

Comfort ventilation



**Hoval HomeVent® ER (200-400)
Comfort ventilation unit**

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Comfort ventilation unit**

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Hoval HomeVent® ER (200-400)
Comfort ventilation unit

- Comfort ventilation unit with self-regulating heat and humidity recovery for any installation position.
- For use within or outside the insulated building shell.
- High-quality, heat and sound insulated inner casing made from EPP.
- External casing made of film-coated sheet steel (red).
- The casing is suitable for installation on both sides (accessible on both sides)
- Rotary enthalpy recovery unit with speed regulation
- Two backward-curved EC fans (continuously adjustable 15-100 %)
- High-quality filter
 - supply air: ePM_{1,0} 55 % (F7)
 - extract air: ePM₁₀ 60 % (G4)
- Integrated prefilter
- Filter monitoring (timer)
- Ready-to-connect electronics
- No need for preheating or a condensate drain

Data

- Colour: red
- Dimensions:
L x W x H: 560 x 374 x 1000 mm
Weight: 31 kg
- Electrical connection: 230 V/50 Hz, IP 40

Required accessories:

- Standard operator terminal BG02 E or
- TopTronic® E room control module comfort plus

Options

- Air quality sensor VOC or CO₂
- Active cool recovery (CoolVent® option)
- Mounting set, base, IsiCube
- Supply air activated carbon filter

Delivery

- Comfort ventilation unit pre-assembled and packed
 - 2 mains cables 3 m
 - 1 RJ45 cable 3 m

On site

- 8-pin CAT 5 patch cable (parallel, not crossed) between comfort ventilation unit and operator terminal
- 230 V socket

Use

The HomeVent® comfort ventilation unit provides centralised supply and extract air handling for residential spaces. This can be a single family home or a residential unit in a multi-family house. The comfort ventilation unit is part of the HomeVent® ventilation system for comfort ventilation, which performs the following tasks:

- Supplies residential and commercial space with outdoor air
- Extracts used air (CO₂, aerosols, excess dampness, odours, etc.)
- Saves energy through intelligent latent heat recovery
- Cleans supply air using a fine dust filter



Tests

- TÜV SÜD according to EN 13141-7
- TÜV SÜD according to EN 60335-1

Model range

HomeVent® ER type		Flow rate m³/h	Heat recovery efficiency %
(200)	A+	30-200	90-130
(300)	A+	45-300	90-130
(400)	A	60-400	90-130

Energy recovery

The built-in enthalpy recovery unit withdraws energy from the extract air and transfers it to the supply air. This enables the intelligent (temperature) and the latent (humidity) energy to be transferred. The transmission performance is regulated depending on the outdoor temperature.

The advantages of the enthalpy recovery unit are:

- Temperature efficiency up to 90 %
- Degree of humidity recovery up to 95 %
- Steplessly controlled transmission performance
- No preheating required (down to -20 °C)
- No condensation
- No bypass required

Air filtration

The outdoor air goes through two cleaning stages, reaches the highest standard. A fine-meshed grate (washable) at the entry of the unit prevents insects, leaves, etc. from reaching the unit. When the outdoor air leaves the unit, it flows through a high-capacity fine pollen filter (ePM_{1.0} 55 % (F7)). The operator receives a message when it is time to change the filter. The activated carbon filter can be inserted in place of the standard supply air filter. This is a high-capacity filter (ePM_{2.5} 50 %) with high efficiency against particles (pollen, fine dust, etc.) and against gaseous pollutants and odours (agriculture, traffic, etc.).

Air delivery

Two backward-curved centrifugal fans with EC direct current motors deliver the air. The rotating wheel made of high-tech composite material is produced in one piece with optimised fluid mechanics, and ensures quiet operation of the unit. The electronics built into the engine enable the air volumes to be finely regulated between 15 and 100 %. The fans are arranged in such a way that no extract air can find its way to the supply air.

Suitability for winter

Due to the built-in enthalpy recovery unit, no condensate is formed in the unit. No preheating (electric air heater) is necessary for outdoor temperatures down to -20 °C. The flow rate ratio between supply and extract air is not changed.

Summer operation

The energy recovery is automatically reduced to a minimum at high outdoor temperatures. This enables night cooling (free cooling) in the summer as well as when the seasons change. It is not necessary to arrange for a bypass via dampers and a drive. In addition, the CoolVent® option can recover cold in air-conditioned buildings. The hot outdoor air is cooled and dried with the air-conditioned extract air.

Installation

The HomeVent® comfort ventilation unit is characterised by a compact design. It is possible to access the unit from both sides for servicing. No condensate forms in the unit, meaning that it can be installed in any position imaginable. We recommend the corresponding mounting sets with vibration dampers for the different installation positions.

Standard operator terminal BG02 E

The operator terminal consists of a plastic casing for on-wall mounting. The target air volume and the target air humidity can be set with two rotary knobs. With the party button, the air volume can be increased for a limited period of time. The connection to the HomeVent® comfort ventilation unit is made via RJ45 plug connection. The unit can also be installed in a secondary room.

TopTronic® E room control module comfort plus

The TopTronic® E room control module comfort plus is available either with a black or white design, operated by a colour touchscreen (4.3 inch). The connection to the HomeVent® comfort ventilation unit is made via RJ45 plug connection or plug terminals (max. 0.75 mm²). The unit can be installed on the wall with an on-wall mounted frame or with a wall-mounting plate and flush-mounted boxes. The unit can be installed in a secondary room.

Functional possibilities:

- Operation of all Hoval units connected to the bus.
- Authorisation management for operation.
- Efficient control of the ventilation system by working with day programmes.
- Selection between different start screens possible during commissioning.
- Customer-specific configuration of the screen for displaying the following elements:
 - Date and time
 - Moon phases
 - Current air volume in %
 - Maximum target humidity in %
 - Active day or week programme
 - Display of current room air quality (optional VOC or CO₂ air quality sensor must be installed for this purpose)
 - Display of the current weather or the weather forecast (only possible in combination with HovalConnect)

Air quality

Optionally, a VOC or CO₂ air quality sensor can be installed in the unit during commissioning. In addition, an activated carbon filter can be installed on the supply air side as an option. The VOC air quality sensor continuously monitors the extract air for volatile organic components and regulates the supplied or discharged air volume via the speed of the fans. This results in optimal air quality in the building with minimal energy input.

- VOC air quality sensor on the extract air side:
 - The extract air is continuously monitored for odours, cleansing agents, etc. If the concentration of the extract air exceeds a certain value, the air volume is increased correspondingly. The sensitivity can be chosen. On the TopTronic® E room control module comfort plus, the air quality is displayed by a bar, which will either be green (good air), orange (slightly contaminated air) or red (bad air).

Cooling

The fresh air can be pre-cooled using the CoolVent® option. However, this requires an air-conditioning system to be present in order to provide the necessary cooling in the room. The enthalpy recovery system extracts heat and humidity from the warm outdoor air and feeds it to the cold extract air. The energy consumption of the air-conditioning system is thereby reduced. The efficiency for this process is 85 %. The CoolVent® function is activated during commissioning.

Function HomeVent® ER (200-400)

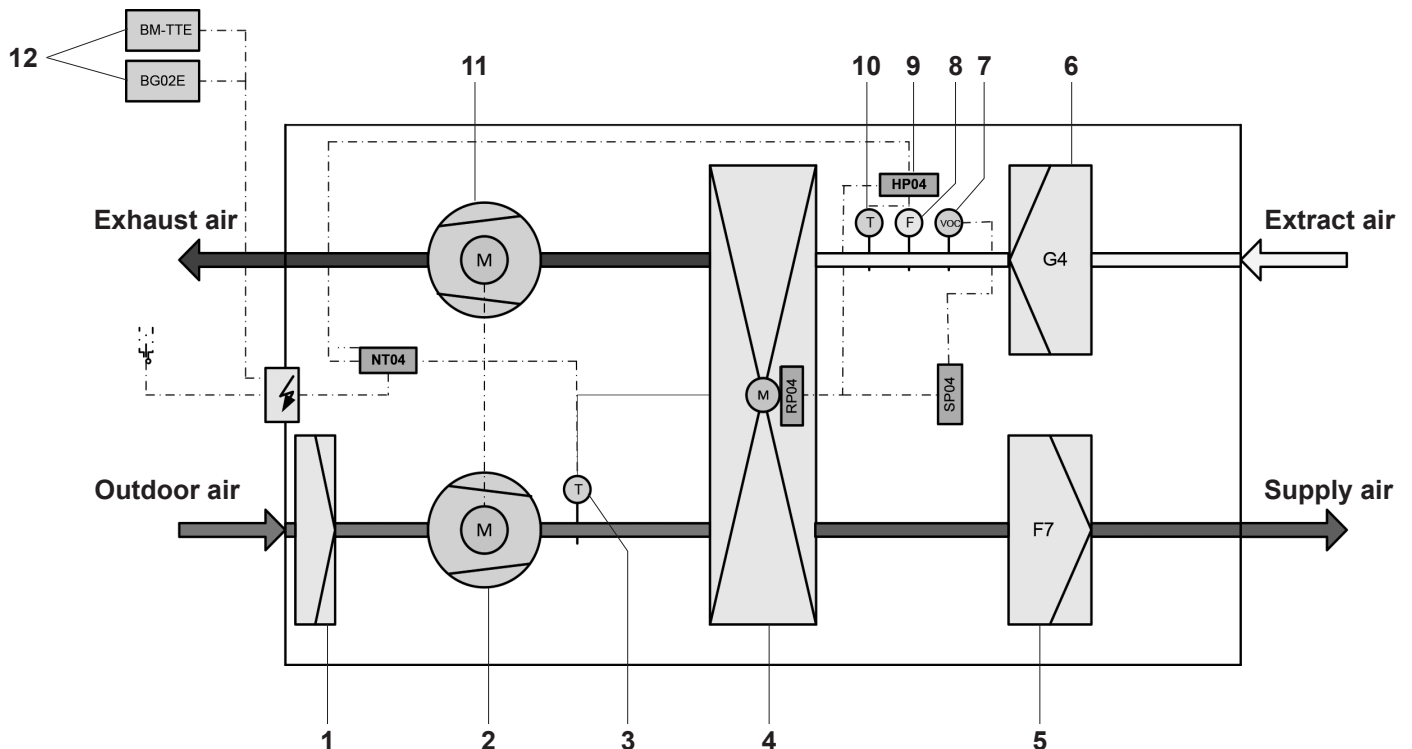
The outside air fan draws in outdoor air via the main line. In the first stage, this air is cleaned via a fine-meshed grate. In the enthalpy recovery system, the supply air is heated, depending on the temperature, and humidified. The extent to which heat and humidity are recovered is dependent on the temperature and humidity differences between the exhaust air and the outdoor air as well as on the rotor speed. Then the pre-treated outdoor air is cleaned by means of a pollen fine dust filter. The exhaust air fan sucks in the used air via the 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 overpressure on the supply air side and underpressure on the extract air side – means that no extract air can find its way to the supply air.

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

- The speed of the enthalpy recovery system is regulated by the outdoor temperature. In this way, the heat and humidity recovery is adjusted automatically.
- The humidity regulation changes the flow rate. Thus, if the humidity indoors is too high, for instance, more dry air is introduced from the outside.
- The functions of the unit are continuously monitored. In case of a malfunction, the device is switched to “fault” mode. The malfunction is displayed on the operator terminal.

- | | |
|---|---|
| 1 Prefilter | 8 Moisture sensor |
| 2 Outside air fan | 9 Electronics |
| 3 Outdoor sensor | 10 Extract air sensor |
| 4 Enthalpy recovery unit | 11 Exhaust air fan |
| 5 Supply air filter | 12 Operator terminal BG02 E or TopTronic® E |
| 6 Extract air filter | room control module comfort plus |
| 7 VOC or CO ₂ extract air sensor | |



Comfort ventilation unit



HomeVent® ER (200-400)

Comfort ventilation unit for ventilating a residential unit with high-efficiency heat and humidity recovery for any installation positions.

HomeVent® ER type	Nominal flow rate m³/h	Ext. pressure Pa
(200)	A+ 200	100
(300)	A+ 300	100
(400)	A 400	100

Part No.

7018 079
7018 081
7018 665

Required accessories



Operator terminal BG02 E

for HomeVent® ER and ERT
Plastic housing for on-wall mounting.
Knob for flow rate and room air humidity.
Service and fault display.

2066 444



TopTronic® E room control module comfort plus white

for HomeVent® ER and ERT
Operation of all Hoval ventilation units, heating and hot water circuits connected to the bus system.
Customer-specific configurable start screen.

6037 072

incl. fitting accessories



TopTronic® E room control module comfort plus black

for HomeVent® ER and ERT
Operation of all Hoval ventilation units, heating and hot water circuits connected to the bus system.
Customer-specific configurable start screen.

6042 543

incl. fitting accessories



HovalConnect

HovalConnect LAN
HovalConnect WLAN

6049 496

6049 498

TopTronic® E interface modules

HovalConnect Modbus
HovalConnect KNX

6049 501

6049 593

Technical information
see separate chapter.

Recommended accessories



VOC air quality sensor
for HomeVent® ER and ERT
Can be installed on extract air side
Only in connection with the TopTronic® E room control module comfort plus.

6058 206



CO₂ air quality sensor
for HomeVent® ER and ERT
Can be installed on extract air side
Only in connection with the TopTronic® E room control module comfort plus.

6058 211

Notice

CO₂ sensor cannot be combined with VOC sensor



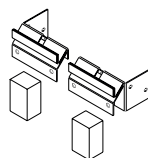
Cool recovery unit CoolVent®
for HomeVent® ER and ERT
Active-controlled cool recovery for air-conditioned buildings.
Activated by Hoval service technicians during commissioning.

6035 255



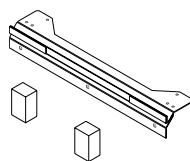
Unit base ER (200-400)
for HomeVent® ER
Red painted steel (device colour)
incl. 4 vibration dampers
height-adjustable feet
Height: 475-500 mm

6052 203



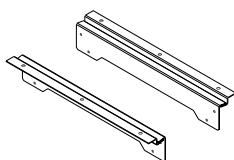
Horizontal wall mounting set
for HomeVent® ER
Steel bracket red coated with vibration-damping support

6042 303



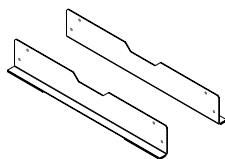
Vertical wall mounting set
for HomeVent® ER and ERT
Steel bracket red coated with vibration-damping support

6046 215



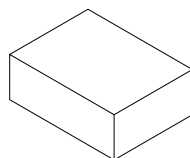
Ceiling mounting set
for HomeVent® ER
Steel bracket red coated with vibration-damping support

6042 305



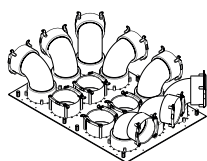
Floor mounting set
for HomeVent® ER
Steel bracket red coated with vibration-damping support

6042 306



Floor mounting set upright
for HomeVent® ER
4 vibration-damping supports
80 x 60 x 30 mm

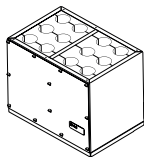
6044 961



Plywood 12 x 90
 consisting of:
 galvanised steel plate
 8 90° elbows
 4 straight nozzles

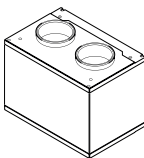
Part No.

6050 554



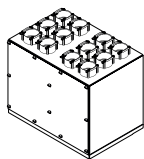
Acoustic insulating box for plywood 12 x 90
 for HomeVent® ER (200-400)
 Casing made from red foil-plated sheet steel
 Connection nozzle 2 x DN 160/180
 Can be screwed onto plywood
 Acoustic insulating body on supply and extract air sides,
 access panel, incl. throttle orifices
 Dimensions (L x W x H):
 440 x 560 x 374 mm

6056 894



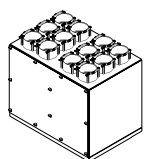
Acoustic insulating box SDB-160-400
 for HomeVent® ER (200-400)
 Casing made from red foil-plated sheet steel
 Connection nozzle 4 x DN 160/180
 Acoustic insulating body on supply and extract air sides
 Dimensions (L x W x H):
 400 x 560 x 374 mm

6051 854



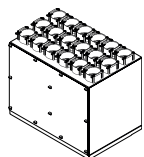
Distribution box VTB-160 12 x 75
 for HomeVent® ER (200-400)
 Casing made from red foil-plated sheet steel
 Connection nozzle 2 x DN 160/180
 Connection nozzle 12 x DN 75
 Acoustic insulating body on supply and extract air sides,
 access panel, incl. throttle orifices
 Dimensions (L x W x H):
 480 x 560 x 374 mm

6051 800



Distribution box VTB-160 12 x 90
 for HomeVent® ER (200-400)
 Casing made from red foil-plated sheet steel
 Connection nozzle 2 x DN 160/180
 Connection nozzle 12 x DN 90
 Acoustic insulating body on supply and extract air sides,
 access panel, incl. throttle orifices
 Dimensions (L x W x H):
 480 x 560 x 374 mm

6051 802



Distribution box VTB-160 18 x 75 3R
 for HomeVent® ER (200-400)
 and acoustic insulating box SDB-160-400
 Casing made from red foil-plated sheet steel
 Connection nozzle 2 x DN 160/180
 Connection nozzle 18 x DN 75
 Acoustic insulating body on supply and extract air sides,
 access panel, incl. throttle orifices
 Dimensions (L x W x H):
 480 x 560 x 374 mm

6051 904

Notice
 Use only in conjunction
 with additional silencers.

Filter HomeVent® ER (200-400)



Supply air filter ER
 for HomeVent® ER
 Filter class ISO 16890: ePM_{1,0} 55 % (F7)

5038 283



Activated carbon filter ER
 for HomeVent® ER
 Protection against pollutants and odours
 Alternative to supply air filter ER
 Filter class ISO 16890: ePM_{2,5} 50 %

5039 587



Extract air filter ER
 for HomeVent® ER
 Filter class ISO 16890: ePM₁₀ 60 % (G4)

5038 284

HomeVent® ER ventilation unit (200-400)

Type		(200)	(300)	(400)
• Max. flow rate (at 100 Pa external pressure)	m ³ /h	200	300	400
• Air flow rate control range	m ³ /h	30-200	45-300	60-400
• Humidity setpoint setting	%		30...65	
Electrical connection				
• Voltage (AC)	V		230	
• Frequency	Hz		50	
• Max. current consumption	A	0.7	1.1	1.6
• Type of protection			IP 40	
• Power consumption (at 70 % of the max. flow rate, 50 Pa external pressure)	W	34	54	81
• Degree of heat processing (as per DIN 4719)	%		90-130	
• Temperature ratio (at 70 % of the max. flow rate)	%	84	83	82
• Humidity ratio (at 70 % of the max. flow rate)	%	90	88	86
• Specific fan power SFP (at 70 % of the max. flow rate)	W/m ³ /h	0.24	0.24	0.28
Filter class (as per ISO-16890)				
• Supply air filter			ePM _{1,0} 55 %	
• Extract air filter			ePM ₁₀ 60 %	
• Sound power level			see table on following page	
Leakage (as per EN 13141-7)				
• Leakage class	%		C1	
• Internal		0.1	0.1	0.1
• External	%	0.2	0.1	0.1
• Net weight	kg		31	
Application limits for device setup, weather-protected (EN 60721-3-3), 3K5 as per EN 50090-2-2				
• Ambient temperature	°C		-20...45	
• Ambient humidity	g/kg		max. 15	
• Dew point temp. in installation room	°C		< 15	
Air conditions (moderate outdoor climate EN 60721-2-1)				
• Outside air intake temperature	°C		-20...40	
• Outside air intake humidity	% r.h.		5...95	
• Extract air temperature	°C		18...35	
• Extract air humidity	% r.h.		5...80	
• Max. extract air humidity winter	g/kg		12	

Sound power: HomeVent® ER (200)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
140	50	41.9	46.5	34.9	29.6	22.2	11.6	1.8	39.0
200	100	38.8	47.6	39.2	32.6	27.4	18.7	10.7	42.2

Fresh air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
140	50	49.6	55.1	46.0	45.0	40.2	35.1	28.7	51.1
200	100	50.1	60.7	54.2	47.7	46.4	43.2	38.8	57.2

Supply air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
140	50	47.9	50.4	38.4	32.9	23.9	17.2	16.3	42.9
200	100	49.0	53.3	45.7	37.0	29.9	21.3	16.5	47.9

Extract air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
140	50	44.3	54.6	37.0	34.9	23.4	17.6	16.3	45.8
200	100	47.4	57.5	45.9	39.2	29.4	22.4	17.0	51.3

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
140	50	45.5	56.1	48.2	43.5	39.2	33.7	23.4	50.5
200	100	48.4	59.0	54.1	49.0	45.2	41.1	32.6	56.0

Sound power: HomeVent® ER (200) + acoustic insulating box SDB-160-400

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	38.2	39.7	22.3	15.8	14.1	15.7	16.2	31.5
200	100	41.2	40.8	31.1	19.1	15.3	15.8	16.2	34.7

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	39.8	44.0	21.8	16.5	13.8	15.5	16.2	34.7
200	100	42.2	43.8	30.8	20.5	15.1	15.9	16.3	36.8

Sound power: HomeVent® ER (200) + distribution box VTB-160 12 x 75

Sound power: HomeVent® ER (200) + distribution box VTB-160 12 x 90

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	29.5	30.4	17.8	12.6	13.6	15.5	16.1	24.9
200	100	31.5	33.2	25.0	14.7	14.4	15.7	16.2	27.7

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	29.4	31.2	17.7	13.1	14.1	15.7	16.2	25.4
200	100	30.9	36.6	25.2	14.9	14.6	15.8	16.2	30.4

Sound power: HomeVent® ER (200) + IsiSound

Fresh air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	47.8	52.4	34.1	34.7	28.6	23.0	19.5	45.2
200	100	49.3	53.0	41.8	37.4	34.6	30.7	27.6	47.7

Exhaust air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
140	50	46.1	51.4	37.8	34.0	26.5	20.4	16.9	43.7
200	100	48.8	52.2	43.8	39.4	32.4	26.8	19.9	47.3

Sound power: HomeVent® ER (300)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
210	50	39.9	49.9	36.0	31.6	24.6	14.5	6.4	42.8
300	100	44.6	47.5	46.2	38.5	32.4	25.2	18.0	45.5

Fresh air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
210	50	47.9	59.6	49.7	46.3	46.2	41.9	36.3	55.5
300	100	54.6	56.8	64.2	52.0	50.7	49.7	44.1	61.8

Supply air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
210	50	46.4	52.2	42.5	35.4	29.1	20.5	16.4	46.5
300	100	51.5	51.9	48.7	42.2	34.6	27.1	17.4	49.0

Extract air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
210	50	46.2	58.0	43.6	38.0	29.0	22.1	16.9	51.6
250	100	53.1	54.6	53.3	46.1	35.2	28.8	19.4	52.5

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	125	250	500	1000	2000	4000	8000	Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
210	50	47.0	57.0	51.6	47.8	44.2	40.3	31.1	54.2
250	100	54.0	56.9	61.7	54.9	50.7	48.3	40.2	60.7

Sound power: HomeVent® ER (300) + acoustic insulating box SDB-160-400

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	39.8	38.5	26.0	18.0	15.2	16.0	16.3	31.8
300	100	44.6	39.6	35.2	25.1	17.5	16.4	16.3	35.6

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	41.2	41.9	27.1	19.4	15.0	15.9	16.4	34.7
300	100	45.1	40.9	37.8	27.5	17.2	17.1	16.9	37.2

Sound power: HomeVent® ER (300) + distribution box VTB-160 12 x 75

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	30.1	32.0	23.0	14.6	14.3	15.6	16.2	27.3
300	100	35.0	36.0	36.2	22.9	16.6	16.4	16.3	34.3

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	29.6	35.2	23.8	14.8	15.0	15.7	16.1	29.2
300	100	34.8	35.2	36.3	21.6	16.8	16.4	16.3	34.1

Sound power: HomeVent® ER (300) + IsiSound

Fresh air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	46.7	50.7	37.6	36	33.4	29.6	25.7	45.6
300	100	52.1	50.9	47.6	41.4	38.9	37.3	33.5	49.2

Exhaust air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
210	50	47.0	50.3	41.7	38.6	31.4	26.1	19.1	45.4
300	100	52.2	50.7	50.7	45.7	37.9	33.9	25.8	50.6

Sound power: HomeVent® ER (400)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	41.5	47.1	43.6	37.0	30.1	22.4	14.7	43.7
400	100	45.6	50.0	51.5	40.7	36.6	30.2	24.3	49.9

Fresh air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	50.4	55.1	56.9	49.9	48.8	46.7	40.9	57.1
400	100	55.7	58.5	66.7	54.0	54.8	54.3	49.8	65.3

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	50.1	50.5	46.9	39.5	32.2	24.4	16.7	47.0
400	100	54.2	54.2	58.6	44.8	38.0	31.7	20.0	56.2

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	49.9	55.8	51.1	43.6	33.0	26.1	17.9	51.5
400	100	55.1	55.0	53.3	46.8	39.7	33.7	23.2	53.1

Exhaust air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	50.5	58.2	60.3	53.7	48.5	45.3	36.7	59.2
400	100	57.7	59.4	66.4	58.4	54.9	53.3	46.0	65.3

Sound power: HomeVent® ER (400) + acoustic insulating box SDB-160-400

Supply air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	44.9	38.4	33.8	23.3	16.4	16.2	16.3	34.2
400	100	48.5	43.4	38.0	27.5	20.7	18.0	16.7	39.3

Extract air

Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	43.2	40.4	38.6	25.4	16.2	16.5	16.6	36.9
400	100	47.9	43.8	36.8	28.4	21.2	19.5	18.5	39.3

Sound power: HomeVent® ER (400) + IsiSound

Fresh air

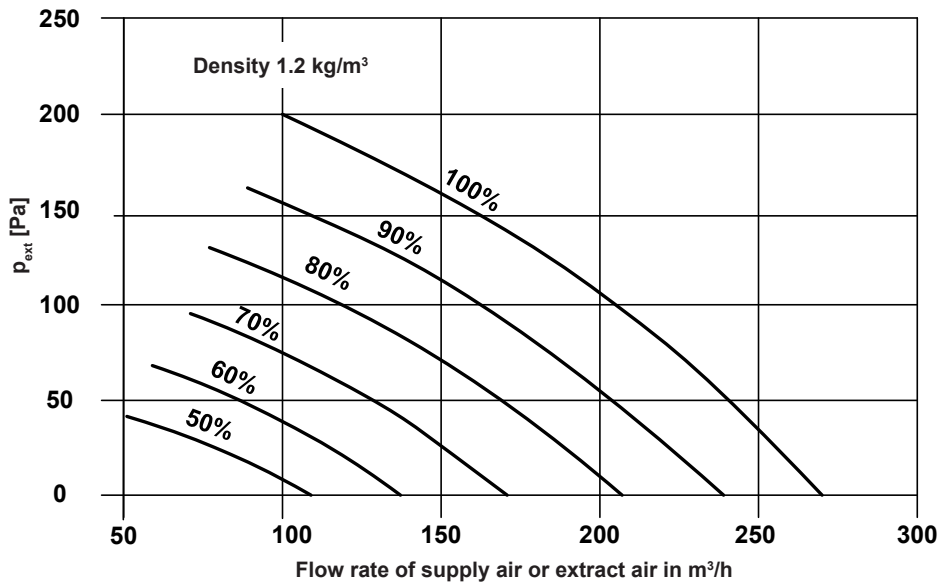
Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	49.2	49.7	44.7	39.8	37.2	34.7	30.2	47.3
400	100	54.5	54.5	53.1	43.9	43.2	42.3	39.5	53.5

Exhaust air

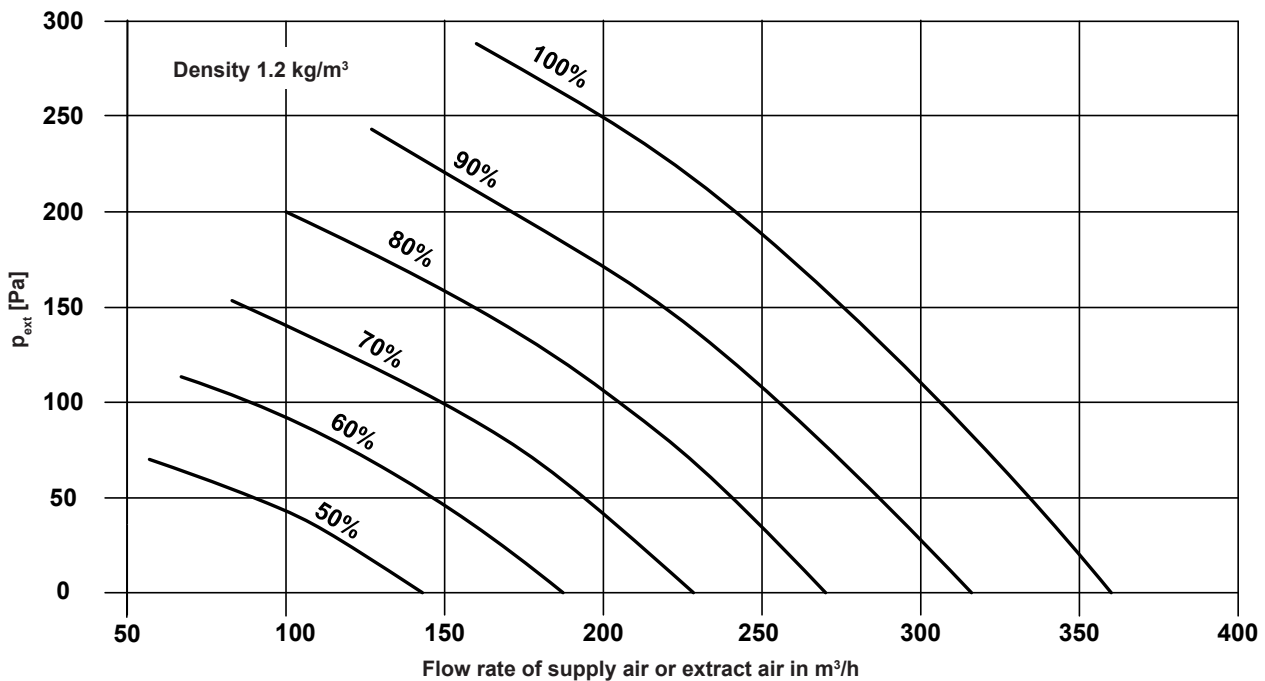
Flow rate [m³/h]	External pressure [Pa]								Sound pressure level L _{WA}
		125	250	500	1000	2000	4000	8000	125 Hz ... 8 kHz [dB(A)]
280	50	49.7	49.6	47.2	44.0	35.7	30.9	22.8	48.3
400	100	57.0	54.1	56.2	49.2	42.3	38.8	31.2	55.5

Performance chart for air flow rate, HomeVent® ER (200)

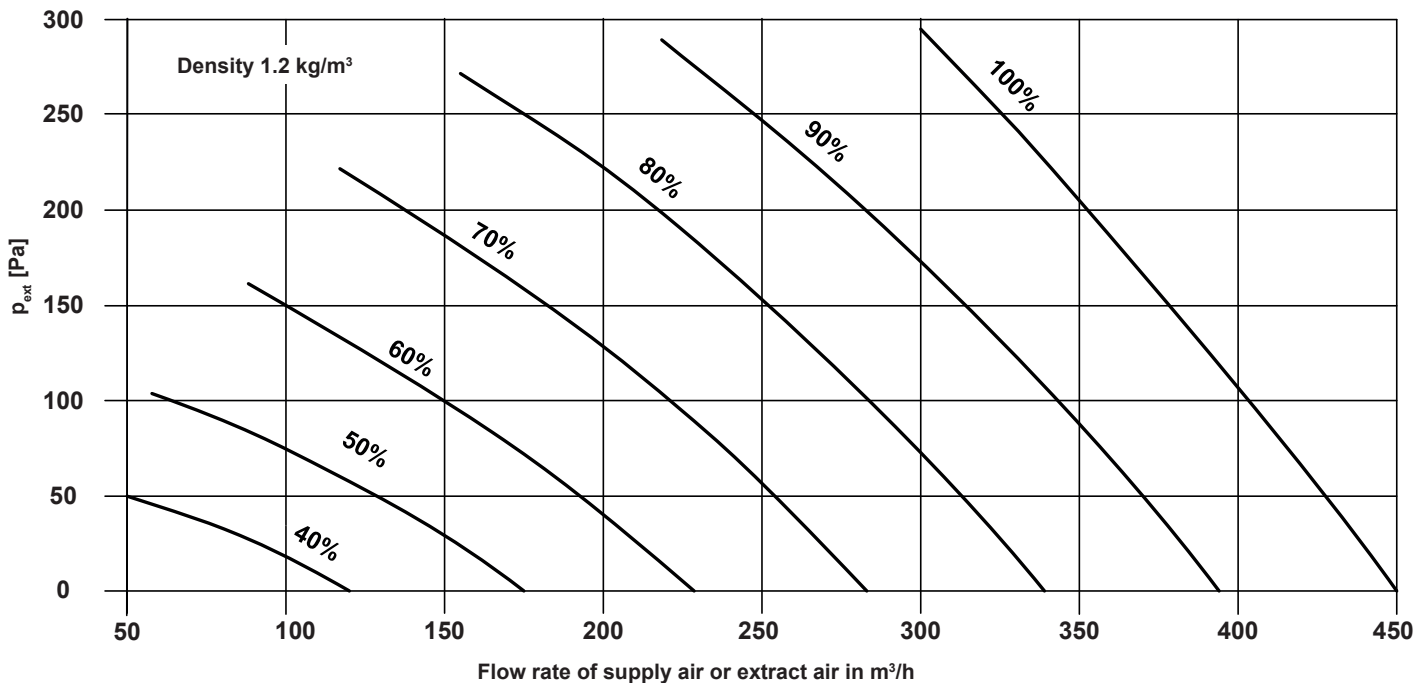
p_{ext} Sum of external pressure drops



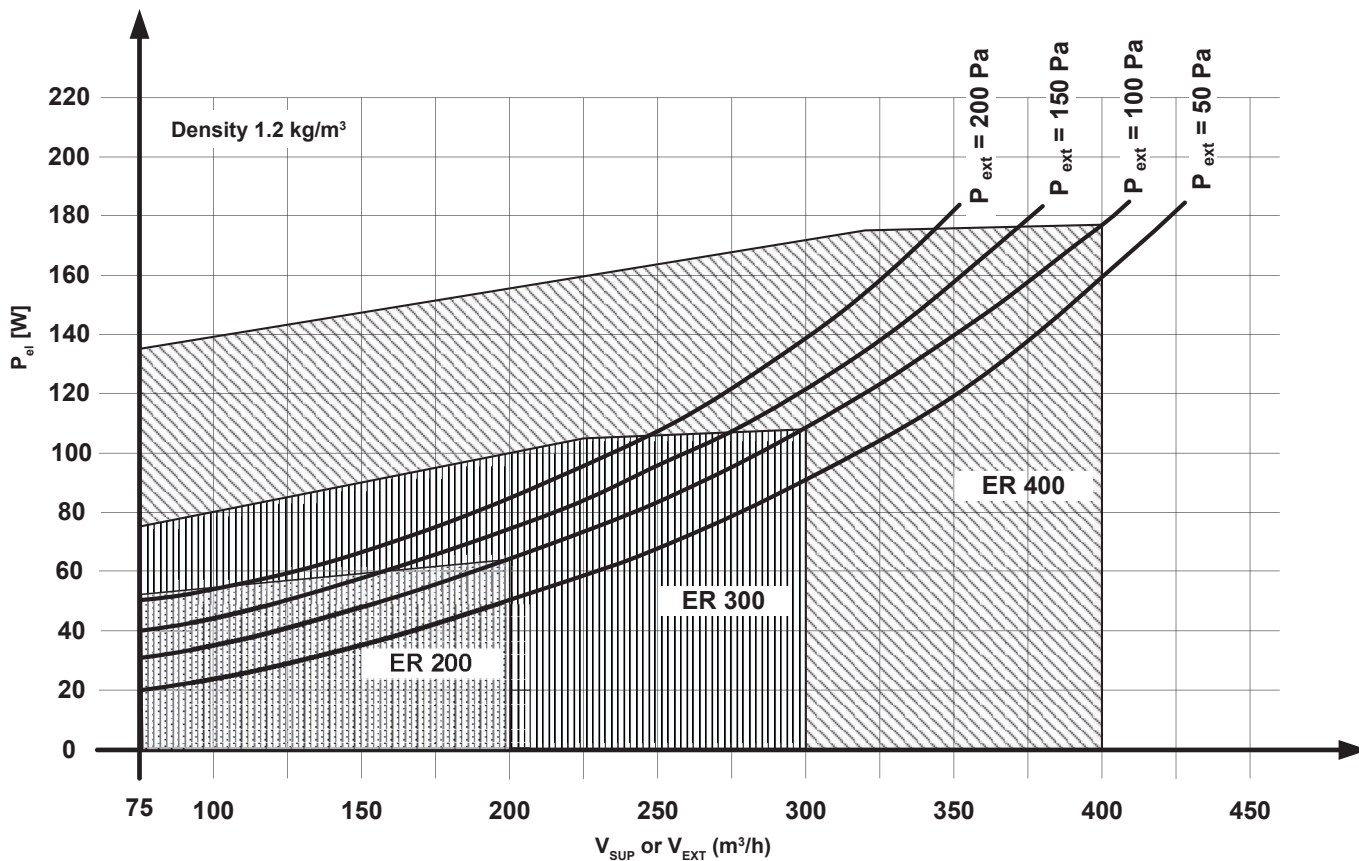
Performance chart for air flow rate, HomeVent® ER (300)



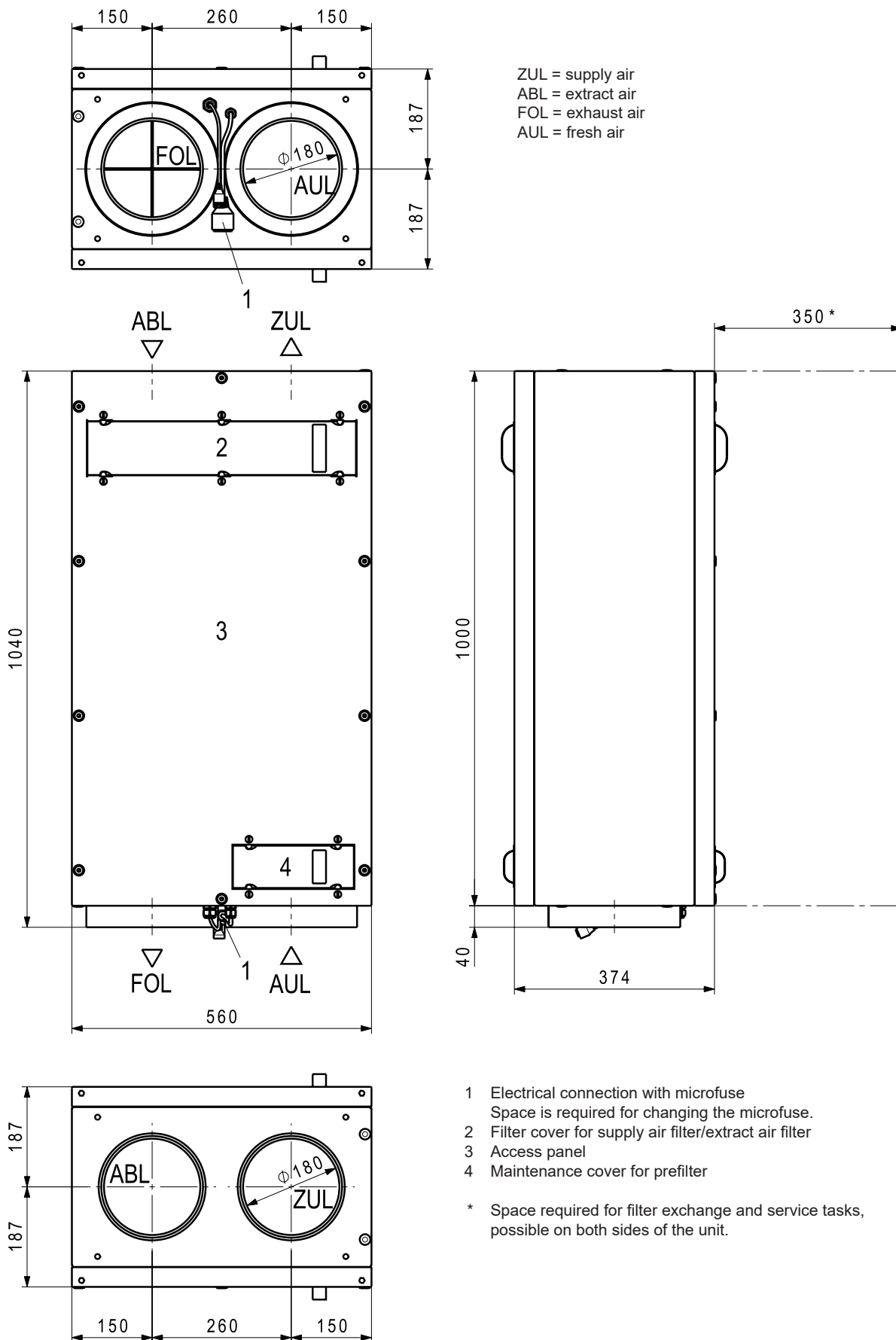
Performance chart for air flow rate, HomeVent® ER (400)



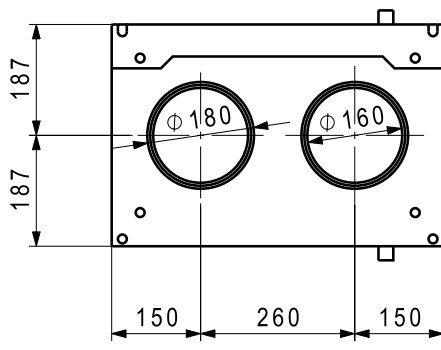
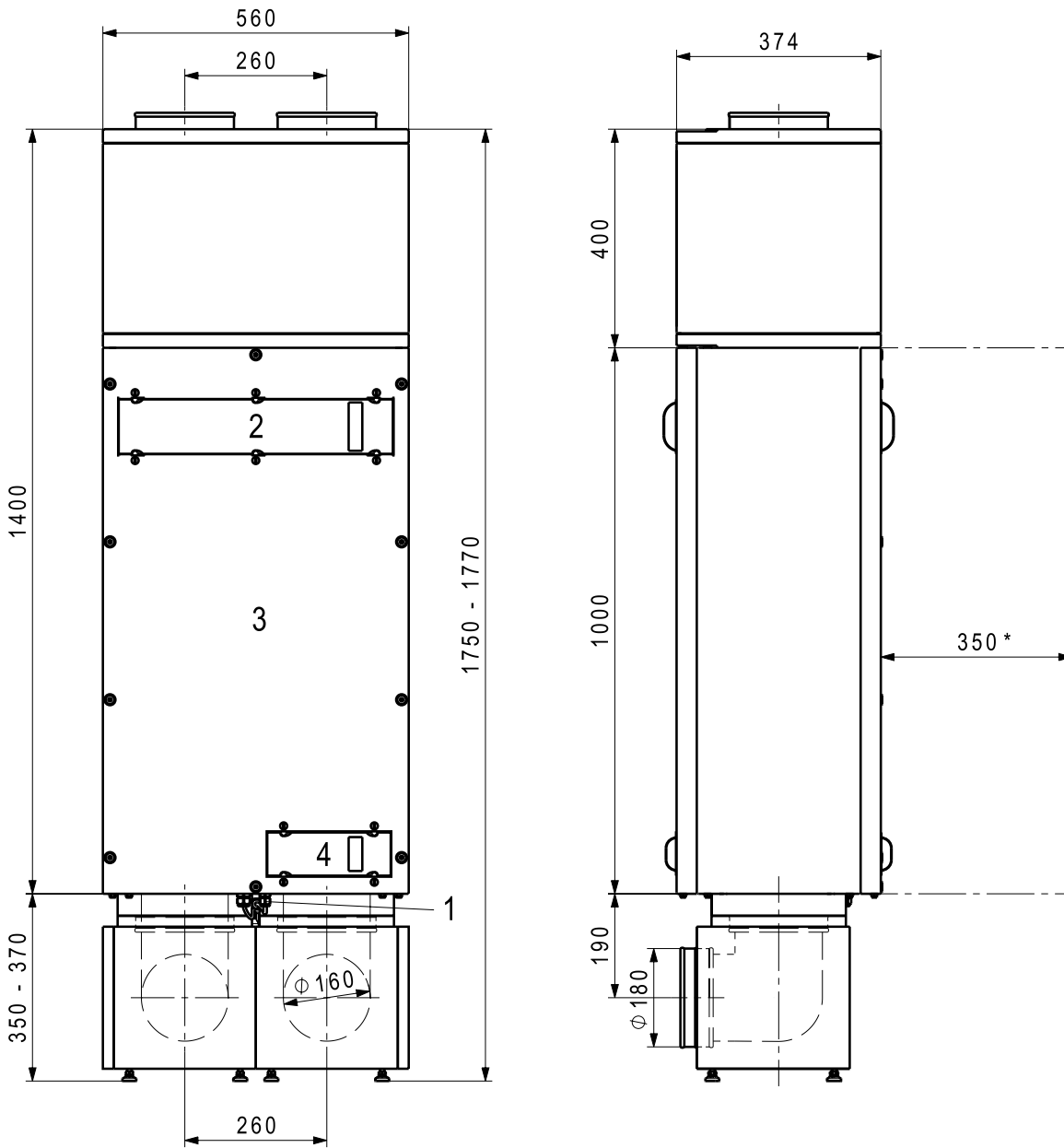
Electrical power consumption HomeVent® ER (200-400)



HomeVent® comfort ventilation unit



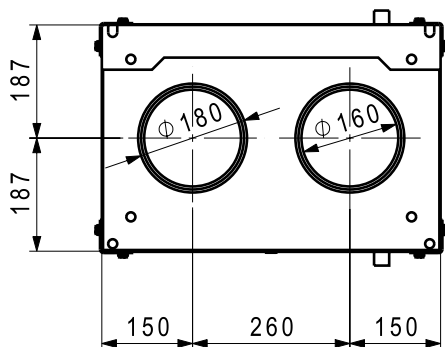
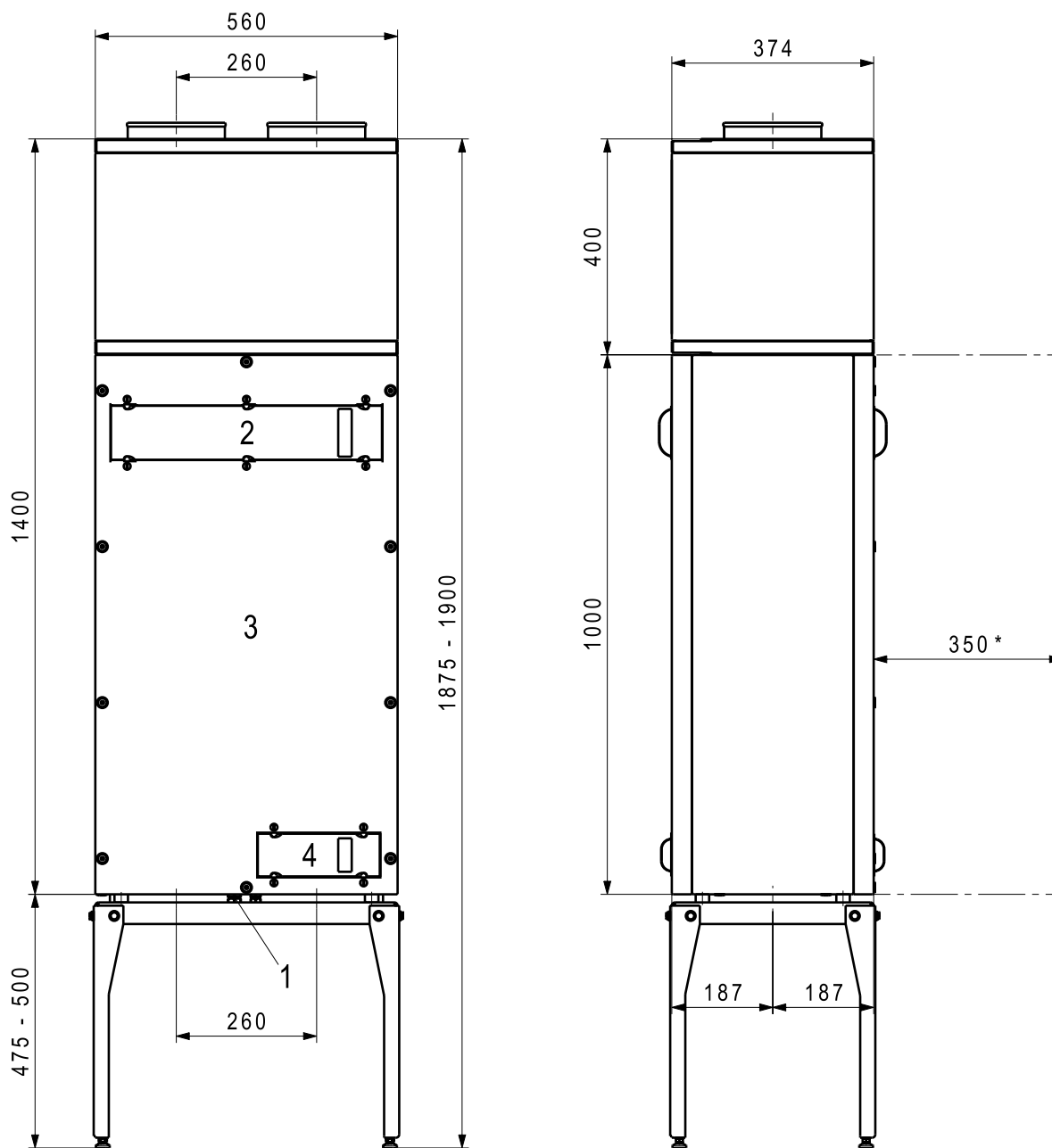
HomeVent® comfort ventilation unit with acoustic insulating box and IsiCube



- 1 Electrical connection
Space is required for changing the microfuse.
- 2 Filter cover for supply air filter/extract air filter
- 3 Access panel
- 4 Maintenance cover for prefilter

* Space required for filter exchange and service tasks, possible on both sides of the unit.

HomeVent® comfort ventilation unit with acoustic insulating box

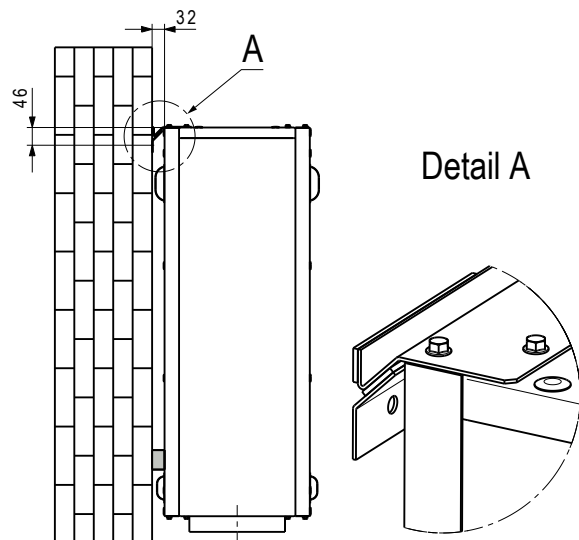


- 1 Electrical connection
Space is required for changing the microfuse.
- 2 Filter cover for supply air filter/extract air filter
- 3 Access panel
- 4 Maintenance cover for prefilter

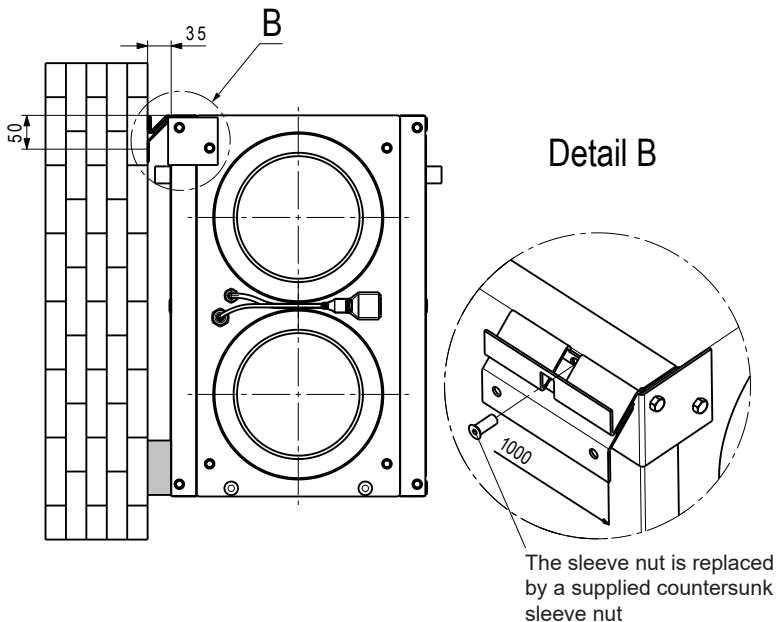
* Space required for filter exchange and service tasks, possible on both sides of the unit.

HomeVent® comfort ventilation unit
Installation with vibration dampers

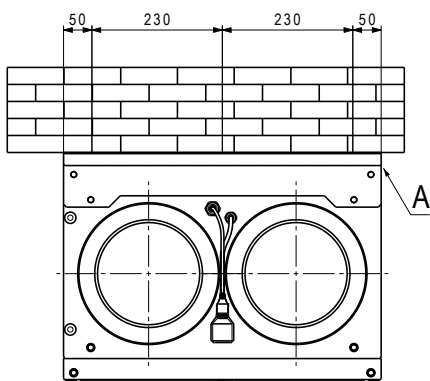
Vertical wall installation: S-WV



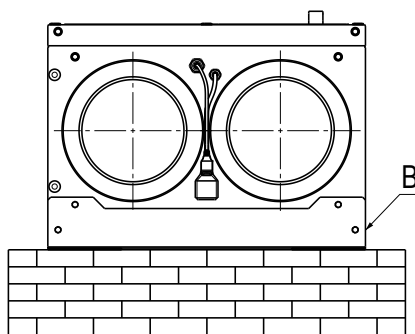
Horizontal wall installation: S-WH



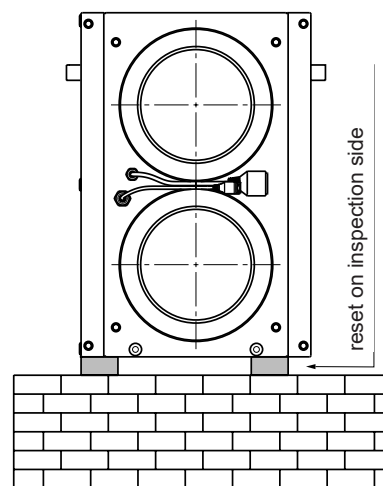
Ceiling installation: S-D



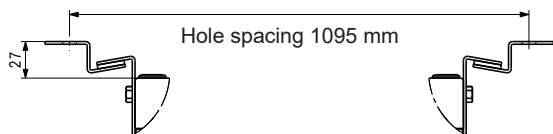
Floor installation: S-B



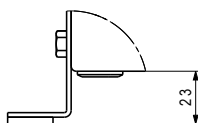
Floor installation: upright



Detail A



Detail B

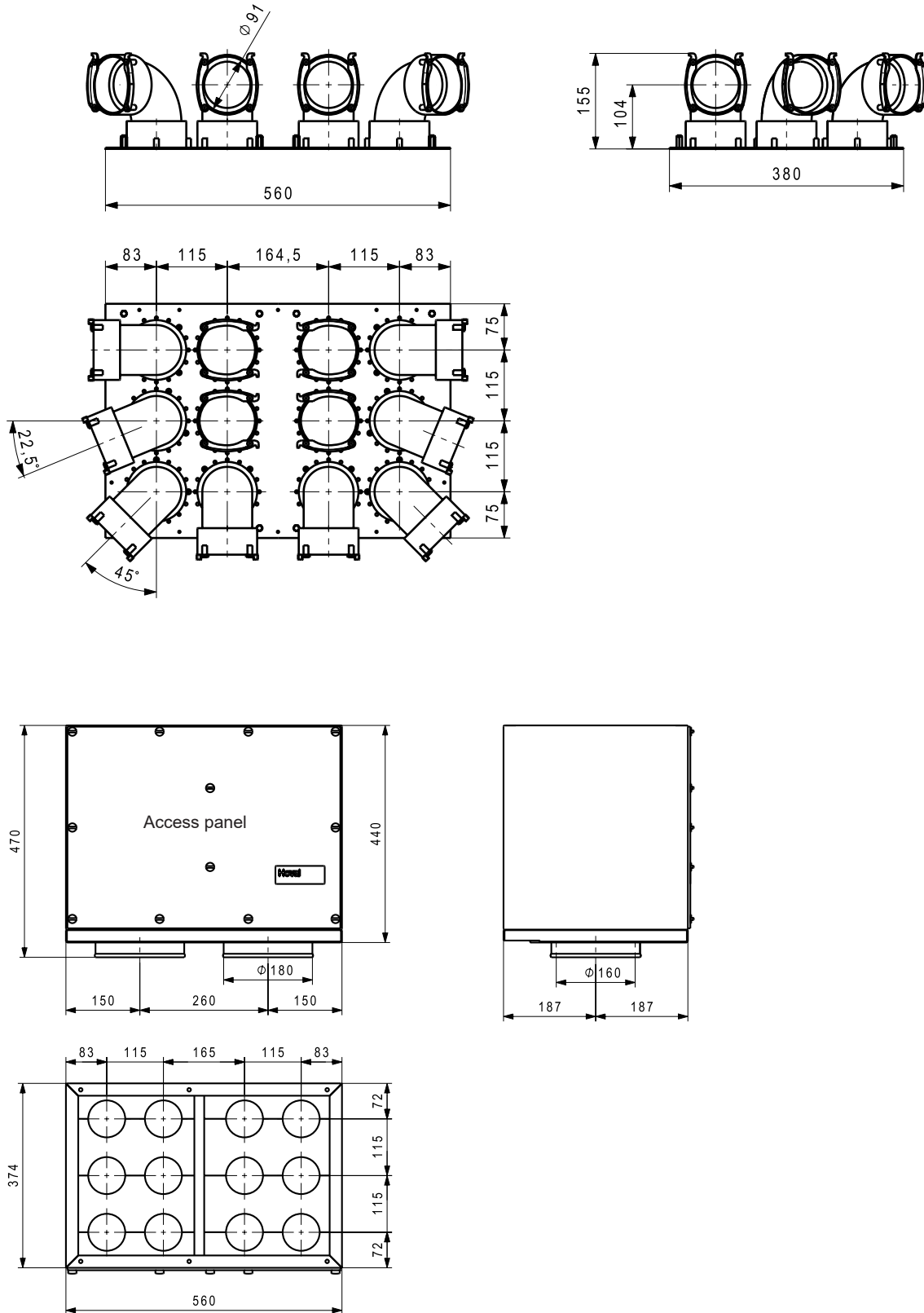


Can be installed in any position.

**Plywood and acoustic insulating box
for plywood 12 x 90**

Casing made of red foiled sheet steel with sound insulation elements on supply air and extract air sides, can be screwed onto plywood 12 x 90

Connection nozzles:
2 x DN 160/180



Distribution boxes DN 160

Distribution box VTB-160 12 x 75 resp. 90

Casing made of red foiled sheet steel with access panel.
Sound insulation elements on supply air side and extract air side.

Connection nozzles:

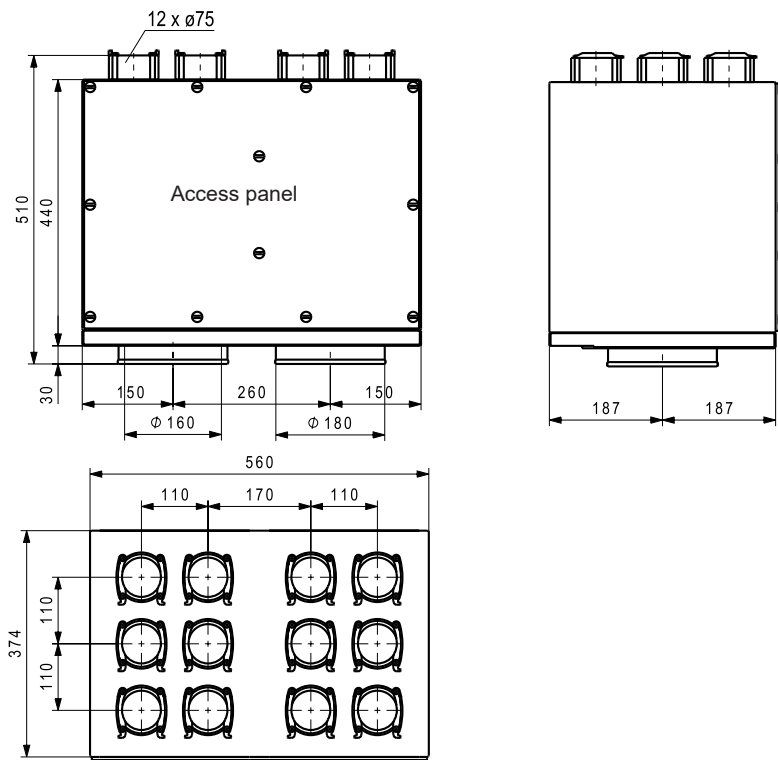
2 x DN 160/180

SUP 6 x 75, EXT 6 x 75

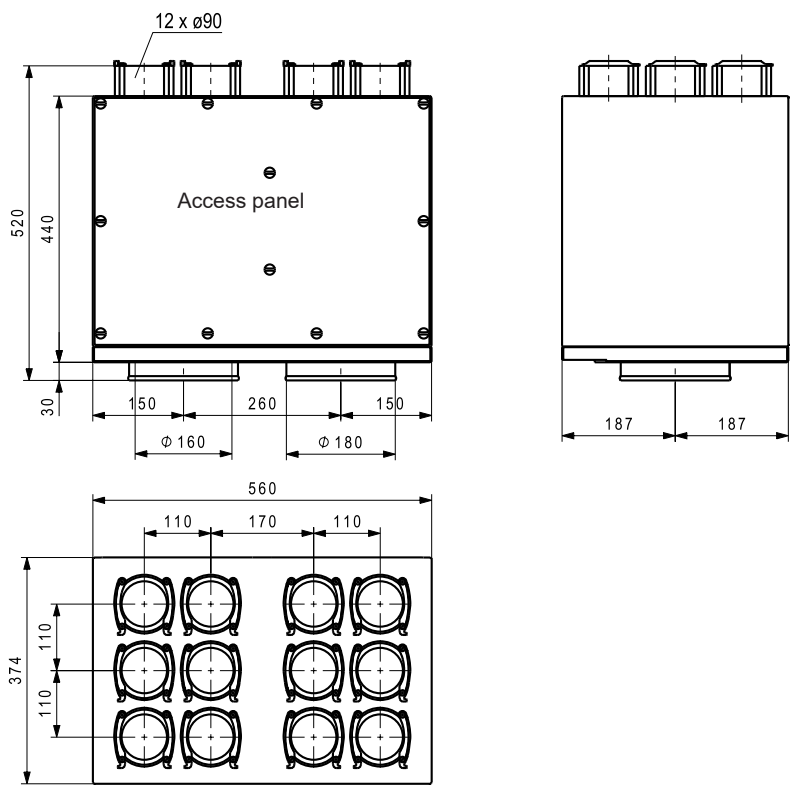
SUP 6 x 90, EXT 6 x 90

Included accessories: end caps and throttle orifices

Distribution box VTB-160 12 x 75

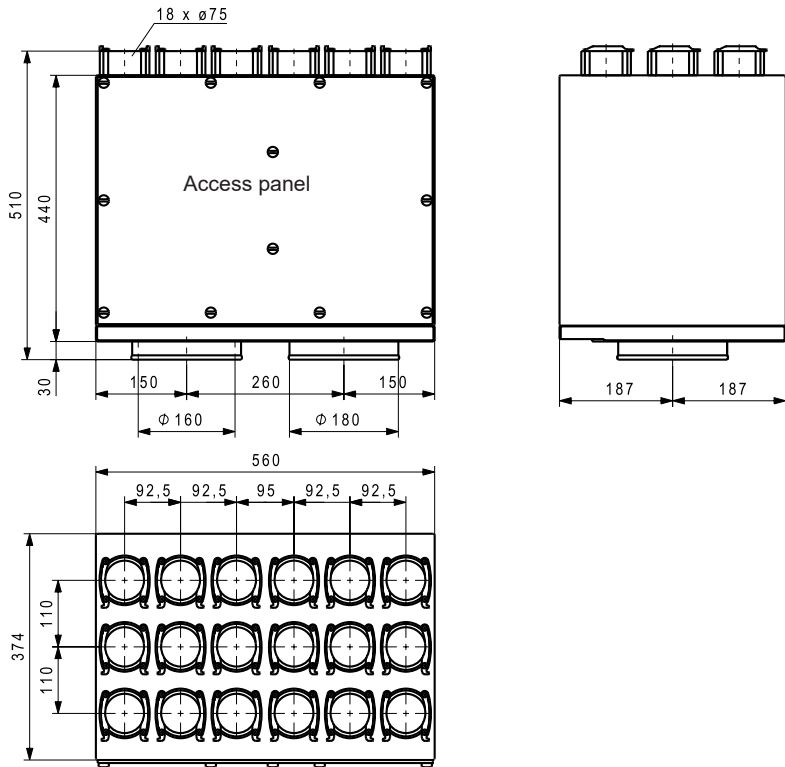


Distribution box VTB-160 12 x 90



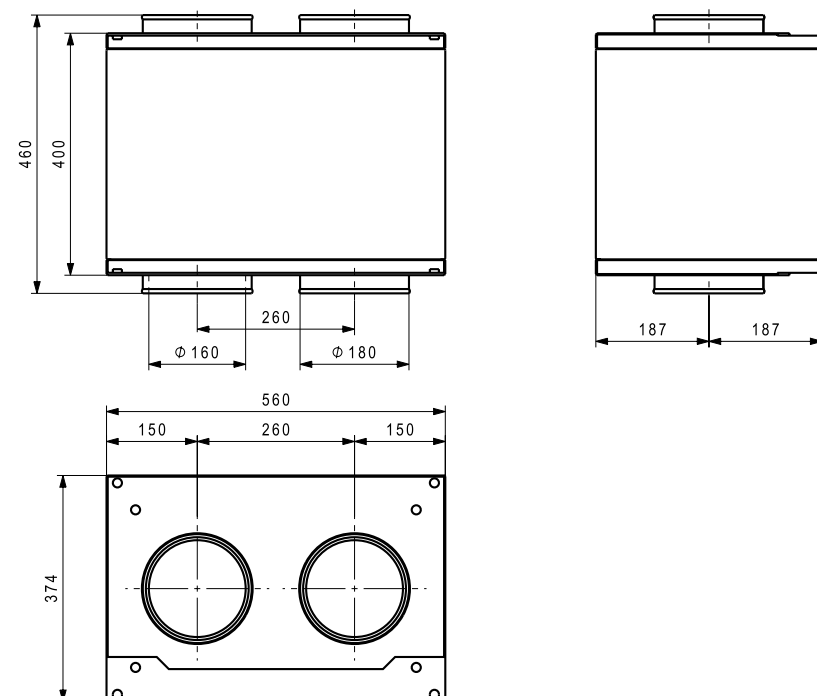
Distribution box VTB-160 18 x 75 3R

Casing made of red foiled sheet steel with access panel.
 Sound insulation elements on supply air side and extract air side.
 Additional silencer recommended
 Connection nozzles:
 2 x DN 160/180
 SUP 9 x 75, EXT 9 x 75
 Included accessories: end caps and throttle orifices



Acoustic insulating box SDB-160-400

Casing made from red foil-plated sheet steel
 Sound insulation elements on supply air side and extract air side



Hoval HomeVent® ERT (250-450)
ventilation unit

- Comfort ventilation unit with self-adjusting heat and humidity recovery.
- For use within or outside the insulated building shell.
- High-quality, heat and sound insulated inner casing made from EPP.
- External casing made of film-coated sheet steel (red).
- Unit can be equipped with adjustable feet or can be installed upright using the mounting set.
- Rotary enthalpy recovery unit with speed regulation
- Two backward-curved EC fans (continuously adjustable 15-100 %)
- High-quality filter
 - supply air: ePM_{1,0} 55 % (F7)
 - extract air: ePM₁₀ 60 % (G4)
- Integrated prefilter
- Filter monitoring (timer)
- Ready-to-connect electronics
- No need for preheating or a condensate drain

Data

- Colour: red
- Dimensions:
L x W x H: 560 x 560 x 875 mm
Weight: 35 kg
- Electrical connection: 230 V/50 Hz, IP 40

Required accessories:

- Standard operator terminal BG02 E or
- TopTronic® E room control module comfort plus

Options

- Air quality sensor VOC or CO₂
- Active cool recovery (Option CoolVent®)
- Mounting set, IsiCube
- Supply air activated carbon filter

Delivery

- Comfort ventilation unit pre-assembled and packed
 - 2 mains cables 3 m
 - 1 RJ45 cable 3 m

On site

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



Tests

- TÜV SÜD according to DIN EN 13141-7
- TÜV SÜD according to DIBt
- TÜV SÜD according to EN 60335-1

Model range

HomeVent® ERT type		Flow rate m ³ /h	Heat recovery efficiency %
(250)	A⁺	50-250	90-130
(350)	A⁺	70-350	90-130
(450)	A	80-450	90-130

Use

The HomeVent® comfort ventilation unit provides centralised supply and extract air handling for residential spaces.

This can be a single family home or a residential unit in a multi-family house.

Office rooms, conference rooms and cloak-rooms are also ideal applications.

The comfort ventilation unit is part of the HomeVent® ventilation system for comfort ventilation, which performs the following tasks:

- Supplies residential and commercial space with outdoor air
- Extracts used air (CO₂, aerosols, excess dampness, odours, etc.)
- Saves energy through intelligent latent heat recovery
- Cleans supply air using a fine dust filter

Energy recovery

The built-in enthalpy recovery unit withdraws energy from the extract air and transfers it to the supply air. This enables the intelligent (temperature) and the latent (humidity) energy to be transferred. The transmission performance is regulated between 0 and 100 % depending on the outdoor temperature.

The advantages of the enthalpy recovery unit are:

- Temperature efficiency up to 90 %
- Degree of humidity recovery up to 95 %
- Steplessly controlled transmission performance
- No preheating required (down to -20 °C)
- No condensation
- No bypass required

Air filtration

The outdoor air goes through two cleaning stages, reaches the highest standard. A fine-meshed grate (washable) at the entry of the unit prevents insects, leaves, etc. from reaching the unit. When the outdoor air leaves the unit, it flows through a high-capacity fine pollen filter (ePM_{1.0} 55 % (F7)). The operator receives a message when it is time to change the filter. The activated carbon filter can be inserted in place of the standard supply air filter. This is a high-capacity filter (ePM_{2.5} 50 %) with high efficiency against particles (pollen, fine dust, etc.) and against gaseous pollutants and odours (agriculture, traffic, etc.).

Air delivery

Two backward-curved centrifugal fans with EC direct current motors deliver the air. The rotating wheel made of high-tech composite material is produced in one piece with optimised fluid mechanics, and ensures quiet operation of the unit. The electronics built into the engine enable the air volumes to be finely regulated between 15 and 100 %. The fans are arranged in such a way that no extract air can find its way to the supply air.

Suitability for winter

Due to the built-in enthalpy recovery unit, no condensate is formed in the unit. No preheating (electronic air heater) is necessary for outdoor temperatures down to -20 °C. The flow rate ratio between supply and extract air is not changed.

Summer operation

The energy recovery is automatically reduced to a minimum at high outdoor temperatures. This enables night cooling (free cooling) in the summer as well as when the seasons change. It is not necessary to arrange for a bypass via dampers and a drive. In addition, the CoolVent® option can recover cold in air-conditioned buildings. The hot outdoor air is cooled and dried with the air-conditioned extract air.

Installation

The HomeVent® comfort ventilation unit is characterised by a compact design. It is possible to access the unit from the front for servicing. No condensate forms in the unit. The unit can be equipped with adjustable feet or can be installed upright using the mounting set.

Standard operator terminal BG02 E

The operator terminal consists of a plastic casing for on-wall mounting. The target air volume and the target air humidity can be set with two rotary knobs. With the party button, the air volume can be increased for a limited period of time. The connection to the HomeVent® comfort ventilation unit is made via RJ45 plug connection. The unit can also be installed in a secondary room.

TopTronic® E

room control module comfort plus

The TopTronic® E room control module comfort plus is available either with a black or white design, operated by a colour touchscreen (4.3 inch). The connection to the HomeVent® comfort ventilation unit is made via RJ45 plug connection or plug terminals (max. 0.75 mm²). The unit can be installed on the wall with an on-wall mounted frame or with a wall-mounting plate and flush-mounted boxes. The unit can be installed in a secondary room.

Functional possibilities:

- Operation of all Hoval units connected to the bus.
- Authorisation management for operation.
- Efficient control of the ventilation system by working with day programmes
- Selection between different start screens possible during commissioning.
- Customer-specific configuration of the screen for displaying the following elements:
 - Date and time
 - Moon phases
 - Current air volume in %
 - Maximum target humidity in %
 - Active day or week programme
 - Display of current room air quality (optional VOC or CO₂ air quality sensor must be installed for this purpose)
 - Display of the current weather or weather forecast (only possible in combination with HovalConnect)

Air quality

Optionally, a VOC or CO₂ air quality sensor can be installed in the unit during commissioning. In addition, an activated carbon filter can be installed on the supply air side as an option. The VOC air quality sensor continuously monitors the extract air for volatile organic components and regulates the supplied or discharged air volume via the speed of the fans. This results in optimal air quality in the building with minimal energy input.

- VOC air quality sensor on the extract air side:
The extract air is continuously monitored for odours, cleansing agents, etc. If the concentration of the extract air exceeds a certain value, the air volume is increased correspondingly. The sensitivity can be chosen. On the TopTronic® E room control module comfort plus, the air quality is displayed by a bar, which will either be green (good air), orange (slightly contaminated air) or red (bad air).

Cooling

The fresh air can be pre-cooled using the CoolVent® option. However, this requires an air-conditioning system to be present in order to provide the necessary cooling in the room. The enthalpy recovery system extracts heat and humidity from the warm outdoor air and feeds it to the cold extract air. The energy consumption of the air-conditioning system is thereby reduced. The efficiency for this process is 85 %. The CoolVent® function is activated during commissioning.

**Function HomeVent®
 ERT (250-450)**

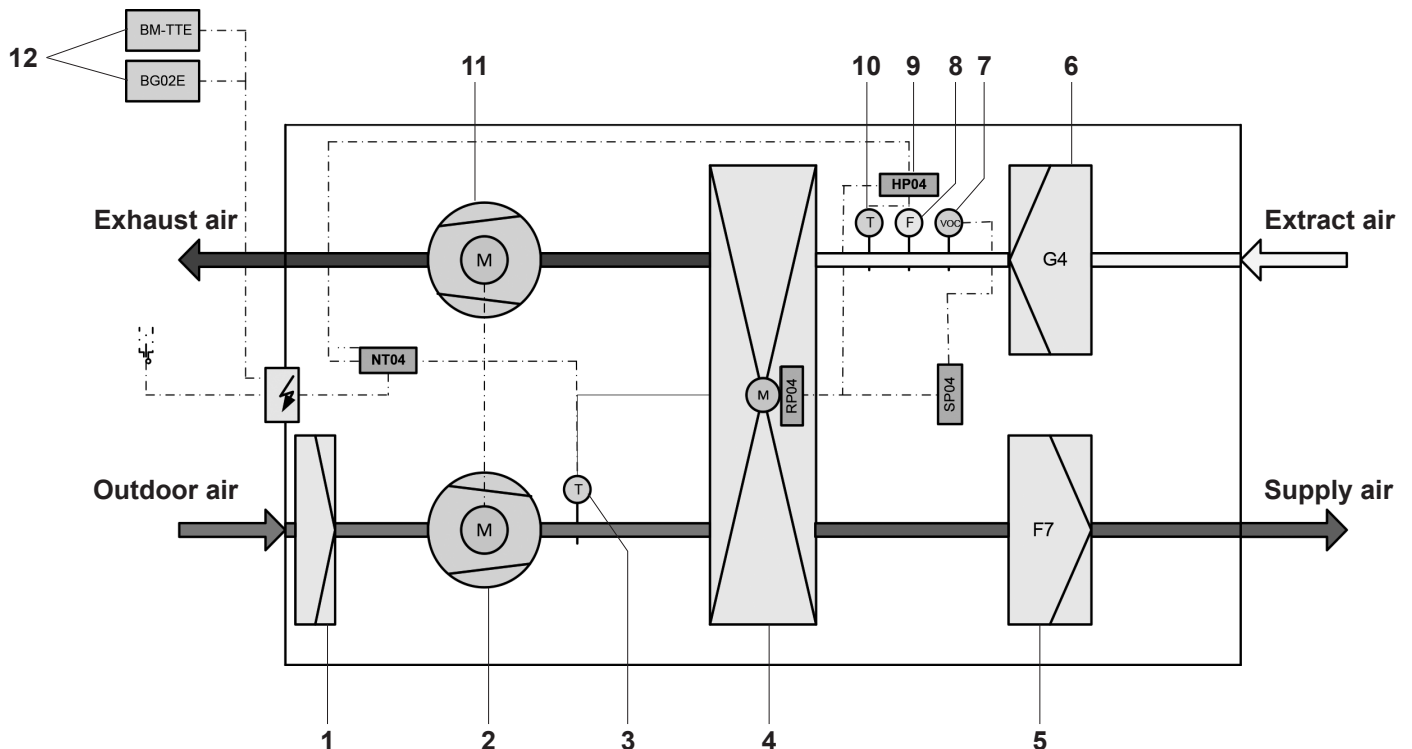
The outside air fan draws in outdoor air via the main line. In the first stage, this air is cleaned via a fine-meshed grate. In the enthalpy recovery system, the supply air is heated, depending on the temperature, and humidified. The extent to which heat and humidity are recovered is dependent on the temperature and humidity differences between the exhaust air and the outdoor air as well as on the rotor speed. Then the pre-treated outdoor air is cleaned by means of a pollen fine dust filter.

The exhaust air fan sucks in the used air via the 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 overpressure on the supply air side and underpressure on the extract air side - means that no extract air can find its way to the supply air.

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

- The speed of the enthalpy recovery system is regulated by the outdoor temperature. In this way, the heat and humidity recovery is adjusted automatically.
- The humidity regulation changes the flow rate. Thus, if the humidity indoors is too high, for instance, more dry air is introduced from the outside.
- The functions of the unit are continuously monitored. In case of a malfunction, the device is switched to "fault" mode. The malfunction is displayed on the operator terminal.

- | | |
|---|---|
| 1 Prefilter | 8 Moisture sensor |
| 2 Outside air fan | 9 Electronics |
| 3 Outdoor sensor | 10 Extract air sensor |
| 4 Enthalpy recovery unit | 11 Exhaust air fan |
| 5 Supply air filter | 12 Operator terminal BG02 E or TopTronic® E |
| 6 Extract air filter | room control module comfort plus |
| 7 VOC or CO ₂ extract air sensor | |



Comfort ventilation units



HomeVent® ERT (450)
Available starting June 2023

HomeVent® ERT (250-450)

Comfort ventilation unit for ventilating a residential unit with high-efficiency heat and humidity recovery.

HomeVent® ERT type		Nominal flow rate m³/h	Ext. pressure Pa
(250)	A+	250	100
(350)	A+	350	100
(450)	A	450	100

Part No.

7019 029
7019 030
7019 031

Required accessories



Operator terminal BG02 E

for HomeVent® ER and ERT
Plastic housing for on-wall mounting.
Knob for flow rate and room air humidity.
Service and fault display.

2066 444



TopTronic® E room control module comfort plus white

for HomeVent® ER and ERT
Operation of all Hoval ventilation units, heating and hot water circuits connected to the bus system.
Customer-specific configurable start screen.

6037 072

incl. fitting accessories



TopTronic® E room control module comfort plus black

for HomeVent® ER and ERT
Operation of all Hoval ventilation units, heating and hot water circuits connected to the bus system.
Customer-specific configurable start screen.

6042 543

incl. fitting accessories



HovalConnect

HovalConnect LAN
HovalConnect WLAN

6049 496
6049 498

TopTronic® E interface modules

HovalConnect Modbus
HovalConnect KNX

6049 501
6049 593

Technical information
see separate chapter.

Recommended accessories



VOC air quality sensor
for HomeVent® ER and ERT
Can be installed on extract air side
Only in connection with the TopTronic® E room control module comfort plus.

Part No.

6058 206



CO₂ air quality sensor
for HomeVent® ER and ERT
Can be installed on extract air side
Only in connection with the TopTronic® E room control module comfort plus.

6058 211

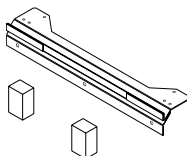
Notice

CO₂-sensor cannot be combined with VOC sensor



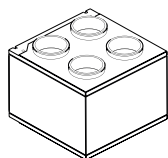
Cool recovery unit CoolVent®
for HomeVent® ER and ERT
Active-controlled cool recovery for air-conditioned buildings.
Activated by Hoval service technicians during commissioning.

6035 255



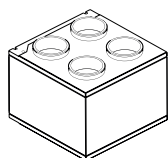
Vertical wall mounting set
for HomeVent® ER and ERT
Steel bracket red coated with vibration-damping support

6046 215



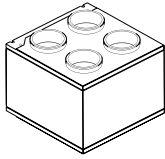
Acoustic insulating box ERT extract-supply air front
for HomeVent® ERT
Casing made from red foil-plated sheet steel
connection nozzles 4 x DN 160.
Extract air front left,
supply air front right
Exhaust air back left,
fresh air back right
All 4 air ducts are sound-insulated.
Dimensions (L x W x H):
400 x 560 x 560 mm

6046 018



Acoustic insulating box ERT extract air-supply air right
for HomeVent® ERT
Casing made from red foil-plated sheet steel
Connection nozzles 4 x DN 160.
Extract air front right,
supply air rear right
Exhaust air front left,
fresh air rear left
All 4 air ducts are sound-insulated.
Dimensions (L x W x H):
400 x 560 x 560 mm

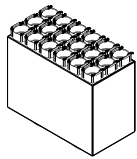
6046 019



Acoustic insulating box ERT extract-supply air left
for HomeVent® ERT
Casing made from red foil-plated sheet steel
connection nozzles 4 x DN 160.
Extract air rear left,
supply air front left
Exhaust air back right,
fresh air front right
All 4 air ducts are sound-insulated.
Dimensions (L x W x H):
400 x 560 x 560 mm

Part No.

6046 020



Distribution box VTB-180 18 x 75
for HomeVent® ERT
Casing made from aluzinc sheet
2 connections DIN 180
18 connections DIN 75
Acoustic insulating body on supply and extract air sides, access panel, incl. throttle orifices
Dimensions (L x W x H):
400 x 560 x 280 mm

6045 932

Filter HomeVent® ERT



Supply air filter ERT
for HomeVent® ERT
Filter class ISO 16890: ePM_{1,0} 55 % (F7)

5043 550



Activated carbon filter ERT
for HomeVent® ERT
Protection against pollutants and odours
Alternative to supply air filter ERT
Filter class ISO 16890: ePM_{2,5} 50 %

5043 778



Extract air filter ERT
for HomeVent® ERT
Filter class ISO 16890: ePM₁₀ 60 % (G4)

5043 611

HomeVent® comfort ERT (250-450)

Type		(250)	(350)	(450)
• Max. flow rate (at 100 Pa external pressure)	m ³ /h	250	350	450
• Air flow rate control range	m ³ /h	50-250	70-350	80-450
• Humidity setpoint setting	%		30...65	
Electrical connection				
• Voltage (AC)	V		230	
• Frequency	Hz		50	
• Max. current consumption	A	0.82	1.26	2.34
• Type of protection			IP 40	
• Power consumption (at 70 % of the max. flow rate, 50 Pa external pressure)	W	42	63	94
• Degree of heat processing (as per DIN 4719)	%		90-130	
• Temperature ratio (at 70 % of the max. flow rate)	%	85	84	82
• Humidity ratio (at 70 % of the max. flow rate)	%	86	86	81
• Specific fan power SFP (at 70 % of the max. flow rate)	W/m ³ /h	0.25	0.27	0.31
Filter class (as per ISO-16890)				
• Supply air filter			ePM _{1,0} 55 %	
• Extract air filter			ePM ₁₀ 60 %	
• Sound power level			see table on following page	
Leakage (as per EN 13141-7)				
• Internal	%	0.1	0.1	0.1
• External	%	0.2	0.1	0.1
• Net weight	kg		35	
Application limits for device setup, weather-protected (EN 60721-3-3), 3K5 as per EN 50090-2-2				
• Ambient temperature	°C		-20...45	
• Ambient humidity	g/kg		max. 15	
• Dew point temp. in installation room	°C		< 15	
Air conditions (moderate outdoor climate EN 60721-2-1)				
• Outside air intake temperature	°C		-20...40	
• Outside air intake humidity	% r.h.		5...95	
• Extract air temperature	°C		18...35	
• Extract air humidity	% r.h.		5...80	
• Max. extract air humidity winter	g/kg		12	

Sound power: HomeVent® ERT (250)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure _{e level LWA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	40	49	34	22	14	10	10	40
250	100	45	51	45	28	20	11	11	45

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure _{e level LWA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	48	54	49	40	37	31	23	49
250	100	55	56	56	47	44	39	33	55

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure _{e level LWA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	44	52	48	39	34	27	18	48
250	100	49	52	55	46	41	35	26	53

Extract air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure _{e level LWA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	47	54	42	33	32	23	18	46
250	100	51	54	50	34	38	32	26	50

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure _{e level LWA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	45	51	43	43	39	34	17	48
250	100	51	55	57	48	46	43	29	56

Sound power: HomeVent® ERT (250) + acoustic insulating box ERT

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	40	49	34	22	14	10	10	40
250	100	44	51	44	28	19	10	11	45

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	34	38	29	15	14	15	16	31
250	100	38	39	31	20	18	17	17	63

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	33	39	28	15	14	15	16	32
250	100	38	40	37	21	17	16	16	36

Extract air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	33	37	26	15	15	15	16	30
250	100	39	41	36	22	19	16	16	36

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
175	50	34	38	28	17	15	15	11	31
250	100	40	41	36	23	21	18	12	36

Sound power: HomeVent® ERT (350)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000		
245	50	42	52	38	24	17	10	12	44	
350	100	48	48	46	31	24	13	8	45	

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000		
245	50	50	54	52	43	41	37	29	52	
350	100	58	55	62	50	49	45	39	60	

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000		
245	50	48	56	51	43	39	33	23	52	
350	100	53	54	61	50	46	41	33	59	

Extract air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000		
245	50	48	53	46	38	36	30	22	48	
350	100	53	53	52	43	42	37	31	52	

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]								Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000		
245	50	48	54	48	47	44	41	24	53	
350	100	54	53	61	53	51	48	36	60	

Sound power: HomeVent® ERT (350) + acoustic insulating box ERT

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
245	50	42	52	38	24	17	10	12	44
350	100	48	48	46	31	24	13	8	45

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
245	50	36	39	32	17	16	16	16	33
350	100	41	38	41	24	21	20	20	38

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
245	50	36	39	32	18	15	15	16	33
350	100	43	39	41	25	20	17	16	39

Extract air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
245	50	35	39	29	19	17	16	16	33
350	100	42	40	38	26	24	17	16	37

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
245	50	38	40	32	20	18	17	11	34
350	100	45	41	42	28	25	22	14	40

Sound power: HomeVent® ERT (450)

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	46	48	44	29	21	10	11	44
450	100	49	51	49	33	28	16	8	49

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	52	53	58	50	45	42	35	56
450	100	59	57	62	53	52	50	44	61

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	50	52	58	47	43	38	29	56
450	100	56	56	62	53	50	46	38	61

Extract air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	50	52	50	41	39	34	27	50
450	100	55	55	53	45	45	41	36	54

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	50	52	56	50	48	45	30	56
450	100	57	56	61	54	54	53	42	62

Sound power: HomeVent® ERT (450) + acoustic insulating box ERT

Casing

Flow rate SUP/EXT [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	46	48	44	29	21	10	11	44
450	100	41	51	49	33	28	16	8	49

Fresh air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	39	36	39	22	18	18	18	36
450	100	46	41	43	27	25	24	25	41

Supply air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	40	37	39	22	17	16	16	36
450	100	47	42	43	28	24	20	18	41

Extract air

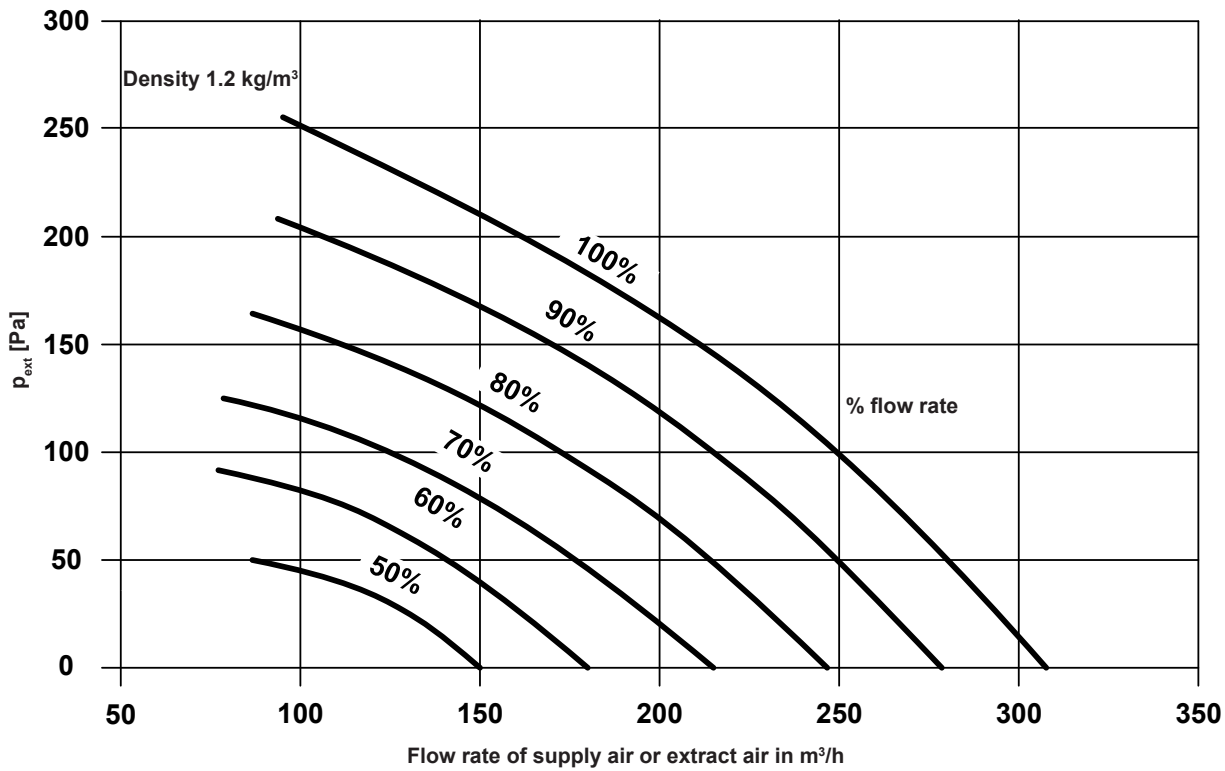
Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	38	38	35	22	19	16	16	34
450	100	45	42	39	29	27	19	17	39

Exhaust air

Flow rate [m³/h]	External pressure [Pa]	L _w [dB]							Sound pressure level L _{WA} 125 Hz ... 8 kHz [dB(A)]
		125	250	500	1000	2000	4000	8000	
315	50	42	39	38	25	21	19	12	37
450	100	49	45	43	32	29	26	18	43

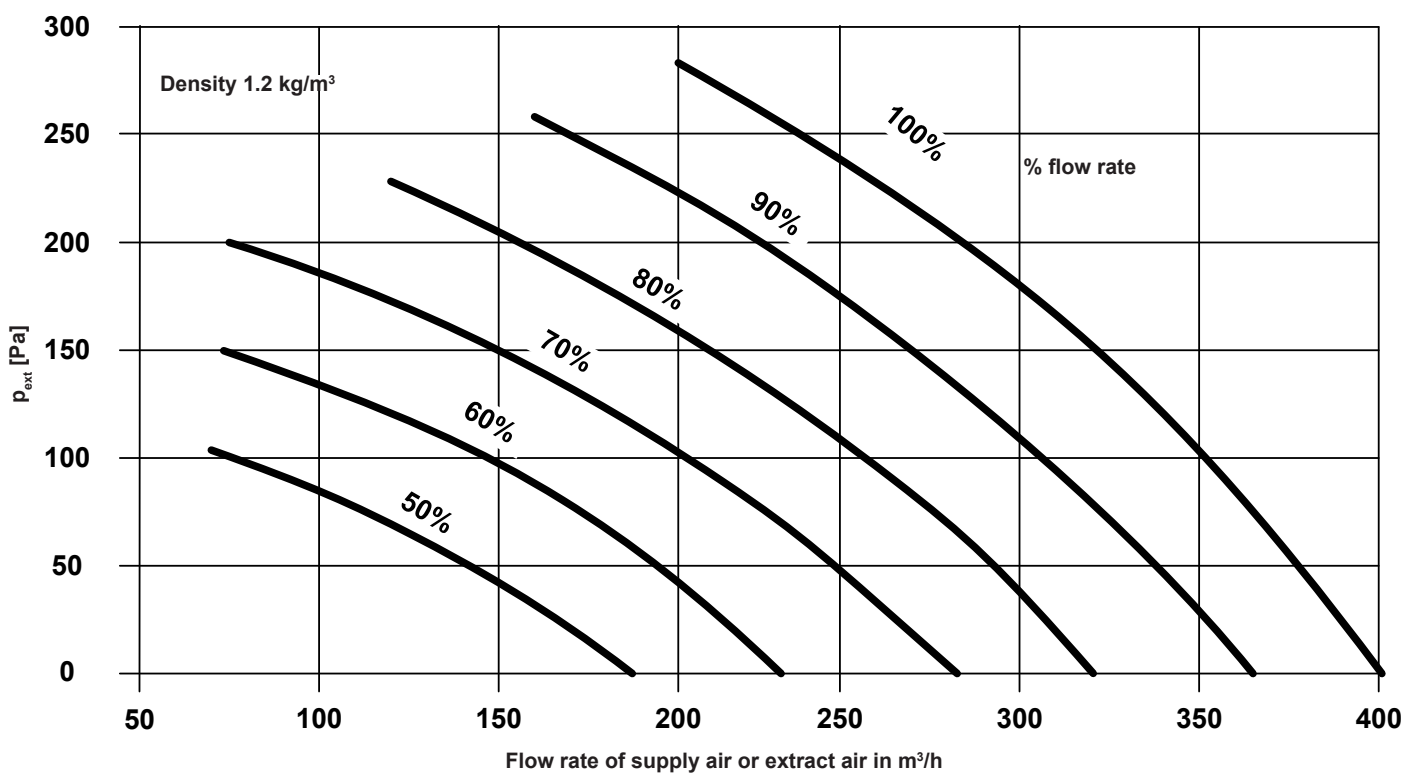
Performance chart for air flow rate, HomeVent® ERT (250)

p_{ext} Sum of external pressure drops



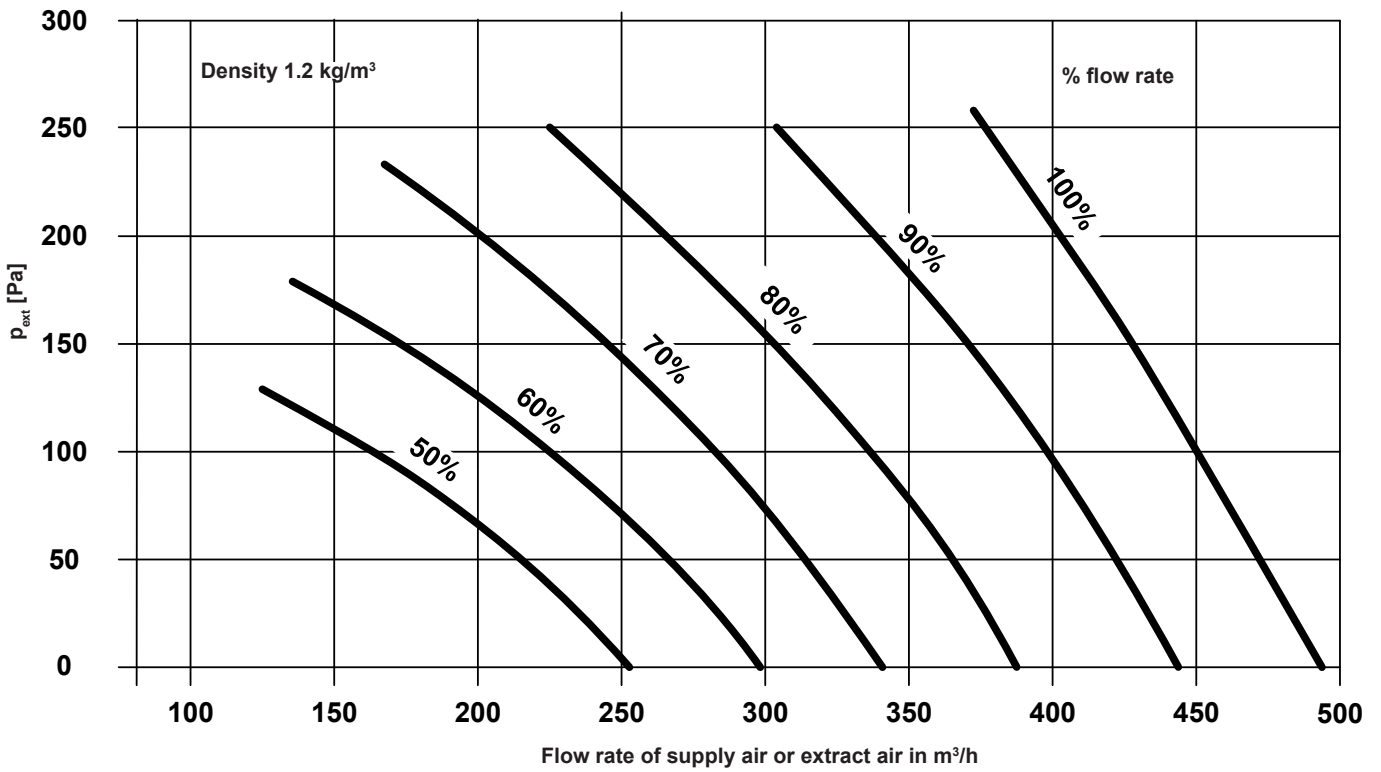
Performance chart for air flow rate, HomeVent® ERT (350)

p_{ext} Sum of external pressure drops

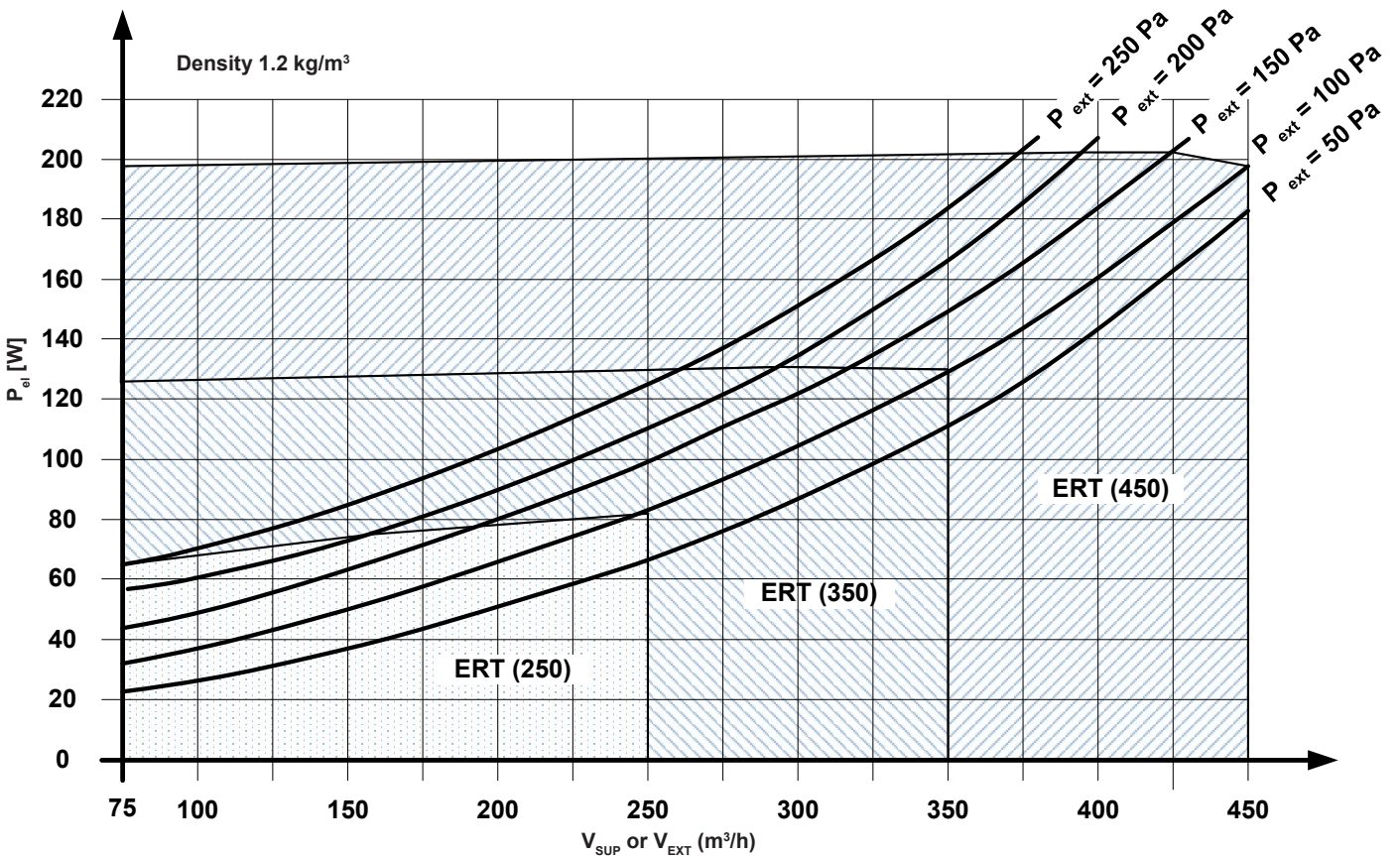


Performance chart for air flow rate HomeVent® ERT (450)

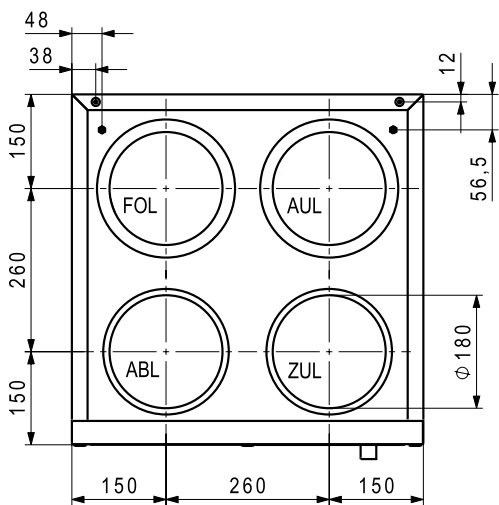
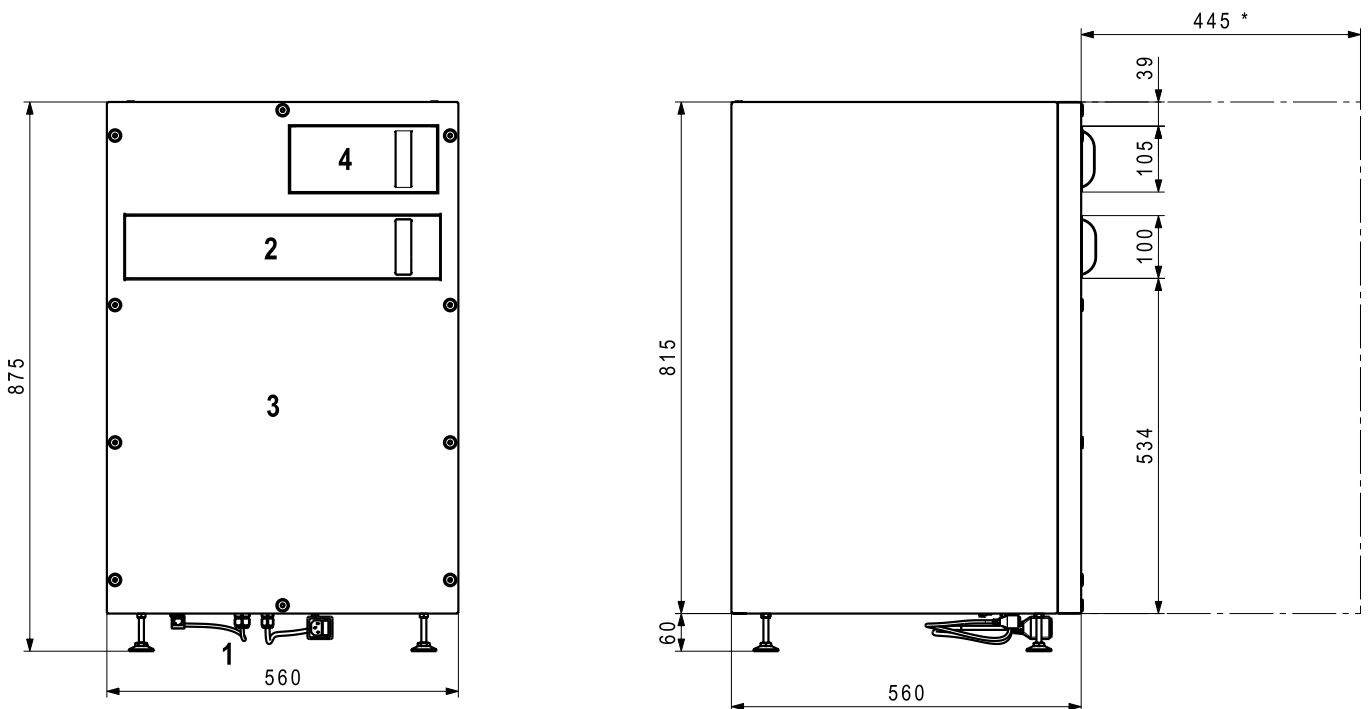
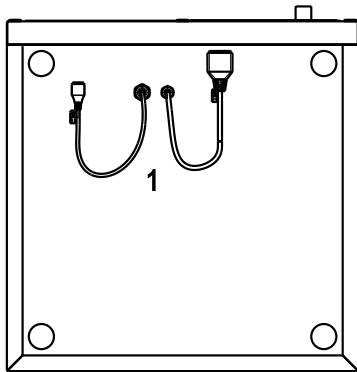
p_{ext} Sum of external pressure drops



Electrical power consumption HomeVent® ERT (250-450)



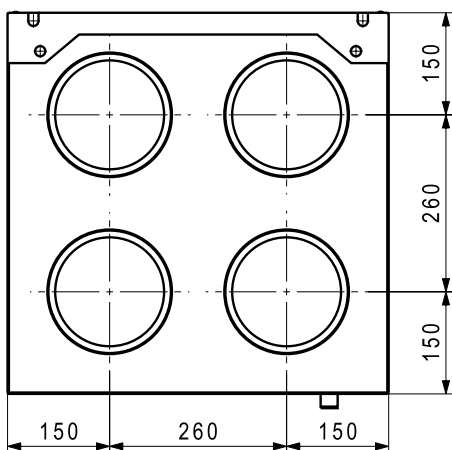
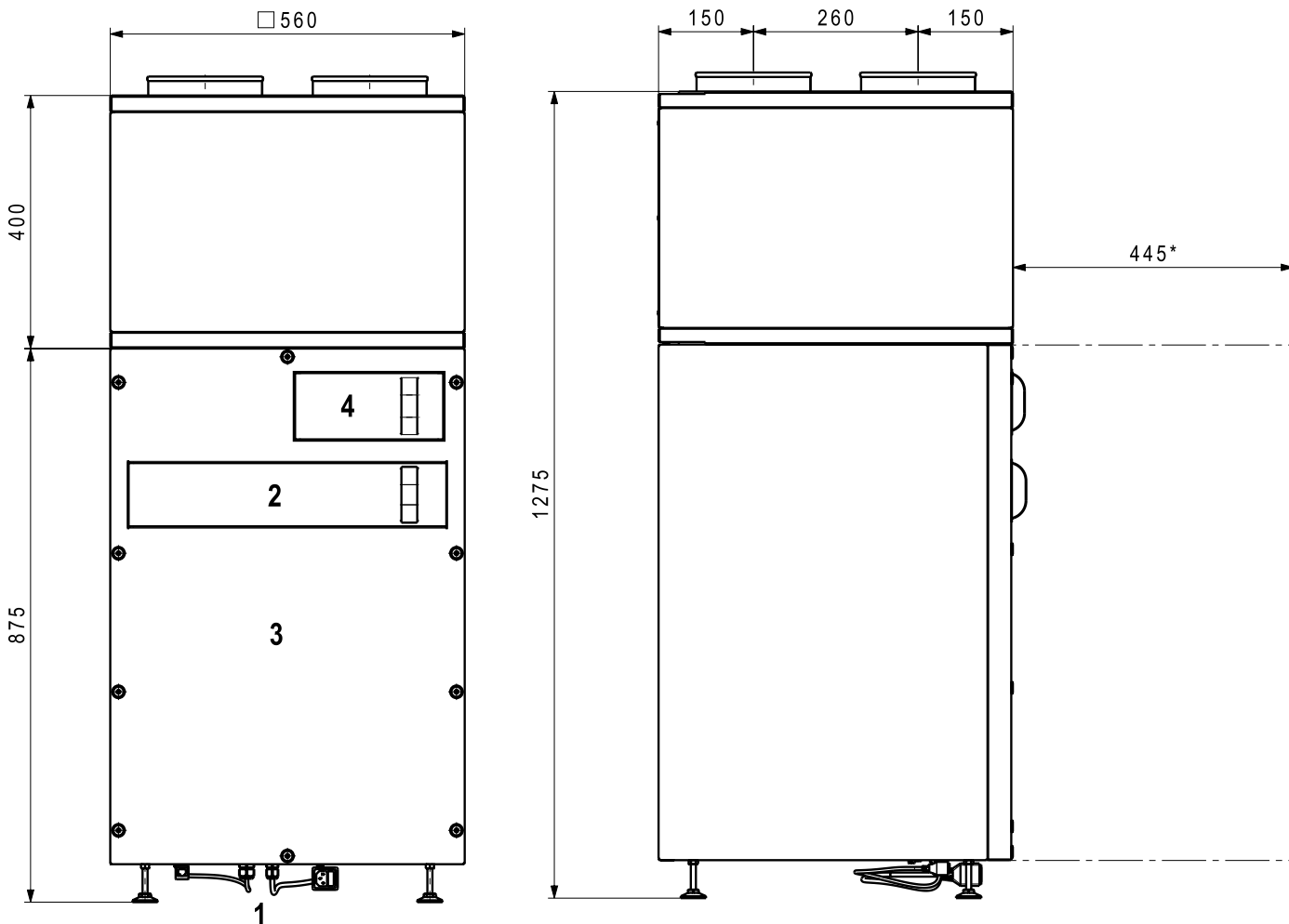
HomeVent® comfort ventilation unit



- 1 Electrical connection with microfuse
Space is required for changing the microfuse.
- 2 Filter cover for supply air filter/extract air filter
- 3 Access panel
- 4 Maintenance cover for prefilter

* Space requirements for filter change and service tasks

HomeVent® comfort ventilation unit with acoustic insulating box



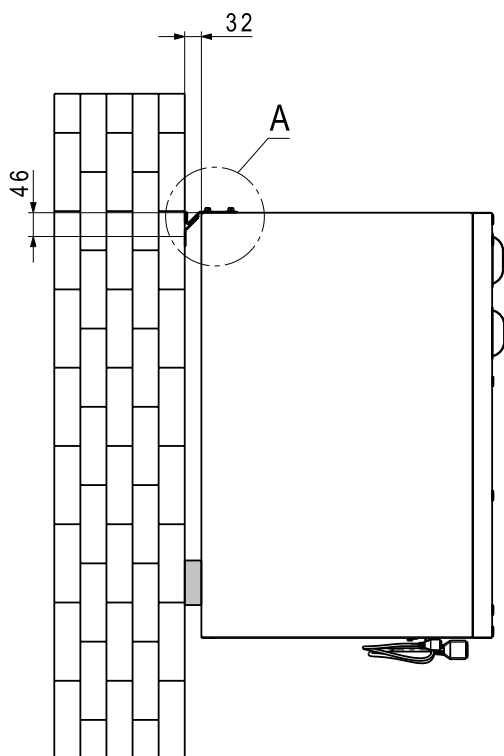
- 1 Electrical connection with microfuse
Space is required for changing the microfuse.
- 2 Filter cover for supply air filter/extract air filter
- 3 Access panel
- 4 Maintenance cover for prefilter

* Space requirements for filter change and service tasks

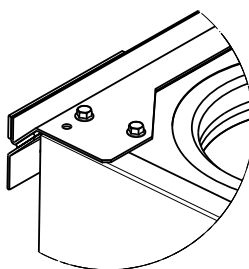
Space requirements

HomeVent® comfort ventilation unit

Installation with installation set



Detail A



Distribution boxes DN 180

Distribution box VTB-180 18 x 75

for HomeVent® ERT (250)
 Casing made from aluzinc sheet with sound insulation element supply air and extract air side, access panel incl. throttle orifices.
 Additional silencer recommended.

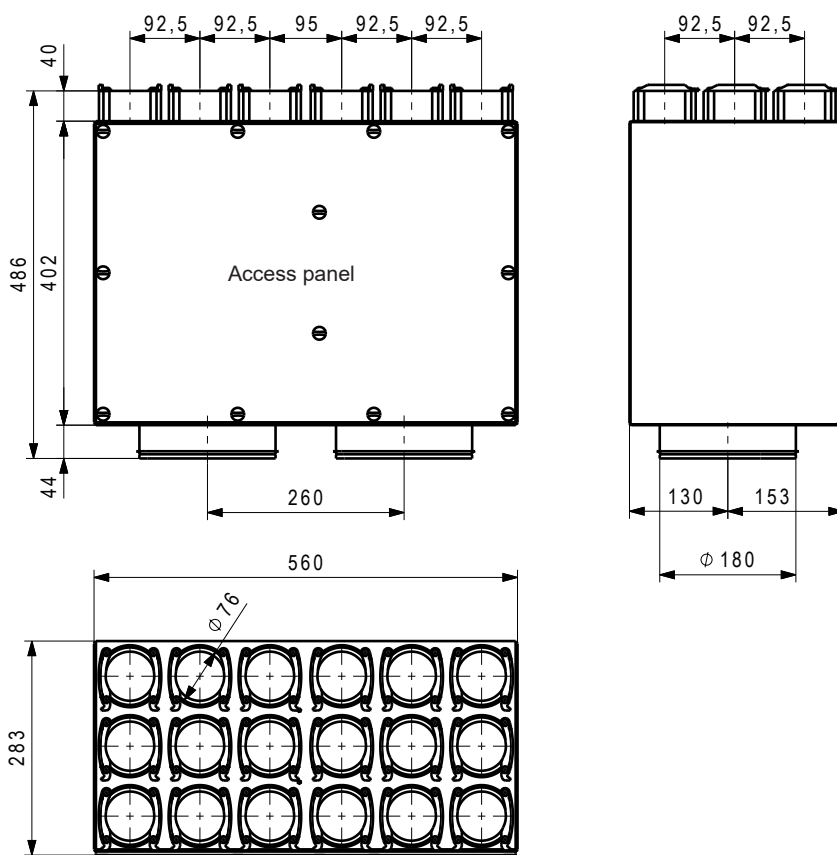
Connection nozzles:

2 x DN 180

SUP 9 x 75, EXT 9 x 75

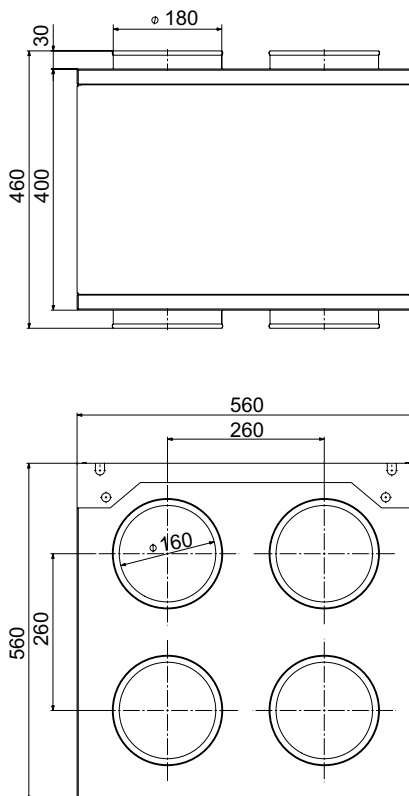
Included accessories:

end covers and throttle orifices



Acoustic insulating box ERT

Casing made from red insulated sheet steel.
 All 4 air ducts are sound-insulated.
 Connection nozzles:
 4 x DN 160



**Pressure drop at 100 % air flow rate:
 ERT (250) 100 %**

Silencer, straight	
ZUL [Δp Pa]	1
AUL [Δp Pa]	0
FOL [Δp Pa]	0
ABL [Δp Pa]	1

ERT (250) 100 %

Silencer, on the left/right	
ZUL [Δp Pa]	14
AUL [Δp Pa]	8
FOL [Δp Pa]	11
ABL [Δp Pa]	10

ERT (350) 100 %

Silencer, straight	
ZUL [Δp Pa]	7
AUL [Δp Pa]	1
FOL [Δp Pa]	2
ABL [Δp Pa]	6

ERT (350) 100 %

Silencer, on the left/right	
ZUL [Δp Pa]	27
AUL [Δp Pa]	26
FOL [Δp Pa]	21
ABL [Δp Pa]	23

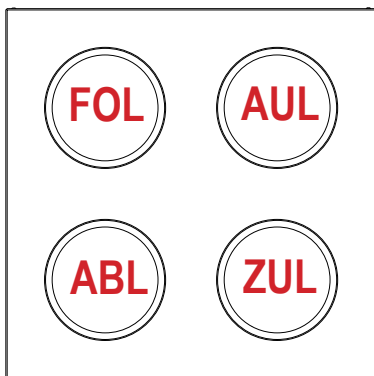
ERT (450) 100 %

Silencer, straight	
ZUL [Δp Pa]	19
AUL [Δp Pa]	4
FOL [Δp Pa]	10
ABL [Δp Pa]	19

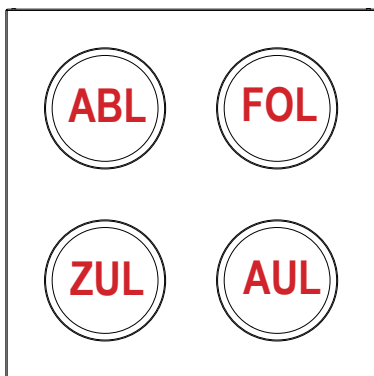
ERT (450) 100 %

Silencer, on the left/right	
ZUL [Δp Pa]	41
AUL [Δp Pa]	35
FOL [Δp Pa]	31
ABL [Δp Pa]	37

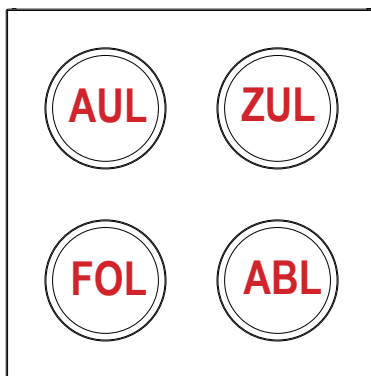
Acoustic insulating box ERT straight



Acoustic insulating box ERT left



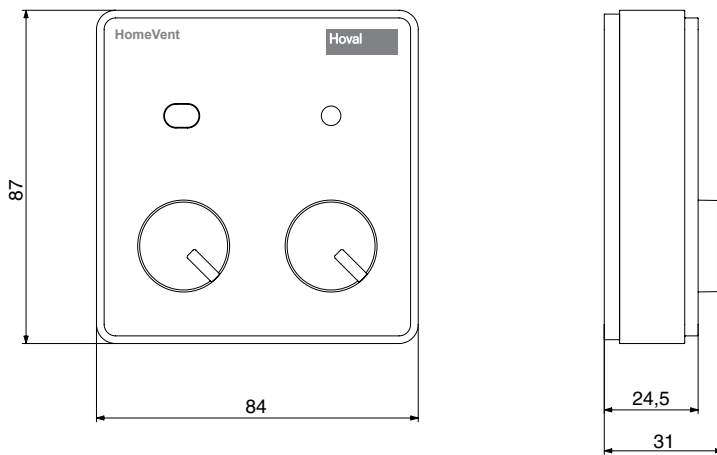
Acoustic insulating box ERT right



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

■ Dimensions

HomeVent® standard operator terminal BG02 E on-wall



Operator terminals BG02 E

Connection for RJ 45 plug
CAT5 patch (8-pin) connection cable
(parallel, not crossed)

Electrical connection

• Voltage (DC) 24 V

Type of protection IP 20

Application limits

• No use of further peripheral components
(bus connection, air quality sensors,
HovalConnect)

3K3 as per EN 50090-2-2,
residential rooms, office

• Temperature range 15...40 °C

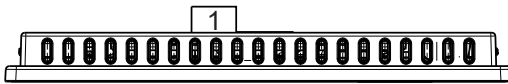
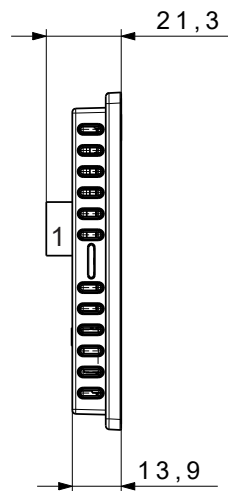
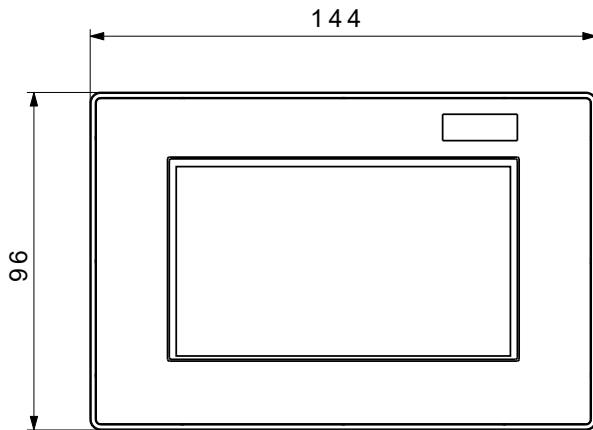
• Humidity range 5...85 % r.h.

TopTronic® E
Room control module comfort plus

- Colour touchscreen 4.3 inch
- Resolution: 480 x 320
- Connection to the Hoval bus system via RJ45 plug connection or plug terminals (max. 0.75 mm²)
- Voltage: 12 V DC 100 mA
- Humidity (in operation): 20...80 %, non-condensing

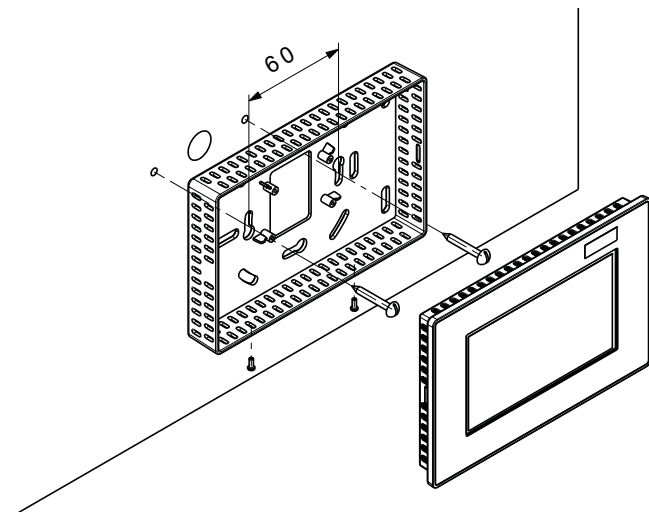
■ **Dimensions**

(Dimensions in mm)

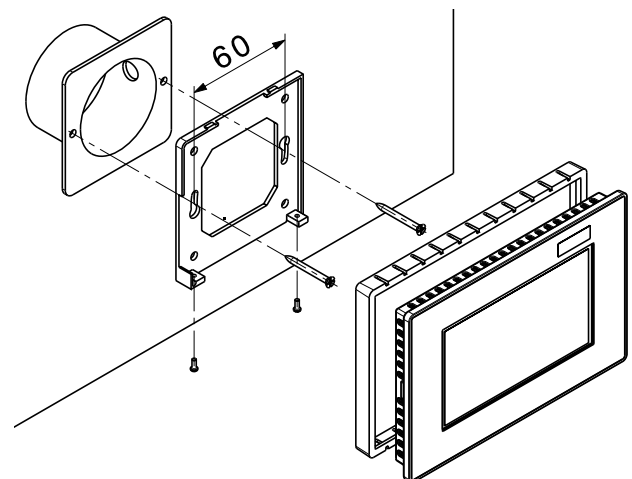


1 Removable RJ45 plug connection
Alternative: plug terminal (max. 0.75 mm²)

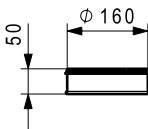
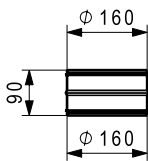
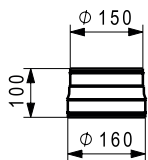
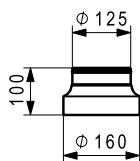
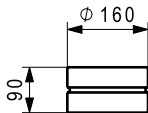
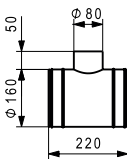
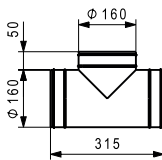
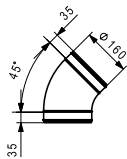
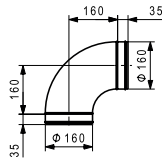
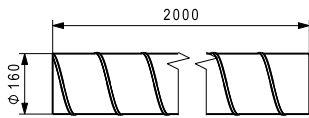
Wall mounting with surface-mounting frame
(On-wall mounted frame is included in the scope of delivery)



Wall mounting with wall mounting plate
with concealed sockets
(Wall-mounting plate is included in the scope of delivery)



Pipe system DN 160 of sheet steel



Spiral-seam tube WFR-160
of galvanised sheet steel
DN 160, length: 2 m

Pipe bend BU-160-90
90° bend of galvanised sheet steel
with double lip seal
DN 160

Pipe bend BU-160-45
45° bend of galvanised sheet steel
with double lip seal
DN 160

T-piece TCPU-160-160
of galvanised sheet steel
with double lip seal
DN 160/DN 160/DN 160

T-piece TCPU-160-80
of galvanised sheet steel
with double lip seal
DN 160/DN 80/DN 160

Sleeve MF-160
of galvanised sheet steel
DN 160

Reduction/extension RCFU-160-125
of galvanised sheet steel
with double lip seal
DN 160 sleeve/DN 125 nipple

Reduction/extension RCU-160-150
of galvanised sheet steel
with double lip seal
DN 160 nipple/DN 150 nipple

Nipple NPU-160
of galvanised sheet steel
with double lip seal
DN 160

End cover ED-160
of galvanised sheet steel
with double lip seal
DN 160

Part No.

2074 487

2074 488

2074 489

2074 490

2074 491

2074 492

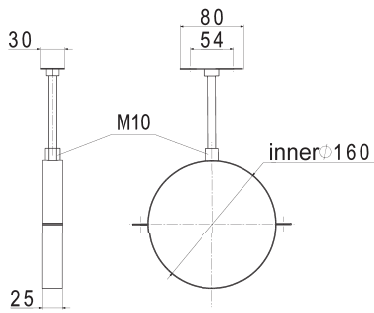
2074 493

2024 260

2074 504

2074 505

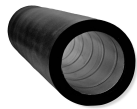
Part No.



Pipe clamp ROS-160
of galvanised steel
2-section pipe clamp with insulation
insert, threaded rod 0.2 m and
ground plate.
DN 160

6050 007

Thermal insulation DN 160



Thermal insulation tube IS 160-25
for spiral-seam tube WFR 160
made of steam-tight EPDM
3 tubes of 2 m each
Insulation thickness: 25 mm

2074 507



Thermal insulation IB 160-45
for pipe bend BU 160-45
made of steam-tight EPDM
Insulation thickness: 25 mm

2023 561



Thermal insulation IB 160-90
for pipe bend BU 160-90
made of steam-tight EPDM
Insulation thickness: 25 mm

2023 560

Notice
Comply with the regional regulations
with regard to thermal insulation.



Adhesive IK
for thermal insulation
ready-to-use adhesive with brush
0.25 litre can

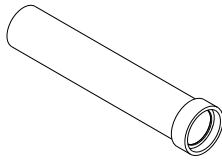
2023 562



Adhesive tape IKB
for thermal insulation made of EPDM
Thickness: 3 mm
width: 50 mm
roll: 15 m

2023 563

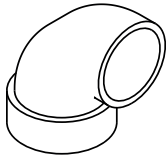
Pipe system DN 160 IsiPipe made of EPP



IsiPipe piping EPP-160-1000

Thermally insulated pipe
Material: EPP, wall thickness 15 mm
Inner Ø 160 mm, length: 1000 mm

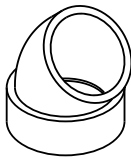
2075 571



IsiPipe pipe bend EPP-160-90°

Thermally insulated pipe bend 90°
Material: EPP, wall thickness 15 mm
Inner Ø 160 mm

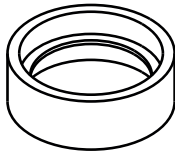
2075 572



IsiPipe pipe bend EPP-160-45°

Thermally insulated pipe bend 45°
Material: EPP, wall thickness 15 mm
Inner Ø 160 mm

2075 573



IsiPipe sleeve EPP-160

Thermally insulated sleeve
Material: EPP, wall thickness 15 mm
length: 80 mm
Inner Ø 160 mm

2075 594

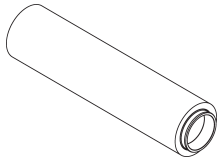


IsiPipe Pipe clamp ROS-X

of galvanised steel
semicircular pipe clamp, cable tie and
hanger bolt M8 x 60 including anchor

2045 744

Pipe system DN 160 IsiPipe made of EPP



IsiPipe Plus pipeline EPP-160-1000

Thermally insulated pipe with sleeve
 Material: EPP
 Wall thickness: 43 mm
 Internal Ø: 160 mm
 Outer Ø: 246 mm
 Length: 1000 mm
 Sleeve: 30 mm

6059 864



IsiPipe Plus pipe bend EPP-160-45°

Thermally insulated pipe bend 45°
 with sleeve
 Material: EPP
 Wall thickness: 43 mm
 Internal Ø: 160 mm
 Outer Ø: 246 mm

6059 865



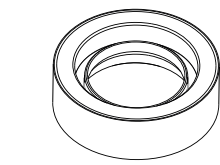
IsiPipe plus Pipe clamp ROS 160-200

Semi-circular pipe clip from galvanized
 steel including cable tie.
 Hanger bolt M8 x 60 including anchor

2069 624

Notice

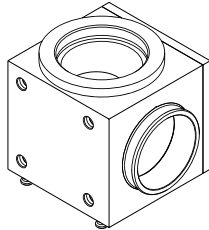
Exact use of the IsiPipe articles,
 see Engineering.



IsiPipe plus device adapter 160
 Thermally insulated sleeve
 Material: EPP
 Scope of delivery 2 pcs.

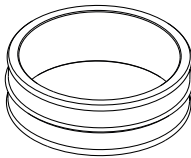
Part No.

6052 925



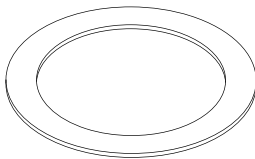
IsiCube
 Thermally insulated air guide
 DN 160 + base
 Material EPP, for outdoor applications
 Air guide either 90° or straight
 Including IsiFit and 4 feet
 Including 4 pins and compensating plate
 suitable for IsiPipe device adapter 160
 Can be combined with themselves
 2 pieces are required as base

6054 685



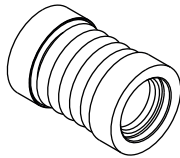
IsiFit
 Nipple/nipple made of EPP
 Inner Ø 160 mm, outer Ø 180 mm
 Suitable for ER and ERT, IsiCube,
 IsiPipe device adapter 160, IsiFlex

6054 723



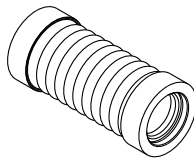
IsiSeal
 for a secure and tight connection
 when using IsiPipe Plus
 Device adapter 160
 (scope of delivery 2 pcs.)

6057 485



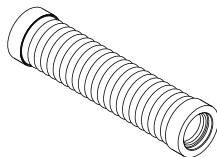
IsiFlex 0.3 m
 suitable for IsiSystem 160
 Acoustically and thermally insulated,
 flexible connector
 Material: EPP and rockwool
 Length: 0.2-0.3 m

6055 896



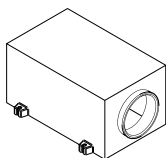
IsiFlex 0.5 m
 suitable for IsiSystem 160
 Acoustically and thermally insulated,
 flexible connector, material EPP and
 rockwool
 Length: 0.25-0.5 m

6055 894



IsiFlex 1.0 m
 suitable for IsiSystem 160
 Acoustically and thermally insulated,
 flexible connector, material EPP and
 rockwool
 Length: 0.4-1.0 m

6055 877



IsiSound
 Suitable for IsiSystem 160
 Thermally insulated silencer
 insensitive to moisture, material EPP

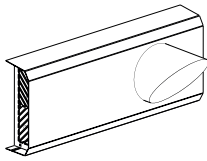
6056 360

Notice

Exact use of the IsiPipe articles,
 see Engineering.

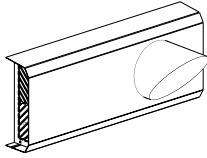
Accessories DN 160

Part No.



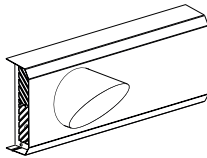
Wall outlet Ø 160 exhaust air on right
made of galvanised sheet metal

6052 505



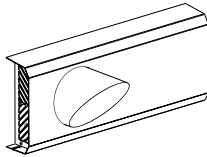
Wall outlet white Ø 160 exhaust air on right
made of galvanised sheet metal
white coated (RAL 9016)

6052 504



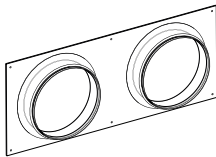
Wall outlet Ø 160 exhaust air on left
made of galvanised sheet metal

6052 507



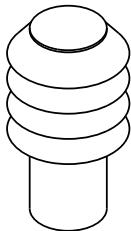
Wall outlet white Ø 160 exhaust air on left
made of galvanised sheet metal
white coated (RAL 9016)

6052 506



Plywood for wall outlet Ø 160
suitable for wall passage, Ø 160

6052 517



Stainless steel cowl AAS-150
for spiral-seam tube DN 150,
galvanic isolation of the connection
for outside and exhaust air
of stainless steel, lamella cowl,
1 pipe DN 150, length = 0.5 m,
2 pipes DN 150, length = 1 m
and 2 wall mountings

6010 185



Stainless steel segment pipe bend CRB-150-90
for spiral-seam tube DN 150,
galvanic isolation of the connection
90° bend of stainless steel
DN 150

2040 722



Cold-shrink tape
for sealing air ducts,
heat and cold resistant
width: 50 mm,
roll: 15 m

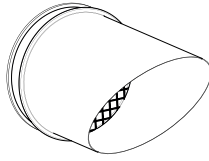
2021 796



Ventilation silicone
for sealing air ducts,
heat and cold resistant
odourless

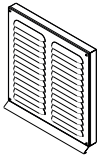
3000 009

Accessories DN 160



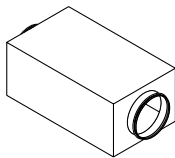
Exhaust air nozzle FST-160
 for spiral-seam tube DN 160
 of galvanised sheet steel
 with bird protection grille and
 double lip seal
 for horizontal installation

2070 412



Weatherproof grille WG-160
 for spiral-seam tube DN 160
 for outside and exhaust air
 of aluminium with rain lug, can be
 painted
 with double lip seal,
 pipe nozzle DN 160

2074 510



Sound absorber SD-160-500
 for spiral-seam tube DN 160
 rectangular casing
 of galvanised sheet steel,
 with double lip seal
 DN 160, dimensions: 290 x 215 mm,
 Length: 0.5 m

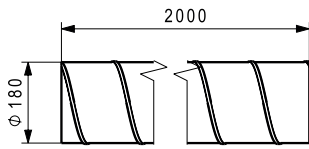
2074 514



Shut-off damper DTU-160
 for spiral-seam tube DN 160
 sealed shut-off damper
 for manual operation
 of galvanised steel sheet
 DN 160

2074 513

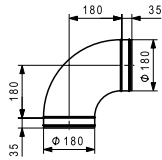
Pipe system DN 180



Spiral-seam tube WFR-180
of galvanised sheet steel
DN 180, length: 2 m

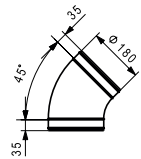
Part No.

2057 030



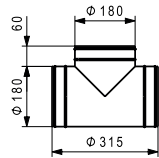
Pipe bend BU-180-90
90° bend of galvanised sheet steel
with double lip seal
DN 180

2057 047



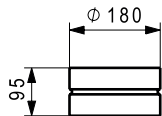
Pipe bend BU-180-45
45° bend of galvanised sheet steel
with double lip seal
DN 180

2057 048



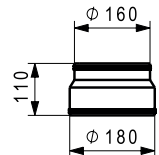
T-piece TCPU-180-180-180
of galvanised sheet steel
with double lip seal
DN 180/DN 180/DN 180

2057 049



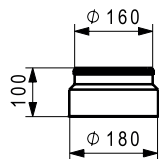
Sleeve MF-180
of galvanised sheet steel
DN 180

2057 051



Reduction/extension RCU-180-160
made of galvanised sheet steel
with double lip seal
DN 180 nipple/DN 160 nipple

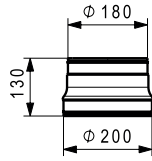
2070 976



Reduction/extension RCFU-180-160
made of galvanised sheet steel
with double lip seal
DN 180 sleeve/DN 160 nipple

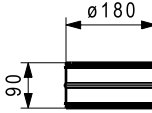
2070 975

Pipe system DN 180



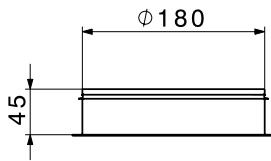
Reduction/extension RCU-200-180
of galvanised sheet steel
with double lip seal
DN 200 nipple/DN 180 nipple

2057 053



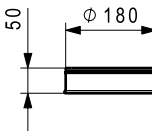
Nipple NPU-180
of galvanised sheet steel
with double lip seal
DN 180

2057 064



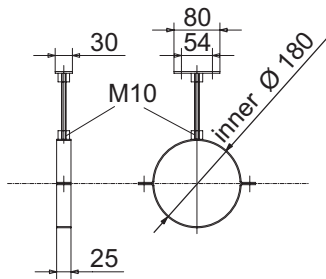
Spigot ILX Ø 180 x 40 mm
with double lip seal

2070 895



End cover ED-180
of galvanised sheet steel
with double lip seal
DN 180

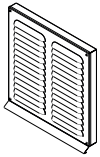
2057 065



Pipe clamp ROS-180
of galvanised sheet steel
2-section pipe clamp with insulation
insert, threaded rod 0.2 m and
ground plate.
DN 180

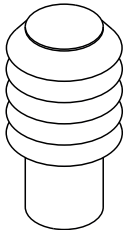
6034 767

Accessories DN 180



Weatherproof grille WG-180
for spiral-seam tube DN 180
for outside and exhaust air
of aluminium with rain lug, can be
painted, with double lip seal

2057 068



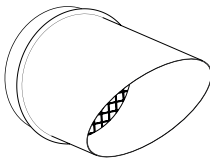
Fresh air suction set AAS-180
for spiral-seam tube DN 180
galvanic isolation of the connection
for outside and exhaust air
of stainless steel, lamella cowl,
1 tube DN 180, length: 0.5 m,
2 tubes DN 180, length: 1 m and
2 wall fastenings

6034 766



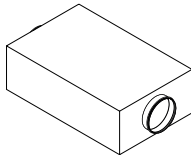
Stainless steel pipe bend CRB-180-90
for spiral-seam tube DN 180,
galvanic isolation of the connection
90° bend of stainless steel

2057 066



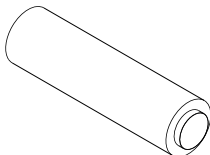
Exhaust air nozzle FST-180
for spiral-seam tube DN 180
of galvanised sheet steel
with bird protection grille
for horizontal installation

2057 069



**Silencer FSR-180-750
for spiral-seam tube DN 180**
rectangular casing made of galvanised
sheet steel,
with double lip seal, DN 180,
Dimensions: 480 x 250 mm, length: 0.75 m

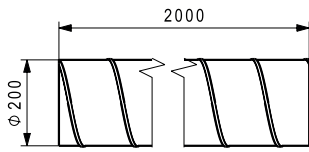
2057 874



**Silencer FLSDA-180-1000
for spiral-seam tube DN 180**
Silencer outside manufactured from
flexible aluminium envelope tube,
inside from perforated aluminium tube,
with double lip seal, DN 180,
packing thickness 50 mm, length: 1 m

2057 875

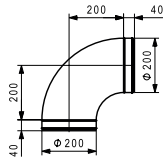
Pipe system DN 200



Spiral-seam tube WFR-200
of galvanised sheet steel
DN 200, length: 2 m

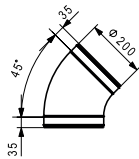
Part No.

2045 707



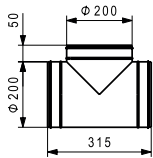
Pipe bend BU-200-90
90° bend of galvanised sheet steel
with double lip seal
DN 200

2040 734



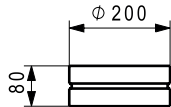
Pipe bend BU-200-45
45° bend of galvanised sheet steel
with double lip seal
DN 200

2040 735



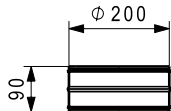
T-piece TCPU-200-200
of galvanised sheet steel
with double lip seal
DN 200/DN 200/DN 200

2040 736



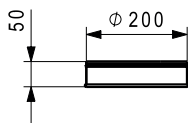
Sleeve MF-200
of galvanised sheet steel
DN 200

2040 737



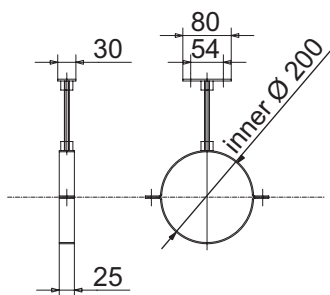
Nipple NPU-200
of galvanised sheet steel
with double lip seal
DN 200

2040 739



End cover ED-200
of galvanised sheet steel
with double lip seal
DN 200

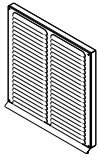
2040 740



Pipe clamp ROS-200
of galvanised steel
2-section pipe clamp with insulation
insert, threaded rod 0.2 m and
ground plate.
DN 200

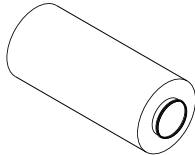
6025 970

Accessories DN 200



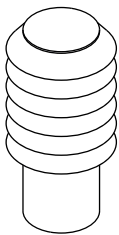
Weatherproof grille WG-200
 for spiral-seam tube DN 200
 for outside and exhaust air
 of aluminium with rain lug, can be
 painted
 with double lip seal

2040 742



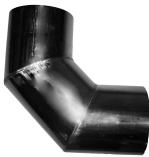
Silencer SD-200-1000
 for spiral-seam tube DN 200
 round casing of galvanised sheet steel,
 with double lip seal,
 DN 200, outer diameter: 400 mm,
 length: 0.9 m

2040 743



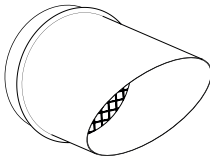
Stainless steel cowl AAS-200
 for spiral-seam tube DN 200,
 galvanic isolation of the connection
 for outside and exhaust air
 of stainless steel, lamella cowl,
 1 pipe DN 200, length: 0.5 m,
 2 pipes DN 200, length: 1 m and
 2 wall mountings

6031 914



**Stainless steel segment pipe bend
 CRB-200-90**
 for spiral-seam tube DN 200,
 galvanic isolation of the connection
 90° bend of stainless steel

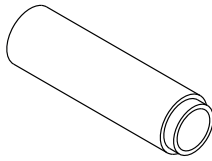
2054 221



Exhaust air nozzle FST-200
 for spiral-seam tube DN 200
 of galvanised sheet steel
 with bird protection grille
 for horizontal installation

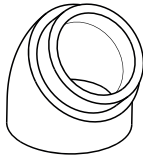
2054 220

IsiPipe Plus Pipe system EPP DN 200



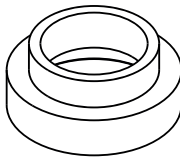
IsiPipe Plus pipeline EPP-200-1000
 Thermally insulated pipe
 Material: EPP, wall thickness 43 mm
 Inner Ø 200 mm, outer Ø 286 mm
 Length: 1000 mm incl. sleeve (60 mm)

2065 111



IsiPipe Plus pipe bend EPP-200-45°
 Thermally insulated pipe bend 45°
 Material: EPP, wall thickness 43 mm
 Inner Ø 200 mm, outer Ø 286 mm

2065 113



IsiPipe Plus sleeve EPP-200
 Thermally insulated sleeve
 Material: EPP, wall thickness 43 mm
 length: 80 mm
 Inner Ø 200 mm, outer Ø 326 mm

2065 125



IsiPipe Plus ecc. adapter EPP-180-200
 Thermally insulated ecc. adapter
 Material: EPP, eccentric 48 mm,
 length: 250 mm
 Inner Ø 180 mm on IsiPipe Plus 200

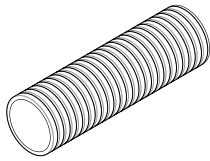
2065 128



IsiPipe plus Pipe clamp ROS 160-200
 Semi-circular pipe clip from galvanized
 steel including cable tie.
 Hanger bolt M8 x 60 including anchor

2069 624

Flex pipe system DN 75



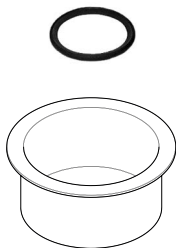
Flexible pipe 75
of polyethylene PE-HD
DN 75, inner Ø 62 mm, roller: 50 m
smooth inner/ribbed outer surface,
antistatic coating

Part No.

2072 166

Flexible pipe package 75
of polyethylene PE-HD
DN 75, inner Ø 62 mm,
6 rolls of 50 m, smooth inner/ribbed
outer surface, antistatic coating
Flexible pipe packages are excluded
from return.

6050 103



Sealing ring DI-75 black
for flexible pipe DN 75

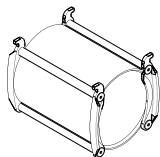
2016 227

Stopper 75
For flexible pipe flex 75
Sealing plug

2072 168

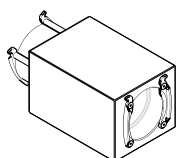
Accessories DN 75

Order the sealing rings for the accessories separately. For quick and simple installation, all accessories are equipped with snap-on clip for attachment of the flexible pipe.



Double sleeve DM-75
for flexible pipe DN 75
for connecting flexible pipes

6022 896



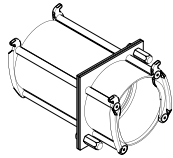
Helmholtz silencer HSD-75
for flexible pipe DN 75
for acoustically sensitive rooms
attenuates low frequencies (500 Hz)

6020 756

Accessories DN 75

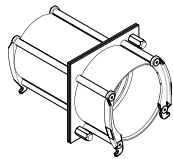
Part No.

Order the sealing rings for the accessories separately. For quick and simple installation, all accessories are equipped with snap-on clip for attachment of the flexible pipe.



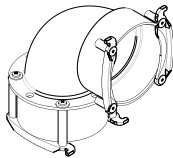
Formwork coupling SK-75
for flexible pipe DN 75 for extending a flexible pipe through the ceiling or the floor without damaging the boarding

6013 047



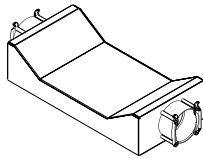
Formwork coupling SK-75/90
for flexible pipe DN 75 and 90 for extending a flexible pipe through the ceiling or the floor and extension from DN 75 to DN 90 without damaging the boarding.

6030 820



Pipe bend RB-75
for flexible pipe DN 75 for connecting flexible pipes at an angle of 90°

6022 967



Flexible pipe crossing FRK-75
for flexible pipe DN 75 for crossing two flexible pipes DN 75 with reduced construction height (100 mm). For one crossing 2 pieces are necessary.

6031 011

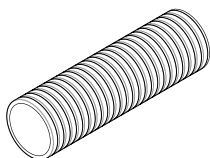


Cable tie
For fastening flexible pipes
Colour: natural

4.8 x 302 mm	100 Units/package
7.6 x 370 mm	100 Units/package
9.0 x 610 mm	50 Units/package

2057 027
2057 028
2057 029

Flex pipe system DN 90



Flexible pipe 90
of polyethylene PE-HD
DN 90, inner Ø: 75 mm, roller: 50 m
smooth inner/ribbed outer surface,
antistatic coating

Part No.

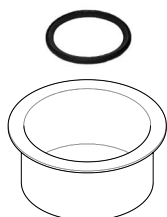
2072 167

Flexible pipe package 90
of polyethylene PE-HD
DN 90, inner Ø: 75 mm,
4 rolls of 50 m, smooth inner/ribbed
outer surface, antistatic coating
Flexible pipe packages are excluded
from return.

6050 104

Sealing ring DI-90 black
for flexible pipe DN 90

5031 311

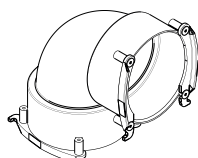


Stopper 90
For flexible pipe flex 90
Sealing plug

2072 169

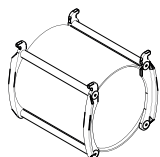
Accessories DN 90

Order the sealing rings for the accessories separately. For quick and simple installation, all accessories are equipped with snap-on clip for attachment of the flexible pipe.



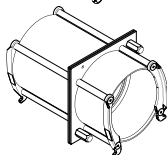
Pipe elbow RB-90
for flexible pipe DN 90
for connecting flexible pipes
at an angle of 90°

6043 275



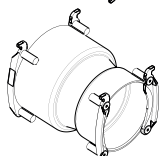
Double sleeve DM-90
for flexible pipe DN 90
for connecting flexible pipes

6022 494



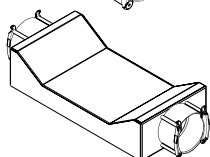
Formwork coupling SK-90
for flexible pipe DN 90 for extending a
flexible pipe through the ceiling or the
floor without damaging the boarding

6022 495



Reduction/extension RCFU-90-75
for connecting flexible pipe DN 90 with
flexible pipe DN 75
of plastic

6022 514



Flexible pipe crossing FRK-90
for flexible pipe DN 90
for crossing two flexible pipes DN 90
with reduced construction height
(100 mm).
For one crossing 2 pieces are necessary.

6031 012

Cable ties can be found under
"Flexible pipe DN 75".

Flat channel system DN 100

Part No.



Flat channel 100
Flexible ventilation pipe 102 x 49 mm
Roll length 50 m

2071 003



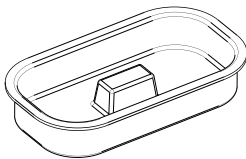
Stopper flat channel 100
for flat channel 100
Sealing plug for building protection

2072 404



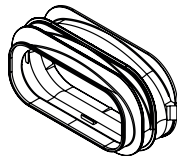
Stopper flat 100
for flat channel system 100

2071 004



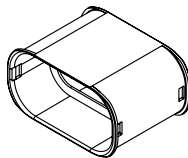
Seal flat 100
for flat channel 100

2071 005



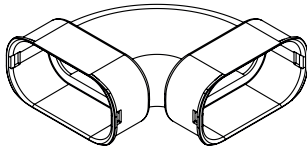
Sleeve 100
for flat channel 100

2071 006



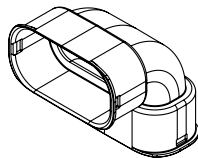
Arch horizontal flat 100
for flat channel 100

2071 007



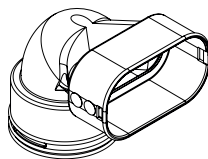
Arch vertical flat 100
for flat channel 100

2071 008



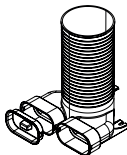
Arch vertical flat to round 100-75
Transition 90° round to flat

2071 009



Outlet round, lateral 90° 125-2 x 100
for flat channel 100
incl. mounting bracket, 1 stopper 100
for poppet valve DN 125
supply air 40 m³/h
extract air 50 m³/h

2071 010



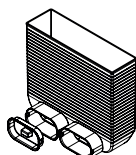
Outlet round, front 125-2 x 100
for flat channel 100
incl. mounting bracket, 1 stopper 100
for poppet valve DN 125
supply air 40 m³/h
extract air 50 m³/h

2071 011



Floor exhaust flat 2 x 100
for floor grille inox and white
309 x 86.5 mm interior
incl. 1 stopper 100
2 flat channel 100 connections

2071 012



Flat channel system DN 140

Part No.



Flat channel 140
Flexible ventilation pipe 142 x 49 mm
Roll length 20 m

2071 013



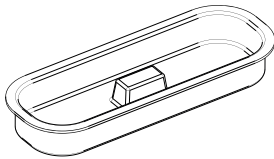
Stopper flat channel 140
for flat channel 140
Sealing plug for building protection

2072 406



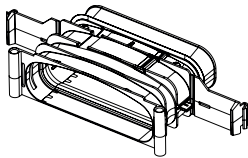
Stopper flat 140
for flat channel system 140

2071 014



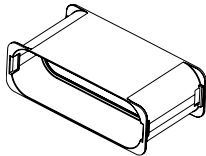
Seal flat 140
for flat channel 140

2071 015



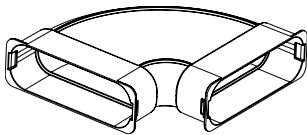
Sleeve 140
for flat channel 140

2071 016



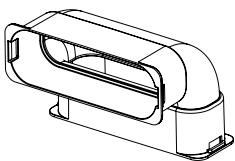
Arch horizontal flat 140
for flat channel 140

2071 017



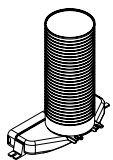
Arch vertical flat 140
for flat channel 140

2071 018



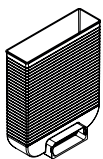
Outlet round, lateral 90° 125-2 x 140
for flat channel 140
incl. mounting bracket, 1 stopper 140
for poppet valve DN 125
supply air 40 m³/h
extract air 50 m³/h

2071 019



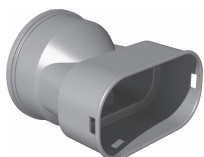
Floor exhaust flat 1 x 140
for floor grille inox and white
309 x 85 mm inside
1 connection flat channel 140

2071 020

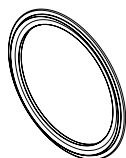


Adapter flat to round 140-90,
made of plastic

2071 001

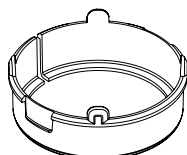


Part No.



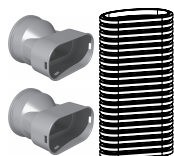
Sealing ring for flexible pipe DN 90
in connection with click ring 90, for
connection of flexible pipe FR-90
to adapter flat to round 140-90

2070 998



Click ring DN 90
for adapter flat to round 140-90
and flexible pipe FR-90

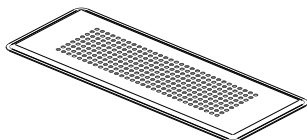
2071 000



Flat channel intersection 140-90
Consisting of:
1 metre flat channel 140
2 adapters flat to round 140-90
2 seals 140
2 click rings DN 90
2 seals 90

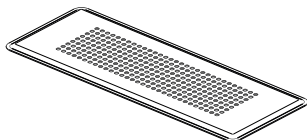
2071 002

System accessories



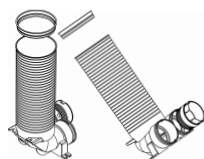
Floor grille Inox
for floor exhaust flat 2 x 100
and 1 x 140
Dimensions: 350 x 130 mm

2070 930



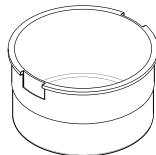
Floor grill, white
for floor exhaust flat 2 x 100
and 1 x 140
Dimensions: 350 x 130 mm

2070 931



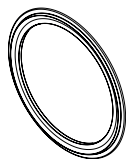
Outlet round 90° lateral 125-2 x 75
made of plastic 2 x 75/125 mm
Usable length 325 mm
incl. 1 stopper 75

2070 997



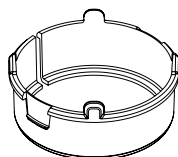
Stopper 75
Sealing plug for sealing
unnecessary connections to
round outlet 90° side 125-2 x 75

2070 932



Sealing ring for flexible pipe DN 75
in connection with click ring 75, for
connection of flexible pipe FR-75
to outlet round 90° side 125-2 x 75
and bend
vertical flat to round 100-75

2070 994

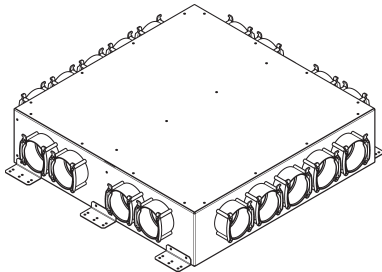


Click ring DN 75
for outlet round 90° side 125-2 x 75
and vertical bend flat to round 100-75
Flexible pipe FR-75

2070 996

Distribution cases DN 160

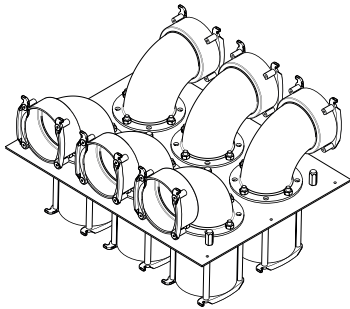
Part No.



Application
Preferably concrete installation
(mass concrete)

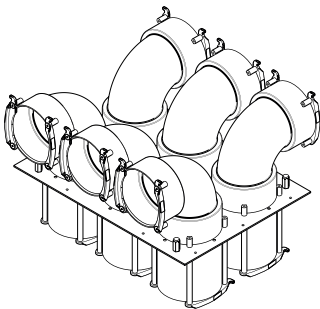
Distribution box VTB-160 9 x 75
 Air distribution box from aluzinc sheet with access panel (can be painted on site). Interior lined with sound insulating material.
 Connection nozzle:
 2 x DN 160 (downward)
 ZUL 9 x 75 resp. ABL 9 x 75
 Consisting of:
 Box, 6 connection brackets,
 2 end caps, orifices for setting the air quantity per flex pipe DN 75.

6054 083



Section distributor SV-6 x 75
 for flexible pipe DN 75
 for space-saving laying of
 6 flexible pipes in the ceiling.
 Option of 6 x 90° bends or 3
 straight connecting pieces. Each 90°
 elbow can be turned at 45° increments.
 6 x DN 75
 One section distributor required for
 each supply and exhaust air source.

6042 706



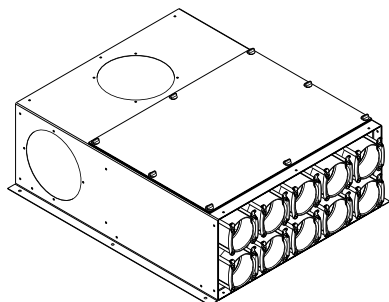
Section distributor SV-6 x 90
 for flexible pipes DN 90
 for space-saving laying of
 6 flexible pipes in the ceiling.
 Option of 6 x 90° bends or 3 straight
 connecting pieces. Each 90° elbow can be
 turned at 45° increments. 6 x DN 90
 One section distributor required for
 each supply and exhaust air source

6044 775

Distribution cases DN 160

Part No.

Application
On-wall installation

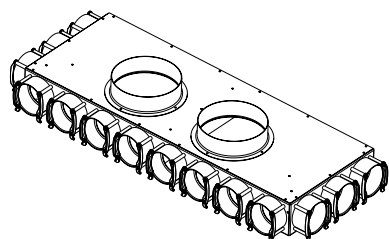


Distribution case VK

Casing of aluzinc sheet with 1 connection nozzle Ø 160 mm (included separately), can be mounted on the front, at the top or laterally on the left or on the right (on site) and x connection nozzles for flexible pipe Ø 75 mm. An internal sound insulation element with washable outer skin and an access panel.
Incl. throttle orifices

Type	Connections
VK-160 75 x 6	6
VK-160 75 x 8	8
VK-160 75 x 10	10

6054 084
6054 085
6054 086

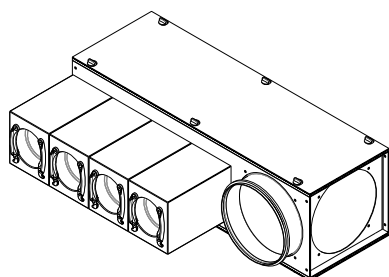


Distribution box VTB-160 14 x 75

for concrete installation height 91 mm
Distribution box of aluzinc sheet without access panel.

Connection nozzles:
2 x DN 160 supply and extract air
SUP 7 x DN 75
(4 x front and 3 x side)
EXT 7 x DN 75
(4 x front and 3 x side)

6052 044

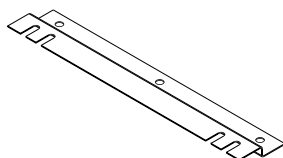


Storey distributor GVT-X

for connecting x flexible tubes Ø 75 mm.
Casing of galvanised sheet steel with sound absorbing mat, connection possibilities Ø 160 mm, incl. 2 nozzles Ø 160 mm with double lip seal. Flexible installation possible due to access panel on both sides.
Incl. throttle orifices

Type	Connection
GVT-3	3
GVT-4	4
GVT-5	5
GVT-6	6

6054 087
6054 088
6054 089
6054 090



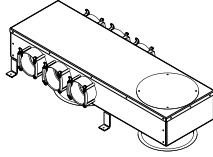
Mounting holder MH

for storey distributor GVT-X from galvanised steel sheet
Length: 0.3 m
Two angle rails recommended per storey distributor.

5032 853

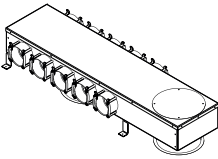
Distribution cases DN 160

Application
Preferably concrete installation
(mass concrete)



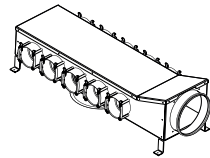
In-wall distribution case UPVK-160 75 x 6
 Distribution case made of aluzinc sheet metal for cementing in. With a sliding connection piece DN 160 and 2 x 3 connections DN 75 (side), incl. 2 end covers, inner lining of sound insulating material, inspection sliding connection piece DN 180
 Incl. throttle orifices

6051 581



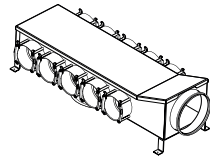
In-wall distribution case UPVK-160 75 x 10
 Distribution case made of aluzinc sheet metal for cementing in. With a sliding connection piece DN 160 and 2 x 5 connections DN 75 (side), incl. 4 end covers, inner lining of sound insulating material, inspection sliding connection piece DN 180
 Incl. throttle orifices

6051 589



In-wall distribution case UPVKS-160 75 x 10
 Distribution case made of aluzinc sheet metal for cementing in. With a connection nozzle DN 160 (end face) and 2 x 5 connections DN 75 (side) incl. 5 end covers, inner lining of sound insulating material, inspection sliding connection piece DN 180
 Incl. throttle orifices

6051 671

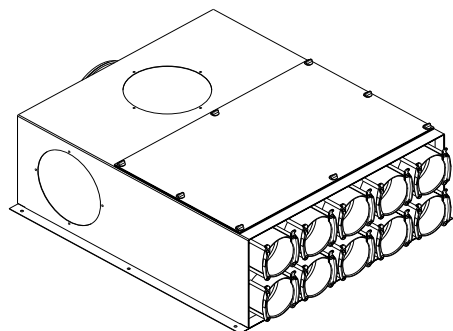


In-wall distribution case UPVKS-160 90 x 10
 Distribution case made of aluzinc sheet metal for cementing in. With a connection nozzle DN 160 (end face) and 2 x 5 connections DN 90 (side) incl. 4 end covers, inner lining of sound insulating material, inspection sliding connection piece DN 180
 Incl. throttle orifices

6051 626

Part No.

Distribution cases DN 180



Application
On-wall installation

Distribution case VK
Casing of aluzinc sheet with 1 connection nozzle Ø 180 mm (supplied loose), on end, top or left-side mounting (on site) and x connection nozzles for flex pipes Ø 75 resp. 90 mm. An internal sound insulation element with washable outer skin and an access panel.
Incl. throttle orifices

Type	Connections
------	-------------

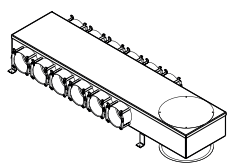
VK-180 75 x 8	8
VK-180 75 x 10	10
VK-180 75 x 12	12
VK-180 90 x 8	8
VK-180 90 x 10	10
VK-180 90 x 12	12

Part No.

6031 881
6035 673
6035 674

6031 880
6035 675
6035 711

Distribution cases DN 200



Access panel on bottom

Application
Preferably concrete installation
(mass concrete)

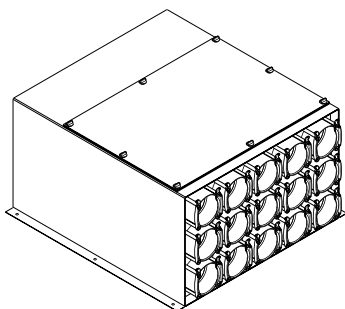
In-wall distribution case UPVK-200 90 x 12
Distribution case made of aluzinc sheet metal for cementing in. With a sliding connection piece DN 200 and 2 x 6 connections DN 90 (side), incl. 6 end covers, inner lining of sound insulating material, inspection sliding connection piece DN 180
Incl. throttle orifices

6051 623

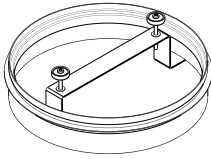
Application
On-wall installation

Distribution case VK-200 75 x 15
Air distribution case of aluzinc sheet with access panel.
Inside with sound insulation element.
Connection nozzles:
1 x DN 200 (on the back)
15 x (3 x 5) DN 75 (on the front)
Incl. throttle orifices

6030 966

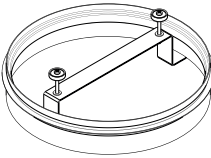


Distribution case accessories



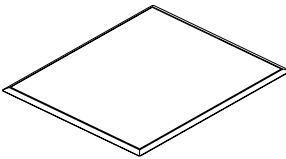
Access panel Ø 180 for UPV
from galvanised sheet incl. 2 magnets

5041 681



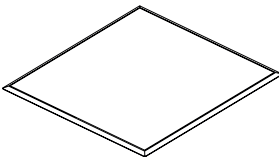
Access panel Ø 200 for UPV
made from galvanised sheet metal
incl. 2 magnets

5041 682



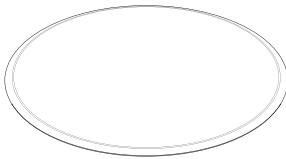
Design cover 220 x 220
suitable for access panel Ø 180
white RAL 9016

5041 683



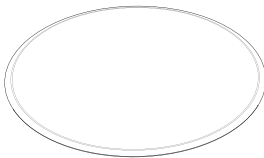
Design cover 240 x 240
suitable for access panel Ø 200
white RAL 9016

5041 684



Design cover Ø 220
suitable for access panel Ø 180
white RAL 9016

5041 685



Design cover Ø 240
suitable for access panel Ø 200
white RAL 9016

5041 686

Distribution case accessories

Part No.



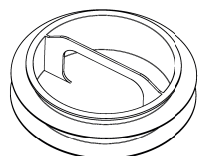
Control damper RK-80
for flexible pipe DN 75
sealing control damper
for adjustment of the air flow.
Of galvanised sheet steel
DN 80

6013 654



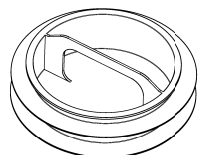
Air flow rate control valve DN 90
for connection housing AG-90, quick 90,
floor passage BD-30-90

2070 534



End cover quick 75
Cover for unused connections
DN 75

5043 525

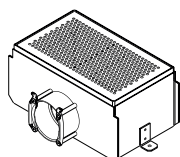


End cover quick 90
Cover for unused connections
DN 90

5043 522

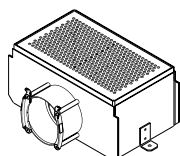
Air grilles - floor

Application
In the floor structure
(finished floor, only supply air)



Floor grille BD-30-75
perforated grille made from stainless
steel in an adjustable casing
Inner component of stainless
steel
Outer component of aluzinc sheet with
2 fastening catches and one connection
nozzle for flexible pipe DN 75
Supply air up to 30 m³/h
Height: 130 to 180 mm

6015 304

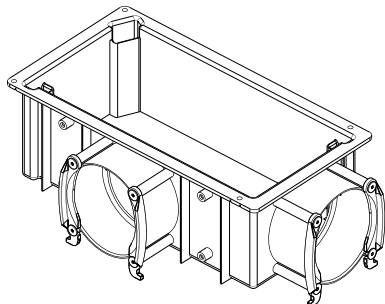


Floor grille BD-30-90
perforated grille made from stainless
steel in an adjustable casing.
Inner component of stainless
steel,
outer component of Al/Zn sheet with
2 fastening catches and one connection
nozzle for flexible pipe DN 90.
Supply air up to 40 m³/h
Height: 130 to 180 mm

6022 513

Air grilles - wall/ceiling

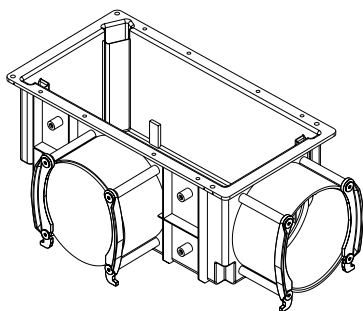
Part No.



Application
Mass concrete, masonry walls and lightweight walls

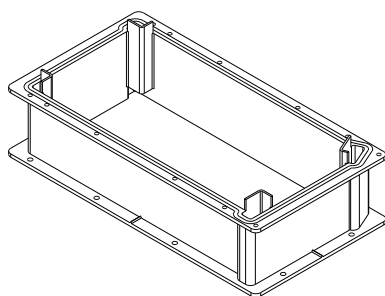
Connection housing AG-60
 for supply and extract air in combination with design grilles. Casing allows precise grille alignment (swivelling) after mounting.
 Plastic casing with 2 connection nozzles DN 75, fastening bracket, end cover, sound insulating mat and insert block as building protection cover and plastering aid.
 Supply air:
 1 x DN 75 up to 30 m³/h
 2 x DN 75 up to 40 m³/h
 Exhaust air:
 1 x DN 75 up to 30 m³/h
 2 x DN 75 up to 60 m³/h
 For installation in solid concrete, masonry and plasterboard walls.

6034 355



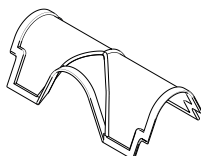
Connection housing AG-90
 for supply and extract air in combination with design grilles. Casing allows precise grille alignment (swivelling) after mounting.
 Plastic casing with 2 connection nozzles DN 90, fastening bracket, end cover, sound insulating mat and insert block as building protection cover and plastering aid.
 Supply air:
 1 x DN 90 up to 40 m³/h
 Exhaust air:
 1 x DN 90 up to 60 m³/h
 For installation in solid concrete, masonry and plasterboard walls.

6034 357



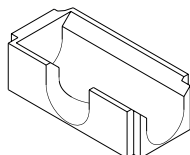
Extension VAG-60/90
 for connection housing AG-60 and AG-90 for raising above the lower reinforcement for solid concrete ceilings.
 Raising height: 60 mm
 Extension permits precise grille alignment after installation.

6034 360



Extract air filter AGF-60/90
 for connection housing AG-60 and AG-90 of cleanable, fine-mesh polyamide net with plastic frame.
 Cannot be combined with sound insulation insert.

5033 121



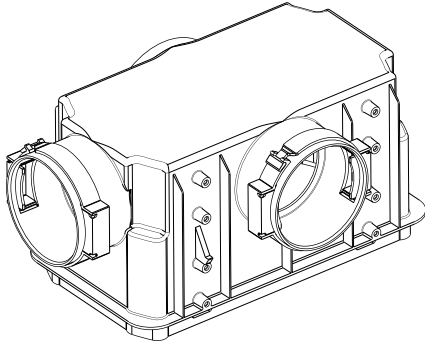
Sound insulation insert 60/90
 for connection housing AG-60 and AG-90 retrofittable sound insulation insert for acoustically sensitive rooms.
 Cannot be combined with extract air filter AGF-60/90.

6034 398

Air grilles - wall/ceiling

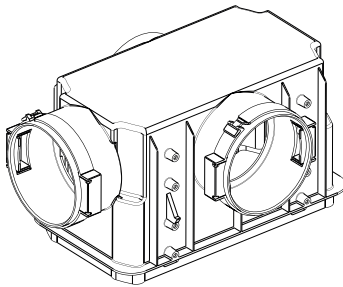
Part No.

Application
Mass concrete, filigree blankets



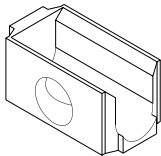
Connection housing quick 75
for supply and extract air in combination with design grilles. Housing allows precise alignment of grilles after mounting. Plastic housing with 2 connection nozzles DN 75. Very easy to mount, no nails in concrete after stripping.
Supply air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 40 m³/h
Extract air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 60 m³/h
Suitable for installation in solid concrete

6046 302



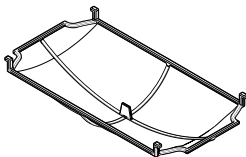
Connection housing quick 90
for supply and extract air in combination with design grilles. Housing allows precise alignment of grilles after mounting. Plastic housing with 2 connection nozzles DN 90. Very easy to mount, no nails in concrete after stripping.
Supply air:
1 x DN 90 up to 40 m³/h
Extract air:
1 x DN 90 up to 60 m³/h
Suitable for installation in solid concrete

6046 296



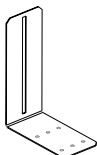
Sound insulation insert quick
for connection housing quick retrofittable sound insulation insert for acoustically sensitive rooms. Not combinable with extract airfilter quick

6047 831



Extract air filter quick
for connection housing quick of cleanable, fine-mesh polyamide net with plastic frame. Cannot combine w/sound insulation insert

5045 011



Mounting set quick
Mounting help for connection housing quick with 4 mounting brackets and 8 screws

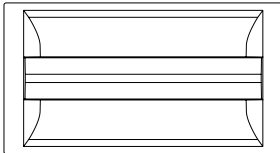
6048 808

Air grilles - wall/ceiling

Part No.

Plastic supply air/extract air grille

The alignment of the grilles can be slightly corrected after installation.



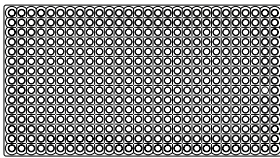
Design grille Pazifik

for connection housing AG-60, AG-90 and quick 75/90

made of plastic, with plug connection, white (RAL 9016) stove-enamelled, Suited for:

supply air up to 40 m³/h
extract air up to 60 m³/h

6046 743



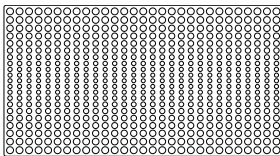
Design grille Adria

for connection housing AG-60, AG-90 and quick 75/90

made of plastic, with plug connection, white (RAL 9016) stove-enamelled, Suited for:

supply air up to 40 m³/h
extract air up to 60 m³/h

6046 744



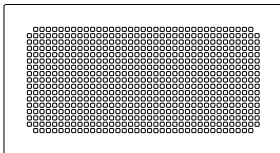
Design grille Atlantik

for connection housing AG-60, AG-90 and quick 75/90

made of plastic, with plug connection, white (RAL 9016) stove-enamelled, Suited for:

supply air up to 40 m³/h
extract air up to 60 m³/h

6046 745



Design grille Karibik

for connection housing AG-60, AG-90 and quick 75/90

made of plastic, with plug connection, white (RAL 9016), painting on site, Suitable for:

supply air up to 40 m³/h
extract air up to 60 m³/h

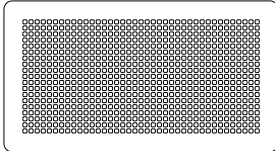
6047 228

Air grilles - wall/ceiling

Part No.

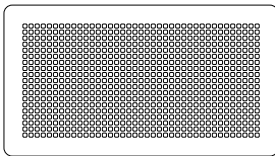
Metal supply air/extract air grille

The alignment of the grilles can be slightly corrected after installation.



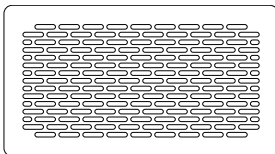
Design grille Pizol
for connection housing AG-60/90 and quick 75/90
of brushed stainless steel,
with plug connection,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 696



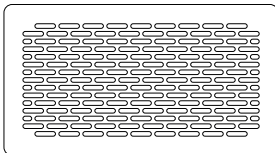
Design grille Pizol
for connection housing AG-60/90 and quick 75/90
of sheet steel, with plug connection,
white (RAL 9016) stove-enamelled,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 698



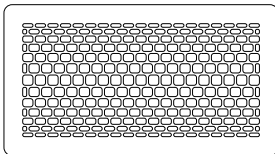
Design grille Alvier
for connection housing AG-60/90 and quick 75/90
of brushed stainless steel,
with plug connection,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 700



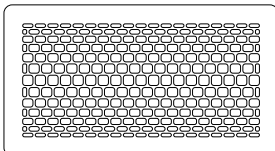
Design grille Alvier
for connection housing AG-60/90 and quick 75/90
of sheet steel, with plug connection,
white (RAL 9016) stove-enamelled,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 702



Design grille Sântis
for connection housing AG-60/90 and quick 75/90
of brushed stainless steel,
with plug connection,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 724

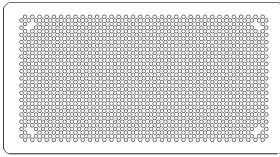


Design grille Sântis
for connection housing AG-60/90 and quick 75/90
of sheet steel, with plug connection,
white (RAL 9016) stove-enamelled,
Suited for:
supply air up to 40 m³/h
extract air up to 60 m³/h

6046 726

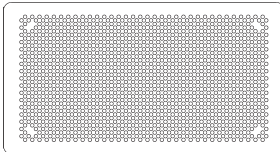
Air grilles - wall/ceiling

Part No.



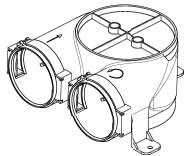
Design grille Pilatus white
for connection housing
AG-60/90 and quick 75/90
Aluminium sheet with flanged edges,
with plug connection, painted white
(RAL 9016)
Suitable for:
- Supply air up to 40 m³/h
- Extract air up to 60 m³/h

6054 365



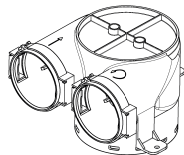
Design grille Pilatus Alu
for connection housing
AG-60/90 and quick 75/90
Aluminium sheet with flanged edges,
with plug connection, brushed aluminium
anodized
Suitable for:
- Supply air up to 40 m³/h
- Extract air up to 60 m³/h

6054 366



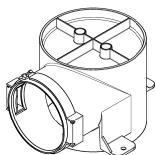
Connection cylinder quick 75 short
for masonry, lightweight
and wood construction
Plastic casing, two connections DN 75
incl. 1 stopper DN 75
Supply air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 40 m³/h
With design grille Tangential 125
only 1 x DN 75
Extract air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 60 m³/h

6050 374



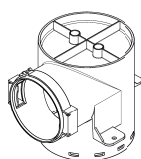
Connection cylinder quick 75 medium
for element ceiling up to 60 mm,
solid concrete
Plastic casing, two connections DN 75
incl. 1 stopper DN 75
Supply air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 40 m³/h
With design grille Tangential 125
only 1 x DN 75
Extract air:
1 x DN 75 up to 30 m³/h
2 x DN 75 up to 60 m³/h

6050 375



Connection cylinder quick 90 short
for masonry, lightweight
and wood construction
Plastic casing, with connection DN 90
Supply air:
1 x DN 90 up to 40 m³/h
Extract air:
1 x DN 90 up to 60 m³/h

6050 377

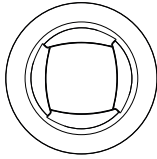


Connection cylinder quick 90 medium
for element ceiling up to 60 mm,
solid concrete
Plastic casing, with connection DN 90
Supply air:
1 x DN 90 up to 40 m³/h
Extract air:
1 x DN 90 up to 60 m³/h

6050 378

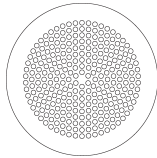
Air grilles - wall/ceiling

Part No.



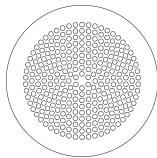
Design grille Tangential 125
 suitable for
 connection cylinders quick 75 and 90
 made of plastic, with plug-in connection
 Colour: white RAL 9016,
 can be painted on site
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

6052 158



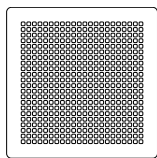
Design grille Falknis painted white
 suitable for
 connection cylinders quick 75 and 90
 Steel, painted white (RAL 9016)
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

6052 162



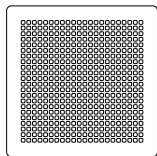
Stainless steel design grille Falknis
 suitable for
 connection cylinders quick 75 and 90
 Brushed stainless steel
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

6051 847



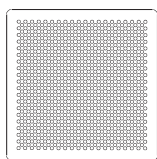
Design grille Calanda painted white
 suitable for
 connection cylinders quick 75 and 90
 Steel, painted white (RAL 9016)
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

6052 161



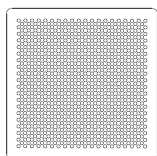
Stainless steel design grille Calanda
 suitable for
 connection cylinders quick 75 and 90
 Brushed stainless steel
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

6051 849



Design grille Rigi white
 suitable for
 connection cylinder quick 75 and 90
 Aluminium sheet with flanged edges
 Painted white (RAL 9016)
 With plug connection
 - Supply air up to 40 m³/h
 - Extract air up to 60 m³/h

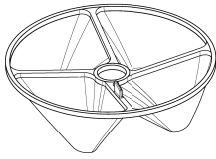
6054 363



Design grille Rigi aluminium
 suitable for
 connection cylinder quick 75 and 90
 Aluminium sheet with flanged edges
 Surface: anodized brushed aluminium
 With plug connection
 - Supply air up to 40 m³/h
 - Extract air up to 60 m³/h

6054 364

Air grilles - wall/ceiling



Extract air filter 125
for connection cylinder quick 75 and 90
of cleanable, fine-mesh polyamide net
with plastic frame.

Part No.

5049 629



Disc valve supply air TVZ-125
for connection cylinder quick 75 and 90
of sheet steel (white RAL 9016)
with installation frame DN 125,
height: 45 mm
supply air up to 40 m³/h

2056 417

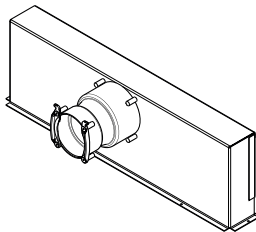


Disc valve extract air TVA-125
for connection cylinder quick 75 and 90
of sheet steel (white RAL 9016)
with installation frame DN 125,
height: 45 mm
extract air up to 60 m³/h

2056 416

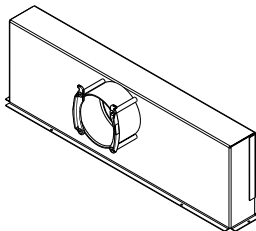
Grilles - supply air/extract air

Application
Concrete installation (in-situ concrete)



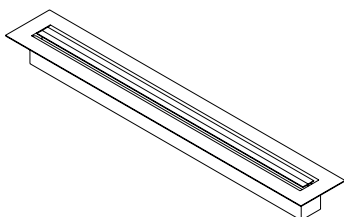
Connection box SD-75
for encasing in concrete, made of
galvanised sheet steel
with 1 nozzle 75 mm
Air quantity up to 30 m³/h

6022 617



Connection box SD-90
for encasing in concrete, made of
galvanised sheet steel
with 1 nozzle 90 mm
Air quantity up to 40 m³/h

6022 543



Design slit grille 500 mm
matching connection box SD-75 and SD-90
Colour: anodized aluminium
Supply air: up to 40 m³/h

2037 000

Pipe system DN 160

The pipe system consists of galvanised steel with double lip seal.
Pipe as per DIN 24145; 0.6 mm thick.

Flow rate [m³/h]	[Pa/m] Pipe	Pressure drop [Pa] 90° elbow	[Pa] 45° elbow
150	0.5	1.3	0.8
200	0.8	2.0	1.2
250	1.2	2.5	1.5
350	1.8	5.0	1.8

Pipe system DN 180

The pipe system consists of galvanised steel with double lip seal.
Pipe as per DIN 24145; 0.6 mm thick.

Flow rate [m³/h]	[Pa/m] Pipe	Pressure drop [Pa] 90° elbow	[Pa] 45° elbow
150	0.4	0.8	0.5
250	0.6	2.0	1.0
350	1.0	4.0	2.0

Pipe system DN 200

The pipe system consists of galvanised steel with double lip seal.
Pipe as per DIN 24145; 0.6 mm thick.

Flow rate [m³/h]	[Pa/m] Pipe	Pressure drop [Pa] 90° elbow	[Pa] 45° elbow
150	0.3	0.7	0.5
350	0.7	1.6	1.0
500	1.5	4.0	2.0

Thermal insulation for main duct DN 160

The insulation consists of synthetic rubber (closed-cell EPDM with resistant outside skin), insulation thickness 25 mm, black.
Thermal conductance λ at 0 °C is 0.032 W/mK
Steam diffusion resistance ≥ 7000
Fire class 5.3 or B1



Thermal insulation tube: for spiral-seam tube DN 160 mm, case contains 3 tubes, each with a length of 2 m

Adhesive: ready-to-use adhesive with brush 0.25 l

Thermal insulation for pipe elbow: Thermal insulation mat cut to length for pipe elbow (2-part) suitable for DN 160

Adhesive tape: of synthetic rubber, 50 mm wide, 15-meter roll

Pipe clamp with thermal insulation sleeve: For installation of pipes without thermal bridges

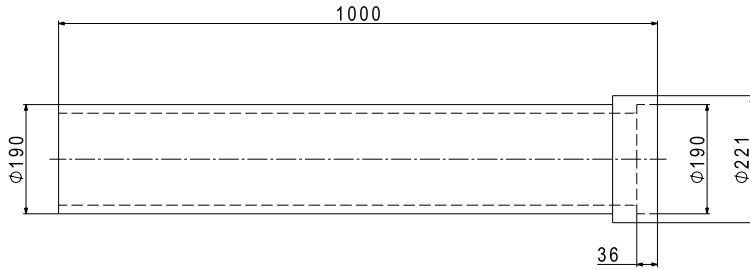
Notice
Comply with regional regulations on thermal insulation.

IsiPipe pipe system EPP

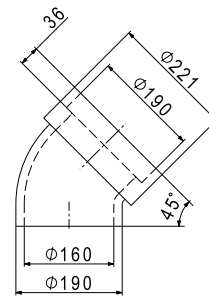
Pipeline consists of diffusion-tight EPP
 Wall thickness: 15 mm, grey
 Thermal conductance: $\lambda = 0.035 \text{ W/mK}$

IsiPipe pipe system EPP-160
 (Dimensions in mm)

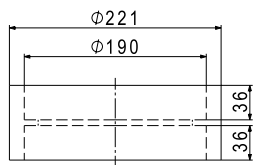
IsiPipe pipeline EPP-160/1000



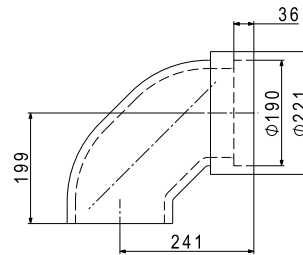
IsiPipe pipe bend EPP-160/45



IsiPipe sleeve EPP-160

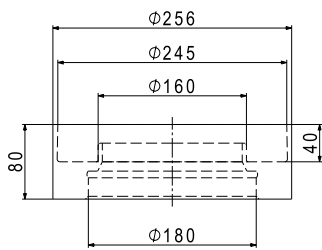


IsiPipe pipe bend EPP-160/90

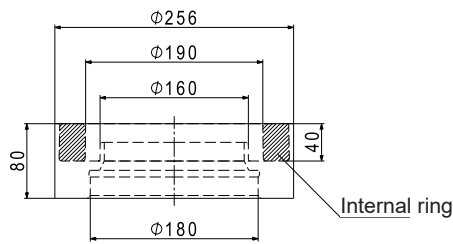


IsiPipe device adapter EPP-160
 (Dimensions in mm)

IsiPipe device adapter without internal ring



IsiPipe device adapter with internal ring



IsiPipe Plus pipe system EPP

Pipeline consists of diffusion-tight EPP

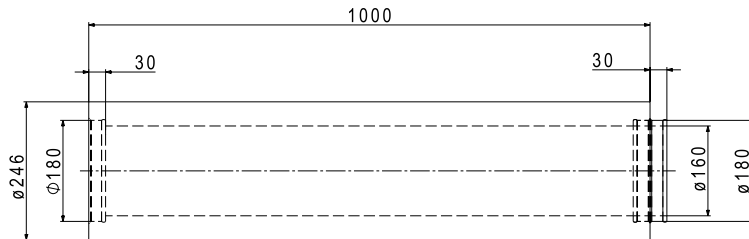
Wall thickness: 43 mm, black

Thermal conductance: $\lambda = 0.035 \text{ W/mK}$

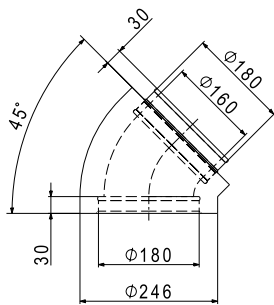
IsiPipe Plus pipe system EPP-160

(Dimensions in mm)

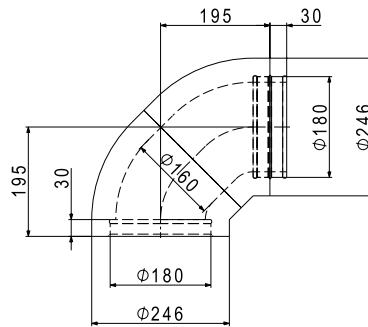
IsiPipe Plus pipeline EPP-160/1000



IsiPipe Plus pipe bend EPP-160



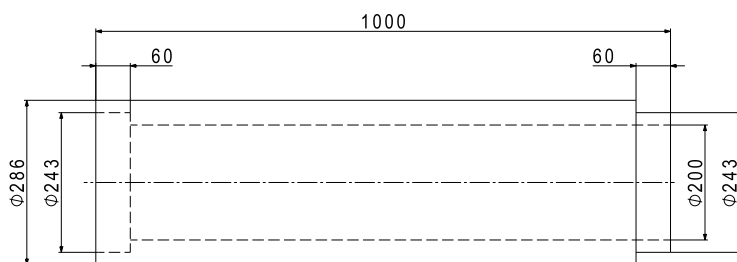
2 IsiPipe Plus pipe bends EPP-160/45



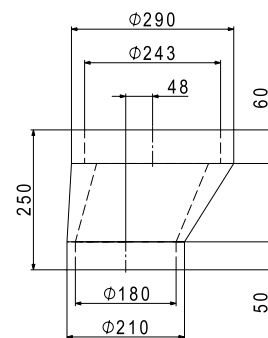
IsiPipe Plus pipe system EPP-200

(Dimensions in mm)

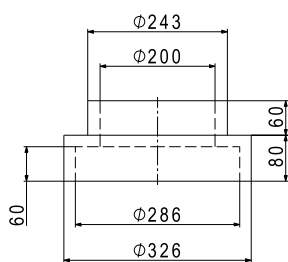
IsiPipe Plus pipeline EPP-200/1000



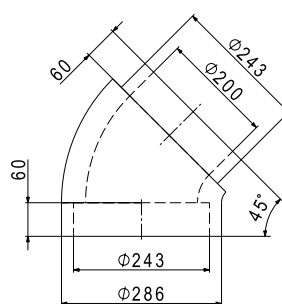
IsiPipe Plus eccentric adapter EPP-180-200



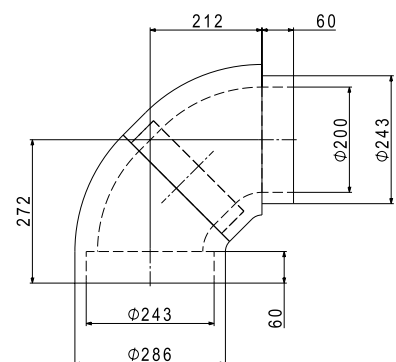
IsiPipe Plus device adapter EPP-200



IsiPipe Plus pipe bend EPP-200/45



2 IsiPipe Plus pipe bends EPP-200/45

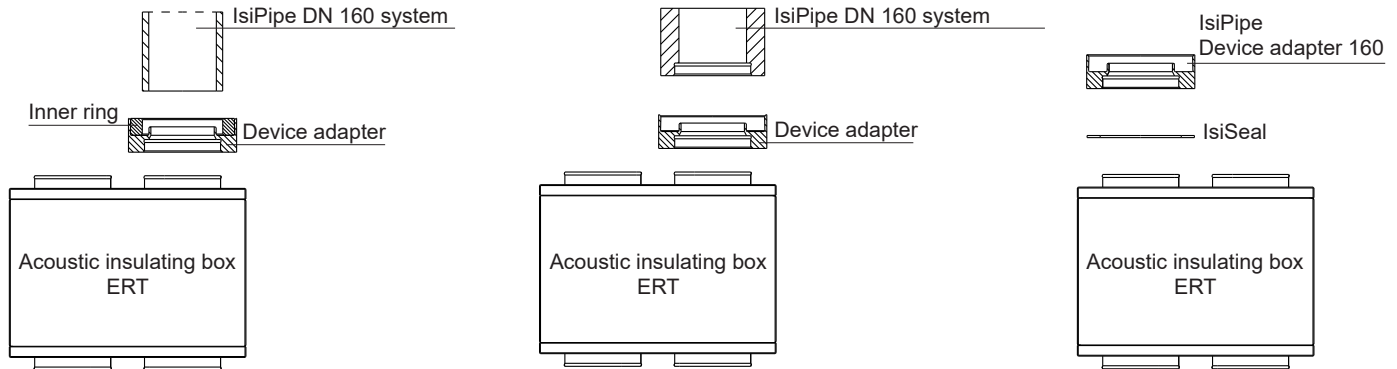


IsiPipe application
Device adapter

Device adapter with inner ring for connection of IsiPipe DN 160 with wall thickness 15 mm.

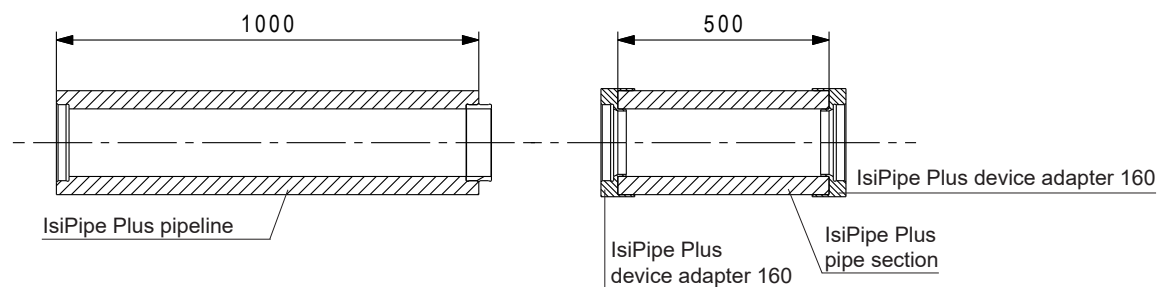
Device adapter without inner ring for connection of IsiPipe Plus DN 160 with wall thickness 43 mm.

The IsiSeal can be glued between the sound insulation box and the device adapter to secure and better seal the connection.

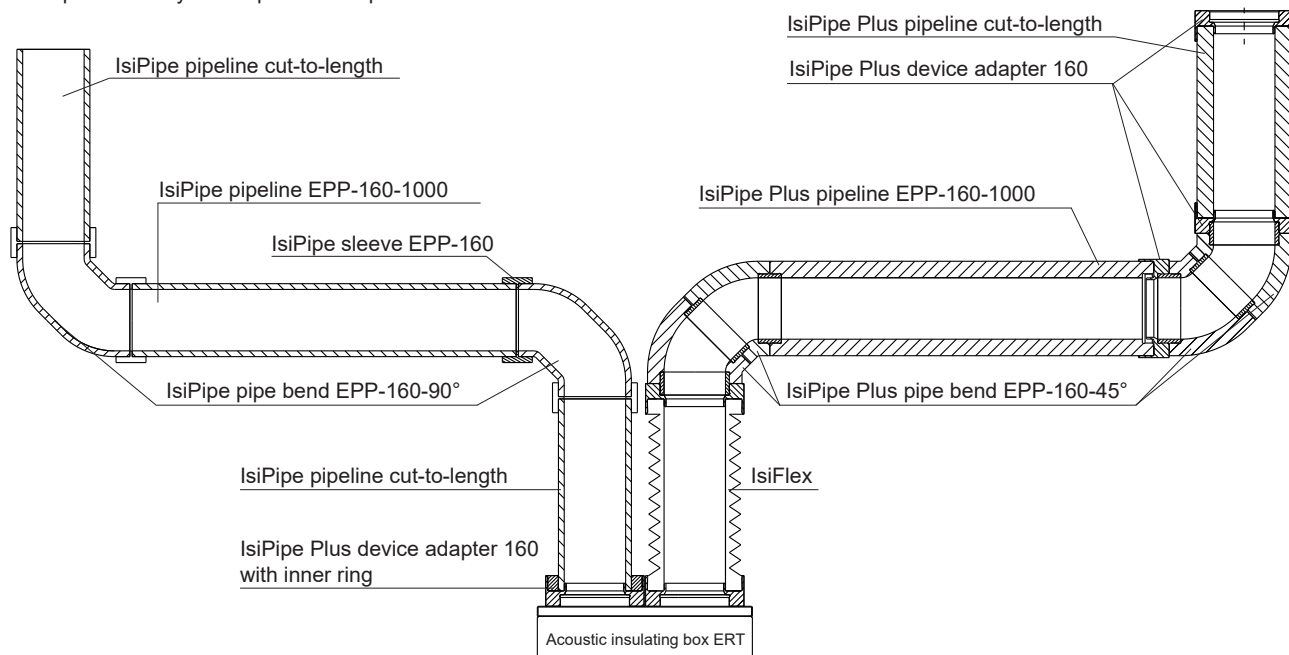


IsiPipe Plus pipeline

Cut-to-length pipes can be connected to the device adapter.

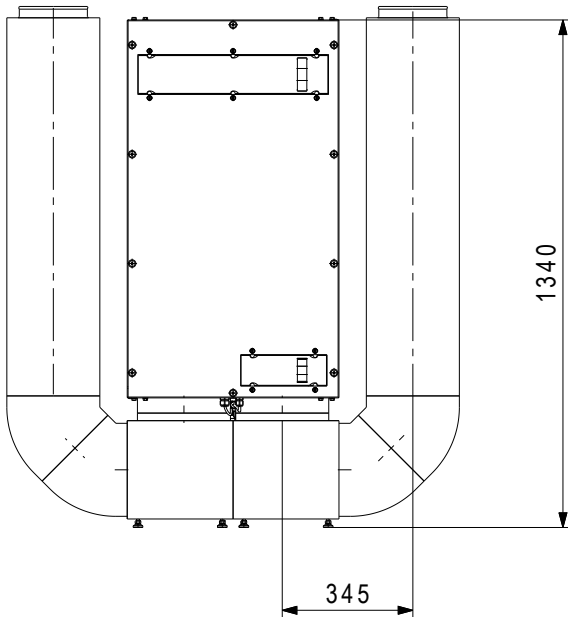


Example assembly of IsiPipe and IsiPipe Plus

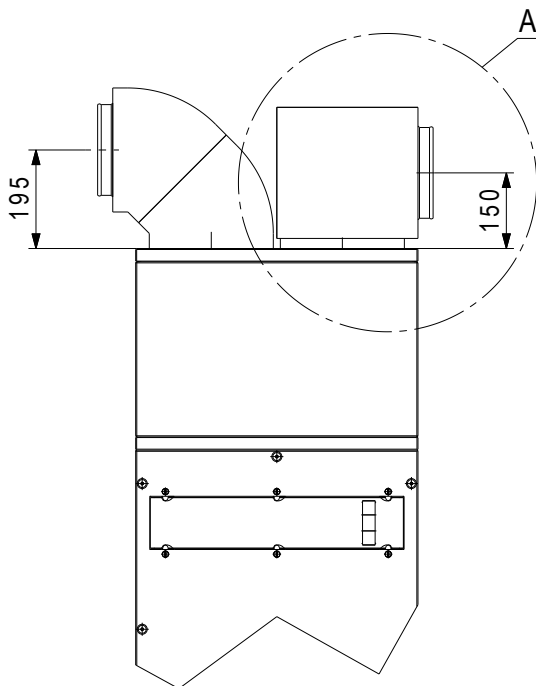


IsiCube application

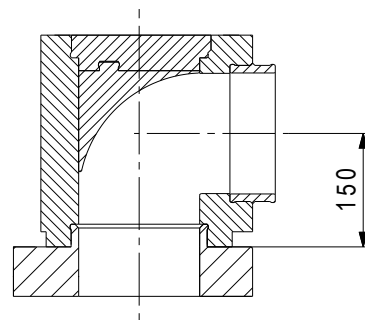
The IsiCube is used as a base for the HomeVent® ER. This allows a more compact design and the Isipipe system can be connected directly to the Cube.



The IsiCube can also be used as a pipe bend to save overall height.

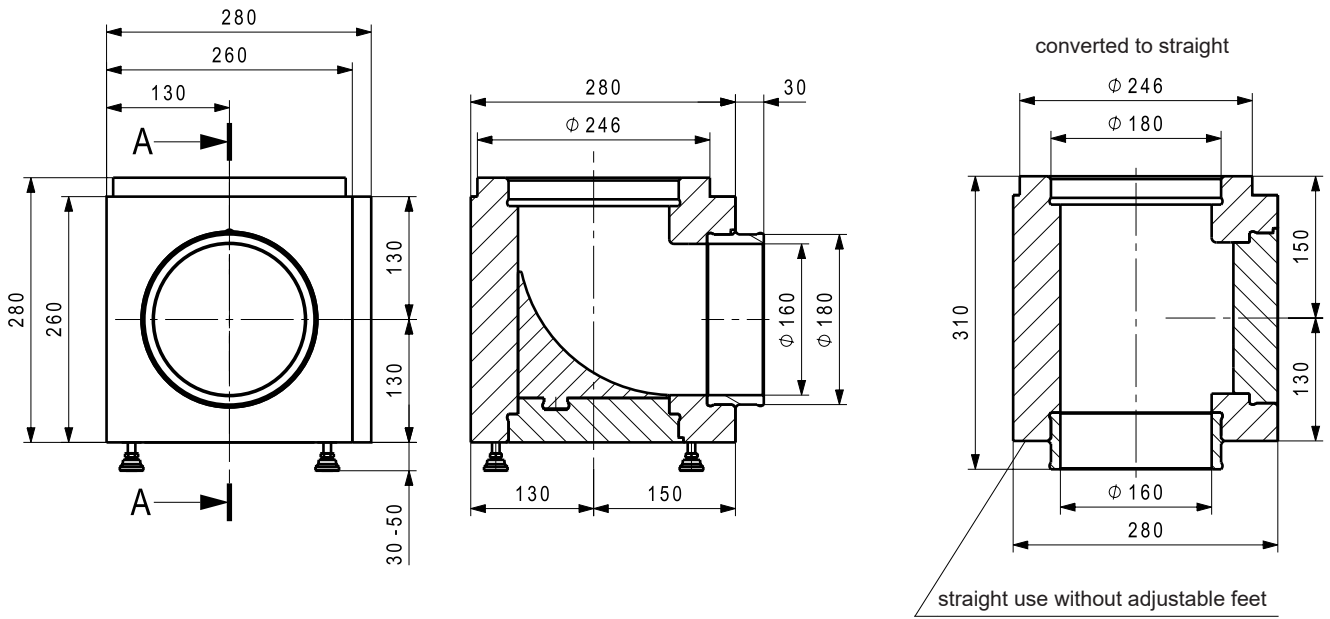


Detail A

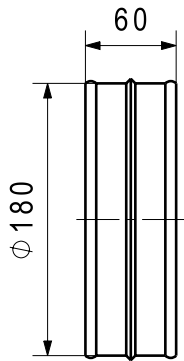


IsiCube

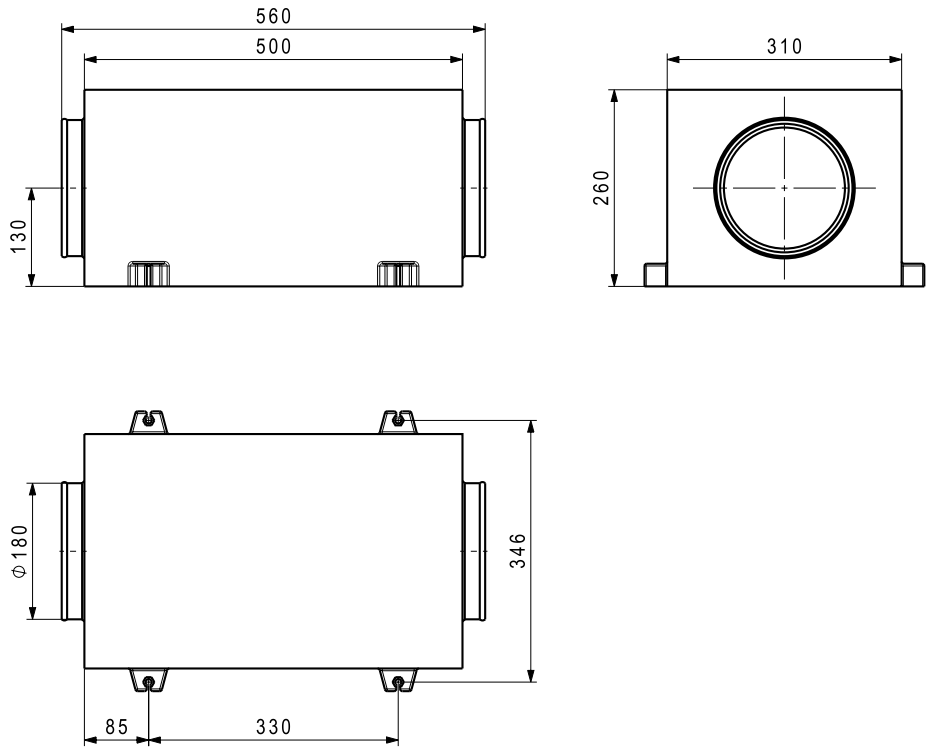
(Dimensions in mm)

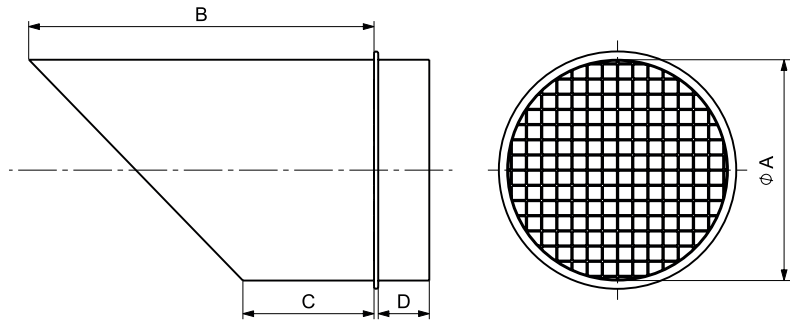


IsiFit



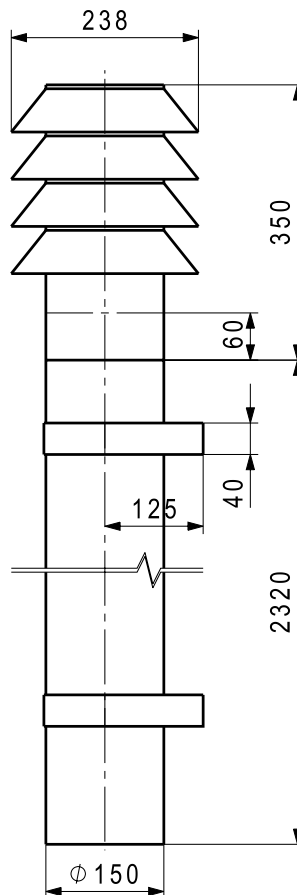
IsiSound





Exhaust air nozzle FST
for spiral-seam tube DN
of galvanised sheet steel
with bird protection grille
for horizontal installation

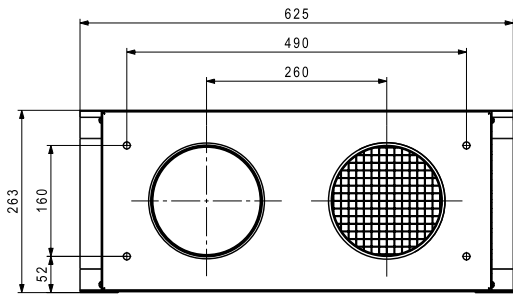
	A	B	C	D
FST-160	160	250	95	37
FST-180	180	270	90	45
FST-200	200	245	45	45



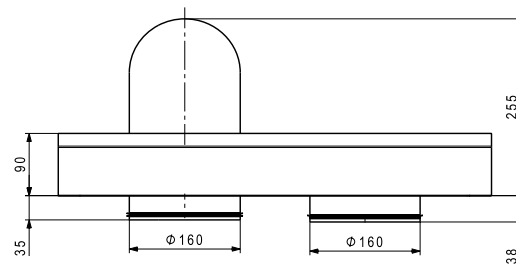
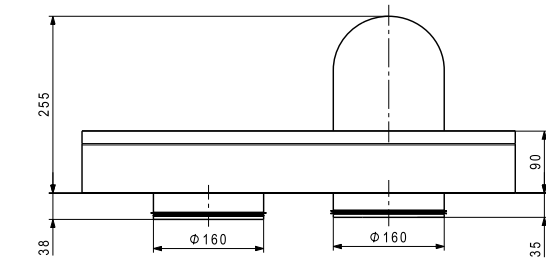
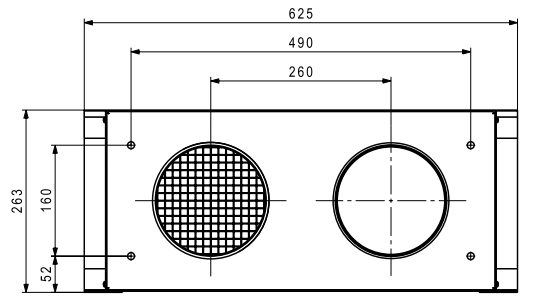
Outside air intake set AAS-150
for spiral-seam tube DN 150,
galvanic isolation of the connection
for outside and exhaust air
of stainless steel, lamella cowl,
consisting of:
1 cowl DN 150,
1 pipe DN 150, length: 0.5 m,
2 pipes DN 150, length: 1 m and
2 wall mountings

Volume flow [m³/h]	Pressure drop of cowl [Pa]
100	3
150	5
200	8
250	12

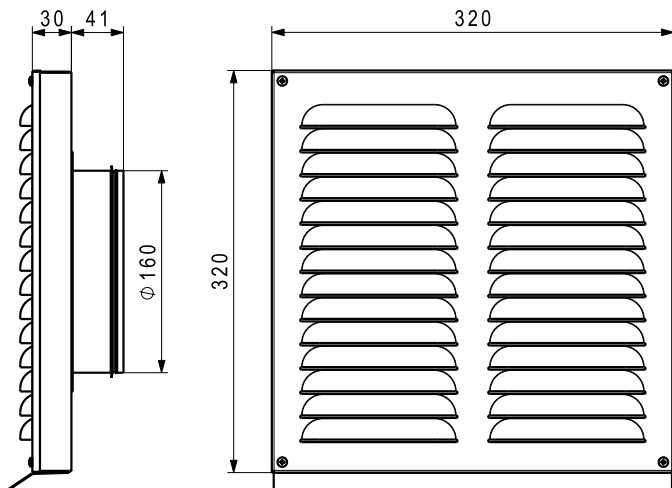
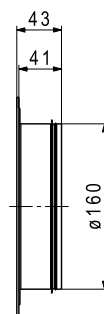
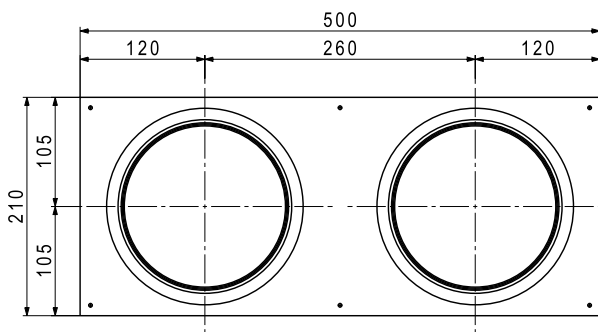
Wall outlet Ø 160 left



Wall outlet Ø 160 right



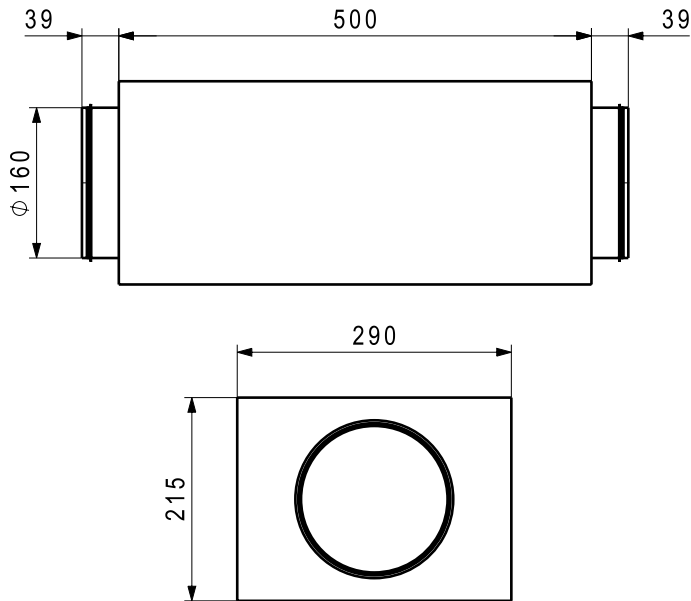
Plywood
for wall outlet, Ø 160



Weatherproof grille WG-160

for spiral-seam tube DN 160
for outside and exhaust air
of aluminium with rain lug,
can be painted with double lip seal,
pipe nozzle DN 160

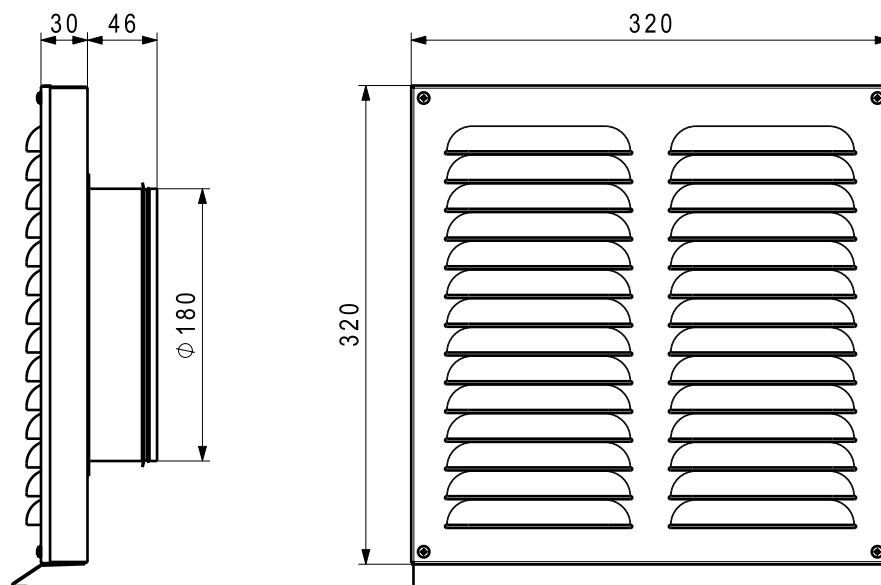
Flow rate [m³/h]	Pressure drop Outside air [Pa]	Pressure drop Exhaust air [Pa]
150	7	7
200	12	15
250	18	24



Silencer SD-160-500

The silencer consists of a rectangular casing of galvanised steel with connection nozzles on both sides. The housing is lined on the inside with highly effective sound absorbing material. The unit can be cleaned through the pipe nozzle. When used in fresh air and exhaust air, the silencers must be thermally insulated on site.

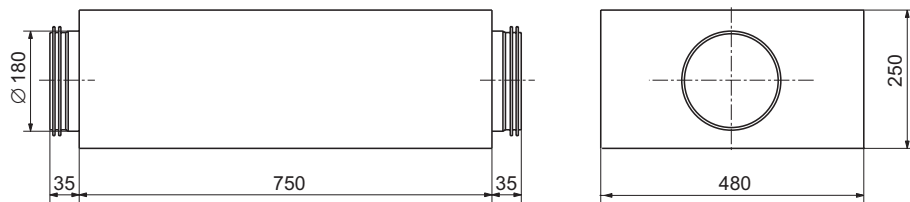
Frequency [Hz]	125	250	500	1000	2000	4000	8000
Simple damping [dB]	6	10	19	23	32	25	16



Weatherproof grille WG-180

for spiral-seam tube DN 180
for outside and exhaust air
of aluminium with rain lug,
can be painted with double lip seal,
pipe nozzle DN 180

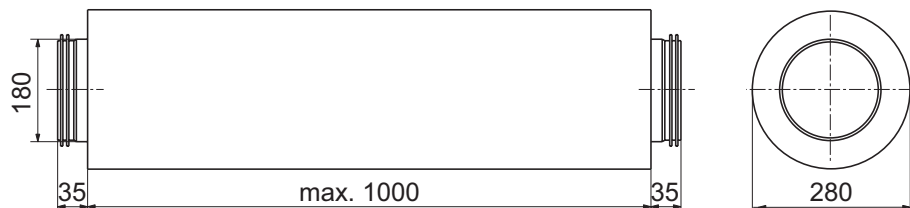
Flow rate [m³/h]	Pressure drop [Pa]
150	6
250	9
350	13



Silencer FSR-180-750

The silencer consists of a rectangular casing of galvanised steel with connection nozzles on both sides. The housing is lined on the inside with highly effective sound absorbing material. The unit can be cleaned through the pipe nozzle. When used in fresh air and exhaust air, the silencers must be thermally insulated on site.

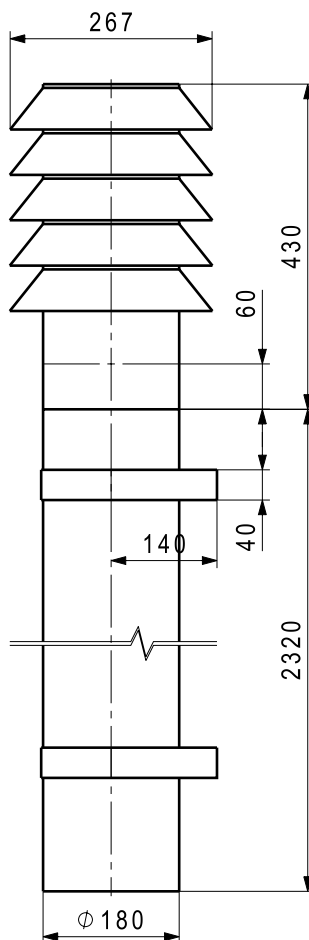
Frequency [Hz]	125	250	500	1000	2000	4000	8000
Simple damping [dB]	4	11	12	12	12	7	3



Silencer FLSDA-180-1000

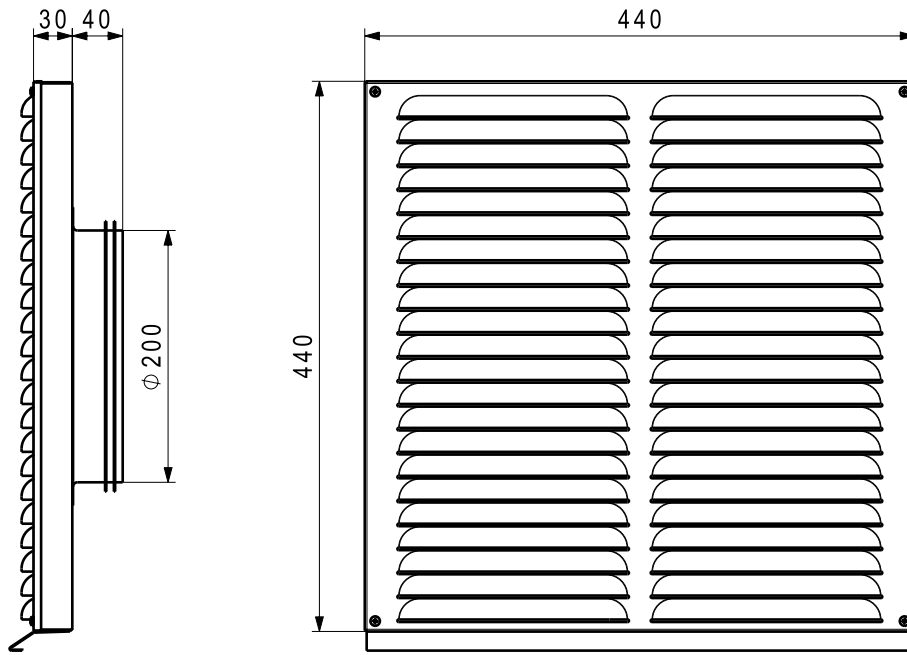
The silencer consists of a flexible aluminium envelope tube, inside from perforated aluminium tube with connection nozzles on both sides with double lip seal.

Frequency [Hz]	125	250	500	1000	2000	4000	8000
Simple damping [dB]	5	13	30	42	34	24	13



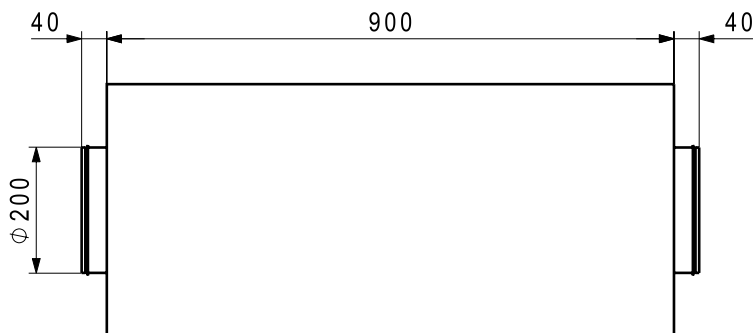
Stainless steel cowl AAS-180

for spiral-seam tube DN 180
galvanic isolation of the connection for outside and exhaust air of stainless steel, lamella cowl, consisting of:
1 cowl DN 180,
1 pipe DN 180, length: 0.5 m,
2 pipes DN 180, length: 1 m and
2 wall mountings



Weatherproof grille WG-200
 for spiral-seam tube DN 200
 for outside and exhaust air
 of aluminium with rain lug,
 can be painted with double lip seal,
 pipe nozzle DN 200

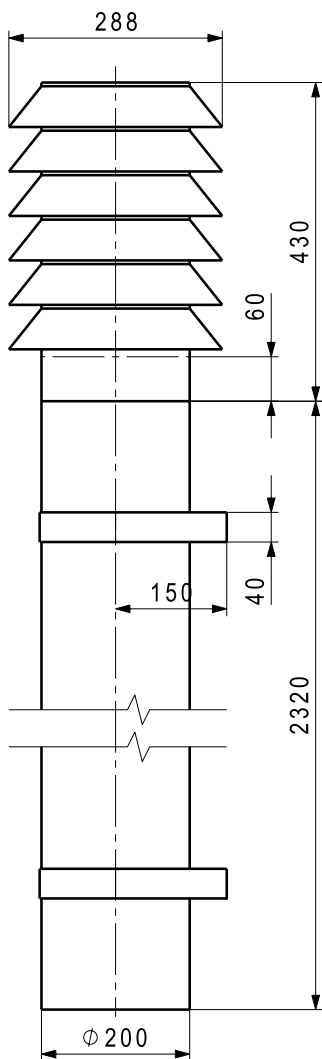
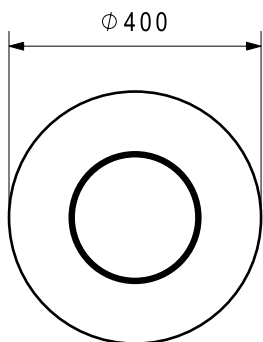
Flow rate [m³/h]	Pressure drop [Pa]
150	4
350	8
500	12



Silencer SD-200-1000

The silencer consists of a round casing of galvanised steel with connection nozzles on both sides. The housing is lined on the inside with highly effective sound absorbing material. The unit can be cleaned through the pipe nozzle.

Frequency [Hz]	125	250	500	1000	2000	4000	8000
Damping [dB]	5	15	26	26	19	10	5



Stainless steel cowl AAS-200

for spiral-seam tube DN 200
galvanic isolation of the connection for outside and exhaust air of stainless steel, lamella cowl, consisting of:
1 cowl DN 200,
1 pipe DN 200, length: 0.5 m,
2 pipes DN 200, length: 1 m and
2 wall mountings

Pipe system distribution duct DN 75 and DN 90

The distribution duct is a flexible pipe of polyethylene PE-HD with a smooth inside wall, ribbed on the outside.

Antistatic coating

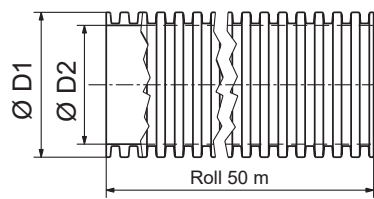
Weight 0.33 kg/m

Application limit:

Air and ambient temperature -25...60 °C

Pipe system	Flow rate [m³/h]	Pressure drop straight pipe [Pa/m]	Press loss pipe elbow 90° (r = 2D) [Pa]
DN 75	10	0.3	0.1
DN 75	20	1.1	0.4
DN 75	30	2.5	1.0
DN 90	20	0.6	0.2
DN 90	30	1.2	0.4
DN 90	40	2.2	0.8

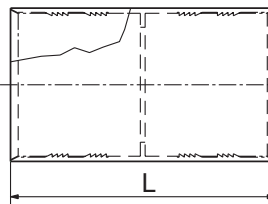
Flexible pipe FR



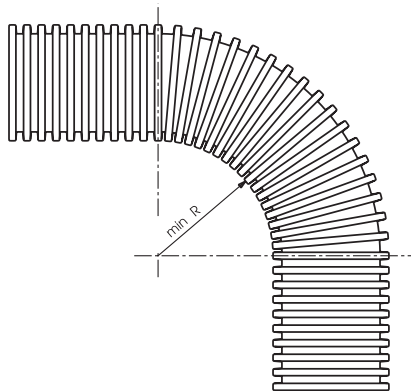
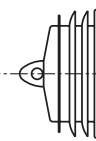
Sealing ring DI



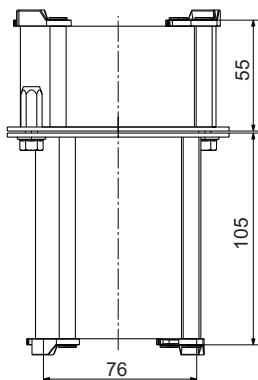
Double sleeve DM



Stopper ST

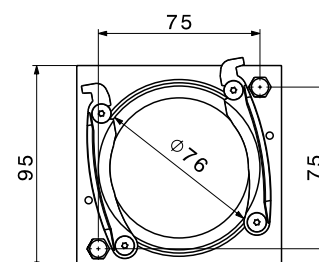
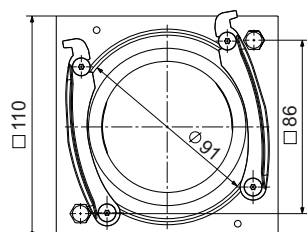
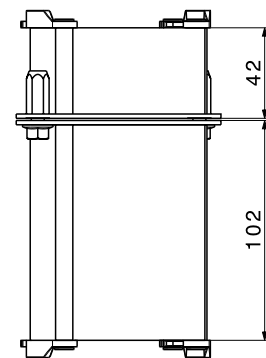


Pipe system	D1 [mm]	D2 [mm]	L [mm]	R
DN 75	75	62	100	150
DN 90	90	76	100	150



Formwork coupling SK-75/90

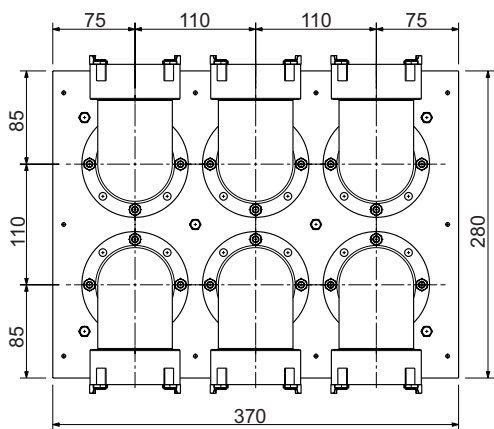
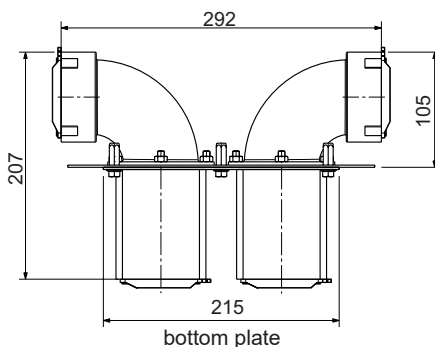
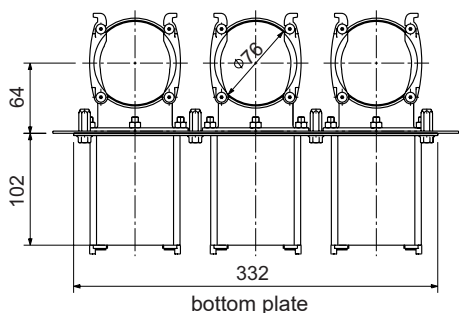
for flexible pipe DN 75 and 90 for extending a flexible pipe through the ceiling or the floor and extension from DN 75 to DN 90 without damaging the boarding.



Section distributor SV-6 x 75

For quick, space-saving installation of flexible pipes FR-75 in ceilings/floors and walls. Each 90° connection can be rotated in increments of 45°.

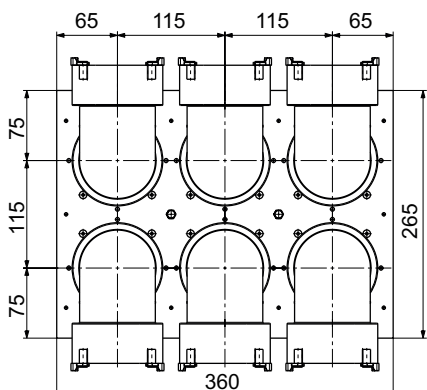
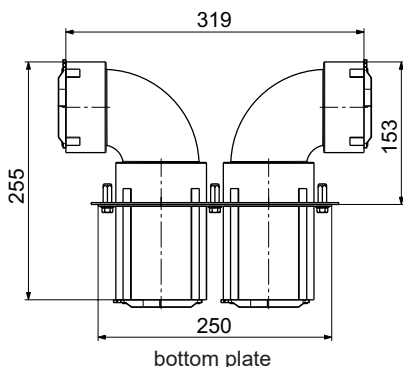
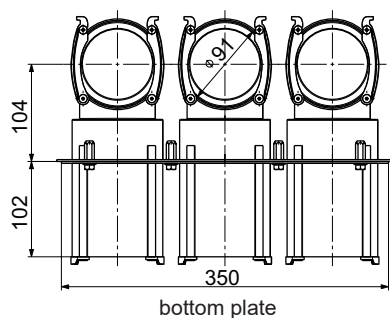
After completion of the building shell, the lower distributor plate is fitted and the flexible pipes FR-75 are simply connected up. The inside of the 90° nozzles is rounded to allow easy cleaning of the ducts.

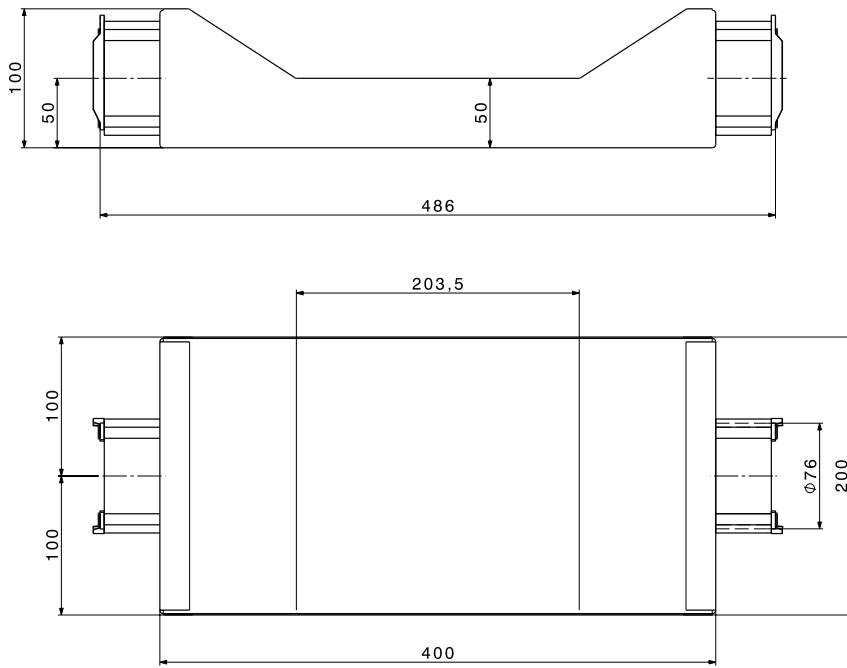


Section distributor SV-6 x 90

For quick, space-saving installation of flexible pipes FR-75 in ceilings/floors and walls. Each 90° connection can be rotated in increments of 45°.

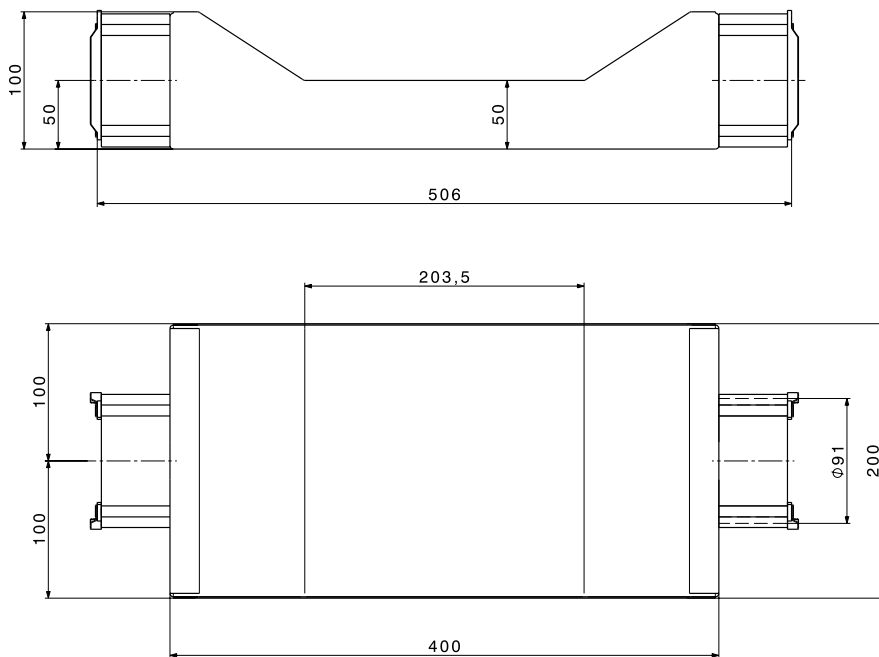
After completion of the building shell, the lower distributor plate is fitted and the flexible pipes FR-75 are simply connected up. The inside of the 90° nozzles is rounded to allow easy cleaning of the ducts.





Flexible pipe crossing FRK-75

for flexible pipe DN 75
for crossing two flexible pipes DN 75
with reduced construction height (100 mm).
For one crossing 2 pieces are necessary.

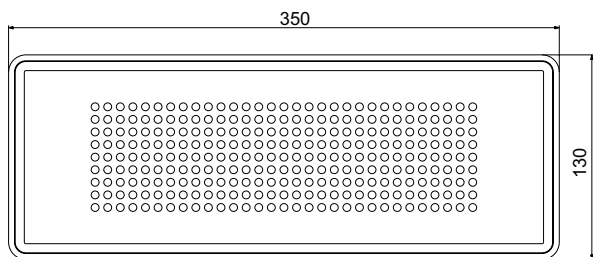


Flexible pipe crossing FRK-90

for flexible pipe DN 90
for crossing two flexible pipes DN 90
with reduced construction height (100 mm).
For one crossing 2 pieces are necessary.

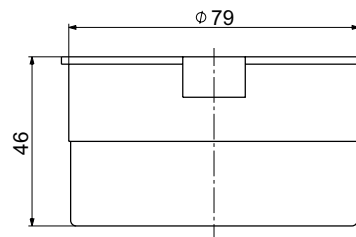
Floor grille 100, 140

inox or white colour
for flat channel system 100 and 140
Dimensions: 350 x 130 mm



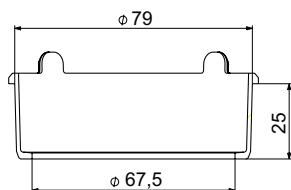
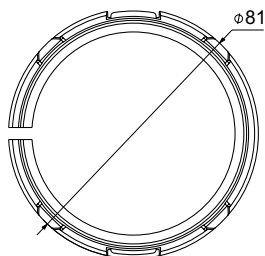
Stopper flat 75

sealing plug for outlet 90°
lateral 125-2 x 75



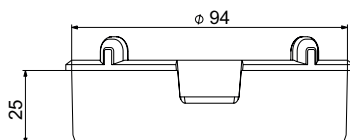
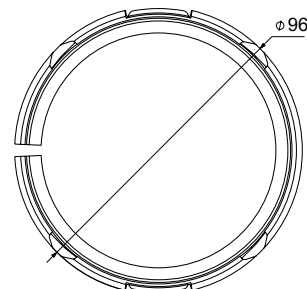
Click ring 75

for outlet 90° lateral 125-2 x 75



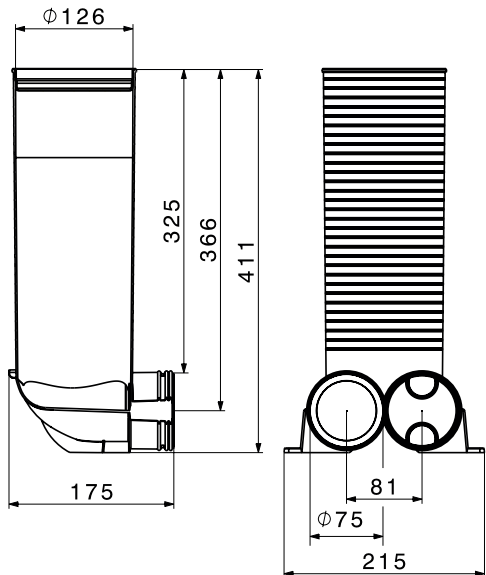
Click ring 90

for outlet 90° lateral 125-2 x 90



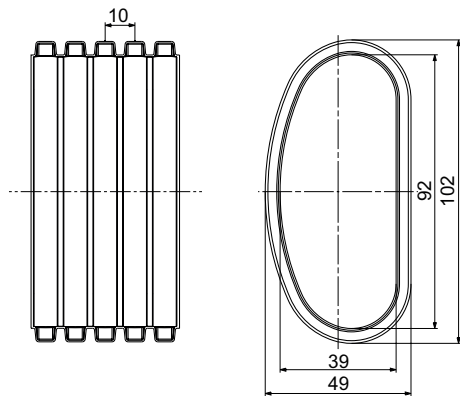
Outlet flat 90 125-75

Outlet round 90° lateral 125-2 x 75
made of plastic 2 x 75/125 mm
Usable length 325 mm

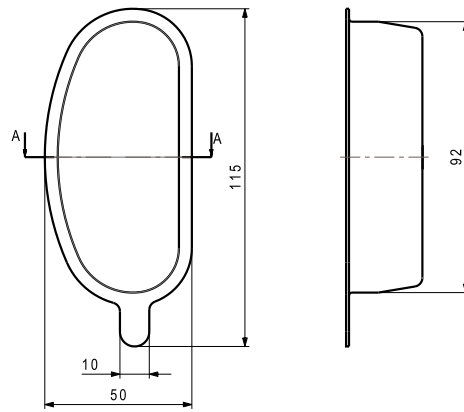


Flat channel 100

Flexible ventilation pipe 102 x 49 mm
Roll length 50 m
minimum bending radius 200 mm

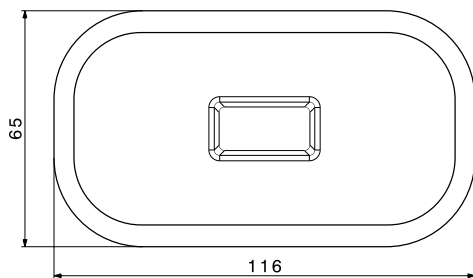
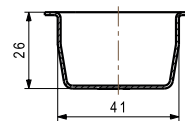
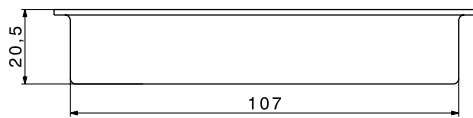


Plug flat channel 100



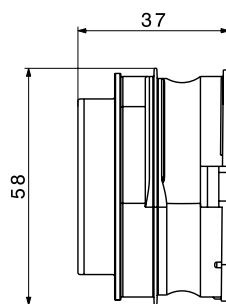
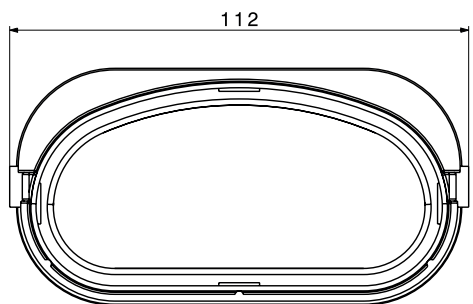
Stopper flat 100

for flat channel system 100 connections



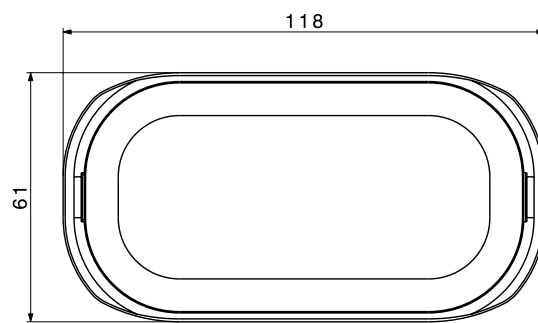
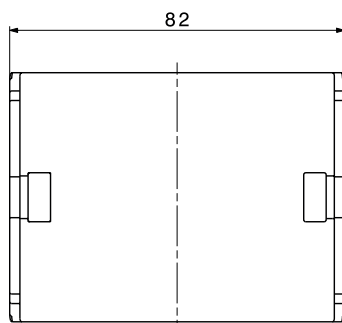
Seal flat 100

for flat channel 100

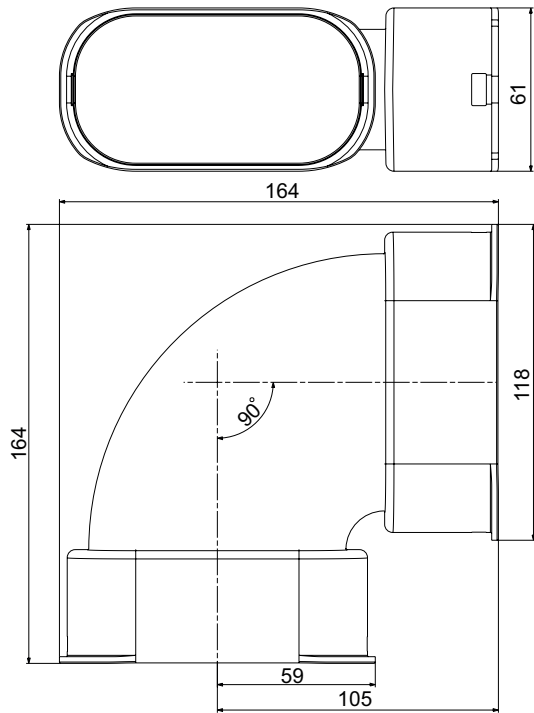


Sleeve 100

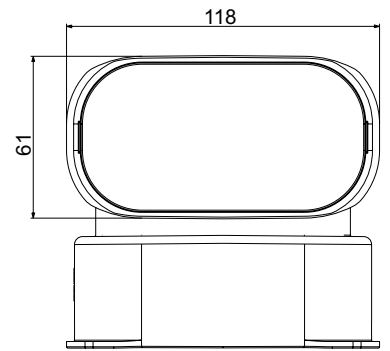
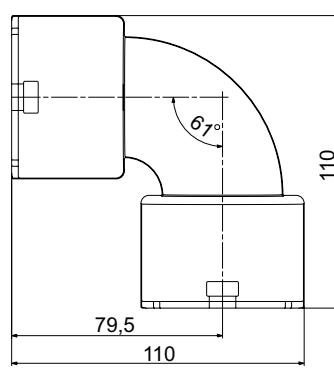
for flat channel 100



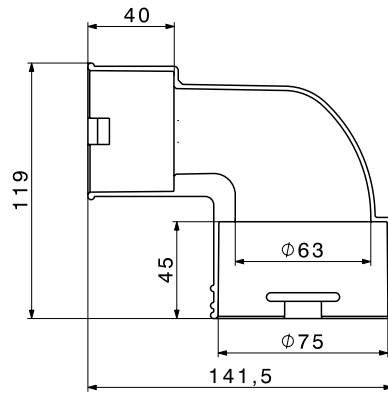
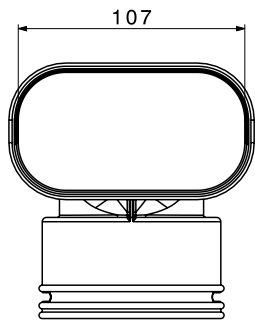
Arch horizontal flat 100
for flat channel 100



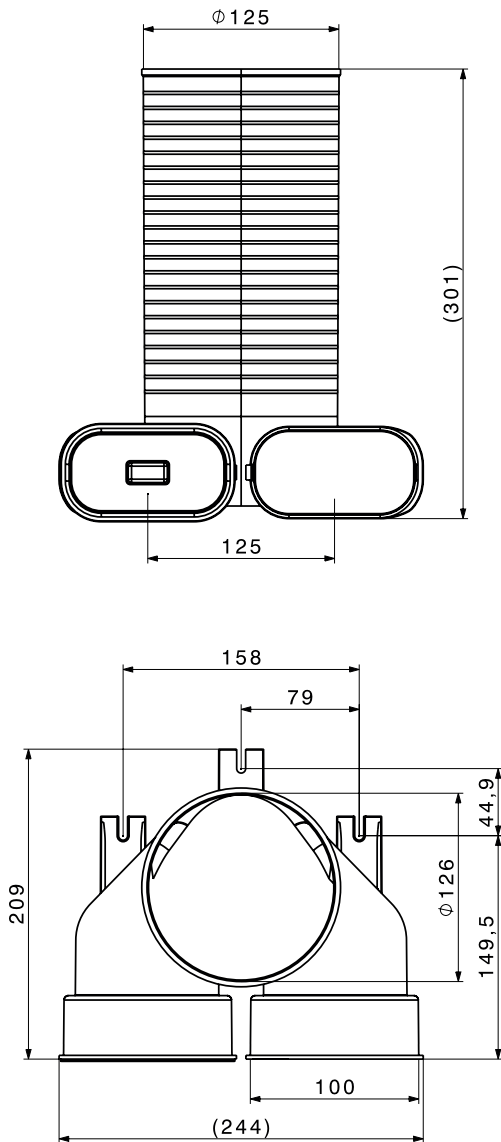
Arch vertical flat 100
for flat channel 100



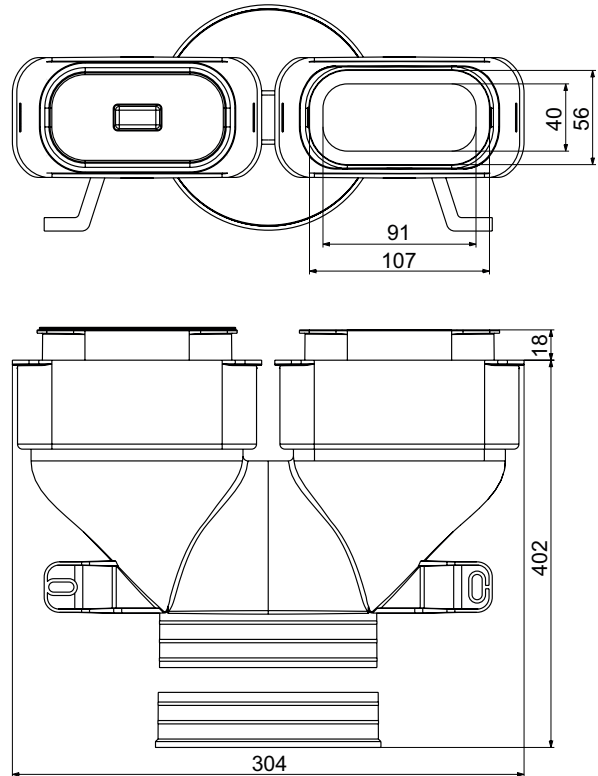
Arch vertical flat to round 100-75
Transition 90° round to flat



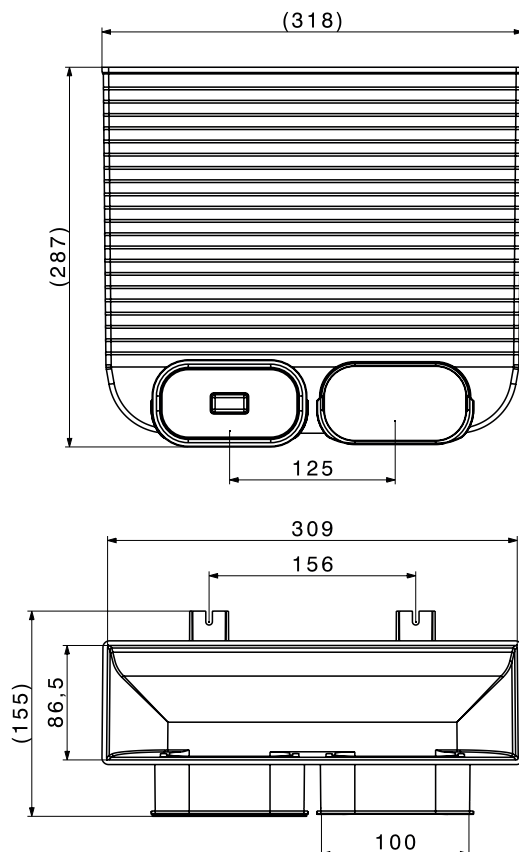
Outlet round, lateral 90° 125-2 x 100
for flat channel 100
incl. mounting bracket



Outlet round, front 125-2 x 100
for flat channel 100
incl. mounting bracket

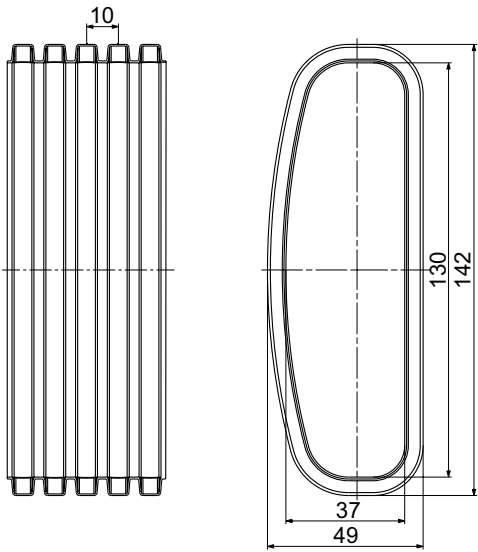


Floor exhaust flat 2 x 100
309 x 86.5 mm interior
2 flat channel 100 connections

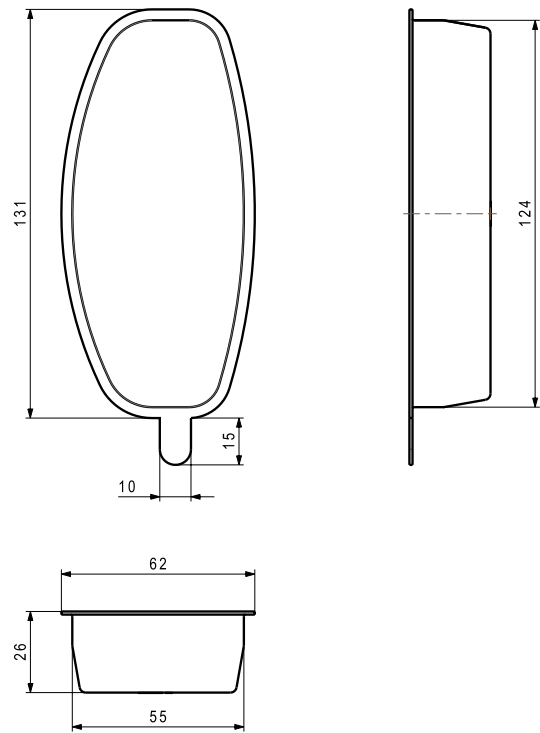


Flat channel 140

Flexible ventilation pipe 142 x 49 mm
 Roll length 20 m
 minimum bending radius 200 mm

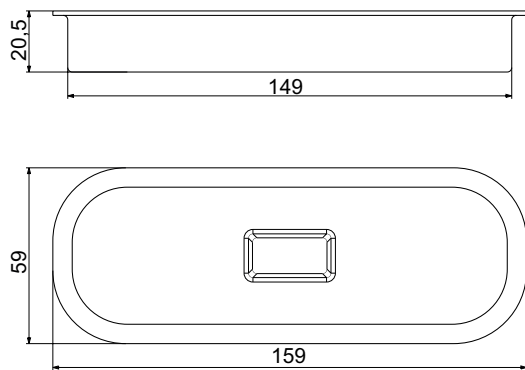


Plug flat channel 140



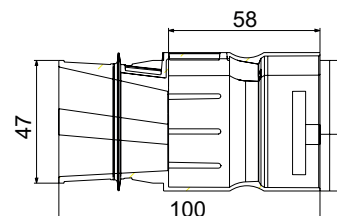
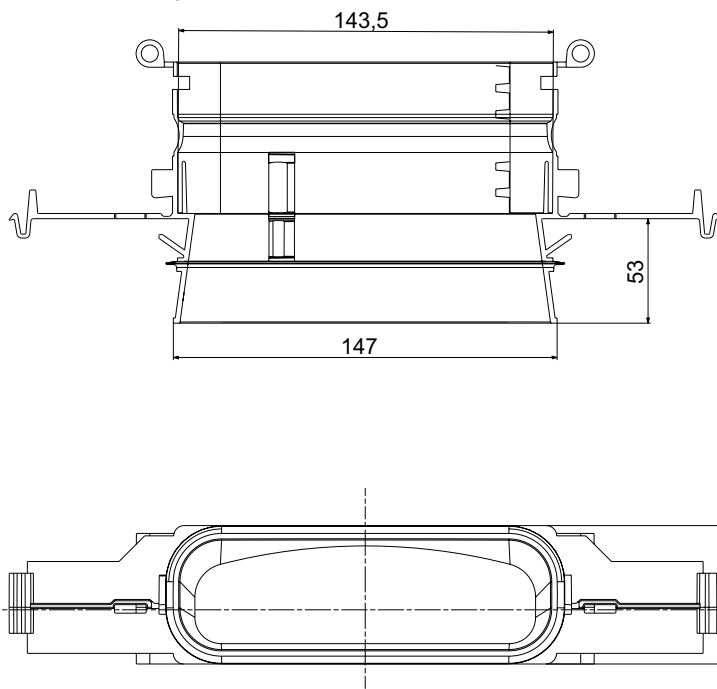
Stopper flat 140

for flat channel system 140 connections

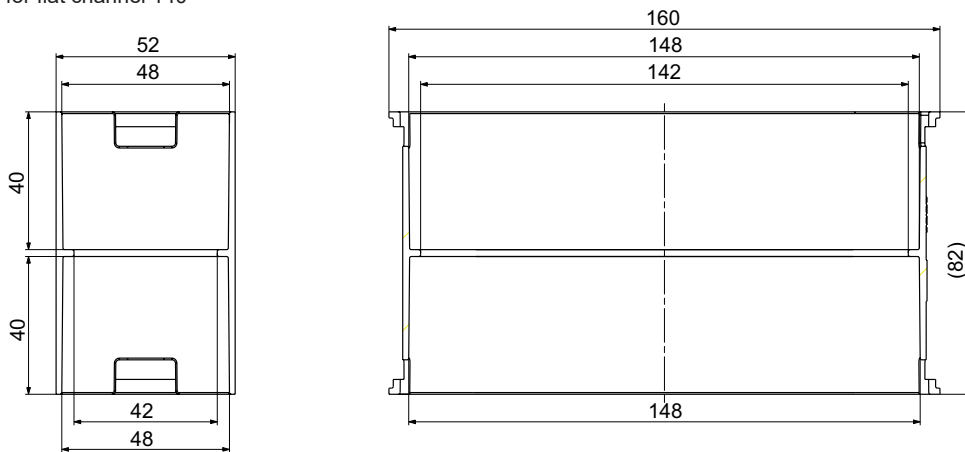


Seal flat 140

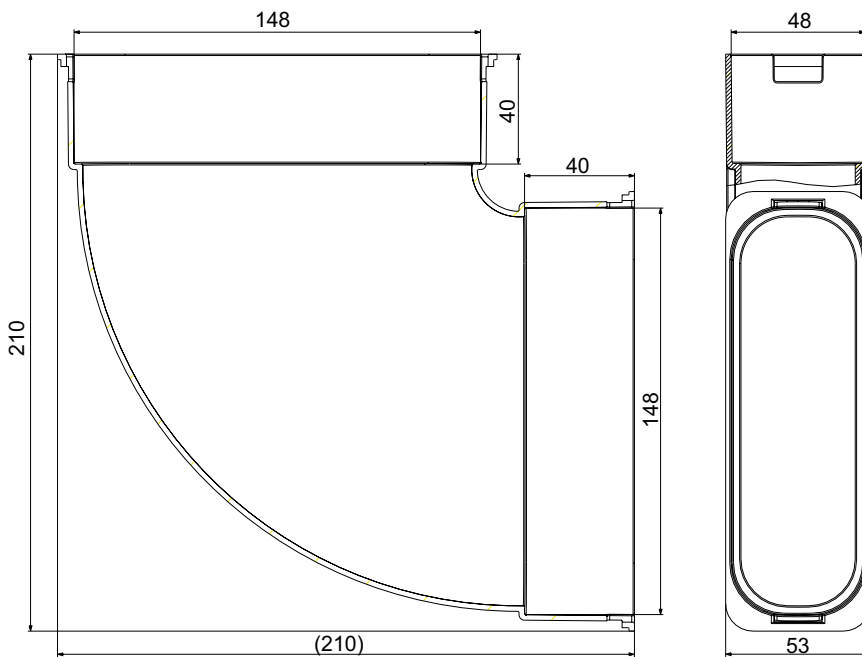
for flat channel 140



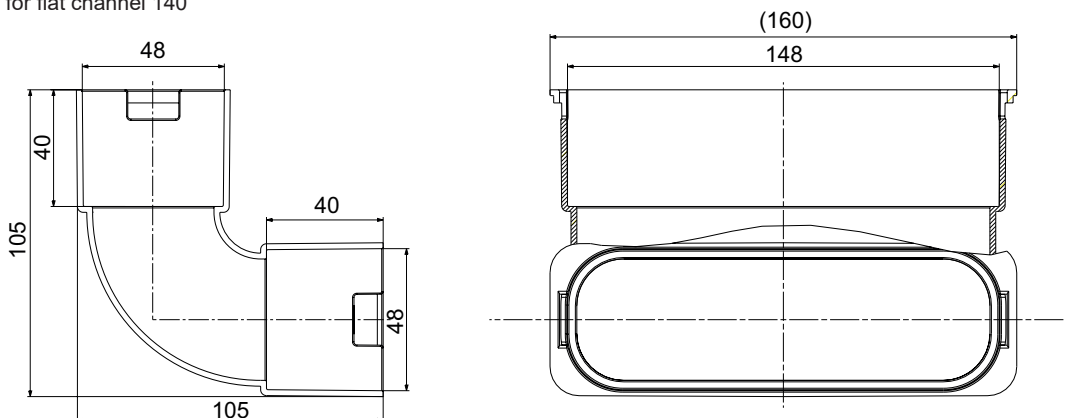
Sleeve 140
for flat channel 140



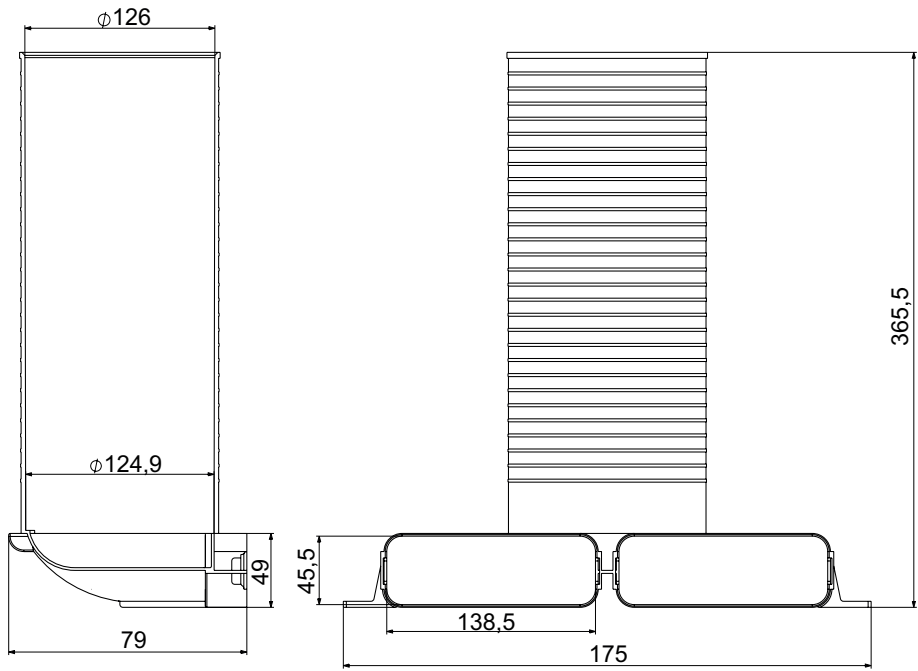
Arch horizontal flat 140
for flat channel 140



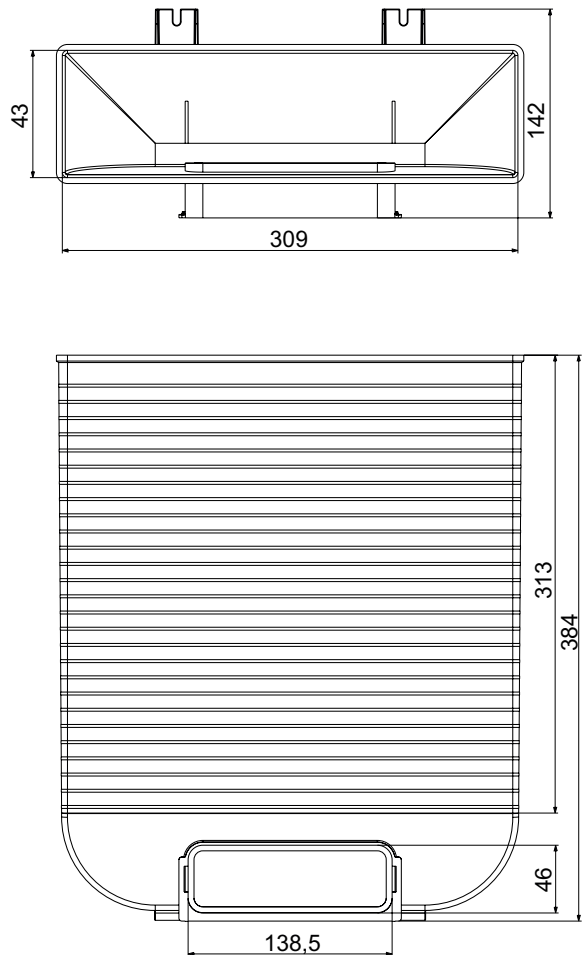
Arch vertical flat 140
for flat channel 140



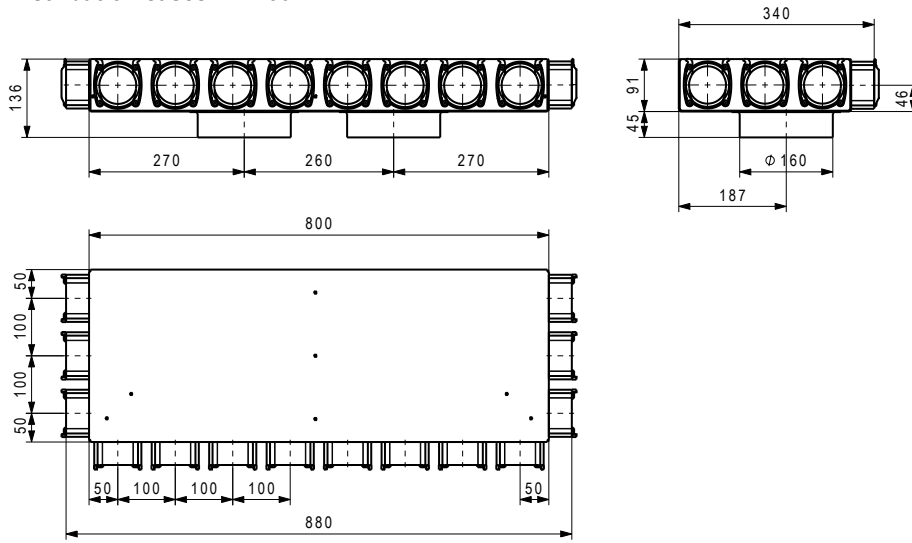
Outlet round, lateral 90° 125-2 x 140
 for flat channel 140
 incl. mounting bracket



Floor exhaust flat 1 x 140
 309 x 85 mm interior
 1 flat channel 140 connection



Distribution cases DN 160



Distribution box VTB-160 14 x 75

Air distribution box of aluzinc sheet without access panel.

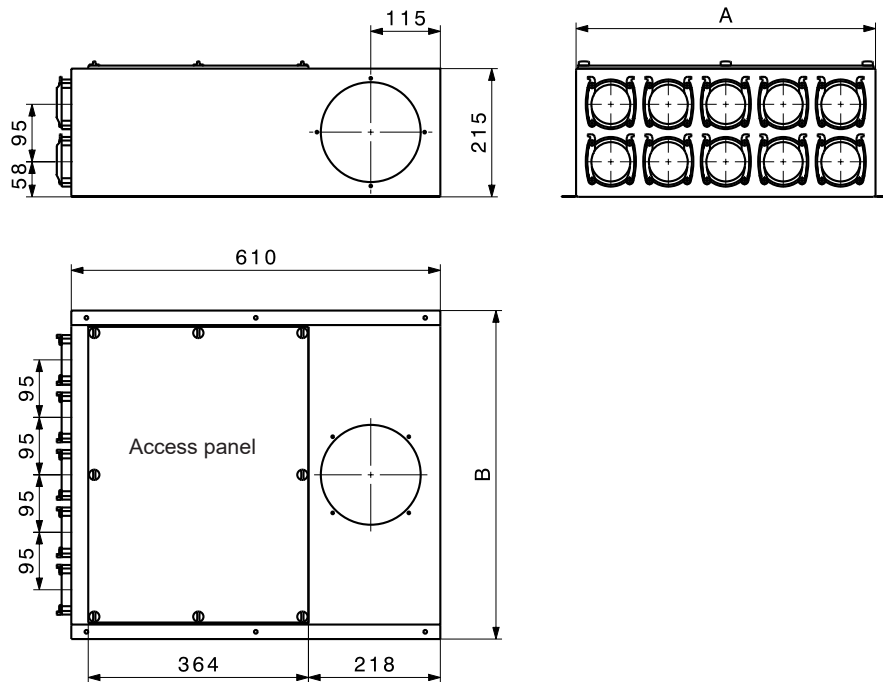
Connection nozzles:

2 x DN 160 supply and extract air

supply air 7 x DN 75 (4 x front and 3 x side)

extract air 7 x DN 75 (4 x front and 3 x side)

Distribution cases DN 160

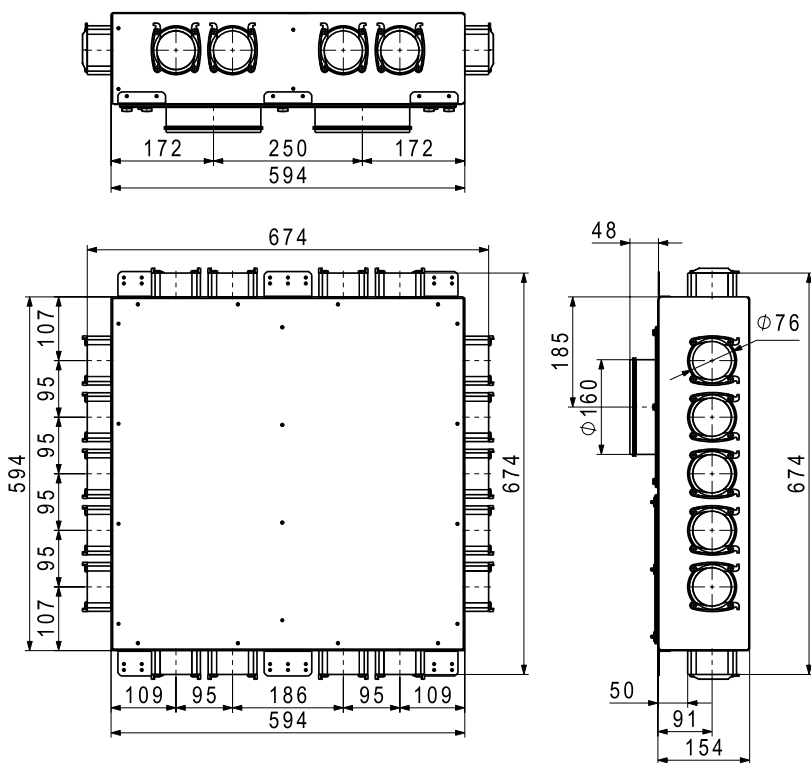


Distribution case for 6, 8 or 10 connections VK-160-75

This distribution case with an integrated silencer is used if the pipes can be arranged and laid centrally. Orifices for setting the air quantity per flexible pipe DN 75 (included in the scope of delivery).

In type VK, the DN 75 connections are on the end; the connection nozzle DN 160 is supplied and can be installed on the end, top or on the left or right side. The distribution case is suitable for on-wall installation.

Type	A	B	n
VK-160-75 x 6	305	355	6
VK-160-75 x 8	400	450	8
VK-160-75 x 10	495	545	10



Distribution box VTB-160 9 x 75

for concrete installation

Distribution box of aluzinc sheet with access panel (can be painted on site). Lined on the inside with sound absorbing material.

Connection nozzle:

2 x DN 160 (downward)

Supply air 9 x DN 75

(5 x side / 2 x front and rear each)

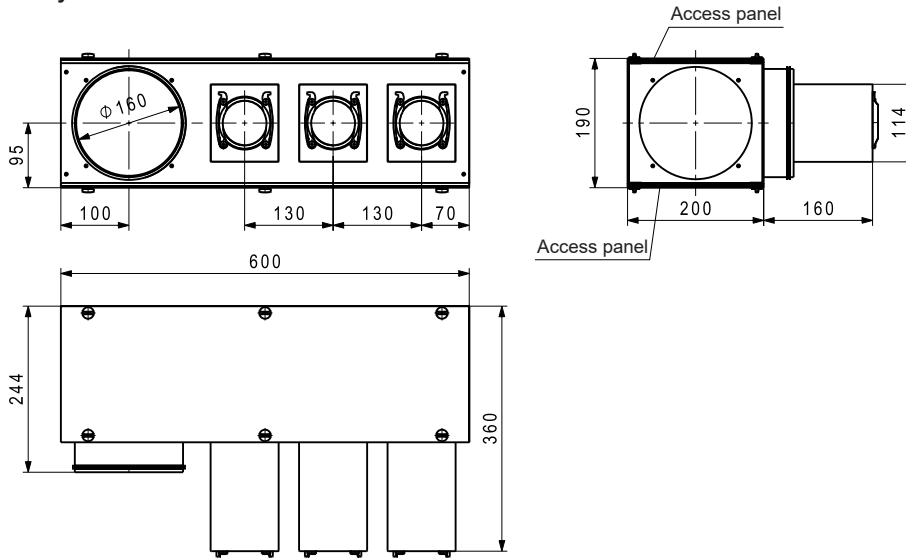
Extract air 9 x DN 75

(5 x side / 2 x front and rear each)

Consisting of: box, 6 connection brackets, 4 end caps, incl. throttle orifices.

Distribution cases DN 160

Storey distributor GVT-3



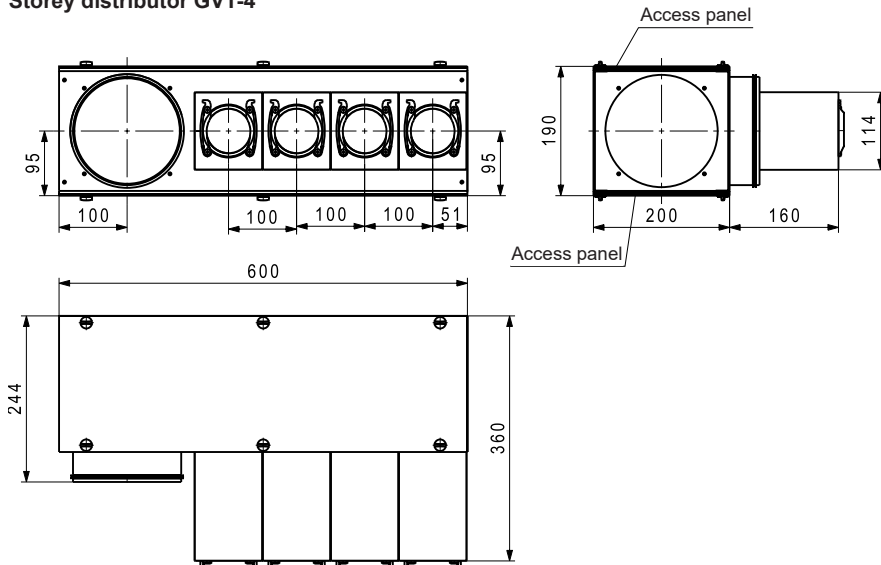
Storey distributor GVT-3 ... GVT-6

Storey distributor with 4 connection options for the main duct, incl. 2 connection nozzles DN 160, incl. 3 sealing caps DN 160. Flexible installation and easy cleaning of the pipes via the access panels on both sides. Orifices for setting the air quantity per flexible pipe DN 75 or DN 90 (included in the scope of delivery). Resonators for sound insulation. Material: Galvanised steel
Inside lining: Sound absorbing mat

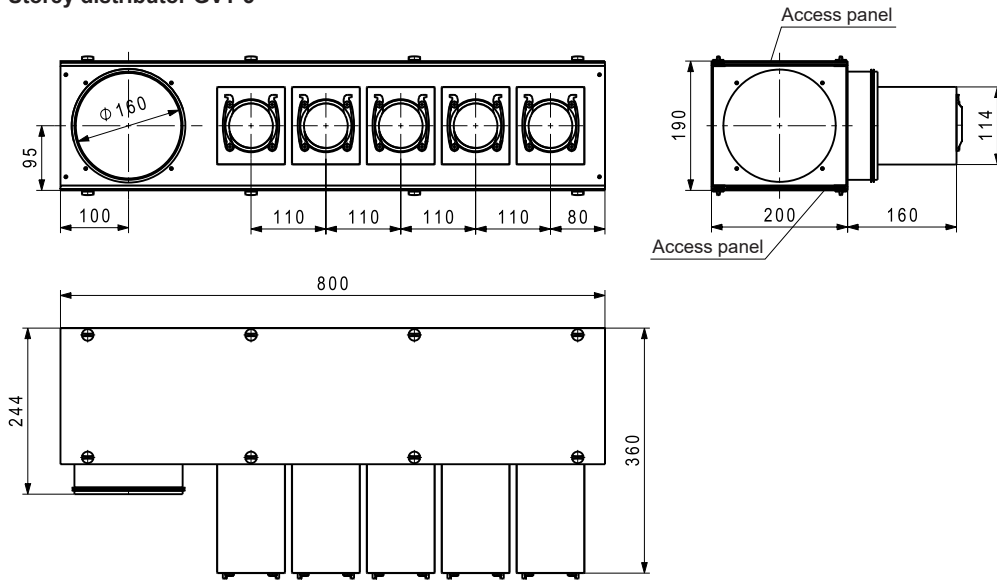
The mounting holder MH

for floor distributor GVT-3 ... GVT-6 must be ordered separately.

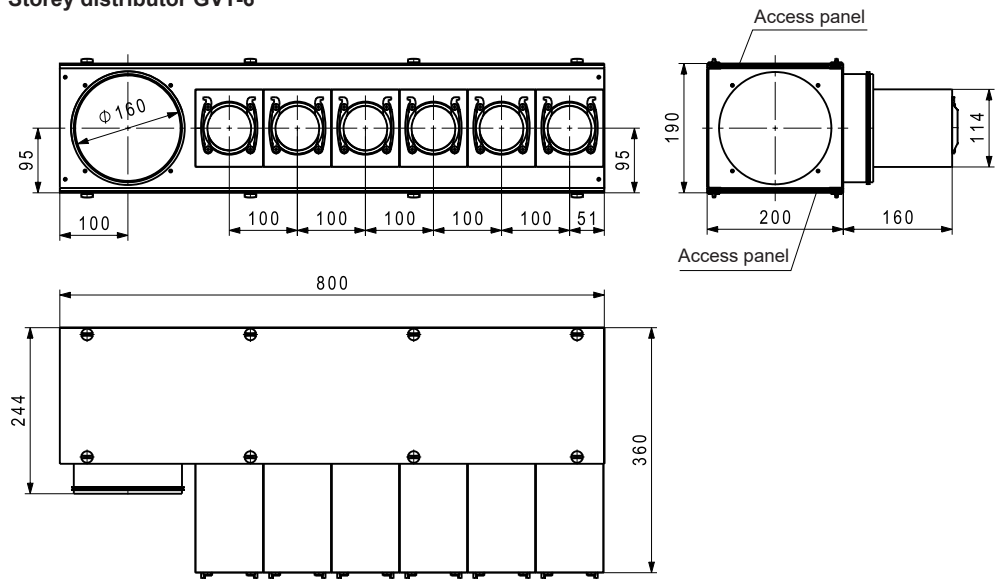
Storey distributor GVT-4



Storey distributor GVT-5

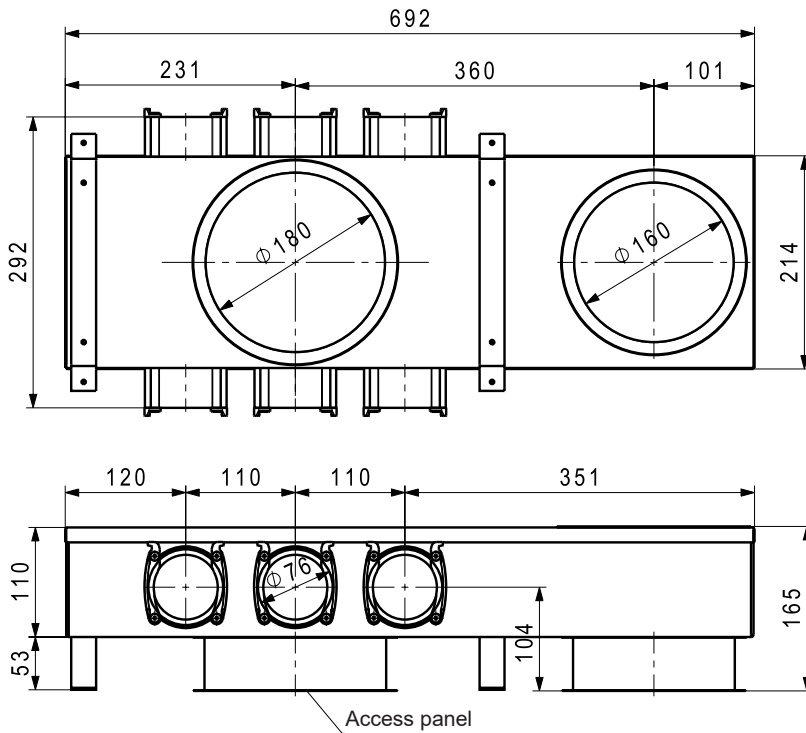


Storey distributor GVT-6



Distribution cases DN 160

UPVK 75 x 6

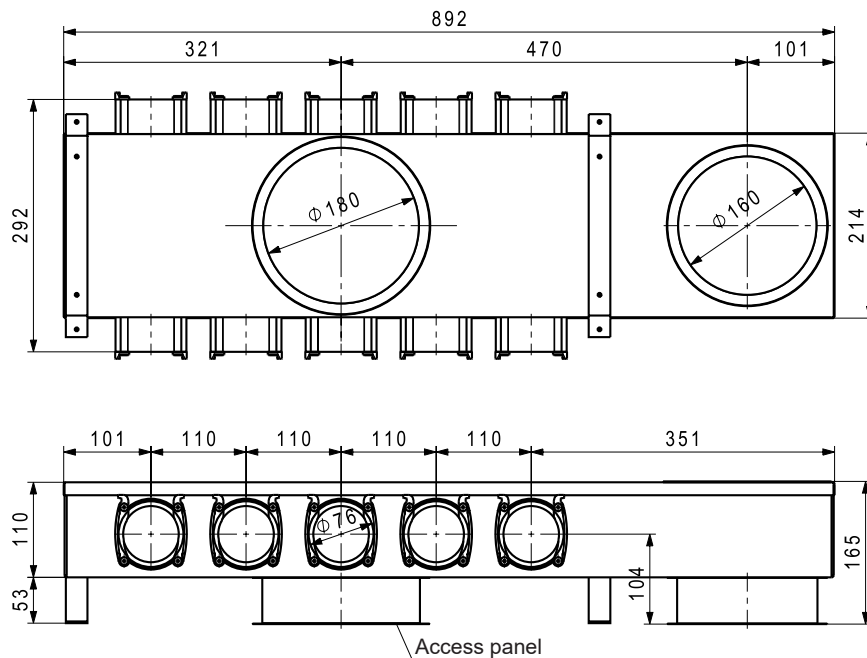


In-wall distribution case 75 x 6

for concrete installation

Distribution case of aluzinc sheet. With one connection nozzle DN 160 (upwards and downwards) and 2 x 3 nozzles DN 75 (lateral), incl. 2 end covers, 1 spigot DN 160, inside lining of sound insulating material, orifices for setting the air quantity per flexible pipe.

UPVK 75 x 10



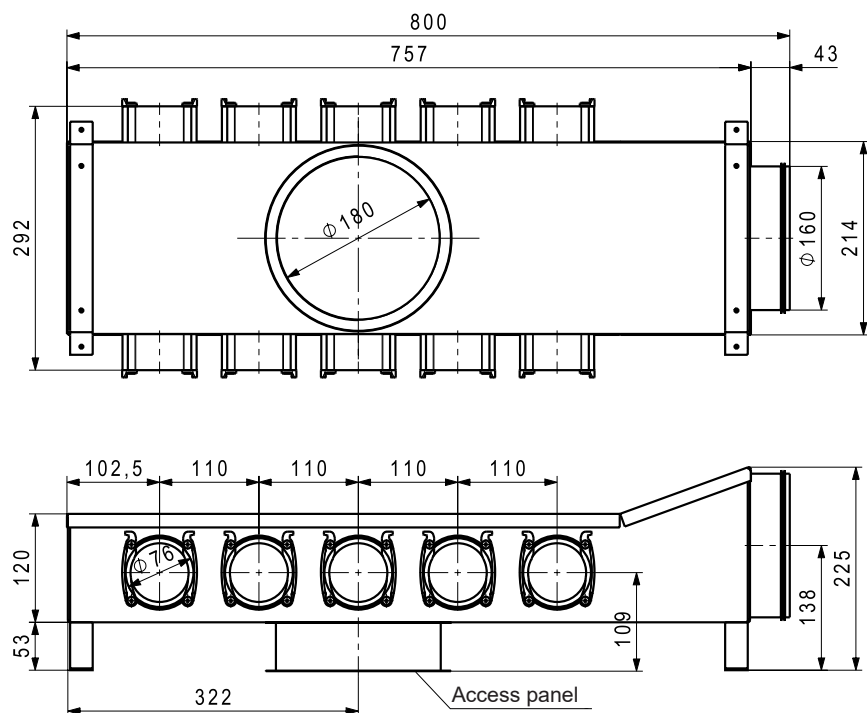
In-wall distribution case 75 x 10

for concrete installation

Distribution case of aluzinc sheet for encasing in concrete. With one connection nozzle DN 160 (upwards and downwards) and 2 x 5 nozzles DN 75 (lateral), incl. 4 end covers, 1 spigot DN 160, inside lining of sound insulating material. Orifices for setting the air quantity per flexible pipe.

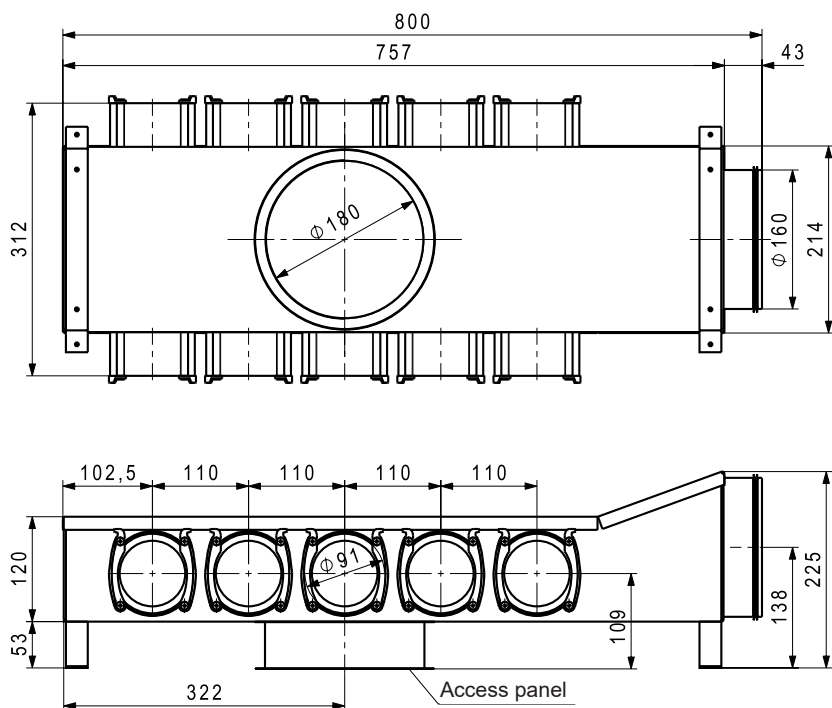
Distribution cases DN 160

In-wall distribution case UPVKS 75 x 10



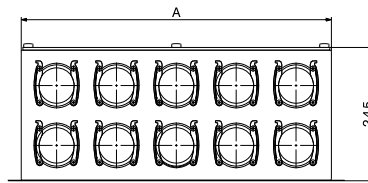
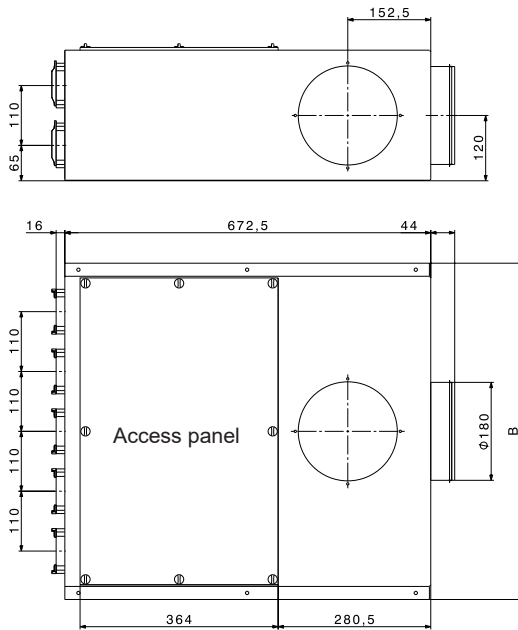
In-wall distribution case UPVKS 75 x 10 / 90 x 10
for concrete installation
Distribution case made from aluzinc sheet.
With one connection nozzle DN 160 (on face) and 2 x 5 nozzles DN 75 and DN 90 (lateral), incl. 4 end covers, inside lining of sound insulating material, incl. throttle orifices.

In-wall distribution case UPVKS 90 x 10



Distribution cases DN 180

Distribution case VK-180-75



Distribution case for 8, 10 or 12 connections
VK-180-75 resp. VK-180-90

This distribution case with an integrated silencer is used if the pipes can be arranged and laid centrally.

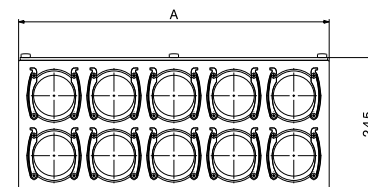
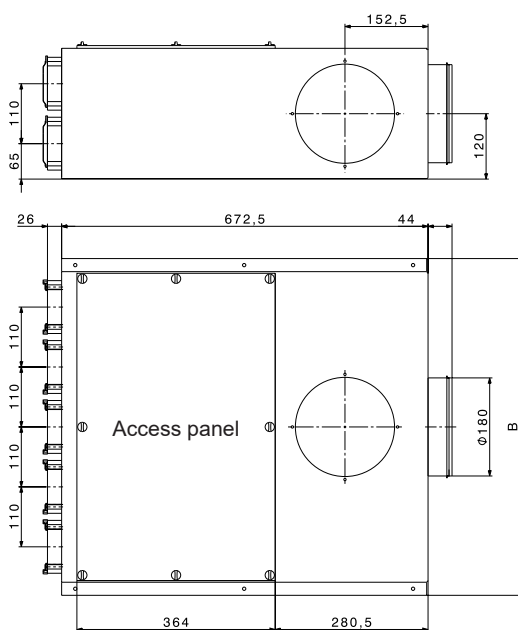
Incl. throttle orifices.

In type VK, the DN 75 resp. DN 90 connections are on the end; the connection nozzle DN 180 is supplied and can be installed on the end, top or on the left or right side. The distribution case is suitable for on-wall installation.

Dimensions distribution case
VK-180-75x..

type	A	B	n
VK-180-75 x 8	460	508	8
VK-180-75 x 10	570	618	10
VK-180-75 x 12	680	728	12

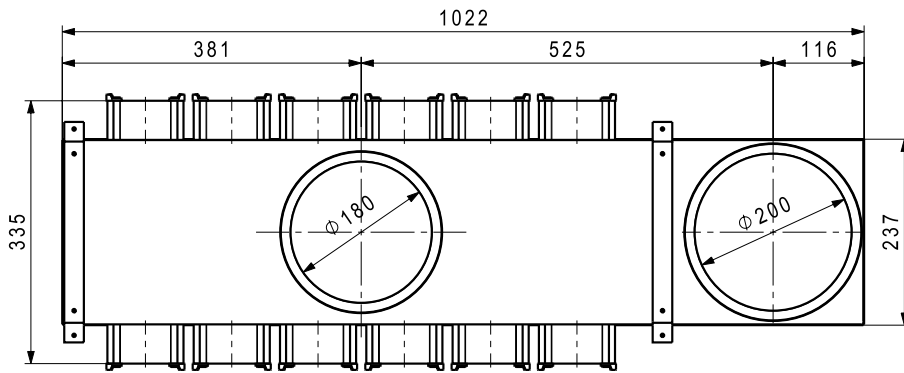
Distribution case VK-180-90



Dimensions distribution case
VK-180-90x..

type	A	B	n
VK-180-90 x 8	460	508	8
VK-180-90 x 10	570	618	10
VK-180-90 x 12	680	728	12

Distribution cases DN 200



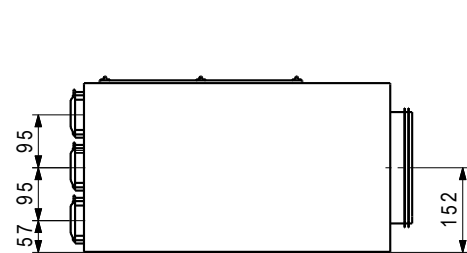
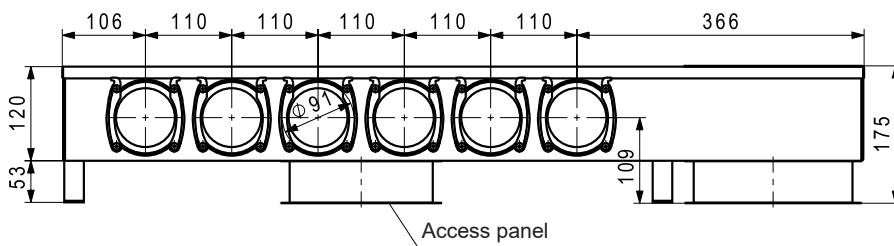
In-wall distribution cases UPVK-200 90 x 12
for concrete installation

Distribution case made from aluzinc sheet. Lined on the inside with sound absorbing material.

Connection nozzles:

2 x DN 200, 2 x 6 DN 90 (sideways).

Incl. end covers, 1 connection nozzle DN 200, incl. throttle orifices



Distribution case VK-200 75 x 15

Distribution case of aluzinc sheet with access panel.

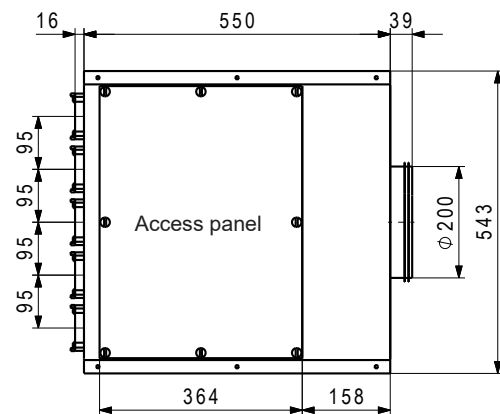
Inside with sound absorption block.

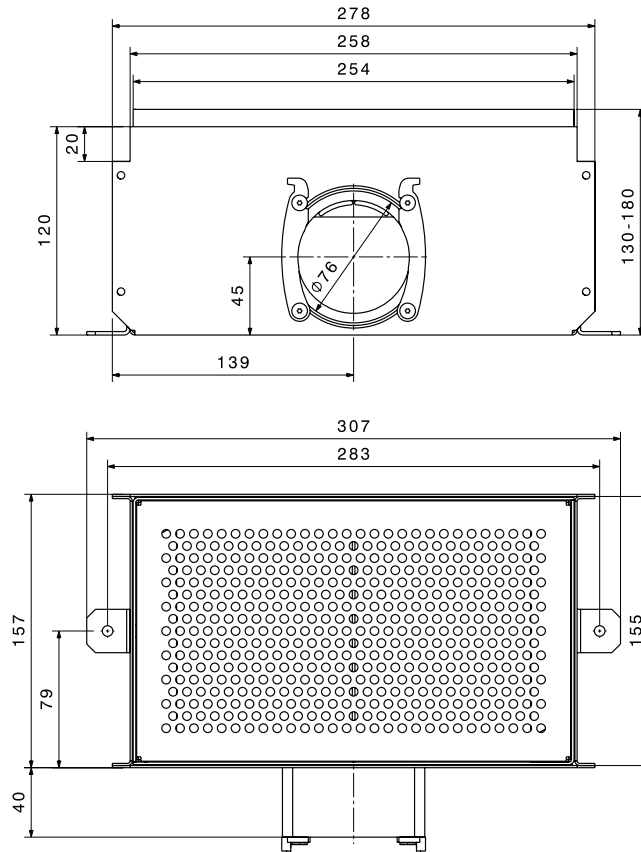
Connection nozzles:

1 x DN 200 (on the back)

15 x DN 75 (on the front)

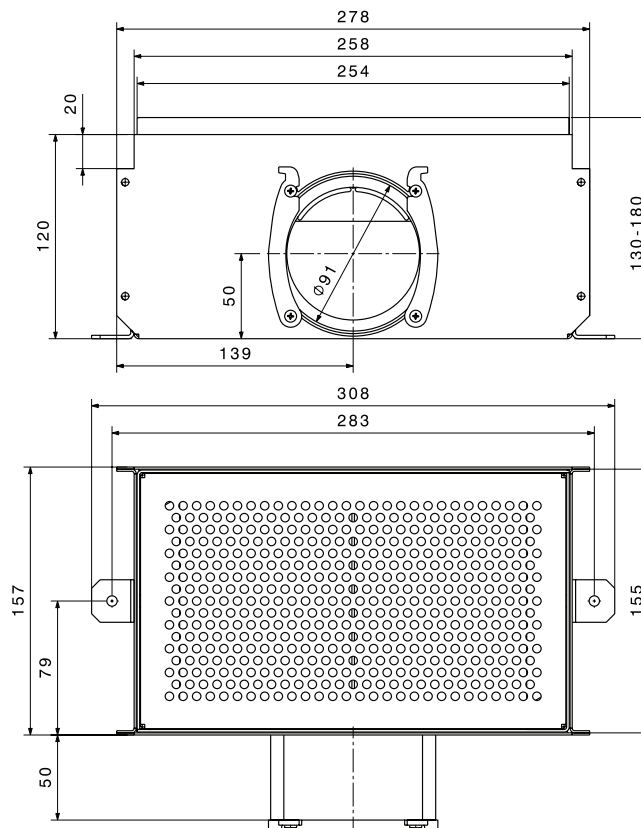
Incl. throttle orifices





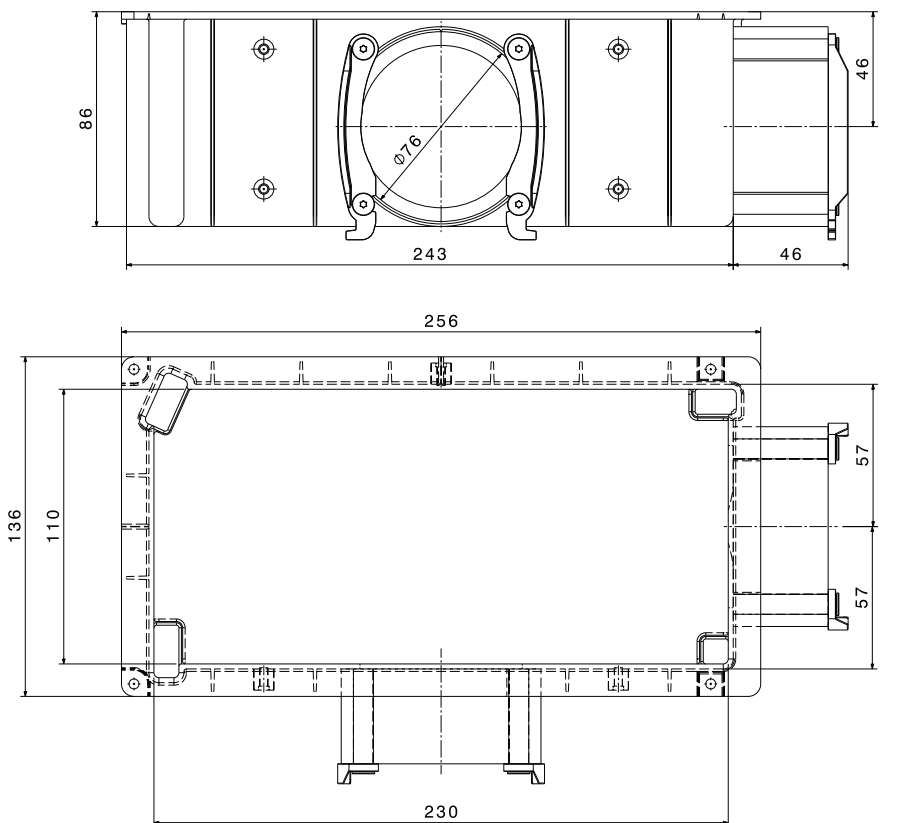
Floor grille BD-30-75

For installation in the floor structure, supply air flow rate 30 m³/h. Perforated stainless steel grille in an adjustable casing, height 130-180 mm, inner component of stainless steel with 3 contact points, outer component of aluzinc sheet with 2 fastening catches and one connection nozzle for flexible pipe FR-75. Only suitable for supply air.



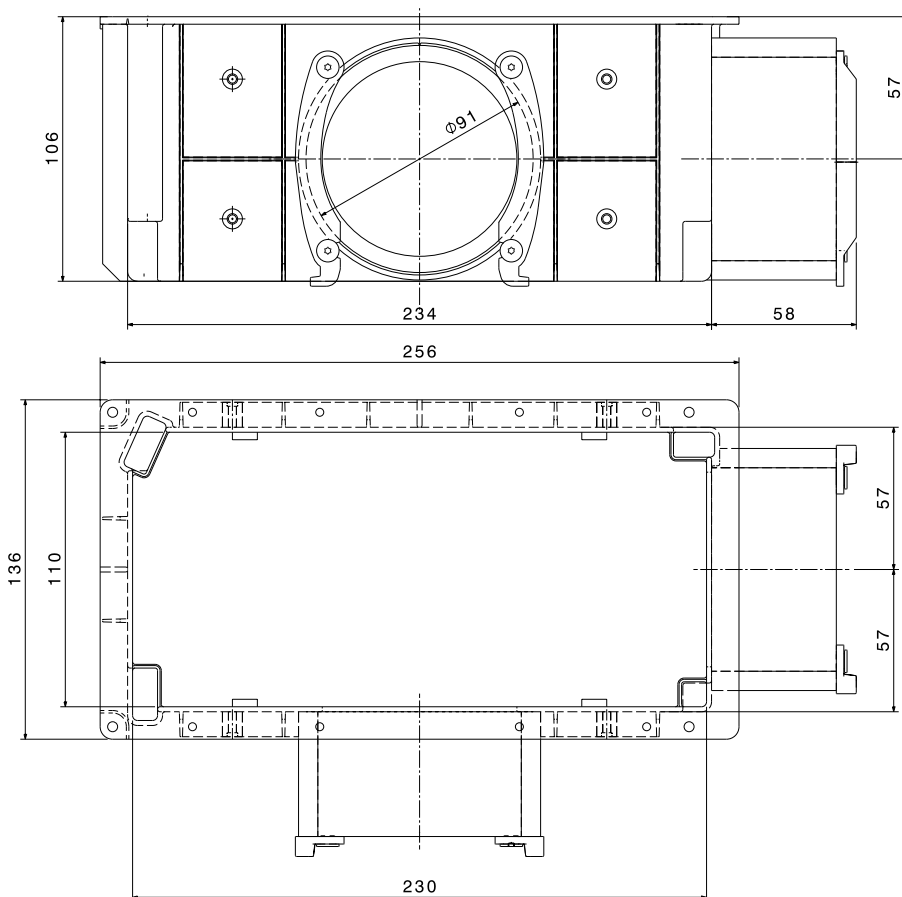
Floor grille BD-30-90

For installation in the floor structure, supply air flow rate 40 m³/h. Perforated stainless steel grille in an adjustable casing, height 130-180 mm, inner component of stainless steel with 3 contact points, outer component of aluzinc sheet with 2 fastening catches and one connection nozzle for flexible pipe FR-90. Only suitable for supply air.



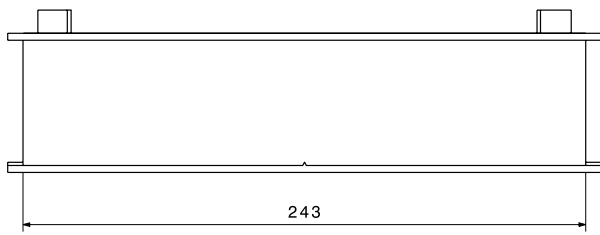
Connection housing AG-60

In combination with the design grilles. The extension allows fine adjustment of the grille (rotating) after installation. Suitable for installation in mass concrete, masonry walls or lightweight construction. Of plastic with 2 connection nozzles DN 75. Incl. fixing angles, sound absorbing mat and insert block as building protection cover and plastering aid.



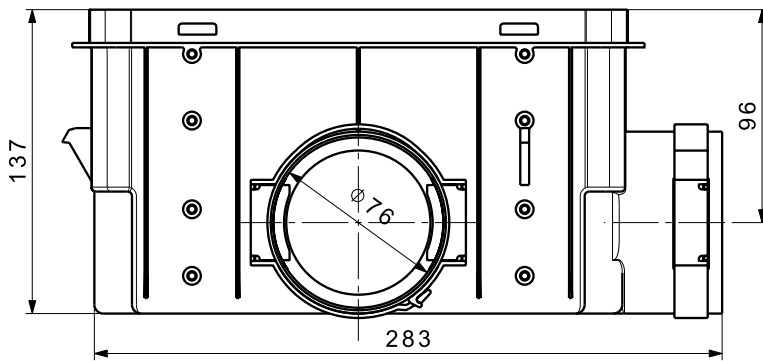
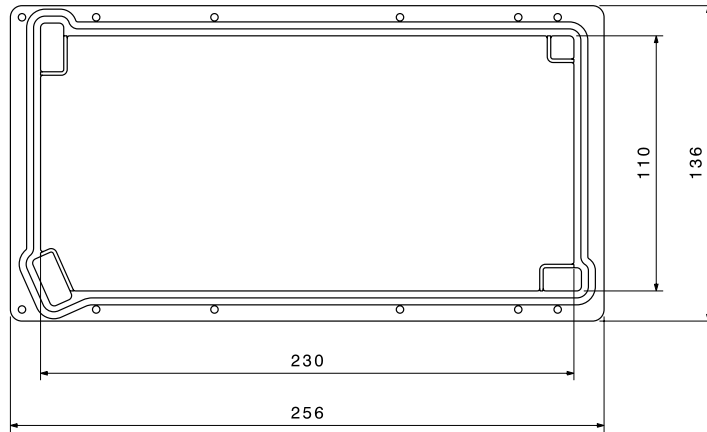
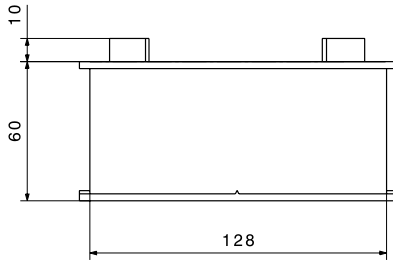
Connection housing AG-90

In combination with the design grilles. The housing allows fine adjustment of the grille (rotating) after installation. Suitable for installation in mass concrete, masonry walls or lightweight construction. Of plastic with 2 connection nozzles DN 90. Incl. fixing angles, sound insulation mat and insert block as building protection cover and plastering aid.



Extension VAG-60/VAG-90

For installation of AG-60 and AG-90 on the formwork panel. Extension permits precise grille alignment after installation.



Connection housing quick 75

for supply and extract air in combination with the design grilles. The housing allows fine adjustment of the grilles after installation. Plastic housing with 2 connection nozzles DN 75.

Very easy to mount, no nails in concrete after stripping.

Supply air:

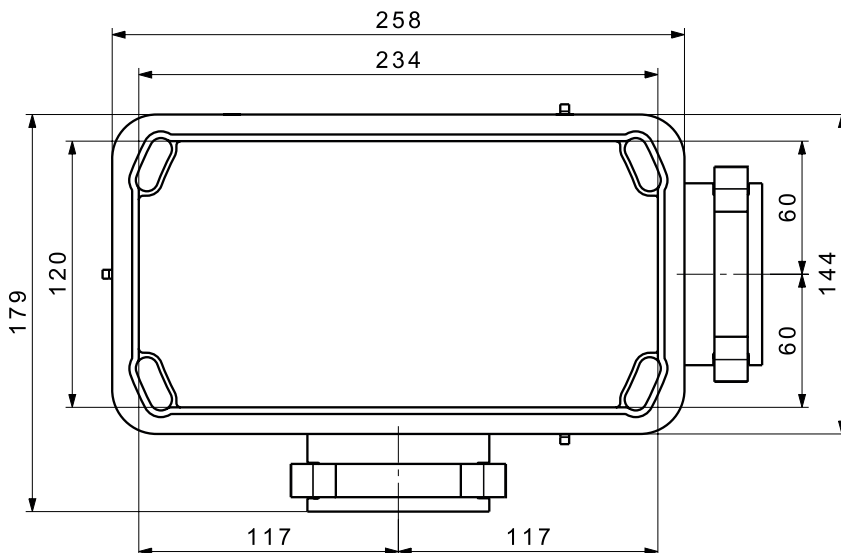
1 x DN 75 up to 30 m³/h

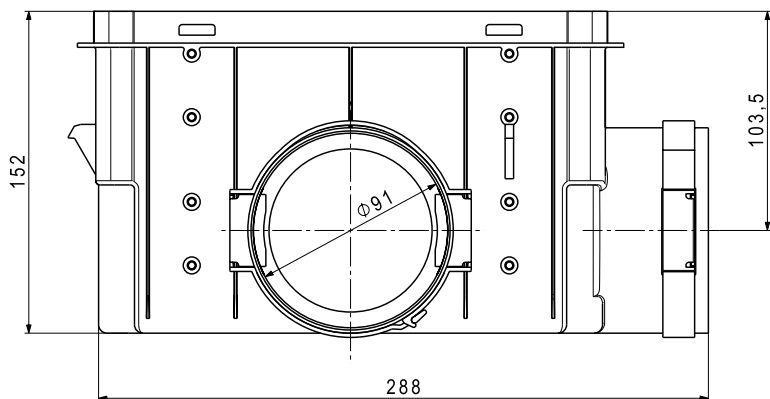
2 x DN 75 up to 40 m³/h

Extract air:

1 x DN 75 up to 30 m³/h

2 x DN 75 up to 60 m³/h





Connection housing quick 90

for supply and extract air in combination with the design grilles. The housing allows fine adjustment of the grilles after installation. Plastic housing with 2 connection nozzles DN 90.

Very easy to mount, no nails in concrete after stripping.

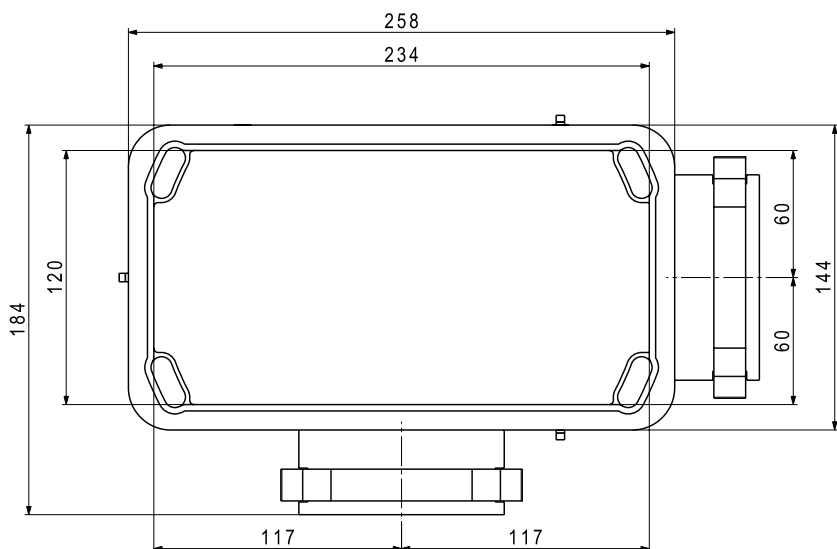
Supply air:

1 x DN 90 up to 40 m³/h

Extract air:

1 x DN 90 up to 60 m³/h

Suitable for installation in mass concrete

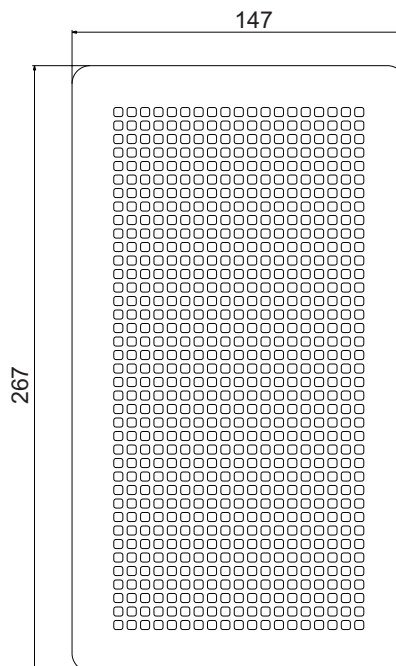
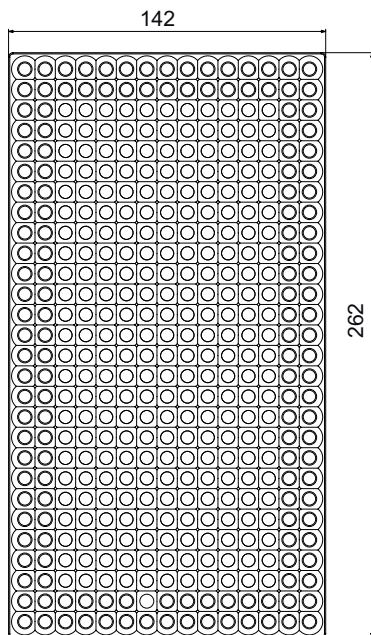


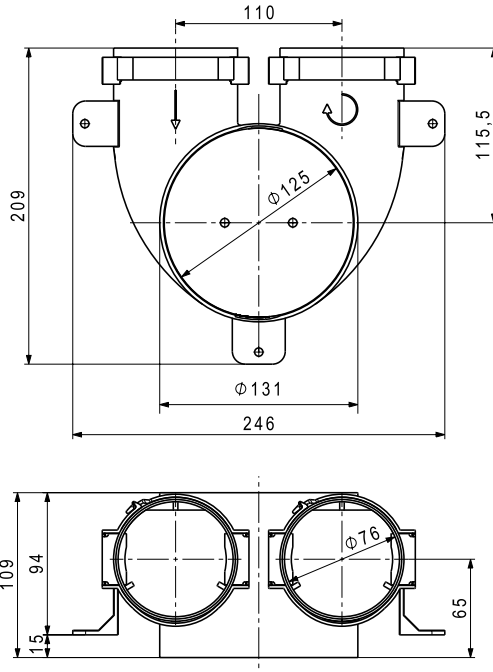
Design grille made of plastic

The grille is mounted on the connection housing AG-60 or the connection housing quick 75/90. There are four grille designs (Pazifik, Adria, Atlantik, Karibik). The outside dimensions are identical for all grilles. The wall/ceiling plaster must not exceed 30 mm.

Design grille made of metal

The grille is mounted on the connection housing AG-60 or the connection housing quick 75/90. There are four grille designs (Alvier, Sântis, Pizol, Pilatus) in two versions (brushed stainless steel or painted white RAL 9016). The outside dimensions are identical for all grilles. The wall/ceiling plaster must not exceed 30 mm.





Connection cylinder quick 75 short

For masonry, lightweight and wood construction. Plastic casing, two connections DN 75 incl. 1 stopper DN 75

Supply air:

1 x DN 75 up to 30 m³/h

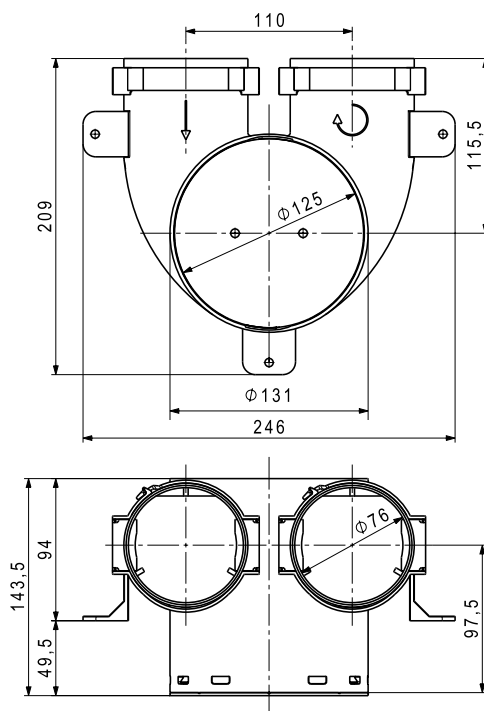
2 x DN 75 up to 40 m³/h

With tangential outlet only 1 x DN 75

Extract air:

1 x DN 75 up to 30 m³/h

2 x DN 75 up to 60 m³/h



Connection cylinder quick 75 medium

For element ceiling 60 mm, solid concrete. Plastic casing, two connections DN 75 incl. 1 stopper DN 75 and building protection cover

Supply air:

1 x DN 75 up to 30 m³/h

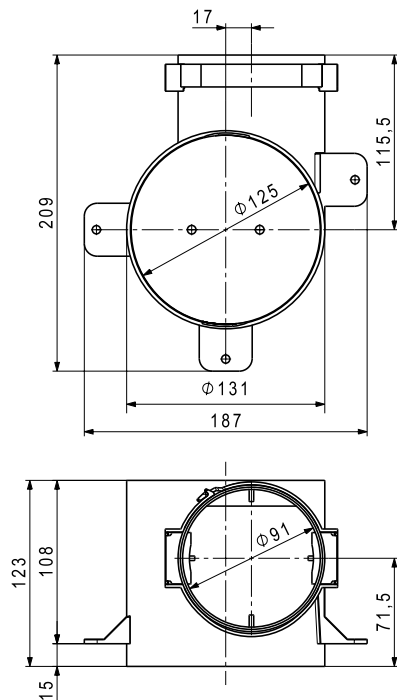
2 x DN 75 up to 40 m³/h

With tangential outlet only 1 x DN 75

Extract air:

1 x DN 75 up to 30 m³/h

2 x DN 75 up to 60 m³/h

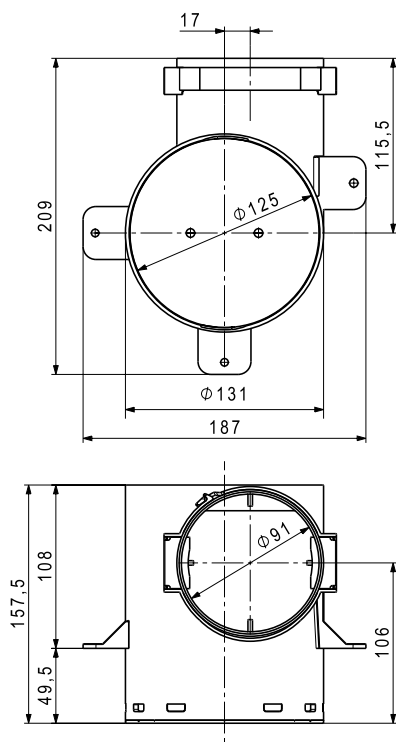


Connection cylinder quick 90 short

for masonry, lightweight and wood construction. Plastic casing, with connection DN 90

Supply air:
1 x DN 90 up to 40 m³/h

Extract air:
1 x DN 90 up to 60 m³/h



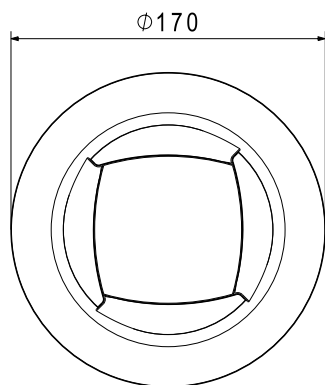
Connection cylinder quick 90 medium

for element ceiling up to 60 mm, solid concrete.

Plastic casing, with connection DN 90 incl. building protection cover

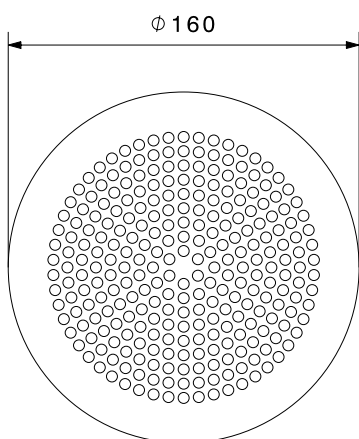
Supply air:
1 x DN 90 up to 40 m³/h

Extract air:
1 x DN 90 up to 60 m³/h



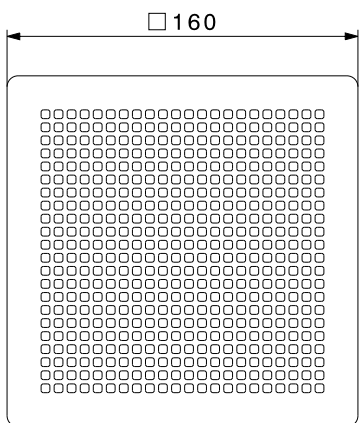
Design grille Tangential 125

suitable for:
 Connection cylinder quick 75 and 90 made of plastic, with plug-in connection.
 Colour: white RAL 9016, can be painted on site
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h



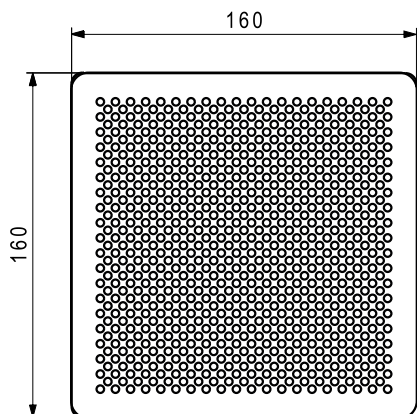
Stainless steel design grille Falknis

suitable for:
 Connection cylinder quick 75 and 90
 Brushed stainless steel
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h



Design grille Falknis painted white

suitable for:
 Connection cylinder quick 75 and 90
 Steel, painted white (RAL 9016)
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h



Stainless steel design grille Calanda

suitable for:
 Connection cylinder quick 75 and 90
 Brushed stainless steel
 With support for connection cylinder quick 75 and 90.
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

Design grille Calanda painted white

suitable for:
 Connection cylinder quick 75 and 90
 Steel, painted white (RAL 9016)
 With plug-in connection
 Supply air up to 40 m³/h
 Extract air up to 50 m³/h

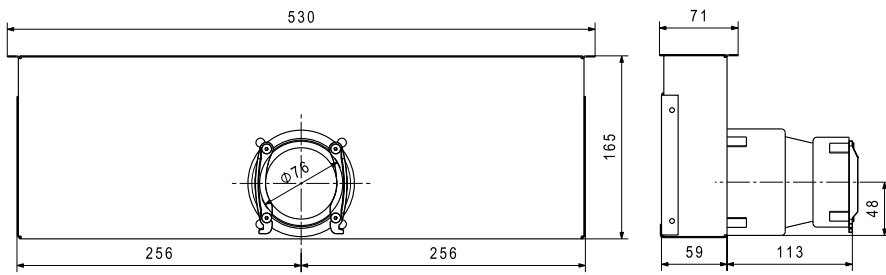
Design grille Rigi aluminium

Suitable for connection cylinder quick 75 and 90
 Aluminium sheet with flanged edges
 Surface: anodized brushed aluminium
 With holding fixture for connection cylinder quick 75 and 90.
 Supply air up to 40 m³/h
 Extract air up to 60 m³/h

Design grille Rigi white

Suitable for connection cylinder quick 75 and 90.
 Aluminium sheet with flanged edges
 Painted white (RAL 9016)
 With holding fixture for connection cylinder quick 75 and 90
 Supply air up to 40 m³/h
 Extract air up to 60 m³/h

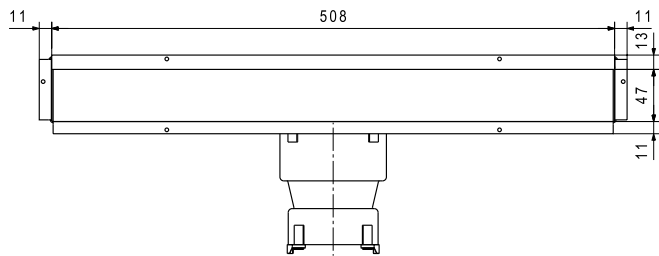
Connection box SD-75



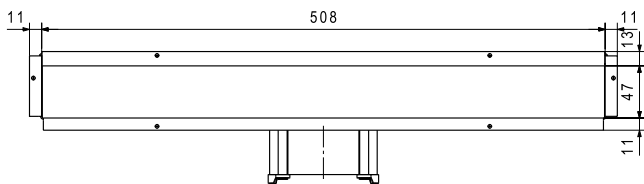
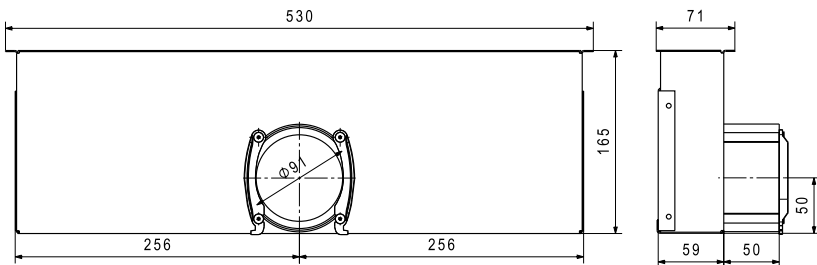
Connection box SD-75 and SD-90

The slit grille is used for linear supply air distribution. It can be set to one or two outlet sides when taken into service, as required (preset to two sides).

The flow rate is set in the distribution case.



Connection box SD-90



Relevant standards and regulations (incomplete)

- DIN 1946-T6: Controlled mechanical supply and extract air handling for apartments with heat recovery
- DIN 4109: Sound insulation in structural engineering
- DIN EN 779: 2012 Particulate air filters for general ventilation – determination of the filtration performance
- DIN 18017-T3: Ventilation of bathrooms and WCs without outside windows
- Energy Conservation Ordinance EnEV
- Ventilation System Guideline LÜAR

General

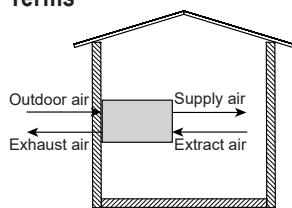
The following information is required for planning the comfort ventilation:

- Type, number, surface area and utilisation of the rooms included in the ventilation
- Floor plans and clear room heights
- Possible locations for routing distribution lines and outlets (ceiling, floor structure, outside wall, etc.)

One comfort ventilation device is only allowed to be used for one utilisation unit. The application limits must be complied with.

Fire protection requirements must be clarified with the responsible specialist. Normally (model building code), there are no special fire protection requirements within usage units with max. 2 dwelling units comprising in total less than 400 m² surface area and less than 7 m height. Living area ventilation units do not replace the drying out of the building. This should be completed by the time the living area ventilation is taken into operation.

Terms



Depending on the use to which they are put, rooms are divided into supply air, overflow and extract air areas (table 1). Rooms are only equipped with both supply and extract air ports in exceptional cases. Rooms equipped with comfort ventilation must be located within the thermal (insulated) building shell.

Table 1

Zone	Room use (examples)
Supply air zone	Bedroom, living room, nursery, dining room
Overflow zone	Corridor, hallway, stairway
Extract air zone	Bathroom, toilet, storage room, kitchen, hall

Flow rates

Necessary flow rates must be defined for a specific project on the basis of the current status of the relevant standards. Special requirements, e.g. concerning noise, moisture loads and temperatures must be taken into account. The following design recommendations are based on DIN 1946 part 6, although compliance with this standard must be examined on a case-by-case basis.

The largest of the flow rates described in the following 4 points is used as the basis for the nominal ventilation of the ventilation unit (e.g. total of all extract air flow rates).

The maximum air flow rate of the ventilation unit should be sufficient for intensive ventilation (1.3 x nominal ventilation at 170 Pa, for example).

1. A flow rate of 30 m³/h must be provided per person for the residential unit.
2. The area-related minimum flow rates in Table 2 must be complied with.
3. The flow rates in Table 3 must be guaranteed for extract air rooms.
4. The flow rates in Table 4 are recommended for supply air rooms.

Table 2

Relevant surface A _{NE} [m ²]	20	30	50	70	90	110	130	150	170	190	210
Nominal ventilation V _{R,NL} [m ³ /h]	35	45	65	80	100	115	125	140	150	155	165

Table 3: extract air

Room type	Extract air [m ³ /h]	n *
Kitchen, kitchenette	40	2
Bathroom, toilet with shower	40	2
Toilet	20	1
Utility room, hobby room	20	1

* n = usual number of flexible pipes

Table 4: supply air

Room type	Extract air [m ³ /h]	n *
Living room	40-50	2
Master bedroom (2 persons)	40	2
Nursery (1 person)	24	1
Office (private), dining room, guestroom	20	1

* n = usual number of flexible pipes

Supply/extract air

Only directly or indirectly heated rooms are included in the ventilation. All supply and extract lines should be routed within the insulated building envelope.

The position of the supply air, overflow air and extract air openings must be selected such that cross-ventilation occurs. Supply air openings must be positioned outside the occupied area, and in particular not above the head ends of beds, writing desks or couches.

Hoval normally uses round flexible pipes DN 75 or flat channels 100 as distribution lines. For noise and efficiency reasons, they should be 6 and 15 m long. The external pressure drops (outside + supply air or extract + exhaust air incl. distributor and silencer) should not be more than approx. 100 Pa for nominal ventilation. Hoval recommends complying with a maximum pressure drop of 40 Pa for the lines after the distributor (room-side). Flow rates in excess of 27 m³/h rated ventilation must therefore be distributed between 2 lines. In long line runs, it is necessary to carry out a corresponding calculation.

Distributors must be accessible for inserting the throttle orifices and for cleaning.

Lines between the ventilation unit and the supply air distributor or extract air manifold are normally routed with the diameter of the unit coupling. In cool rooms, they must be insulated.

Fresh/exhaust air

The fresh air inlet should be planned in such a way as to avoid the intake of pollutants and smells. It should be at least 2 m above ground and not close to garages or roads with heavy traffic.

The exhaust air outlet should be positioned in such a way that it cannot be drawn in by the outside air inlet. The horizontal distance should be at least 2 m (note the predominant wind direction).

The fresh and exhaust air lines must be insulated over their complete surface and be impervious to vapour diffusion so as to avoid condensation forming on surfaces (e.g. 25 mm EPDM). The insulation must be continued through the outer wall at least until shortly below the outside surface.

Silencers

Silencers suitable for the noise emissions of the ventilation units must always be positioned in the supply and extract air lines.

To avoid disturbance of neighbours or on your own patio, for example, it is recommended that silencers should be installed in the exhaust air and possibly also outside air lines.

Unit installation

The ER comfort ventilation units can be mounted in various different installation positions. (mounting on a wall/ceiling/floor, outside air top/bottom). The access panel is present on both sides for installation in opposite direction. The ERT ventilation units are always installed with the nozzles directed upwards. Vibration dampers (accessories) must be used for mounting in order to avoid noise transmission and to prevent distortion of the unit. The entire comfort ventilation unit as well as its integrated and add-on parts must be accessible for maintenance and servicing work.

The installation conditions in the technical data (temperature, humidity) must be complied with.

Operator terminal/wiring

The comfort air ventilation unit is configured ready-to-connect. For connection with the mains supply a 3 m long cable with plug is supplied. A 230 V mains socket should be provided close to the comfort ventilation unit in the electrical planning. The operator terminal should be installed so that it is visible (fault display, operation).

The comfort ventilation unit and operator terminal are connected by an 8-pin CAT 5 patch ribbon cable. A socket (RJ45) must be installed in the building close to the comfort ventilation unit and connected to the position of the operator terminal (RJ45 plug). The HomeVent® comfort ventilation unit is supplied with a 3 m long cable with an RJ45 plug for connecting the unit to the socket.

Combination with heating sources

When using ventilation systems together with heating sources, the chimney sweep must be consulted in advance.

Systems extracting air (e.g. cooker hood, ventilation system, central vacuum cleaner, extract air dryer) can give rise to negative pressures and cause hazardous flue gases to be drawn out of the heat source; as a result, a pressure monitor with design certification is generally required as a safety device. This interrupts the electrical power supply to the air extraction system if dangerous pressure conditions arise. The use of approved fire sources independent from the room air can prevent the flue gas being sucked out.

Services

Hoval will be happy to assist you in planning and taking the systems into operation.

IsiPipe and IsiPipe Plus air ducts made of EPP

- The IsiPipe EPP air ducts are joined via a connecting sleeve.
- To ensure tight sealing, the individual sections must be inserted into the sleeve as far as the stop. Tight sealing must be ensured even when individual sections expand or contract as a result of temperature fluctuations.
- The individual sections can be shortened (e.g. using a knife or a saw). When shortening sections, always cut at right angles and remove any residue from the pipe. Use an assembly device, e.g. pipe clamp.
- IsiPipe air ducts made of EPP must be accessible (must not be routed in the cable duct).
- IsiPipe air ducts made of EPP must be supported at regular intervals (approx. every 1.5 m) with pipe clamps.
- When installing accessory parts with a high dead weight, the weight must be supported so that there is no load on the IsiPipe air duct.
- Thermal bridges must be prevented at the junctions between IsiPipe air ducts and pipes or components made of another material, e.g. metal.

1. General

- 1.1 The following Terms and Conditions shall apply to all our present and future contracts for deliveries and other services (even if the said Terms and Conditions are not specifically mentioned in verbal, telephonic or fax communications).
- 1.2 All deviations from the present Terms and Conditions, ancillary verbal agreements and subsequent contractual amendments shall only be valid if they have been confirmed by us in writing.
- 1.3 Buying terms and conditions of the client shall not be valid even if they are not specifically rejected by us. Our Standard Terms and Conditions of Delivery shall be regarded as accepted at the latest upon receipt of our goods and services by the client.
- 1.4 If a provision of the present Terms and Conditions of Delivery proves to be wholly or partially invalid, the contracting parties shall replace the aforesaid provision by a new provision which comes as close as possible to the legal and economic intention of the invalid provision.

2. Offers

- 2.1 Our offers shall be subject to change without notice.
- 2.2 Orders shall only be regarded as accepted when they have been confirmed by us in writing.
- 2.3 Illustrations, drawings and all technical details in catalogues and printed material shall be approximate values as customary within the industry. They shall only be binding if specific reference is made to them in the contract. We shall also reserve the right to make technical and design changes after the conclusion of the contract.
- 2.4 Cost estimates, drawings and other documents shall remain our property and shall be subject to copyright protection; they may not be made available to third parties.

3. Regulations in the country of destination

- 3.1 At the latest at the time of the order, the buyer shall draw our attention to the regulations and standards in force in the country of destination relating to the design of the delivered goods and the operation thereof and also to the execution of services.
- 3.2 Our deliveries and services shall comply with the regulations and standards in the country of destination provided the buyer has drawn our attention thereto in accordance with Section 3.1.
- 3.3 The buyer shall duly inform us of any special application features of goods ordered from us if these differ from our general recommendations.

4. Prices

- 4.1 Our prices shall be ex works, net, excluding packaging.
- 4.2 All ancillary costs, e.g. freight, insurance, export, transit, import and other approvals, licenses and authentications, shall be for the account of the buyer. The buyer shall also bear all taxes, charges, customs duty, etc., which are levied in connection with the contract.
- 4.3 We shall reserve the right to make price adjustments if wage rates or material prices change between the date of the order confirmation and the contractual performance of the contract. Price increases shall normally be notified three months in advance. We shall be bound to the price stated in the order confirmation for a period of three months after the effective date of the price increase.

5. Payment terms

- 5.1 Unless otherwise agreed in writing, our invoices shall be payable within thirty days with no cash discount. Payment shall be deemed to have been made when the amount in question is at our unrestricted disposal on our account in Swiss Franks.
- 5.2 Payment dates shall be observed even if any delays whatsoever occur after shipment of the goods from our works. The buyer shall not be permitted to reduce or withhold payments on account of complaints or counterclaims not recognised by us.
- 5.3 Payments shall also be made if insignificant components are missing but usage of the delivered goods is not rendered impossible as a result or if rectification work has to be carried out on the delivery. We shall be entitled to reject rectification of the defect as long as the buyer has not discharged his/its obligations to us.
- 5.4 If the buyer fails to comply with the agreed payment dates, default interest shall be paid from the agreed due date without a reminder being issued; the aforesaid interest shall be based on the interest rates prevailing at the domicile of the buyer, but shall be not less than four percent above the current discount rate of the Swiss Central Bank.
- 5.5 We shall be entitled to make deliveries of pending orders dependent upon settlement of outstanding claims.

6. Reservation of title

- 6.1 Delivered goods shall remain our property (reserved goods) pending full and complete payment of all present and future claims to which we are entitled regardless of their legal cause. This shall also apply if payments are made in settlement of specifically designated claims.
- 6.2 The buyer shall be entitled to process and sell reserved goods in the ordinary course of business.
- 6.3 If our reserved goods are combined or intermingled with other goods, the buyer shall hereby transfer his/its ownership rights in the new goods or chattels to us upon the conclusion of the contract in the amount of the invoice value of the reserved goods.
- 6.4 If the goods are resold by the buyer, he/it shall hereby transfer to us upon the conclusion of the contract with us his/its claims arising from the aforesaid resale in the amount of the invoice value of the reserved goods.
- 6.5 If the reserved goods are used by the buyer to perform a works or works delivery contract, his/its claim from the aforesaid works or works delivery contract shall hereby be assigned to us in the same amount and on the same date as for the purchase price claim (Section 6.4).
- 6.6 As long as he/it is honouring his/its payment obligations, the buyer shall, however, be authorised to collect his/its resale claim which has been assigned to us. He/it may not dispose of such claims by way of assignment to third parties, however. The empowerment of the buyer to collect the claim may be revoked by us at any time. We shall be entitled to notify third party debtors of the assignment. The buyer shall be entitled to provide us with the necessary information and documents in order to enable us to enforce our rights.
- 6.7 If the value of our securities exceeds our total claims by more than 10 %, we shall be obliged to release securities of our choice at the request of the buyer.
- 6.8 The buyer shall inform us immediately of any pledge or other impediment to our property enforced by third parties.
- 6.9 The buyer shall be obliged to collaborate in measures required to protect our title. He/it shall, in particular, empower us upon the conclusion of the contract to make entries or prior notice of the reservation of title at his/its cost in public registers, books and documents, etc., in accordance with the relevant national laws and shall perform all formalities in this respect.
- 6.10 The buyer shall maintain the reserved goods at his/its cost for the duration of the reservation of title and shall insure the said goods against theft, breakage, fire, water and other risks in our favour. He/it shall also take all steps to ensure that our property claims are neither adversely affected nor rescinded.

7. Delivery periods

- 7.1 Delivery periods and deadlines stated by us shall be approximate unless we have given an express written confirmation of a deadline as binding.
- 7.2 Delivery periods shall be deemed to have been met if notification of readiness to deliver has been sent to the buyer before the end of the delivery period.
- 7.3 The delivery period shall be prolonged if details required for the performance of the contract are not received on time or if they are subsequently changed by the buyer.
- 7.4 The delivery period shall also be reasonably prolonged if impediments arise which we cannot avert despite exercise of the necessary care (e.g. major operational disruptions, industrial disputes, delayed or defective deliveries, force majeure, etc.).
- 7.5 If an agreed delivery date is met by more than 14 days, the buyer shall be obliged to set us a reasonable period of grace. The buyer may only withdraw from the contract if our goods have not been delivered by the end of the said period of grace. Compensation claims for non-performance, delayed performance or any consequential losses shall be excluded unless there was gross negligence on our part.

8. Transfer of risk

- 8.1 Unless expressly agreed otherwise in writing, our "ex works" deliveries shall be made in accordance with the international rules on the interpretation of commercial clauses of the International Chamber of Commerce (Incoterms) in the version in force on the date of the order confirmation.
- 8.2 The transfer of risk shall be determined by the aforesaid Incoterms.
- 8.3 Insurance against damages of any kind shall be the responsibility of the buyer.

- 8.4 Complaints in connection with the transport shall be immediately notified by the buyer to the last carrier upon receipt of the delivery.
- 8.5 If despatch is delayed at the request of the buyer or for any other reasons not attributable to us, the risk shall pass to the buyer on the original date envisaged for the "ex works" delivery. We shall be entitled to demand payment from this date onwards.
- 9. Delivery inspection**
- 9.1 The buyer shall be required to inspect deliveries immediately. If the goods do not comply with the order or the delivery note or if visible defects are identified, he/it shall be obliged to notify the aforesaid to us in writing within eight days of receipt. Later complaints shall not be recognised. (Re transport damages, cf. Section 8.4)
- 10. Assembly and operations**
- 10.1 The assembly, putting into operation, operation and maintenance of the delivered goods shall be carried out in accordance with our guidelines. They may be executed by our staff or by appropriately trained third parties as agreed with the buyer.
- 10.2 If we require a commissioning certificate for certain product groups, warranty claims for the proper functioning of the equipment can only be enforced if a proper hand-over has been documented by a confirmed commissioning certificate received by us within one month of the hand-over.
- 11. Warranty**
- 11.1 Warranty period
- 11.1.1 The general warranty period shall be 12 months from the first commissioning but no longer than 18 months from the date on which the relevant goods left our works.
If despatch is delayed for reasons not attributable to us, the warranty shall lapse no later than 18 months after notification of the readiness to deliver.
The general warranty period shall exclude electrical components for which the warranty period shall be 6 months from the first commissioning but no later than 12 months from the date of shipment from our works.
- 11.1.2 We refer to Section 11.6.1 with regard to the warranty period for third party products.
- 11.1.3 The warranty period for components which we have repaired during the warranty period or have delivered as replacement shall be 12 months from the completion of our repair or from the date of the replacement delivery but no longer than the end of a period equivalent to twice the original warranty period as per Section 11.1.1.
- 11.2 Liability for material, design and workmanship defects
- 11.2.1 The contractual condition of the goods shall be based on the condition upon the transfer of risk.
- 11.2.2 Defects shall be notified to us immediately in writing.
- 11.2.3 We shall be liable for all components which can be shown to have become defective or unusable before the end of the warranty period as a result of defective materials, defective design or defective workmanship, with such components being repaired or replaced ex works immediately at our choice.
- 11.3 Liability for warranted qualities
- 11.3.1 Warranted qualities shall only be those which are specifically designated as such in the order confirmation or in the relevant specifications.
- 11.3.2 The aforesaid assurance shall apply at the latest until the end of the warranty period. If a taking-over test has been agreed with the buyer, the assurance shall be deemed as performed if proof of the relevant qualities is furnished during the aforesaid test.
- 11.3.3 If the warranted qualities are not performed or only partially performed, the buyer shall be entitled to an immediate rectification. The buyer shall grant us the necessary time and opportunity for this purpose.
- 11.3.4 If the rectification is abortive or only partially successful, the buyer shall be entitled to a reasonable reduction of the purchase price. If the defect is so serious that it cannot be rectified within a reasonable period of time, and if deliveries or services for the notified purpose are not usable or are only usable to a much lesser extent, the buyer shall be entitled to refuse acceptance of the defective component or to withdraw from the contract if part-acceptance is economically unreasonable. We shall only be obliged to refund amounts which have been paid to us for the components affected by the aforesaid withdrawal.
- 11.4 Exclusion of liability for defects
- 11.4.1 Our liability shall exclude damages which cannot be proved to have been sustained as a result of defective material, defective design or defective workmanship.
- 11.4.2 Damages shall therefore be excluded for example which were caused by
- improper work of other persons with regard to planning, site preparation, assembly, operation and maintenance;
 - plant concepts and designs which do not comply with the latest state of the art;
 - non-observance of our guidelines for planning, assembly, commissioning, operations and maintenance;
 - force majeure (e.g. thunderstorms).
- 11.4.3 The following shall be excluded in particular
- corrosion damages (e.g. as a result of aggressive water, unsuitable water treatment, oxygen intakes, emptying the plant over a longer period of time, falling below the dew point, chemical or electrochemical effects, etc.);
 - damages caused by air pollution (e.g. the accumulation of intense dust, aggressive vapours, etc.);
 - damages caused by unsuitable equipment and fuels;
 - damages caused by overcharging, excessive water pressure, scaling, improper electrical connections and inadequate fuse protection.
- 11.4.4 Components shall also be excluded from the warranty which are subject to natural wear and tear (e.g. burner nozzles, combustion chamber inserts, ignition and monitoring components in contact with fire, fireclay and wall facings, fuses, seals and flexible tubes).
- 11.5 Commissioning certificate
- 11.5.1 We hereby draw attention to the due and proper hand-over and - if envisaged - the commissioning certificate in accordance with Section 10.2 as prerequisites for our warranty.
- 11.6 Deliveries and services of sub-contractors
- 11.6.1 Our liability for third party products which form a major part of the delivered goods (e.g. warehouse and conveying equipment, burners, measuring and control equipment, electrical components, flue gas and waste water cleaning equipment) shall - if permissible - be limited to an assignment of our claims against the suppliers of the said third party products.
- 12. Exclusion of further liability**
- 12.1 The buyer shall have no rights and claims for materials, design and workmanship defects or the lack of warranted qualities unless specifically mentioned in Sections 11.1 to 11.6.
- 12.2 All claims for compensation, reduction in the contract price, rescission of the contract or withdrawal from the contract shall be excluded in particular unless these are specifically mentioned. Under no circumstances shall the buyer have any compensation claim for damages which were not sustained by the delivered goods themselves (e.g. replacement costs, cost for establishing the cause of the damage, expertises, production stoppages, production losses, lost orders, lost profit and other direct or indirect damages). The aforesaid liability exclusion shall not apply in the event of gross negligence on our part.
- 12.3 The exclusion as per Section 12.2 shall apply for all breaches of contract and all claims of the buyer regardless of why they were lodged from a legal point of view. It shall therefore also apply for a breach of any ancillary obligations (e.g. inadequate advice, etc.).
- 13. Jurisdiction**
- 13.1 The place of jurisdiction for the buyer and for us shall be Vaduz. We shall be entitled to bring action against the buyer at his/its domicile, however.
- 13.2 The legal relationship between the parties shall be governed by the substantive laws of Switzerland. The application of the UN convention on contracts for the international sale of goods (CISG) shall be excluded.