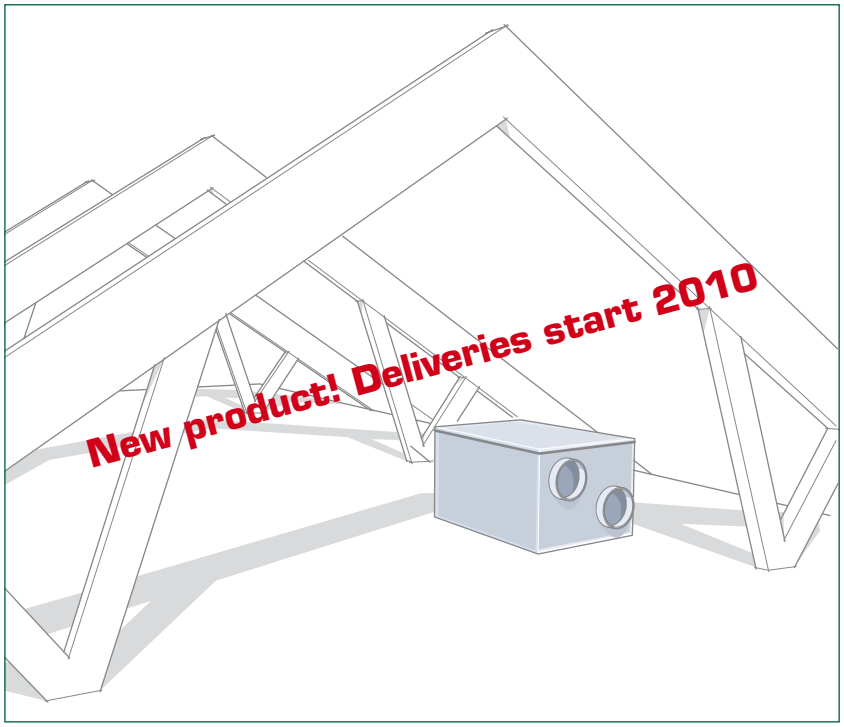
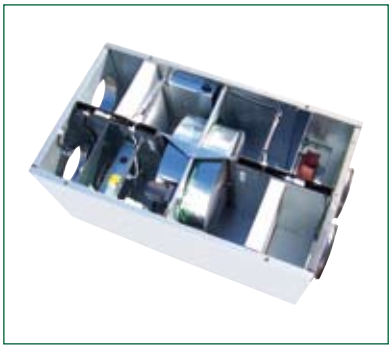
Heat recovery unit RDAE





The RDAE heat recovery unit is a component in the Rexovent system. This unit has been developed from our RDAR unit and is extremely energy efficient and has a low SFP_v value. The unit has a rotary heat exchanger with high temperature efficiency.

RDAE has a built-in control equipment and can be supplied with an external control panel. It is primarily intended for homes and small commercial premises. The unit does not need draining, which is a great advantage when replacing existing installations.

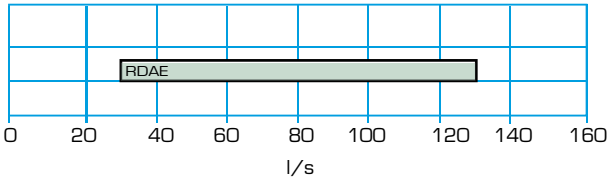
The unit has the connectors on the gables and get installed in cold spaces, for example attics.

Energy consumption

RDAE is an energy efficient heat recovery unit with low SFP_v value that reduces energy consumption remarkably. The reduction is made through B-wheel fitted chamber fans driven by modern, efficient EC motors. EC motors have an energy consumption of only 50 - 60 percent of an equivalent AC motor.

The RDKR unit also has a rotary heat exchanger with a temperature efficiency up to 83%.

Air flow chart



Product data

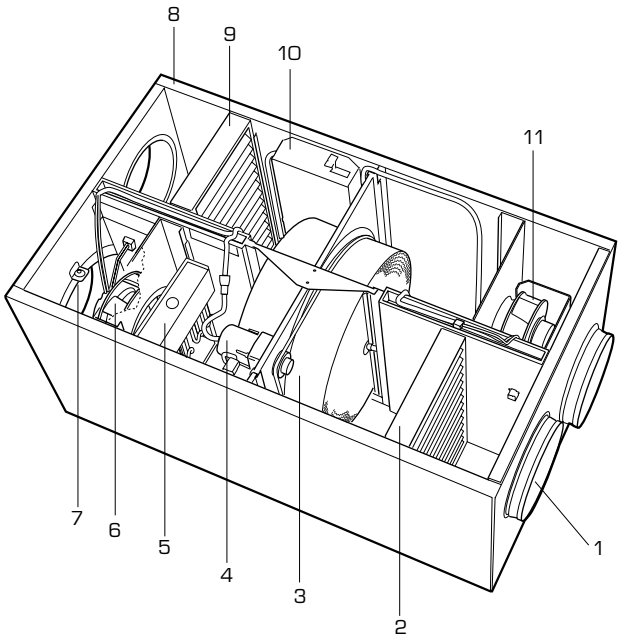
- Low SFP_v value
- Up to 83% temperature efficiency
- Supply and exhaust air flows between 30-130 l/s
- Can serve living areas up to 310 m^2
- Filter, class F7/F5
- Individually adjustable fans
- Easy to install
- Service friendly

Product code example

RDAE-2-4-3-1-0-1

Description, material, technical data

Main components of the unit



1. Outdoor air sensor
2. Supply air filter
3. Heat exchanger
4. Heat exchanger motor
5. Afterheater
6. Supply air fan
7. Supply air sensor
8. Casing
9. Exhaust air filter
10. Control unit
11. Exhaust air fan

Casing

The outer casing is made of white painted sheet metal and the inner casing of galvanized sheet metal with an intermediate layer of 25 mm mineral wool insulation. The unit door is locked with screws.

Fans

The fans are driven by very quiet and energy efficient EC motors. The fans are easy to remove for service and maintenance. The speed of the fans can be independently regulated steplessly.

Heat exchanger

The heat exchanger is an aluminium rotary heat exchanger. It has a temperature efficiency up to 83%.

The unit is fitted with an automatic defrost function controlled by outside temperature.

The heat exchanger can easily be removed for cleaning.

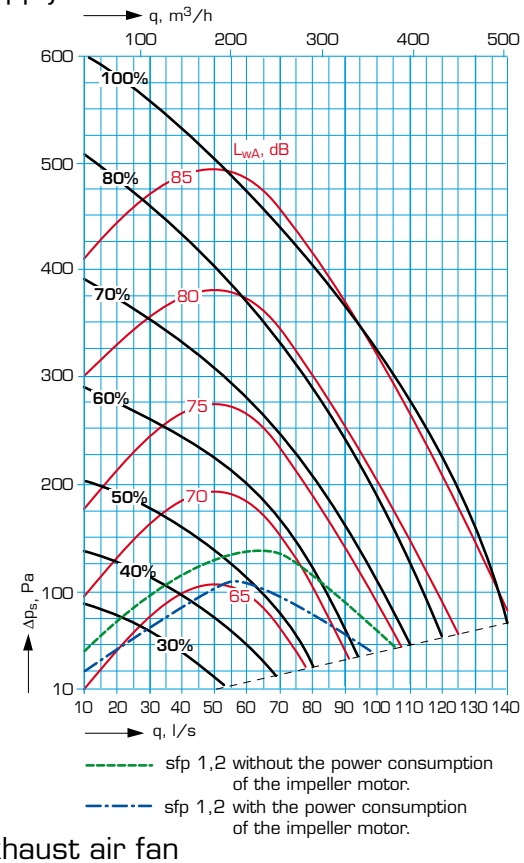
Afterheater

The unit can be supplemented with an electrical afterheater.

Filter

The unit is fitted with filters in F7/F5 classes.

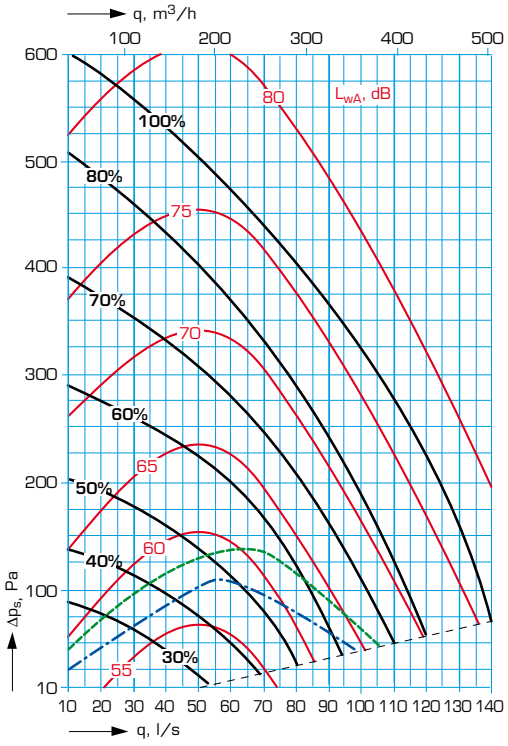
Supply air fan



sfp 1,2 without the power consumption of the impeller motor.

sfp 1,2 with the power consumption of the impeller motor.

Exhaust air fan



sfp 1,2 without the power consumption of the impeller motor.

sfp 1,2 with the power consumption of the impeller motor.

Dimensions, electrical data, control equipment

Sound data

The fan curves in the diagrams relate to the supply air duct and the exhaust air duct on the outlet side of the unit.

Sound power level per octave band dB, is calculated from (L_{wA}) + in the diagram + octave band correction (with sign) according to the table below.

Sound path	Octave band, mid-frequency, Hz							
	63	125	250	500	1k	2k	4k	8k
Supply air duct, dB	5	4	5	–4	–11	–13	–18	–28
Exhaust air duct, dB	5	9	6	–8	–14	–19	–31	–41
To room, dB **(–23)**	5	11	10	0	–16	–20	–25	–30

Supply air duct = L_{wA} in the diagram for supply air fan

Exhaust air duct = L_wA in the diagram for exhaust air fan

Noise to room = L_wA in the diagram for exhaust air fan minus 23 dB gives sound pressure level, dB(A) at 10 m^2 room absorption

Electrical data

Voltage: 230 V, single phase 50 Hz

Code	Fan motors[1] Output, W	Afterheater Output, W	Total W
RDAE-2	160	1000	1180

[1] Refers to two fan motors.

Packaging

Corrugated cardboard box. All instructional documentation are enclosed.

Control equipment

The unit is supplied with a built-in electronic control unit. It regulates the fan, the rotary heat exchanger and possible electric heater.

Fan control

There is three different modes that can be chosen through the control panel (accessory):

"AWAY"	is used when nobody will be at home for a longer period to save energy.
"HOME"	is used for normal ventilation.
"FORCED"	is used when there is a greater need of ventilation (it will automatically return to the "HOME" mode after 120 minutes).

The control panel (accessory), that can be installed at desired location, has a button with an arrow on it that is used to choose mode.

The speed of the fans can be adjusted independently of one another steplessly through the control panel (accessory).

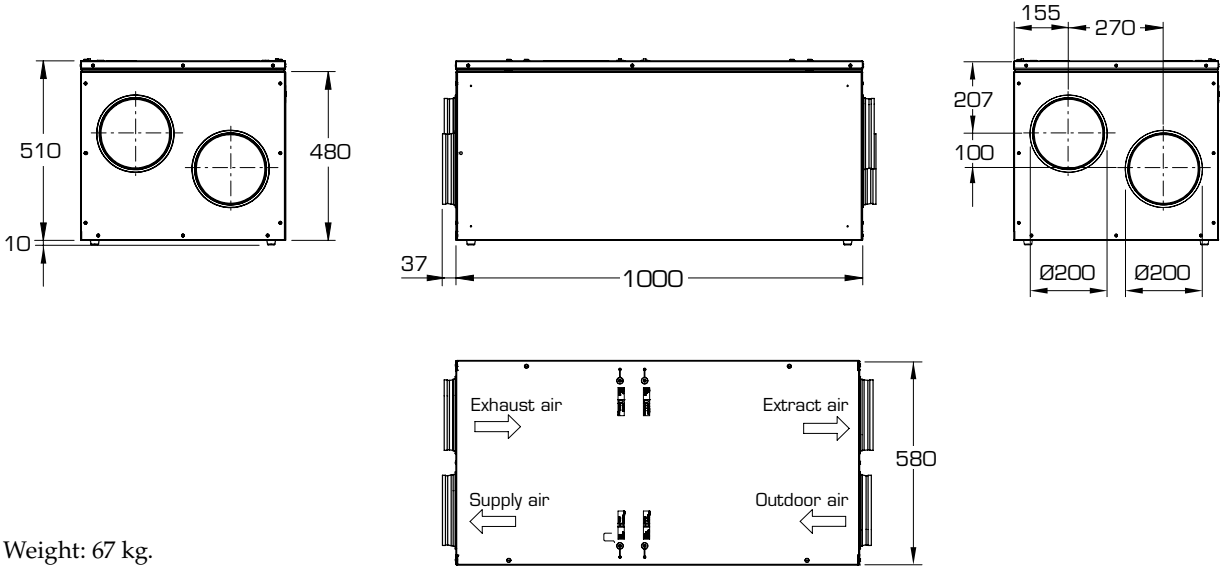
Temperature control

For the most part of the year the heat exchanger recycles enough heat to obtain an acceptable supply air temperature. It can be supplemented with an electric afterheater that controls the supply air temperature to set value. The control equipment in the unit regulates the rotary heat exchanger and possible afterheater to maintain set temperature value.

Alarm

The control panel (accessory) has an alarm to indicate when it is time to change the filter.

Dimensions and weight



Weight: 67 kg.

Accessories, product code

Accessories

Control panel RDKZ-41

External control panel for installation on wall. There is three different settings for chosing the fan speed; ”AWAY”, ”HOME” and "FORCED” air flow. The control panel also has a filter replacement indicator lamp.

Combined air terminal device ABRZ-01

For mounting on an outside wall. Outdoor air is taken in at the bottom and extract air is blown straight out of the unit to prevent the two from mixing. It is made of black plastic coated sheet metal and consist of a wall piece, wall hood and front cover.

Silencer BDER-30

Circular silencer for 200 mm diameter pipes.
L x Dy = 900xØ300.

Noise attenuation at	Center frequency, Hz							
	63	125	250	500	1k	2k	4k	8k
BDER-30-020-090	2	7	13	24	31	44	31	20

Product code

Heat recovery unit **RDAE-a-b-c-d-e-f**

Size (a)
2

Fan (b)
4 = EC motor, B-wheel

Connection (c)
1 = Outdoor air right, supply air left

Recovery unit (d)
1 = not hygroscopic impeller

Supplementary heater (e)
0 = without
1 = Afterheater, electric 1000 W

Generation (f)
1

Accessories

Installation cable for control panel **RDKZ-43-b-cc-d**

Model (b)
1 = 6-pole flat cabel

Length (cc)
10 = 10 meters
25 = 25 meters

Generation (d)
1

Control panel **RDKZ-41-1**

Replacement filters **RDAZ-12**
Set of 2+2, supply air and exhaust air

Combined air terminal device **ABRZ-01-1**

Silencer **BDER-30-020-090**