

ROBINAIR

Original Instructions
Instrucciones originales
Consignes originales

Model: 17800C



Recover, Recycle, Recharge Machine
for A/C Systems

Description: Recover, recycle, and recharge machine for servicing air conditioning systems with any of the following refrigerants:

*R-134a R-407C
R-12 R-410A
R-22 R-448A
R-402A R-449A
R-402B R-452a
R-404A R-500
R-407A R-502
R-407B R-507*

PRODUCT INFORMATION

Record the serial number and year of manufacture of this unit for future reference. Refer to the product identification label on the unit for information.

Serial Number: _____ Year of Manufacture: _____

DISCLAIMER: Information, illustrations, and specifications contained in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without obligation to notify any person or organization of such revisions or changes. Further, ROBINAIR shall not be liable for errors contained herein or for incidental or consequential damages (including lost profits) in connection with the furnishing, performance, or use of this material. If necessary, obtain additional health and safety information from the appropriate government agencies, and the system, refrigerant, and lubricant manufacturers.


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Safety Precautions

Explanation of Safety Signal Words Used in this Manual

The safety signal word designates the degree, or level, of hazard seriousness.

 **DANGER:** Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.


 **WARNING:** Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

 **CAUTION:** Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.

CAUTION: Used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, could result in property damage.

These safety messages cover situations Robinair is aware of. Robinair cannot know, evaluate, or advise as to all possible hazards. The user must verify that conditions and procedures do not jeopardize personal safety.

Explanation of Safety Decals Used on the Machine

	Carefully read the instructions.
	Do not use in open air in case of rain or high humidity.
	Wear gloves.
	Wear protection goggles.
	Alternating voltage.
	Grounding protection.
	Electrical shock hazard.

Safety Precautions



WARNING: To prevent personal injury,



ALLOW ONLY QUALIFIED PERSONNEL TO OPERATE THE MACHINE. Before operating the machine, read and follow the instructions and warnings in this manual. The operator must be familiar with air conditioning and refrigeration systems, refrigerants, and the dangers of pressurized components. If the operator cannot read this manual, operating instructions and safety precautions must be read and discussed in the operator's native language.



USE THE MACHINE AS OUTLINED IN THIS MANUAL. Using the machine in a manner for which it was not designed will compromise the machine and nullify the protections provided.



PRESSURIZED TANK CONTAINS LIQUID REFRIGERANT. Do not overfill the external storage vessel (tank). Overfilling can cause explosion resulting in personal injury or death. Do not recover refrigerants into nonrefillable containers; use only type-approved refillable containers that have pressure relief valves.



HOSES CAN CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. Contact with refrigerant can cause personal injury, including blindness and frozen skin. Wear protective equipment, including goggles and gloves. Disconnect hoses using extreme caution. Ensure the phase is complete before disconnecting the machine to prevent the release of refrigeration to the atmosphere.



AVOID BREATHING A/C REFRIGERANT AND LUBRICANT VAPOR OR MIST. Exposure can irritate eyes, nose, and throat. To remove refrigerant from the A/C system, use only equipment certified for the type of refrigerant being removed. Use the unit in locations with mechanical ventilation that provides at least four air changes per hour. If accidental system discharge occurs, ventilate the work area before resuming service.

DO NOT DISPERSE REFRIGERANT INTO THE ENVIRONMENT. Prevent the possible presence of refrigerant in the working environment.



TO REDUCE THE RISK OF FIRE, do not use the machine in the vicinity of spilled or open containers of gasoline or other flammable substances.

TO REDUCE THE RISK OF FIRE, do not use an extension cord. An extension cord can overheat and cause fire. If an extension cord must be used, use the shortest possible cord with a minimum size of 14 AWG.

TO REDUCE THE RISK OF FIRE, do not use the machine in the vicinity of flames and hot surfaces. Refrigerant can decompose at high temperatures and free toxic substances to the environment that can be noxious to the user.

TO REDUCE THE RISK OF FIRE, do not use the machine in environments containing explosive gases or vapors.

TO REDUCE THE RISK OF FIRE, do not use this machine in ATEX classified zones or areas. Protect the machine from conditions that can cause electrical failure or other hazards relating to ambient interaction.



CAUTION—DO NOT PRESSURE TEST OR LEAK TEST EQUIPMENT AND/OR AIR CONDITIONING SYSTEMS WITH COMPRESSED AIR. Mixtures of air and refrigerant can be combustible at elevated pressures. These mixtures are potentially dangerous and can result in fire or explosion causing personal injury and/or property damage.



HIGH VOLTAGE ELECTRICITY INSIDE THE MACHINE HAS A RISK OF ELECTRICAL SHOCK. Exposure can cause personal injury. Disconnect power before servicing the machine.

NEVER LEAVE THE MACHINE LIVE IF AN IMMEDIATE USE IS NOT SCHEDULED. Disconnect the electrical supply before a long period of inactivity or before internal maintenance is performed.

DO NOT MODIFY THE PRESSURE RELIEF VALVE OR CHANGE THE CONTROL SYSTEM SETTINGS. Using the machine in a manner for which it was not designed will compromise the machine and nullify the protections provided.

Additional health and safety information can be obtained from refrigerant and lubricant manufacturers.

Safety Precautions

CAUTION : To prevent equipment damage,



TO PREVENT CROSS-CONTAMINATION, USE THIS MACHINE ONLY WITH R-134A, R-12, R-22, R-402A, R-402B, R-404A, R-407A, R-407B, R-407C, R-410A, R-448A, R-449A, R-452A, R-500, R-502, OR R-507 REFRIGERANT. Do not attempt to adapt the machine for another refrigerant. Do not mix refrigerant types through a system or in the same container; mixing of refrigerants will cause severe damage to the machine and the air conditioning system.

DO NOT USE THIS MACHINE IN DIRECT SUNLIGHT. Position the machine far from heat sources, such as direct sunlight, which can cause excessive temperatures. The use of this machine under normal environmental conditions (10°C to 50°C) keeps pressures under reasonable limits.



DO NOT USE THIS MACHINE OUTDOORS DURING RAIN OR HIGH HUMIDITY. Protect the machine from conditions that can cause electrical failure or other hazards relating to ambient interaction.

DO NOT USE THIS MACHINE IN AREAS WHERE THERE IS A RISK OF EXPLOSION.

SET UP THE MACHINE ON AN EVEN SURFACE AND UNDER SUFFICIENT LIGHTING. LOCK THE FRONT WHEELS, AND DO NOT SUBJECT THE MACHINE TO VIBRATION.

TO AVOID CHEMICAL INCOMPATIBILITIES WITH THE INTERNAL COMPONENTS OF THE MACHINE, USE ONLY OILS APPROVED BY THE SYSTEM MANUFACTURER. Problems resulting from the use of non-approved oils will void the warranty.

Additional health and safety information can be obtained from refrigerant and lubricant manufacturers.

Protective Devices

The machine is equipped with the following protective devices:

- Over pressure valves.
- A maximum pressure switch stops the compressor when excessive pressure is sensed.



WARNING: Tampering with these protective devices could result in serious injury.

Refrigerant Tank Test

Official records and recurring tests necessary for pressurized instruments are governed by laws and/or national regulations dependent upon the country where the refrigerant tank is used. The system manager is responsible for compliance with laws, regulations, and technical rules. During normal service, refrigerant tanks do not need maintenance. Refer to the Maintenance section of this manual for more information.

Requirement Regarding Lubricant

Only new lubricant, as specified by the system manufacturer, shall be installed in the AC system. Lubricant removed from the system and/or the equipment shall be disposed of in accordance with applicable federal, state, and local procedures and regulations.

This machine is used on A/C systems and is designed to be compatible with existing service equipment and standard service procedures. This machine is a single-pass system (i.e. refrigerant flows through a filter once) that meets specifications for recycled refrigerant. Follow recommended service procedures for the containment of the type of refrigerant being used.

Note: Refrigerant systems require special oils. Refer to the A/C system manufacturer's service manual for oil specifications.

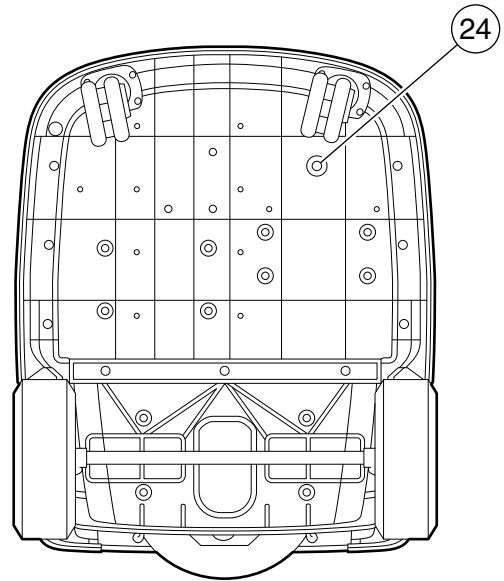
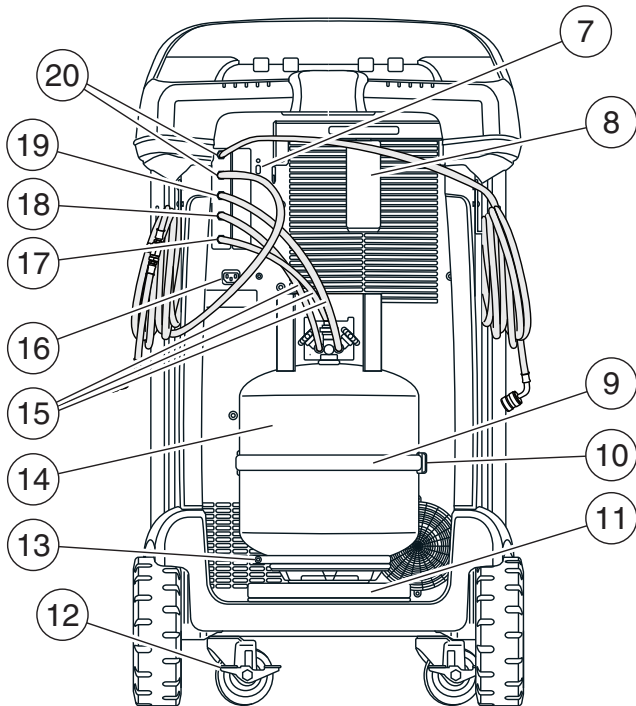
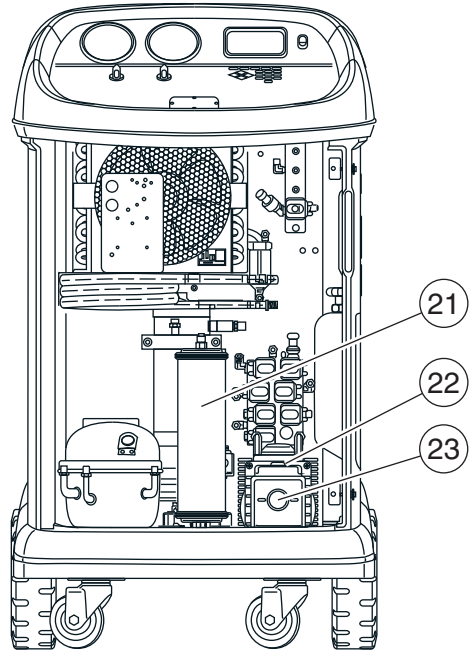
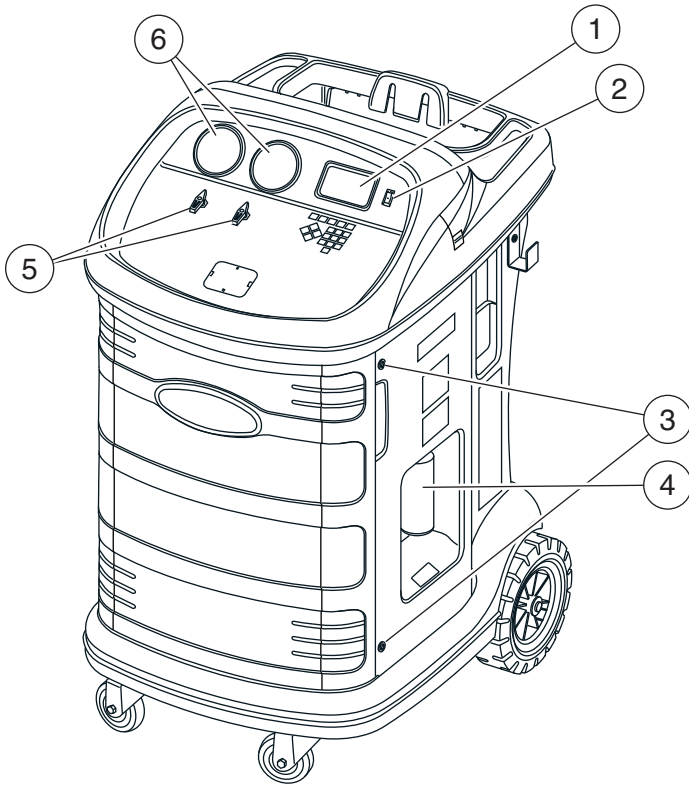


Technical Specifications

Dimensions	117 cm x 66 cm x 85 cm
Weight	114 kg (250 lb)
Display	5 × 9 cm (4.3-in. diag) graphical LCD
Filter91 kg (200 lb) typical
Humidity	32.2°C (90°F), 80% RH non-condensing
Manometer	Ø 100 mm (3.9 in.)
Sound Level	<73 dB(A)
Nominal Voltage	
17800C	115V, 60 Hz
17800C-230	230V, 50/60 Hz
Oil Bottle Capacity355 ml (12 oz)
Operating Temperature . . .	10°C to 50°C (50°F to 122°F)
Vacuum Pump Free-Air Displacement	
.....	5.0 CFM (142 L/m) @ 60 Hz
Service Hoses	5.5 m (18.0 ft)
Tank Capacity	17.5 kg (38.5 lb)

Introduction

Features



Item No.	Description
1	Graphic Display and Keypad
2	Power Switch
3	Door Screw
4	Vacuum Exhaust Bottle
5	Panel Valves
6	Low-side (blue) and High-side (red) Manifold Gauges
7	USB Connection
8	Oil Drain Bottle
9	Tank Temperature Probe Strap
10	Tank Temperature Probe
11	Scale
12	Wheel Lock
13	Scale Thumb Screw
14	Tank
15	Tank Hoses
16	Power Cord Receptacle
17	Bulkhead Air Purge Port
18	Bulkhead Vapor Port
19	Bulkhead Liquid Port
20	Service Hoses
21	Filter
22	Vacuum Pump Fill Cap and Port
23	Vacuum Pump Oil Sight Glass
24	Vacuum Pump Drain Fitting

Introduction

Control Panel Functions

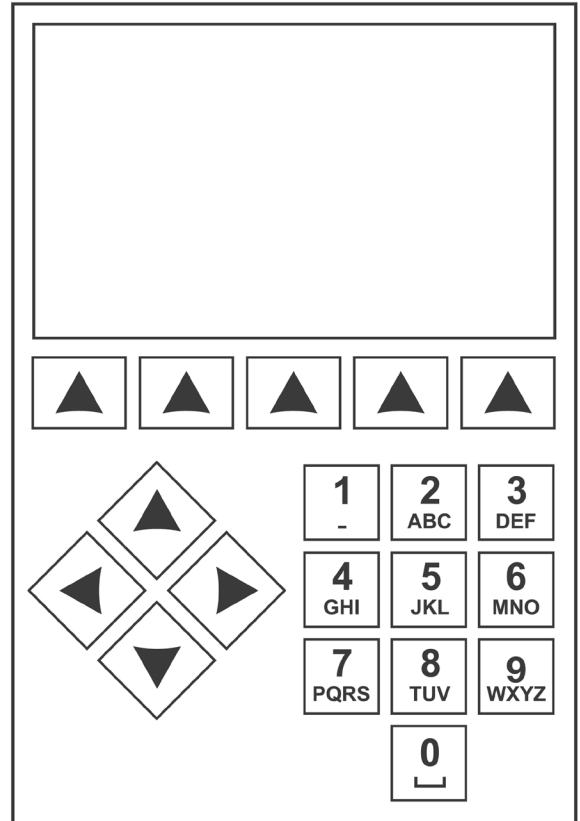
ARROW UP highlights the previous item.

ARROW DOWN highlights the following item.

ARROW RIGHT scrolls to next screen.

ARROW LEFT scrolls to previous screen.

SELECTION ARROWS make a selection or answer a query.



Control Panel Keypad

Icon Legend



RECOVER ICON

Pressing the key under this icon will enter the refrigerant recovery process.



VACUUM ICON

Pressing the key under this icon will enter the system vacuum process.



CHARGE ICON

Pressing the key under this icon will enter the refrigerant charge process.



NEXT/FORWARD ICON

Pressing the key under this icon will proceed to additional menu selection options, or proceed to an additional step in a function or process.



BACK ICON

Pressing the key under this icon will return to previously seen menu selection options, or return to the previous screen within a function or process.



HELP ICON

Pressing the key under this icon will provide help and information corresponding to the current screen and/or function being viewed or performed.



SETUP MENU ICON

Pressing the key under this icon will enter the Setup Menu.



YES/ACCEPT ICON

Pressing the key under this icon will accept any choices made on the current screen and proceed to the next step of the function.



NO/CLOSE ICON

Pressing the key under this icon will reject any choices made on the current screen and return to the previous step of the function or the Main Menu.



RETRY ICON

Pressing the key under this icon will retry the current process or function.



ON/OFF ICON

Pressing the key under this icon will toggle the highlighted function on or off as desired.



BACKSPACE ICON

Pressing the key under this icon will delete a text character to the left of the current selection.



PAUSE ICON

Pressing the key under this icon will pause the current process.



RESUME ICON

Pressing the key under this icon will resume a process that has been paused.



PRINT ICON

Pressing the key under this icon will print a summary corresponding to the current completed process.



DELETE ICON

Pressing the key under this icon will delete a selected entry from the memory of the machine.



CHANGE UNITS ICONS

Pressing the key under one of these icons will toggle the unit of measurement for the current entry field.

Purge

PURGE ICON

Holding the key under this icon will vent excess air from the tank.

R-?

REFRIGERANT SELECTION ICON

Pressing the key under this icon will allow the user to select the refrigerant.

Introduction

Setup Menu Functions

Access the following functions by pressing the Menu key and selecting Setup.

Adjust Zero Offset

Allows user to set the zero offset of the drain load cells.

Air Purge

Displays current tank pressure and temperature along with calculated nominal pressure and allows purging of non-condensables from the tank.

Calibration Check

Use to verify internal scale calibration. Refer to Calibration Check in the Maintenance section of this user manual.

Date and Time

Program the machine for current date and time.

Display Title Information

Temporarily display the unit sensor information. Sensor information will default to not being displayed if the machine is turned off.

Edit Print Header

Programs information that will appear on the printout each time a print function is used.

Filter Maintenance

The filter removes acid, particulates, and moisture from the refrigerant. This process walks the user through the filter change process.

This menu item displays the filter capacity remaining. Refer to Filter Maintenance in the Maintenance section.

Hose Equalize

Use this Setup Menu item to recover refrigerant from the service hoses back into the A/C system. This item is useful after performing diagnostics which do not require the need to recover the A/C system into the RRR machine. The user will be prompted to connect the low side service hose to the appropriate port and to start the A/C system on max.

Leak Check

Use this function to test the machine for leaks. Components containing refrigerant are pressurized and monitored for pressure decay, which could indicate a leak.

Production Menu

For Robinair production use only.

Pump Maintenance

Displays the amount of time remaining until the next vacuum pump oil change is needed. For maximum vacuum pump performance, change vacuum pump oil every time the filter is replaced. Refer to the Change Vacuum Pump Oil in the Maintenance section.

Refrigerant Management

Displays the amount of refrigerant recovered, charged, and replenished (for the life of the machine), and filtered since the last filter change.

Replace Service Hoses

This function ensures that there is no residual pressure in the service hoses before replacement. Initiate this process before attempting to replace the service hoses and follow the on-screen prompts.

Select Language

Select a language for screen prompts. English is the default language.

Select Refrigerant

This function is selected to change refrigerant types.

Service Menu

For Robinair service center use only.

Select Units

Program the machine to display units of measure in kilograms or pounds. The default display is kilograms.

Set Buzzer

Turn audible alerts on and off.

Set Default Vacuum Time

Allows the user to change the default vacuum time. The initial default time is set to 10 minutes.

Set Up Wireless Dongle

Use this function to configure the optional Wi-Fi/Bluetooth radio.

System Information

Displays the revision level of the software in the machine.

Tank Fill

Use this Setup Menu item to transfer refrigerant from a source tank to the tank. The tank fill value may be

adjusted up or down to suit the user's needs. Refer to Tank Fill in the Maintenance section.

Unit Activation

Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function. Select this Setup Menu item and follow the prompts before the trial period expires.

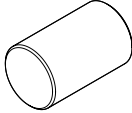
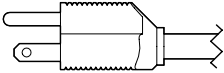
View Service Data

Displays A/C system information that was entered into the Enter Service Data screen. Systems are displayed by date of service and VIN or ID number. The database stores 25 entries.

Introduction

Unpack the Accessory Kit

Unpack the accessory kit from the box, and remove the plastic packaging.

Calibration Check Weight 533 g (1.18 lb)	
Power Cord	
Service Hoses	
Tank Hoses	
Pouch containing SDSs and Service Center List	

Connect Service Hoses

Connect the non-ball valve ends of service hoses to the proper bulkhead connections on the unit.

Tank Installation


A 50-lb DOT-4BA-400 tank with an air purge port must be installed for this unit to function. Using a different tank can result in degraded system function. Using a smaller tank can result in accidental tank overflow and potential injury. Discard the plastic surrounding the tank included with this unit and install by completing the following procedure.

1. Open the vapor valve on the tank to purge the 5 to 10 psi of nitrogen that ships with the tank to prevent contamination. Vent the nitrogen to atmosphere.
2. Place the tank on the scale in the orientation shown in Figure 1. Tighten the thumb screw on the scale.
3. Loop the tank retention strap through the tank handle and secure the clip back to the strap ring. See Figure 1.
4. Connect the quick-seal ends of the hoses to appropriate ports on the tank.
 - Red Hose – Vapor port on tank
 - Blue Hose – Liquid port on the tank
 - Yellow Hose – Air purge port on the tank
5. Connect the non-quick-seal ends of the hoses to the appropriate ports on the unit. See Figure 2.

Note: Incorrect installation of the hoses may result in degraded machine function. Verify tank connections as hose and valve color may or may not match.

6. Open the tank valves after connecting the hoses.
7. Remove the temperature probe assembly and strap from its packaging and install on the tank. The unit will not function properly without the tank temperature probe. See Figure 1 for the correct probe position.
 - Place the tank temperature probe assembly in contact with the tank slightly above the mid-line tank weld. Metal to metal contact between the probe and tank is required for accurate tank temperature measurements.
 - Secure the probe assembly to the tank with the probe strap included.

Note: Do not allow the power cord, service hoses, or any other component to come into contact with the tank during operation. This may influence the scale readings and affect charge or recovery accuracy.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

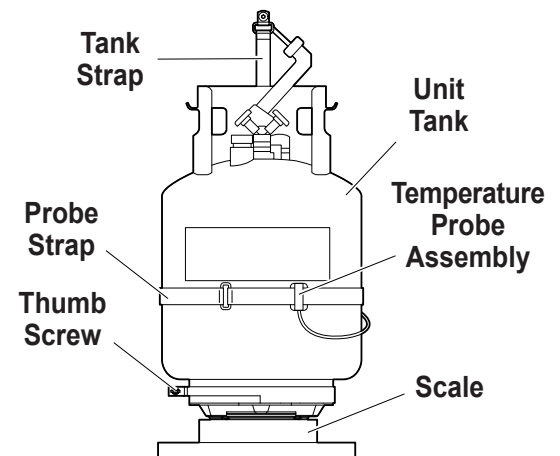


Figure 1

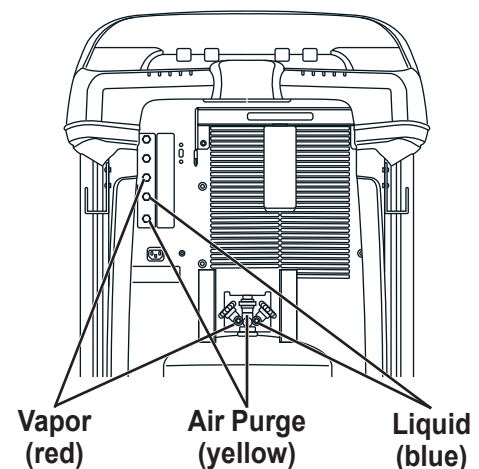


Figure 2

Initial Setup

Power Up the Machine

1. Install the power cord into the receptacle on the unit.
2. Plug the power cord into a grounded outlet of the correct voltage.
3. Position the machine so the plug and the power switch are of easy access for the operator. Verify the fan vents on the rear of the machine are not obstructed.
4. Lock the front wheels.
5. Toggle the power switch on the control panel to turn the machine ON.

The machine launches into the initial Setup mode.

Select Language

The operator selects the language for the screen prompt displays. English is the default language.

1. Use the **UP** or **DOWN** arrow key to toggle through the available languages one line at a time.
2. Select ✓ to set the selected language.

Note: To update an existing language or to add a new language, refer to Load Language in the Maintenance section of this manual.

Approve Licensing Agreement

Review the licensing agreement at the end of this manual and select ✓ to agree.

Select Units

The operator sets the display for units of measure. Metric is the default.

1. Use the **UP** or **DOWN** arrow key to toggle Imperial or Metric units.
2. Select ✓ to choose the displayed unit of measure.

Set Date and Time

Use the arrow keys to move the cursor. Use the keypad to modify the information displayed.

1. Use the **UP** or **DOWN** arrow key to select which item to change: day, month, year, or time. Select **I/O** to toggle between AM and PM.
2. Use the multi-tap interface on the numeric keypad to modify the information.
3. Select ✓ to save.

Edit Print Header

This function allows the user to customize the print header (if optional printer is installed). The information loaded into Edit Print Header will appear on each printout.

1. Enter text by using the arrows and the multi-tap interface on the numeric keypad:
 - **ARROW LEFT** and **X** key act as backspace key.
 - **ARROW RIGHT** moves the cursor to the right.
 - **0 (ZERO)** acts as a space bar when pressed twice.
 - **ARROW UP** and **DOWN** navigate between the rows.
2. Select **✓** to save/exit the function; select **X** to return to the previous header without saving data.

Service Vacuum

At this point the machine clears its internal plumbing before proceeding with set-up.

1. Check the vacuum pump oil level sight glass and verify the oil level is at the center of the sight glass.
2. Verify that
 - tank hoses are connected
 - tank valves are open
 - panels valves are open
 - service hose valves are closed
3. Select **▶▶** to continue. The machine enters a 5-minute vacuum and will automatically enter the next setup process when complete.

Select Refrigerant

The 17800C is capable of recovery and recharging various refrigerants. From the **SELECT REFRIGERANT** screen:

1. Use the **UP** or **DOWN** arrow key to highlight the desired refrigerant.
2. Select **✓** to choose the highlighted refrigerant. The machine displays

Refrigerant type is now: R-XXXX

3. Select **✓** to continue to tank fill.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Service Hoses

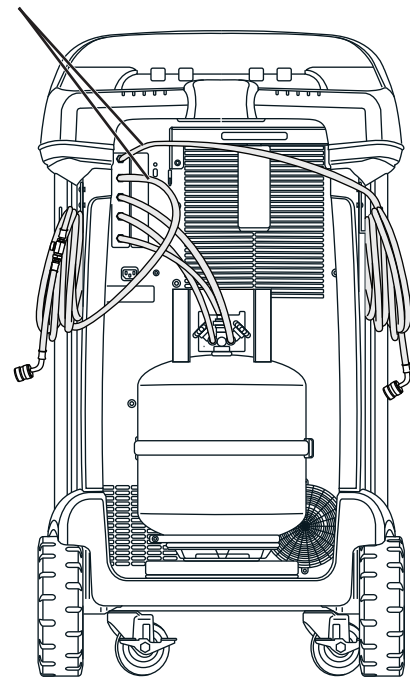


Figure 3

Initial Setup

Tank Fill

This procedure transfers refrigerant from a source tank to the tank on the machine. The maximum capacity of the tank is 17.5 kg (38.6 lb). Use arrow keys to move the cursor; use the keypad to enter a value.

1. The machine displays fields for desired tank fill amount, charge capacity, and the amount of recoverable refrigerant (recover capacity) within the tank. Enter the desired tank fill amount.

Note: To ensure sufficient refrigerant for charge, add at least the charge amount to the refrigerant amount shown in Table 1.

(For example if charging 2 kg of R407C make sure there is 2 kg +3.836 kg (from the table) = 5.836 kg in the tank)

This is to account for the weight of vapor and liquid in the tank that is not accessible for charge (Tank dead space).

2. Connect the blue service hose to the liquid port of a refrigerant source tank.

Note: Some source tanks have different valve configurations. Be sure to connect the blue hose to the liquid valve. The valve may be red on some tanks and blue on others.

CAUTION: Verify that the refrigerant source tank contains the refrigerant selected in the previous step.

3. Position the source tank in such a way that liquid refrigerant is supplied and open the low side service hose valve and low side front panel valve.
4. Open the source tank valve.
5. Select ✓ to start the tank fill process. The machine begins filling the tank. Add at least 5.6 kg of refrigerant to ensure enough is available for charging. This process takes 5–40 minutes.
6. The machine stops when the designated amount of refrigerant has been transferred to the tank or when the source tank is empty. Follow the messages on the display.
7. Close the source tank valve.
8. Select ►► to recover any refrigerant remaining in the hose.
9. Select ✕ to return to the Setup Menu.

The machine is ready for operation.

Note:

- *There is no need to calibrate the scale; it is calibrated at the factory.*



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Note:

Charge Capacity: *The amount of refrigerant in the tank that can be charged into an A/C system.*

Recover Capacity: *The amount of additional refrigerant that could be recovered into the tank.*

Table 1—Minimum Refrigerant for Charge

Type	Weight (kg)
R134a	3.098
R12	3.157
R22	3.610
R402A	5.419
R402B	4.560
R404A	5.335
R407A	4.238
R407B	5.332
R407C	3.836
R410A	5.468
R448A	4.135
R449A	4.168
R452A	5.180
R500	3.182
R502	4.899
R507	5.629

- After the tank fill process is complete, the display does not show the same amount as the programmed fill level. The display shows the amount of refrigerant that is available for charging, which is approximately 5.6 kg (12.35 lb) less than the total amount of refrigerant in the tank.

Unit Activation

Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function.

1. Select Unit Activation from the Setup Menu. The machine displays

XX Days Left on Trial
Period to activate unit.
Activate Now?

2. Select to start the activation process. The machine displays

Product Activation

Personal product code:
XXXXXXXXXXXX

Enter code:
XXXXXXXXXXXX

3. Open a web browser on a personal computer and enter <https://bosch.service-solutions.com>.
4. Enter the user name and password, and log in to the website.
Note: If a first-time user, select REGISTER to create a user name and password.
5. On the PC, enter the Personal Product Code of the machine into the ProductActivation key box on the website to receive an activation code.
6. On the machine, enter the activation code into the correct field. Note: Enter the code exactly as received. Capitalization is required.
7. Record the activation code on a piece of paper and file it in a secure place. Select .
8. The machine displays

Activation successful.

Select **▶▶**. The machine has been activated.

Operating Instructions

Select Refrigerant

Select the refrigerant to add if different than the refrigerant currently selected. If a refrigerant other than the refrigerant currently in use is selected, the user will be prompted to clear the unit and change tanks.

Enter Service Data

After selecting any service function, information about the A/C system may be entered into and stored in the machine's database.

The machine displays

Enter service data new

1. Select ✓ to enter a new record, or scroll to select a previously serviced A/C system and then select ✓. The highlighted selection will be in red.
2. Follow on-screen prompt to enter service data.
3. Use the arrow keys to move between rows and the multi-tap keypad to enter text.

Information entered on this screen is stored by date and identification number or vehicle identification number (VIN). The database stores the latest 25 entries, with the most recent at the top of the list.

The information will also appear on service summary printouts.



An optional printer is available for this unit. The printer enables printing of service and summary data at the end of each function.



Recover Refrigerant from A/C System

1. Empty the oil drain bottle before starting a recovery. Remove the oil drain bottle by unscrewing it from the unit. Reinstall the oil drain bottle. Refer to Figure 4.

Note: Use caution when removing/installing oil drain bottle. Excessive force may damage internal load cell.

2. Connect the high-side (red) and low-side (blue) service hoses to the A/C system.
3. Open the front panel valves and the service hose valves.
4. Select **RECOVER**  from the **MAIN MENU**.
5. The machine will enter the service data entry form. Enter all applicable data and select  to continue.



Follow on-screen prompts and system service manual specifications to continue.

The machine begins the recovery process. A clicking noise indicates the solenoid is opening and closing — this is normal.

The machine runs a self-clearing cycle to clear any internal refrigerant from its internal plumbing.

System recovery begins and includes a timed vacuum, deep recovery process.

After recovery, the machine will perform an oil drain, which may require several minutes to complete.

6. After the oil drain is complete, a summary is displayed showing the total amount of refrigerant and oil recovered. Recovery information can be printed by selecting  if the optional printer is installed. Select  to return to the Main Menu.
7. Close the front panel valves and service hose valves before disconnecting from the system.

Notes:

- *The displayed recovered weight can vary depending on ambient conditions and should not be used as an indicator of scale accuracy.*
- *Depending on the capacity of the system the recovery process may be interrupted if the oil separator is full and needs to be emptied or if the refrigerant tank is filled and needs to be replaced. Follow the on-screen prompts to drain the oil or change tanks. The recovery process will resume upon completion.*



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

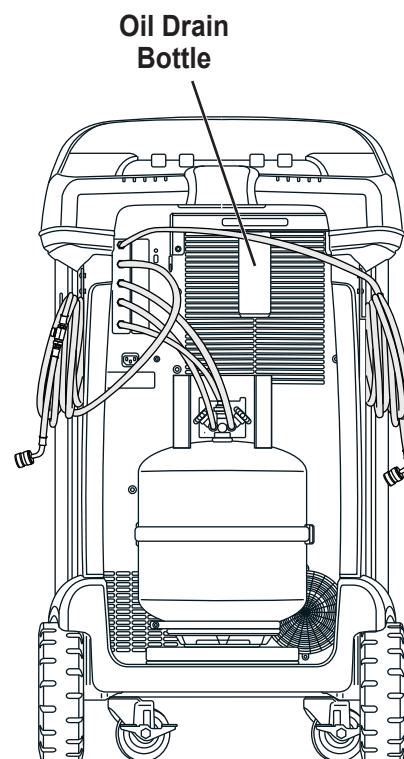




Figure 4


Operating Instructions



Evacuate the A/C System


1. Connect the service hoses to the system's service ports.
2. Open the front panel valves and the service hose valves.
3. Select **VACUUM**  from the **MAIN MENU**.
4. The user will be prompted to enter service data. Once complete, select  to continue.


5. Select Vacuum Leak Check, if desired, to automatically perform a 5-minute pressure rise leak check after the vacuum.

6. Select  to accept the 30-minute default evacuation time, or enter a desired vacuum time using the number keys.

Note: The vacuum process will halt if pressure rises above 0.30 bar/4.35 psi. Recover refrigerant before proceeding.

The machine pulls a vacuum on the A/C system for the programmed amount of time.

Vacuum information can be printed by selecting  on machines equipped with a printer.

7. Select  to return to the Main Menu.
8. Close the front panel valves and service hose valves before disconnecting from the system.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Air Purge

Verify that the tank temperature probe is securely strapped to the tank, the yellow hose is connected, and the correct refrigerant type is in the tank and has been selected.

Note: The Tank Pressure is the actual pressure measured in the tank. The Saturated Vapor Pressure is the calculated pressure based on the tank temperature.

Note: There will be some refrigerant lost in this process.

1. From the standby screen, select **PURGE**. Screen displays tank weight, tank pressure, tank temperature, calculated saturated pressure, and refrigerant type.

Note: Verify that the type of refrigerant in the tank is the same as the refrigerant selected on the screen.

2. Compare the displayed Tank Pressure to the displayed Saturated Pressure.
3. Press and hold the **PURGE** button to vent any non-condensable gases in the external tank, if desired. A tank pressure higher than the calculated saturation pressure may indicate the presence of non-condensable gases in the tank.

Note: If there is a large difference in pressures, reverify the tank temperature probe, yellow hose connections, and refrigerant type.

CAUTION: Do not purge for more than 30 seconds at a time. Stop and allow readings to stabilize before continuing.

Service Hoses

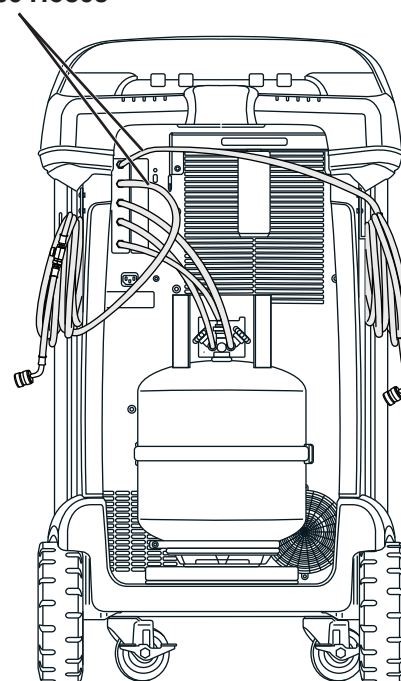




Figure 5


Operating Instructions






Recharge the A/C System





1. Connect both service hoses to the system's service ports.
2. Select **CHARGE**  from the **MAIN MENU**.
3. The user will be prompted to enter service data. Select  once complete to continue. The display shows

Charge: XX.XXX kg
Min Charge quantity 10g

4. Use the arrow keys and the numeric keypad to enter the desired charge amount. Select **kg lbs oz** to change units.
5. Open the front panel valve(s) and the hose valves for the desired charge path.
6. Select  to start the charge process. Moving or bumping the machine at this point may result in an inaccurate charge. When the charge cycle gets close to the desired weight value, the machine slows down. It will charge, settle, charge again, settle, etc.

When the charge is complete, the user has the option to add additional refrigerant or complete the charge. The **CHARGE**  icon allows the user to program additional refrigerant.

After any selection (except exit)  returns to the screen for additional charge. Once the correct amount has been charged  exits to hose equalization to complete the process.

7. For increased charge accuracy, follow the on-screen prompts to close the high-side, service-hose ball valve and disconnect from the system. With the low-side, service-hose connected and the low-side, service hose ball valve and both front panel valves open, start the system on maximum AC and select . Remaining liquid refrigerant in the hoses will be transferred into the system.
8. Shut off the system when prompted, and close the low-side, service hose valve and disconnect from the system. Select  to recover the remaining vapor from the hoses.
9. When the **CHARGE COMPLETE** screen appears, it includes a summary of charge results. Select  to print the summary (if optional printer is installed). Select  to return to the Main Menu.

The A/C system is now ready for use.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Note: The charging process differs from system to system. Charge function for systems equipped with a single service fitting should be carried out manually. Refer to the system service manual for specific instructions.

CAUTION: If the low-side or high-side service hose valve is left open during the hose clearing process, the system will pull refrigerant back out of the A/C system.

Maintenance Schedule

Maintenance Task	Recommended Interval
Change filter	Interval is dependent on type of refrigerant being serviced. Refer to Filter Maintenance in the Maintenance section of this manual.
Change vacuum pump oil	When the filter is replaced. Refer to Change Vacuum Pump Oil in the Maintenance section of this manual.
Check casters and wheels for ease of operation	Monthly.
Check scale calibration	Monthly. Refer to Calibration Check in the Maintenance section of this manual.
Check machine for leaks	Monthly. Check hoses and connections for leakage. Disconnect power, remove the door screws, open the door, and use an electronic leak detector to check fittings.
Clean airflow outlet panel (see Figure 6)	Monthly. Use a clean cloth.
Clean cabinet and control panel	Monthly. Use a clean cloth.
DOT tank inspection	Verify DOT tank inspection
Inspect power cord and hoses for cuts and abrasions	Daily.
Pressure test	Every 10 years. Performed by an authorized Robinair service center.

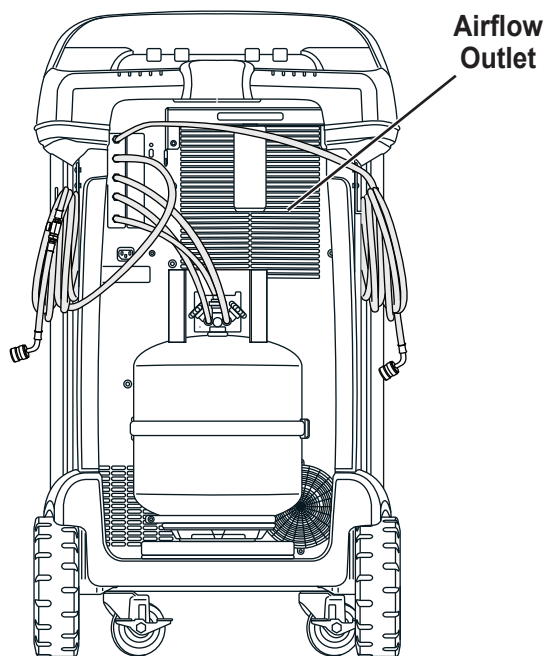


Figure 6



WARNING: To prevent personal injury only qualified personnel may perform inspections and repairs to this machine. Read and follow instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Select Refrigerant

The 17800C is capable of recovering and recharging various refrigerants. When changing refrigerant types, the unit must be cleared into the existing tank mounted on the scale.

To change refrigerant type:

1. From the **MAIN MENU** press **▶▶**, then **R-?**.
2. Use the **UP** or **DOWN** arrow keys to highlight **SELECT REFRIGERANT**. Select **✓**.
3. The current refrigerant is highlighted. To select a new refrigerant use the **UP** or **DOWN** arrow keys to highlight new refrigerant. Select **✓**.
4. If the unit has not been cleared, the user will be prompted to close the liquid valve on the refrigerant tank on the unit and open the front panel valves. Select **CONTINUE** to begin clearing refrigerant into the tank.

Note: The tank vapor valve with the red hose connected must be open.

The unit will clear all refrigerant into the tank. When complete, the user will be prompted to close the vapor valve, disconnect the yellow hose from the tank, and remove the temperature probe.

Note: Do not remove the tank at this point.

5. Select **CONTINUE** to remove any remaining vapor.
6. The user will be prompted to replace the refrigerant tank on the rear of the unit with one designated for the newly selected refrigerant, connect the tank hoses, open the tank valves, and reinstall temperature probe. See Figure 7.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

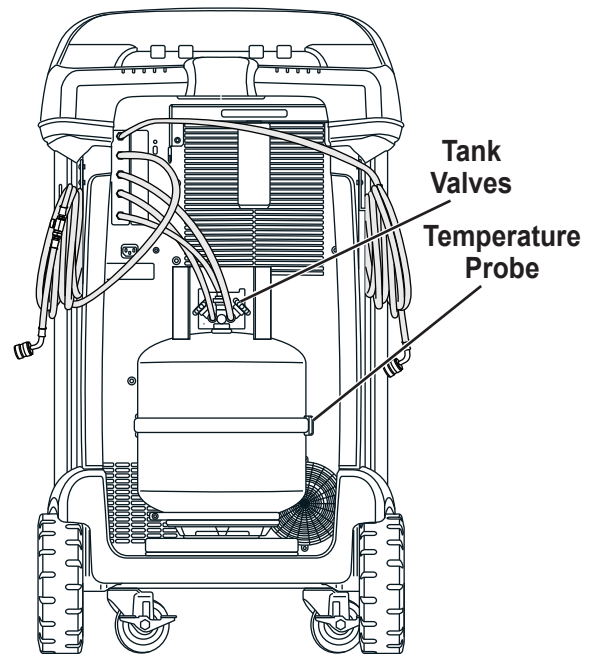


Figure 7

Load Language

Use the following instructions to add or update a language from an SD card.

1. Turn the machine off. Remove the door access screws from the right side of the unit and open the door.
2. Remove the top panel retention screws and rotate the top panel about its hinge to access the SD card slot on the control panel. See Figure 8.
3. Insert the SD card containing the language data into the port on the control board. Rotate the top panel back to its original, closed position.
4. Turn the machine power on. Choose **SELECT LANGUAGE** from the **SETUP MENU**.
5. Use the arrow keys to scroll to **LOAD NEW**. Select ✓.
6. Follow the prompts to select the language to load or update. If loading a new language, it will be necessary to select which language to replace.
7. Once the process is complete, turn the machine power off and remove the SD card. Re-install the top panel retentions screws and the door access screws.

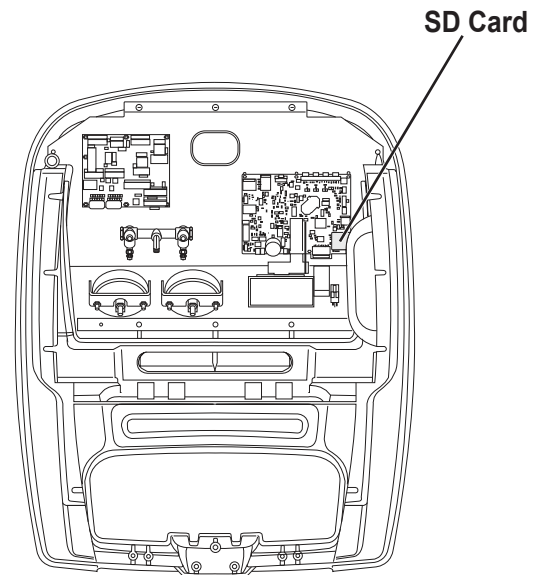


Figure 8

Edit Print Header

(If optional printer is installed)

To make changes to text that appears in this screen:

1. Select **EDIT PRINT HEADER** from the **SETUP MENU**.
The cursor is in the first field. Update the text by using the arrows and the multi-tap interface on the numeric keypad:
 - **ARROW LEFT** and **X** act as a backspace key.
 - **ARROW RIGHT** moves the cursor to the right.
 - **ZERO (0)** key acts as a spacebar.
 - **ARROW UP** and **DOWN** navigate between the rows.
2. Select ✓ to save the changes and return to the Setup Menu; select **X** to return to the previous header and exit to the Setup Menu.

Replace Printer Paper

(If optional printer is installed)

To install a new paper roll in the printer:

1. Remove the cover on the printer by pulling out on the tab as shown in Figure 9.
2. Remove the paper core.
3. Install the new roll of paper with the end of the paper at the top of the roll.
4. Assemble the cover onto the printer with the leading edge of the paper over the roller.

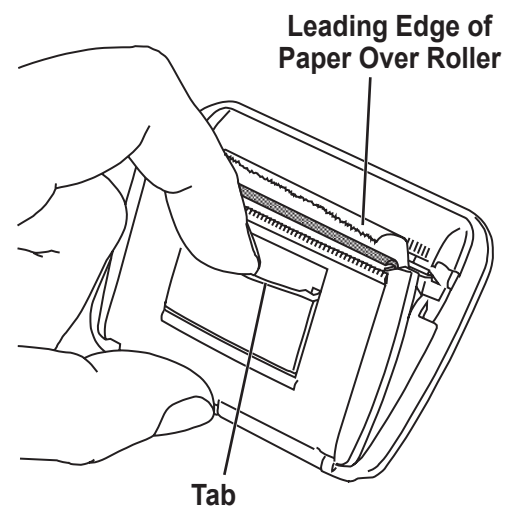


Figure 9

Maintenance

Filter Maintenance

The filter is designed to trap acid and particulates, and to remove moisture from refrigerant. To meet the mandate for adequate moisture and contaminant removal, the filter must be replaced after 136.1 kg (300 lb) of refrigerant has been filtered.

The machine gives a warning when 97.1 kg (214.2 lb) of the filter capacity has been used.

Check Remaining Filter Capacity

1. Select **FILTER MAINTENANCE** from the **SETUP MENU** or when the machine prompts. The machine displays

Remaining Filter Capacity: XXX.XO kg
Replace filter now?

The machine displays the amount of filter capacity remaining.

2. Select ✓ to change the filter; select ✗ to resume using the machine.

⚠ WARNING: The components in the machine are under high pressure. To prevent personal injury, change the filter only when the machine prompts.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

Replace the Filter

1. Select **FILTER MAINTENANCE** from the **SETUP MENU**.

The machine displays

Remaining Filter Capacity: XXX.XO kg

Replace filter now?

2. Select to change the filter. The machine clears the existing filter and displays:

Turn power off and replace filter.

Turn off the machine. Remove the two door screws and open the door. See Figure 10.

3. Disconnect the hose from the top of the filter-drier, and unscrew the filter-drier by rotating it counterclockwise. (A 5/8-in. wrench may be needed.)
4. Open the new filter-drier, and generously lubricate the o-ring with POE oil as well as the gasket in the end of the hose that connects to the top of the filter-drier.
5. Replace the o-ring into the groove in the manifold.
6. Screw the new filter-drier into place. The flow arrow on the filter must point down.
7. Reattach the hose with the gasket to the top of the filter-drier.
8. Power the machine on. The Change Vacuum Pump Oil operation will begin, and the screen will display

Warming oil for drain XX:XX

See the **CHANGE VACUUM PUMP OIL** section of this manual for more information.

The machine will then begin the Leak Check operation. See the **LEAK CHECK** section of this manual for more information.

CAUTION: To prevent equipment damage, use only authentic Robinair No. 19776 filters in this machine. All performance tests and claims are based on using this specific filter.

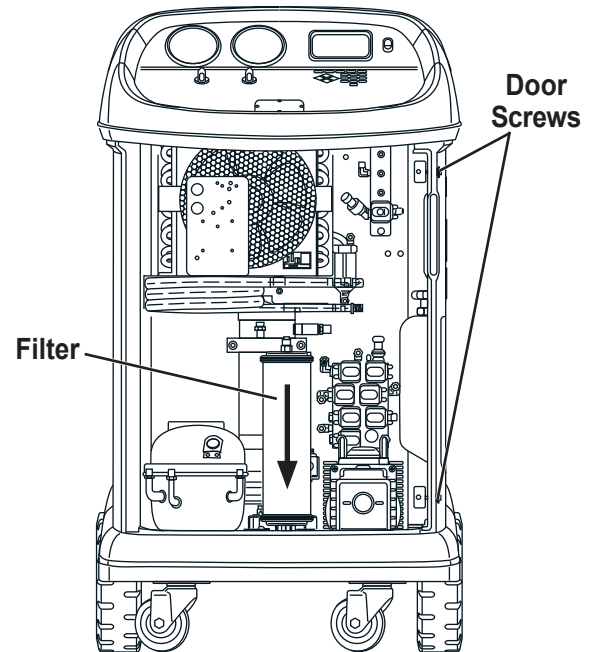


Figure 10

Maintenance

Calibration Check

This function is used to ensure the machine's scale is always calibrated. During this test, use only the calibration weight that is provided with the machine.

1. Select **CALIBRATION CHECK** from the **SETUP MENU**.

The machine displays

Place calibration weight on the top of the tank.

2. Place the calibration weight on the tank near the valves. Select ✓ to continue.

The machine displays

Remove calibration weight from the tank.

3. Remove the calibration weight from the tank. Select ✓ to continue.

4. If the machine displays
-

Calibration check passed

the scale is in calibration. Select ▶▶ to return to the setup menu.

5. If the displays
-

Calibration check failed. Retry?

the scale is out of calibration. To retry, select ↺. If the calibration continues to fail, contact an authorized Robinair service center for assistance.

Change Vacuum Pump Oil

1. Select **PUMP MAINTENANCE** from the **SETUP MENU** or when prompted. The display show how long the vacuum pump has operated since the last oil change.

Oil life remaining:
XXX:XX (hhh:mm)
Change oil now?

2. Select to change vacuum pump oil. The machine displays

Warming oil for drain
XX:XX

Allow the vacuum pump to run for two minutes to warm up the oil for more effective drainage.

3. Remove the door access screws from the right side of the unit and open the door.
4. Slowly open the oil fill cap to verify there is no pressure in the machine. Then carefully remove the cap. See Figure 11.
5. Remove the oil drain fitting cap and drain the oil into a suitable container for disposal. Dispose of the oil according to applicable regulations. Replace the drain fitting and close tightly. Add 225 mL of new vacuum pump oil and select **▶▶** to continue.
6. The machine displays

Fill vacuum pump to the center of the sight glass
Reinstall fill cap

Slowly add vacuum pump oil to the pump through the oil fill port until the oil reaches the center of the sight glass. Install the cap on the oil fill port and close tightly. Select **▶▶** to return to the **SETUP MENU**.

Note: For proper oil level, ensure the machine is on a flat, level surface.

CAUTION: It is the responsibility of the user to monitor vacuum pump oil level and clarity. If contaminated oil is not removed from the vacuum pump and replaced, the vacuum pump will be permanently damaged.



WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.

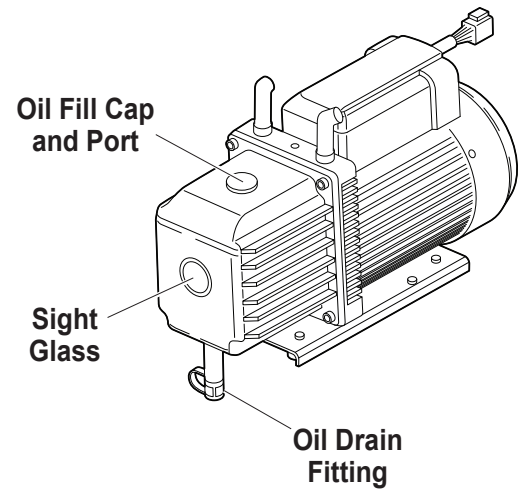


Figure 11

Maintenance

Empty Vacuum Pump Exhaust Bottle

A vacuum pump exhaust bottle is included with this unit, as shown in Figure 12, to capture any oil that may be expelled from the pump. The bottle should be emptied anytime a noticeable amount of oil accumulates.

1. Unscrew the bottle to remove it from the unit.
2. Dispose of the oil according to local, state, and federal regulations.
3. Check the vacuum pump sight glass to confirm that the oil level is sufficient. Refer to the **CHANGE VACUUM PUMP OIL** section of the manual for instruction to change or add vacuum pump oil.
4. Reinstall the empty vacuum pump exhaust bottle.

Tank Removal

To protect the scale from damage, the tank must be removed from the unit any time the unit is transported. Follow these steps to remove the tank.

1. Close the liquid and vapor valves on the tank and disconnect the tank hoses from the tank.
2. Unfasten the probe strap and remove the temperature probe assembly from the tank. Secure the temperature probe during transport.
3. Untether the tank by releasing the tank strap clip and pulling the strap through the tank handle.
4. Loosen the thumbscrew on the scale and remove the tank by lifting up.

See “Tank Installation” on page 13.

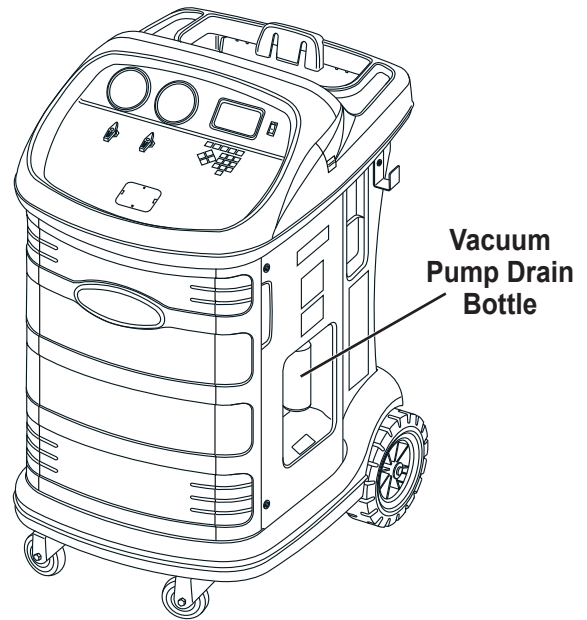





Figure 12


	WARNING: To prevent personal injury while working with refrigerant, read and follow the instructions and warnings in this manual, and wear protective equipment such as goggles and gloves.
	
	

Leak Check

A leak test may be performed on the machine at any time. During this test, components containing refrigerant are pressurized and monitored for pressure decay, which could indicate a leak.

1. Select **LEAK CHECK** from the **SETUP MENU**. The machine displays

Open panel valves and close service hose ball valves

2. Close the ball valves on both service hoses and open both panel valves.
3. Select  to start. The machine performs a self-recovery and displays

Recover in progress

The machine performs a 30-second vacuum test and displays

Vacuum leak check in progress


If the vacuum test fails, the machine will prompt to check for leaks.


Once the machine passes the vacuum test, a controlled pressure is applied to its internal components. The machine displays

Pressure leak check in progress

Pressure is held for five minutes and monitored for decay. Minutes and seconds count down on the display.

- If an acceptable pressure decay is detected, the machine recovers refrigerant and returns to the Setup Menu, ready for normal operation.
- If an unacceptable pressure decay is detected, the machine will prompt to check for leaks. Contact an authorized Robinair service center for repair.

 **WARNING:** To prevent personal injury, do **NOT** operate the machine at any other time without the oil fill port cap installed, because the vacuum pump is pressurized during normal operation.


 **WARNING:** To prevent personal injury should the machine require transport to a local Robinair service center, follow local government regulations regarding transportation of equipment containing refrigerant.

A/C Service Functions



Replacement Parts

Component	Part No.
Calibration Weight	16214
Filter	19776
Hose Set, 1/4-in. Flare	70133
Hose, LP 1/4-in. Flare Blue Service	70144
Hose, HP 1/4-in. Flare Red Service	70143
Oil Drain Bottle	19103
Tank Hose (red)	70145
Tank Hose (blue)	70146
Tank Hose (yellow)	70147
Tank, 50-lb	17506
Vacuum Pump Oil (pint)	13119
Vacuum Pump Oil (quart)	13203
Vacuum Pump Oil (gallon)	13204





Accessory	Part No.
Printer	30038
Printer Paper (3 rolls)	34214
Vinyl Dust Cover	17490

 **WARNING:** To prevent personal injury, use only those repair parts called out in this parts list. Items found in this parts list have been carefully tested and selected by Robinair.

Troubleshooting

Display	Cause	Solution
CALIBRATION CHECK FAILED	Tank scale is out of calibration.	Select  to retry calibration check. If calibration continues to fail, exit current test and contact a Robinair authorized service center for repair.
CHARGE STALLED!	Transfer of refrigerant from ACS to system has stalled.	Verify sufficient refrigerant is available.
EXCESS TANK WEIGHT	Overfill safety circuit has tripped. Machine is inoperable due to excess refrigerant in the storage tank.	Contact a Robinair authorized service center for more information.
FILTER CAPACITY EXHAUSTED, FILTER MUST BE REPLACED FILTER WEIGHT XXX.XYY REPLACE FILTER NOW?	136 kg (300 lb) or more refrigerant has been recovered since last filter change.	Refer to Filter Maintenance section of this manual for instructions to change filter.
HIGH TANK PRESSURE	Machine is inoperable due to high pressure in the storage tank.	Allow machine to cool before performing additional A/C service. Use purge function to eliminate any excess air. If problem continues, contact a Robinair authorized service center for more information.
INLET PRESSURE IS TOO HIGH FOR VACUUM	Before the machine begins evacuating the A/C system, it checks for pressure in the system that could damage the vacuum pump. In this case, system pressure is above 0.35 bar/5 psi.	Select  . Refer to Recover section of this manual to recover refrigerant before proceeding.
INSUFFICIENT REFRIGERANT AVAILABLE FOR CHARGE SELECTED: XX.XXYY AVAILABLE: XX.XXYY	If there is not sufficient weight in the tank, the charge function will not start.	Refer to Tank Fill in the Maintenance section of this manual.
INVALID CODE	Activation code entered into the machine is not correct.	Verify activation code is entered exactly as received. Capitalization is required.

Troubleshooting

Display	Cause	Solution
VACUUM LEAK TEST FAILED	A leak in the A/C system or insufficient vacuum due to pressure rise from outgassing.	<i>Exit current test and perform repairs on A/C system.</i>
NO PRESSURE ON INLETS CHECK CONNECTIONS RECOVER ANYWAY?	System pressure is below 0.35 bar/5 psi.	<i>Verify high-side (red) and low-side (blue) hoses are connected and coupler valves open. Select  to RECOVER; select  to bypass recover and proceed to VACUUM.</i>
OIL DRAIN FULL	Oil drain bottle is at maximum capacity.	<i>Remove oil bottle, drain, and replace.</i>
OIL DRAIN HALTED	Accumulator pressure failed to rise above 1.10 bar/16 psi within the minute before an oil drain was supposed to occur. Unit failed to drain recovered oil because of lack of pressure or an internal obstruction.	<i>Adequate pressure is required within the accumulator to force the oil, which has been separated from the refrigerant, out of the system. Select  to retry; select  to exit.</i>
OIL LIFE REMAINING XX:XXX CHANGE OIL NOW?	Display shows vacuum pump oil life remaining until oil should be replaced.	<i>Refer to Maintenance section of this manual for instructions to change vacuum pump oil.</i>
OUT OF RANGE ACCUMULATOR PRESSURE	Accumulator pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE HS PRESSURE SENSOR	Inlet pressure sensor is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE TANK PRESSURE	Tank pressure transducer is not reading pressure correctly.	<i>Exit current test and contact a Robinair authorized service center for more information.</i>
OUT OF RANGE TANK TEMPERATURE	Tank temperature sensor is not reading temperature correctly.	<i>Move unit to an environment within operating range or exit current test and contact a Robinair authorized service center for more information.</i>

Troubleshooting

Display	Cause	Solution
POWER BOARD COMMUNICATION FAILED	Failed communication with relay board.	<i>Cycle power. If problem continues, contact a Robinair authorized service center for more information.</i>
PRESSURE LEAK TEST FAILED CHECK UNIT FOR LEAKS	A leak in ACS machine.	<i>Exit current test and identify source with a leak detector.</i>
SOURCE TANK IS EMPTY	Refrigerant cannot be transferred to the tank because the source tank is empty.	<i>Exit current test and replace the source tank.</i>
TRIAL PERIOD EXPIRED UNIT ACTIVATION REQUIRED TO CONTINUE USE	Failure to register and activate the machine within 30 days of initial startup will cause the machine to lock out and no longer function.	<i>Select ✓ and refer to Unit Activation section in this manual to register the machine.</i>

Storage and Transportation of Equipment

Storage

Never leave the machine live if an immediate use is not scheduled.

1. Disconnect the machine from its power supply.
2. Coil service hoses and store on the hooks on either side of the unit. See Figure 13.
3. Store the machine in a dry, stable area, away from flames and hot surfaces. The temperature of the storage area should range between -18°C and 60°C (0°F and 140°F).
4. Lock the front wheels.

Transportation of Equipment

! **WARNING:** To prevent personal injury, should the machine require transport to a Robinair service center, follow local government regulations regarding transportation of equipment containing refrigerant.

Service Hoses

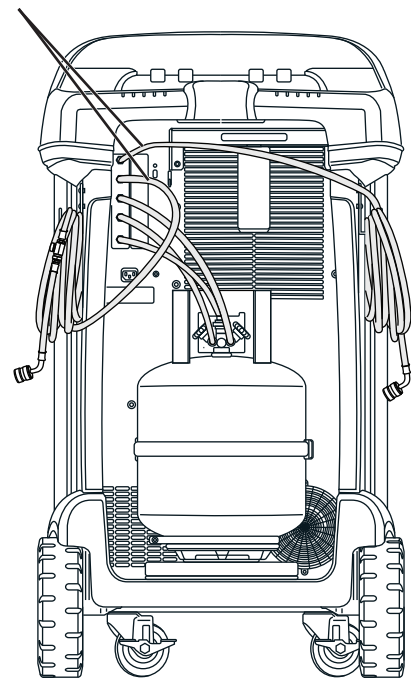


Figure 13

Disposal of Equipment



At the end of its useful life, dispose of the machine according to current government regulations.

- Public administration and producers of electrical / electronic equipment (EEE) are involved in facilitating the processes of the re-use and recovery of waste electrical / electronic equipment through the organization of collection activities and the use of appropriate planning arrangements.
- Do not dispose of this equipment as miscellaneous solid municipal waste. Arrange to have it collected separately. Unauthorized disposal of waste electrical / electronic equipment is punishable by law with appropriate penalties.
- The reuse and correct recycling of electrical / electronic equipment (EEE) is required for the protection of the environment and the well-being of humans.

Disposal of Recycled Materials

It is the responsibility of the user to determine if a material is a hazardous waste at the time of disposal. The user must ensure compliance with all applicable laws and regulations.

1. Deliver the refrigerant recovered from A/C systems to gas suppliers for recycling or disposal.
2. Deliver the lubricants extracted from A/C systems to used oil collection centers.
3. Review the laws in your jurisdiction to determine correct disposal procedures for pump oil.

Disposal of the Machine

1. Detach and vent the gas from the machine circuit. Completely discharge the refrigerant tank in compliance with current government regulations.
2. Deliver the machine to an appropriate disposal center.

Disposal of Batteries



At the end of their useful life, dispose of batteries according to current government regulations. Batteries must be recycled or disposed of correctly. Do not throw away batteries as part of normal refuse disposal.



WARNING: To prevent personal injury, do not throw batteries into open flame.

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Bosch Automotive Service Solutions
28635 Mound Road
Warren
MI 48092
USA

Phone numbers
USA 800-533-6127
EMEA +49 (0) 6182 959-225

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PREAMBLE

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NO WAIVER. The waiver by Freescale of any breach of any provision of this Agreement will not operate or be construed as a waiver of any other or a subsequent breach of the same or a different provision.

Limited Warranty Statement

Rev. May 15, 2015

This product is warranted to be free from defects in workmanship, materials, and components for a period of one year from date of purchase. All parts and labor required to repair defective products covered under the warranty will be at no charge. The following restrictions apply:

1. The limited warranty applies to the original purchaser only.
2. The warranty applies to the product in normal usage situations only, as described in the Operating Manual. The product must be serviced and maintained as specified.
3. If the product fails, it will be repaired or replaced at the option of the manufacturer.
4. Transportation charges for warranty service will be reimbursed by the factory upon verification of the warranty claim and submission of a freight bill for normal ground service. Approval from the manufacturer must be obtained prior to shipping to an authorized service center.
5. Warranty service claims are subject to authorized inspection for product defect(s).
6. The manufacturer shall not be responsible for any additional costs associated with a product failure including, but not limited to, loss of work time, loss of refrigerant, cross-contamination of refrigerant, and unauthorized shipping and/or labor charges.
7. All warranty service claims must be made within the specified warranty period. Proof-of-purchase date must be supplied to the manufacturer.
8. Use of recovery/recycling equipment with unauthorized refrigerants or sealants will void warranty.
 - Authorized refrigerants are listed on the equipment or are available through the Technical Service Department.
 - The manufacturer prohibits the use of the recovery/recycling equipment on air conditioning (A/C) systems containing leak sealants, either of a seal-swelling or aerobic nature.

This Limited Warranty does NOT apply if:

- The product, or product part, is broken by accident.
- The product is misused, tampered with, or modified.
- The product is used for recovering or recycling any substance other than the specified refrigerant type. This includes, but is not limited to, materials and chemicals used to seal leaks in A/C systems.

Declaración de garantía limitada

Revisión del 15 de mayo de 2015

Se garantiza que este producto no posee defectos de mano de obra, materiales y componentes por el período de un año a partir de la fecha de compra. Todas las partes y mano de obra requerida para reparar los productos con defecto cubiertos bajo la garantía no tendrán costo. Aplican las siguientes restricciones:

1. La garantía limitada aplica al comprador original únicamente.
2. La garantía aplica al producto en situaciones de uso normal únicamente, como lo indica el Manual de funcionamiento. Al producto se le debe dar servicio y mantenimiento como se especifica.
3. Si falla el producto, se debe reparar o reemplazar a discreción del fabricante.
4. Los cargos de transporte de servicio de garantía serán reembolsados por la fábrica al verificar el reclamo de garantía y presentar una boleta de flete por servicio terrestre regular. Se debe obtener la aprobación del fabricante antes de hacer el envío a un centro de servicio autorizado.
5. Los reclamos de servicio de garantía están sujetos a inspección de defectos del producto.
6. El fabricante no será responsable de los costos adicionales relacionados con fallas en el producto, que incluyen pero no se limitan a, tiempo improductivo, pérdida de refrigerante, contaminación de refrigerante y envío no autorizado o cargos por mano de obra.
7. Todo reclamo de servicio de garantía se debe hacer dentro del período de garantía establecido. Se debe proporcionar la fecha de la prueba de compra al fabricante.
8. El uso de equipo de recuperación/reciclaje con refrigerantes o selladores no autorizados anula la garantía.
 - Los refrigerantes autorizados se indican en el equipo o están disponibles a través del Departamento de servicio técnico.
 - El fabricante prohíbe el uso de equipo de recuperación/reciclaje en sistemas de aire acondicionado (A/C) con fugas de sellador, ya sea porque un sello se infla o es de naturaleza aeróbica.

Esta garantía limitada NO aplica si:

- El producto, o parte de éste, se rompe accidentalmente.
- El producto se usa incorrectamente, se adultera o modifica.
- El producto se usa para recuperar o reciclar cualquier sustancia que sea diferente al tipo de refrigerante establecido. Esto incluye, pero no se limita a materiales y productos químicos utilizados para sellar fugas en sistemas de A/C.

Énoncé de la garantie limitée

Révisée le 15 er mai 2015

Ce produit est couvert contre les défauts de matériau, de fabrication et de composant pendant un ans à compter de la date d'achat. Toutes les pièces et la main-d'œuvre nécessaires aux réparations sous garantie sont sans frais. Toutefois, les restrictions suivantes s'appliquent :

1. La garantie limitée s'applique uniquement à l'acheteur initial.
2. La garantie s'applique uniquement au produit utilisé dans des conditions de fonctionnement normales conformément au manuel d'utilisation. Il doit être réparé et entretenu conformément aux spécifications.
3. Si le produit subit une défaillance, il sera réparé ou remplacé à la discrétion du fabricant.
4. Les frais de transport pour les réparations sous garantie sont remboursés par l'usine après l'évaluation de la réclamation au titre de la garantie et après la soumission d'une facture de transport terrestre standard. L'approbation du fabricant est requise avant l'expédition du produit à un atelier de réparation autorisé.
5. Les réclamations au titre de la garantie sont sujettes à l'inspection du produit défectueux par un personnel autorisé.
6. Le fabricant ne peut être tenu responsable pour tout coût supplémentaire lié à la défaillance du produit incluant, sans toutefois s'y limiter, les interruptions de fonctionnement, la perte de liquide frigorigène, la contamination des liquides frigorigènes et l'expédition et/ou les frais de main-d'œuvre soumis par des ateliers non autorisés.
7. Toute réclamation pour des réparations au titre de la garantie doit être soumise durant la période de garantie. Une preuve d'achat doit être fournie au fabricant.
8. L'utilisation d'un appareil de récupération et de recyclage avec du liquide frigorigène ou des scellants non spécifiés annule la garantie.
 - Les liquides frigorigènes autorisés sont indiqués sur l'appareil, ou ils peuvent être obtenus auprès du Service technique.
 - Le fabricant interdit l'utilisation d'un appareil de récupération et de recyclage dans les systèmes de climatisation contenant des colmatants pour fuites, que ce soient des scellants à dilatation ou aérobiques.

Cette garantie limitée NE s'applique PAS si le produit :

- ou une partie du produit a été endommagé par un accident.
- a été utilisé de façon inadéquate, ou qu'il a été altéré ou modifié.
- est utilisé pour la récupération et le recyclage de substances autres que le type de liquide frigorigène spécifié. Ces substances comprennent, sans toutefois s'y limiter, les matériaux et les produits chimiques utilisés pour colmater les fuites des systèmes de climatisation.

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655 Eisenhower Drive
Owatonna, MN 55060 USA
Technical Services: 1-800-822-5561
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