

MULTI 100/150 DC

COMFORT VENTILATION 'MVHR' UNIT FOR INSTALLATION IN KITCHEN UNITS



- | | | |
|----------------------|---------------------|---------------------------|
| 1 extract air filter | 4 snap lock | 7 duct socket (250x60 mm) |
| 2 taper section | 5 intake air filter | 8 condensate drain |
| 3 heat exchanger | 6 fixing strap | 9 control cable |

PASSIV
HAUS
compliant
COMPONENT
Dr. Wolfgang Feist



 **PAUL**
WÄRMERÜCKGEWINNUNG



Programmer (external)
for automatic control
L x W x D (mm): 158 x 125 x 32



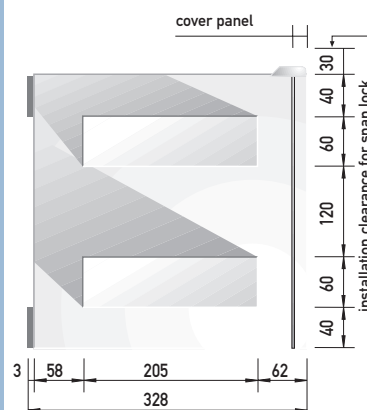
Membrane keypad
for manual control
with week timer (option)
matching the PEHA switch
programme

PRODUCT DESCRIPTION

The multi Comfort Ventilation (MVHR) unit is available in two specifications: **multi 100 DC** and **multi 150 DC**. It is designed for installations in large apartments or single-family houses with a floor area of up to 150 square metres. Due to its slim design, it can be ideally installed in kitchen units, airing cupboards and other vertical spaces. No special installation space is needed. Like all other MVHR systems by PAUL, the multi 100/150 DC unit features the highly efficient counter-flow channel-type heat exchanger (protected by German and European patents). The housing is made of galvanised steel powder coated white. Heat exchangers, fans and filters are fully embedded in plastic foam. The PAUL unit is entirely sound-proofed and heat-insulated avoiding thermal bridging. Two high-efficiency electronically commutated 48 VDC radial fans provide air flows of up to 100 m³/h for the multi 100 DC, or 150 m³/h for the multi 150 DC, at an externally available pressure of 100 Pa.

The Comfort Ventilation unit can have a manual control or an automatic control unit (multi 150 DC only), depending on customer requirements. The manual control is a membrane keypad, which can be integrated into the PEHA home switch system. The sealed keypad provides 7-step air flow control, boost function, supply-only or extract-only operation (for summer ventilation), intake/exhaust balancing, automatic frost protection, filter monitor function, and optional fireplace integration. Optionally, an additional boost switch and a weekday timer can be connected. The automatic mode allows the air flow rate to be adjusted in 3 steps. The fan power of the 3 steps can be varied in 1% increments. The control system offers 8 independent programs allowing the user to preset different operating steps for the ventilation fans at different times during a day. The 3 fan steps can also be controlled manually. The standard functions include filter monitor, intake/exhaust balancing, frost protection for the downstream hot water duct heater, connection of several boost switches and a special standby circuit with a power input less than 2 W. Possible options are: constant-flow controle, g. for fireplace operation, regulating either a ground to air heat exchanger or a ground to brine to air frost protection, and controlling an electric frost protection heater, back-up duct heater, or heating circuit pump, as well as connection of several programmers. The intake air is cleaned via a G4 filter or, optionally, F8 pollen filter.

On the extract side, a G4-class filter protects the heat exchanger from contamination.



Front view

multi 100/150 DC

Unit dimensions:
Control dimensions:
incl. optional frost prot.
and back-up heaters:
(for automatic control)

Installation:

Place of installation:

Duct connections:

Condensate:

Material:

Weight:

Filters:

Electrical connection:

Cable lengths:

Control:

Protection:

Ventilators:

Power input/flow/
available pressure:

Heat recovery rate:

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

Temperature range of
heat exchanger:

Summer operation:

Frost protection:

Back-up heating:

Information:

TECHNICAL DATA

H x W x D [mm]: 1400 x 320 x 328
L x W x D [mm]: 340 x 300 x 80

L x W x D [mm]: 340 x 300 x 140

vertical (preferred), or horizontal
(sloping to condensate drain)

frost free, preferably > 10°C

4 duct sockets 205 x 60 mm

10 mm condensate hose (internal)

Housing:
galvanised steel, white powder coated;
thermally broken heat insulation;
double soundproof;
Heat exchanger: plastic

approx. 35 kg

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

230 V, 50 Hz; ready for connection –
no cable

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

- manual control with membrane keypad,
or
- automatic control with programmer
(multi 150 DC only)

IP 44 (unit), IP 20 (control)

2 48VDC radial fans

see charts 1 and 2

approx. 85 to 98% to TZWL (multi 100 DC)
approx. 80 to 95% (multi 150 DC)

multi 100 DC

Step	1	3	5	7
Lp(A)	22.3	24.2	26.5	29.1

multi 150 DC

V*	100	130	165
Lp(A)	26.5	29.1	31.6

can be used between -20°C and 40°C

- with summer box, or
- either supply-only or extract-only
(manual control)

- continuous slowing down of supply air
fan¹⁾ in manual control, or
- optional frost protection heating, or
- optional ground to air heat exchanger

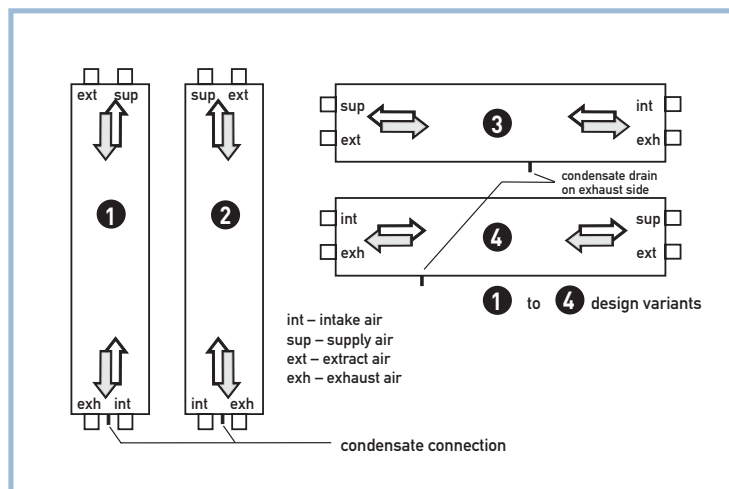
¹⁾ with fireplace option

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

Subject to change in the interest of
technical progress.

* flow rate [m³/h]

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Picture 1: Design variants

Characteristic of multi 100 DC

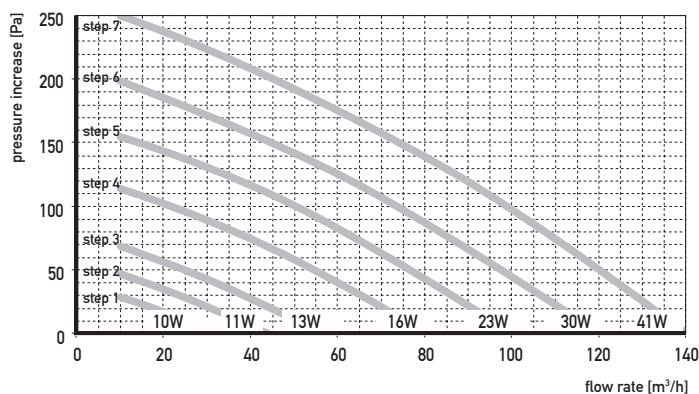


Chart 1: Characteristics for flow rate, externally available pressure and power input

Characteristic of multi 150 DC

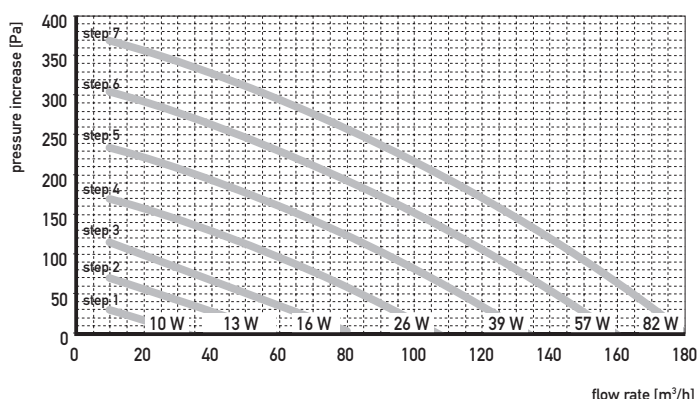


Chart 2: Characteristics for flow rate, externally available pressure and power input

- 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.