RECAIR
Compact R300

- Ecodesign A+, nominal airflow 300 l/s
- Energy efficient counterflow plate heat exchanger with section defrosting and 100% bypass
- Leakage A1 according to standard EN 13141-7
- Innovative structure with a small footprint
- Energy efficient and quiet EC fans
- Water coil and electric post heater options available
- Integrated optional silencer

RECAIR
ETS NORD GROUP

The Recair Compact R300 ventilation unit is suitable for use in large homes as well as various commercial spaces such as offices, restaurants, schools, kindergartens. Thanks to the innovative silencer element of the Compact R300, the ventilation ducts can be connected directly to the unit under the ceiling. Thanks to its compact design the machine requires very little space.

Silencer element:

Compact R300 silencer element with Ø250 mm horizontal connections and interchangeable connection sides enable quick, easy and clean installation of ductwork right under the ceiling. This allows the unit to be installed in a very small and tight space. The unit can also be delivered without the silencer element, in which case an adapter box with Ø250 mm duct outputs is installed on top of the unit.

Energy efficiency:

Compact R300 unit heat recovery has energy efficient counterflow plate heat exchanger with efficiency up to 78%. The heat exchanger is equipped with a section defrost, which ensures that the plate heat exchanger does not freeze and the machine works even in Nordic conditions. In addition, large-area bag filters and quiet and energy efficient EC fans ensure low energy consumption and quiet sound levels. The Compact 300 meets the requirements of eco-design energy class A +.

Controls:

The unit is equipped with integrated automation, which controls and regulates the unit's functions independently. The settings can be changed using the integrated control panel. The unit has integrated extract air humidity measurement which can be used to boost the ventilation. It is also possible to add functions such as carbon dioxide based control and fan speed control based on duct pressure or airflow. The unit can be controlled by the building management system with either Modbus RTU or with 0-10 V analog signal.

Construction:

The design of the unit complies with the best A1 internal and external leakage class according to EN 13141- 7. Removable service doors make unit maintenance easier. The unit is equipped with condensate drainage which ensures the condensed water does not remain on the bottom of the unit. Wide area bag filters ensure better filtration efficiency and low pressure drop. Post heater and control valve for water heater are installed inside the unit.

Compact R300

Silencer box for duct connection

Duct connection adapter

Pre-programmed integrated automation system

Built-in electric post heater or water heater with drain-, vent valve and 2-way control valve

Bag filters with large surface area

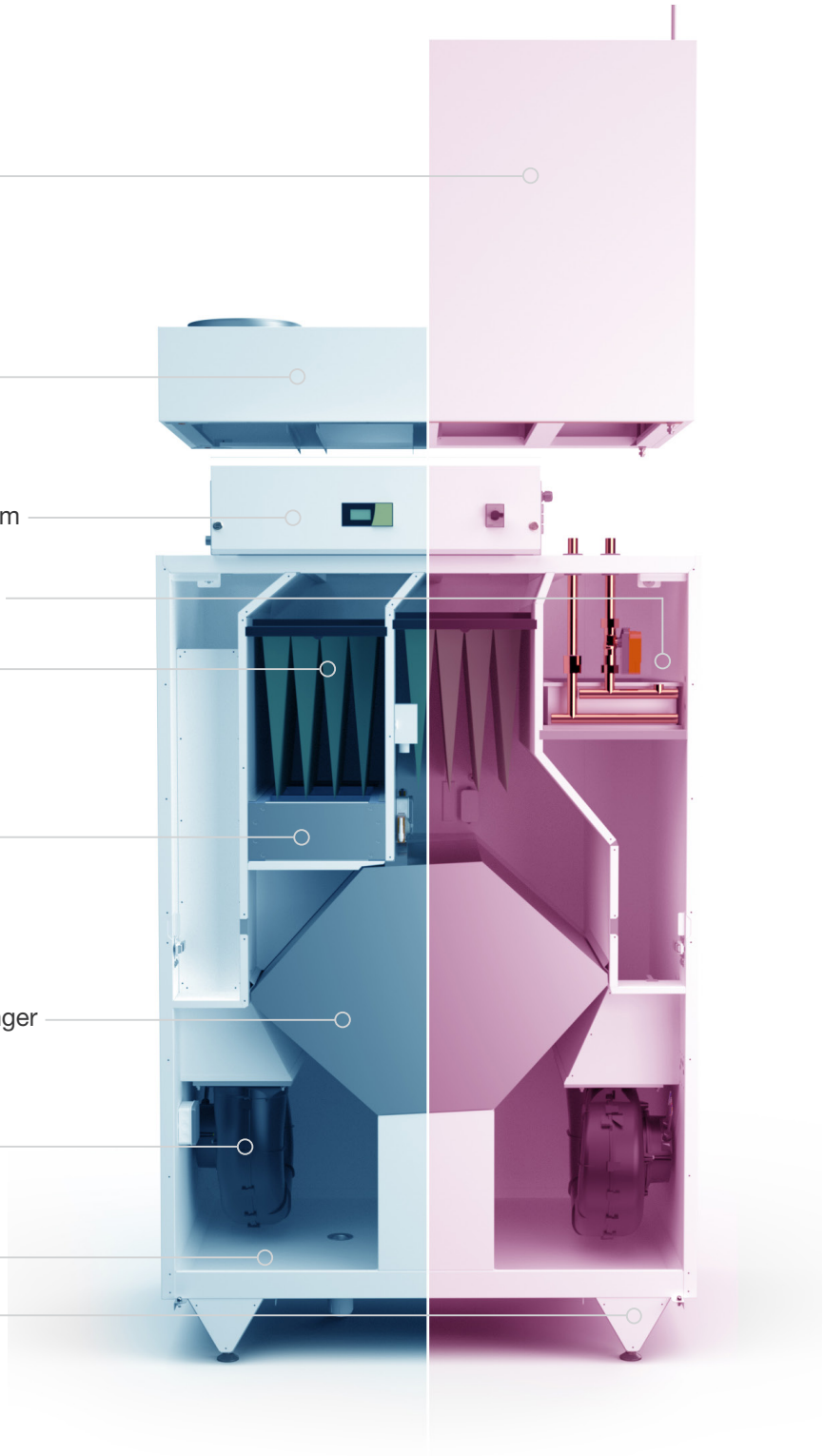
Section defrost with 100% bypass

Energy efficient counterflow plate heat exchanger

Energy-efficient EC fans

Condensate drainage from the bottom of the unit

Strong and compact unit design with height-adjustable legs



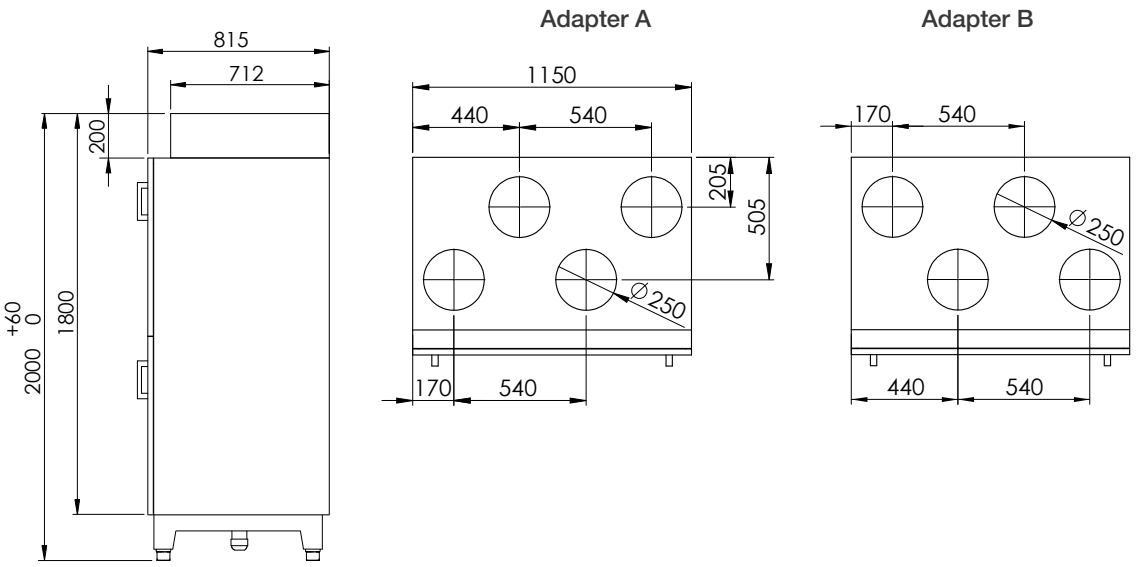
Removable service doors make unit maintenance easy.

TECHNICAL SPECIFICATIONS	
Airflow (max @200 Pa)	75 - 350 l/s 270 – 1260 m³/h
Nominal airflow (@200 Pa)	300 l/s 1080 m³/h
Filters	Bag filters
-supply	ePM1 60% (F7); 1 × 287/592-5-370 Bag filters
-extract	ePM10 60% (M5); 1 × 287/592-3-370 Bag filters
Heat exchanger	Counterflow heat exchanger
Fan	EC-fan
Post heating coil	Water coil 12,5kW Electric post heater 9000W
Electric pre-heating coil (accessory)	Electric pre-heater 5000W
Automation	Ouman Ouflex MBA
Unit shell color	White RAL 9003 (also available in different colors on request)
Intake and exhaust dampers	Duct mounted dampers with 24V spring return actuator (Accessory)
Electrical connection	With water heater: 1~ 230V / 16 A / 50 Hz With electrical post heater: 3~400 V / 3 x 16 A / 50 Hz
Fans	2 x 522 W
Duct connections	4 x Ø250
Drain connections	DN32

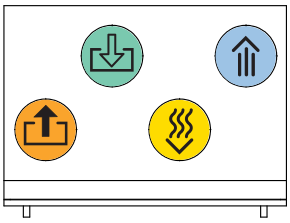
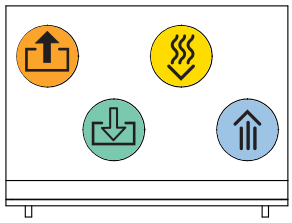
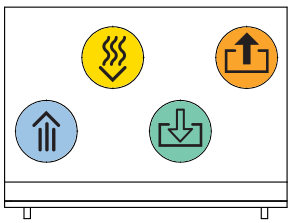
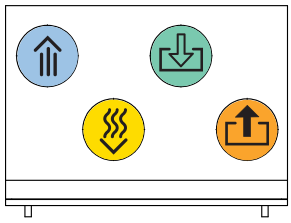
	With silencer	Wiht adapter
Dimensions (height x width x depth)	2800x1150x866 mm	2000x1150x866 mm
Weight	332 kg	233 kg

Dimensions and duct connections with adapter and silencer

Dimensions and duct connections with adapter:



Connections with adapters:

Adapter / Unit	Adapter A	Adapter B
Type – R		
Type – L		

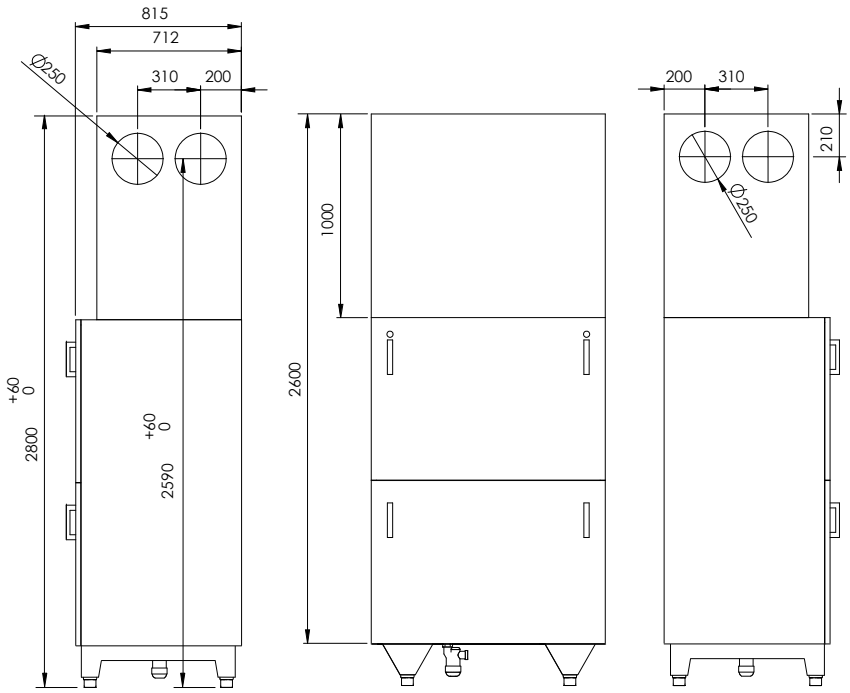
– Exhaust air

– Outdoor air

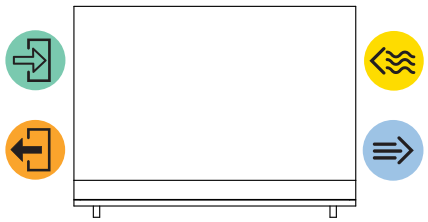
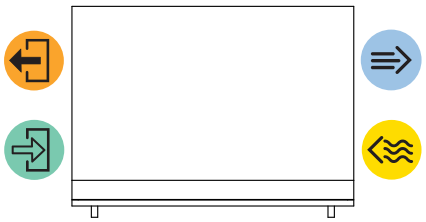
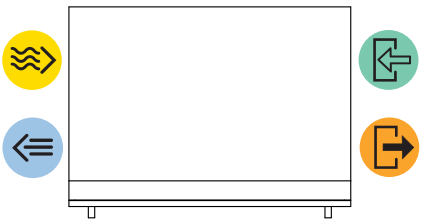
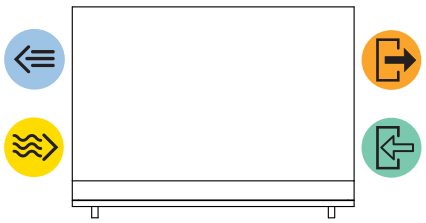
– Extract air

– Supply air

Unit dimentions with silencer:



Connections with silencer:

Unit \ Silencer	Silencer A	Silencer B
Type – R		
Type – L		

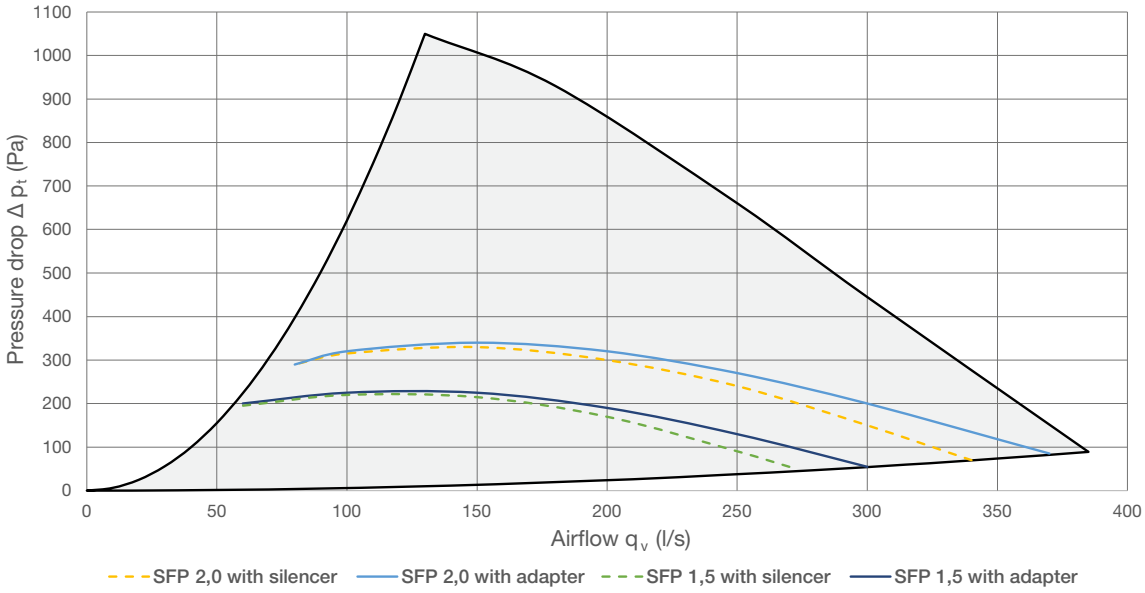
– Exhaust air

– Outdoor air

– Extract air

– Supply air

Fan curves and sound power levels:



With adapter 300 l/s @200 Pa

Sound to duct connections:										
	Sound power levels by octave band LW, $_{oct}$ [dB]								L_{wtot} [dB]	$L_{WA_{tot}}$ [dB]
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		
Supply	71	71	76	82	70	70	62	53	84	80
Outdoor	69	63	64	66	59	54	46	42	72	65
Extract	66	62	64	65	56	50	46	47	71	64
Exhaust	71	72	76	78	70	70	64	55	82	78

Sound power levels in the environment:										
	Sound power levels by octave band LW, $_{oct}$ [dB]								L_{wtot} [dB]	$L_{WA_{tot}}$ [dB]
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		
Through casing	61	60	62	58	42	40	33	30	67	58

With silencer 300 l/s @200 Pa

Sound to duct connections:										
	Sound power levels by octave band LW, $_{oct}$ [dB]								L_{wtot} [dB]	$L_{WA_{tot}}$ [dB]
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		
Supply	72	68	64	62	44	43	38	32	774	61
Outdoor	69	61	52	46	33	28	21	21	70	50
Extract	67	60	51	45	30	24	21	25	68	49
Exhaust	70	68	63	56	43	43	38	32	73	60

Sound power levels in the environment:										
	Sound power levels by octave band LW, $_{oct}$ [dB]								L_{wtot} [dB]	$L_{WA_{tot}}$ [dB]
	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz		
Through casing	63	63	63	61	46	45	39	33	69	60

Product marking

Compact R300 L WH RAL 9003

Marking
R300 - unit type

Handedness
L - left handed unit (supply and extract on left side)
R - right handed unit (supply and extract on right side)

Type of heater
WH - Water heating coil
EH - Electrical post heater

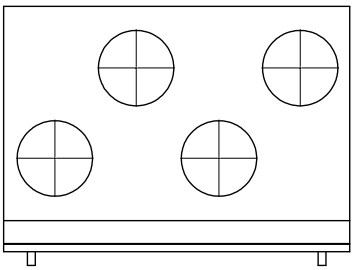
RAL colour
Standard colour white RAL 9003

Example: R300 L WH RAL9003

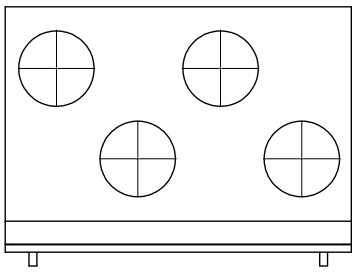
Accessories

- Connection adapter (look drawings below)
  Suitable for both type R and type L unit.

Adapter A
(Product Code: 1030104)



Adapter B
(Product Code: 2243428)



- Silencer box (look unit "Dimensions and duct connections with adapter and silencer")
  Suitable for both type R and type L unit.
  - Silencer A (Product Code: 2243442)
  - Silencer B (Product Code: 2243459)

- Intake and exhaust air shut-off valve: KRTS-4 LF24
  (Product Code: 2243961)
  The air intake and exhaust air shut-off valve is supplied separately with a 24 V spring return actuator. The valves are 250 mm in diameter. The valves are connected to the Ouflex M control unit. Leakage class C and density class 4.
  NB! The cable between the valve and the ventilation unit is not included.

- Unit CO2 sensor module – Product Code: 140190210

  The carbon dioxide sensor installed inside the unit measures the carbon dioxide level in the extract air. The carbon dioxide (ppm) setpoint can be set on the unit's control panel.

- Differential pressure sensor of the unit – Product Code: 140190061

  The differential pressure sensors are used to measure the pressure in the supply and extract ducts in duct pressure control applications. (The tubes and nozzles are not included)

- Room CO2 sensor module – Product Code: 140190210

  Carbon dioxide sensor that is installed in the room. A carbon dioxide sensor installed in the room measures the carbon dioxide content in the room. The limit value for the carbon dioxide concentration (ppm) can be set from the machine´s control panel. The cable between the room sensor and the ventilation unit is not included.

- Room control panel – Product Code: 1402000)

  The room control panel provides an overview of the ventilation unit's status and alarms. The display shows the carbon dioxide level and room temperature. Additional operating time for the ventilation unit can also be set from the control panel.

- Cooling coil – Product Code: 2243429

  R300-CKD-250-3-2,5 (Cooling coil + valve + T_{sensor})

  Cooling coil (CKD-250-3-2,5) – Product Code: 170103002

  Valve (1/2", kvs 4,8; PN25) – Product Code: MR00197

  Valve actuator – Product Code: MR00198

  Temperature sensor (NTC10)

  CKD water cooling unit with round duct connections.

  The coil is for horizontal installation.

  NB! The cooling coil is delivered with 2-way valve and duct mounted temperature sensor.

- Electric pre-heater with prefilter R300 CV 25 – 5000 – 3 MTXL + BFR 250 – Product Code: 2243430

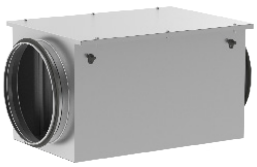
  Electric pre-heater 5000W (CV 25 – 5000 – 3 MTXL)

  Filter box (BFR 250)

  Filter (FKB 250 G3)

  Circular electric heater for duct installation.

  - Air tightness class C.
  - Integrated electronic flow switch.
  - Overheating protection.
  - Casing is made out of aluzinc-coated and heating elements of stainless steel.
  - IP44 protection.
  - 400 VAC 2-ph.
  - (Minimum air velocity of 1.5 m/s)



Ecodesign

PRODUCT	
Trade name	RECAIR
Product name	R300

ECODESIGN	
ErP compliance	2018
Unit category	NRVU
Unit type	BVU
Drive	Integrated VSD
Heat recovery type	Recuperative
Temperature ratio	75,2 %
qv nom	0,3 m^3/s
P nom unit	0,612 kW
SFPint	0,567 $W/(m^3/h)$
Face velocity	1,37 m/s
Nominal external pressure (ΔPs, ext)	200 Pa
Ps int. supply	245 Pa
Ps int. extract	170 Pa
Supply fan static efficiency	64,4 %
Extract fan static efficiency	56,0 %
External leakage	1,2 %
Internal leakage	1,9 %
Filter energy performance	C (1389 kWh/a)
Sound power level L_{WA}	L_{WAtot} 58 dB(A)

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