

# 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

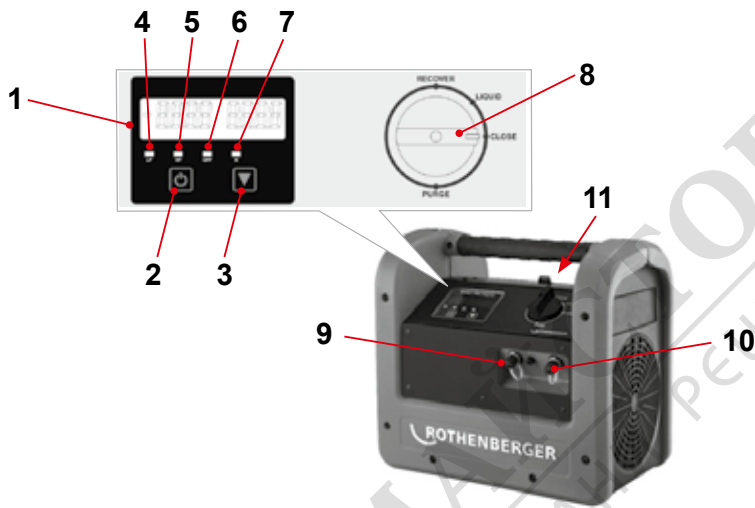
SV Bruksanvisning  
FI Käyttöohje  
PL Instrukcja obsługi  
CZ Návod k používání  
TR Kullanım kılavuzu  
HR Upute za uporabu  
EL Οδηγίες χρήσεως



[www.rothenberger.com](http://www.rothenberger.com)

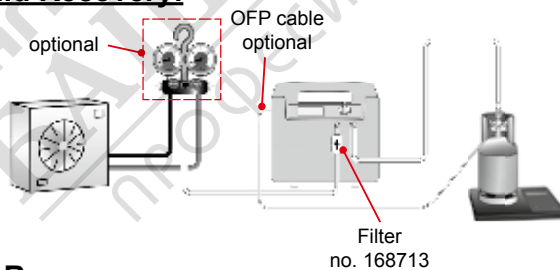
# A Overview

ROREC Pro Digital no.: 150002637

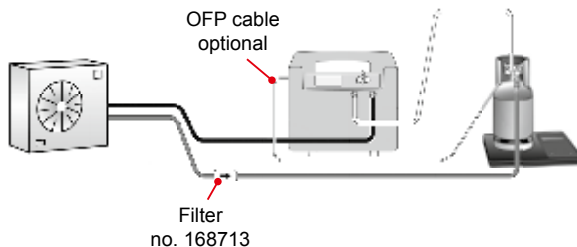


# B Operating

## Gas-/ Liquid Recovery:



## Push-Pull Recovery:



# Intro

<b>DEUTSCH - Originalbetriebsanleitung!</b> Bedienungsanleitung bitte lesen und aufbewahren! Nicht wegwerfen! Bei Schäden durch Bedienungsfehler erlischt die Garantie! Technische Änderungen vorbehalten!	<b>Seite 2</b>
<b>ENGLISH</b> 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!	<b>Page 9</b>
<b>FRANÇAIS</b> 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!	<b>Page 16</b>
<b>ESPAÑOL</b> ¡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!	<b>Página 23</b>
<b>ITALIANO</b> 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!	<b>Pagina 30</b>
<b>NEDERLANDS</b> Lees de handleiding zorgvuldig door en bewaar haar goed! Niet weggooien! Bij schade door bedieningsfouten komt de garantieverlening te vervallen! Technische wijzigingen voorbehouden!	<b>Bladzijde 37</b>
<b>PORTUGUES</b> 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!	<b>Página 44</b>
<b>DANSK</b> 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!	<b>Side 51</b>
<b>SVENSKA</b> 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!	<b>Sida 58</b>
<b>SUOMI</b> Lue ja säilytä tämä käyttöohje! Älä heitä pois! Takuu ei kata käyttövirheistä aiheutuvia vahinkoja! Oikeudet teknisiin muutoksiin pidätetään!	<b>Sivulta 64</b>
<b>ČESKY</b> Navod k obsluze si prosím přečtete a uschovejte jej! Nevyhazujte jej! V případě poškození způsobenem chybou obsluhou zanika záruka! Technické změny jsou vyhrazeny!	<b>Stránky 77</b>
<b>TÜRKÇE</b> Kullanım açıklamalarını lütfen dikkatlice okuyunuz ve bir yerde muhafaza ediniz! Çöpe atmayınız! Kullanımında yapılan hatalar, garantinin silinmesine neden olur! Teknik değişiklikler yapma hakkımız saklıdır!	<b>Sayfa 84</b>
<b>HRVATSKI</b> Molimo da pročitate i spremite upute za uporabu! Nemojte ih baciti! Kod kvarova zbog pogrešne uporabe odbacuje se jamstvo! Zadržavamo pravo tehničkih izmjena!	<b>Stranica 90</b>
<b>ΕΛΛΗΝΙΚΑ</b> 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!	<b>Σελίδα 97</b>



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**Markings in this document:**



**Danger!**

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**



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 safety instructions



**ATTENTION!** When using electric tools, the following fundamental safety measures must be taken to prevent electric shock, injury or fire.

**Read all of these instructions before you use the electric tool, and store the safety instructions properly.**

**Service and maintenance:**

- 1 **Regular cleaning, maintenance and lubrication.** Always pull the electrical plug before any adjustment, maintenance or repair.
- 2 **Have your device repaired only by qualified experts and only with original replacement parts.** This ensures the continued safety of the device.

**Working safely:**

- 1 **Keep your work area orderly.** A messy work area can cause accidents.
- 2 **Consider environmental influences.** Do not expose electric tools to rain. Do not use electric tools in damp or wet environments. Keep the work area well lit. Do not use electric tools where there is a risk of fire or explosion.
- 3 **Protect yourself from electric shock.** Avoid physical contact with earthed parts (such as pipes, radiators, electric stoves or cooling devices).
- 4 **Keep other people away.** Do not let other people — especially children — touch the electric tool or its cable. Keep them away from the work area.
- 5 **Store electric tools safely when they are not in use.** Unused electric tools should be kept in a dry, high or closed area, out of reach of children.
- 6 **Do not overload your electric tool.** Work is better and safer within the performance range indicated.
- 7 **Use the right electric tool.** Don't use low-performance machines for heavy-duty jobs. Do not use the electric tool for purposes for which it was not intended. For example, do not use a portable circular saw for cutting tree branches or logs.
- 8 **Wear proper clothing.** Do not wear loose clothing or jewellery, as they can get caught in moving parts. When working outdoors, wear slip-resistant shoes. Wear a hairnet over long hair.
- 9 **Use protective gear.** Wear safety glasses. Wear a breathing mask during work that creates dust.
- 10 **Connect the dust extraction equipment.** If there are connections to dust extraction and collection equipment, make sure that they are connected and properly used.
- 11 **Do not use the cable for purposes for which it was not intended.** Never use the cable to pull the plug from the socket. Protect the cable from heat, oil and sharp edges.
- 12 **Secure the work piece.** Use clamps or a vice to hold the work piece firmly. They will hold it more securely than your hand can.
- 13 **Avoid abnormal postures.** Make sure to stand securely and always keep your balance.
- 14 **Maintain your tools with care.** For better and safer work, keep cutting tools sharp and clean. Follow the instructions for lubrication and changing tools. Regularly inspect the electric tool's connection cable, and if it is damaged, have it replaced by an authorized expert. Regularly check extension cords and replace them if they are damaged. Keep the handles dry, clean and free of oil and grease.

- 15 **Pull the plug from the socket.** When not using the electric tool, before maintenance or when changing tools, such as saw blades, drills and cutting bits.
- 16 **Do not leave any tool keys inserted.** Before switching on, check to see that keys and adjustment tools have been removed.
- 17 **Avoid unintentional activation.** When plugging the tool in, make sure that the switch is turned off.
- 18 **Use outdoor extension cords.** When outdoors, use only extension cords that are approved and appropriately marked.
- 19 **Be alert.** Pay attention to what you do. Approach your work sensibly. Do not use the electric tool when you are distracted.
- 20 **Check the electric tool for damage.** Before using the electric tool, you must inspect safety equipment or slightly damaged parts carefully to ensure that they work properly and as intended. Check to see that the moving parts operate freely and don't stick, and to make sure no parts are damaged. All parts must be mounted properly and meet all the conditions for ensuring trouble-free operation of the electric tool.  
Damaged safety equipment and parts must be properly repaired or replaced by a professional facility, unless otherwise indicated in the user manual. Damaged switches must be replaced by a customer service facility.  
Never use an electric tool whose switch cannot be turned on and off.
- 21 **Caution.** Using other insertion tools and accessories may cause injury.
- 22 **Have your tool repaired by an electrical expert.** This electric tool meets applicable safety requirements. Repairs must be made only by an electrical expert using original replacement parts. Otherwise accidents may occur.

### 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.

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..

## 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 .....	230 V, 50/60 Hz
Output.....	0.74 kW
Refrigerant classes .....	A1, A2L, A2
Intake duct .....	1/4" SAE
Dimensions (LxBxH) .....	370 x 250 x 360 mm
Weight .....	about 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 ( $L_{pA}$ ) .....	$\leq 68$ dB (A)   $K_{pA}$ 3 dB (A)
Sound power level ( $L_{WA}$ ) .....	$\leq 79$ dB (A)   $K_{WA}$ 3 dB (A)
The noise level during operation can exceed 85 dB (A). Wear ear 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:

- LP0: Upon reaching -20inHg the device does not switch off (ATTENTION: no protection for internal components)
- LP1: As soon as the limit value for 20 seconds is reached, the device switches off automatically
- 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 our service-after-sales hotline:

**Phone:** + 49 (0) 61 95 / 800 – 8200

**Fax:** + 49 (0) 61 95 / 800 – 7491

**Email:** [service@rothenberger.com](mailto:service@rothenberger.com)

[www.rothenberger.com](http://www.rothenberger.com)

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/EC 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 МАЙСТОРА  
ПРОФЕСИОНАЛНИ РЕШЕНИЯ

