

■ Description

**Hoval HomeVent® comfort FR (150)  
Comfort ventilation unit**

- Comfort ventilation unit with heat and moisture recovery for different installation locations
- For use per residential unit
- Sturdy, double-shell, heat and noise insulated casing made from coated aluzinc sheet
- 2 access panels with quick-release fasteners for easy maintenance of the supply air filter, extract air filter and prefilter
- The casing is suitable for right-hand and left-hand mounting (panel at the back and at the front)
- Connection nozzles made from composite plastic for connection of the supply air and extract air, fresh air and exhaust air duct incl. double lip diameter 150 mm. For compensation of misalignments during installation and insulation against structure-borne sound.
- 2 fans with rotating rear-cambered wheel for outside and exhaust air. EC direct current motor with integrated motor electronic system
- High-efficiency enthalpy recovery system with special sealing system.
- High-grade Z filter for supply air F7 and extract air G4
- Integrated prefilter made from plastic, can be regenerated simply by washing
- Filter monitoring with differential pressure monitor
- Ready-to-connect electronics with integrated enthalpy recovery system speed control for operation in automatic mode, including mains cable and 3 m connection cable for connection of the operator terminal to the on-site RJ45 socket

*Required accessories*

- Standard operator terminal BG02 or
- Design operator terminal BG03 with an expanded range of functions (time, CO<sub>2</sub> programme, etc.)

*Recommended accessories*

- Vibration damper

*Options*

- LSA Building Management System connection
- Active cool recovery (CoolVent® option)
- Supply air activated carbon filter

*Delivery*

- Comfort ventilation unit, pre-assembled and packed

*On site*

- 8-pin CAT 5 patch cable (parallel, not crossed) between comfort ventilation unit and operator terminal, provided by electrician on site
- RJ45 socket
- 230 V socket



**Approvals**

- Hochschule Luzern in accordance with EN 13141-7
- DIBt approval under preparation

**Nominal data:**

HomeVent® comfort FR (150) volume flow (in operation 90 Pa ext. pressure) 150 m<sup>3</sup>/h

For reference volume flow 98 m<sup>3</sup>/h, 50 Pa ext. pressure:

Temperature ratio	86 %
Humidity ratio	91 %
Degree of heat processing/ enthalpy difference	up to 130 %
Electrical power consumption	29 W

**Use**

The HomeVent® comfort ventilation unit provides centralised supply and extract air handling for a residential unit. The comfort ventilation unit is part of the HomeVent® ventilation system for controlled comfort ventilation, which performs the following tasks:

- provides the living area with fresh outside air
- extracts used air (CO<sub>2</sub>, aerosols, excess dampness, odours, ...)
- saves energy through intelligent latent heat recovery
- cleans supply air using a fine dust filter

■ Description

**Construction HomeVent® comfort FR (150)**

**Casing**

Double-shell casing made from coated aluzinc sheet (red). The inner shell, made from aluzinc sheet, is separate from the outer shell, thus preventing thermal bridges.

The front ends consist of two screwed, multi-shell access panels with a flat seal. Integrated in these access panels, there are two filter covers with seals and quick-release fasteners.

The high-quality 30 mm sthermal insulation is made of polyurethane (PUR, Lambda 0.025 W/mK). The interior of the unit is smooth-surfaced (metallic surface) and is easily accessed for cleaning.

Attachment on site is via special installation sets including vibration absorbers.

**Connection nozzles for supply and extract air (1)**

The connection nozzles, diameter 150 mm, are made from composite plastic and have a double-lipped EPDM seal.

**Electrical fittings (2)**

The comfort ventilation unit is supplied ready wired. The electrical fittings consist of:

- mains cable (3 m)
- mains plug including fuse
- electroprint with microprocessor

The cables for the internal electrical components are all fitted with plugs. In the area of the inspection hatch only low voltage (24 V) is used.

**Supply air filter (3)**

The supply air filter is a pollen fine particulate air filter made from a synthetic filter medium (filter class F7). It has a peripheral seal, is mounted in a filter guide and slides out. This makes changing the filter quick and easy.

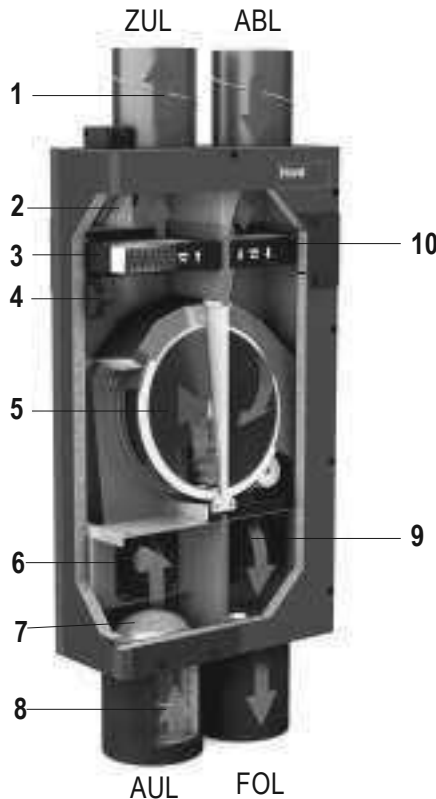
**Filter monitoring (4)**

A differential pressure monitor is installed to monitor the supply air filter.

**Enthalpy recovery system (rotor with sorption) (5)**

The enthalpy recovery system is constructed as a removable assembly. The casing of this assembly is made from aluzinc sheet and is integrated in a high-efficiency thermal insulation (EPP moulded component). The rotor with sorption (aluminium with ion-exchange resin and antibacterial coating) is axial- and radial-mounted outside.

The drive is transmitted via the plastic ring with outer gears, a drive gear wheel, by means of an EC direct current motor with planetary gearing. The speed is controlled and monitored. Double elastic seals are fitted between the enthalpy recovery system and the casing.



AUL = Fresh air  
ZUL = Supply air  
FOL = Exhaust air  
ABL = Extract air

**Fans (6,9)**

The outside air intake fan and exhaust fan each consist of a high-efficiency rear-cambered rotating wheel with special vibration-absorbing bearings and an EC direct current motor with an integrated electronic system.

**Prefilter (7)**

The prefilter consists of a washable fine-mesh polyamide net with a plastic frame. It is mounted in a guide and slides out. This makes changing the filter quick and easy.

**Connection nozzles for outside air and exhaust air (8)**

The connection nozzles, diameter 150 mm, are made of composite plastic and have a double-lipped EPDM seal.

**Extract air filter (10)**

The exhaust filter is a coarse filter made from a synthetic filter medium (filter class G4). It has a peripheral seal, is mounted in a filter guide and slides out. This makes changing the filter quick and easy.

The following operator terminals are designed for operation of a HomeVent® comfort FR (150):

**Standard operator terminal BG02**

The operator terminal consists of an attractively designed plastic casing for on-wall mounting with display and operating elements.

**Design operator terminal BG03, on-wall**

This operator terminal features a white plastic design casing. The front consists of coated glass with a colour capacitive LCD touch display. The unit offers an expanded range of functions (time, CO<sub>2</sub> programme, connection for bath/WC button, etc.). The operator terminal is designed for on-wall installation.

**Design operator terminal BG03, in-wall**

This operator terminal features a white plastic design casing. The front consists of coated glass with a colour capacitive LCD touch display. The unit offers an expanded range of functions (time, CO<sub>2</sub> programme, connection for bath/WC button, etc.). The operator terminal is designed for in-wall installation.

All operator terminals (BG02, BG03 on-wall, BG03 in-wall) are equipped with an RJ45 socket for connecting the connection cable to the comfort ventilation unit.

**LSA Building Management System connection**

Interface for connecting a HomeVent® unit to an on-site control system. A HomeVent® operator terminal (BG02 or BG03) is still required.

Control system options:

Switching off the HomeVent® unit, overriding the air flow rate setting on the operator terminal, displaying the filter contamination and faults.

**Vibration absorber**

Vibration absorbers are required for sound-insulated attachment of comfort ventilation unit. The corresponding accessory pack consists of 4 rubber buffers with screws and various fixing rails for all installation positions.

**Option CoolVent**

Active-controlled cool recovery for energy-saving supply and extract air handling in air-conditioned buildings. Installed by trained Hoval service technicians during commissioning.

**Option supply air activated carbon filter**

High-capacity Z-filter (F7) with high efficiency against particles (pollen, fine dust) and against gaseous pollutants and odours (agriculture, traffic). It is inserted in place of the standard supply air filter.

■ Description

**Function HomveVent® comfort FR (150)**

The outside air fan draws in outdoor air via the main line. In the first stage, this air is cleaned via a prefilter.

In the downstream enthalpy recovery system, the supply air is heated, depending on the temperature, and humidified. The extent to which heat and humidity are recovered is dependent on the temperature and humidity differences between the exhaust air and the outside air as well as on the rotor speed. Then the pre-treated outside air is cleaned by means of a pollen fine dust filter.

The exhaust fan sucks in the used air via the extract air silencer and a coarse dust filter.

The enthalpy recovery system extracts heat and humidity from the air and passes these to the supply air.

The way the fans are positioned – with over-pressure on the outside air side and under-pressure on the exhaust air side – no waste air can find its way to the supply air.

These functions are set via the operator terminal and monitored automatically by the electronics.

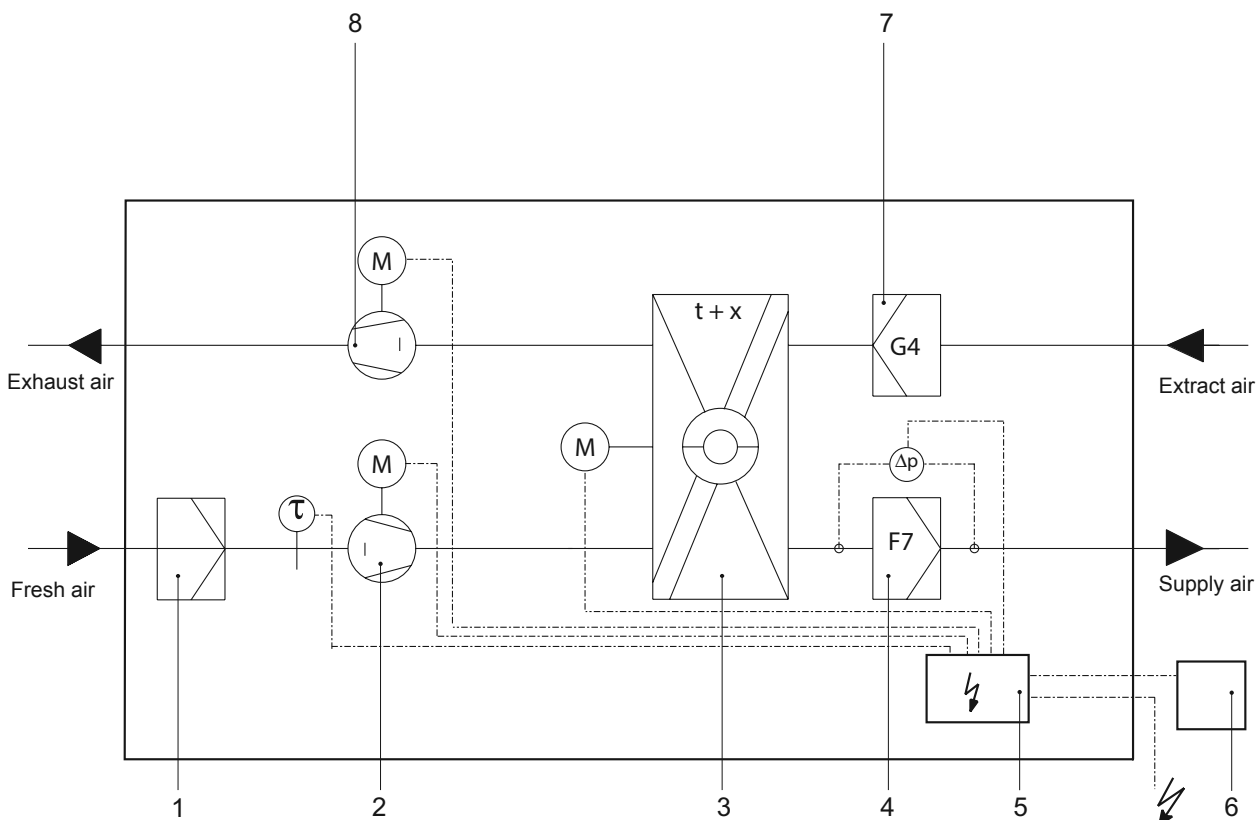
The outside air and exhaust air fan speeds are regulated independently of each other.

The operating point for outside/supply air and extract/exhaust air is set during commissioning.

The electronic controls and the operator terminal feature the following additional functions:

- The speed of the enthalpy recovery system is regulated by the outside air temperature. In this way, the heat and humidity recovery is adjusted automatically. In summer, the speed is adjusted automatically, the heat and moisture recovery efficiency drops towards zero.
- The humidity control in the operator terminal adjusts the volume flow. Thus, if the humidity indoors is too high, for instance, more dry air is introduced from the outside.
- The fan function is monitored continually. In case of a malfunction, the device is switched to "fault" mode (both fans and the enthalpy recovery system are switched off; signal on the operator terminal).
- If the pressure drop caused by the supply air filter pressure drop is too great, the differential pressure monitor displays a signal on the operator terminal.

- |   |                          |   |                                |
|---|--------------------------|---|--------------------------------|
| 1 | Prefilter                | 5 | Electronics                    |
| 2 | Outside air fan          | 6 | Operator terminal BG02 or BG03 |
| 3 | Enthalpy recovery system | 7 | Extract air filter             |
| 4 | Supply air filter        | 8 | Exhaust air fan                |



■ Part No.



**Hoval HomeVent®  
Comfort ventilation unit**

**Part No.**

**HomeVent® comfort FR (150)**

With high-efficiency heat and humidity recovery for a range of installation positions. Compact unit including regenerable prefilter, as well as mains cable and connection cable (3 m long) for operator terminal.

Type	Nominal volume flow m³/h	Ext. pressure Pa	
<b>A*</b> HomeVent® comfort FR (150)	180	100	7013 680

It is **essential** to have an operator terminal for operating a Hoval HomeVent® comfort ventilation device.

**Required accessories**



**Standard operator terminal BG02**

2044 525

for operating a HomeVent® comfort ventilation unit. Plastic casing for on-wall mounting with display and operating elements and integrated humidity sensor. Mounting in reference room. Connection of connecting cable with comfort ventilation unit via RJ45 socket.



**Design operator terminal BG03, on-wall**

2038 024

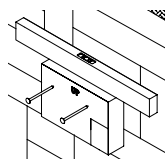
for operating a HomeVent® comfort ventilation unit. Plastic casing for on-wall mounting with colour touch display, integrated humidity sensor and expanded range of functions (time, CO<sub>2</sub> programme, connection for bath/WC button, etc.). Mounting in reference room. Connection of connecting cable with comfort ventilation unit via RJ45 socket.



**Design operator terminal BG03, in-wall**

2038 025

for operating a HomeVent® comfort ventilation unit. Plastic casing for in-wall mounting with colour touch display, integrated humidity sensor and expanded range of functions (time, CO<sub>2</sub> programme, connection for bath/WC button, etc.). Mounting in reference room. Connection of connecting cable with comfort ventilation unit via RJ45 socket. Recommended accessories: insert block



**Insert block**

6024 174

for design operator terminal BG03, in-wall  
Placeholder for easier in-wall installation.  
Dimensions: 130 x 87 x 30 mm

**Technical information**  
see separate chapter.

■ Part No.



**Optional accessories**

**Part No.**

**Cool recovery unit CoolVent®**  
for HomeVent® comfort FR (150, 300, 360)  
and FR (201, 251, 301)  
Active-controlled cool recovery for  
air-conditioned buildings.  
Installed by Hoval service technicians  
during commissioning.

6035 255

**Unit base GS-150**  
Steel painted red, 4 vibration dampers,  
height-adjustable feet  
Height: 340 - 360 mm

6040 074

**LSA building management system  
connection**  
Interface for connecting a HomeVent®  
comfort ventilation unit to an  
on-site control system.  
The possibilities of the Building  
Management System are: switching off the  
comfort ventilation unit, overriding the  
air flow rate setting on the operator  
terminal and displaying the filter  
contamination and device faults.  
Dimensions: 80 x 80 x 50 mm

2039 014

An operator terminal is still required.

**Recommended accessories**

**Vibration damper S-WH**  
for HomeVent® comfort FR (150), FR (180)  
and FRS (180)  
wall mounting horizontal  
For sound-insulated attachment  
of the ventilation unit.  
Consisting of 4 fastening brackets and  
4 vibration dampers with screws

6034 027

**Vibration damper S-WV**  
for HomeVent® comfort FR (150), FR (180)  
and FRS (180)  
wall mounting vertical  
For sound-insulated attachment  
of the ventilation unit.  
Consisting of 4 fastening brackets and  
4 vibration dampers with screws

6034 028

**Vibration damper S-D**  
for HomeVent® comfort FR (150), FR (180)  
and FRS (180)  
ceiling mounting  
For sound-insulated attachment  
of the ventilation unit.  
Consisting of 2 fastening brackets and  
4 vibration dampers with screws

6019 438

**Vibration damper S-B**  
for HomeVent® RS-180, RS-250,  
comfort FR (150, 180, 250) and FRS (180)  
floor mounting  
For sound-insulated attachment  
of the ventilation unit.  
Consisting of 4 vibration dampers  
with screws

6012 396

Additional accessories see separate chapter  
Components.

■ Part No.



**Filter HomeVent® comfort FR (150)**

**Part No.**

**Supply air filter ZF-150**  
 for HomeVent® FR (150)  
 pollen/fine particulate cassette filter  
 filter class F7

5035 021

**Supply air activated carbon filter AKF-150**  
 for HomeVent® comfort FR (150)  
 High-capacity Z-filter with high  
 efficiency against particles (pollen,  
 fine dust, etc.) and against gaseous  
 pollutants and odours. Filter class F7  
 alternative to supply air filter ZF-150

5035 023

**Extract air filter AF-150**  
 for HomeVent® comfort FR (150)  
 coarse particulate cassette filter,  
 filter class G4

5035 022

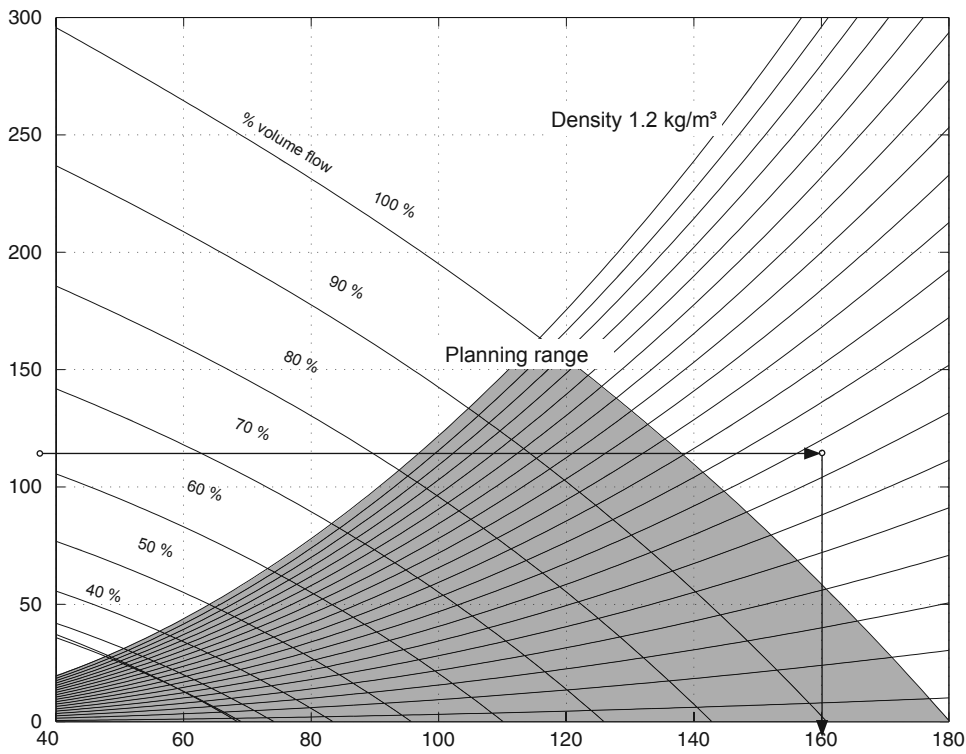
## ■ Technical data

## Comfort ventilation unit HomeVent® comfort FR (150)

Max. air flow rate (at 90 Pa external pressure)		
• Outside air/exhaust air	150	m³/h
• Supply air/extract air	150	m³/h
Max. external pressure (at 100 m³/h)	260	Pa
Air flow rate setting	10...100%	
Humidity setpoint setting	30...65	%
Electrical connections		
• Voltage (AC)	230	V
• Frequency	50	Hz
• Max. current consumption	0.5	A
• cos phi (mean value)	0.55	
Type of protection	IP 40	
Power consumption (at 98 m³/h, 50 Pa external pressure)	29	W
Degree of heat processing		
as per DIN 4719	90-130	%
Temperature ratio at 98 m³/h	86	%
Humidity ratio at 98 m³/h	91	%
Coefficient of performance	10.2	
Filter class (as per EN 779)		
• Supply air filter	F7	
• Extract air filter	G4	
Sound power level (at 98 m³/h and 50 Pa external pressure; detailed data, see Appendix)		
• Casing	41	dB(A)
• Outside air connection	61	dB(A)
• Supply air connection	54	dB(A)
• Extract air connection	55	dB(A)
• Exhaust air connection	63	dB(A)
Leakage		
• Internal	< 1	%
• External	1.46	%
Net weight		
	45	kg
Application limits for device setup, weather-protected (EN 60721-3-3)		
3K5 as per EN 50090-2-2		
• Ambient temperature	15...45	°C
• Ambient humidity	5...65	% r.h.
• Dew point temp. in installation room	< 12	°C
Air conditions (moderate outdoor climate EN 60721-2-1)		
• Outside air intake temperature	-15...35	°C
• Outside air intake humidity	5...95	% r.h.
• Extract air temperature	5...35	°C
• Extract air humidity	5...80	% r.h.
• Max. extract air humidity	12	g/kg

■ Technical data

Performance chart for air flow rate



$p_{ext}$  Sum of external pressure losses for each air stream at the planned air flow rate.

Diagram of the electrical power consumption

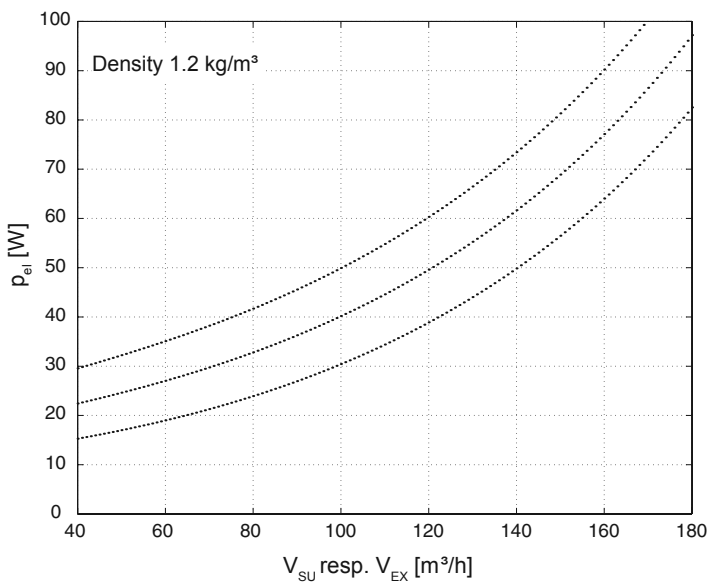
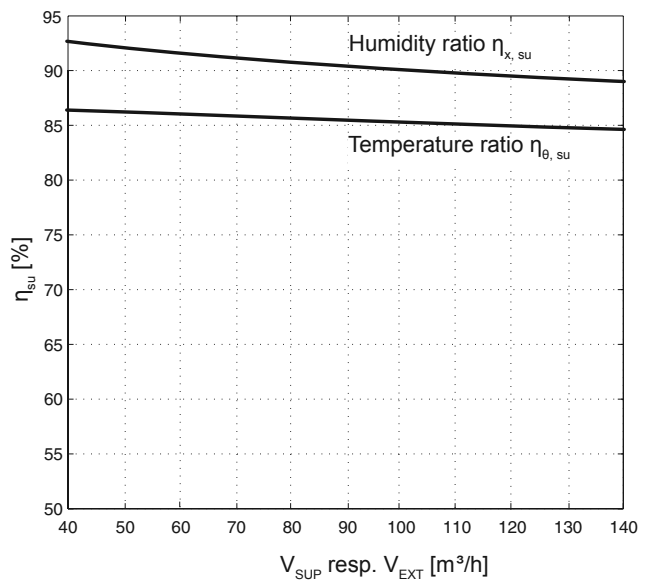


Diagram of the temperature and humidity ratio





## ■ Technical data

## Sound levels

## Casing

Volume flow [m <sup>3</sup> /h]	External pressure [Pa]	L <sub>WOKt</sub> [dB] at octave centre frequency [Hz]								L <sub>WA</sub> [dB(A)]
		63	125	250	500	1k	2k	4k	8k	
98	50	52	50	51	43	32	22	15	15	45
140	100	59	56	53	54	40	29	24	20	52

## Fresh air

Volume flow [m <sup>3</sup> /h]	External pressure [Pa]	L <sub>WOKt</sub> [dB] at octave centre frequency [Hz]								L <sub>WA</sub> [dB(A)]
		63	125	250	500	1k	2k	4k	8k	
98	50	67	56	65	62	41	42	36	29	61
140	100	75	60	62	67	47	48	43	39	64

## Supply air

Volume flow [m <sup>3</sup> /h]	External pressure [Pa]	L <sub>WOKt</sub> [dB] at octave centre frequency [Hz]								L <sub>WA</sub> [dB(A)]
		63	125	250	500	1k	2k	4k	8k	
98	50	61	53	60	51	39	29	13	12	54
140	100	66	59	60	64	44	35	22	20	61

## Extract air

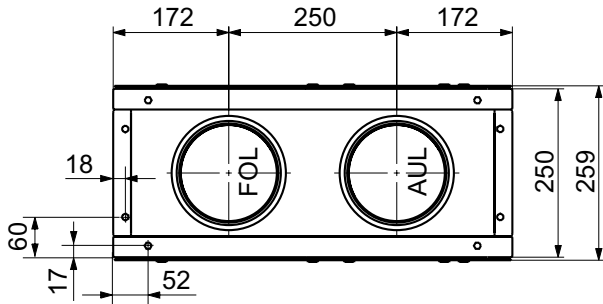
Volume flow [m <sup>3</sup> /h]	External pressure [Pa]	L <sub>WOKt</sub> [dB] at octave centre frequency [Hz]								L <sub>WA</sub> [dB(A)]
		63	125	250	500	1k	2k	4k	8k	
98	50	69	57	61	53	28	22	5	10	55
140	100	73	63	62	61	35	29	12	13	59

## Exhaust air

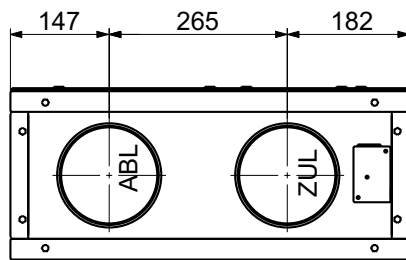
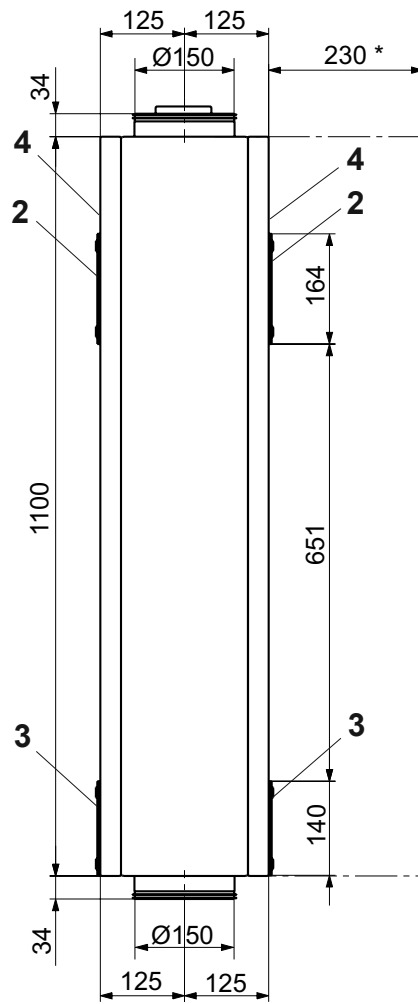
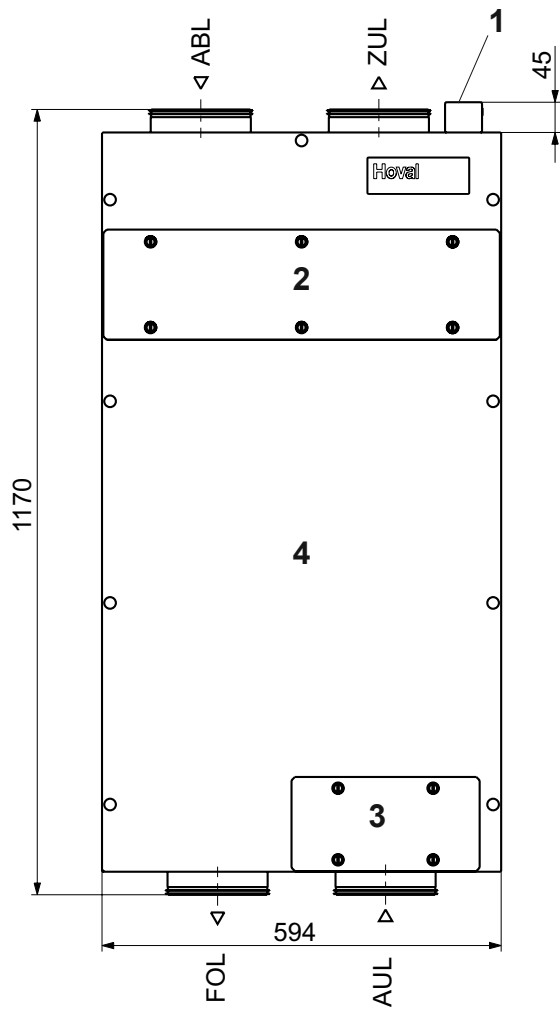
Volume flow [m <sup>3</sup> /h]	External pressure [Pa]	L <sub>WOKt</sub> [dB] at octave centre frequency [Hz]								L <sub>WA</sub> [dB(A)]
		63	125	250	500	1k	2k	4k	8k	
98	50	73	61	67	64	50	45	43	30	63
140	100	78	65	68	73	56	52	51	40	70

■ Dimensions

HomeVent® comfort ventilation unit



ZUL = supply air  
 ABL = extract air  
 FOL = exhaust air  
 AUL = fresh air



- 1 Electrical connection  
Space is required for changing the micro fuse.
- 2 Inspection door for supply/extract air filter  
(quick-release fasteners)
- 3 Maintenance cover for prefilter with quick-release fasteners
- 4 Access panel (screw-connected)

Maintenance and inspection possible from the front and rear - flexible installation

\* Space requirements for filter change and service tasks

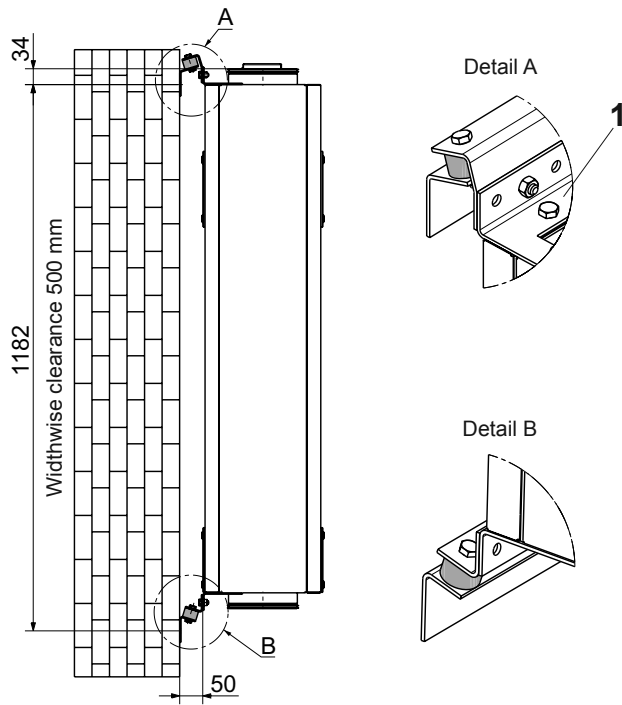
■ Dimensions

Space requirements

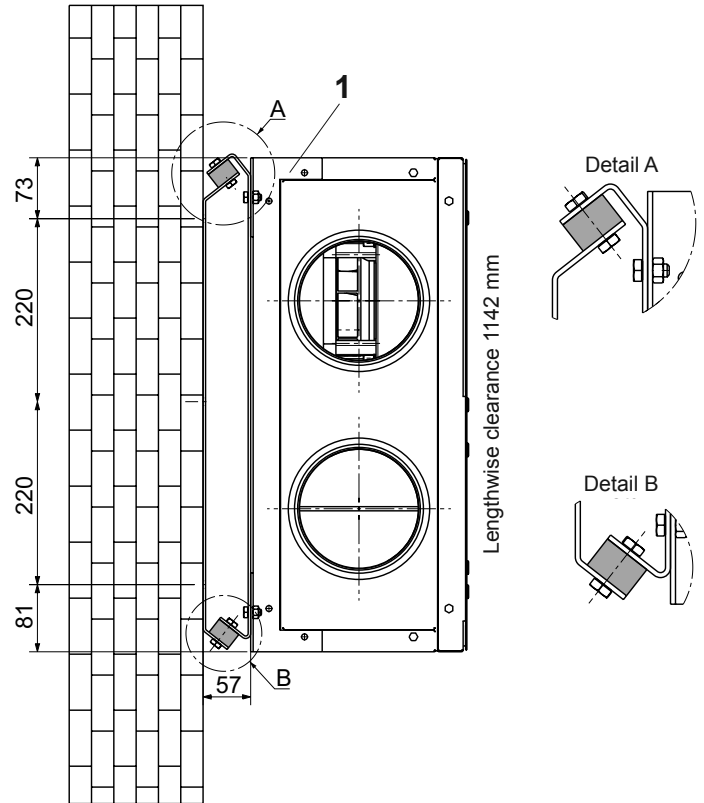
HomeVent® comfort ventilation unit

Installation with vibration absorbers

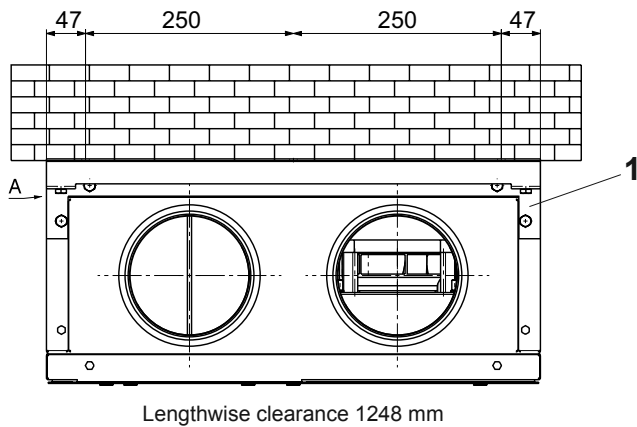
Vertical wall installation: S-WV



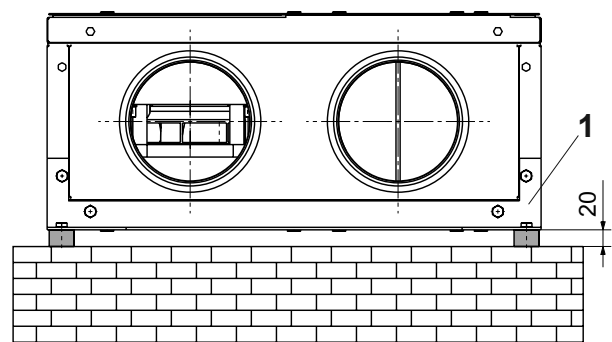
Horizontal wall installation: S-WH



Ceiling installation: S-D



Floor installation: S-B



1 Angled bracket included in the scope of delivery

Can be installed in any position.

