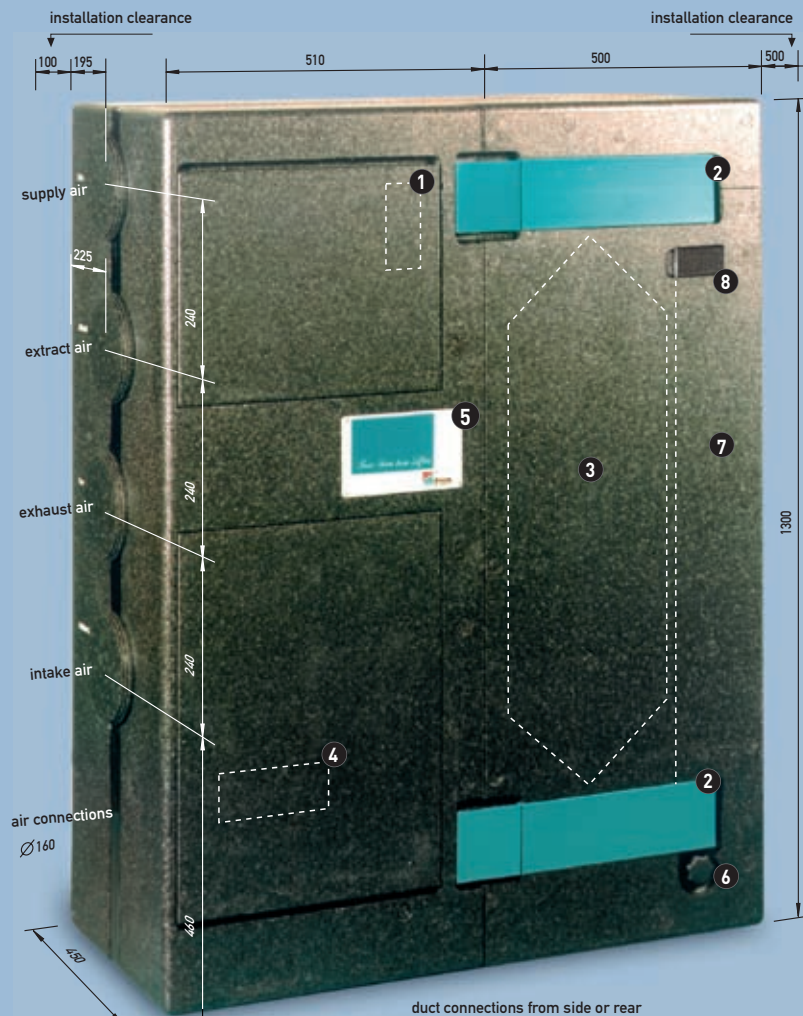


THERMOS 200/300 DC

PASSIV HAUS COMPLIANT MECHANICAL VENTILATION HEAT RECOVERY UNIT



- 1 extract air filter
- 2 connecting terminals
- 3 heat exchanger
- 4 intake air filter
- 5 terminal box
- 6 motorised bypass valve
- 7 summer bypass
- 8 bypass shut-off insert

PASSIVE
HOUSE
certified
COMPONENT
Dr. Wolfgang Feist



Heat recovery, ³⁾
heat recovery rate
[effective], 92% ^{1) 2)}
Electrical efficiency: 0.36 Wh/m³

¹⁾ results may vary according to the test methods used, e. g. with or without condensation

²⁾ best efficiencies in the German market today

³⁾ certificate refers to thermos 200 DC

PRODUCT DESCRIPTION

The PAUL heat recovery unit **thermos 200 / 300 DC** is used for balanced mechanical ventilation in homes and uses a highly efficient counter-flow channel-type heat exchanger (protected by German and European patents). The heat exchanger has a heat transfer surface area of 60 m²; this is more than twice that of the other commercially available units. The thermal efficiency of this exchanger is much higher than that of conventional cross-flow plate heat exchangers.

The thermos unit is offered in two specifications according to the power of the ventilation fans (charts 2 and 3). The high-efficiency electronically commutated radial fans with integrated electronic power control provide an excellent cost/benefit ratio of 1:20 to 26 (e.g. for thermos 200 DC: electric power input 53 W, heat recovery 1197 W @ -3°C intake temperature).

The programmer allows the air flow rate to be regulated in 3 steps. The fan power of the 3 steps can be varied in 1% increments. The programmer functions are: 8 independent timing programs with weekday timer for presetting the operating times and power setting of the ventilation fans, control of the motorised summer bypass valve, intake/exhaust balancing, filter monitor function, frost protection for downstream hot water duct heater, potential to connect several boost switches and a standby circuit with a power input of less than 2 W.

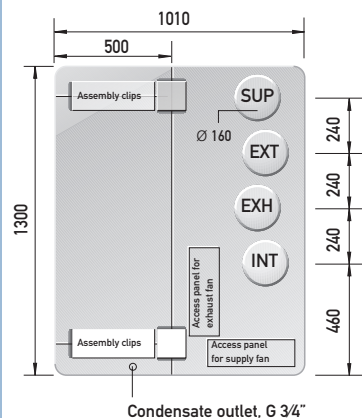
Optional features are: controlling a frost protection pre-heater, regulating a ground to air heat exchanger or a ground to brine to air frost protection, a heating circuit (e. g. heating circuit pump or electric back-up heater up to 2.1 kW), and addition of several boost switches.

The PAUL MVHR unit is a fully soundproofed and heat-insulated design. The entire housing is made of EPP foam (no sheet metal parts) and thus contains no thermal bridges (utility model protection)! The intake air is cleaned via a G4 filter, or optionally via a pollen filter (F8). On the extract side, the unit is protected from dirt and contamination by a G4 filter, or optionally via a pollen filter (F8).

The MVHR unit thermos 200/300 DC is designed for the use in residential buildings, especially in low-energy and Passiv Haus buildings, and can also be used in nurseries, schools, retirement homes, offices etc.



Comfort Panel
for automatic control
L x W x D (mm): 158 x 125 x 32



Rear view of MVHR unit

thermos 200/300 DC

TECHNICAL DATA

Unit dimensions:
Control dimensions:
incl. frost protection and
back-up heating options

H x W x D [mm]: 1300 x 1010 x 450
L x W x D [mm]: 340 x 300 x 80

Installation:

Raise by 100 to 200 mm from floor for
condensate discharge

Place of installation:

frost free, preferably > 10°C

Duct connections:

4 x 160 mm dia.

Condensate:

G 3/4" condensate connection

Material:

Housing: EPP foam, up to 80 mm thick,
heat-insulated and soundproofed
Heat exchanger: plastic

Weight:

approx. 35 kg

Filters:

Intake air:
G4 or F8 (pollen filter), extract air: G4

Electrical connection:

single-phase 230 V, 50 Hz, or
three-phase 3 x 230 V, 50 Hz for operation
of two back-up heaters
(frost protection heater and electric duct
heater)
ready for connection – no plug-in

Cable lengths:

- power cord (230 V): by customer
- MVHR unit to control unit: 3 m
- automatic control to programmer:
max. 15 m (by customer)

Control:

- automatic control with programmer

Protection:

IP 44 (unit)
IP 20 (control)

Ventilators:

2 48VDC radial fans with
integrated electronics

Power input/flow/
available pressure:

see charts 2 and 3

Heat recovery rate:

approx. 97 to 99%, see chart 1
(according to TZWL)

Sound pressure level:
acc. to DIN 45635 Part 1
(3-m distance in dB(A))

Step	200 DC	300 DC
58%	28	35
100%	34	42

Temperature range of
heat exchanger:

can be used between -20°C and 40°C

Summer operation:

- motorised bypass valve

Frost protection:

- optional frost protection heating, or
- optional ground to air heat exchanger

Back-up heating:

- hot water duct heater as external unit,
or
- electric duct heater as external unit

Information:

Subject to change in the interest of
technical progress.

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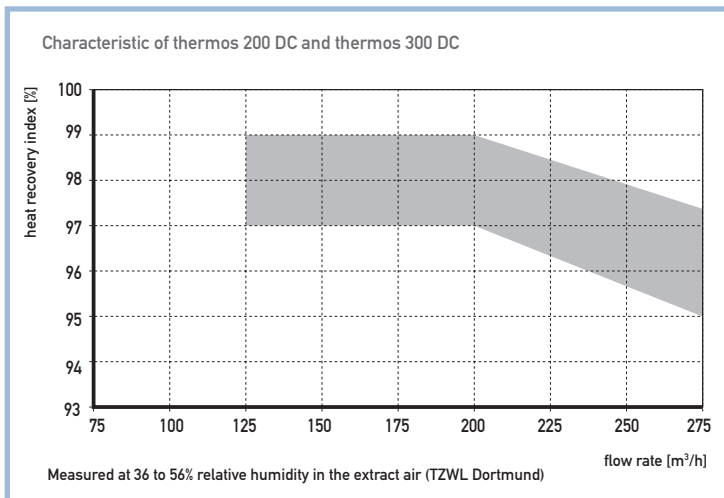


Chart 1: Heat recovery efficiency

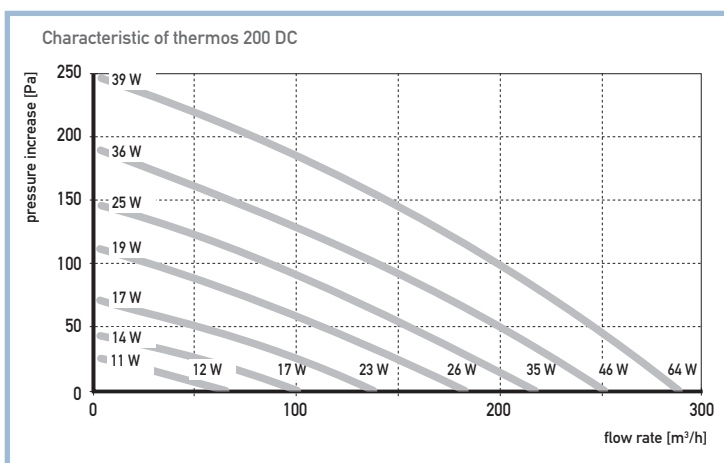


Chart 2: Characteristics for flow rate, externally available pressure and power input

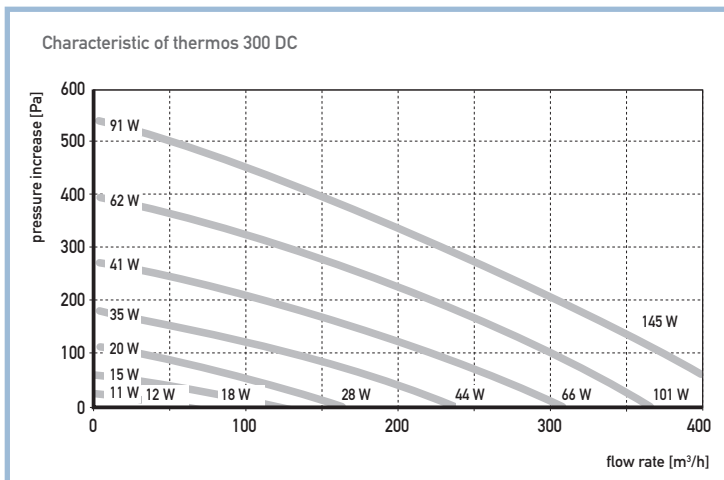


Chart 3: Characteristics for flow rate, externally available pressure and power input

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

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

PAUL offers equipment for controlled residential ventilation with efficiencies of up to 99% – groundbreaking in the industry.

Our motto is "New ideas in ventilation" – for fresh and healthy air in homes with energy saving systems for safeguarding the integrity of the environment.

