AC1234-7i/-8i – AC1234-8i OE – VAC1234-8i

ROBINAIR®

de Originalbetriebsanleitung
Klimaservicegerät

es Manual original
Aparato de servicios de aire acondicionado

nl Oorspronkelijke gebruiksaanwijzing
Airco-onderhoudsapparaat

da Original brugsanvisning
A/C tjenesten Unit

cs Původní návod k používání
Přístroj na servis klimatizací vozidel

en Original instructions
A/C service-unit

it Istruzioni originali
Attrezzatura per assistenza climatizzatore

pt Manual original
Aparelho de manutenção de sistemas de ar condicionado

no Original driftsinstruks
A/C tjenesten Unit

tr Orijinal işletme talimatı
A/C servis ünitesi

fr Notice originale
Appareil de SAV pour climatiseur

sv Bruksanvisning i original
A/C serviceenhet

fi Alkuperäiset ohjeet
A/C huoltolaite

pl Oryginalna instrukcja eksploatacji
Urządzenie do obsługi układu klimatyzacji

ru Оригинальноеруководствопоэксплуатации
Подготовка к обслуживанию

de EU-Konformitätserklärung
en EU Declaration of Conformity
fr Déclaration de conformité "CE"
es Declaración de conformidad CE
it Dichiarazione di conformità CE
sv EG-försäkran om överensstämmelse
da EF-konformitetserklæring
nl EG-conformiteitsverklaring
pt Declaração CE de conformidade
hu EK megfelelőségi nyilatkozat
hr EZ izjava o sukladnosti
no EU-samsvarserklæring

Klimaservice
A/C service
Station de climatisation
Servicio de climatización
Assistenza climatizzatori
Klimatservice
Klimaservice
Aircoservice
Serviço de ar condicionado
Klímaszerviz
Servis klima uređaja
Klimaservice

AC1234-8i - AC1234-7i - AC1234-8i WM
AC1234-8i TM - AC1234-7i TM
AC1234-8i OE - AC1234-8i Nx
Serial-Nr.:

Production date:

Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Europäischen Union. Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller. Diese Erklärung bescheinigt die Übereinstimmung mit den genannten Richtlinien, ist jedoch keine Zusicherung von Eigenschaften. Die Sicherheitshinweise der mitgelieferten Produktdokumentation sind zu beachten.

The a.m. object of declaration fulfils the relevant harmonization legislation of the European Union. This declaration of conformity is issued under the sole responsibility of the manufacturer. This declaration certifies compliance with the stated directives, but it does not provide any assurance of characteristics. The safety instructions of the product documentation included are to be observed.

L'objet susmentionné de la déclaration répond à la législation communautaire d'harmonisation en vigueur de l'Union Européenne. Le fabricant est seul et unique responsable de l'établissement de cette déclaration de conformité La présente déclaration certifie le respect des directives indiquées mais ne constitue pas une garantie de caractéristiques. Observer les consignes de sécurité qui figurent dans la documentation fournie.

El objeto de la declaración descrita anteriormente es conforme a la legislación de armonización pertinente de la Unión Europea. El fabricante es el único responsable de la expedición de esta declaración de conformidad. Esta declaración certifica la coincidencia con las directrices mencionadas, pero no supone ninguna garantía de propiedades. Deben tenerse en cuenta las indicaciones de seguridad de la documentación del producto suministrada adjunta.

L'oggetto sopra descritto della dichiarazione soddisfa le normative di armonizzazione vigenti dell'Unione Europea. La responsabilità inerente al rilascio della presente dichiarazione di conformità ricade interamente sul fabbricante. Questa dichiarazione attesta la conformità alle direttive citate, senza tuttavia costituire alcuna certificazione di qualità. Devono essere seguite le avvertenze di sicurezza contenute nelle documentazione del prodotto allegata.

Föremålet för försäkran ovan överensstämmer med den relevanta harmoniserade unionslagstiftningen. Tillverkaren bär hela ansvaret för utfärdandet av denna försäkran om överensstämmelse. Denna försäkran intygar överensstämmelsen med de nämnda riktlinjerna, men är inte en försäkran om egenskaper. Säkerhetsanvisningarna som ingår i den medlevererade produktdokumentationen ska följas.

Ovenfor beskrevne genstand i erklæringen opfylder de relevante harmoniseringsretsforskrifter i Den Europæiske Union. Producenten bærer alene ansvaret for udstedelsen af denne overensstemmelseserklæring. Denne erklæring attesterer overensstemmelsen med de nævnte direktiver, er dog ingen garanti for egenskaber. Sikkerhedsanvisningerne i den medleverede produktinformation skal overholdes.

Het hierboven beschreven object van de verklaring voldoet aan de geldende harmonisatievoorschriften van de Europese unie. Alleen de fabrikant is verantwoordelijk voor het opstellen van deze conformiteitsverklaring. Deze verklaring bevestigt overeenstemming met de genoemde richtlijnen, het is echter geen garantie van eigenschappen. Houd u aan de veiligheidsaanwijzingen van de meegeleverde productdocumentatie.

O objeto da declaração acima descrito está em conformidade com a legislação de harmonização da União Europeia aplicável. A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante. Esta declaração certifica a conformidade com as normas referidas, mas não garante por si determinadas características. As instruções de segurança da documentação do produto fornecida junto devem ser respeitadas.

A nyilatkozat fent ismertetett tárgya megfelel az Európai Unió idevágó harmonizációs jogszabályainak. Ennek a megfelelőségi nyilatkozatnak a kiállításáért egyedül a gyártó felelős. Ez a nyilatkozat tanúsítja a megadott irányelvekkel való egyezést, de nem garantálja a tulajdonságokat. Vegye figyelembe az átadott termék dokumentációban szereplő biztonsági utasításokat.

Prethodno opisani predmet ove izjave u skladu je s odgovarajućim usklađenim pravnim propisima Europske unije. Proizvođač proizvoda snosi isključivu odgovornost za izdavanje ove izjave o sukladnosti. Ova Izjava dokazuje usklađenost s navedenim Direktivama, no ne predstavlja jamstvo za svojstva. Moraju se poštivati sigurnosne napomene u priloženoj dokumentaciji proizvoda.

Den ovenfor beskrevne gjenstanden av erklæringen oppfyller de gjeldende harmoniseringsforskriftene til EU. Produsenten er eneansvarlig for opprettelse av denne samsvarserklæringen. Denne erklæringen bekrefter samsvaret med direktiver som nevnes ovenfor, men er ingen garanti for egeneskaper. Sikkerhetsanvisningene til den medleverte produktdokumentasjonen må følges.

05.02.19

Datum/Date, Rechtsverbindliche Unterschrift / Legally binding Sign
ppa. AA-AS/RP-EU Oliver Frei
(Chairman of Business Unit)

01. Feb. 2019

Datum/Date, Unterschrift / Sign
AA-AS/NE Torre Flores Pio
(Development, person responsible of documents)[1)]

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☒ **MD 2006/42/EC** (OJ L 157, 09.06.2006, p. 24-86)**:** Maschinenrichtlinie / Machine Directive / Directive Machines / Directriz de máquinas / Direttiva relativa alle macchine / Maskindirektivet / Maskindirektiv / Machinerichtlinijn / Diretriz Máquinas / Gépirányelv / Direktiva o strojevima / Maskindirektiv
Benannte Stelle / notified body:

☒ **EMC 2014/30/EU** (OJ L 96, 29.03.2014, p. 79-106)**:** EMV-Richtlinie / EMC Directive / Directive CEM / Directriz de CEM /Direttive relative alla CEM / EMC-direktivet / EMC-direktiv / EMV-richtlijn / Diretriz EMC Compatibilidade eletromagnética / EMV-irányelv / Direktiva EMK o elektromagnetnoj kompatibilnosti / EMC-direktiv

☒ **PED 2014/68/EU** (OJ L 189, 27.06.2014, p. 164-259): Druckgeräte-Richtlinie / Pressure Equipment Directive / Directive sur les équipements sous pression / Directiva sobre equipos a presión /Direttive in materia di attrezzature a pressione / Direktivet om tryckbärande anordningar / Direktiv om trykapparater / Richtlijn voor printers / Directiva sobre equipamentos sob pressão / Nyomáshordozó eszközök irányelv / Direktiva o tlačnoj opremi / Trykkutstyr-direktiv **Mod: HCat: III**

Benannte Stelle / Notified body : **Bureau Veritas Italia S.p.a. - Notified Body Nr. 1370**
Dokumentennummer / Refer to document number: **CE-1370-PED-H BSS 001-18-ITA**

☒ **RoHS 2011/65/EU** (OJ L 174, 01.07.2011, p. 88-110): Richtlinie Verwendungsbeschränkung bestimmter gefährlicher Stoffe / Restriction of Hazardous Substances Directive / Directive sur la limitation de l'utilisation de certaines substances dangereuses / Directiva sobre la restricción de ciertas sustancias peligrosas / Direttiva per la limitazione di utilizzo di determinate sostanze pericolose / direktiv om begränsning av användningen av vissa farliga ämnen / Direktiv, anvendelsesbegrænsning for bestemte farlige stoffer / Richtlijn gebruiksbeperking bepaalde gevaarlijke stoffen / RoHS- (Restriction of Hazardous Substances) Diretriz de restrição de certas substâncias perigosas / Wgyes veszélyes anyagok elektromos és elektronikus berendezésekben való alkalmazásának korlátozását célzó irányelve / Direktiva RoHS o ograničenju uporabe odredenih opasnih tvari / Stoffdirektiv for begrensning av bestemte farlige stoffer

Die Konformität wird nachgewiesen durch die Einhaltung folgender einschlägig harmonisierter Normen / technische Spezifikationen:
Conformity is documented through adherence to the following harmonized standards / technical specifications:
La conformité est démontrée par le respect des normes harmonisées suivantes / spécifications techniques:
La conformidad queda demostrada mediante el cumplimiento de las siguientes normas armonizadas / especificaciones técnicas:
La conformità viene dimostrata dal rispetto delle seguenti norme armonizzate / caratteristiche tecniche:
Överensstämmelsen bevisas genom att följande harmoniserade standarder tillämpas / tekniska specifikationer:
Konformiteten dokumenteres ved overholdelsen af følgende harmoniserede standarder / tekniske specifikationer:
De conformiteitt wordt bevestigd door het naleven van de volgende geharmoniseerde normen / technische specificaties:
A conformidade é comprovada pelo cumprimento das seguintes normas harmonizadas / especificações técnicas:
A megfelelőséget a következő harmonizált szabványok betartása igazolja / műszaki előírások:
Usklađenost se dokazuje pridržavanjem sljedećih usklađenih normi / tehničke specifikacije:
Samsvaret påvises gjennom overholdelse av følgende harmoniserte standarder / tekniske spesifikasjoner:

EN 12100:2010; EN 60204-1:2006+A1:2009+AC:2010; EN 61010-1:2010
EN 378-2:2016; EN 12263:1998; EN 13136:2013; EN ISO 4126-1:2013
EN 55011:2009+A1:2010; EN 61000-3-2:2014; EN 61000-3-3:2013; EN 61326-1:2013
EN 14276-1:2006+A1:2011; EN 14276-2:2007+A1:2011; EN 50581:2012

Angaben zu Baugruppen gemäß der Richtlinie PED
Data on the modules as per dirctive PED:
Indications relatives aux sous-groupes conformément à la PED:
Información relativa a los conjuntos conforme a la directiva PED:
Dati su gruppi in conformità alle PED:
Uppgifter beträffande komponenter enligt direktivet om PED:
Angivelser om komponenter iht direktiverne PED:
Gegevens over componenten conform de richtlijnen voor PED:
Dados sobre módulos, de acordo com as directivas relativas PED:
Információ modulok összhangban PED:
Podaci i o sklopovima sukladno Direktivi o PED:
Angivelser om komponentgrupper i henhold til direktivet for PED:

Fluid R1234yf group 1
Allowable min/max pressure (PS) -1 +25 bar
Allowable min/max temperature (TS) -10 +120 °C
Volume (V) 22 l

S P00 D00 681 | 05.12.2018 AA-AS/ETE1

en – Contents

1. Symbols used

1.1 In the documentation

1.1.1 Warning notices - Structure and meaning

Warning notices warn of dangers to the user or people in the vicinity. Warning notices also indicate the consequences of the hazard as well as preventive action. Warning notices have the following structure:

Warning symbol	**KEY WORD – Nature and source of hazard!** Consequences of hazard in the event of failure to observe action and information given. ➢ Hazard prevention action and information.

The key word indicates the likelihood of occurrence and the severity of the hazard in the event of non-observance:

Key word	Probability of occurrence	Severity of danger if instructions not observed
DANGER	**Immediate** impending **danger**	**Death** or **severe** injury
WARNING	**Possible** impending **danger**	**Death** or **severe** injury
CAUTION	Possible **dangerous situation**	**Minor** injury

1.1.2 Symbols in this documentation

Symbol	Designation	Explanation
❗	Attention	Warns about possible property damage.
	Information	Practical hints and other useful information.
1. 2.	Multi-step operation	Instruction consisting of several steps.
➢	One-step operation	Instruction consisting of one step.
⇨	Intermediate result	An instruction produces a visible intermediate result.
➜	Final result	There is a visible final result on completion of the instruction.

1.2 On the product

❗ Observe all warning notices on products and ensure they remain legible.

Symbol	Description
	Read the instructions carefully.
	Do not use outdoors in case of rain or high humidity.
	Obligation to use gloves.
	Obligation to use protective goggles.
	Alternating voltage.
	Grounding protection.
	Danger of electric shock.

2. Precautions

2.1 Legend of the safety terms used in this manual

Each safety term indicates the degree or level of severity of the risk.

DANGER: indicates a situation of danger that, if not avoided, will cause serious or fatal injuries.

WARNING: indicates a situation of possible danger that, if not avoided, can cause serious or fatal injuries.

CAUTION: indicates a situation of possible danger that, if not avoided, can cause moderate or minor injuries.

CAUTION: used without the safety warning symbol indicates a possible dangerous situation that, if not avoided, can cause damage to property.

These warnings refer to events known to Robinair. The company can not evaluate all the possible risks or advise on them. The user must ensure that the conditions and procedures do not put his/her safety at risk.

CAUTION: The machine is not intended to operate with oils classified as flammable or hazardous according to EN 1272/2008 (CLP).

Symbol	Warning to prevent injuries
	ALLOW ONLY QUALIFIED PERSONNEL TO USE THE STATION. Before starting the station, read and follow the instructions and warnings contained in this manual. The operator must be familiar with air-conditioning and refrigeration systems, with refrigerants and dangers of components under-pressure. If the operator is unable to read this manual, the use instructions and precautions should be read and explained in his/her native language.
	Use the station as illustrated in this manual. Using the machine differently than as it was designed compromises its functionality and invalid the protections it is equipped with.
	THE PRESSURIZED CYLINDER CONTAINS LIQUID REFRIGERANT. Do not overfill the inner tank, as it may cause an explosion and serious or fatal injuries. Do not retrieve refrigerant in non reusable containers; only use approved reusable containers with high pressure safety valves.
	FLEXIBLE HOSES MAY CONTAIN LIQUID REFRIGERANT UNDER PRESSURE. Contact with the refrigerant can cause injury, blindness and skin freezing. Wear protective clothing that include safety glasses and gloves. Disconnect the hoses with extreme caution. Make sure that the step has been completed before disconnecting the station, to avoid refrigerant emissions in the atmosphere.
	DO NOT INHALE REFRIGERANT OR LUBRICANT IN THE FORM OF STEAM OR SPRAYED The refrigerant R1234yf reduces the amount of oxygen available for breathing, causing drowsiness and dizziness. Exposure to high concentrations of R1234yf causes asphyxia, ocular, nose, throat and lungs lesions and may harm the central nervous system. Use the station in places where there is a mechanical ventilation system that completes the air exchange at least once per hour. If accidental spillage from the system occurs, ventilate the work area before resuming operations. DO NOT DISPERSE THE REFRIGERANT IN THE ENVIRONMENT. This precaution is necessary to prevent the presence of refrigerant in the working environment. The refrigerant R1234yf is heavier than air and tends to concentrate in the pits of the workshop.

Symbol	Warning to prevent injuries
	TO REDUCE THE RISK OF FIRE, do not use the machine near petrol containers or other flammable liquids or near any point where one of these substances has been spilled. TO REDUCE THE RISK OF FIRE, do not use an extension, as it may overheat and cause a fire. If it is necessary to use an extension, make it as short as possible and with a section of at least 14 AWG. TO REDUCE THE RISK OF FIRE, do not use the machine near flames and high temperature surfaces. Refrigerant can decompose at high temperatures and emit toxic substances in the environment that may be harmful 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 the machine in areas or zones with ATEX classification. Protect it from conditions that could cause electrical failure or other hazards related to the interaction with the environment.
	DO NOT USE COMPRESSED AIR TO SUBMIT THE VEHICLE MACHINE OR A/C SYSTEM TO A PRESSURE OR LEAK TEST. Air and refrigerant mixtures R1234yf can be high-pressure combustible materials; they are potentially dangerous and can cause a fire or an explosion and therefore accident or damage to property.
	HIGH VOLTAGE IN THE MACHINE; RISK OF ELECTROCUTION. Exposure can cause injuries; disconnect the power supply before performing any maintenance or repairs to the machine. NEVER LEAVE THE MACHINE ENERGIZED IF IT MUST NOT BE USED INTERMEDIATELY. Disconnect the power supply before long periods of inactivity or before performing internal maintenance. To ensure that unauthorized personnel can not operate the machine, use the function that allows to padlock the main power switch.

To minimize the risk of fire, the station software periodically performs a guided leak check otherwise the station stops. For the same purpose, there are also hardware features such as ventilation fan monitoring system, openings properly located on the bottom of the trolley (R1234yf is heavier than air) and sealed electronic circuits.

Symbol	Caution to prevent damage to the equipment
	TO PREVENT CROSS CONTAMINATION, USE THIS MACHINE ONLY WITH THE REFRIGERANT R1234yf. The machine is equipped with special fittings for recovery, recycling and refilling of the refrigerant R1234yf. Do not attempt to adapt it for use with another refrigerant. Do not mix different types of refrigerant through a plant or in the same container; it would cause serious damage to the station and to the A/C system of the vehicle. Do not use refrigerants other than those indicated on the technical data plate. It is also recommended to buy it at specialized companies that guarantee its good quality.
	DO NOT USE THE STATION OUTDOOR IN CASE OF RAIN OR HIGH HUMIDITY. Protect it from conditions that could cause electrical failure or other hazards related to the interaction with the environment. DO NOT USE THE STATION AT DIRECT SOLAR LIGHT. Place the machine away from heat sources such as direct sunlight, which may cause excessive temperatures. Using the machine under normal environmental conditions (10 to 50 °C) keeps pressures under reasonable limits. Make sure that the machine does not exceed the operating temperature indicated on the technical data plate. DO NOT USE THE STATION IN AREAS IN WHICH THERE IS THE RISK OF EXPLOSION. Place the station on a flat surface and in sufficient lighting conditions; lock the front wheels and do not subject them to vibration.

For more information on safety and health protection, contact the refrigerant manufacturer.

WARNING: Warranty is not valid in all cases of improper use of the machine and if the machine is not submitted to periodic ordinary and extraordinary maintenance (according to PED directive 2014/68/EU) provided in this original instructions. The manufacturer therefore declines all responsibilities for any damage resulting from not observing all the instructions and warnings provided to the user regarding installation, use and maintenance.

2.2 Protection devices

The station is equipped with the following protection devices:

- High pressure safety valves.
- A high pressure switch that stops the compressor when excessive pressure is detected.

WARNING: Tampering with these protection devices can cause serious injury.

WARNING: Do not modify the high pressure safety valve or the main settings of the system. Using the machine differently than as it was designed compromises its functionality and invalid the protections it is equipped with.

CAUTION: Always check the pressure gauges readings to check that the pressures are maintained within the limits specified in the "Technical Data" section.

2.3 Door interlock switch

The interlock switch on the rear service door interrupts the power supply of the machine when it is open.

WARNING: Do not tamper with the interlock switch in any way. During normal operation, the rear service door must always be closed and the overhead panel installed in position.

2.4 PED directive 2014/68/EU

The machine includes parts subject to PED EU directive 2014/68/EU, Pressure Equipment Directive. PED directive regulates all the pressurized part defining for them categories based on volume-pressure ratio and based on fluid refrigerant type. Those parts then have not to be anyhow modified nor removed. Under the responsibility of the owner, the machine and parts falling in the scope of PED shall be checked either during commissioning and periodically fulfilling local country regulations and norms.
Parts in the scope of PED are:

- Tank.
- Pressure relieve valve.
- High pressure switch.
- Recovery group.
- Piping.

Call Robinair service center to get technical specifications for each part listed.

2.5 AC1234-7i/-8i handling

The AC1234-7i/-8i must normally be moved on flat surfaces with a maximum slope of 15° and on four wheels, avoiding excessive shaking. When stopped the front wheels brake must be engaged. On slightly irregular surfaces, the AC1234-7i/-8i can be moved, keeping it slightly inclined and set on the ground on the two rear wheels making sure to have a firm grip on the rear handle.

CAUTION: Although the heavier components of the AC1234-7i/-8i are installed on the bottom of the AC1234-7i/-8i in order to lower the center of gravity as much as possible, the risk of overturning is not completely eliminated.

3. Introduction

3.1 Application

The station is suitable for vehicles with traditional combustion engine (PAG oil), hybrid and electric (POE oil).The station has all the functions necessary for the maintenance of vehicle air conditioning systems.

! The station can operate with PAG oil or POE oil. The mixture of the two oils causes damage to the vehicle air conditioning system. The station is delivered with a new oil tank for PAG compressor oil and one for POE oil compressor. Fill both new oil tanks with the correct compressor oil and always be careful to connect the correct new oil tank.

! The station can only be used with **R1234yf**. The station must not be used for the maintenance of vehicles with air conditioning systems that use refrigerants other than **R1234yf** to prevent damage. Before performing maintenance of the air conditioning system, check the type of refrigerant used in the air conditioning system of the vehicle.

3.2 Supply

Replacement component	Code
AC1234-7i/-8i	–
Safety kit (glasses and gloves)	SP00100744
Original instructions	SP00D00594
High pressure service hose [1)]	–
Low pressure service hose [1)]	–
1 x New oil tank PAG 250ml	SP00101414
1 x New oil tank POE 250ml	SP00101412
1 x UV dye tank 250ml	SP00101418
Oil drain tank 250ml	SP00101727
Tank adapter (1234 <22 HW)	SP00100699
Tank adapter gaskets (1234 <22 HW)	SP00100366
Tank adapter (1234 DNT)	SP00100698
Tank adapter gaskets (1234 DNT)	SP01100020
Tank adapter (1234> 22 HW)	SP00100703
Tank adapter gaskets (1234 >22 HW)	SP00100367
Calibration weight	SP01100095
Power cable	SP00100438
UK power cable	SP00100444
Dust cover	SP00101641
WiFi dongle	SP00101379
N2H2 kit [2)]	SP00101740

[1)] *Preassembled*

[2)] *May be included in scope of delivery, depending on the version ordered*

3.3 Description of the equipment

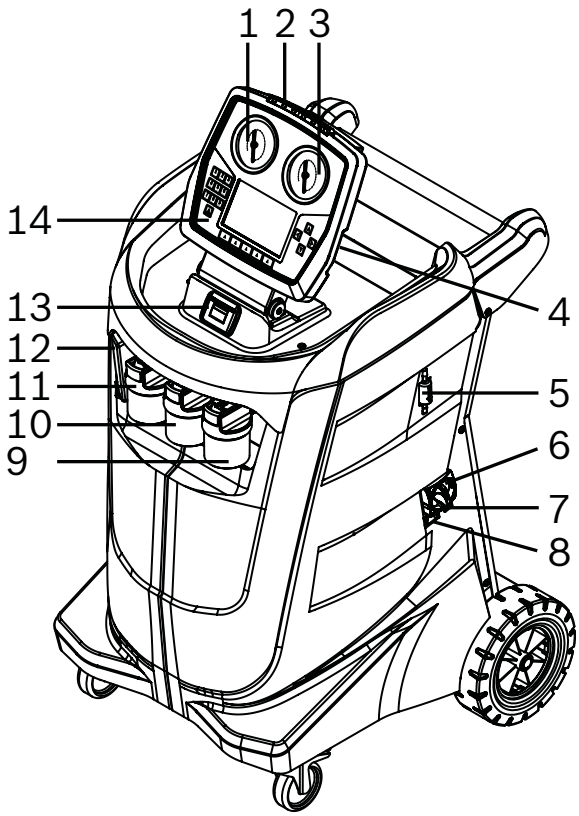


Fig. 1: AC1234-7i/-8i

1 Low pressure (LP) gauge
2 Visual alarm
3 High pressure (HP) gauge
4 2 x USB port 2.0
5 Refrigerant analyzer filter (only for AC1234-8i)
6 Main switch
7 Resettable fuse
8 Power socket
9 UV dye tank
10 New oil tank (POE)
11 New oil tank (PAG)
12 Exhausted oil tank
13 Printer
14 Control panel and display (HMI)

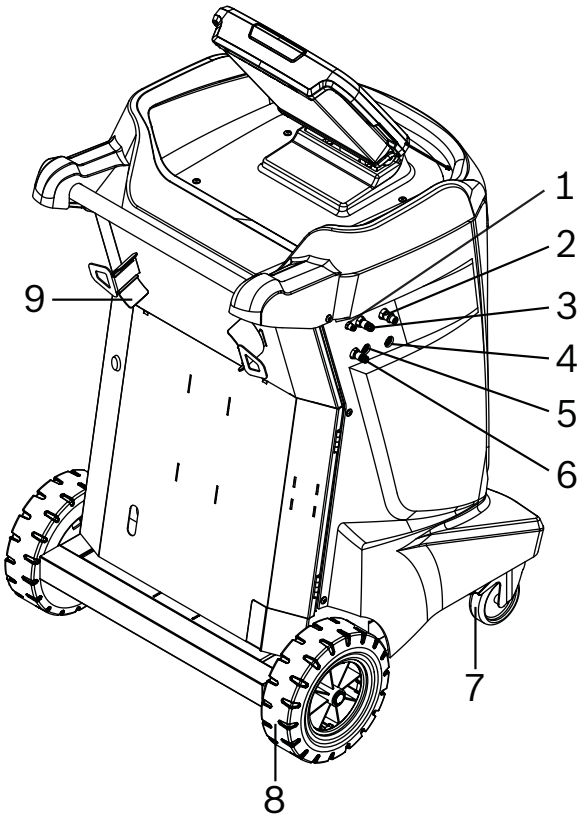


Fig. 2: AC1234-7i/-8i

1 N2H2 or N2 max input port 14 bar (1.4 MPa)
2 Flush connection (high pressure)*
3 Flush connection (low pressure)*
4 Connection for service hose (high pressure)*
5 Connection for service hose (low pressure)*
6 Contaminated refrigerant recovery outlet (only for AC1234-8i)
7 Front wheels with parking brake
8 Rear wheels
9 Hose support

(*) max 25 bar (2.5 MPa)

3.4 Control panel functions

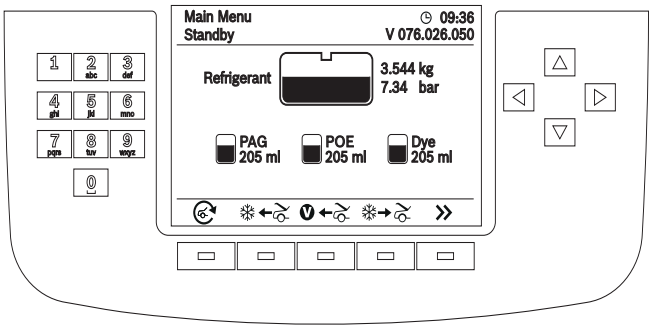


Fig. 3: Control panel keypad

Symbol	Description
△	**UP ARROW** to select the previous option of a menu.
▽	**DOWN ARROW** to select the next option of a menu.
▷	**RIGHT ARROW** to scroll to the next screen.
◁	**LEFT ARROW** to scroll to the previous screen.
▭	**SELECTION KEYS** (function keys) to select the functions shown on the display (lower icons).
0...9 **A...Z**	The **input keys** can be used to enter letters, numbers, and special characters in the input fields.

3.5 Icons key

Symbol	Description
?	**HELP** to view information about the current screen.
☰	**MENU** to access additional functions and parameters.
	AUTO to activate a menu that facilitates the setting of an automatic recovery/vacuum/loss check/charge function.
	RECOVERY to activate the refrigerant recovery sequence from the A/C system of the vehicle.
	VACUUM to activate the vacuum function in the A/C system of the vehicle to remove air and condensate.
	CHARGE to activate the charge sequence of the A/C system of the vehicle with a programmed amount of refrigerant.
	DATABASE to view information about the amount of charge according to the model of the vehicle.
»	**NEXT** to switch to the next screen or process.
«	**BACK** to return to the previous screen or process.
I/O	**ON/OFF** to enable or disable the selected function.
✓	**OK** to confirm, proceed, or save settings.
✕	**ESC** to cancel the operation and return to the previous function or the Main Menu.
▲	**UP** allows to move the functions selection of a menu upward.
▼	**DOWN** allows to move the functions selection of a menu downward.
	PRINT to print.
	BACKSPACE to erase the character to the left of the cursor.
❚❚	**PAUSE** to pause a process.
▶	**PLAY** to resume a paused process.
	REPEAT to repeat the last function.
	DELETE to delete the selected item from the station memory.
	BLUETOOTH indicates that the Bluetooth connection is enabled.
	WIFI indicates that the WiFi connection is enabled.
HS LS	**HS LS** to set which side to charge (high pressure, low pressure or both sides).
ml oz	**ml oz** to set the unit of measurement (ml or oz).
kg oz lb	**kg oz lb** to set the unit of measure (kg, oz or lb).
	USB to export data to a USB key.

3.6 Setup Menu

3.6.1 Functions Menu

1. Call up the Main Menu.
2. Select ».
3. Select ☰.

➢ Select **Functions** to access the following functions.

Function	Description
A/C Perfomance Test	Performs a pressure test on an A/C system of a vehicle inside which refrigerant is already present.
Nx Test	To find leaks on a vehicle A/C plant using an external nitrogen cylinder or a mixture of nitrogen and hydrogen.
Flush Hoses	To clean the station from oil residues in preparation for maintenance of the next vehicle.
System Flush	Provides a method for removing oil by forcing liquid refrigerant through the A/C system or components of an A/C system. After flushing, the refrigerant is recovered from the machine and filtered by the recirculation circuit.
Tank Fill	To transfer the refrigerant from an external tank to the internal tank. The tank refill value can be adjusted according to the user's needs. Refer to the Tank refilling procedure in the Maintenance section.
Refrigerant Tracking	To store the amount of refrigerant recovered and charged for each vehicle. The display shows five selection options: • **Display**: to display the recovered and charged refrigerant data. • **Export to USB**: to export the report with the amount of refrigerant recovered and charged on the vehicle. The data is exported via USB stick, recommended size at least 2 GB and formatted FAT (key not supplied). The data is transferred as a **.csv** file. • **Erase all records**: to delete all the data stored on the station. • **Print all records**: to print all the data stored on the station. • **Disable Tracking**: to disable the refrigerant report function.

➢ Select « to return to the Setup Menu.

3.6.2 Settings Menu

Function	Description
Select Language	Select a language from the displayed ones. The default language is English.
Select Units	To program the machine to display metric or imperial values. The default view is in metric system.
Date and Time	To program the current time and date in the station.
Edit Print Header	Programs the information that appears in the print summary every time the print function is used.
Unit Activation	Failure to register and activate the machine within 30 days of initial start-up causes the machine to lock and the impossibility to use it. Select this item in the Settings Menu and follow the instructions that appear on the screen before the trial period expires.
Oil Load Cells	To enable or disable the operation of new PAG oil, new POE oil, exhausted oil and UV dye scales.
Refrigerant Identifier (only for AC1234-7i)	To enable or disable the purity test of the external refrigerant analyzer connected to the USB port of the station. The display shows three selection options: • **Always Display Identifier Prompts**: displays the steps required to perform the purity test. • **Skip Display Identifier Prompts**: does not display the operations to perform the purity test. • **Ask User to connect Identifier**: asks the user, with a message, to confirm whether or not to perform the purity test.
Default Vacuum Leak Test Time (except AC1234-8i OE/ VAC1234-8i)	To change the vacuum time for the leak test.
Set Buzzer	To enable or disable the acoustic signal.
Firmware Update	To upgrade the firmware through a USB stick or WiFi. The display shows three selection options: • **Check for Update**: to check if new firmware updates are available. • **USB Update**: to upgrade the firmware through a USB stick. • **Wi-Fi Update**: to upgrade the firmware through WiFi network. If the station is connected to the WiFi network and the WiFi network is connected to the Internet, the search for new updates will automatically start.
WiFi Configuration	To configure the WiFi connection on the station.The display shows five selection options: • **Search WiFi Networks**: to search for available WiFi networks. • **WiFi Status**: to display some data related to the WiFi connection used. • **Test WiFi connection**: to perform a connection test on the wireless network used by the station. • **Disconnect current network**: to disable the WiFi network connection stored on the station. • **Manual connect**: to perform manual scan and selection of WiFi network.
Asanetwork	To activate or deactivate the Asanetwork function. Information can be obtained from the service department.
Connected Repair [CoRe]	To activate or deactivate the CoRe function. See Connected Repair [CoRe] in the Initial Settings section.
Default N2 Leak Test Time	To change the N2 test time for the leak test.

➢ Select « to return to the Setup Menu.

3.6.3 Maintenance Menu

Function	Description
Filter Maintenance	The filter removes acids, particles and condensate from the refrigerant. To meet the requirements, it is mandatory to replace the filter after 150 kg (331 lb) of refrigerant has been filtered. This menu item displays the remaining capacity of the filter before the station is stopped and stops operating. See Filter Maintenance in the Maintenance section.
Pump Maintenance	This menu item displays the remaining time until the next oil change of the vacuum pump. To obtain the best performance from the vacuum pump, replace the oil every time the filter is replaced. See Vacuum pump oil change in the Maintenance section.
ISV Purge condition	Displays the pressure and temperature in the refrigerant tank. It is used to eliminate incondensable gases and helps to limit the pressure in the refrigerant tank.
Calibration Check	To check the calibration of the internal scale. See Checking the calibration in the Maintenance section of this manual.
Adjust Zero Offset	To reset the new PAG oil, new POE oil, exhausted oil and UV dye scales to zero.
Display Title Info	To activate or deactivate the station pressure and temperature displaying.
System Information	Displays the revision level of the station software.
Periodic Leak Test	Performs a pressure test to detect any leakage on the station.
Service Menu	Reserved for use by Robinair service centers.
Production Menu	Reserved for use by Robinair technicians only.
Calibrate Air Flow	To perform the air flow calibration. Follow the instructions on the display.

➢ Select « to return to the Setup Menu.

4. Screen layout

After switching on, the startup screen opens with the following indications:

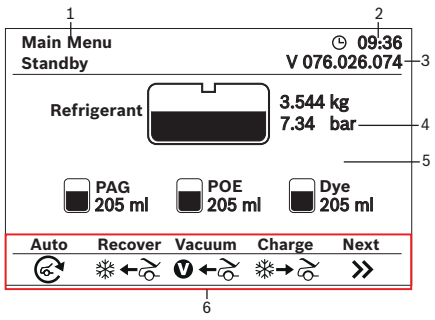


Fig. 4: Main Menu

Select ». The display shows.

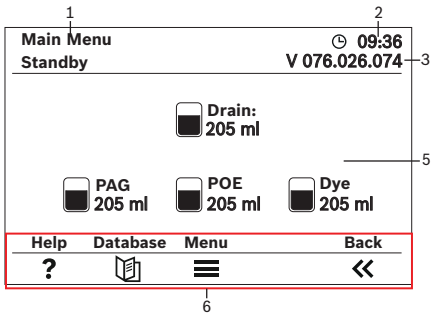


Fig. 5: Main Menu

1 *Menu name*
2 *Time*
3 *Software version*
4 *Refrigerant internal cylinder pressure*
5 *Indications on the quantities present*
6 *Possible actions*

Select ☰. The display shows

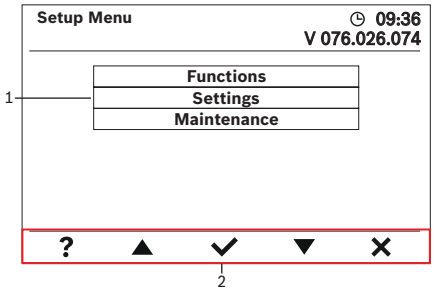


Fig. 6: Setup Menu

1 *Possible functions*
2 *Possible actions*

Select **Functions**. The display shows

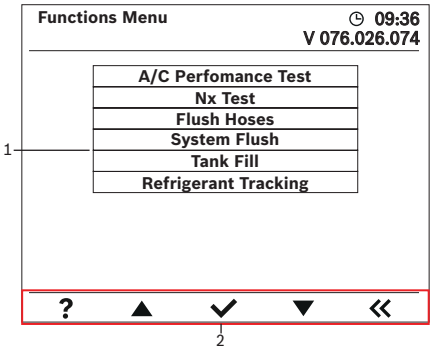


Fig. 7: Functions Menu

1 *Possible functions*
2 *Possible actions*

Select **Settings** from the Setup Menu. The display shows

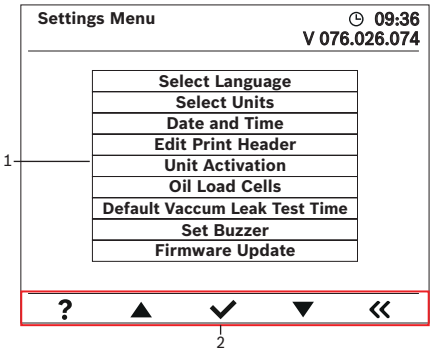


Fig. 8: Settings Menu

1 *Possible functions*
2 *Possible actions*

Select **Maintenance** from the Setup Menu. The display shows

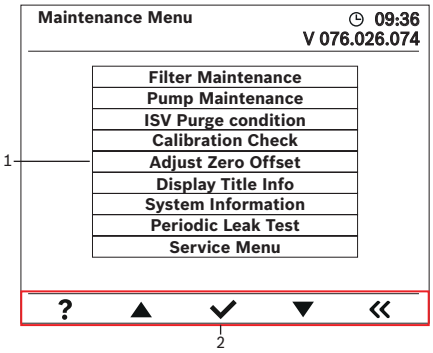


Fig. 9: Maintenance Menu

1 *Possible functions*
2 *Possible actions*

5. Initial settings

5.1 Removing transportation packaging

1. Remove the bands wrapping the cardboard.
2. Remove the cardboard.
3. Lift one side of the unit to remove the front wheels out of the base.
4. Cautiously pull the unit from the rear handle making sure to has a firm grip.
5. Let it get off slowly from the pallet trying to avoid sudden bumps.

CAUTION: Carry out the operations described with the utmost care and on a flat horizontal surface to reduce the risk of overturning the unit.

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

5.2 Unpacking the accessories kit

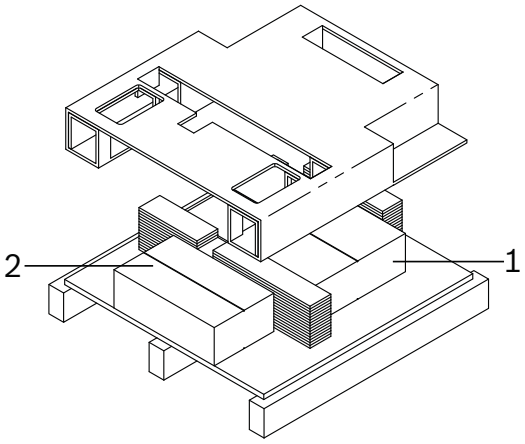
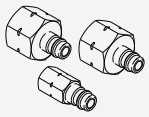
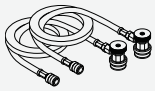


Fig. 10: Unpacking the accessories kit

1 Accessories kit
2 Accessories kit

Remove the cardboard containing the accessory kit from the station packing and remove the various packagings.

Accessories kit			
Calibration weight 533 g		External cylinder adapters for tank filling (3)	
Gaskets (3)		Plastic envelope containing the user manual and relevant Material Safety Data Sheets (MSDSs).	
Service hoses (2)		Four tanks: oil drain tank, PAG oil tank, POE oil tank and UV dye tank	
Power cable, dust cover and safety kit (glasses and gloves)		WiFi dongle and N2H2 kit [1]	

[1] *May be included in scope of delivery, depending on the version ordered*

5.3 Control panel and display adjustment

Never use the control panel (HMI) to move the station.

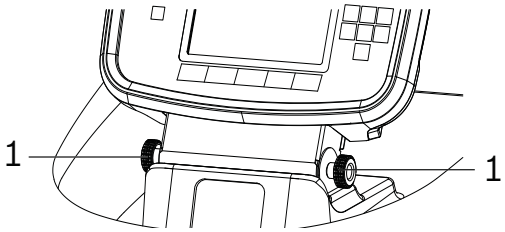


Fig. 11: Control Panel and Display (HMI)

1 Adjustment knobs

1. Loosen both knobs while holding the control panel (HMI) with one hand.
2. Use a knob to adjust the hardness in handling the control panel.
3. Use the other knob as lock/unlock to adjust the tilt of the control panel. Tighten it firmly after reaching the desired inclination.

5.4 Service hoses connection

Connect the service hoses included in the supply with the high pressure and low pressure (HP and LP) quick connections.

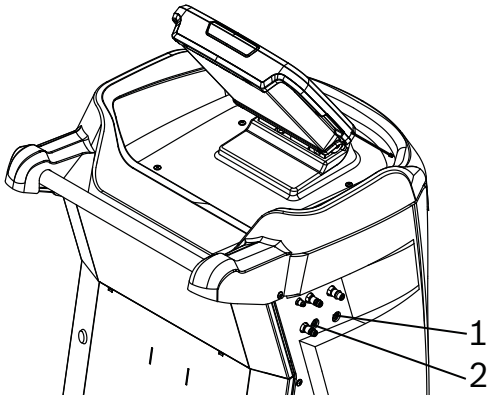


Fig. 12: Service hoses connection (HP and LP)

1 Connection for service hose (high pressure)
2 Connection for service hose (low pressure)

The quick connections are specifically designed for refrigerant management according to the SAE standard.

1. Lubricate the o-rings of the service hoses (HP and LP) with an oil film.
2. Screw the high pressure service hose (red) to the HP connection on the station.
3. Screw the low pressure service hose (blue) to the LP connection on the station.
4. Tighten both service hoses with a tightening torque of 7.9 Nm.

If not used, service hoses can be wound on the back of the station.

5.5 Use of oil and UV dye tanks

! Only use UV contrast liquids and oils that are approved by the vehicle manufacturer. This prevents chemical incompatibility with the station internal components.
In the event of problems and failures due to non-approved liquids, the warranty will be void.

The following procedure is necessary to minimize the amount of air in the tanks.

1. Unscrew the "PAG", "POE", "UV Dye" tank covers and remove them with the 3 pistons.
2. Fill the 3 tanks with compressor oil for PAG and POE or UV dye at maximum to the "MAX FILL" line.
3. Lubricate with an oil film the o-rings of the 3 pistons to reduce friction on the tanks.

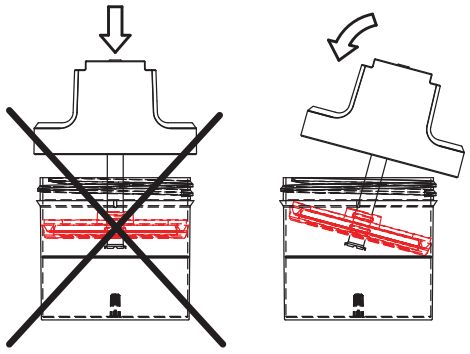


Fig. 13: Tanks filling

4. Insert the 3 pistons into the appropriate tanks as shown in the figure holding the covers and the pistons inclined until the pistons reach the level of the liquid.
5. Turn the 3 covers in the vertical position and slowly push them down into the tanks and screw them in.

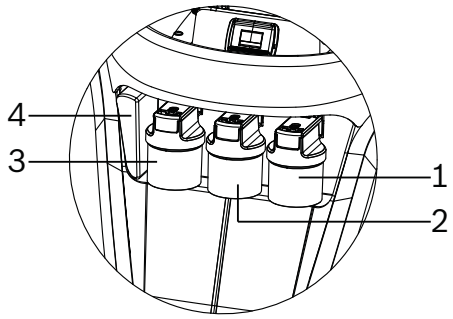


Fig. 14: Position of tanks

1 UV dye tank
2 New oil tank (POE)
3 New oil tank (PAG)
4 Exhausted oil tank

6. Place the tanks in the appropriate front area of the station in the order shown in the figure. To secure them, make sure that each of them is aligned with the respective bracket/fitting and have a slight pressure in the straight direction to the station.

5.6 Turning on the station

1. Connect the power cable to the socket on the station and to a outlet with the correct voltage, equipped with grounding.

Do not use a power cable with inadequate characteristics.

2. Place the station so that the plug and power switch are at the operator's reach.
3. Make sure that the ventilation grille, on the left of the station, is not obstructed.
4. Lock the front wheels.
5. Turn the power switch on/off lever clockwise to turn on the station.

➜ The first time that the station is switched on, the Initial Setup mode starts automatically. The software displays the license agreement after the language selection, this must be accepted by the user with ✔.

5.7 Language selection

Choose the user interface language. The default language is English.

1. Use the **Up** or **Down** arrow button to scroll through the available languages, one line at a time.
2. Select ✔ to set the selected language.

5.8 Unit of measurement selection

Set the units of measurement to be displayed. The default ones are metric units.

1. Use the **Up** or **Down** arrow button to select between the metric or British imperial system.
2. Select ✔ to make the unit of measurement displayed effective.

5.9 Setting the date and time

Use the arrow buttons to move the cursor. Use the keypad to change the displayed information.

1. Use the **Up** or **Down** arrow buttons to change the item displayed: day, month, year, or time.
2. Use the multi-touch interface on the numeric keypad to change the information.
3. Select ✔ to save.

5.10 Print header change

The information loaded in Print header change will appear on each print.

1. Enter the text using the arrow buttons and the multi-touch interface on the numeric keypad:
   - the button ⌫ acts as a backspace key.
   - The **Right** or **Left** arrows button moves the cursor to the right or left.
   - The **Zero** (0) key also acts as a space bar.
   - To navigate within the rows, use the **Up** and **Down** arrow keys.
2. Select ✔ to save.

5.11 Automatic internal cleaning

At this point the station cleans its inner hoses before proceeding with the settings.

1. Check the oil level in the vacuum pump through the indicator.

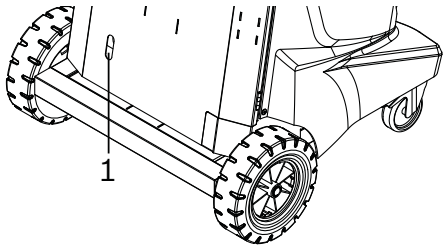


Fig. 15: Checking the vacuum pump oil level

1 Open at the back of the station, to check the oil level through the inspection port

2. When the message is displayed, connect the station service hoses to the flushing connections.
3. Open the service hose connections turning the ring nuts clockwise.
4. Select ✔.

➜ The station cleans its internal hoses and then emits a beep when the process is completed.

5.12 Tank filling

This procedure transfers refrigerant from an external tank to the station internal tank. The operational capacity of the internal tank is 17.4 kg.

Use the arrow buttons to move the cursor; use the keypad to enter a value.

1. The station displays the fields to enter the desired amount of refilling, the rechargeable amount of refrigerant, and the amount of refrigerant which can be recovered inside the internal tank.
2. Enter the desired amount of tank refilling and select ✔ to proceed.

Add at least 4 kg (8,0 lb) of refrigerant to make sure that the quantity available is enough for the charge.

3. Connect the low pressure service hose (blue) to the liquid fitting on the external tank.
4. Open the valve of the connection on the hose turning the ring nut clockwise.
5. Place the external tank in such a way that the refrigerant flows into the connection.
6. Open the external tank valve.
7. Select ✔ to start filling the tank.
8. If the refrigerant analyzer is installed, the station verifies that the refrigerant contained in the cylinder is R1234yf and is not contaminated.
   ⇨ The display shows `REFRIGERANT ANALYZER INITIALIZATION` and `REFRIGERANT SAMPLE ANALYSIS`

➜ The station starts filling the internal storage tank. This takes 15 - 20 minutes.

If the station detects a problem with the refrigerant contained in the cylinder, refer to the Refrigerant Analyzer section in this manual.

The station stops when the specified amount of refrigerant has been transferred to the internal tank or when the external tank is empty.

9. Follow the instructions on the display.
10. Close the valve of the connection turning the ring nut counterclockwise.
11. Close the external tank valve.
12. Select ✔ to return to the Functions Menu.

➜ The station is ready for operation.

It is necessary to complete the entire Initial Setup sequence before using the station. If it is not completed, this initial setup sequence is repeated every time the station is switched on.

It is not necessary to calibrate the scale as it has been calibrated at the factory.

When the tank is filled, the display does not show the same quantity as the programmed one. The display shows the amount of refrigerant available for charging, equal to 2.2 kg less than the total amount of refrigerant contained in the tank.

5.13 Unit activation

Failure to register and activate the station within 30 days of initial start-up causes the station to lock and the impossibility to use it.

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Settings**.
5. Select **Unit Activation**.
   ⇨ The display shows `XX DAYS OF THE TRIAL PERIOD REMAINED to activate the unit. Activate now?`
6. Select ✔ to start the activation process.
   ⇨ The display shows `the product personal identification code: xxxxxxxxxxx` `Enter the code: xxxxxxxxxxxxxxxxxxxx`
7. Open an Internet browser on a personal computer and enter **https://register.servicesolutionsportal.com**.
8. Enter your username and password, and log in to access the website.

If you are accessing the site for the first time, click the **Registration** button to create your own username and password.

9. Enter the Personal Identification Number of the station to receive an activation code.
10. Enter the activation code in the correct field on the station.

Enter the code exactly as it was received. Use uppercase if necessary.

11. Note the activation code and keep it in a safe place.
12. Select ✔ to confirm.
    ⇨ The station displays a message indicating that the activation has been successful.
13. Select 🖶 to print or ✘ to exit the function.

➜ Activation of the station has been successful.

5.14 Oil scales

To enable or disable the scales operation, proceed as follows:

1. Call up the Main Menu.
2. Select ».
3. Select ≡.
4. Select **Settings**.
5. Select **Oil Load Cells**.
6. Use the **Up** or **Down** arrow buttons to select the scales to be modified: PAG Oil scale, POE Oil scale, UV dye scale or Oil Drain scale.
7. Select I/O to enable or disable.
8. Select ✓ to save.

5.15 Leak test vacuum time change (except AC1234-8i OE/VAC1234-8i)

To change the leak test vacuum time, proceed as follows:

1. Call up the Main Menu.
2. Select ».
3. Select ≡.
4. Select **Settings**.
5. Select **Default Vaccum Leak Test Time**.
6. Use the multi-touch interface on the numeric keypad to change the value.
7. Select ✓ to save.

5.16 Firmware update

To upgrade a firmware, proceed as follows:

1. Call up the Main Menu.
2. Select ».
3. Select ≡.
4. Select **Settings**.
5. Select **Firmware Update**.
6. Use the **Up** or **Down** arrow buttons to select the desired mode.
7. Select ✓ to proceed.
8. Follow the instructions on the display.

To upgrade the firmware with USB key, insert the key into the USB port on the control panel and display the station; while the firmware upgrade via WiFi is necessary before connecting the station to a WiFi network (see chapter 5.17).

5.17 Wifi configuration

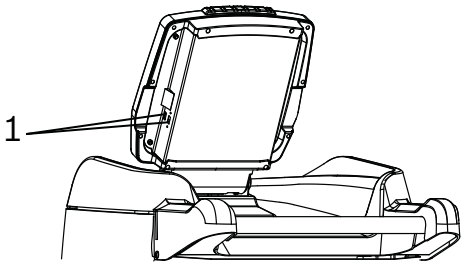


Fig. 16: USB port location

1 USB ports

1. Carefully insert the WiFi Dongle into the **USB** connector of the station.
2. Turn on the station and pair the Dongle with the Router on.
3. Call up the Main Menu.
4. Select ».
5. Select ≡.
6. Select **Settings**.
7. Select **WiFi Configuration**.
8. Select **Search WiFi Networks** and wait a few seconds to display the available networks.
9. Select the network associated with the router with the **Up** or **Down arrow buttons and confirm with** ✓.
10. Enter the router WiFi password, **confirm with** ✓ and wait for the connection to be established.

Make use of **Manual Connect** function whenever the WiFi network is not automatically detected through the **Search WiFi Networks** function. Manually enter the WiFi network name and password paying attention to upper and lower cases and then confirm with ✓.

11. The station informs the operator with a message that the connection has been successfully completed and the status bar will appear ((•)).
12. Select ✗ to exit.

➜ The configuration to WiFi network is completed.

The efficiency and quality of wireless communication may be affected by the presence of radio disturbances. The protocol provides for handling errors, but can cause communication problems that sometimes require new attempts to connect. If there are critical features that may affect normal operation, the source of electromagnetic environmental noise must be sought, reducing its intensity.

Always check that the antennas, on the machine side and on the workshop router side, are not obstructed by shielding or metallic materials in general and are not at an indicative distance greater than 10 m. If insufficient, it is recommended to improve the coverage of the radio signal in the workshop installing directional antennas or signal repeaters.

Make sure that the workshop network has active security protocols (e.g.: WPA, WPA2) in order to ensure data security.

5.18 Connected Repair [CoRe]

5.18.1 General information

Connected Repair, hereinafter CoRe, is a garage management system that allows to connect all the equipment and computers in the same network to speed up and improve the management, sharing and digitization of data and services to be carried out on the vehicle.
Generally a CoRe network is formed by a server and a number of clients equal to the number of PCs or devices that can connect to it.
AC1234-7i/-8i is to be considered as a client which is able to autonomously connect to the CoRe server after having configured the basic settings and exchange with it the data necessary to carry out Air Conditioning services or simply A/C services.
Once the vehicle has been accepted from any workstation, the CoRe server sends the vehicle data and the data of the required interventions to all other workstations and equipment connected to it, in this way the operators and the equipment are already ready to work on the vehicle without having to enter again the data needed to identify the vehicle and/or the customer.
The required interventions are then made available in a few seconds and are subsequently saved in the central memory by the CoRe server to optimize the time needed for vehicle and customer recognition in any subsequent appointments, where it will be sufficient to enter the license number or VIN from any workstation, to view the whole history of the vehicle, the technical interventions and to view all the reports of the equipment used in the previous works.

AC1234-7i/-8i must be configured to access the same WiFi network to which the CoRe server is connected (see chapter “WiFi Configuration”).

5.18.2 Configuration

To configure the CoRe function (only displayed if enabled in the Setup Menu), follow this procedure:

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Connected Repair [CoRe]**. The display shows three selection options:

- **Settings**: to configure the connection to the CoRe server. The data to enter is as follows:
  - **Host address:** is the IP address of the CoRe server.
  - **Host port:** is the server port used for the connection, typically the port number is set to 59487 by default, but it is possible to check this parameter on the CoRe server in the Settings - Computer Overview section.
  - **Password:** is the password (Interface password) set during the installation of the CoRe server.

5. Confirm the entered data with ✓.

➜ AC1234-7i/-8i will try to connect to the CoRe server to check that all parameters entered are correct.

5.18.3 Operation

To use the CoRe function:

- **Select available A/C task**: to select and perform A/C services previously registered at CoRe server level. After connecting the AC1234-7i/-8i to the CoRe server using the settings described above, it is possible through this item to select one of the available A/C services and perform it on the desired vehicle. Once the A/C service is selected and performed, the AC1234-7i/-8i will send a report to the CoRe server that will automatically save the result and all data related to it.
- **Create new A/C task**: to create an A/C service from the AC1234-7i/-8i and assign an Air Conditioning Service to one of the active vehicles in the workshop. Selecting this item will display the list of all active vehicles in the workshop and registered on the CoRe server regardless of whether or not a specific A/C service has been requested. When the vehicle is selected, the AC1234-7i/-8i will send a special command to the CoRe server so that the latter registers that an A/C service is being performed on the selected vehicle. At the end of the A/C service, a detailed report will be sent to the CoRe server that will save it and make it available for displaying or printing.

6. Instructions for use

6.1 Entering service data

After selecting any service function, it is possible to enter information about the vehicle in order to allow printing the automatically compiled final receipt.

1. The display shows
   `Enter vehicle data`
   `Make: _____`
   `Model: _____`
   `Plate: _____`
   `VIN: _____`
   `MILEAGE: _____`
   `Operator: _____`

Use the arrow buttons to move between the rows and the multi touch keypad to enter the text.

2. Select ✔ to save the data for the print report.

This page also shows the Database icon to allow the user to select a vehicle from the European or Personal Database if available. If this selection is made, the BRAND and MODEL fields will be filled out automatically.

Make sure to comply with the standards regarding the protection of personal data in your state.

6.2 Refrigerant Analyzer

If the internal or external refrigerant analyzer, connected to the station through the USB cable, is installed, before performing a recovery operation, an internal tank filling or the automatic function, the refrigerant analyzer checks the purity of the refrigerant in the vehicle on which to carry out the operation (during a recovery or automatic function) or in the cylinder (when filling the internal tank).

This procedure was written using screens related to the recovery or automatic functions. The screens displayed when filling the internal tank are slightly different, although the procedure is the same.

1. The display shows `REFRIGERANT ANALYZER INITIALIZATION` and `REFRIGERANT SAMPLE ANALYSIS`
2. If the refrigerant purity test is successful, the display shows `ACCEPTABLE REFRIGERANT PURITY`

➜ The station proceeds with the required function.

6.2.1 Unsuccessful refrigerant purity test

If the refrigerant purity test is unsuccessful, the station will automatically repeat the test two more times.

1. The display shows `GAS IDENTIFICATION REPETITION` and `LAST GAS IDENTIFICATION`
2. The purity test is repeated.
3. If the refrigerant purity test is successful the first or the second time, the station proceeds with the required function.

If the refrigerant purity test is unsuccessful for three consecutive times, the user has the option to test the operation of the internal refrigerant analyzer in the station or to close the function.

4. The display shows `TEST FAILED PRESS OK TO CHECK THE REFRIGERANT IDENTIFICATION FUNCTION`
5. Select ✔ to test the refrigerant analyzer or ✘ to close the function.

6.2.2 Refrigerant analyzer test

If the refrigerant purity test is unsuccessful three consecutive times, the user has the option to test the operation of the refrigerant analyzer incorporated in the station. This test can also be performed up to three times.

1. The display shows `DISCONNECT THE A/C SERVICE STATION FROM THE VEHICLE AND DRAIN THE SERVICE HOSES PRESS OK AT THE END OF THE OPERATION`
2. Disconnect the high and low pressure connections from the refrigerant cylinder or from the vehicle and drain the service hoses.
3. Select ✔.
4. The display shows `CONNECT THE CYLINDER CONTAINING TEST REFRIGERANT 1234yf PRESS OK TO CONFIRM`
5. Follow the instructions to connect the refrigerant analyzer to a pure (uncontaminated) source of R1234yf.
6. Select ✔ to start the refrigerant analyzer test.

6.2.3 Successful refrigerant analyzer operation test

1. If the test determines that the refrigerant analyzer incorporated into the machine is working correctly, the display shows `REFRIGERANT IDENTIFICATION OK CLOSE THE CYLINDER VALVE`
2. Close the cylinder valve.
3. Select ✔.
4. The display shows `DISCONNECT THE HP/LP HOSES`
5. Disconnect the high and low pressure connections from the refrigerant cylinder or from the vehicle.
6. Select ✔.
7. The display shows `DRAIN CONTAMINATED REFRIGERANT FROM THE VEHICLE FOR DISPOSAL`

Refer to the vehicle maintenance manual for instructions on how to remove contaminated refrigerant from the vehicle. Dispose of refrigerant in compliance with applicable law.

Follow the instructions in this section to remove contaminated refrigerant from the A/C station and from the service hoses.

8. The station will cancel the required function.

Select 🖶 to print the results of the refrigerant purity test.

6.2.4 Unsuccessful refrigerant analyzer operation test

1. If the test determines that the refrigerant analyzer incorporated into the machine is not working correctly, the display shows `REFRIGERANT IDENTIFICATION IS FAULTY CONTACT THE APPLIANCE MANUFACTURER SERVICE PRESS OK TO END`
2. Select ✔ to end the function.
3. The display shows `DISCONNECT THE A/C UNIT AND DRAIN THE SERVICE HOSES PRESS OK AT THE END OF THE OPERATION`
4. Disconnect the high and low pressure connections from the external refrigerant cylinder or from the vehicle.
5. Drain the service hoses.
6. Select ✔.
7. The station will cancel the required function.

Contact an authorized Robinair service center for repair.

6.2.5 Removing contaminated refrigerant from the station

The refrigerant in the source tank or in the vehicle A/C system is either contaminated or it is not R1234yf.
In either case, it should not be added to the internal storage vessel in the station.
The contaminated refrigerant sampled by the station refrigerant identifier must be removed.

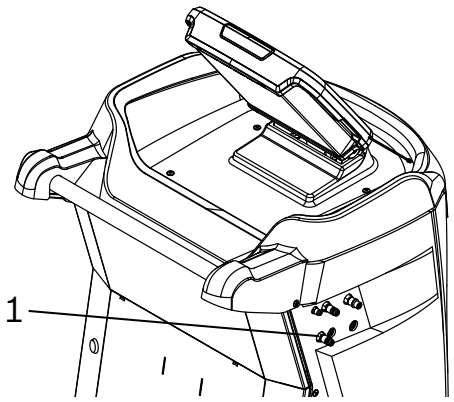


Fig. 17: Removing contaminated refrigerant
1 Contaminated refrigerant recovery outlet

Procedure of contaminated refrigerant removal through a second dedicated recovery station for the management of contaminated refrigerants

1. With the station connected to the vehicle and the couplers open, connect the low-side (blue) coupler from the second recovery station to the contaminant recovery port on the station. Open the coupler valves.
2. Connect the discharge hose from the second recovery machine to a tank designed to receive contaminated refrigerant.
3. Start the second recovery station and run a recovery according to instructions supplied with the station.
4. Upon achieving a vacuum in the vehicle, disconnect the second recovery station from the station.
5. Clear the vehicle of residual contamination according to the vehicle manufacturer's instructions before continuing service.

6.3 Retrieving refrigerant from a vehicle

WARNING: To prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

! Use only new oil to replace the oil removed during the recovery process.

! Dispose of the oil according to the law.

1. Remove the tank from the station pulling it straight out, without rotating or swinging it.
2. Empty the oil drain tank before starting a recovery operation.
3. Reinstall the oil drain tank with magnetic connection on the station.
4. Call up the Main Menu.
5. Select .
6. Enter the service data and confirm with ✔ (see chapter 6.1).
7. Connect the high pressure (red) and low pressure (blue) hose to the vehicle A/C system.
8. Open the valve of the connection on each hose turning the ring nut clockwise.
9. Select ✔.

➜ The station begins the recovery process.

ℹ The sounds heard indicate the opening and closing of the solenoid valve and are normal.

10. If the refrigerant analyzer is installed, the station verifies that the refrigerant contained in the cylinder is R1234yf and is not contaminated.
    ⇨ The display shows `REFRIGERANT ANALYZER INITIALIZATION` and `REFRIGERANT SAMPLE ANALYSIS`

ℹ If the machine detects a problem with the refrigerant contained in the cylinder, refer to the Refrigerant Analyzer section in this manual.

11. The station performs a self-cleaning cycle to clean the internal hoses from refrigerant traces, if any.
12. The function stops when the refrigerant is fully recovered.
13. After the recovery, the machine performs an oil drain procedure, which may take up to 90 seconds to be completed.
14. After the oil is drained, the display shows the result in which the recovered refrigerant and the drained oil are described.

ℹ Select 🖶 to print the recovery information and the result of the diagnosis before the recovery process. Select ✔ to return to the Main Menu.

! The recovered and displayed weight may vary depending on the environmental conditions and must not be used as an indication of scale accuracy.

ℹ Exhausted oil separated from the recovered refrigerant of the vehicle flows into the dedicated tank.

ℹ The air conditioner compressor oil is filled with that the new oil tank (PAG or POE).

15. The amount of oil extracted from the A/C system is equal to the amount of new oil that can be introduced into the A/C system at the end of the vacuum.

➜ The recovery is completed.

6.4 Evacuation of the A/C system of the vehicle

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

1. Call up the Main Menu.
2. Select .
3. Enter the service data and confirm with ✔ (see chapter 6.1).
4. Accept the default 5 minute vacuum time (20 minutes for AC1234-8i OE/VAC1234-8i) or enter the desired vacuum time using the number buttons.
5. Select ✔ to continue.

The software offers the possibility of performing a leak check after the vacuum. Set whether to perform or not perform the leak check function. Only on AC1234-8i OE/VAC1234-8i, at the end of vacuum a leak check of 10 minutes is performed automatically.

The process stops if the pressure rises above 0.35 bar (5 psi). Recover refrigerant before proceeding.

6. Connect both service hoses to the vehicle service connections and open the valves of the service hoses turning the ring nuts clockwise.
7. Select ✔ to continue.
8. The station generates a vacuum in the A/C system for the programmed time interval.
9. The station at the end of the vacuum test performs a leak check.
10. The station stops at the end of the specified time interval displaying the test result.

Select to print the vacuum information.
Select ✔ to return to the Main Menu.

6.5 Hoses flushing

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

If the next vehicle on which to perform the work contains a type of oil different from the oil of the previous vehicle, it is advisable to flush the service hoses to remove traces of residual oil in order to prevent contamination.

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Functions**.
5. Select **Flush Hoses**.
   ⇨ The display shows `Connect the hoses to the flush connections and open the valves.`
6. Connect the service hoses to the flushing connections as shown.

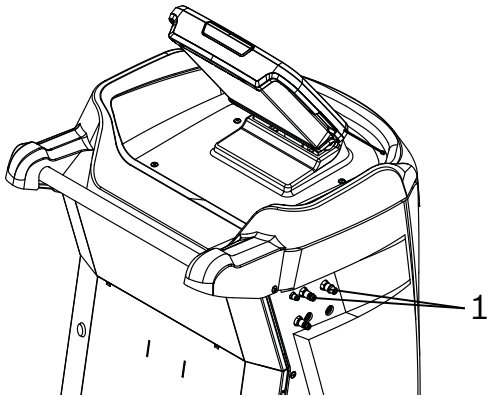
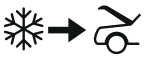


Fig. 18: Hoses flushing
1 Flushing connections

7. Open the valves of the service hose connections turning the ring nuts clockwise.
8. Select ✔ to start the hose cleaning procedure, which lasts three minutes, followed by a recovery.
   ⇨ Once the flushing is complete, a message appears on the display indicating that the hoses flushing is completed.
9. Select ✔ to exit and return to the Functions Menu.
10. Close the valves of the connections turning the ring nuts counter-clockwise.

6.6 Recharging the A/C system of the vehicle



WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

Only for AC1234-8i OE/VAC1234-8i, the charge process includes a pre-charge leak test that fills the system with a small amount of refrigerant and then monitors pressure decay.

- ⇨ **If the leak test passes**, the remaining amount of refrigerant is charged on top in order to reach the target.
- ⇨ **If the leak test fails,** select ↻ to repeat it or ✗ to stop and exit. In this case it's mandatory to check for leakages on the vehicle.

1. Call up the Main Menu.
2. Select ❄→.
3. Enter the service data and select 📖 to set the vehicle data through the database. Confirm with ✓ (see chapter 6.1).
4. Enter the quantity of refrigerant to be charged with the numeric keypad.
5. Select the "type of charge" with the **Down** arrow button and set with HS LS the hoses to be used to charge the vehicle (high pressure side, low pressure side or both sides).
6. Select ✓ to continue.
7. With I/O select if you want to perform the oil injection. If you set not to perform the oil injection, go directly to phase 10 displaying.
8. Enter the amount of oil to be charged with the numeric keypad.
9. Select the "oil type" with the **Down** arrow button and set with I/O the oil to be charged (PAG or POE).
10. Select ✓ to continue.
11. Enter the amount of UV dye to be charged with the numeric keypad.
12. Select ✓ to continue.
13. AC1234-7i/-8i displays a dedicated message that asks to the operator whether to perform the hoses flushing.
    - ⇨ Select ✓ to proceed or ✗ not to perform the hoses flushing.

Follow the on-screen instructions to perform the hoses flushing procedure.

14. When the message appears, connect both service hoses to the vehicle service connections and open the valves of the service hoses turning the ring nuts clockwise.

! The charging function, if accompanied by oil injection, can only be carried out on the high pressure side or on both sides.

In systems provided with only a low pressure connection, after charging, wait at least 10 minutes before operating the air conditioning system of the vehicle.

Fill only through the high pressure connection (if possible) or always follow the vehicle manufacturer's instructions.

! Always follow the vehicle manufacturer's instructions before changing the amount of oil.

! Prior to the addition of UV dye, it is absolutely necessary to check if an air-conditioning leak test with UV contrast agent is permitted according to the vehicle manufacturer.

New oil and UV dye can only be added in a vacuum air conditioner. Prior to the addition of oil/UV dye, it is necessary to create a vacuum.

15. Select ✓ to start the charging procedure.
    - ⇨ When the charge cycle is close to the desired weight value, the station slows down, alternating charging and settling phases, etc.

At this point, if the vehicle is moved or hit, it is possible to obtain an inaccurate charge.

16. When the message appears, close the service hose connections turning the ring nuts counter-clockwise. Disconnect the service hoses from the A/C system and connect them to the station flushing connections.
17. Select ✓ to start the hoses cleaning.
18. AC1234-7i/-8i displays, at the end of the hoses cleaning, a dedicated message that indicates to the operator the procedures to be performed to start the pressures test (see chapter "Pressures test").
    - ⇨ Select ✓ to proceed or ✗ not to perform the pressures test.
19. At the end the AC1234-7i/-8i displays a screen with the charge result report.

Select 🖶 to print the overview.
Select ✓ to return to the Main Menu.

20. The A/C system of the vehicle at this point is ready for use.

6.7 Automatic function

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

The automatic function allows the user to program an automatic recovery, vacuum, leak check, and/or charge sequence.

The maintenance parameters (filling quantity, refrigerant type and new oil) can be acquired from the database and used during the "automatic function".

In vehicles with only one service connection, it is necessary to follow the procedure recommended by the vehicle manufacturer.

The charging function for vehicles equipped with a single service connection must be performed manually, following the procedures in the vehicle manufacturer's maintenance manual.

The maintenance parameters (filling quantity, refrigerant type and new oil) are given in the vehicle operating instructions or in the repair manual and must be respected.

The amount of oil extracted during the recovery process is injected automatically before the charging cycle.

Only for AC1234-8i OE/VAC1234-8i, the charge process includes a pre-charge leak test that fills the system with a small amount of refrigerant and then monitors pressure decay.

- ⇨ **If the leak test passes**, the remaining amount of refrigerant is charged on top in order to reach the target.
- ⇨ **If the leak test fails,** select ↻ to repeat it or ✘ to stop and exit. In this case it's mandatory to check for leakages on the vehicle.

1. Call up the Main Menu.
2. Select .
3. Enter the service data and select to set the vehicle data through the database. Confirm with ✔ (see chapter 6.1).
4. With I/O select if you want to run the seal test with nitrogen or hydrogen nitrogen before charging.
5. Enter the vacuum time.
6. Select the "vacuum test" with the **Down** arrow button and set I/O to enable or disable the function.
7. Enter the quantity of refrigerant to be charged with the numeric keypad.
8. Select the "type of charge" with the **Down** arrow button and set with HS LS the hoses to be used to charge the vehicle (high pressure side, low pressure side or both sides).
9. Select ✔ to continue.
10. With I/O select if you want to perform the oil injection. If you set not to perform the oil injection, go directly to phase 13 displaying.
11. Enter the amount of oil to be added to the amount recovered from the A/C system with the numeric keypad.
12. Select the "oil type" with the **Down** arrow button and set with I/O the oil to be charged (PAG or POE).
13. Select ✔ to continue.
14. Enter the amount of UV dye to be charged with the numeric keypad.
15. Select ✔ to continue.
16. AC1234-7i/-8i displays a dedicated message that asks to the operator whether to perform the hoses flushing.
    - ⇨ Select ✔ to proceed or ✘ not to perform the hoses flushing.

Follow the on-screen instructions to perform the hoses flushing procedure.

17. When the message appears, connect both service hoses to the vehicle service connections and open the valves of the service hoses turning the ring nuts clockwise.
18. Select ✔ to start the automatic procedure.
19. Follow the on-screen instructions while the AC1234-7i/-8i performs the automatic cycle.
20. When the message appears, close the service hose connections turning the ring nuts counter-clockwise. Disconnect the service hoses from the A/C system and connect them to the station flushing connections.
21. Select ✔ to start the hoses cleaning.
22. AC1234-7i/-8i displays, at the end of the hoses cleaning, a dedicated message that indicates to the operator the procedures to be performed to start the pressures test (see chapter "Pressures test").
    - ⇨ Select ✔ to proceed or ✘ not to perform the pressures test.

23. At the end the AC1234-7i/-8i displays a screen with the charge result report.

Select 🖶 to print the overview.
Select ✔ to return to the Main Menu.

6.8 Incomplete charge

The "stall charge" message appears automatically after the station has performed 3 attempts of forced charging with negative result. When the message appears:

1. Make sure that the connections are firm and that the quick connectors are properly connected.
2. Select ↻ to repeat 3 forced charging cycles or select ❄→🚗 (except AC1234-8i OE/VAC1234-8i) to use the A/C system of the vehicle to end the charging, following carefully the following procedure:
   - Close the valve of the high pressure hose connection turning the ring nut counterclockwise and confirm with ✔.
   - Turn on the vehicle and the A/C system on the vehicle.
   - Select ✔ to continue.
   - Close the valve of the low pressure hose connection turning the ring nut counterclockwise and confirm with ✔.
   - Turn off the A/C system and the vehicle.
   - Select ✔ to continue.
   - Disconnect the service hoses from the vehicle A/C system.

➜ The charge is terminated.

6.9 Database

6.9.1 Vehicle database

Specific data on the filling amount of vehicle submitted to maintenance operations can be recalled directly from the R1234yf database.

In this menu it is possible to select the vehicles in the vehicle database with all relevant data.

1. Call up the Main Menu.
2. Select ».
3. Select 📖.
4. Select **European Database**.
5. Follow the instructions on the display to obtain the data related to the vehicle.

➜ The vehicle is selected.

Use the **Up** or **Down** arrow buttons to change the displayed item and select ✔ to confirm.

Refer to the station on-line guide with ? for information on how to use it.

6.9.2 Personal vehicle database

It is possible to create a personal database where to directly enter data for new vehicles that are not in the standard database.

Five rows (brand, model, type, oil and refrigerant) are available for entering new vehicle data.

1. Call up the Main Menu.
2. Select ».
3. Select 📖.
4. Select **Personal Database**.
5. Select among:
   - Select the vehicle
   - Enter new vehicle
   - Clear vehicle
6. Follow the instructions on the display.

Use the **Up** or **Down** arrow buttons to move to the next or previous input field and select ✔ to save the data entry.

Refer to the station on-line guide with ? for information on how to use it.

6.10 Flushing

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

WARNING: DO NOT disconnect the service connections during the flushing procedure. The refrigerant may escape from the connections and exposure may cause injury.

The flushing kit contains a replaceable filter that can hold particles of certain dimensions, which can clog. At the end of the flushing cycle, check the pressure in the A/C system on the high pressure gauge (red) and check the adapter for complete refrigerant removal.

If there is still pressure or refrigerant remains, close the flushing cycle and go to the recovery function to recover the refrigerant with the high pressure (red) and low pressure (blue) hoses. Then perform the filter maintenance and repeat the flushing procedure.

The flushing function must be performed using a flushing kit approved by the vehicle manufacturer. Also refer to the instructions included in the adapter while performing the following procedure.

1. Check that the filter of the flushing device is not clogged.
2. Install the flushing device according to the flushing device instructions on the back of the station. Do not make any connections at this stage.
3. Remove the oil drain tank from the Robinair station.
4. Empty it and dispose of the oil according to the law.
5. Reinstall the oil drain tank on the station.
6. Recover all refrigerant from the A/C system to be flushed.
7. Record the amount of oil collected during the recovery. This quantity must be replaced with the oil collected during flushing, if any.

the amount of oil collected and documented during the A/C system flushing does not include the amount of oil collected during the initial recovery.

8. Check that there is at least 6,0 kg (13,2 lb) of refrigerant in the station.

To complete the A/C system flushing effectively, ensure that the station has at least 6,0 kg (13,2 lb) of refrigerant in the internal tank.

If the station does not contain at least 6,0 kg (13,2 lb) of refrigerant in the tank, see the Tank filling section.

9. Disconnect the station from the vehicle.
10. Refer to the vehicle maintenance manual and connect the appropriate flushing adapters and bypass hoses.
11. Connect the low pressure service hose (blue) directly to the flushing kit filter.
12. Remove the high pressure service connection (red) and connect the high pressure service hose (red) to the A/C system suction hose adapter.
13. Use the supplied hose to connect the A/C system drain hose adapter to the inlet of the flushing device.
14. Connect the hoses following the instructions provided with the flushing kit.
15. Call up the Main Menu.
16. Select ».
17. Select ≡.
18. Select **Functions**.
19. Select **System Flush**.
20. Enter the service data and confirm with ✔ (see chapter 6.1).
    - ⇨ The station displays a message to confirm that the flushing kit is properly connected.
21. Select ✔ to continue.

22. The station generates a vacuum in the A/C system for the programmed time interval.
    ⇨ After the vacuum has been carried out, the station performs a pressure test for 5 minutes (only for AC1234-8i OE/VAC1234-8i). A small amount of refrigerant is charged and recovered through the flushing circuit, while the station constantly checks for any pressure loss inside the system.
23. After a small charge, the refrigerant charged is recovered through the low pressure service hose.
24. Operations 23 are repeated three more times to ensure an effective system cleaning.
    ⇨ After completing the fourth cycle, the station automatically drains oil.
    ⇨ When the oil drain is complete, the station displays the total amount of oil discharged during the process.
25. After successfully completing the flushing and after reassembling the A/C system, replace the oil lost during the process.
26. For further instructions, refer to the vehicle maintenance manual.
27. Select ✔ to return to the Functions Menu.

6.11 Pressures test

To check if the system is efficient, check the pressures in the system as follows:

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Functions**.
5. Select **A/C Perfomance Test**.
6. Enter the service data and confirm with ✔ (see chapter 6.1).
    ⇨ AC1234-7i/-8i displays a dedicated message that indicates to the operator the procedures to be performed to start the test.

ⓘ It is possible not to perform the test with ✘ and go directly to phase 12 displaying.

7. Connect the high pressure (red) and low pressure (blue) service hose to the vehicle A/C system.
8. Open the valves of the service hose connections turning the ring nuts clockwise.
9. Turn on the vehicle and the A/C system on the vehicle.
10. Select ✔ to continue.

ⓘ Wait for the stabilization of the pressures and read the high pressure value displayed on the respective pressure gauge.

11. Enter the high pressure reading value and the air temperature value of the air vents in the appropriate fields. Confirm with ✔.

ⓘ Select 🖶 to print the displayed report.
Select ✔ to continue.

12. Follow the instructions displayed and confirm with ✔.
13. Turn off the A/C system and the vehicle.
14. Close the valves of the service hose connections turning the ring nuts counter-clockwise.
15. Select ✔ to end.

6.12 Test N2H2 or N2

To locate leaks using an external nitrogen cylinder or mixture of nitrogen and hydrogen, proceed as follows:

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Functions**.
5. Select **Nx Test**.
6. Enter the service data and confirm with ✔ (see chapter 6.1).
7. Select among:
   - N2H2 Leak Check
   - N2 Leak Test

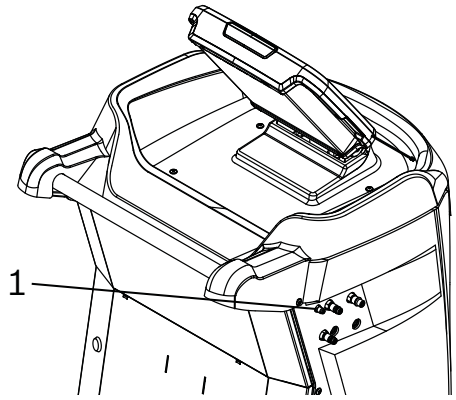


Fig. 19: Test N2H2 or N2

1 Input port N2H2 or N2

Before and after use of N2H2 / N2, the machine performs an automatic vacuum to minimize the risk of cross contamination. The software is also able to handle a sudden shutdown of the machine. At the machine restart make sure that the N2H2 / N2 still present is discharged and drained before any other operation with the refrigerant.

6.12.1 Installation and connection of the external cylinder of N2H2 or N2

The SP00101740 kit is an installation kit for the N2H2 or N2 cylinder.

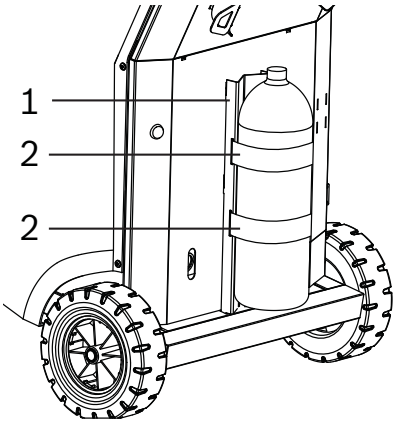


Fig. 20: N2H2 or N2 cylinder installation

1 Bracket for N2H2 or N2cylinder

2 Clamp for N2H2 or N2 cylinder

1. Install the bracket inserting the 4 tabs on the bracket into the 4 holes on the rear of the machine and push down to engage it.

If fitted correctly, the service door must not open to ensure operator safety when the cylinder is in position.

2. Place the cylinder on the bracket fastening it to the supplied bracket.

CAUTION: The commercial cylinder must be equipped with a pressure regulator that allows adjustment around 8 - 12 bar. Recommended commercial cylinders:

- ➢ Height = 30 - 60 cm
- ➢ Diameter = 7 - 15 cm
- ➢ Weight = max 12 kg

CAUTION: Make sure that all the units connected before the pressure reducer can withstand the maximum operating pressure indicated on the cylinder data plate. Make sure that all the units connected after the pressure reducer can withstand a maximum operating pressure of 14 bar.

CAUTION: Before connecting the regulator output to the N2H2 or N2 input port on the machine, make sure that the regulator is set at a pressure less than 14 bar and that the cylinder valve is closed.

3. Connect the regulator output to the N2H2 or N2 input port on the machine.

CAUTION: Before each use of the N2H2 or N2 tightness test function, carefully check the correct positioning and fastening of the cylinder as well as the tightening of the connection hose.

6.12.2 Test N2H2

CAUTION: A too fast adjustment knob opening could cause damage to the system! For no reason the output pressure must be greater than the pressure required for the operation to be carried out and in any case it must not be greater than 14 bar.

CAUTION: In the case of malfunctions such as leakage from the gauges, gaskets, fittings, connection hose or pressure regulator, immediately stop using the reducer and close the cylinder valve. Replace damaged components with equivalent certifates for use.

CAUTION: Disconnecting the hose with high internal pressure is extremely dangerous. Always perform this operation with extreme caution, being careful to fully disconnect the hoses only when the internal pressure of the system has reached the atmospheric pressure.

1. Select **N2H2 Leak Check**.
2. Connect the N2H2 cylinder hose to the N2H2 or N2 input port on the station and confirm with ✓.
3. Adjust the external N2H2 cylinder to a pressure value between 8 and 12 bar and confirm with ✓.
4. Connect both service hoses to the vehicle service connections and open the valves of the service hoses turning the ring nuts clockwise.
5. Select ✓ to continue.
6. The station pressurizes the A/C system of the vehicle.
7. When the pressure is stabilized, the station requires the operator to search for leaks with an electronic leak finder.
8. Select ✓ to proceed, after completing the search for leaks.
9. Select the leak test result using ✓ or ✗.
10. At the end the station displays a screen with the result of the test.

Select 🖶 to print.
Select ✓ to return to the Functions Menu.

6.12.3 Test N2

CAUTION: A too fast adjustment knob opening could cause damage to the system! For no reason the output pressure must be greater than the pressure required for the operation to be carried out and in any case it must not be greater than 14 bar.

CAUTION: In the case of malfunctions such as leakage from the gauges, gaskets, fittings, connection hose or pressure regulator, immediately stop using the reducer and close the cylinder valve. Replace damaged components with equivalent certifates for use.

CAUTION: Disconnecting the hose with high internal pressure is extremely dangerous. Always perform this operation with extreme caution, being careful to fully disconnect the hoses only when the internal pressure of the system has reached the atmospheric pressure.

1. Select **N2 Leak Test**.
2. Connect the N2 cylinder hose to the N2H2 or N2 input port on the station and confirm with ✓.
3. Adjust the external N2 cylinder to a maximum pressure value of 12 bar and confirm with ✓.
4. Connect both service hoses to the vehicle service connections and open the valves of the service hoses turning the ring nuts clockwise.
5. Select ✓ to continue.
6. The station pressurizes the A/C system of the vehicle.
7. When the pressure is stabilized, the station automatically starts a leak test.
8. At the end the station displays a screen with the result of the test.

Select 🖶 to print.
Select ✓ to return to the Functions Menu.

7. Maintenance

! Do not use abrasive detergents, solvents (petrol, diesel, etc.) and rough workshop rags to clean the station. Clean only with a soft cloth and a neutral detergent.

In case of refrigerant leaks during normal use of the machine and during installation, maintenance or repair of the machine, no refund will be made by the manufacturer.

CAUTION: disconnect the power supply before any maintenance operation.

7.1 Maintenance program

WARNING: to prevent accidents, only qualified personnel must perform inspections and repairs on the station. Read and follow the instructions and warnings in this manual. Wear protective clothing that include safety glasses and gloves.

Maintenance operation	Recommended interval
Filter replacement	The filter must be replaced after 150 kg (331 lb) of refrigerant has been filtered. See Filter Maintenance in the Maintenance section of this manual.
Vacuum pump oil change	When the filter is replaced or every 100 hours. See vacuum pump oil change in the Maintenance section of this manual.
Checking the correct operation of wheels and rollers	Every month.
Checking the internal scale calibration	Every month. See Checking the calibration in the Maintenance section of this manual. Every year, all scales must be calibrated by an authorized Robinair service center.
Setting to zero of PAG and POE oil injection, oil drain and UV dye scales	Whenever necessary. See Scale Reset in the Maintenance section of this manual.
Leak check	Automatic every 10 days. See Leak Check in the Maintenance section of this manual
Cleaning the air suction panels	Every month. Use a clean cloth.
Cleaning the panel and control panel	Every month. Use a clean cloth.
Inspection of the integrity of the power cable and hoses	Everyday.
Lubrication of wheel bearings and inspection of brake components	Every month.
Inspection of solenoid valves	Every year - performed by an authorized Robinair service center.
Internal refrigerant analyzer filter check (only for AC1234-8i)	Everyday.
Filter change and internal refrigerant analyzer pick-up hose (only for AC1234-8i)	Every six months or whenever it is dirty and/or clogged. Replace the pick-up hose every the filter is replaced. See internal refrigerant analyzer maintenance in the Maintenance section of this manual.

7.2 Spare parts

CAUTION: to prevent accidents, for repairs use only the components included in the spare parts list as these have been carefully tested and selected by Robinair.

Replacement component	Code
Calibration weight	SP01100095
Filter	SP01100355
Oil drain tank	SP00101727
PAG oil injection tank	SP00101414
POE oil injection tank	SP00101412
UV dye tank	SP00101418
Printer paper (5 rolls)	SP00100087
Low pressure service connection	SP01100525
High pressure service connection	SP01100524
Low pressure service connection (only for AC1234-8i OE/VAC1234-8i)	SP01100506
High pressure service connection (only for AC1234-8i OE/VAC1234-8i)	SP01100507
Service hose (low pressure, blue)	SP00101644
Service hose (high pressure, red)	SP00101643
Tank Adapter (1234 <22 HW) + Gaskets	SP01100352
Tank Adapter (1234 DNT) + Gaskets	SP01100353
Tank Adapter (1234> 22 HW) + Gaskets	SP01100354
Vacuum pump oil (600 ml)	SP00100086
Refrigerant analyzer filter (only for AC1234-8i)	SP00101646
Refrigerant analyzer pick-up hose (only for AC1234-8i)	SP00101645

7.3 Electrical protection

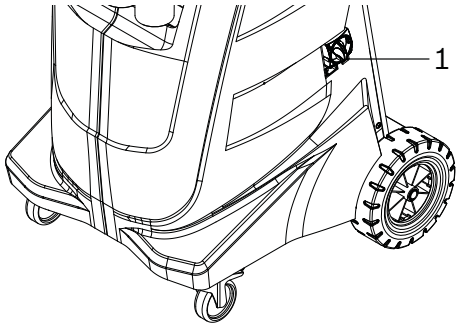


Fig. 21: Electrical protection

1 Protection switch

The station is equipped with a protection switch. If the component trips, its button goes out. The protection switch when it trips turns off the power supply of the machine.

➢ Press the button on the protection switch to reset.

7.4 Main power supply switch with padlock

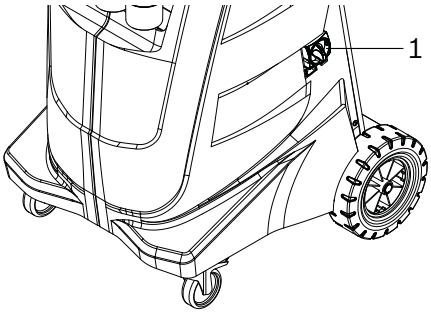


Fig. 22: Main switch

1 Main switch

To ensure that no one except the authorized personnel can operate the machine, use the function that allows to padlock the main power supply switch.

1. Turn counterclockwise the ON lever of the power supply switch with padlock.
2. Insert a padlock or other device into the aligned holes to prevent the lever from being turned clockwise, allowing to start the station.

WARNING: Place the unit so that it is always possible to easily reach the main switch as an emergency stop device.

7.5 Tank filling

This menu item is used to transfer refrigerant from an external tank to the internal tank.
The operational capacity of the internal tank is 17.4 kg.
Use the arrow buttons to move the cursor; use the keypad to enter a value.

1. Call up the Main Menu.
2. Select ».
3. Select ≡.
4. Select **Functions**.
5. Select **Tank Fill**.
   ⇨ The display shows
   `tank filling`
   `filling quantity: XX.Xyy`
   `recoverable: xx.xxyy`
   `rechargeable: xx.xxyy`
6. Enter the quantity to recover, and select ✔.

Add at least 4 kg (8,0 lb) of refrigerant to make sure that the quantity available is enough for the charge.

7. Connect the low pressure service hose (blue) to the liquid fitting on a full tank.
8. Open the valve of the connection on the hose turning the ring nut clockwise.
9. Place the external tank in such a way that the refrigerant flows into the connection.
10. Open the external tank valve.
11. Select ✔ to start filling the tank.
12. If the refrigerant analyzer is installed, the station verifies that the refrigerant contained in the cylinder is R1234yf and is not contaminated.
    ⇨ The display shows `REFRIGERANT ANALYZER INITIALIZATION` and `REFRIGERANT SAMPLE ANALYSIS`

If the machine detects a problem with the refrigerant contained in the cylinder, refer to the Refrigerant Analyzer section in this manual.

13. The station starts filling the internal tank and stops automatically when the tank fill level is reached.

To stop the filling before the set level is reached, select ⏸ and the procedure is temporarily stopped. A message will appear on the display to indicate the possibility of closing the procedure permanently.

14. After filling, close the valve of the connection on the low pressure hose turning the ring nut counterclockwise. Close the external tank valve and remove the hose.

7.6 Filter maintenance

The filter retains acid and particles of certain dimensions as well as the condensate in the refrigerant. To meet the requirements for proper removal of condensate and contaminants, the filter must be replaced after 150 kg (331 lb) of refrigerant have been filtered.
The station warns when the filter capacity of 138 kg (304 lb) is reached and stops operating when the filter capacity is reached, that is 150 kg (331 lb)

WARNING: to prevent injuries while working with the refrigerant, read and follow the instructions and warnings in this manual, and wear protective clothing, such as safety glasses and gloves.

Filter residual capacity check

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Maintenance.**
5. Select **Filter Maintenance** from the Maintenance Menu or when requested by the station.
   - ⇨ The display shows
     `residual capacity xxx.xyy`
     `Replace the filter now?`
   - ⇨ The station displays the residual capacity of the filter before stopping the station.
6. Select ✔ to replace the filter;
7. Select ✘ to resume the station use.

WARNING: Station components are subjected to high pressure. To prevent injury, replace the filter only when indicated by the station.

Filter replacement

1. If ✔ has been selected to replace the filter, the station requires entering the new filter code.
   - ⇨ `Enter the serial number of the new filter`
2. Enter the serial number on the new filter with the keypad and select ✔ to continue.
   - ⇨ The station cleans the existing filter and then displays `Disconnect power supply and replace the filter.`

If the wrong serial number is displayed, it means that an incorrect serial number has been entered or that the filter has already been used in the station.

3. Turn off the station.
4. Open the rear service door.
5. Remove the filter turning it counterclockwise (looking from the bottom of the filter).
6. Check that both O-rings are lubricated and correctly inserted in their seats. (The O-rings have been lubricated using dva / dvc oil iso6743-3 oil).

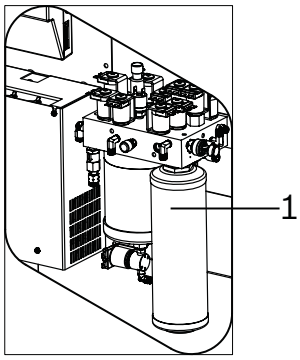


Fig. 23: Filter maintenance
1 Filter

7. Install the new filter screwing it clockwise. Check that it is positioned correctly. Tighten it at 20 Nm.
8. Close the rear service door.
9. Turn on the station.
10. The station starts with the vacuum pump oil change. See the Vacuum pump oil change section.
11. Recycle the filter previously removed from the station in accordance with the regulations in the country of use.

7.7 Internal refrigerant analyzer maintenance (only for AC1234-8i)

This device analyzes a sample of refrigerant flowing into the internal tank to check that it is R1234yf and is not contaminated. Replace the refrigerant analyzer pick-up hose every time the filter is replaced and when an error message appears on the display indicating the clogged hose.

1. Turn off the station.
2. Open the rear service door.
3. Remove the rear cover (above the service door) pushing it up and pulling it out to remove it.

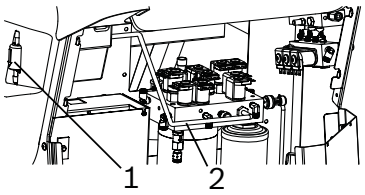


Fig. 24: Internal refrigerant analyzer maintenance

1 Filter
2 Pick-up hose

4. Disconnect the pick-up hose, located between the rear of the manifold and the refrigerant analyzer, and install a new hose.

If the filter is of any color other than white, replace it.

5. Pull the filter out of the brackets while disconnecting its connections from the rubber fittings.
6. Install a new filter with the down arrow, as indicated on the refrigerant analyzer. Push the filter connections into the rubber fittings.
7. Insert the rear cover so that the 4 holes on the sides of the cover fit into the 4 tabs on the station. Push down to hook the rear cover.
8. Close the rear service door.

7.8 Calibration check

This function is used to ensure that the station internal balance is always calibrated. During this test, use only the calibration weight supplied with the station.

1. Check that the magnet on the bottom of the station is clean.
2. Call up the Main Menu.
3. Select ».
4. Select ☰.
5. Select **Maintenance**.
6. Select **Calibration Check**.
   ⇨ The display shows `Place the calibration weight on the magnet located at the bottom of the machine`
7. Fix the calibration weight to the magnet at the bottom of the machine.

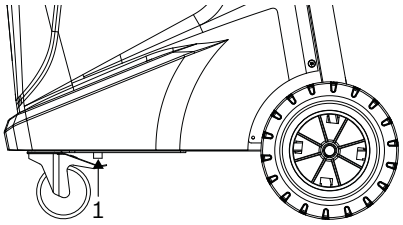


Fig. 25: Calibration check

1 Magnet

8. Select ✓ to continue.
   ⇨ The display shows `Remove the calibration weight from the magnet located at the bottom of the machine`
9. Remove the calibration weight from the magnet.
10. Select ✓ to continue.

- If `Calibration confirmed` is displayed on the display, the scale is calibrated. Select ✓ to return to the Maintenance Menu.
- If `Unsuccessful calibration` is displayed, the scale is not calibrated. Select ↻ to try again. If the calibration continues to be unsuccessful, contact an authorized Robinair service center.

7.9 Scales setting to zero

This procedure should be repeated at regular intervals, as it allows to correct any zero offsets in the oil/UV dye scales.

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Maintenance**.
5. Select **Adjust Zero Offset**.
6. Select the type of scale to reset and confirm with ✔.
   ⇨ The display shows the message to remove the oil tanks and/or the UV dye tank (depending on the type of scale selected).
7. Carefully remove the tank shown on the display.

To remove the "PAG", "POE" and "UV Dye" tanks, it is necessary to pull the lever on the colored covers of the tanks slightly outward to release and pull them out. Instead, to remove the oil drain tank, it is sufficient to pull it out straight.

8. Select ✔ to confirm and reset the selected scale.
9. Repeat the same procedure to reset the other scales.

➜ The 4 scales are reset.

7.10 Vacuum pump oil change

CAUTION: To prevent injury, DO NOT operate the station without the plug on the oil tank filler connection, as the vacuum pump is pressurized during normal operation.

The user is responsible to check the level and the purity of the oil in the vacuum pump. If the contaminated oil is not removed from the vacuum pump and replaced, the pump will be irreversibly damaged.

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Maintenance**.
5. Select **Pump Maintenance** or when required by the station.
   ⇨ The display shows the vacuum pump operating interval after the last oil change.
   `residual oil time xxx: xx (hhh:mm)`
   `Change the oil now?`
6. Select ✔ to change the vacuum pump oil.
   ⇨ If the display shows `oil heating for drain` let the pump operate for two minutes to heat the oil.
   ⇨ If the oil is already warm, the display shows `drain the oil used by the pump and replace with 550 ml of new oil. Remove the filler cap to quickly drain the oil`.
7. Turn off the station.
8. Open the rear service door.

9. Slowly open the tank oil filler cap to check that there is no pressure in the station, and then carefully remove it.
10. Remove the oil drain fitting cap and drain the oil into a suitable container for disposal. Put back the cap and close it securely.
11. Slowly add appropriate oil to the vacuum pump from the filler cap until the oil level is at the center of the level indicator.
12. Insert the oil filler cap on the pump connection and close it securely.
13. Close the rear service door.
14. Turn on the station.
15. Select ✔ to continue.
    ⇨ A message appears on the display that indicates to the operator to check that the oil level is at the center of the pump level indicator.

If it is necessary to add more oil, repeat operations 7, 8, 9, 11, 12, 13 and 14 for oil insertion.

16. Select ✔ to return to the Maintenance Menu.

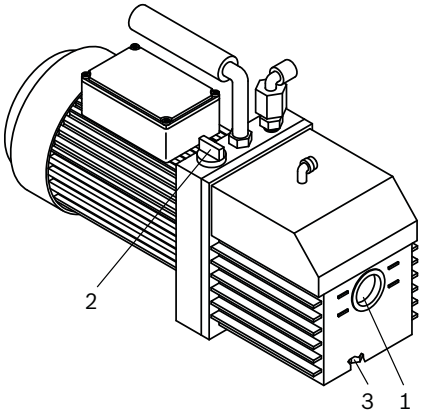


Fig. 26: Vacuum pump

1 Inspection port
2 Oil filler cap
3 Oil drain plug

7.11 Leak check

To ensure safe, eco-friendly, cost-effective operation, the station performs regular self-checks monitoring by the software at regular intervals (every 10 days). During these checks, the components containing refrigerant are pressurized and monitored to detect a possible drop in pressure, which could indicate a leak.

At the startup, if a leak check is required, the display shows `connect the hoses to the flush connections and open the valves`

1. Connect the quick connections for maintenance on the flushing connections on the station side.
2. Open the connections turning the ring nuts clockwise.

Leak check can also be selected at any time from the Maintenance Menu.
If it is decided not to perform the leak check when the dedicated message appears, the message is displayed each time the station is turned on until the check is completed.

3. Select ✔ to start the check.
   ⇨ The station performs a self-recovery and displays `recovery in progress`
   ⇨ The station performs a vacuum test for 30 seconds and displays `vacuum check in progress`
   ⇨ If the vacuum test fails, the station generates a message that asks to check for leaks.
   ⇨ When the station vacuum test is successful, a controlled pressure is applied to the internal components.
   ⇨ The display shows `pressure check in progress`
   ⇨ The station keeps this pressurization for five minutes, checking if the pressure drops. The display shows a countdown of seconds and minutes.
   - If an acceptable pressure drop is detected, the station recovers the refrigerant and returns to the Maintenance Menu, ready for normal operation.
   - If an unacceptable pressure drop is detected, a message appears that asks to check for leaks. Take the machine to an authorized Robinair service center.

WARNING: to prevent accidents if you need to transport the station to a Robinairservice center, follow the law regulations on the transport of stations containing R1234yf.

7.12 Print header change

To change the text that appears on this screen:

1. Call up the Main Menu.
2. Select ».
3. Select ☰.
4. Select **Settings**.
5. Select **Edit Print Header**.
   ⇨ The cursor is in the first field.
6. Update the text using the arrow buttons and the multi-touch interface on the numeric keypad:
   - The button ⌫ acts as a backspace key.
   - The **Right** or **Left** arrows button moves the cursor to the right or left.
   - The **Zero** (0) key also acts as a space bar.
   - To navigate within the rows, use the **Up** and **Down** arrow keys.
7. Select ✔ to save the changes and return to the Settings Menu.
8. Select ✘ to exit and return to the Settings Menu.

7.13 Replacing the printer paper

To install a new roll of paper in the printer:

1. Remove the printer cover pulling out the tab.
2. Remove the paper support.
3. Install the new roll of paper with the roll end at the top.
4. Close the cover so that the upper edge of the paper comes out.

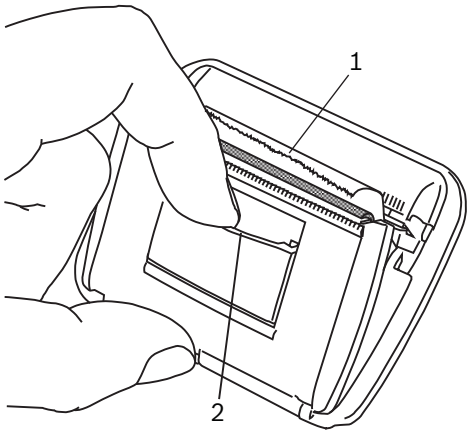


Fig. 27: Replacing the printer paper

1 Upper edge of paper above the roll
2 Tab

8. Diagnostic messages

Message on the display	Cause	Solution
Calibration failed	Internal scale is not calibrated.	Select ↻ to repeat the calibration check. If the calibration procedure continues to fail, exit the current test and contact an authorized Robinair service center for repairs.
Stalled charge	The refrigerant is stalled inside the tank or in the machine.	Make sure that the connections are firm and the valves are in the correct position.
Database not available	The machine was shipped without database installed.	Contact an authorized Robinair service center for more information.
Tank excessive weight	Safety circuit tripped for tank too full. The machine is locked because there is too much refrigerant in the internal tank.	Contact an authorized Robinair service center for more information.
Exhausted filter. The Filter must be replaced FILTER WEIGHT XXX.xyy Replace the filter now?	The last time the filter was replaced 150 kg (331 lb) or more refrigerant was recovered.	Refer to the Filter Maintenance section of this manual for instructions on how to replace the filter.
The serial number has already been used. Re-enter or exit?	The filter serial number entered in the machine is incorrect.	The filter has already been used on this machine. Get a new original Robinair filter no. SP01100355
High pressure cylinder	The machine is locked because the pressure inside the tank is too high, maybe because of the excessively high temperature of the tank.	Allow the machine to cool before attempting further operations on the A/C system of the vehicle. If the problem persists, contact an authorized Robinair service center for more information.
Inlet pressure too high for vacuum	Before the station proceeds with the evacuation of the A/C system, check that the system pressure cannot damage the vacuum pump. In this case, the system pressure is greater than 0.35 relative bar.	Select ❄←. Refer to the Recovery section of this manual to recover the refrigerant before proceeding.
Insufficient refrigerant. 6,0 kg (13,2 lb) required for system flushing	There is not enough refrigerant in the internal tank to flush the system.	See Tank filling in the Maintenance section of this manual.
Insufficient refrigerant available for charging	The charging function does not start if the value set for the charge is higher than the refrigerant contained in the internal tank.	See Tank filling in the Maintenance section of this manual.
Invalid code entered!	The activation code entered in the machine is incorrect.	Check that the activation code was entered exactly as it was received. Use uppercase if necessary.
Invalid serial number. Re-enter or exit?	The filter serial number entered in the machine is incorrect.	Check that the serial number entered corresponds to the serial number in the filter. Check that the filter has not been used previously on another machine.
Unsuccessful sealing test	There is a leak in the A/C system.	Exit the current test and repair the A/C system of the vehicle.
No pressure on the inputs, check the connections Recover anyway?	System pressure below 0.35 relative bars.	Check that the hoses on the high pressure (red) and low pressure (blue) sides are connected and that the valves of the connections are open. Select ❄← to recover; Select Ⓥ← to bypass the recovery and proceed with the Vacuum.
Locked oil drain	The accumulator pressure did not rise above 1,10 bar within the minute before the oil discharge that had to be carried out.	Proper pressure inside the accumulator is required to force the oil, previously separated from the refrigerant, outside the system. Select ↻ to retry; select ✕ to exit.
Oil residual time xx:xxx Change oil now?	The remaining vacuum pump oil residual time appears before the machine is locked.	Refer to the Vacuum Pump Oil Change of this manual for instructions on how to replace the vacuum pump oil.
Out of range Accumulator pressure sensor	The accumulator pressure transducer does not correctly read the pressure.	Exit the current check and contact an authorized Robinair service center for more information.
Out of range Air flow sensor	The air flow sensor does not correctly read the air flow.	Exit the current check and contact an authorized Robinair service center for more information.

Message on the display	Cause	Solution
Out of range ISV pressure sensor	The internal tank pressure transducer does not correctly read the pressure.	Exit the current check and contact an authorized Robinair service center for more information.
Out of range ISV temperature	The internal tank temperature sensor does not correctly read the temperature.	Exit the current check and contact an authorized Robinair service center for more information.
Out of range Low pressure side pressure sensor	The low pressure side pressure transducer does not correctly read the pressure.	Exit the current check and contact an authorized Robinair service center for more information.
Power board communication failed	The communication with the power board failed	Restart the station. If the problem persists, contact an authorized Robinair service center for more information.
Unsuccessful pressure test Check for leaks	There is a leak in the A/C system of the vehicle.	Exit the current test and repair the A/C system of the vehicle.
Empty external tank	Failure to transfer refrigerant to the internal tank because the external tank is empty.	Exit the current test and replace the external tank.
Full tank. Remove refrigerant from the internal tank before continuing	Internal tank too full to recover more refrigerant.	Perform a refilling process to remove refrigerant from the internal tank before performing any further recovery attempt.
Expired trial time. Activation of the required unit to continue using it. Activate now?	Failure to register and activate the machine within 30 days of initial start-up causes the machine to lock and the impossibility to use it.	Select ✔ and see the Unit activating section of this manual to register the station.
Vacuum test failed. Check for leaks	There is a leak in the A/C system.	Exit the current test and repair the A/C system of the vehicle.
Refrigerant purity not exceeded (if present)	The refrigerant contained in the A/C system of the vehicle is not R1234yf or is contaminated.	Do not recover contaminated refrigerant in the station; use an external refrigerant recovery station specifically dedicated to contaminated refrigerant.
Analyzer test failed, disconnect test tank YF (if present)	The station has detected that the refrigerant is contaminated or is not R1234yf	Refer to the Refrigerant Analyzer section of this manual
Refrigerant analyzer error (if present)	The station has detected that the internal refrigerant analyzer is not working properly	Exit the current test and contact an authorized Robinair service center for repair.

9. Decommissioning

9.1 Temporary shutdown

In the event of lengthy periods of non-use:

➢ Disconnect the AC1234-7i/-8i from mains.

9.2 Equipment transport

➢ If the station is sold, deliver all the documentation included in the supply together with it.

➢ Remove any installed accessories from the unit and store them separately.

➢ Empty the oil injection and drain tanks and store them separately.

CAUTION: Remove the refrigerant completely through an external recovery unit.

➢ Ship the unit in the original packaging ensuring that all the elements are properly positioned and functional in the package as originally.

CAUTION: Place the AC1234-7i/-8i onto the wooden base performing in a reverse sequence the procedure described on section "Removing transportation packaging". Since of the weigth of the AC1234-7i/-8i, two operator are recommened.

9.3 Disposal and scrapping

9.3.1 Substances hazardous to water

Oils and greases as well as refuse containing oil and grease (e.g. filters) represent a hazard to water.

1. Substances hazardous to water must not be allowed to enter the sewage system.
2. Substances hazardous to water must be disposed of in accordance with the applicable regulations.

9.3.2 Disposal of LCD display

Dispose of the LCD display according to the regulations in force.

9.3.3 Disposal of refrigerant, oils and UV contrast liquid

Dispose of refrigerants, oils and UV contrast liquid, delivering them to authorized disposal centers in accordance with applicable local laws and regulations and in accordance with the product characteristics at the time of disposal.

9.3.4 Disposal of the combined filter

Dispose of the combined filter through official collection points or in accordance with applicable regulations.

AC1234-7i/-8i, accessories and packaging should be sorted for environmental-friendly recycling.

➢ Do not dispose AC1234-7i/-8i into household waste.

Only for EC countries:

The AC1234-7i/-8i is subject to the European directive 2012/19/EC (WEEE).

Dispose of used electrical and electronic devices, including cables, accessories and batteries, separately from household waste.

➢ Make use of the local return and collection systems for disposal.

➢ Proper disposal of AC1234-7i/-8i prevents environmental pollution and possible health hazards.

10. Technical data

10.1 AC1234-7i/-8i

Characteristic	Value/range
Compressor	1/4 HP
Dimensions (height x width x depth) with HMI in shipping position	105 x 75 x 77 cm
Color LCD display with LED backlight	7" TFT WVGA (800 x 480)
Filter	150 kg (331 lb)
Humidity, RH without condensation	32,2 °C (90 °F), 86%
Gauge (EN 837-1 Class 1)	Ø 100 mm
Maximum pressure (PS)	25 bar (2.5 MPa)
Sound pressure level at the operator's workstation according to EN ISO 11204	< 70 dB(A)
Operating voltage, Frequency	230 Vac/1, 50/60 Hz
Tanks	4x250 ml
Minimum-maximum temperature (TS)	-10 °C – 120 °C
Power	1100 W
Pump capacity in free air	6 CFM (170 l/m) 50/60 Hz
Service hoses	250 cm / SAE J2888
Cylinder capacity (V)	22 l
Cylinder operating capacity	17.4 kg R1234yf
Weight (empty cylinder + accessories)	112 kg
Degree of pollution	2
Overvoltage category	II
Degree of protection	IP20
Refrigerant / Group	R1234 / 1
WLAN (USB Dongle)	WLAN 802.11 b/g
	2,4 GHz
	< 20 dBm
Heater belt (only for AC1234-8i OE/VAC1234-8i)	230 Vac, 400 W, 60 °C thermal switch

10.2 Ambient temperature

Characteristic	Value/range
Storage and transport	-25 °C – 60 °C -13 °F – 140 °F
Operation	10 °C - 50 °C 50 °F – 122 °F

10.3 Humidity

Characteristic	Value/range
Storage and transport	<75 %
Operation	<90 %

10.4 Electromagnetic compatibility

This product complies with EMC 2014/30/EU and in particular with EN 61326-1.

11. Glossary

A/C system:
the air conditioning system of the vehicle on which to carry out maintenance.

Evacuation:
removal of condensate and other non-condensable substances from an A/C system through a vacuum pump.

Internal tank (ISV):
the refillable container of the station, intended to contain the refrigerant; it has operational capacity of 17.4 kg.

Leak check (vacuum):
evacuation of the A/C system containing refrigerant and pressure monitoring to detect a possible increase, possible indication of a leak.

Rechargeable quantity:
the amount of refrigerant contained in the internal tank, which can be loaded into the A/C system of a vehicle.

Recoverable quantity:
the total amount of additional refrigerant that can be recovered in the internal tank.

Leak check:
pressurization of components that contain refrigerant and pressure monitoring to detect a possible decrease, possible indication of a leak.

Recovery / recycling:
refrigerant extraction from an A/C system, filtration and transfer to the internal tank.

PAG / POE:
different types of oil in the vehicle A/C system depending on the vehicle manufacturer.

R1234yf:
refrigerant.