SANTOS 570 DC COOL

MECHANICAL VENTILATION HEAT RECOVERY (MVHR) UNIT
WITH COOLING UNIT

WITH HUMIDITY RECOVERY

PAUL
WÄRMERÜCKGEWINNUNG

Touch screen
Control panel for whole system,
surface-mounting
H x W x D (mm): 230 x 138 x 40

TECHNICAL DESCRIPTION

The santos 570 DC cool MVHR with cooling unit is a ventilation appliance with heat recovery and attached cooling unit. The complete system is also available with moisture recovery (santos F 570 DC cool), which allows additional cooling and dehumidification and therefore offers a high degree of comfort all over the year. The MVHR unit can be used in new as well as in old buildings with an air flow rate demand of up to 600 m³/h. The complete system is offered as left or right version and can be installed on a standard mounting frame.
The ventilation unit is equipped with an integrated motorized summer bypass. The standard plastic heat exchanger (heat recovery rate: up to 95%) can optionally be replaced by a membrane moisture heat exchanger (enthalpy exchanger). The housing consists of galvanized, powder-coated sheet steel. The interior lining, made of high quality polypropylene, assures a high degree of heat- and sound insulation. The intake air is cleaned via a G4 filter or a G7 pollen filter, the extract air is cleaned by a G4 filter. EC radial fans guarantee a low energy consumption and high efficiency. The control module is integrated in the unit. The cooling unit is a exhaust air / supply air heat pump with all components necessary for cooling. The supply air is cooled down. The heat taken from the supply air is transferred to the exhaust air. The housing consists of powder-coated steel and reusable ABS-plastic, so it perfectly integrates into the ventilation unit's design. The unit is connected via 4 DN 180 pipe connections.
The complete system for comfort ventilation, cooling and dehumidification is controlled by the MVHR's control unit. All values are set via the touchscreen, which allows the user to access all ventilation, bypass and cooling functions. Furthermore, various settings are possible.

Features of the control unit:

- Ventilation steps: ABSENT, Step 1, Step 2, Step 3, Step 3 with turn-off delay
- Comfort temperature control
- Weekly time programs
- Adjustable balance between supply and extract air fans
- Extract air and supply air fan can be switched on/off separately
- Control functions via external 0-10 V pick-up
- Contact for external "OFF" switch
- Additional boost switches can be connected
- Automatic temperature controlled summer bypass
- Automatic frost protection control
- Equipment prepares for the common enterprise with a fire place
- Timed filter change indicator
- Error log with last 3 error messages

santos 570 DC cool

TECHNICAL DATA

Distribution by:

Dimensions:
(without mounting frame)
H x W x D (mm): 1476 x 725 x 584

Installation:
On an assembly frame (259 mm high) standing

Place of installation:
Frost protected, preferably > 10 °C

Duct connections:
4 air ducts Ø 180 mm

Condensatiewater:
- DN 32 (pipe connection on cooling unit)
- Male thread AG 1 ¼" (on ventilation unit)

Material:
Housing:
Galvanized steel, powder-coated,
Thermal bridge free heat insulation
Heat exchanger:
- Plastic (counter flow channel type heat exchanger)
- Cellulose (moisture heat exchanger)

Weight:
92 kg

Filters:
Intake air: G4 or F7 (pollen filter)
Extract air: G4

Electrical connection:
230 V, 50 Hz, ready for connection, with plug

Cable lengths:
- Mains cable (230 VAC): 2 m
- between touchscreen and ventilation device: variable, by costumer

Control:
Comfort control

Protection:
IP 22

Refrigerant:
R 134a

Fans:
EC radial fans with integrated electronics

Volume flow rate / external pressure / power consumption:
(see chart 1)

Ventilation step	Volume flow rate [m³/h]	ext. Pressure [Pa]	power consumption [W]
low	263	49	67
medium	388	107	157
high	510	185	310
maximum	530	200	345

Table 1: Power consumption without cooling unit

Cooling capacity:

Ventilation step	Cooling capacity	COP
low	1,70 kW	2,07
medium	2,04 kW	2,61
high	2,37 kW	3,13
maximum	2,42 kW	3,22

Table 2: cooling capacity of cooling unit

Heat recovery rate:
- to 95% for santos 570 DC
- up to 127% for santos F 370 DC (as referred to sensitive heat in the extract air stream)

Sound power level:
(acc. to DIN EN ISO 3744)

Ventilation step	Sound power level	
	A	B
low	49 dB(A)	55 dB(A)
medium	57 dB(A)	57 dB(A)
high	63 dB(A)	64 dB(A)
maximum	65 dB(A)	65 dB(A)

Table 3: Sound level for
A - without cooling unit
B - complete system with cooling unit

Application limits:
Can be used between -20 °C to 40 °C

Summer operation:
- motorized summer bypass
- cold recovery
- active cooling with cooling unit

Frost protection:
- automatic frost protection or
- external defroster heater or
- Ground heat exchanger (by customer)

Backup heating:
- Hot water backup duct heater or
- Electric duct heater
(each as external unit)

Information:
Subject to change in the interest of technical progress.

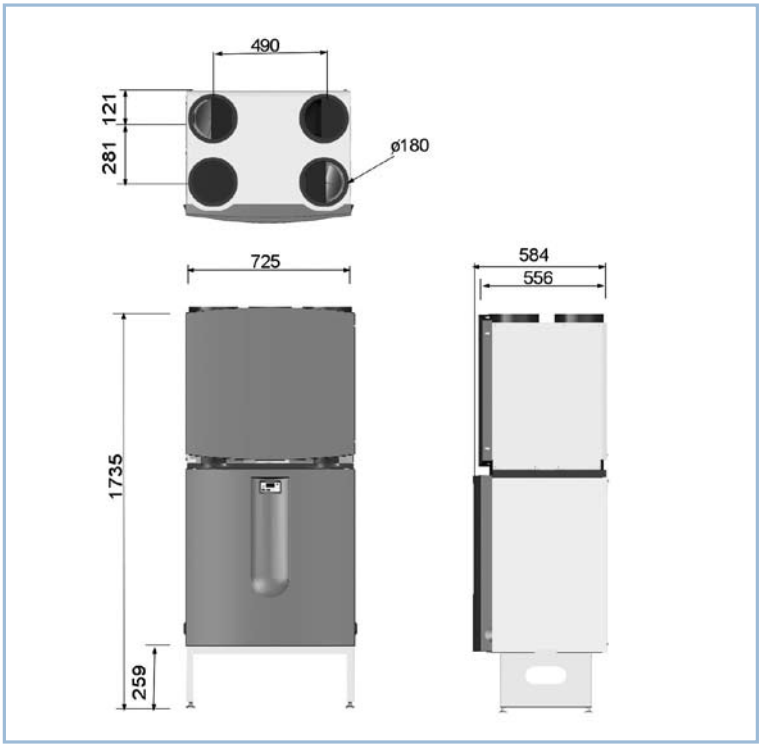

Image 1: Dimensions and plans

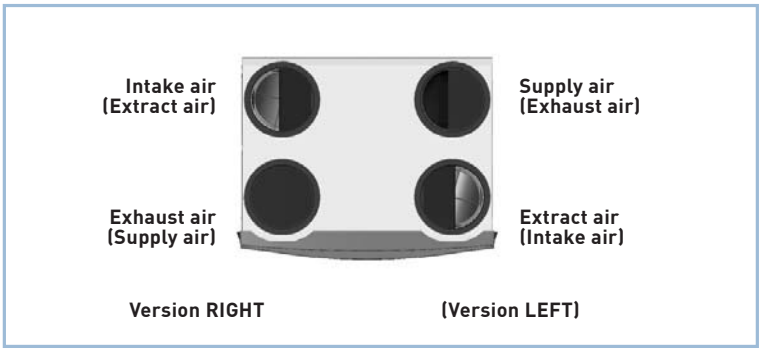

Image 2: Versions

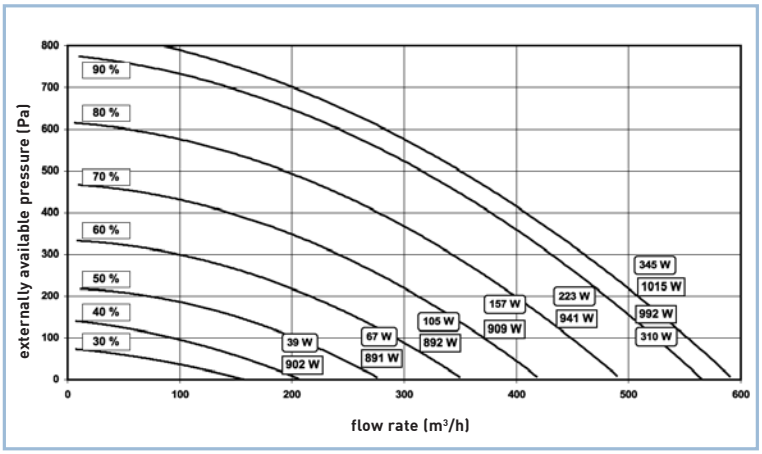

Chart 1: Characteristics for volume flow rate / external pressure / power input

without cooling operation with cooling operation

- Environment award
- Innovation awards
- European and German patents
- Product of the Year Award
- First Passiv Haus certified MVHR system
- Environment Oscar award
- INTEC award Saxony

„PAUL Ventilation Systems obtained innovation awards both on the German state and Saxon regional levels, received the German Environment Award (European-wide competition) as well as the Product of the Year and Environment Oscar awards."

PAUL heat recovery offers equipment for controlled residential ventilation with efficiencies of up to 99%, which is groundbreaking in the industry.

"New ideas in ventilation" is our vision - for fresh and healthy air in apartments with energy-saving technology for safeguarding the integrity of the environment.

PAUL WÄRMERÜCKGEWINNUNG

Paul Wärmerückgewinnung GmbH · August-Horch-Str. 7 · 08141 Reinsdorf · Germany
Tel. +49(0) 3 75-30 35 05-0 · Fax +49(0) 3 75-30 35 05-55 · E-Mail: info@paul-lueftung.de · Internet: www.paul-lueftung.net