

Air handling unit

REC Temovex 400S-EC-RS



Experts on indoor climate in low-energy houses

Air handling unit

RT 400S-EC-RS



REC Temovex 400S-EC-RS

- *ECO2 - control system for low-energy and passive houses*
Comprises:
 - Air flow boost for warm and cold air
 - Modes for cooker hood and stove/fireplace compensation
 - Mode for energy saving
 - Room or exhaust air control
 - Advanced night cooling
- *The most quiet in its class**
- *Lowest power consumption (SFP - specific fan power) in its class**

Overview

REC Temovex 400S-EC-RS is an air handling unit (AHU) designed for highly efficient ventilation and heat recovery. It is designed as a part of the white goods, and ready to be installed on the floor in a bathroom, boiler room, laundry or similar.

RT400S-EC-RS consists of fans, filters, after-heater (electric or water), automatic by-pass, integrated control panel and a counter-flow heat exchanger.

The casing is made of double hot galvanised sheet metal with 30 mm insulation

between the sheets. The front and the side panels are white (RAL 9016, powder painted) and the front door has a magnetic strip to keep it closed.

Our counter-flow heat exchanger makes it possible to utilize the thermal energy in the used indoor air and use it to heat the fresh incoming air. The counter-flow heat exchanger also ensures that there is no leakage between used air and fresh air. As a result, you get a good operating economy and a sound and comfortable indoor climate.

Fans

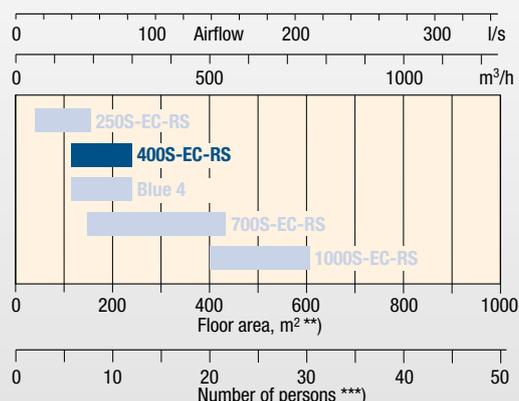
RT400S-EC-RS has EC fans (electronic commutation) with external rotor motor. Each fan is individually set, continuous from 0-100% (to dimension, use approx. 70-80% of maximum flow). The fan motors have integrated overheating protection. The impellers have blades that are bent forward. The fans have electric plugs for easy service/exchange.

Control panel

The AHU has a user friendly control panel which is integrated in the front (behind the door). There is a possibility to place the control panel outside the AHU instead, max. 10 m from the AHU. Using the control panel, you can easily adjust settings such as supply air temperature, boosted air flow etc. The AHU is delivered with a pre-set option to connect an external booster and/or reducer of the air flow via timer or other types of switches.



Guide to setting air flow (in relation to floor area & number of persons)



The supply air fan and exhaust air fan are individually set.

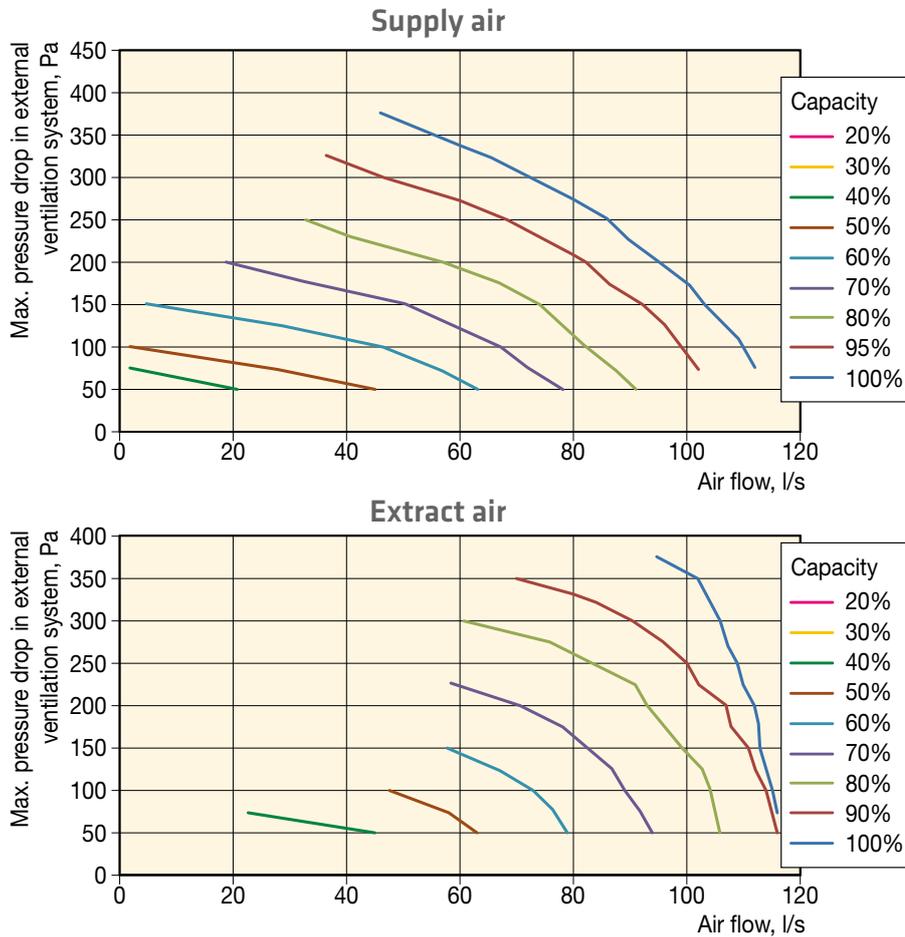
All models indicate min. flow at 100 Pa external pressure drop. Max. flow 80% of max. capacity.

**) Calculated on min. air flow 0,35 l/s / m² (acc. to BBR 99: the Swedish Board of Housing, Building and Planning's Building Regulations, "Dwellings, general")

***) Calculated on air flow 7 l/s / person (acc. to BBR 99 - see above - "Min. flow, supply air")

* Acc. to The Swedish Energy Agency's test in February 2010. (<http://energimyndigheten.se/hushall/testresultat/FTX-aggregat>)

Dimensioning graph



Technical specification

	After-heater - Electrical	After-heater - HW Water temp. 55/45°C
Rated output, unit	1138 W	238 W
Rated output, standard heater	900 W	1500 W at 85 l/s
Rated output, reinforced heater (optional)	1800 W	2800 W at 85 l/s
Rated output, fans	2 x 119 W	2 x 119 W
Voltage/Frequency input	230 V, 50 Hz	230 V, 50 Hz
Fuse	10 A	10 A
Filter, supply air / extract air	Bag ePM1 50% / Bag Coarse 60%	Bag ePM1 50% / Bag Coarse 60%
Weight	100 kg	100 kg
Water connection	-	DN12
Fire classification	A15	A15
Measurements (WxDxH)	430x620x1900 mm	430x620x1900 mm
Duct connections	4x160 mm	4x160 mm
Condensate drain	3/4"	3/4"

Air handling unit

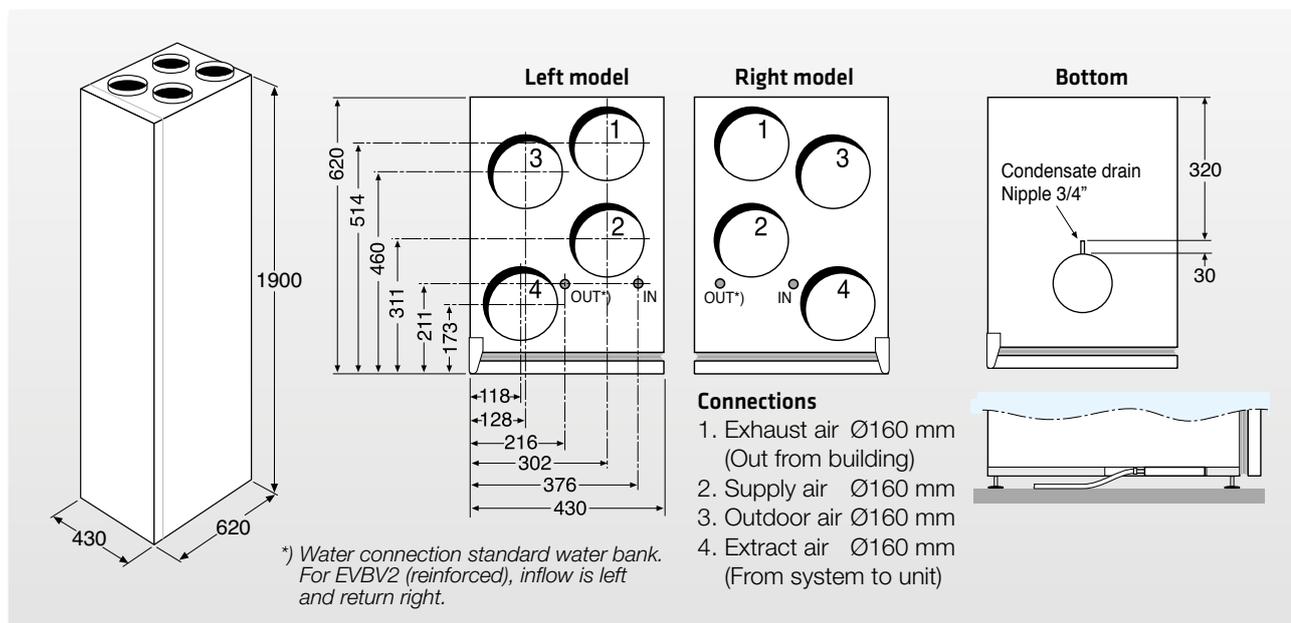
RT 400S-EC-RS

1. Door
2. Filter, extract air
3. By-pass damper
4. Fan, extract air
5. Fan, supply air
6. Counter-flow heat exchanger
7. Filter, supply air
8. Inspection door
9. Adjustable feet
10. Condensate drain
11. Control panel
12. After-heater

Product shown:
Unit with left-hand door.



Dimensions



Air handling unit

RT 400S-EC-RS

Filters

A filter alarm is integrated in the control system. Once a year, a signal lamp indicates that it is time to control/exchange the filters. The alarm is easily turned off via the control panel.

After-heater (electric or water)

RT400S-EC-RS is fitted with an electric after-heating battery, 0,9 kW. The after-heater ensures that the supply air temperature does not go below the set temperature.

As an optional extra, the AHU may be fitted with a reinforced electric after-heater, 1,8 kW, a water coil, 1,6 kW, or a reinforced water coil, 2,8 kW. If a water coil is used, we recommend that an automatic outdoor air damper is mounted on the outdoor air duct, so as to protect the

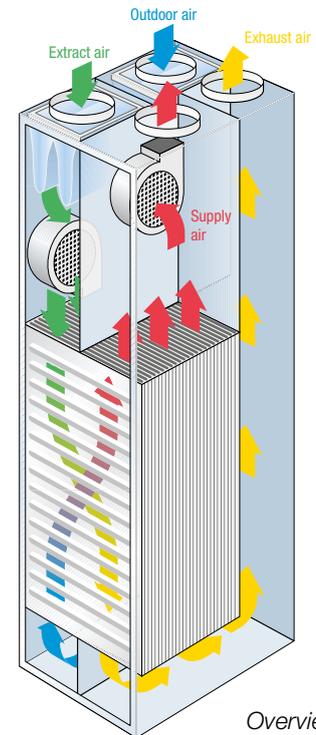
battery against frost damages in case of a possible operational disturbance. When delivered, the AHU is prepared for an electric connection of an outdoor air damper.

Condensate drain

RT400S-EC-RS is fitted with a condensate drain, which should be connected to a drain or fed to a floor drain. If there is no drain to connect to, the AHU may be fitted with a condensation boiler as an optional extra.

By-pass

RT400S-EC-RS is equipped with an automatic summer by-pass. On warm summer days, the control system makes sure cool indoor air is recovered by using cooling recovery.



Overview
of functions



Control functions

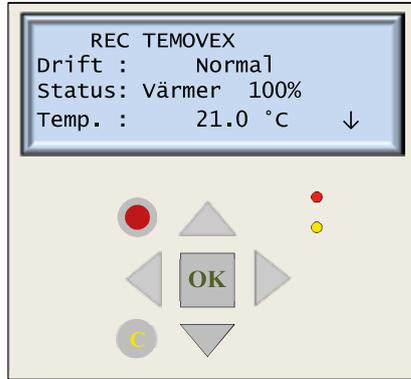
Standard AHU:

- Highly efficient counter-flow heat exchanger
- Built-in after-heater, electric 0,9 kW (continuous regulation by pulses)
- Automatic by-pass with recovery of cool air (continuous regulation)
- Individually adjustable air flows; minimum, normal and maximum
- Fans of EC type with constant flow regulation
- Supply air regulation
- Filter bags: Coarse 60% (extract air), ePM1 50% (supply air)
- Alarm output
- Power supply 230 V for outdoor air damper
- 4 (digital) inputs for external control of min./normal/max.
- Night cooling
- Freely configurable time programs
- Modbus or EXOline (RS485)

Optional extras:

- Built-in reinforced after-heater, electric 1,8 kW
- Built-in after-heater, water (incl 2-way valve and 0-10 V valve actuator)
- Built-in reinforced after-heater, water (incl 2-way valve and 0-10 V valve actuator)
- External cooling coil (incl 2-way valve and 0-10 V valve actuator)
- External reinforced cooling coil (incl 2-way valve and 0-10 V valve actuator)
- Built-in condensation boiler
- Outdoor air damper with spring return
- ECO2 control system for low-energy and passive houses
- Fireplace compensation incl. timer and switch
- Protection class IP X5
- Remote panel (with or without display)
- Web connectivity
- Top Cover for lining

Control unit main screen



	UP
	DOWN
	RIGHT
	LEFT
	CONFIRM
	ALARM
	CORRECT/UNDO

Alarm	Flashing	There are one or several alarms that have not been acknowledged.
	Not flashing	There are one or several alarms that have been acknowledged, but not dealt with.
Setting	Flashing	User may adjust the settings in this menu screen.
	Not flashing	Settings cannot be adjusted by the user.

Remote panels (option)



Remote panel - Single

Contains a temperature sensor and a set-point. The unit is used as a room thermostat, but where you can also shift setpoint +/- 3 C. Analog signals.



Remote panel - Without display

Same features as our Remote panel - Single, but work with serial transfer of data to the AHU.



Remote panel - With display

Remote control with display is the most advanced Remote panel where you can both see different temperatures and set them. You can also adjust the fan speed. The Remote panel has also an "away" button and show a variety of information about the status of the AHU.

Medlem i



A member of Svensk Ventilation
(REC is a member of this Trade organization)

REC Indovent AB reserves the right to make alterations to specification and construction without prior notification.

REC Indovent AB

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Certified acc. to ISO 9001/14001