

Refrigeration & Air-Conditioning Technology

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Refrigeration & Air-Conditioning Technology

Complete Solutions

ROKLIMA® MULTI 4F

Fully automatic commissioning and maintenance of air-conditioning units and heat pumps

The innovative unit enables safe and comfortable operation on refrigeration systems. With simple menu navigation, **4 functions (4F)** are automatically controlled



R410A R22 R134A R407C R404A

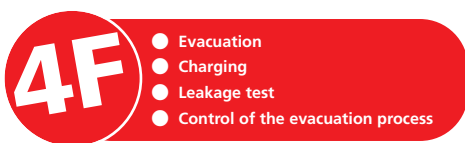
Product Profile

KEY FEATURES

- Pressure resistance up to 80 bar guarantees full use with heat pumps
- Everything you need within reach
- Simple menu guidance guarantees appropriate use
- Fully-automatic makes time for parallel work
- Safe transport

TECHNICAL DATA

Weight:	17 kg
Final Vacuum:	1 x 10 ⁻² mbar
Scale range:	up to 100 kg
Resolution:	10 g
Pressure hose length:	2.500 mm
Delivery rate:	42 l / min



Interactive 16-digit display with 4 function buttons

All required parameters can be easily entered

Sturdy, compact metal casing

Protects all components such as vacuum pump and scale

Integrated high vacuum pump with 42 l/min suction performance

For evacuation of the system in accordance with **DIN 8975**

3 different pressure gauges "Pulse-free", class 1.6, 80 mm

Universal use on air-conditioning units with all common refrigerants

2 pressure hoses (2.500 mm) from the series "Plus" with ball valve

Safe and comfortable operation with refrigerants without the risk of refrigerant loss

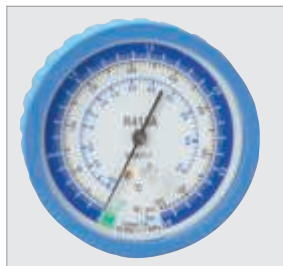
Plastic capillary hose

Safe, leak-free filling due to cut-off plug

Pull-out precision digital scale up to 100 kg

Secure stand for large and small containers

Encased low-pressure gauges for various refrigerants



Secure storage of all accessories



Pressure hoses: 2.5 m long with shut-off valve



Bottle adaptor No. 173204 / 05 for scale and 1/4" reducing pieces



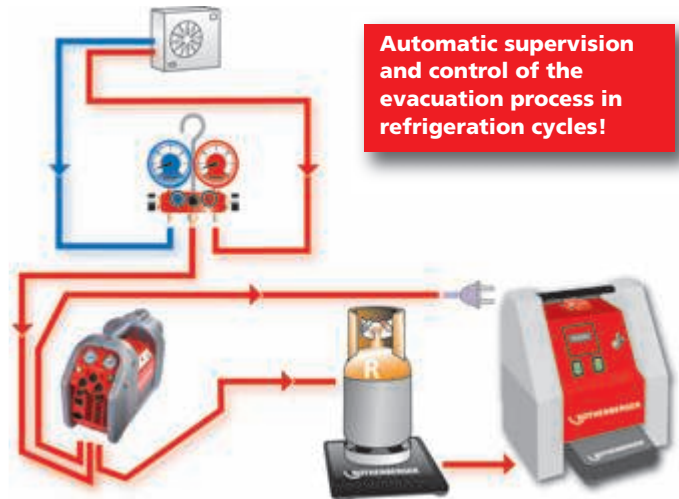
Refrigeration & Air-Conditioning Technology

Complete Solutions

Automatic evacuation and filling with the ROKLIMA® MULTI 4F!



Automatic supervision and control of the evacuation process in refrigeration cycles!



ROKLIMA® MULTI 4F in use (evacuation and charging)



Scope of delivery (No. 100000138) includes: 2-stage high vacuum pump, 2 low pressure gauges, 2 pressure hoses with ball valve à 2.500 mm, 2 bottle connection adaptors (1/4" SAE No. 173205, 5/16" SAE No. 173204), 2 reducing pieces 1/4" SAE - 5/16" SAE (No. 170016), precision digital scale up to 100 kg, automatic control, vacuum and pressure switch, mineral oil (No. 169200)

Model	kg		No.
ROKLIMA® MULTI 4F	17.0	1	100000138
Reducer pieces 1/4" SAE F - 5/16" SAE M	0.1	1	170016

Secure storage of Accessories:
pressure hoses bottle adaptor,
plastic capillary hose



Precision scale up to 100 kg
Resolution: 10 g
Accuracy ± 1%



Ergonomic, Compact



Light



Refrigeration & Air-Conditioning Technology

Complete Solutions

ROCADDY 120 / ROCADDY 120 Digital

Universal sets for evacuation and charging



Product Profile

KEY FEATURES

- Everything you need within reach
- Flexible use with the individual use of the tools
- Easy to transport

TECHNICAL DATA

- Electric digital scale ROSCALE 120 with a weight capacity of 120 kg and a measuring accuracy per measurement of 5 g
- 2 speed high vacuum pump ROAIRVAC 1.5 with integrated vacuum meter and solenoid valve, as well as a pump capacity of 42 l/min
- Digital manifold (with ROCADDY 120 Digital) for the automatic calculation of overheating and under-cooling. 65 refrigerants are on file in the unit
- 2 analogue 4-way manifolds (with ROCADDY 120) for the common refrigerants R22, R134A, R404A, R407C and the high-pressure refrigerant R410A
- Pressure hose sets, each with 3 hoses from the PLUS series with shut-off valve for safe use with refrigerants
- Pipe cutter TUBE CUTTER 35 and MINICUT II PRO for cutting \varnothing 6 - 35 mm pipes to length

Sturdy plastic rolling case (Fig. similar)

Simple and comfortable transport with ample room for accessories and small parts



2-stage high vacuum pump

For evacuation and removal of all moisture residue in refrigeration systems during installation per DIN 8975

Bottle adaptor for 1 kg and 2 kg refrigerant bottles for connection to the scale

Secure mounting of the bottle during charging

2 x analogue manifolds (with ROCADDY 120)



Digital manifold

Automatic calculation of overheating or under-cooling, can be used for 65 various refrigerants (ROCADDY 120 Digital)

Electronic digital scale up to 120 kg with high measurement precision

Precise weighing of refrigerants

Mini tube cutter and pipe cutter

For cutting \varnothing 6- 35 mm pipes to length

ROCADDY 120 includes: 2-stage high vacuum pump ROAIRVAC 1.5 (No. 170061) with vacuum gauge and solenoid valve, 4-way manifold for R22, R134a, R407C (No. 170502), 4-way manifold for R410A (No. 170508), pressure hose set 5/16" SAE each 1.500 mm with ball valve for R410A (1500000030), pressure hose set 1/4" SAE each 1.500 mm with ball valve for R22, R134A, R407C (No. 1500000028), ROSCALE 120 (No. 173004), 1x adaptor 3/8" SAE F - 1/4" SAE M (No. 089401), 2 x adaptor 5/16" SAE F - 1/4" SAE M with valve trigger (No. 259007), adaptor 5/16" SAE M - 1/4" SAE F (No. 170016), bottle connection 1/4" (No. 173204), mineral oil (0.4 l), Tube Cutter 35 (No. 70027), Minicut II Pro (No. 70402), transport case (No. 169051)

ROCADDY 120 Digital includes: 2-stage high vacuum pump ROAIRVAC 1.5 (No. 170061) with vacuum gauge and solenoid valve, 1x digital manifold (No. 170523P), 1x clamping thermometer (No. 170522), pressure hose set 1/4" SAE 1.500 mm with ball valve for R22, R134A, R407C (No. 1500000028), ROSCALE 120 (No. 173004), 2x 5/16" SAE F - 1/4" with valve trigger (No. 259007), 1x 5/16" SAE M - 1/4" SAE F (No. 170016), 1x bottle connection 1/4" (No. 173204), mineral oil (0.4 l), Tube Cutter 35 (No. 70027)

Model	Performance		No.		
R410A	R22	R134A	R407C	R404A	
ROCADDY 120	42 l / min	19	1000000057		
with 2 analogue manifolds					

Model	Performance		No.		
R410A	R22	R134A	R407C	R404A	R507
ROCADDY 120 Digital	42 l / min	18	1000000058		
with digital manifold					

Digital Manifold

Suitable for commissioning and maintenance of all types of refrigeration circuits



Product Profile

KEY FEATURES

- All important information at a glance
- Suitable for 65 different refrigerants
- Simple control of the procedures needed to be performed
- Simple and safe evacuation and filling
- Automatic calculation of overheating / under-cooling
- Simple use with the easy to understand menu

TECHNICAL DATA

Pressure display:	PSI, Bar, MPa, Kg / cm ²
Temperature display:	°C or °F
Deep vacuum display:	Micron, mBar, Kpa, mmHg
Resolution:	1 psi
Accuracy:	+/- 1 psi or 1% of the display
Working pressure:	0 - 750 psi (52 Bar, 6 MPa, 52 Kg / cm ²)
Testing pressure:	1,000 psi (70 Bar, 7 MPa, 70 Kg / cm ²) (Tolerated pressure without causing damage)
Temperature measurement range:	- 40 up to 93 °C (-40 bis 200 °F)
Working temperature:	-10 up to 45 °C (14 bis 113 °F)
Temperature accuracy:	± 0.5 °C (± 1 °F) 0 up to 71 °C (32 up to 160 °F)
Power source:	9 Volt battery
Adaptor connection:	1/4" SAE (7/16 UNF)

Unit with shockproof rubber protector

Protects against damage

Connection for clamping thermometer

Automatic overheating calculation

Simple use

Easy to understand controls and clear menu

Connection for external vacuum sensor

Evacuation control during start-up

Connection for clamping thermometer

Automatic under-cooling calculation

All important information available at a glance

Large display with various indicators

Viewing glass

Simple control of the refrigerant

Simple and safe evacuation

T-junction with Schrader valve makes changing hose unnecessary

Complete set in protective plastic case



Optional external vacuum sensor for TORR-precise measuring of the vacuum



Clamping thermometer for calculating the overheating / under-cooling up to ø 32 mm



Digital manifold in use with the clamping thermometer



Set (No. 170525) includes: Digital manifold, clamping thermometer, 3x standard 1/4" SAE hoses, 2x adaptor 5/16" SAE F- 1/4" SAE M with valve trigger, plastic carrying case

Model		No.
Digital manifold set	1	170525
Digital manifold (without accessories, case)	1	170523

Model		No.
Vacuum sensor	1	170521
Clamping thermometer	1	170522



Refrigeration & Air-Conditioning Technology

Refrigeration Circuit Control

Analogue Manifolds

2- and 4-way manifolds



Pressure gauge Ø 80 mm, with pulse-dampening class 1.6

Easy-to-read, high precision display

Large hand valve with colour coding

Light, secure and precise opening and closing of the diaphragm valve, maintenance free

Valve sets



Pressure gauge with shock-proof rubber protector

Protects against damage

Valve body made of aluminium with gauge glass

Sturdy despite low weight

Manifold Blister



2-way manifold



Model	ND*/bar	HD*/bar	kg	No.
R22	R134A	R407C	R404A	
2-way, 1/4" SAE	-1 up to 17	0 up to 34	0.7	1 170501
4-way, 1/4" SAE	-1 up to 17	0 up to 34	0.9	1 170502
R410A				
2-way, 5/16" SAE	-1 up to 30	0 up to 60	0.7	1 170518
4-way, 5/16" SAE	-1 up to 30	0 up to 60	0.9	1 170508

*LP = Low pressure manifold, *HP = High pressure manifold

Model	No.
Blue rubber protector for manifold	170545
Red rubber protector for manifold	170546
Valve inserts for manifold	170547

Manifold Sets

Manifold sets and pressure hoses

2-way manifold (for 170600 and 170607)
4-way manifold (for 170601, 170606, 170602 and 170608)

Durable and highly precise tool



No. 170601

Pressure hose with ball valve "Plus" (only for 170602 and 170608)

No loss of refrigerant

Sets include: Manifold, pressure gauge with Ø 80 mm, "Pulse-free", class 1.6, 3 x 1.500 mm pressure hoses, plastic carrying case

Model	kg	No.	
2-way "Standard"			
R22	R134A	R407C	R404A
Manifold set 2-way "Standard"	2.7	170600	
R410A			
Manifold set 2-way "Standard"	2.7	170607	
4-way "Standard"			
R22	R134A	R407C	R404A
Manifold set 4-way I "Standard"	2.8	170601	
R410A			
Manifold set 4-way I "Standard"	2.8	170606	
4-way "Plus"			
R22	R134A	R407C	R404A
Manifold set 4-way II "Plus"	2.8	170602	
R410A			
Manifold set 4-way II "Plus"	2.8	170608	
Plastic carrying case	1.4	171505	

3-piece Pressure Hose Sets

Available in "Standard" and "Plus"



Product Profile

KEY FEATURES

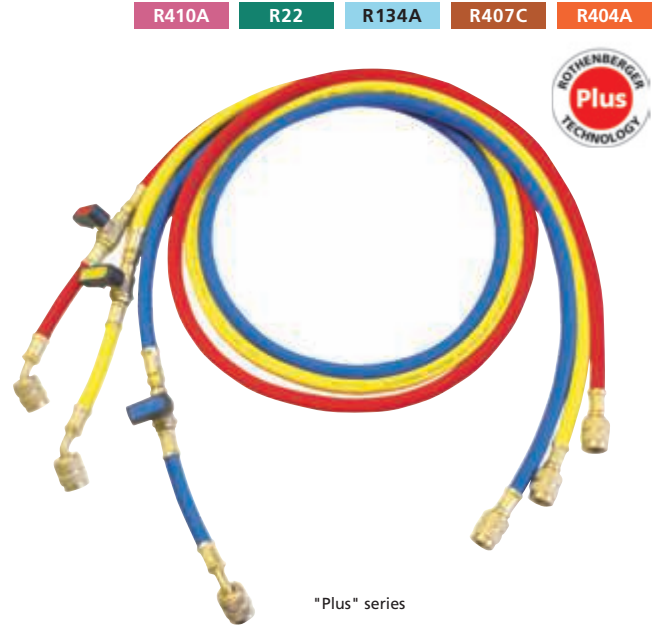
- No confusion and safe use with the colour coding (blue, red, yellow)
- Teflon seal with up to 10 x longer service life compared to neoprene seal
- Working pressure 60 bar / best pressure 300 bar. This is an 8 % better pressure resistance as previously



"Standard" series

Pressure hose from the series "Standard"

Model	Connection	L mm	kg	No.
R22	R134A	R407C	R404A	
Vacuum Hose	3/8" SAE	1,500	1	1500000032
Set of 3 pressure hoses	1/4" SAE	1,500	1	1500000024
Pressure hose yellow	1/4" SAE	1,500	1	1500000025
R410A				
Set of 3 pressure hoses	5/16" SAE	1,500	1	1500000026
Pressure hose yellow	5/16" SAE	1,500	1	1500000027



"Plus" series

Pressure hose from the series "Plus" with ball valve

Model	Connection	L mm	kg	No.
R22	R134A	R407C	R404A	
Set of 3 pressure hoses	1/4" SAE	1,500	1	1500000028
Pressure hose yellow	1/4" SAE	1,500	1	1500000029
R410A				
Set of 3 pressure hoses	5/16" SAE	1,500	1	1500000030
Pressure hose yellow	5/16" SAE	1,500	1	1500000031

Tool Set Climate I

Practical tool set with all tools required

For installation and maintenance of air-conditioning units and heat pumps

Product Profile

APPLICATION AREA

- Monitor temperature and pressure
- Quality hoses with high bursting pressure
- Pipe cutter for all pipe cross-sections from 3 - 35 mm (1/8" - 1.1/8")
- Measurement of ambient and ventilator air temperature
- Clean, kink-free bending of all common pipe cross-sections
- Optimum flaring connections for all types of air-conditioners

9-part tool set Climate I (No. 170604) includes: 2-way manifold (No. 170501), set of pressure hoses 1/4" SAE, telescopic pipe cutter (No. 070027C), minicut pipe cutter (No. 070401C), thermometer, set of bending springs 3/8" - 1/2" - 5/8", universal flaring tool (No. 222601), plastic case

Model	kg	kg	No.
Tool Set Climate I	2.3	1	170604

R22 **R134a** **R407C** **R404A**



The ideal introduction into a whole new area of business!



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Refrigeration & Air-Conditioning Technology

Leak Testing & Locating

Nitrogen Set

Multiple uses for refrigeration systems



Product Profile

APPLICATION AREA

- Pressure and leak test with nitrogen
- Flushing of the installation
- Nitrogen admission during soldering to prevent scale formation

Ideal for split air-conditioning units and heat pumps!



950 cm³ nitrogen bottle included

Complete set



Fine scaled 1.0 pressure gauge

Precise reading of the testing pressure

Connection for large bottles

Any size of bottle can be connected without a problem

Spring loaded pressure reducing valve

Simple and safe handling

No. 259060

5/16" SAE adaptor for connecting to R410 units



Bottle adaptor for connecting 950 cm³ bottles



Set (No. 259060) includes: pressure reducing valve, connection hose, bottle adaptor, pressure gauge, nitrogen bottle and plastic case

Model	No.
Nitrogen set with bottle (950 cm ³)	259060
Nitrogen bottle, each 950 cm ³	259008
Filling hose with pressure gauge	259010
Connection 5/16" SAE internal, 1/4" SAE external	259007



Fig. Similar



Vacuum Gauge

Vacuum gauge (Ø 80 mm, scale 1,000 - 0 mbar, adjustable) with drag indicator for testing the vacuum that has been reached

Model	No.
1-way vacuum gauge and 1/4" SAE Clamp and hooks 1/4" SAE	169310

RO-LEAK

Electronic leak detection device for locating leaks in refrigeration systems (3 g/a)



R410A R22 R134A R407C R404A R507A

Product Profile

KEY FEATURES

- Durable and highly sensitive sensor tip with a leak detection rate of 3 g/a within 3 seconds
- Simple determination of the refrigerant concentration
- Adjustment of the sensor tip's zero measurement point for simple detection of the leak
- Exact and quick locating of the leak
- Easy accessibility of even hard-to-reach leaks

TECHNICAL DATA

Leak status: LED display
Sensor length: 30 cm
Leak detection rate: 3g/a within 3 seconds
Weight: 280 g
Working temperature: - 10 up to + 49°C
Voltage: 2.4 V

Heated pentode

Durable and highly sensitive sensor tip with a leak detection rate of 3 g/a within 3 seconds

Audio signal

Comfortable use

30 cm long, flexible sensor

Easy access in hard-to-reach places

7 LEDs

Simple determination of the refrigerant concentration with the coloured shading

7 different sensitivity levels

Exact and fast location of the leak

RESET - button

Adjusts to the sensor tip zero point setting for simple leak location



No. 87305

Scope of delivery (No. 87305) Leak detection unit RO-LEAK, spare sensor, battery charger, battery

Model	No.
RO-LEAK set with spare sensor and battery charger in plastic case	87305
Spare sensor	87309



Suitable for all common CFC, HFC and HCFC!

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RO-LEAK in use



Refrigeration & Air-Conditioning Technology

Evacuation

ROAIRVAC

Two-stage vacuum pump

For evacuation in accordance with **DIN 8975** with vacuum gauge and solenoid valve



Product Profile

KEY FEATURES

- Solenoid check valve to protect the refrigeration system from oil contamination during power outage
- Vacuum gauge with integrated drag indicator enables simple and quick control of the evacuation process
- Protects the integrated components with the light and high quality casing
- Gas ballast valve for reduction of water vapour in the oil container
- Special filter reduces oil mist an exhaust vent

KEY FEATURES

- Gauge-glass enables easy oil-stand monitoring
- Fast filling of oil without spilling, no special funnel is necessary
- Easy access to the oil drain plug makes emptying quick
- Thermal switch protects the unit from the motor overheating
- Standard 1/4" SAE connection, as well as 5/16" SAE and 3/8" SAE adaptor included in delivery
- Removable cable prevents cable damage



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1/4" SAE standard connection with adaptors for 5/16" SAE and 3/8" SAE



Optimal positioned viewing glass and oil drains for simple draining of the oil



Practical: operating instructions always within view



ROAIRVAC Serie

Two-stage rotary vane pump for evacuation
in accordance with DIN 8975

Type	ROAIRVAC 1.5	ROAIRVAC 3.0	ROAIRVAC 6.0	ROAIRVAC 9.0
No.	170061	170062	170063	170064
Pump rating	1.5 CFM / 42 l/min / 2.5 m ³ /h	3.0 CFM / 85 l/min / 5.1 m ³ /h	6.0 CFM / 170 l/min / 10.2 m ³ /h	9.0 CFM / 255 l/min / 15.3 m ³ /h
Vacuum stages	2	2	2	2
Final-vacuum	25 micron / 0.034 mbar	25 micron / 0.034 mbar	25 micron / 0.034 mbar	25 micron / 0.034 mbar
Motor rating	190 W / 1720 r/m	250 W / 1720 r/m	375 W / 3440 r/m	750 W / 3440 r/m
Voltage	230 V	230 V	230 V	230 V
Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz	50 Hz / 60 Hz
Connections	1/4"	1/4"	1/4"	1/4"
with adaptor	5/16" SAE M / 3/8" SAE M	5/16" SAE M / 3/8" SAE M	5/16" SAE M / 3/8" SAE M	5/16" SAE M / 3/8" SAE M
Oil capacity	250 ml	330 ml	330 ml	590 ml
Weight	9.0 kg	10.7 kg	11.5 kg	17.0 kg
Pressure gauge Ø	50 mm	50 mm	50 mm	80 mm
Measuring unit	mbar / Mpa	mbar / Mpa	mbar / Mpa	mbar



ROAIRVAC 1.5 (42 l/min)



ROAIRVAC 3.0 (85 l/min)



ROAIRVAC 6.0 (170 l/min)

Mineral oil is included by all
pump deliveries



ROAIRVAC 9.0 (255 l/min)



ROAIRVAC - vacuum pump in use with the digital manifold



Scope of delivery ROAIRVAC: Vacuum pump with 1/4", 5/16"SA+B547E and 3/8" SAE connections, plastic bottle with mineral oil

Model	Performance	kg	No.
ROAIRVAC 1.5	42 l/min	9.0	170061
ROAIRVAC 3.0	85 l/min	10.7	170062
ROAIRVAC 6.0	170 l/min	11.5	170063
ROAIRVAC 9.0	255 l/min	17.0	170064
Mineral oil, 1 litre			169200



Refrigeration & Air-Conditioning Technology

Evacuation & Filling

ROREC

Refrigerant recovery device

Compact, portable device for recovery and recycling refrigerants of all kinds



Product Profile

KEY FEATURES

- 4-pole motor guarantees the durability of the machine
- Low noise and vibration emission thanks to the compact design
- Intuitive handling makes it simple and safe to use
- Maintenance-free operation through the oil-free compressor
- Emptying of the device in order to work with different refrigerants with the PURGE function
- Simple transport and use with the light and compact plastic casing

TECHNICAL DATA

Suitable for:	all refrigerants of the type CFC-HCFC-HFC
Capacity:	gaseous: 0.26 kg / min fluid: 1.85 kg / min Push/Pull: 6.22 kg / min
Electrical Data:	230 V / 50 - 60Hz
Power:	370 W
High pressure switch:	38.5 bar
Dimensions:	500 x 220 x 340 mm
Weight:	17 kg

Ideal for mono & multi-split air-conditioning units and heat pumps!

Integrated high pressure switch

Protects the integrated components

PURGE function

Emptying of refrigerant residue in the unit (self-cleaning mode)

Simple use

Controlled dosage of the refrigerant supply

RESET Button

Reset of the pressure shut-off

Removable cable

Prevents cable damage

Oil-free compressor

Maintenance-free operation

Thermal switch

Protects the unit from overheating

Light and compact plastic casing

Simple transport and use

4-pole motor

Increased torque and service life

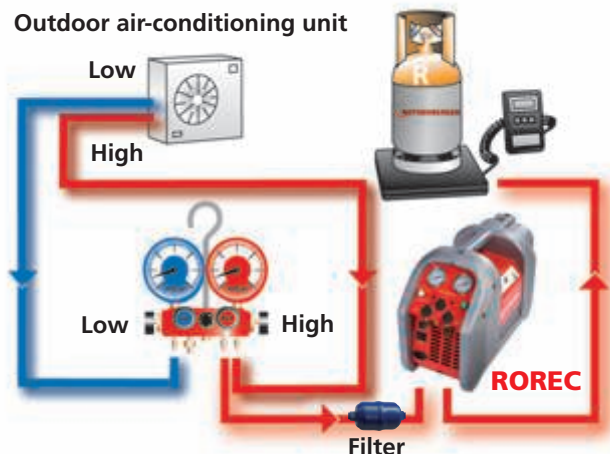


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Recovery of Refrigerant

Outdoor air-conditioning unit



Simple and precise reading with the glycol filled pressure gauge



Practical storage compartment for accessories



Model	Connected Load	kg	No.	
ROREC	370 W	17.0	1	168605
Filter				168713

ROREC PRO

Refrigerant recovery device

Compact, portable device for recovery of halogenated refrigerants of every kind



Product Profile

KEY FEATURES

- Maintenance free operation with the oil-free 2-piston compressor
- 4-pole motor guarantees the durability of the machine
- Automatic shut-off after the evacuation process is finished
- Low-noise and vibration emission thanks to the compact design
- Intuitive handling makes it simple and safe to use
- Emptying of the device in order to work with different refrigerants with the PURGE function
- Simple transport and use with the light and compact plastic casing

TECHNICAL DATA

Suitable for:	all refrigerants type CFC-HCFC-HFC
Capacity:	gaseous: 0.52 kg / min fluid: 2.89 kg / min Push/Pull: 7.27 kg / min
Electrical Data:	230 V / 50 - 60Hz
Power:	730 W
High pressure switch:	38.5 bar
Dimensions:	500 x 220 x 340 mm
Weight:	19 kg

Also ideal for large facilities!

Control lamp

When green: Process is over - unit will turn off automatically
When red: The system pressure is too high - the unit will turn off automatically

Simple use

Controlled dosage of the refrigerant supply

PURGE function

Emptying of refrigerant residue in the unit (self-cleaning mode)

Removable cable

Prevents cable damage

Oil-free 2-piston compressor

Very high suction performance with maintenance free operation

Thermal switch

Protects the unit from overheating

Light and compact plastic casing

Simple transport and use

4-pole motor

Increased torque and service life

Simple and precise reading with the glycol filled pressure gauge



Practical storage compartment for accessories



ROREC PRO in use



Model	Connected Load	kg	No.
ROREC PRO	730 W	19.0	1
Filter			168606 168713



Refrigeration & Air-Conditioning Technology

Evacuation & Filling

Refrigerant Recycling Bottles

Empty, welded press gas bottles for collection of used refrigerant, volume: 14.5 litre, maximum filled weight: 10 kg, double connection valve for gaseous and fluid removal with dip pipe for standing bottle. With 2-way fill / disposal valve, bottle label and complete ADR papers. Colour is without obligation. Collection and disposal only possible in Germany

2-way fill/disposal valve

Liquid and gaseous removal possible



Bottle includes complete refrigerant recycling

No rent, no separate disposal costs

Clear labelling on the bottle ("max 10 kg")

Prevents overfilling, no danger of explosion due to increase of temperature

Model	Ø mm	Height mm	No.
Recycling bottle 1/4" SAE including complete refrigerant recycling	230	510	170952

Refrigerant for Air-conditioning Units

Non-chlorinated refrigerant of the HFC group in practical 40 bar steel bottles (bursting pressure: 165 bar) TÜV seal No. 0036-043/03D and TPED accepted as per 99/36/CE



Standardised SAE thread on all bottle valves

Universal application

Refillable bottles

Full flexibility for the user



Product Profile

KEY FEATURES

- Light and practical for use on building-sites
- 1 and 2 litre steel bottles, rent-free and easy disposal
- Flat base for increased standing stability
- Ease of clean up after removing of the valve

Model			No.
R407C Refrigerant R407C in cardboard packaging	1 l-steel bottle	1 12	170913
	2 l-steel bottle	1 6	170931
R410A Refrigerant R410A in cardboard packaging	1 l-steel bottle	1 12	170912
	2 l-steel bottle	1 6	170932
R422D Refrigerant R422D in cardboard packaging	1 l-steel bottle	1 12	170914
	2 l-steel bottle	1 6	170933

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ROSCALE 120

Electronic refrigerant scale

Precise, easy to handle refrigerant scale for filling and evacuation processes with a maximal weight capacity of 120 kg



Product Profile

KEY FEATURES

- Resolution of 5 g enables very precise filling
- Weight capacity sufficient for all common refrigerant bottles
- Cable connection enables comfortable use in every situation
- Bottle adaptor for connecting small refrigerant bottles (1 l and 2 l bottles)
- Refrigerant bottles of all sizes have enough space
- Large LCD display for comfortable reading of the result
- Simple use

TECHNICAL DATA

Weight capacity:	120 kg or 264 lbs
Accuracy:	+/- 0,5%
Resolution:	5 g / 0,2 oz.
Working temperature:	-10° C - 49° C / 14 - 120° F
Connection:	1/4" SAE for 1-2 lit. Bottles
Battery:	9 V
Platform size:	230 x 230 x 53 mm
Weight:	3.28 kg

Large weighing platform

All sizes of refrigerant bottles have enough space



1/4" SAE bottle adaptor

For connecting small 1 and 2 l refrigerant bottles

Large LCD display

For comfortable reading of the results

Three operating keys

Simple use

Cable connection

Enables comfortable use in every situation

Weight capacity of 120 kg

Weight capacity is sufficient for all common refrigerant bottles



ROSCALE 120 at carrying case

Scope of delivery: ROSCALE 120, 9 V battery, carrying case

Model	kg	No.
ROSCALE 120	3.28	173004



Refrigeration & Air-Conditioning Technology

Accessories

SANIFRESH



Disinfecting and deodorising cleaning spray



Product Profile

KEY FEATURES

- Removes the threat of disease and allergies
Practical and ecologically friendly solution for removing mites, dust, bacteria and spores
- Spray is applied directly to affected surface
- Economical spray-can with spray nozzle and spray tube
- Removes unpleasant odours. Pleasant mint smell

Model	 	Volume	No.
Sanifresh (contains 12 bottles)	1 1(12)	400 ml	085800

Bottle Connection and Adaptors

For refrigerant bottles

For use with new refrigerant bottles on existing equipment



Model	No.
Adaptor, 1/4" connection	173205
Adaptor, 5/16" connection	173204
Adaptor, W21.8 x 1/4" SAE M connection with seal for 2 l sized bottles	170950
Adaptor, 1/4" SAE M - 3/8" SAE F connection	089501
Adaptor, 3/8" SAE M - 1/4" SAE F connection	089503
Adaptor, 3/8" SAE M - 1/2" SAE F connection	089504
Adaptor, 1/4" SAE F - 5/16" SAE M connection	170016
Adaptor, 1/4" SAE M - 5/16" SAE F connection with valve trigger	259007

Torque Wrench Set

For proper tightening of flange connections

Set with adjustable torque wrench (10-70 Nm) and 6 spanner inserts sizes 17, 22, 24, 26, 27 and 29 mm for flange connections on 1/4", 3/8", 1/2" and 5/16" pipe lines **according to DIN EN 378-2 : 2008-06**



Fix with torque urgently necessary!



8 piece set (No. 1750.01) includes: spanner wrench sizes 17, 22, 24, 26, 27, 29 mm, torque wrench, carrying bag

Pipe-Ø	Spanner width	Locking torque
1/4" / 6 mm	17 mm	14 - 18 Nm
3/8" / 10 mm	22 mm	33 - 42 Nm
1/2" / 12 mm	24 mm	50 - 62 Nm
1/2" / 12 mm	26 mm	50 - 62 Nm
5/8" / 15/16 mm	27 mm	63 - 77 Nm
5/8" / 15/16 mm	29 mm	63 - 77 Nm

Model		No.
Torque wrench set, 7 piece	1.7	175001



Adjustable Wrench

Chrome vanadium steel, drop forged, chrome-plated and polished

Product Profile

KEY FEATURES

- Precise operation: Smooth-running and robust roller with minimum play in the sliding guides

Size inch	 mm	Clamping width up to mm	 g	No.
6"	160	20	100	70441
8"	210	25	220	70442
10"	250	29	390	70443
12"	300	34	660	70444
15"	380	44	1,170	70445



Schrader Valve Tool

Product Profile

KEY FEATURES

- For exchanging the Schrader valve on air-conditioners under pressure, without having to evacuate the unit
- For faster filling / evacuation of the refrigeration cycle
- With safety thread for risk-free use with R410A



Model	No.
Schrader Valve Tool in plastic carrying case	87800



Plate Fin Comb

Product Profile

KEY FEATURES

- For straightening the plate fins of heat-exchangers
- 6 different sizes in one tool

Model	Dimension	No.
Plate fin comb	8 - 9 - 10 - 12 - 14 - 15 mm	224500



Refrigeration & Air-Conditioning Technology

Instructions for the use of Refrigerants

Refrigerant data from CFC-alternative refrigerants

Refrigerant	Composition	ODP	GWP	Temperature glide
R22 (HFC-CFC refrigerant)	CHCLF2	0.05	1,700	–
R134a (HFC chlorine-free refrigerant)	CF3CH2F	0	1,300	–
R32 (HFC chlorine-free refrigerant)	CH2F2	0	580	–
R404A (HFC chlorine-free blends)	52% R143a, 44% R125, 4% R134a	0	3,750	–
R507 (HFC chlorine-free blends)	50% R143a, 50% R125	0	3,800	–
R407C (HFC chlorine-free blends)	23% R32, 25% R125, 52% R134a	0	1,610	7.5K
R410A (HFC chlorine-free blends)	50% R32, 50% R125	0	1,890	0.2K

ODP = Ozone Depletion Potential (degree in which the ozone layer is destroyed)

GWP = Global Warming Potential (degree in which it contributes to the greenhouse effect)

Instructions for safe and proper use of the refrigerants:

Refrigerant:

- Wear protective gloves and safety goggles
- Do not let refrigerant come in contact with skin
- Do not inhale high concentrations of vapours
(Lack of oxygen causes a narcotic effect and is a danger to life)
- Do not smoke around refrigerant
- Working place / room must be thoroughly aired, if necessary extracted

Refrigerant bottles:

- Secure against accidents, do not throw
- Do not expose to direct sunlight and do not place near radiators or other heat sources
- Do not use open flame
- Do not disassemble or remove valves
- Damaged bottles need to be properly returned
- Close empty containers

Air-conditioners:

- Air-conditioner leaks need to be repaired immediately
- Do not allow refrigerant to leak while filling or doing maintenance work
- In high concentrations (for example pipe burst), leave the room and do not enter again until it has been properly ventilated
- Only do brazing work together with protective nitrogen gas and only in well ventilated areas

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Flare connections

Normal flare size in accordance with JIS B8607:2008
Flare outer diameter in relationship to the pipe diameter

Pipe outer diameter mm / inch	Metric	Wall thickness mm / inch	Flare outer diameter with R22-, R134a-, R404-, R407C air-conditioners	Flare outer diameter with R410A air-conditioners
6 mm	–	1 mm	8.5 mm	9.1 mm
8 mm	–	1 mm	11.1 mm	11.1 mm
10 mm	–	1 mm	13.6 mm	13.2 mm
12 mm	–	1 mm	15.3 mm	16.5 mm
16 mm	–	1 mm	19.5 mm	19.2 mm
18 mm	–	1 mm	22.0 mm	22.7 mm
1/4"	6.35 mm	0.35"	9.0 mm	9.1 mm
5/16"	7.94 mm	0.35"	11.0 mm	11.1 mm
3/8"	9.52 mm	0.35"	13.0 mm	13.2 mm
1/2"	12.70 mm	0.35"	16.2 mm	16.6 mm
5/8"	15.88 mm	0.35"	19.4 mm	19.7 mm
3/4"	19.05 mm	0.35"	23.3 mm	24.0 mm

Conversion table pressure

mbar	Micron	TORR	mm HG Vacuum
10	7,516	7.5	752
5	3,759	3.6	756
2	1,503	1.5	758
1	752	0.75	759
0.5	376	0.36	
0.4	300	0.30	
0.3	225	0.23	
0.2	150	0.15	
0.1	75	0.08	
0.09	68		
0.07	53		
0.06	45		
0.05	38		
0.04	30		
0.03	22		
0.02	15		
0.01	8		

Conversion table temperature

Conversion from °C in °F: $^{\circ}\text{C} \times 1.8 + 32 = ^{\circ}\text{F}$

Conversion from °F in °C: $(^{\circ}\text{F} - 32) : 1.8 = ^{\circ}\text{C}$

°C	°F	°C	°F	°F	°C	°F	°C
100	212	30	86	212	100	70	21
95	203	25	77	200	93	60	16
90	194	20	68	190	88	50	10
85	185	15	59	180	82	40	4
80	176	10	50	170	77	30	-1
75	167	4	39	160	71	20	-7
70	158	0	32	150	66	10	-12
65	149	-10	14	140	60	0	-18
60	140	-20	-4	130	54	-10	-23
55	131	-30	-22	120	49	-20	-29
50	122	-40	-40	110	43	-30	-34
45	113	-50	-58	100	38	-40	-40
40	104	-60	-76	90	32	-50	-46
35	95	-273	-460	80	27	-60	-51
						-112	-80
						-460	-273



Common threads

UNF-Thread	SAE-Thread	Outer diameter (max. mm)	Internal diameter (min mm)	Lodes per inch	Increment (mm)
7/16" - 20	1/4"	11.079	9.738	20	1.270
1/2" - 20	5/16"	12.667	11.328	20	1.270
5/8" - 18	3/8"	15.839	14.348	18	1.411
3/4" - 16	1/2"	19.012	17.330	16	1.588
7/8" - 14	-	22.184	20.262	14	1.814
7/8" - 14	5/8"	22.184	20.262	14	1.814
1" - 14	3/4"	25.357	23.437	14	1.814
11/16" - 14	-	26.947	25.024	14	1.814
11/8" - 12	-	28.529	26.284	12	2.117
11/4" - 12	7/8"	31.704	29.459	12	2.117
13/8" - 12	-	34.877	32.634	12	2.117
11/2" - 12	1	38.052	35.809	12	2.117