

ROTHENBERGER

ROREC Pro Digital

ROREC Pro Digital



DE Bedienungsanleitung
EN Instructions for use
FR Instruction d'utilisation
ES Instrucciones de uso
IT Istruzioni d'uso
NL Gebruiksaanwijzing
PT Instruções de serviço
DA Brugsanvisning
SV Bruksanvisning

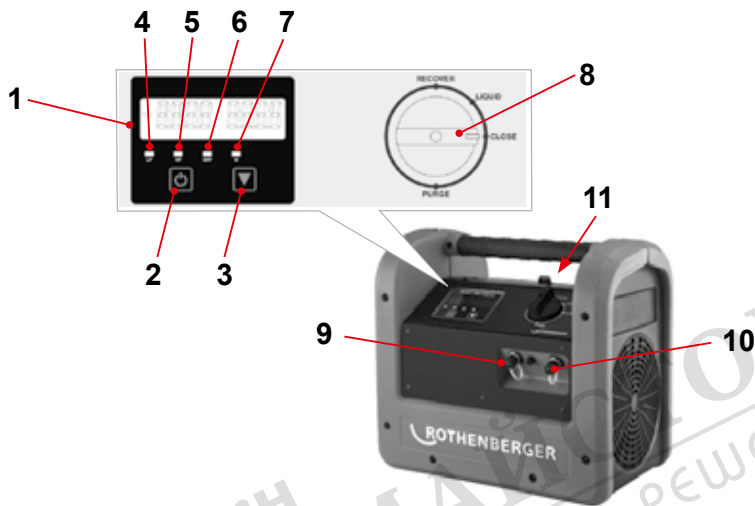
FI Käyttöohje
PL Instrukcja obsługi
CS Návod k používání
TR Kullanım kilavuzu
HR Upute za uporabu
ET Kasutusjuhend läbi
LT Naudojimo instrukcija
LV Lietošanas pamācība
EL Οδηγίες χρήσεως



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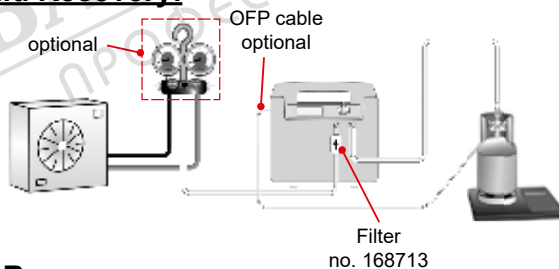
A Overview

ROREC Pro Digital no.: 150002637

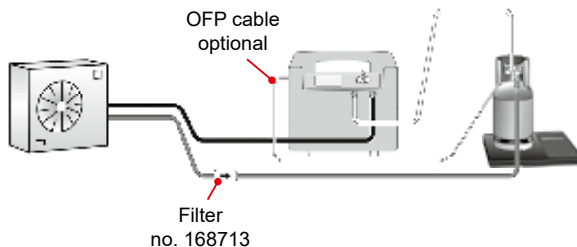


B Operating

Gas-/ Liquid Recovery:



Push-Pull Recovery:



Intro

DEUTSCH - Originalbetriebsanleitung! Bedienungsanleitung bitte lesen und aufbewahren! Nicht wegwerfen! Bei Schäden durch Bedienungsfehler erlischt die Garantie! Technische Änderungen vorbehalten!	Seite 2
ENGLISH Please read and retain these directions for use. Do not throw them away! The warranty does not cover damage caused by incorrect use of the equipment! Subject to technical modifications!	Page 9
FRANÇAIS Lire attentivement le mode d'emploi et le ranger à un endroit sûr! Ne pas le jeter! La garantie est annulée lors de dommages dus à une manipulation erronée! Sous réserve de modifications techniques!	Page 16
ESPAÑOL ¡Por favor, lea y conserve el manual de instrucciones! ¡No lo tire! ¡En caso de daños por errores de manejo, la garantía queda sin validez! Modificaciones técnicas reservadas!	Página 23
ITALIANO Per favore leggere e conservare le istruzioni per l'uso! Non gettarle via! In caso di danni dovuti ad errori nell'uso, la garanzia si estingue! Ci si riservano modifiche tecniche!	Pagina 30
NEDERLANDS Lees de handleiding zorgvuldig door en bewaar haar goed! Niet weggooien! Bij schade door bedieningsfouten komt de garantieverlening te vervallen! Technische wijzigingen voorbehouden!	Bladzijde 37
PORTUGUES Queiram ler e guardar o manual de instruções! Não deitar fora! Em caso de avarias por utilização incorrecta, extingue-se a garantia! Reservado o direito de alterações técnicas!	Página 44
DANSK Læs betjeningsvejledningen, og gem den til senere brug! Smid den ikke ud! Skader, som måtte opstå som følge af betjeningsfejl, medfører, at garantien mister sin gyldighed! Ret til tekniske ændringer forbeholdes!	Side 51
SVENSKA Läs igenom bruksanvisningen och förvara den väl! Kasta inte bort den! Garantin upphör om apparaten har använts eller betjänats på ett felaktigt sätt! Med reservation för tekniska ändringar!	Sida 58
SUOMI Lue ja säilytä tämä käyttöohje! Älä heitä pois! Takuu ei kata käyttövirheitä aiheuttuvia vahinkoja! Oikeudet teknisiin muutoksiin pidätetään!	Sivulta 65
POLSKI Instrukcję obsługi proszę przeczytać i przechować! Nie wyrzucać! Przy uszkodzeniach wynikających z błędów obsługi wygasa gwarancja! Zmiany techniczne zastrzeżone!	Strony 72
ČESKY Navod k obsluze si prosím přečtete a uschovejte jej! Nevyhazujte jej! V případě poškození způsobeném chybnou obsluhou zaniká záruka! Technické změny jsou vyhrazeny!	Stránky 80
TÜRKÇE Kullanım açıklamalarını lütfen dikkatlice okuyunuz ve bir yerde muhafaza ediniz! Çöpe atmayınız! Kullanımında yapılan hatalar, garantinin silinmesine neden olur! Teknik değişiklikler yapma hakkımız saklıdır!	Sayfa 87
HRVATSKI Molimo da pročitate i spremite upute za uporabu! Nemojte ih baciti! Kod kvarova zbog pogrešne uporabe odbacuje se jamstvo! Zadržavamo pravo tehničkih izmjena!	Stranica 94
ESTU Palun lugege kasutusjuhend läbi ja hoidke alles! Ärge visake ära! Kä-sitsemisvigadest tingitud kahjustuste korral kaotab garantii kehtivuse! Õigus tehnilisteks muudatusteks reserveeritud!	Lehekülg 101
LIETUVOS Perskaitykite naudojimo instrukciją ir pasilikite ją! Neišmeskite! Garan-tija nebus taikoma gedimams, atsiradusiems dėl netinkamo naudojimo! Pasilieka teisė daryti techninius pakeitimus!	Pusla-pis 108
LATVIEŠU Lūdzu, izlasiet un uzglabājiet lietošanas instrukciju! Nemest prom! Ja ir bojājumi ekspluatācijas klūdas dēļ, garantija zaudē spēku! Paturēt tehniskas izmaiņas!	Lappuse 115
ΕΛΛΗΝΙΚΑ Οδηγίες χειρισμού παρακαλείσθε να τις διαβάσετε και να τις φυλάσσετε! Μην τις πετάξετε! Σε ζημιές από σφάλματα χειρισμού παύει να ισχύει η εγγύηση! Με επιφύλαξη για τεχνικές αλλαγές!	Σελίδα 122

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Markings in this document:



Markings in this document!

This sign warns against the danger of personal injuries.



Caution!

This sign warns against the danger of property damage and damage to the environment.



Call for action



МАСТЕРИ
БАШ МАЙСТОР
ПРОФЕСИОНАЛНИ РЕШЕНИЯ

1.1 Intended use

The ROREC Pro Digital Recovery unit is only used to extract refrigerants from Refrigeration cycles, according to the technical data. Other uses are prohibited!

This device may only be operated by qualified personnel who are familiar with the fundamentals of refrigeration technology, the refrigeration cycles and the refrigerants and knows the dangers which can arise from devices under pressure.

1.2 General Power Tool Safety Warnings



WARNING! Read all safety warnings, instructions, illustrations and specifications provided with this power tool.

Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

Save all warnings and instructions for future reference.

The term "power tool" in the warnings refers to your electrically-operated (corded) power tool or battery-operated (cordless) power tool.

1) Work area safety

- a) **Keep work area clean and well lit.** Cluttered and dark areas invite accidents.
- b) **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c) **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

2) Electrical safety

- a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- b) **Avoid body contact with earthed or grounded surfaces, such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c) **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges and moving parts.** Damaged or entangled cords increase the risk of electric shock.
- e) **When operating a power tool outdoors only, use an extension cords suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **If operating a power tool in a damp location is unavoidable, use a residual current device (RCD) protected supply.** Use of an RCD reduces the risk of electric shock.

3) Personal safety

- a) **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A momentary lack of attention while operating power tools may result in serious personal injury.
- b) **Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c) **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.

- d) **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
 - e) **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
 - f) **Dress properly. Do not wear loose clothing or jewellery. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewellery or long hair can be caught in moving parts.
 - g) **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.
 - h) **Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles.** A careless action can cause severe injury within a fraction of a second.
- 4) Power tool use and care**
- a) **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
 - b) **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
 - c) **Disconnect the plug from the power source and/or remove the battery pack, if detachable, from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
 - d) **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
 - e) **Maintain power tools and accessories. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
 - f) **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
 - g) **Use the power tool, accessories and tool bits etc., in accordance with these instructions, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.
 - h) **Keep handles and grasping surfaces dry, clean and free from oil and grease.** Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.
- 5) Service**
- a) **Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

1.3 Special safety instructions

This device is not intended for use by children and persons with physical, sensory or mental limitations or a lack of experience or knowledge. This device can be used by children aged 8 and above and by persons who have physical, sensory or mental limitations or a lack of experience or knowledge if a person responsible for their safety supervises them or has instructed them in the safe operation of the device and they understand

the associated dangers. Otherwise, there is a danger of operating errors and injuries.

Supervise children during use, cleaning and maintenance. This will ensure that children do not play with the device.

The equipment must only be operated by qualified specialized staff!

Read through this operating manual carefully; the strict observation of processes described in it is a prerequisite for the safety of the operator, the perfect condition of the device and retention of the stated performances.

Wear suitable protective clothing such as protective gloves and protective goggles. Contact with refrigerants can lead to blindness or other damage to the health.

Only work at an adequate distance from flames and hot surfaces since the refrigerant gas decomposes at high temperatures; in doing so poisonous and aggressive substances are released which are dangerous to the health and which pollute the environment.

Avoid contact with the skin since the low evaporation temperature (about -30°C) can cause freezing.

Avoid breathing in the refrigerant vapours.

Always ensure that the device is connected to a power supply network with suitable fuses and functional earthing.

The device may only be operated in a well ventilated environment with an adequate air change frequency.

Switch off the device and separate it from the power supply network when it is not needed.

If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service or a similarly qualified person in order to avoid any hazard.

The recycling bottle and hoses used must be compliant with the local regulations.

2 Scope of delivery

- 1 refrigerant Recovery unit
- 1 power cable
- 1 filter
- 1 filter connection hose
- 1 OFP cable for DOT bottles (used in special countries)
- 1 carrying belt
- 1 manual in various languages

3 Technical Data

Voltage	220-240 V, 50/60 Hz
Output	0,74 kW
Refrigerant classes	A1, A2L, A2
Voltage	1/4" SAE
Dimensions (L x W x H)	370 x 250 x 360 mm
Weight	ca. 12 Kg
Refrigerants	Category III: R12, R134a, R406A, R1234yf... Category IV: R22, R407C, R502, R509... Category V: R404A, R407A, R410A, R32
Extraction rate	Gaseous 0,5 kg/min (R410A) Liquid: 3,5 kg/min (R410A) Push/Pull: 9,5 kg/min (R410A)

Noise pressure level (L_{pA}) ≤ 68 dB (A) | K_{pA} 3 dB (A)
 Sound power level (L_{WA}) ≤ 79 dB (A) | K_{WA} 3 dB (A)
 The noise level during operation can exceed 85 dB (A). Wear hearing protection!
 Measured values determined in accordance with EN 60335.

4 Function of the Unit

4.1 Overview (A)

1	Display	7	Motor fault indicator
2	On/Off button	8	Operating button
3	Menu button	9	Inlet connection
4	Low Pressure display	10	Outlet connection
5	High Pressure display	11	Storage compartment at the rear
6	OFP display (in combination with an OFP cable)		

4.2 Commissioning

Description of the ROTHENBERGER Recovery unit:

The Recovery unit is used to extract refrigerants from refrigerant cycles.

It is a two-piston compressor device which totally extracts all refrigerant. A low pressure switch protects against damage to the piston. An overpressure switch prevents overfilling of the refrigerant recycling bottle.

Error messages:

The following error messages can appear on the display:

LP E1: The low pressure sensor is not attached

HP E1: The high pressure sensor is not attached

E2: The feed voltage is too low

E3: The feed voltage is too high

E4: The motor is overloaded

General comments:

! Always use the device with a refrigerant filter to avoid damaging the compressor!

The device can be controlled using a fill level sensor. Recovery bottles with this function are not however available in all countries. The so-called OFP cable (orange) is supplied for this function. If the extraction unit and the Recovery bottle are connected together using this cable, automatic switching off occurs and the OFP LED lights up as soon as the bottle is 80% filled. If the cable is only connected to the device and not to the bottle, it cannot be started.

! Always store the device with closed off connections and put the operating button in the CLOSE position!

General settings:

Calibration of pressure sensors:

The device is fitted with a manual calibration function. If the display shows a pressure even though there is no device attached the sensors can again be set to 0 bar.

➔ To calibrate, hold the menu button down for 5 seconds. A signal tone sounds and the sensors are set to 0.

Please note that calibration is only possible when the displayed pressure is less than 2 bar.

Low pressure switch off:

The device is fitted with a low pressure switching off function (triggers at -20 inHg), which protects the internal components against operation without a lubricant and prevents evacuation of the refrigeration cycle. The LP lights up upon reaching this value. There are various modes available for this switching off:

- a. Lp0: Upon reaching -20inHg the device does not switch off (ATTENTION: no protection for internal components)
- b. Lp1: As soon as the limit value for 20 seconds is reached, the device switches off automatically
- c. Lp2: As soon as the limit value for 20 seconds is reached, the device switches off automatically. The device switches on again as soon as the pressure increases again and exceeds 0 bar. This mode is set as standard on newly delivered devices.


Please proceed as follows to set the various modes:


- ➔ Hold the menu button for about 8 seconds. A signal tone already sounds after 5 seconds which refers to calibration of the sensors. Despite this continue to hold down the menu button further.

After 8 seconds the currently selected mode appears on the display. Through rapid tapping on the menu button one can now switch between the modes. Inactivity for about 3 seconds leads to saving of the currently selected value.

4.3 Operation

Standard liquid/gas retrieval:

- ➔ Check whether the operating conditions of the cycle are correct.
 Ensure that all connections are correctly and firmly tightened!
- ➔ Open the liquid connection of the recycling bottle.
- ➔ Ensure that the operating button is set to the position "Recover".
- ➔ Open the outlet connection of the plant.
- ➔ Open the high pressure connection on the manifold (if connected). Opening of the liquid connection has the effect of the liquid being removed from the cycle. After removal of the liquid, for complete emptying of the plant, open the high pressure connection on the manifold.
- ➔ Close the plant at a suitable outlet (see type plate on the plant).
- ➔ Press the "On/Off button" in order to start the compressor.
- ➔ Leave switched on until the desired pressure has been established and the device switches itself off.
- ➔ Close the low and high pressure connections on the manifold.
- ➔ Turn the unit off.
- ➔ Close the inlet connection of the unit and proceed with the self-emptying as described in the next section.


 **ATTENTION:** Empty the device after every use. In the case of non-emptying of the refrigerant residues, damage can occur to internal components due to acid and therefore the service life of these components is shortened!

Self-emptying procedure for removal of refrigerant residues from the recovery unit:

- ➔ Slowly turn the operating button to the PURGE position and leave the plant switched on until the desired pressure is achieved and/or the internal pressure switch-off switches off automatically.
- ➔ Close the connections of the recovery bottle.
- ➔ Interrupt the power supply, remove all hoses and dry the filter.
- ➔ Turn the operating button to the CLOSE position.
- ➔ In the last step cover the cap on the inlet and outlet connection.

Push/Pull method for liquids:

The Push/Pull method is only used for large plant in which there is at least 10 kg of liquid refrigerant.

 **ATTENTION:** A pair of scales must be used for the "Push/Pull" method in order to prevent overfilling of the disposal bottle itself when the bottle is fitted with a float fill level indicator!

- Turn the operating button to the RECOVER position.
- The recovery process is switched off automatically on the occasion of going below the maximum vacuum value. Then change directly into PURGE mode.

5 Care and Maintenance

In order to achieve a long service of life and a high efficiency of the extraction unit, please change the filter regularly. Also only just use one refrigerant for each filter.

6 Customer service

The ROTHENBERGER service locations are available to help you (see listing in catalog or on-line) and replacement parts and service are also available through these same service locations. Order your accessories and spare parts from your specialist retailer or using RO SERVICE+ online: ☎ + 49 (0) 61 95/ 800 8200 📠 + 49 (0) 61 95/ 800 7491 ✉ service@rothenberger.com - www.rothenberger.com

7 Disposal

Components of the unit are recyclable material and should be put to recycling. For this purpose registered and certified recycling companies are available. For an environmental friendly disposal of the non-recyclable parts (e.g. electronic waste) please contact your local waste disposal authority.

For EU countries only:



Do not dispose electric tools with domestic waste. In accordance with the European Directive 2012/19/EU the disposal of electrical and electronic equipment and its implementation as national law, electric tools that are no longer serviceable must be collected separately and utilised for environmentally compatible recycling.



МАГАЗИН
БАШ МАИ
ПРОФЕСИОНАЛНИ РЕШЕНИЯ