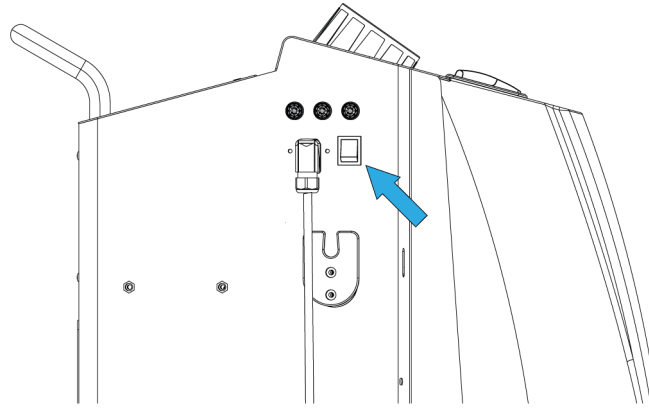


Proceed as follows:

1. *Go to the left side of the equipment.*
2. *Connect the power cable to the mains via a grounded socket.*

12 POWER ON/OFF

The equipment can be powered on and off using the main switch located on the left side of the charging station.



To turn on the equipment, set the main switch to the **I** (ON) position.

To turn off the equipment, set the main switch to the **O** (OFF) position.

WARNING

Do not disconnect the equipment from the mains by unplugging the power cable either from the equipment or from the socket.



12.1 Stopping the Equipment for Long Periods

If you need to stop the equipment for a long period of time, follow the instructions below.

Proceed as follows:

1. *Disconnect the equipment from the mains.*
2. *Place the provided cover over the equipment.*
3. *Store the equipment in a safe place, not exposed to outside weather conditions.*

13 SETTING UP BEFORE USING

This chapter describes the procedures required to install the device properly.

13.1 Demo Mode

The equipment includes a demo mode (**Demo**).

The equipment can be used in **Demo** mode for a **maximum of 15 power on-power off cycles**.

INFORMATION

The equipment locks automatically at the end of the cycle and can no longer be used.

To unlock the equipment, you must activate the product online.

Alternatively, the equipment can be activated manually, requesting the unlock code via the Rotary Assistance Service.

13.2 Inserting the SD CARD

The **SD CARD** contains the database of the vehicles on which it is possible to carry out air conditioning A/C system recharging operations and allows automatically storing each recharging service carried out.

INFORMATION

You must insert the SD CARD into the specific slot before use.

Proceed as follows:

1. Locate the **SD CARD** slot.
2. Insert the **SD CARD** into the slot with the label facing upwards until you hear a soft click.

13.3 How to Load the Paper into the Printer

The charging stations can be equipped with a thermal printer.

INFORMATION

You must fill the printer with paper before use.

Proceed as follows:

1. Lift the paper compartment opening lever lightly until the corresponding cover locks.
2. Place the paper roll into the specific compartment.
3. Close the compartment by pressing lightly on the cover and leaving a slip of paper sticking out.

4. Press  to make sure the paper has been inserted correctly.
5. Repeat the operations indicated above if the paper does not come out.

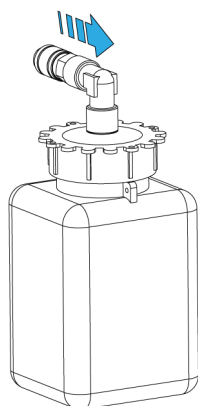
13.4 How to Fill the Bottles

INFORMATION

You must fill the oil and UV tracer bottles before use.

NOTICE

Fill the bottle with the correct type of oil.



Proceed as follows:

1. Remove the desired bottle, slightly pulling back on the ferrule on the pneumatic coupler.
2. Unscrew the tank cap.
3. Fill the bottle with oil/UV tracer.
4. Screw the tank cap back on.
5. Reinsert the bottle by slightly pulling back the ferrule on the pneumatic coupler.

13.5 How to Fill the Internal Tank

The internal tank in the device is empty upon delivery.

INFORMATION

You must carefully read and understand this Operating Manual in order to perform the provided instructions correctly.



Proceed as follows:

1. Turn off the equipment.
2. Connect the external tank to the equipment using the specific KIT.
3. Turn on the equipment.
4. Launch the software function for the internal tank filling by selecting **ADDITIONAL FUNCTIONS** in the menu.
5. Follow the instructions that appear on screen.

13.6 Language Setup

The software in the equipment can be displayed in different languages.

The languages available are stored in the **SD CARD**.

English is the default language.

INFORMATION

You must set the software's display language.

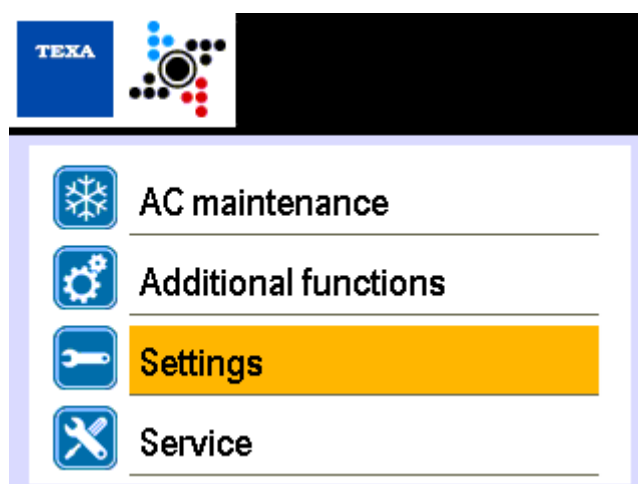
This operation must be **carried out when the equipment is started for the first time**.

You may change the language selected at any time by following the instructions provided in this chapter.

Proceed as follows:

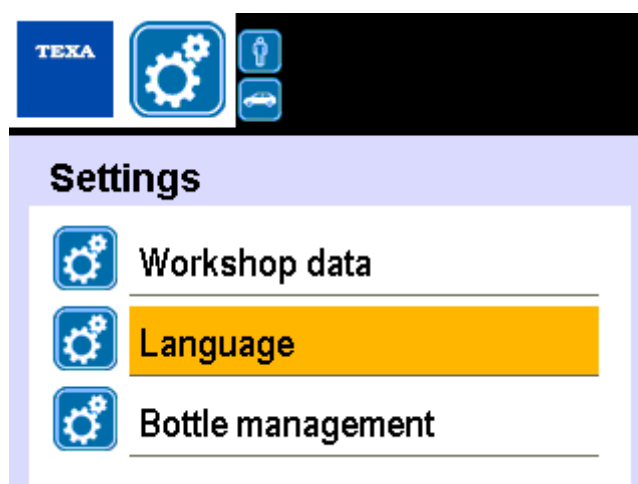
1. Turn on the equipment.

2. Press  until you reach the “**SETTINGS**” item.



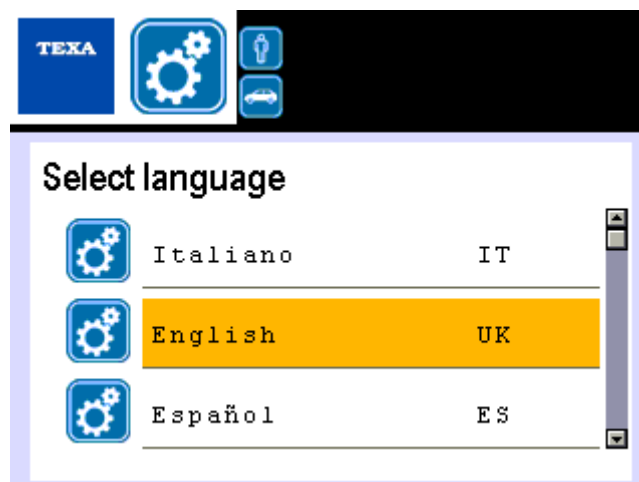
3. Press .

4. Press  until you reach the “**LANGUAGE**” item.



5. Press .

6. Press  until you reach the desired language.



7. Press .

8. The language is set.

14 User Instructions

This chapter provides various general instructions on how to use the device.

14.1 How to Connect to the Vehicle Air Conditioning System

In order to carry out A/C system recharging operations you are required to connect the device to the vehicle.

Proceed as follows:

1. Place the device near the A/C system you wish to check.
2. Connect the service tubes to the vehicle A/C system.

14.2 Visual Warnings

The control panel/display on the device has a series of LEDs that provide information on the status of the device and on the phase in progress at a specific time.

LED	Name	Color	Indicates	Blink Code
	REC	Green	Recycling Phase	ON: phase selected or complete. Flashing: phase being selected or carried out. OFF: phase not carried out.
	VAC	Blue	Vacuum Phase	
	INJ	Orange	Injection Phase	
	REF	Red	Recharging Phase	

14.3 Audible Warnings

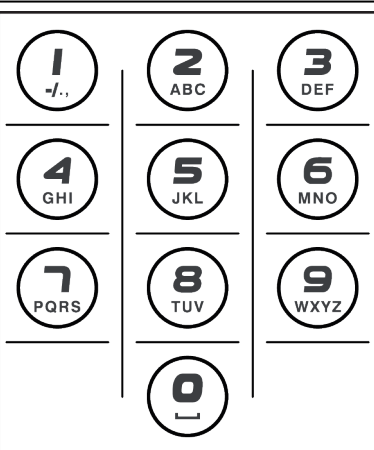
The control panel/display on the device has an electronic buzzer.

The operator is informed of any errors or warnings regarding the service, not only via messages that appear on the display, but also via a "beep".

14.4 How to Use the Software

The software in the charging stations allows selecting the vehicle to work on choosing among the ones in the database and launching all the functions required in order to recharge and check the vehicle's A/C system.

The keypad on the top panel of the device acts as an operator-machine interface and allows you to select and launch the functions available, enter specific data for the operation that needs to be carried out and, in general, allows you to complete all the operations the software permits.

Button	Name	Function
	ENTER	Allows you to confirm the selection made.
	DELETE	Allows you to delete data that has been entered.
	STOP/BACK/CANCEL	Allows you to instantly stop the phase in progress or go back to the previous menu.
	INFO	Allows you to view specific additional information regarding the menu selected.
	UP/DOWN ARROW	Allows you to scroll the options within a menu.
	NUMERIC KEYPAD	These keys allow you to enter the alphanumeric values required to carry out the recharging operations and data related to the client and the company.

The software provides on-screen instructions to help the operator to carry out the various operations and warns the operator if any error occurs during the individual phases.



For more information see the software's Operating Manual.

14.5 Printer

The buttons on the printer have the following functions:

Button	Name	Function
	PAPER FEED	It allows the paper to come out.
	ON/OFF	It allows setting the printer on on-line/off-line mode.

The printer is equipped with a green LED that indicates its status:

- **Fixed on:** *printer on-line*
- **Flashing:** *the printer is off-line or there is no paper*
- **Off:** *printer off-line*

The printer is automatically on-line when the equipment is switched on.

Press  if the status LED indicates that the printer is off-line.

Using the printer it is possible to print a report containing the following information:

- *company data*
- *vehicle data*
- *customer data*
- *operations carried out*

The data relative to the company, vehicle and the client can be entered using the numeric keypad.



For more information see the software's Operating Manual.

15 UPDATING

This chapter describes the operations required in order to carry out an update on the database and/or operating system of the device.

The update takes place through the provided **SW R³AC Update**.

INFORMATION

You must have a PC with a USB port and an active Internet connection available.

NOTICE

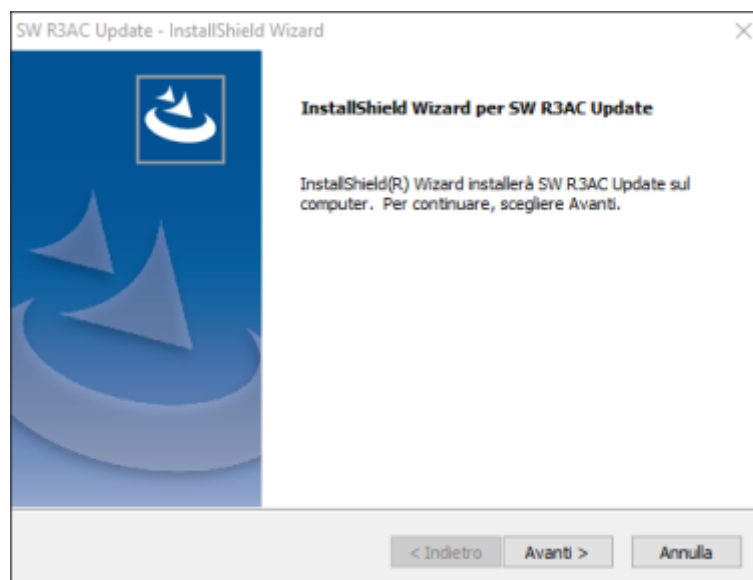
The update of the SD CARD must be carried out using only the SW R³AC Update unless indicated otherwise by the Technical Assistance.

15.1 SW R³AC Update installation

Below there are the instructions for installing the update software.

Proceed as follows:

1. *Insert the CD containing the software into the PC.*
2. *Follow the wizard proposed by the software.*



Once the installation is complete, an icon will appear on your desktop through which you can start

the software: .

15.2 SD CARD Update

Through the **SW R³AC Update** software you can update the contents of the **SD CARD** and, using the latter, then update the charging station.

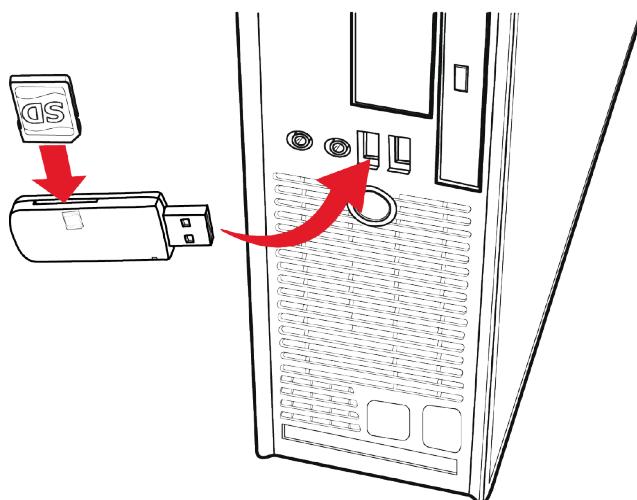
The software checks if there are updates available in Internet and allows you to download them.

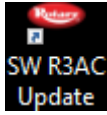
INFORMATION

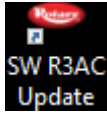
You must have an active Internet connection.

Proceed as follows:

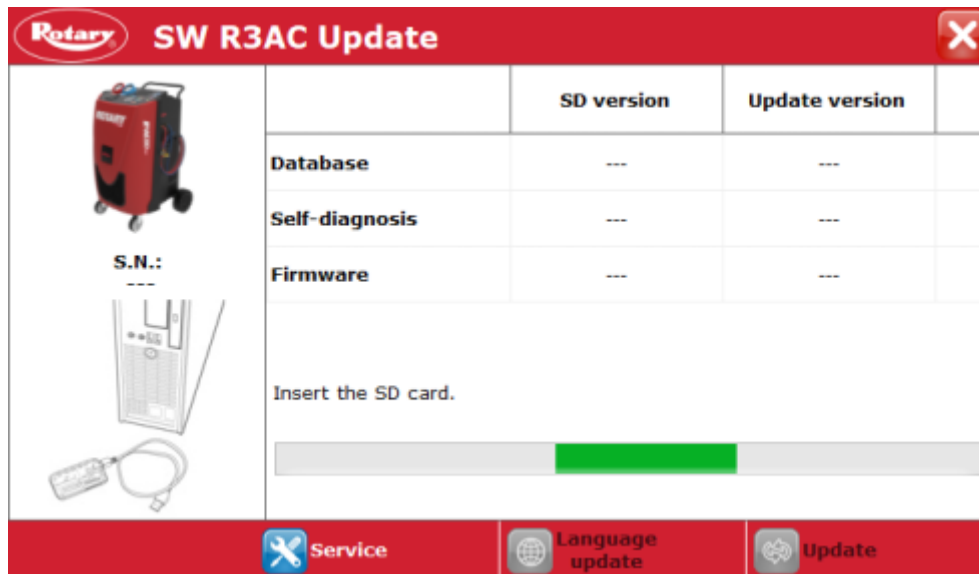
1. Turn off the equipment.
2. Go to the right hand side of the device.
3. Locate the **SD CARD** slot.
4. Gently press on the **SD CARD** to unlock it.
5. Remove the **SD CARD**.
6. Insert the **SD CARD** into the **SD CARD READER**.
7. Connect the **SD CARD READER** to a PC.





8. Click on the  icon.

The software has been started.



Icon	Name	Description	Notes
	Service	It allows you to access the advanced configuration options.	--
	Language update	It allows you to update the languages available on the SD CARD.	--
	Update	It allows you to update the database, the self-diagnosis software and the firmware in the SD CARD.	--

The screen provides the following information:

- **serial number** of the charging station,
- current **database** version and version available for the update,
- current **self-diagnosis** software version and version available for the update,
- current **firmware** version and version available for the update.



9. Click on .

10. Follow the instructions that appear on the screen until the **SD CARD** update procedure is complete.

11. Remove the **SD CARD** from the reader.

12. Insert the **SD CARD** into the appropriate slot on the equipment.

13. Turn on the equipment.

Wait for the automatic charging station update procedure is complete.

INFORMATION

During the update, the display will remain off and the green LED on the top will flash intermittently.

Once the update is complete, the software will restart automatically.

16 MAINTENANCE

This chapter describes the maintenance operations required for the device.



CAUTION

Carefully follow the instructions provided in this manual.

Only use original spare parts or approved by the manufacturer.



INFORMATION

For further help, contact your Retailer or the Technical Assistance service.

On the top of the service bulkhead there is a plate with all the information needed to contact the Technical Assistance Service.

**CAUTION - SHOULD BE OPERATED
BY QUALIFIED PERSONNEL
ATTENTION - UTILISATION RÉSERVÉE
À UN PERSONNEL QUALIFIÉ**

ROTARY LIFT
2700 Lanier Rd.
Madison, IN 47250
Service telephone number: (800) 445-5438

16.1 Ordinary Maintenance

Scheduled maintenance is made up of a series of operations that must be carried out periodically. Specific messages will appear on your display each time a maintenance operation has expired and needs to be carried out.

Maintenance operation	Frequency
Dehydrator Filter Replacement	When prompted by the device.
Mechanical Filter Replacement	Along with the dehydrator filter replacement.
Vacuum pump oil replacement	When prompted by the device.
Printer Paper Replacement	each time the paper runs out.



WARNING



Unless indicated otherwise, the maintenance operations that require you to open the service door / bulkheads and to remove parts of the equipment must be carried out with the charging station switched off and disconnected from the mains.

When carrying out maintenance operations that require the equipment to be powered:

- operate on the indicated components only;
- avoid contact with live components (e.g. electrical wirings).

Following is the procedure for opening the service flaps properly.

The procedure is the same for both the service bulkhead that allows you to access the filter and for the one that allows you to access the vacuum pump.

Proceed as follows:

1. *Go behind the device.*
2. *Locate the service bulkhead to remove.*
3. *Loosen the four screws that block the bulkhead using a hexagonal wrench no. 3.*
4. *Remove the bulkhead.*

16.1.1 Dehydrator Filter Replacement

The filter must be replaced **when you are prompted to do so by the device**.

CAUTION

There could be accidental refrigerant leaks while replacing the filter.



Carefully follow the instructions provided below to avoid the refrigerant from getting into the atmosphere.



Wear appropriate protective glasses and gloves while replacing the filter.



You must carefully read and understand this Operating Manual to perform the provided instructions correctly.

Before replacing the filter you must reset the "**filter counter**" using the appropriate software function.

Proceed as follows:

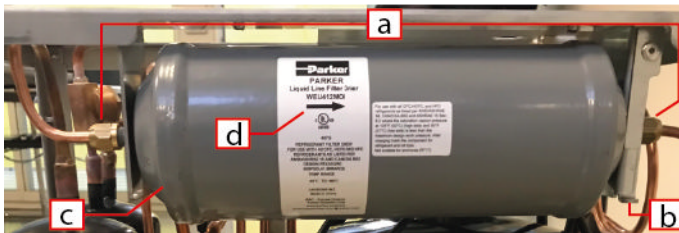
1. *Switch on the equipment.*
2. *Select: **ADDITIONAL FUNCTIONS** -> **RESET COUNTERS** -> **SOSTITUZIONE FILTRO***
3. *Follow the instructions on the display.*

CAUTION

Do not open the equipment's service door until it is specifically indicated on the display.



After resetting the counter you can replace the filter.



- a) *Screw nuts for the filter*
- b) *Blocking clip*
- c) *Filter*
- d) *Arrow indicating the direction of the flow*

Proceed as follows:

1. When requested to, remove the service flap.
2. Open the filter's blocking clip.
3. Unscrew the 2 fixing nuts on the dryer filter using a specific metric fork wrench no. 19 and no. 22.14.
4. Remove the filter by slipping it from the right side.
5. Check that the sealing O-rings are in good condition and replace them if necessary.
6. Install the new filter screwing the fixing nuts with a tightening torque of approximately 20 N·m / 15 ft·lbs.

NOTICE

The arrow that indicates the flow in the filter must point towards the right.



7. Close the filter's blocking clip.
8. Close the recharging station.
9. Follow the instructions in the display.
10. When requested to, enter the unlock code indicated on the sticker on the packaging.
11. Follow the instructions in the display.

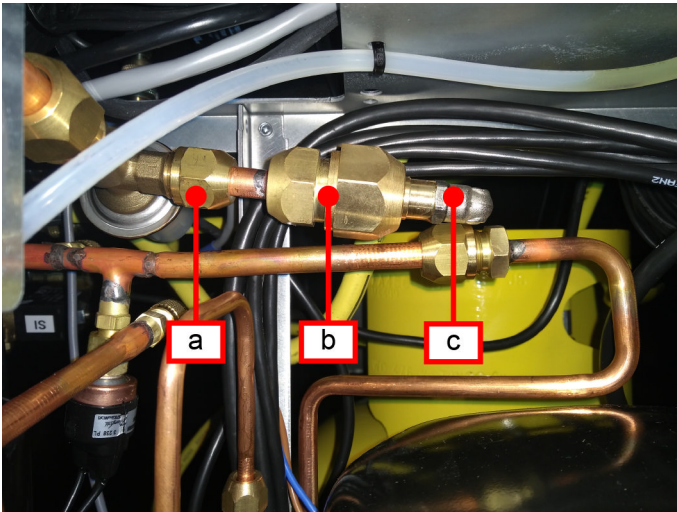
16.1.2 Mechanical Filter Replacement

The mechanical filter when the dehydrator filter is replaced.

The mechanical filter is located behind the dryer filter.

⚠ CAUTION

Follow the same safety precautions indicated in the Dryer Filter Replacement chapter.

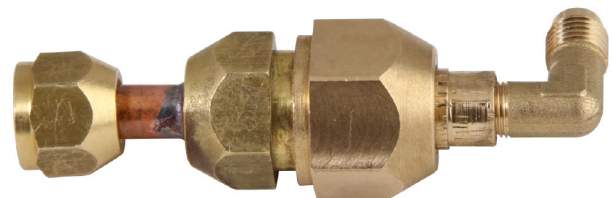


- a) Constant expansion valve connection - mechanical filter
- b) Mechanical filter.
- c) 1/4 SAE pipe coupler - mechanical filter.

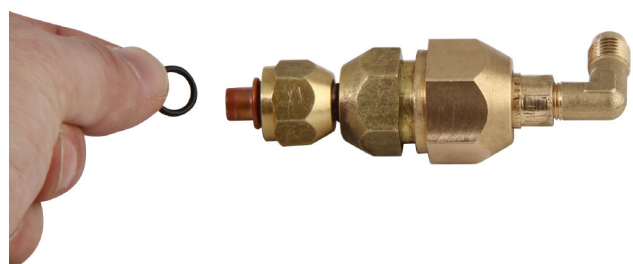
Proceed as follows:

1. Open the service flap.
2. Remove the dryer filter (see chapter **Dryer Filter Replacement**).
3. Locate the mechanical filter.
4. Unscrew the constant expansion valve coupler - mechanical filter using a metric fork wrench no. 19 and no. 24.
5. Delicately pull the mechanical filter towards you.
6. Disconnect the 1/4 SAE pipe coupler.

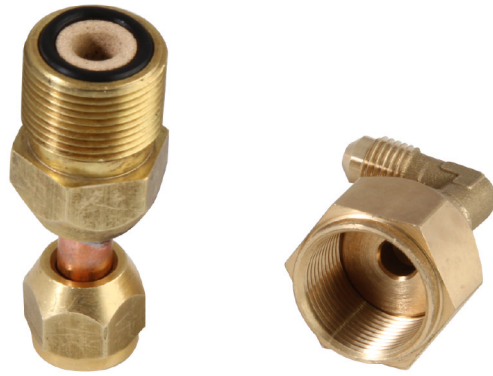
7. Remove the filter.



8. Remove the O-ring from the constant expansion valve coupler - mechanical filter.



9. Open the filter using a metric fork wrench no. 24 and no. 28.



10. Remove the O-ring.



11. Remove the filter element.



12. Replace the filter element and O-rings.

13. Close the filter using a tightening torque of 30 N·m / 22 ft·lbs.

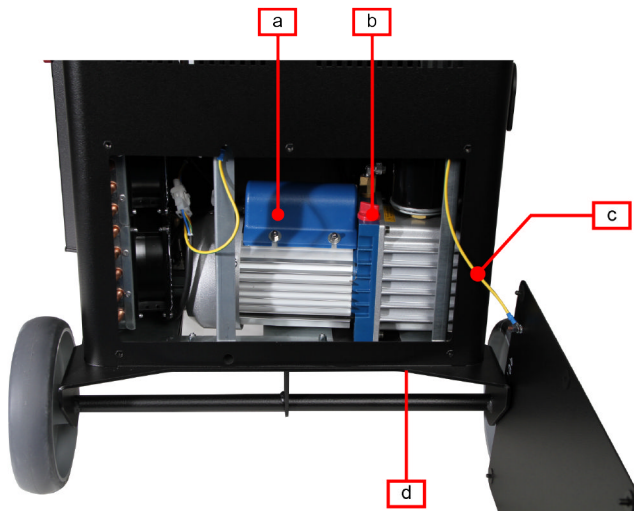
14. Reassemble the filter using the specific wrenches and tightening with a torque between 10 N·m / 7 ft·lbs and 20 N·m / 14 ft·lbs.

16.1.3 How to Replace the Vacuum Pump Oil

The oil in the vacuum pump must be replaced **when you are prompted to do so by the device**.



You must carefully read and understand this Operating Manual to perform the provided instructions correctly.



- a) Vacuum pump
- b) Filler cap
- c) Ground terminal
- d) Oil drain cap

Proceed as follows:

1. Disconnect the device from the power mains.
2. Unscrew the oil drain cap.
3. Wait for all the oil to drain from the pump.

NOTICE

Collect the recovered oil and dispose of it according to the regulations in force.



4. Screw the oil drain cap on.
5. Unscrew the oil filler cap.
6. Fill with new oil.

INFORMATION

The correct pump oil level is approximately half of the level sight and the total amount to refill is approximately: 42 cl / 12.5 oz.

7. Screw the oil filler cap on.
8. Switch on the equipment.
9. Select: **ADDITIONAL FUNCTIONS -> RESET COUNTERS -> TOTAL PUMP TIME**
10. Follow the instructions in the display.



For more information see the software's Operating Manual.

16.1.4 Replacing the Paper in the Printer

Follow the instructions provided in the chapter **Replacing the Paper in the Printer**.

16.2 Periodical Checks

In order to guarantee proper operation of the device we recommend checking on a regular basis the parts that are the most subject to wear.

Parts subject to wear	Check
Service hoses	Make sure there are no cuts, scratches or bulges.
Quick fittings	Make sure there are no signs of wear and that the hoses do not harden during use. Make sure the service hoses are connected properly. Make sure there are no cuts or scratches on the O-rings.
Oil and UV bottles	Make sure they are clear and not damaged.
Wheels	Make sure the brakes are working properly.
Power supply cable	Make sure there are no cuts, scratches or burns.

16.3 Periodical Safety Checks

In order to guarantee the correct operation of the equipment, carry out periodical checks on the safety devices and on the liquid refrigerant receiver.

The safety valve and safety pressure switch must be visually checked to verify that they are not damaged in order to guarantee that they are working properly.

The liquid refrigerant receiver has its manufacturing and validity dates (5 years) printed on its collar.

WARNING



A periodic inspection of the operation of the safety devices (Safety Pressure Switch and Safety Valve) and of the integrity of the refrigerant liquid receiver must be carried out at intervals defined by the national regulations in force in the country in which the equipment is being used.

17 TECHNICAL FEATURES

Builder	TEXA S.p.A.
Brand	ROTARY
Model	R ³ AC50
Fluid / Group	R134a / 2
Electronic refrigerant scale (Precision)	± 0.35 oz / ± 10 g
Oil quantity display resolution	0.7 oz / 20 ml
Pressure transducer	Class 1.0
High Pressure (HP) gauge	Ø 3.15 in / 80 mm
Low Pressure (LP) gauge	Ø 3.15 in / 80 mm
Tank capacity	50 lb / 23 l
Length of service pipes	8 ft / 2,44 m
Filter assembly	1 combined filter + mechanical filter
Compressor	Air-tight 0.68 cu. in / 11,1 cc
Vacuum pump	dual stage 100 l/min / 3.5 cfm final pressure 0.44 mpsia / 0,03 mbar
Ambient temperature sensor (Resolution)	1.8 °F / 1 °C
Display	TFT
SD card memory capacity	8 GB
Filter replacement (every so many)	165 lb / 75 kg (SAE J2099)
Recovery efficiency	> 95 % (SAE J2788)
Maximum operating pressure	350 psig / 23 bar
Operating temperature	50 ÷ 122 °F / 10 ÷ 50 °C
Storing temperature	- 13 ÷ 140 °F / - 25 ÷ 60 °C
Sizes	H: 442.44 in / 1078 mm L: 24.8 in / 630 mm P: 27.8 in / 706 mm
Weight	212 lb / 96 kg
Supply voltage	115 Vac
Frequency	60 Hz
Power	1200 W
Conformity	Conforms to UL Std. 1963 Cert. to CSA Std. C22.2 No.120 Certified by Intertek to meet SAE J2788

18 DATA PLATE

Every single device is accompanied by an identification data plate just as the one in the example provided below:



Intertek

ROTARY LIFT
2700 Lanier Rd.
Madison, IN 47250
Service telephone number: (800) 445-5438

Conforms to UL Std. 157
Cert. to CSA Std. C22.2 No. 110
Certified by Intertek to Meet SAE J2788

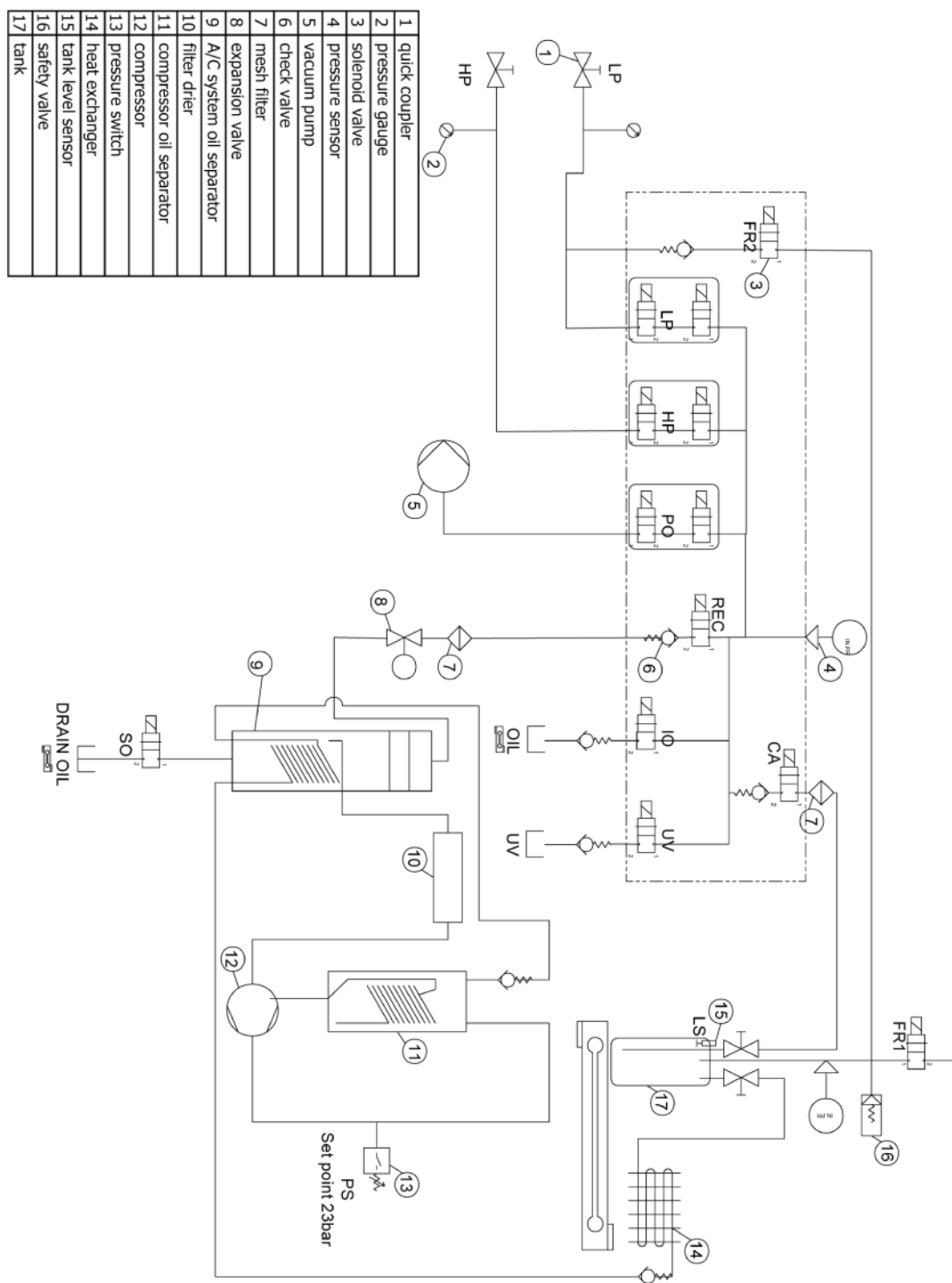
Type		Date	
High Side Design Pressure			
Low Side Design Pressure			
Electrical Rating			
Refrigerant			


SN: XX-XXXX

Where:

- **PS:** *maximum operating pressure;*
- **TS:** *operating temperature.*

19 HYDRAULIC DIAGRAM



20 DISPOSAL

Below you will find information on how to properly dispose of the device.

20.1 How to Dispose of the Device

To dispose of the device proceed as follows:

1. *Ask assistance personnel to collect all the refrigerant in the internal circuit, making sure the internal storage tank is emptied as well.*
2. *Take the equipment to a waste disposal center.*



For more information on disposal see the pamphlet provided with the device.

20.2 How to Dispose of the Recycled Materials

The refrigerants that cannot be reused must be taken to the supplier of the refrigerant so it can be disposed of.

The oils removed from the systems must be taken to used oil collection centers.

21 CONTACTS

Contact Us:

ROTARY

2700 Lanier Drive,
Madison, IN 47250, USA

Sales and Support: (800) 445-5438

Local: (812) 273-1622

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