



# Nordic CL 2/3/4

ART.NO. 800200, 800201, 800210, 800211, 800220, 800221

**EN**

## INSTALLATION INSTRUCTIONS

Air handling unit



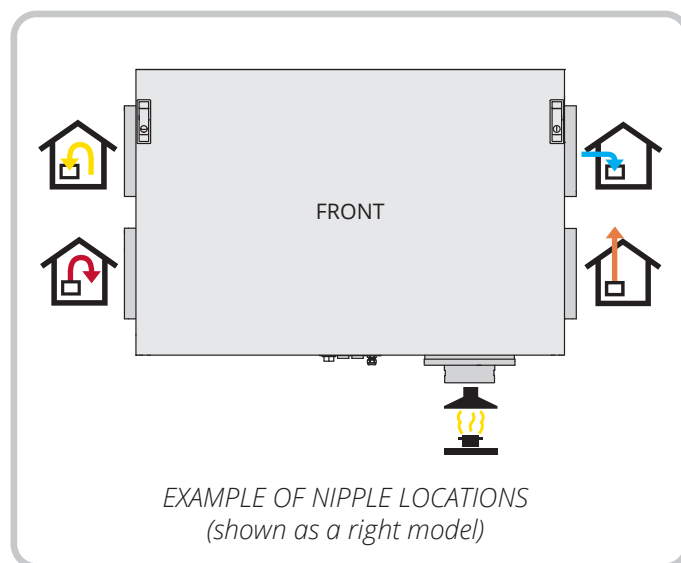
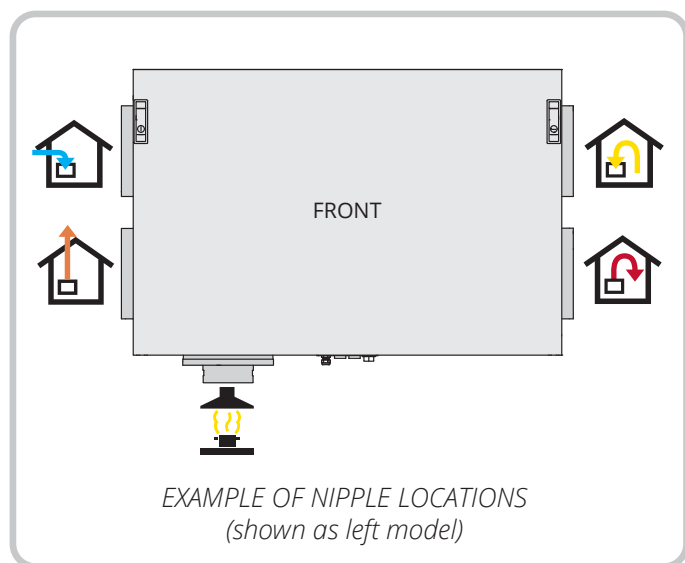
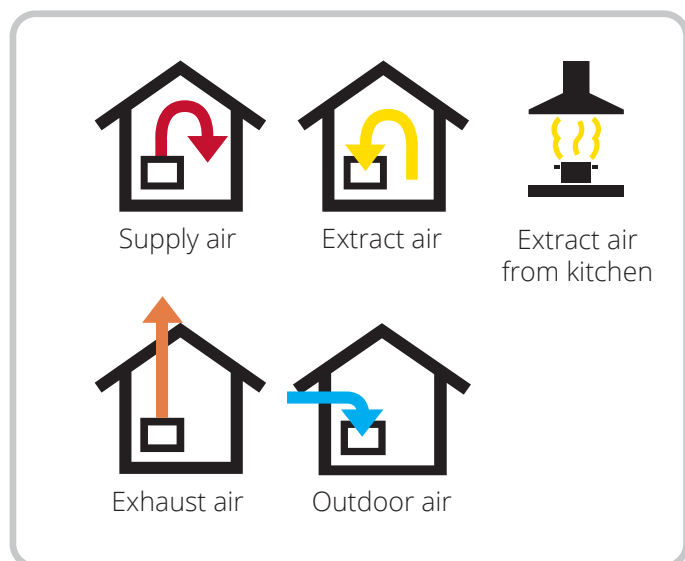



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### Symbols used


These products bear a number of symbols used for labelling the actual product and in installation and user documentation.



 **DANGER!** When a text box is this colour, it means that a life-threatening or serious personal injury may be the consequence of not following the instructions.

 **NOTICE!** When a text box is this colour, it means that a poor utilisation ratio or product operating issues may be the consequence of not following the instructions.

 **CAUTION!** When a text box is this colour, it means that material damage may be the consequence of not following the instructions.

 **INFO!** When a text box is this colour, it means that it contains important information.



## SAFETY INSTRUCTIONS



- To avoid the risk of fire, electric shock or injury, read all the safety instructions and warning texts before using the unit.
- All electrical connections must be carried out by qualified electricians.
- If the power lead is damaged, it must be replaced by the manufacturer, the manufacturer's service agent or a similarly qualified person.
- The unit must not be used to extract combustible or flammable gases.
- It is the installer's responsibility to carry out a full safety and function assessment of the appliance.
- Before opening the door: switch off the heat, let the fans continue for 3 minutes to remove hot air, unplug the unit and wait 2 minutes before opening the doors, as the unit contains elements that must not be touched when hot.
- This appliance may be used by children of 8 years or above or by persons with reduced sensory capacity or reduced physical or mental capacity, or by persons lacking experience or knowledge, provided they have received instruction in the safe use of the appliance or are supervised to ensure safe use and providing they are aware of the risks.
- The product is not suitable for use by children. Children must not be allowed to play with the appliance. Children must not carry out cleaning or maintenance without supervision.



- This unit is only designed for ventilation air in homes and commercial buildings.
- To maintain a good indoor climate, comply with regulations and avoid condensation damage, the unit must never be stopped apart from during service/ maintenance or in connection with an accident.
- The unit must not be operated without the filters being in place.
- All plumbing work must be carried out by an authorised plumber.
- The location of the water battery must be approved by a plumber owing to the risk of water leaks.



- Tumble dryers must not be connected to the unit.
- The room must have a separate, adequate air supply when products such as gas cookers, gas heaters, fireplaces, wood-burning stoves, oil-fired boilers, etc., are used.

## 1. Planning and preparation work

### 1.1. JOINER/FITTER

#### Airflow

Check that the air moves from rooms with supply air valves to rooms with extract air valves.

#### Kitchen

If the kitchen fan is designed with a motor, sufficient supply air must be ensured. See chap.5.1. Installation of external kitchen fan on page 22 and chap.5.2. Adjusting the kitchen fan on page 22 for more information.

#### Fireplace

When using the fireplace suitable supply air must be ensured.

#### Location in the building

Location of the unit on an internal wall requires insulation of the wall, interrupted studs and boards, and double plasterboard or a wall structure of similar quality (see chap.2.4. Wall mounting on page 14).



Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

#### Suspension of unit

For screws, sufficient noggings (min. 48 x 98 mm) are required between studs. See chap.2. Installation on page 7.

#### Access

The unit must have good access for service/maintenance. See chap.2.2.1. Positioning requirements for ceiling mounting on page 8, chap.2.4.1. Positioning requirements for wall mounting on page 14 or chap.2.5.2. Space requirements for floor mounting on page 19 for details.

#### Fire requirements

Any fire safety requirements must be clarified.

The positioning of heat sources must be coordinated with extract air valves so that heat is not sucked straight out through a valve or door gap.

### 1.2. ELECTRICIAN

#### Power supply

The units have a 2-metre cable with plug and require a single-phase earthed socket nearby. Plug requirements: 10 A.

It is important for the plug and electrical connections to be accessible for servicing when the unit is fully installed.



The unit must be installed with an earth fault breaker. We recommend a separate circuit for the unit.



Ensure there is servicing access to electrical bushings. See the dimensioned drawing for exact location.

#### Internet access:

The unit should be connected to the internet. A conduit of at least Ø20 mm must be laid between the unit and the home's router for the network cable.

#### For use with a control panel:

Lay a Ø20 mm conduit for running the cable for controlling the unit between the unit and an easily accessible place in the home (e.g. outside the bathroom) and terminate with a flush-mounted single wall box. Locate the control panel here. The control cable must be located min. 30 cm away from any power cables. The control cable must be max. 24 metres long to ensure a signal.

#### For use with accessories:

Lay a Ø16 mm conduit between the unit and the location of the accessory in question (kitchen fan, pressure relay, etc.).

**NB!** The PG nipple for the power cable must be tightened with a torque of 2.0 Nm if the cable is replaced.

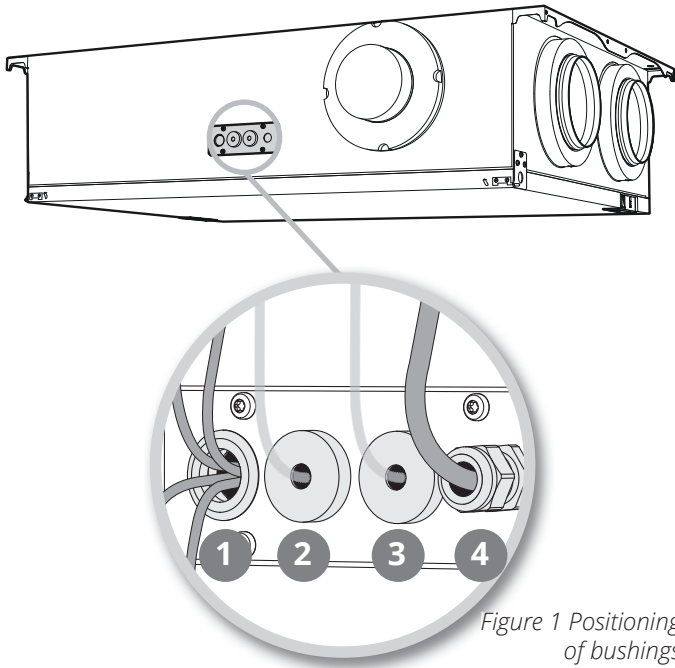


Figure 1 Positioning of bushings for electrical conductors



The installation instructions for the individual products must be followed.

For more information on automatic control see [www.flexit.com](http://www.flexit.com) or the manual for Flexit GO and the control panel (116081).

	Cable type
1	Network cable
	Cable for control panel (CI-70)
	3-core cable (for e.g. kitchen fan) (DI1&DI2)
	Modbus cable (Modbus)
2	Not in use (accessory)
3	Not in use (accessory)
4	Power cable, unit

For exact positioning of the electrical bushings, see chap.10. Dimensioned drawing on page 29.

## 2. Installation

The unit can be installed in the following ways:

1. On the ceiling.
2. On the wall (mounting is available as an accessory)
3. Horizontally on the floor (absorption feet are available as an accessory or use damping blocks supplied with the ceiling suspension)
4. Vertically on the floor (absorption feet are available as an accessory or use damping blocks supplied with the ceiling suspension)

The CL2, CL3 and CL4 is available in both a right and a left version, depending on what best matches the duct location.

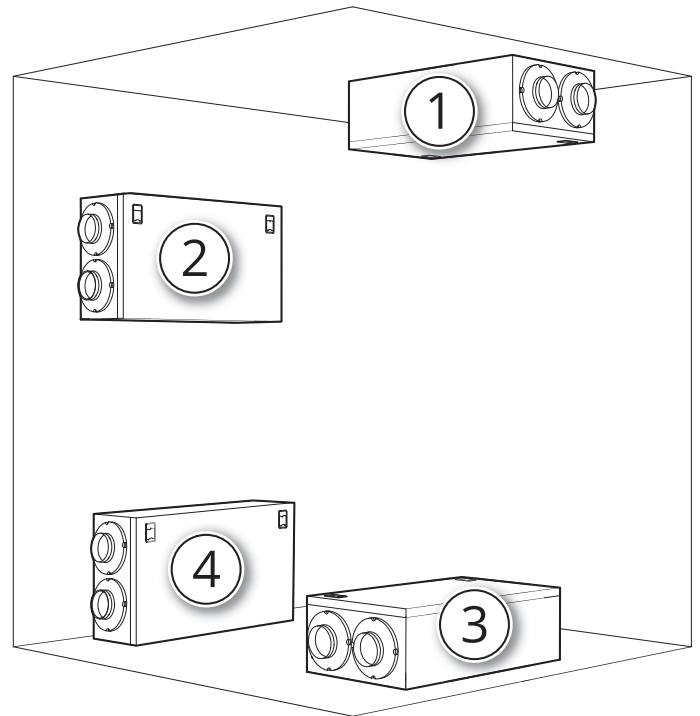
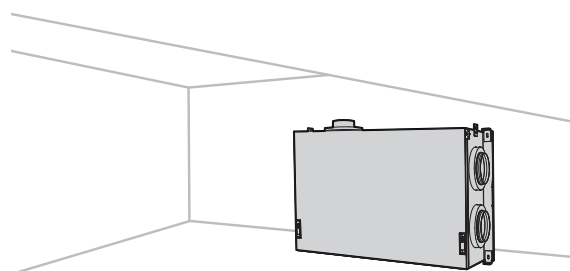


Figure 2 Location options



The unit can be located in a cold zone such as the loft.

## 2.1. WHAT IS INCLUDED?

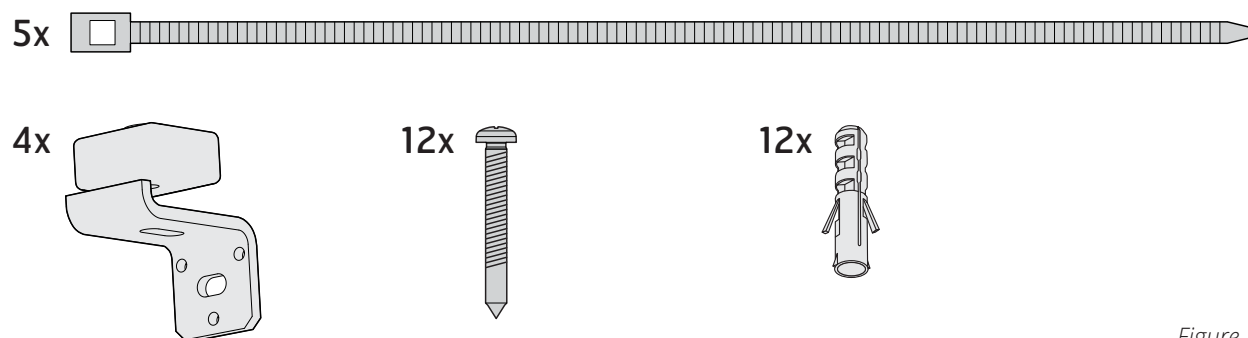


Figure 3 What is included?

## 2.2. CEILING MOUNTING



A unit installed for ceiling mounting meets enclosure protection class IP21.

### 2.2.1. Positioning requirements for ceiling mounting

The unit is designed to be installed in boiler rooms, laundry rooms, stores or other suitable areas. The unit can be in a cold location.



Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

The unit should be positioned in such a way that there is no danger of noise nuisance in nearby rooms.

- If the unit is located in a warm room where a lot of moisture is generated, condensation may form on the outside of the unit during periods when the outside temperature is low.

The base should be stable and level.



### 2.2.2. Space requirements for ceiling mounting

The unit must be installed with suitable space for servicing and maintenance such as filter replacement and cleaning of fans and recovery system. See Figure 4 Space requirements for ceiling mounting.

These are minimum requirements and only take service needs into account.

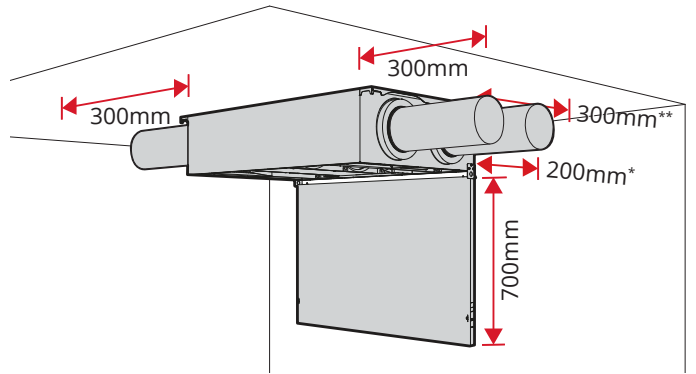
It may be desirable to turn the unit door. See chap.2.4.2. Turning the door on page 15.

All electrical conductors from the unit must be easily accessible when the unit is fully installed.

**i** Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.



Ensure there is servicing access to electrical bushings. See the dimensioned drawing for exact location.



\* space required for access to electrical bushings

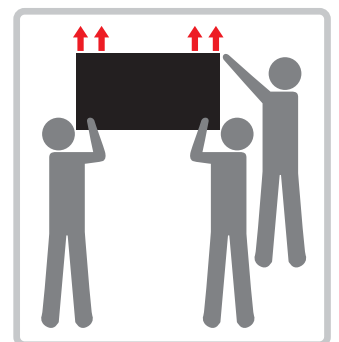
\*\* space required if a kitchen fan duct is to be connected

Figure 4 Space requirements for ceiling mounting

### 2.3. HEAVY COMPONENTS

We recommend using a lift/manual lifting table for ceiling mounting. We also recommend wearing a hard hat.

**!** Be aware that some of the unit's components are heavy.



### 2.3.1. Top mounting

If it is necessary to pre-drill the mounting surface, see Figure 5 Holes, top mounting for dimensions. Select fixings that are suitable for the mounting surface.



The fixings must be suitable for the unit's weight of 59 kg.



The unit types may vary in the illustrations.

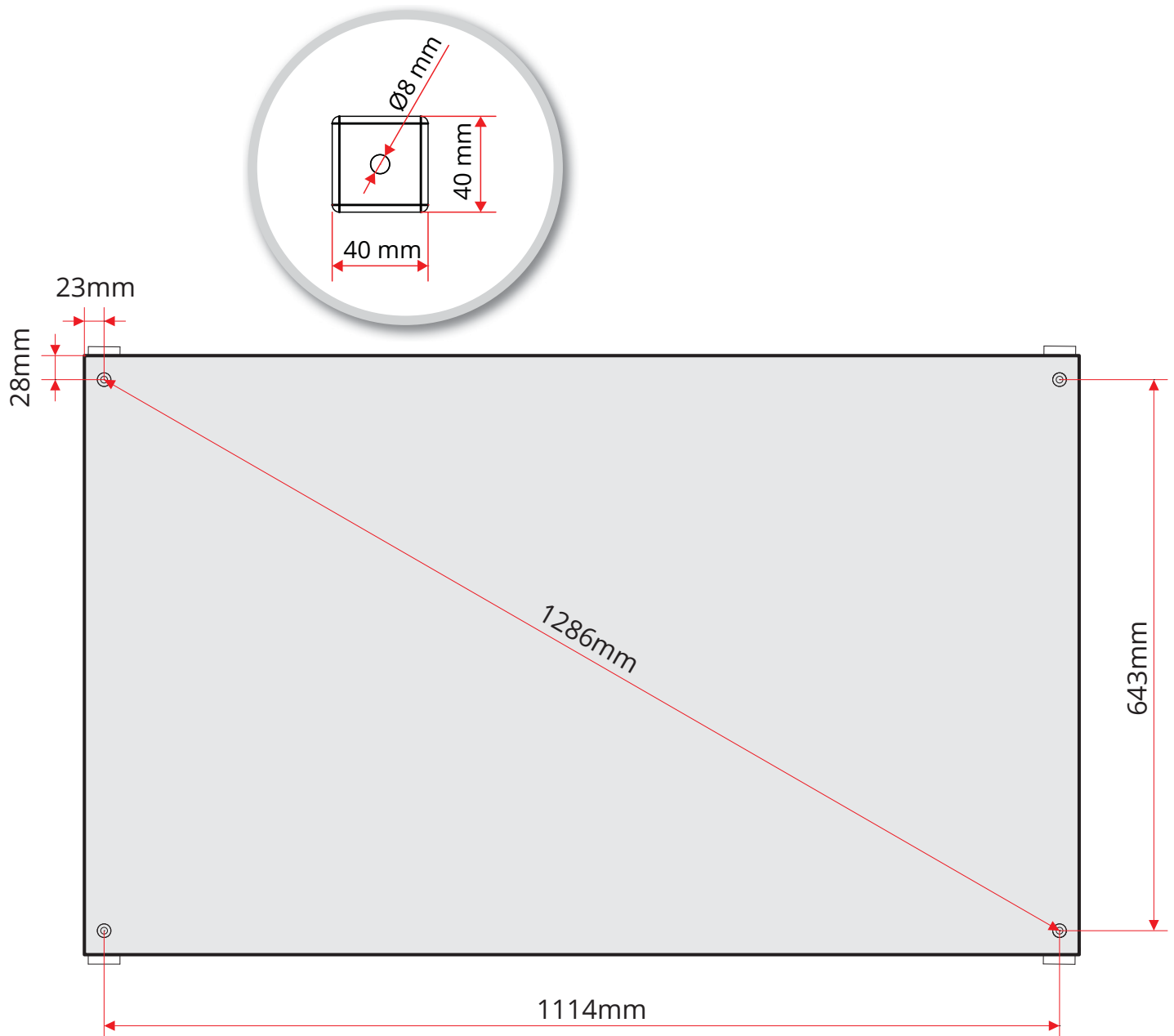


Figure 5 Holes, top mounting

Using suitable screws, screw through the holes in the mounting bracket, damping block and the unit's back panel.

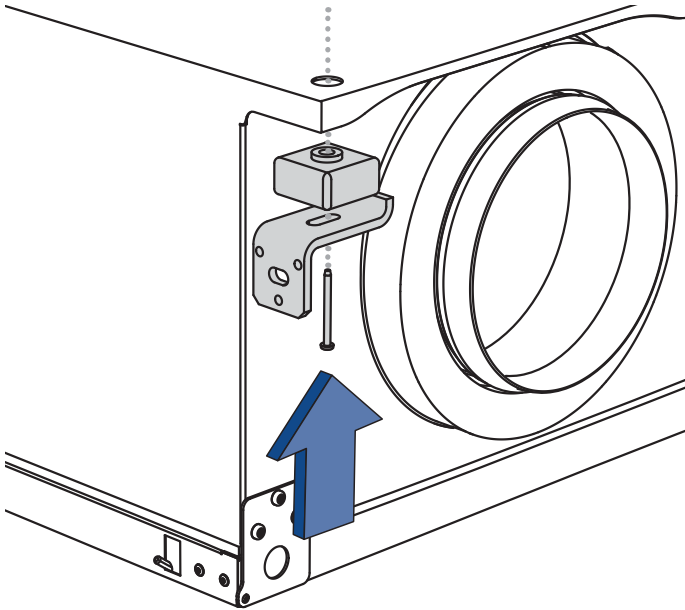


Figure 6 Mounting bracket, top mounting



The unit must always be mounted with at least a 3 mm gap to the mounting surface to prevent structure-borne sound.

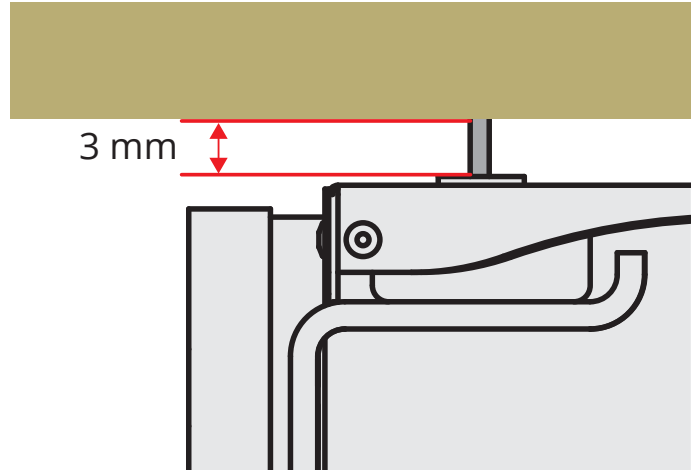


Figure 7 Gap to mounting surface

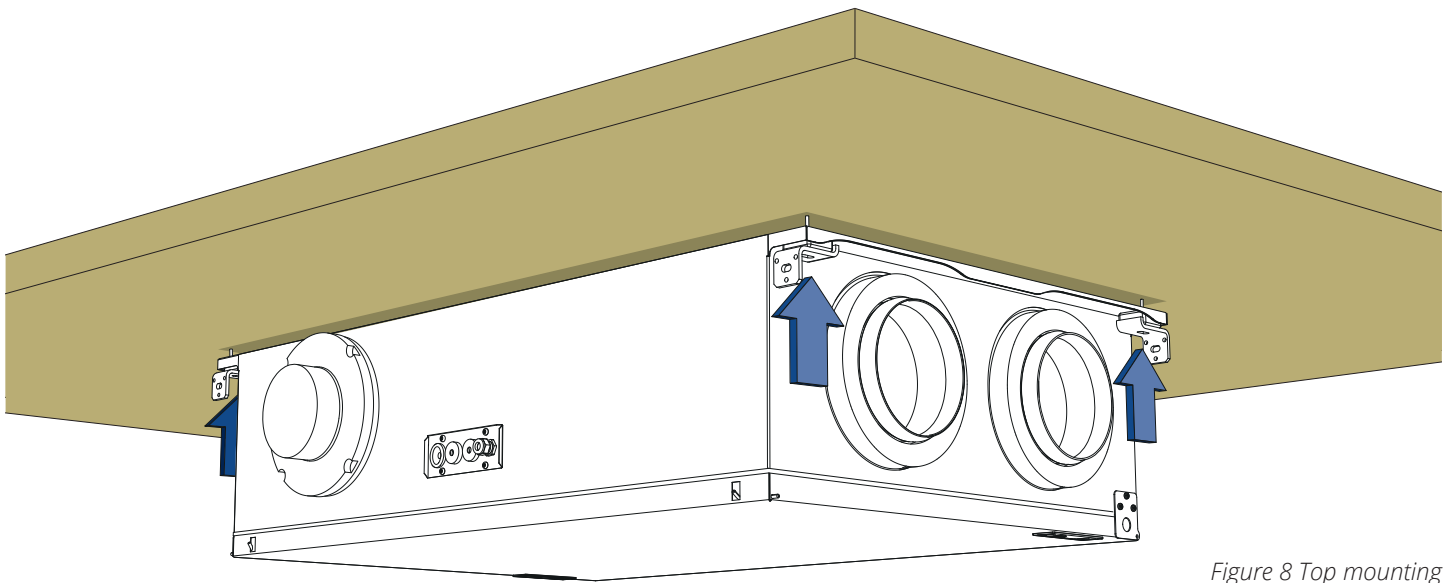



Figure 8 Top mounting

### 2.3.2. Side mounting

If it is necessary to pre-drill the mounting surface, see Figure 9 Holes, side mounting for dimensions. Select fixings that are suitable for the mounting surface.

 The fixings must be suitable for the unit's weight of 59 kg.

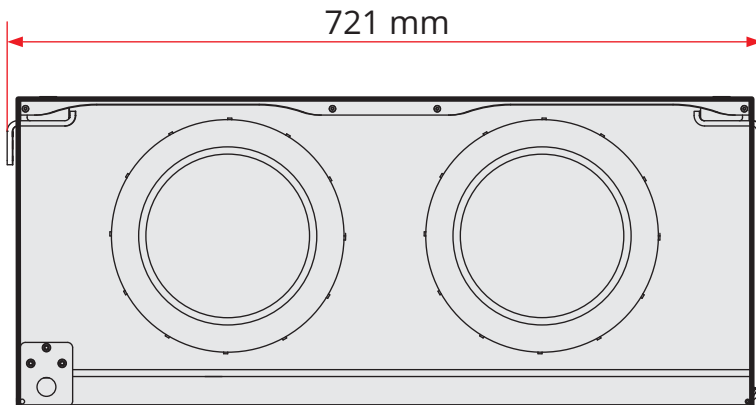
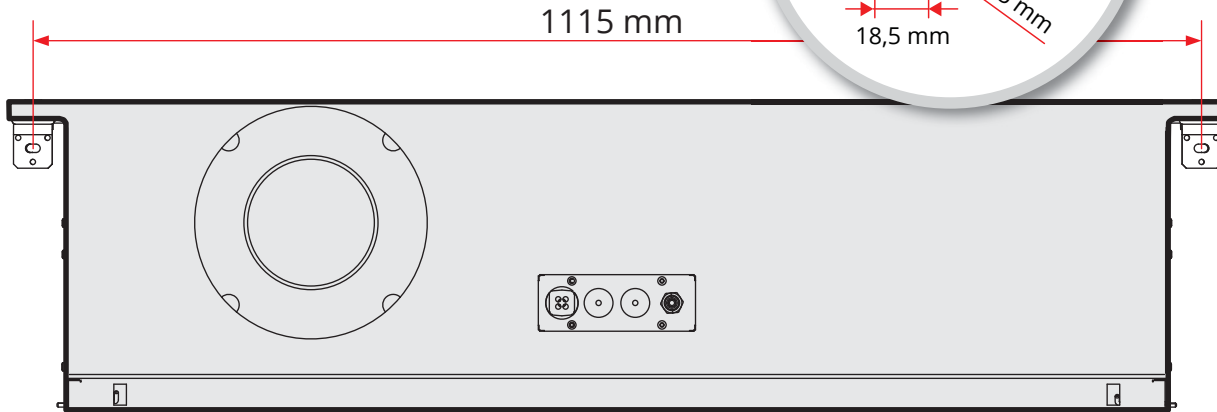
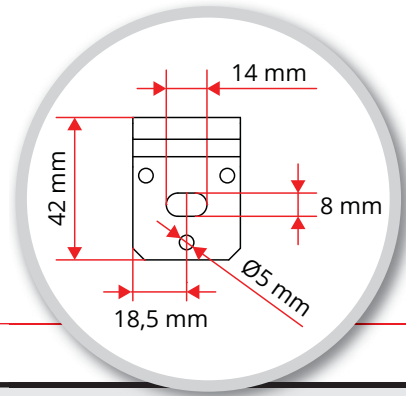


Figure 9 Holes, side mounting

Use suitable screws and screw the unit firmly into space by securing the mounting brackets.

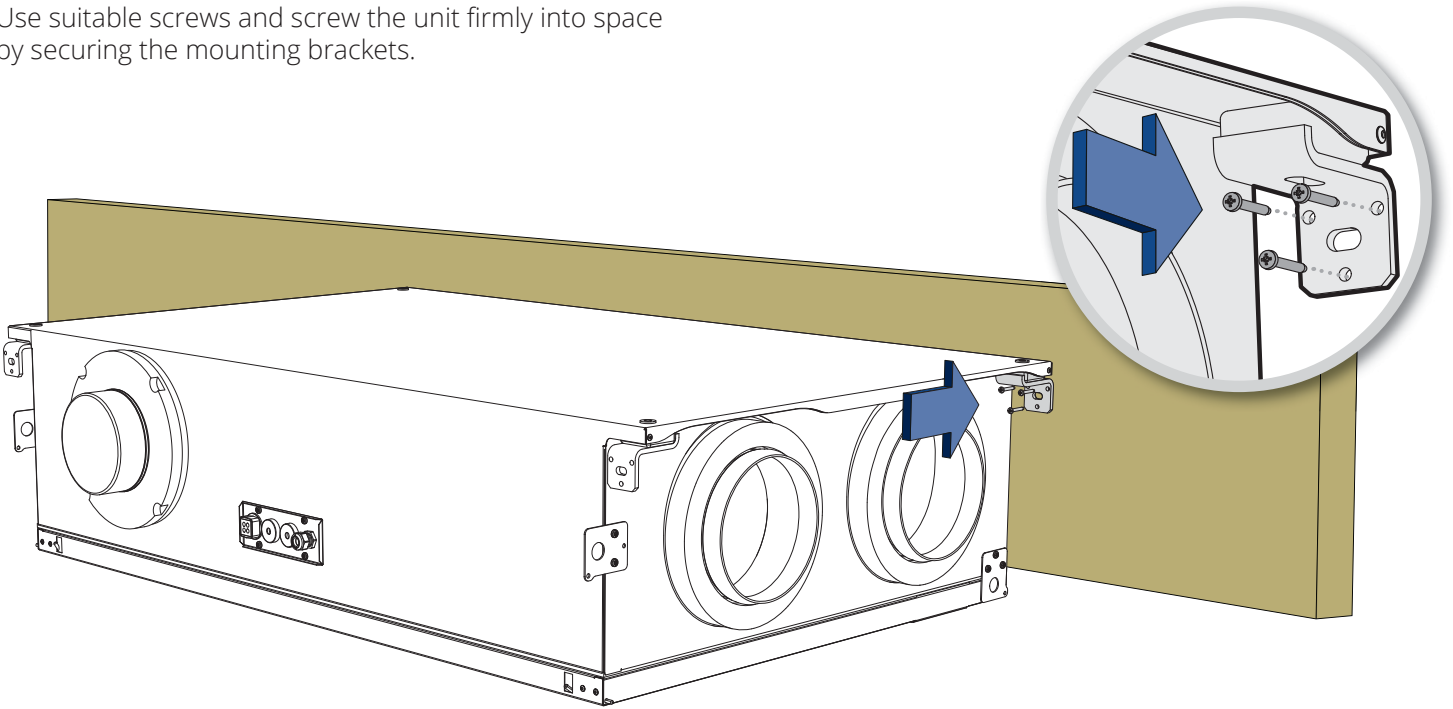



Figure 10 Side mounting

 Make sure that the mounting surface only touches the mounting brackets and not the unit so as to prevent structure-borne sound.

The mounting bracket can be adjusted sideways in both directions to prevent touching with the unit, see fig. 11.

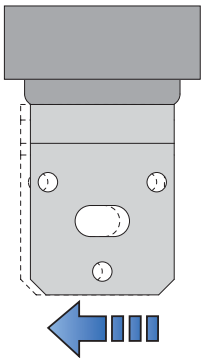



Figure 11

## 2.4. WALL MOUNTING

### 2.4.1. Positioning requirements for wall mounting

The unit is designed to be installed in boiler rooms, laundry rooms, stores or other suitable areas. The unit can be in a cold location.

 Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

The unit should be positioned in such a way that there is no danger of noise nuisance in nearby rooms.

- If the unit is located on an internal wall, the wall should be soundproofed with, for example, rock wool to reduce sound transmission. Double plasterboard on the wall, interrupted studs and interrupted plasterboard are recommended. See Figure 12 Recommended wall construction.
- If the unit is located in a warm room where a lot of moisture is generated, condensation may form on the outside of the unit during periods when the outside temperature is low.

The base should be stable and level.

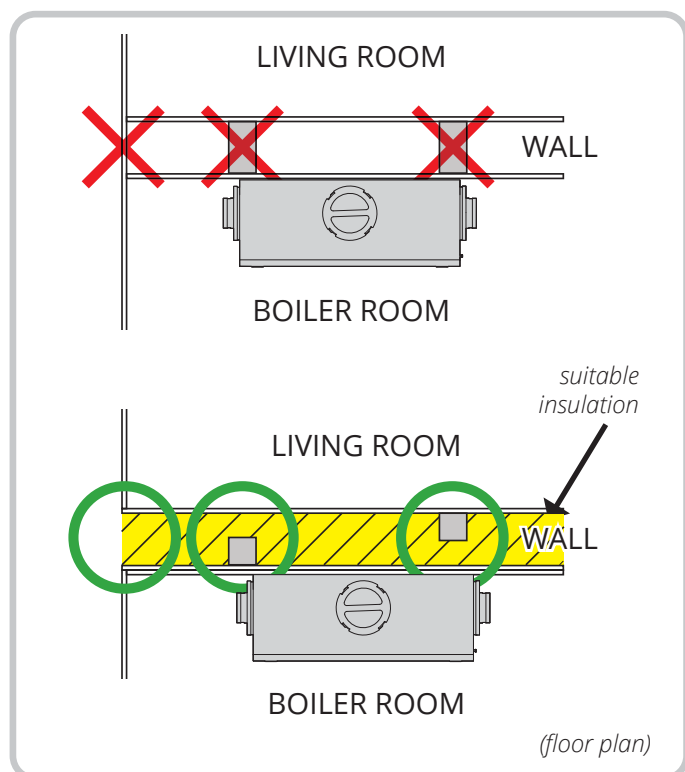
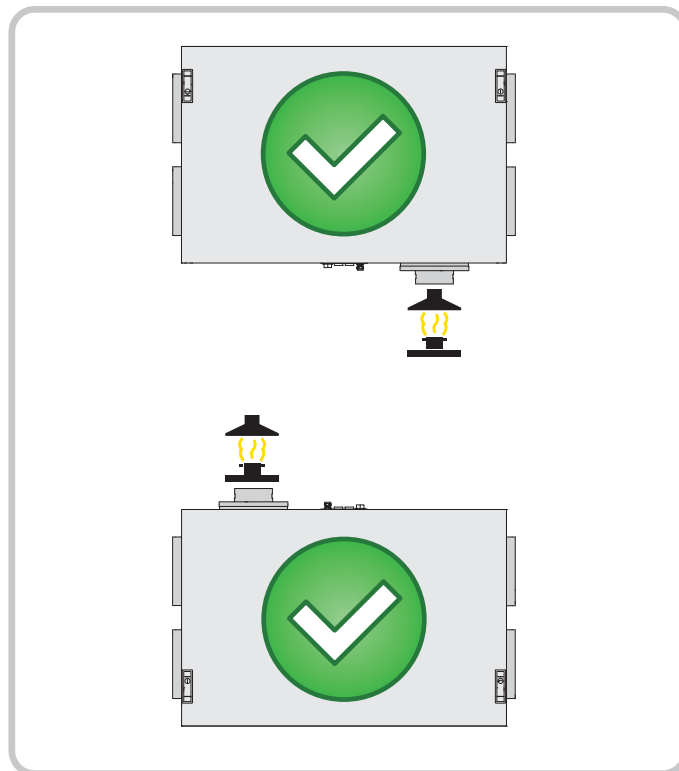


Figure 12 Recommended wall construction

The back panel of the unit has screw holes for attachment to the wall (accessories), both at the top and the bottom, so the unit can be mounted either way on the wall.

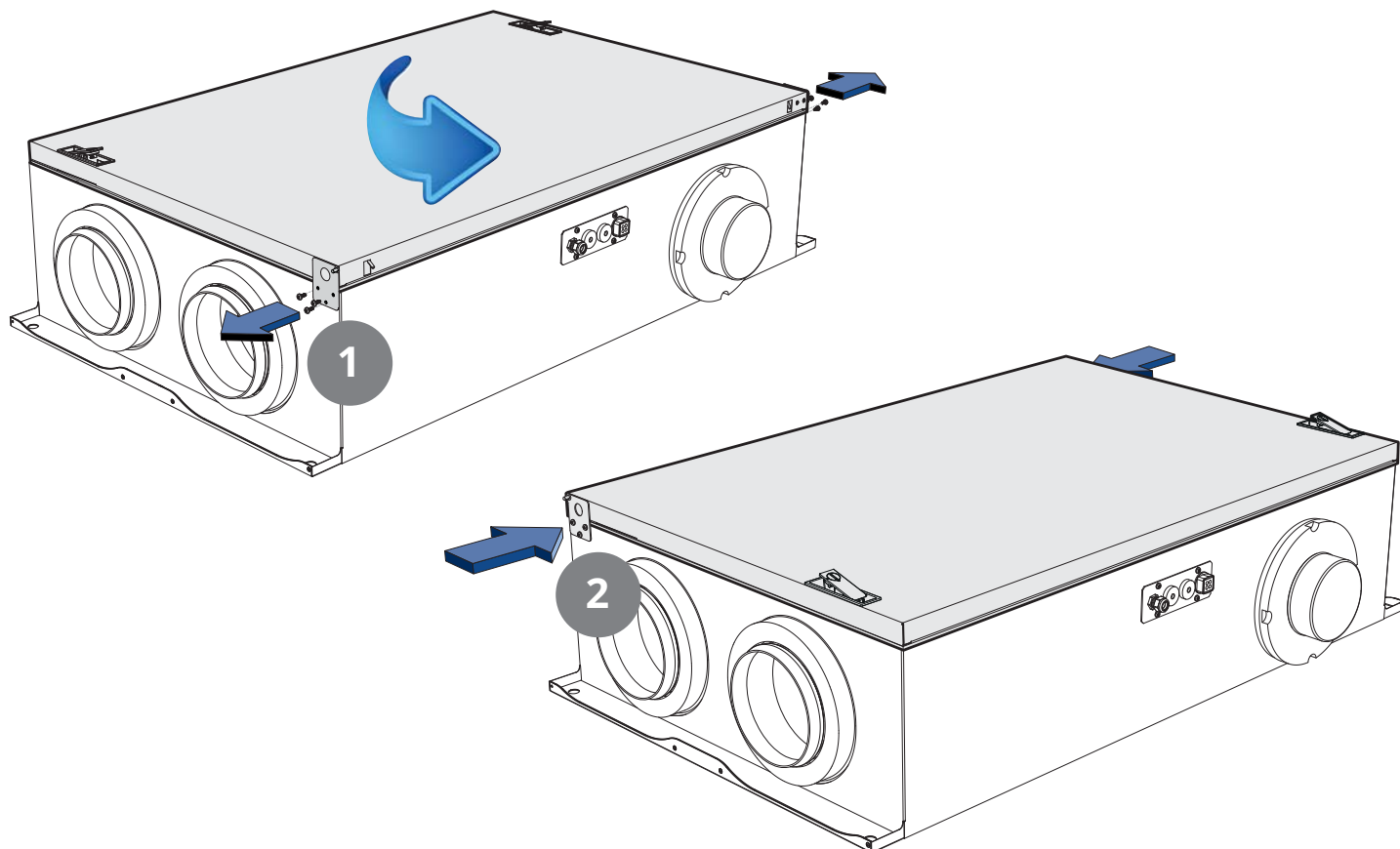
In that connection it may be desirable to turn the unit door. See chap.2.4.2. Turning the door on page 15.



## 2.4.2. Turning the door

The hinge brackets must be moved for the door to be turned.

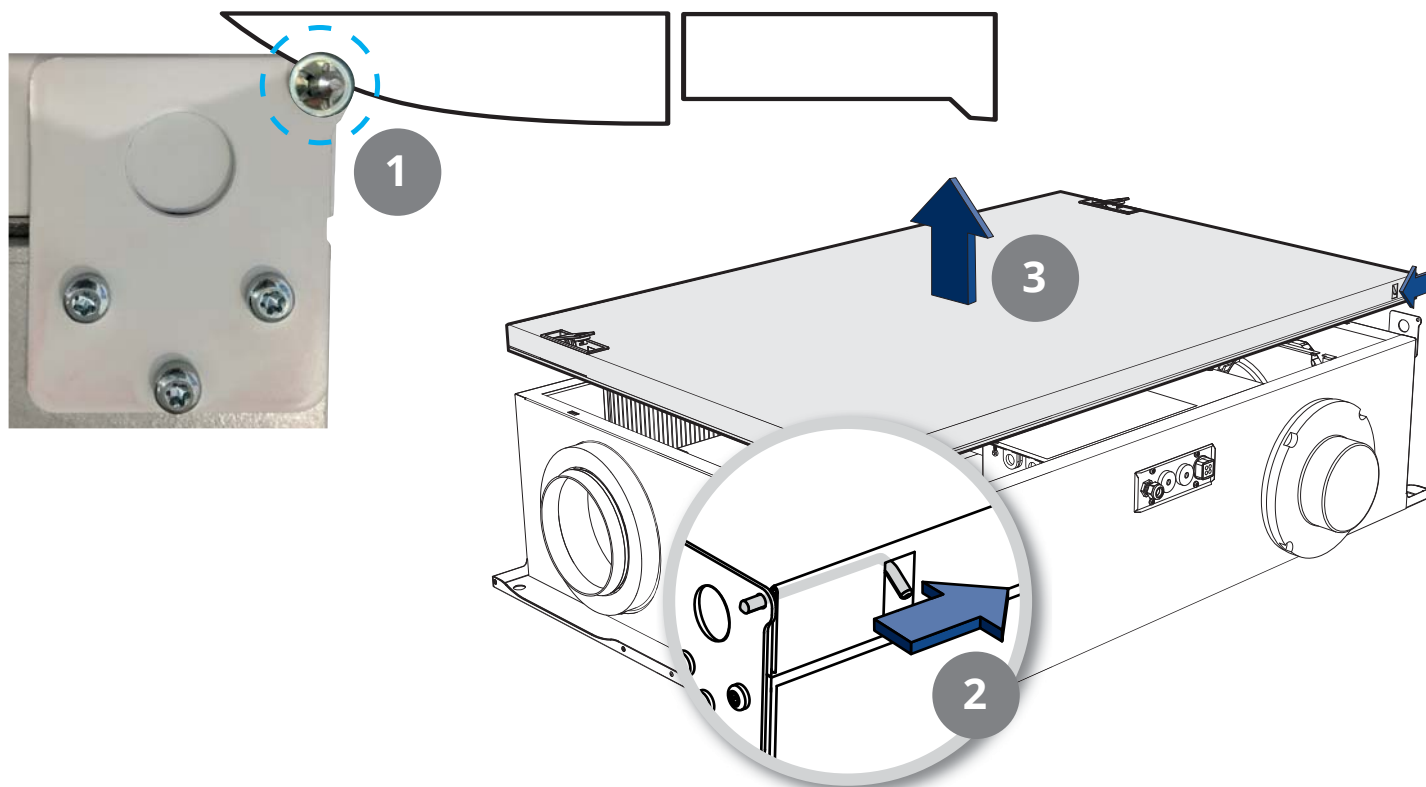
1. Undo the screws in the hinge brackets.
2. Then move the hinge brackets and do up the screws again.



### 2.4.3. Removing the door

In order to remove the door, the locking washer must be removed

1. Use a knife or screwdriver and bend the locking washers from the locking bolts.
2. Slide both locking bolts in towards the centre of the door while...
3. lifting the door.



**FARE!** Etter at døra er satt tilbake på plass, må låsebrikkene skyves på låseboltene igjen.






### 2.4.4. Space requirements for wall mounting

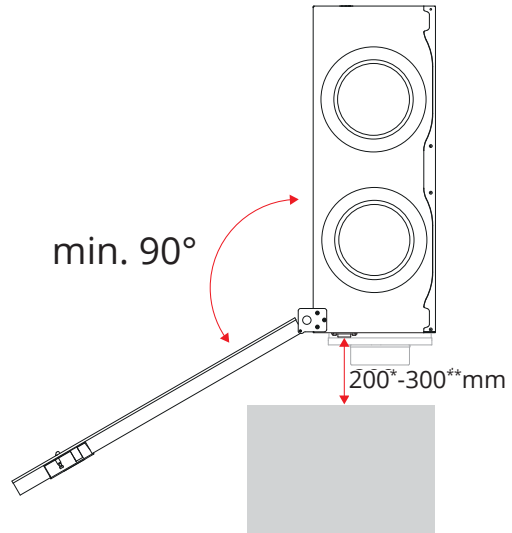
The unit must be installed with space for servicing and maintenance such as filter replacement and cleaning of the fans and rotor. See Figure 13 Space requirements for ceiling mounting.

These are minimum requirements and only take service needs into account.

All electrical conductors from the unit must be easily accessible when the unit is fully installed.

 Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

 Ensure there is servicing access to electrical bushings. See the dimensioned drawing for exact location.



\* space required for access to electrical bushings  
 \*\* space required if a kitchen fan duct is to be connected

Figure 13 Space requirements for ceiling mounting

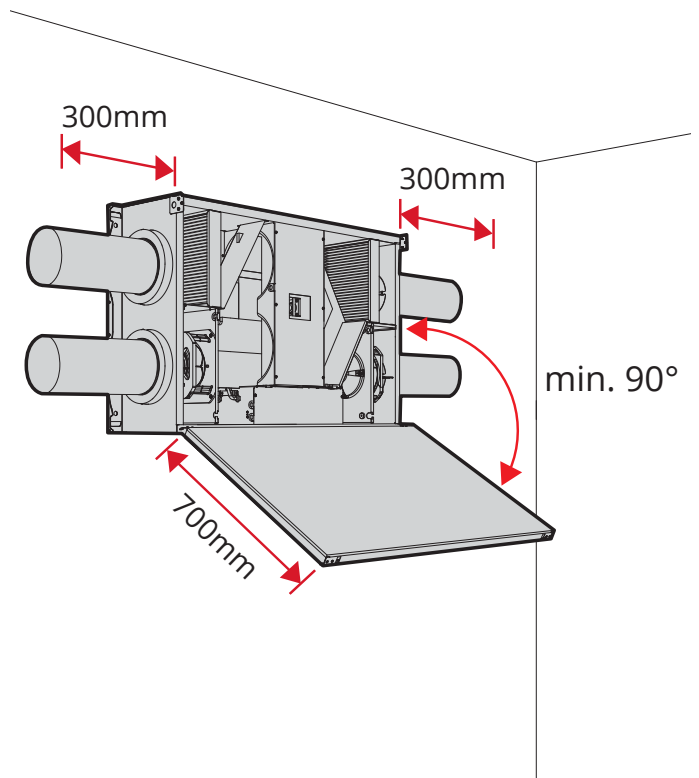



Figure 14 Space requirements for wall mounting

### 2.4.5. Fitting the wall bracket

In the case of wall mounting, secure the wall bracket to the wall and hang the unit in place (see Figure 15 Fitting the wall bracket). Hold the unit at an angle when hooking it onto the wall.

The top edge of the wall bracket should be mounted 55 mm higher than the top of the unit's back panel. If, for example, the top of the unit is to be 400 mm below the ceiling, the wall bracket should be mounted 345 mm from the ceiling, measured from the ceiling to the top edge of the wall bracket (Figure 16 Wall bracket).

 The wall bracket is an accessory and does not come with the unit. See separate instructions (117784) for fitting the wall bracket.

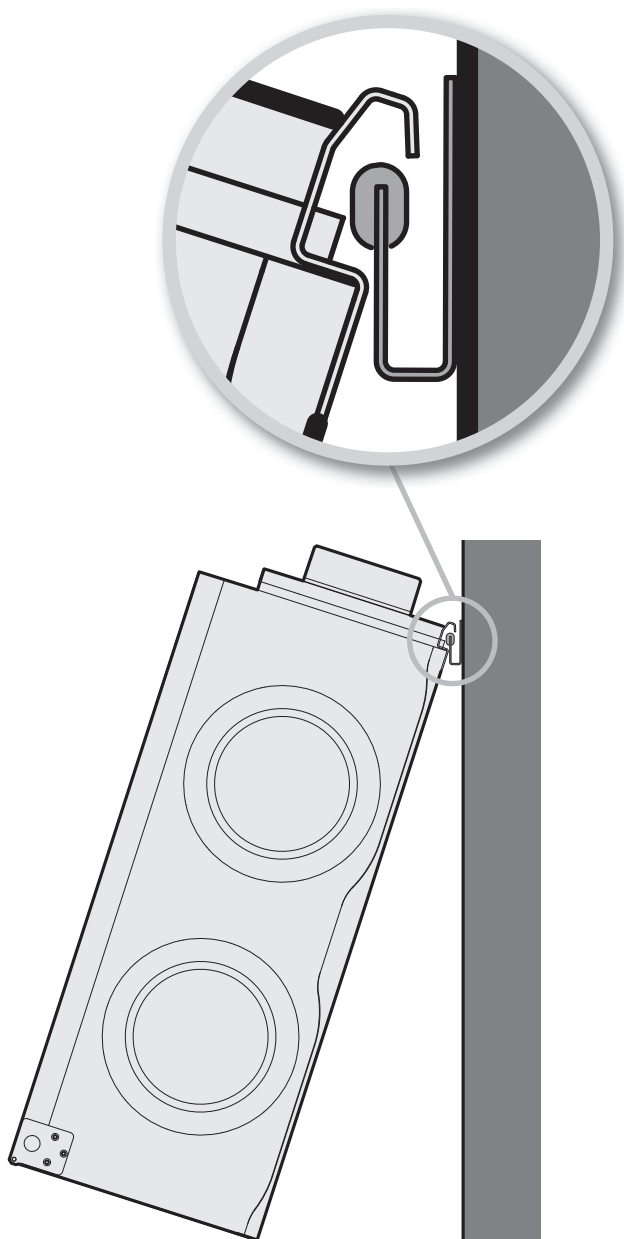


Figure 15 Fitting the wall bracket

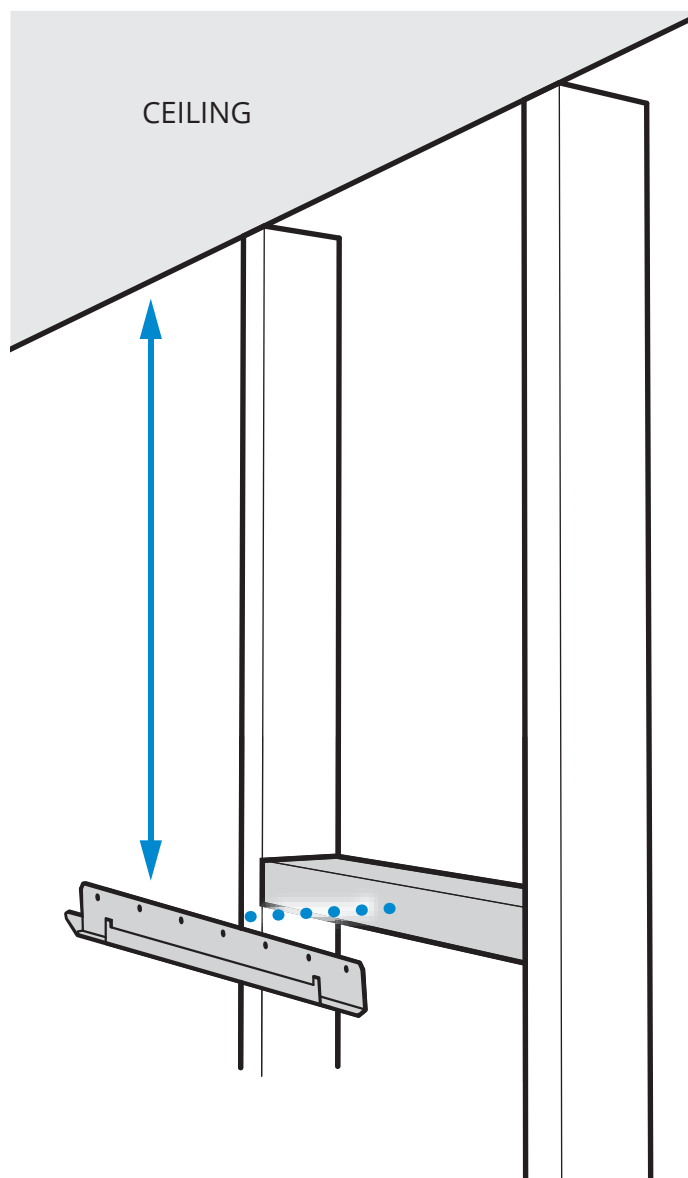


Figure 16 Wall bracket

## 2.5. FLOOR (LOFT) MOUNTING

### 2.5.1. Positioning requirements for floor mounting

The unit is designed to be installed in boiler rooms, laundry rooms, stores or other suitable areas. The unit can be in a cold location.

**i** Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

The unit should be positioned in such a way that there is no danger of noise nuisance in nearby rooms.

When installing on the ceiling, absorption feet should be used, for the sake of noise and vibrations. Flexit offers suitable absorption feet as accessories, see Figure 17 Absorption feet (accessory).

- If the unit is located in a warm room where a lot of moisture is generated, condensation may form on the outside of the unit during periods when the outside temperature is low.

The base should be stable and level.

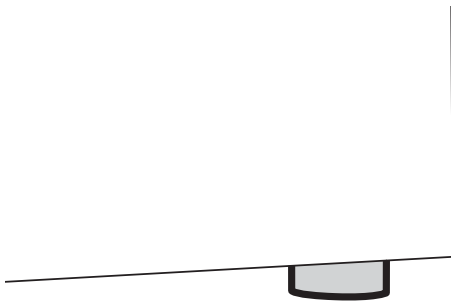


Figure 17 Absorption feet (accessory)

**i** The absorption feet are an accessory and do not come with the unit.

### 2.5.2. Space requirements for floor mounting

The unit must be installed with suitable space for servicing and maintenance such as filter replacement and cleaning of fans and recovery system. See Figure 18 Space requirements for floor mounting.

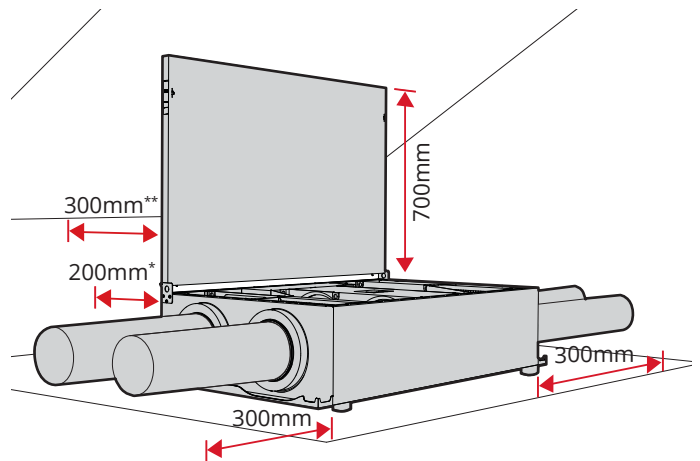
These are minimum requirements and only take service needs into account.

It may be desirable to turn the unit door. See chap.2.4.2. Turning the door on page 15.

All electrical conductors from the unit must be easily accessible when the unit is fully installed.

**i** Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.

**!** Ensure there is servicing access to electrical bushings. See the dimensioned drawing for exact location.



\* space required for access to electrical bushings  
 \*\* space required if a kitchen fan duct is to be connected

Figure 18 Space requirements for floor mounting

### 3. Duct connection

#### 3.1. CONNECTION TO THE UNIT

See Figure 19 Duct connection.

Ensure that the ducts are fitted to the correct nipple - see the markings on top of the unit and chap.6. System and general drawings on page 23.

Pull the duct insulation well up to the unit. To prevent condensation, it is particularly important for the outdoor and exhaust air ducts to have insulation and a plastic sleeve pulled right down to the unit.

Seal the plastic sleeve to the unit with ties.

All ducts that pass through a cold zone must be insulated. The ducts normally require min. 50 mm insulation, with an efficiency corresponding to  $\lambda = 0.035 \text{ W/m} \cdot ^\circ\text{C}$  or better. The fitter is responsible for the required insulation and vapour-proof sleeves being used in accordance with location/temperature.

Lay the outdoor air duct with a slight incline towards the outdoor air cap so that any water that enters drains out again.

Silencers should be installed on the main trunk to reduce fan noise to the rest of the duct system.

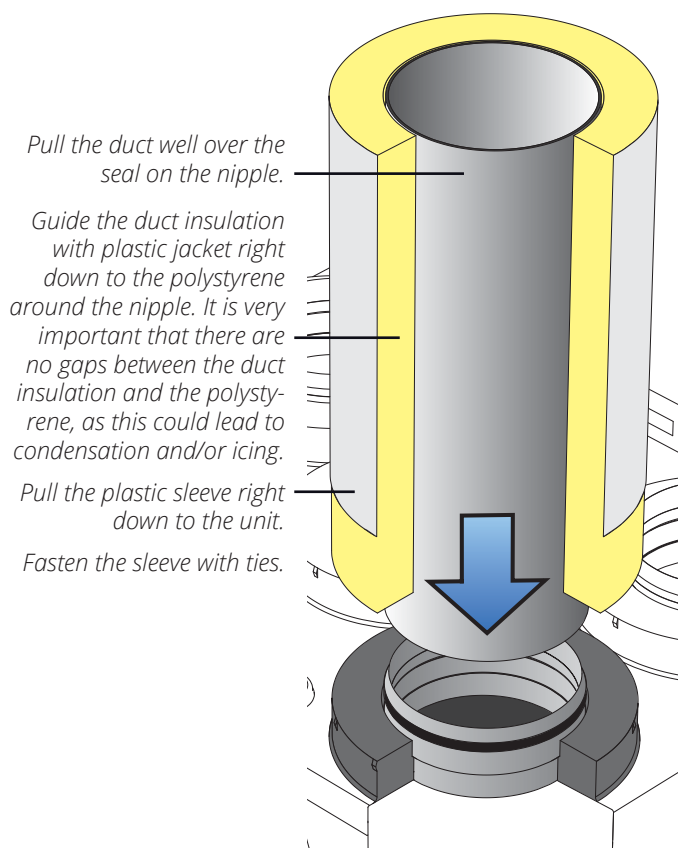


Figure 19 Duct connection



Figure 20 Fitted duct.

## 4. Electrical work



The unit must be installed with an earth fault breaker. We recommend a separate circuit for the unit.

The unit is supplied with a 2 m cable with plug. The cable exits at the top of the unit and is connected to a 230 V 50 Hz single-phase earthed power point that is placed in an easily accessible position close by. The power plug should be used as the service switch. See chap.7. Technical data, CL2 on page 26, chap.8. Technical data, CL3 on page 27 and chap.9. Technical data, CL4 on page 28 for fuse sizes.



Positioning must comply with individual countries' electrical safety legislation. Check which rules apply in your country.



Ensure that the plug for the unit is not boxed in.

### Internet access:

The unit should be connected to the internet. Lay a network cable between the unit and the home's router, and connect.

### Accessories:

#### Wireless accessories

A wireless adaptor can be connected to the 4-pole contact marked MODBUS. For configuration with the Flexit GO app, see the instructions that come with the accessories.

#### Other accessories

Accessories with a closing contact can be connected to a 3-core cable on top of the unit.

Marking	Colour	Function	Description
DI1	Brown	HIGH (default)	Forced air flow rate
DI2	Green	COOKER (default)	Forced air supply
+24 V (REF)	White	Reference	

The inputs can be configured for other functions with the Flexit GO app, see manual (117078).

#### Control panel:

A control panel can be connected to the 2-pole contact marked CI 70. For more information, see the instructions for the control panel (116081).



Signal cables must be at least 30 cm from power cables and should be laid in a 20 mm wiring conduit at installation. The cables must not be more than 24 m long.

## 5. Installing a kitchen fan

### 5.1. INSTALLATION OF EXTERNAL KITCHEN FAN

If an external kitchen fan is going to be used, documentation regarding installation and adjustment of air flow rates is supplied with the fans.

#### 5.1.1. Kitchen fan without motor

(connected to unit with duct connection)

The ventilation unit has a separate connection point for kitchen fans without a motor. An electric cable (low-voltage) must be connected between the unit and the fan in order to force the air flow in the hood via the switch on the hood.

#### 5.1.2. Kitchen fan with motor

(not connected to unit)

The kitchen fan with motor is not connected to the unit. It has a completely separate duct system for air evacuation.

With the kitchen fan it is possible to compensate for the amount of air drawn out of the house. See **chap.5.2. Adjusting the kitchen fan on page 22** for more information.

### 5.2. ADJUSTING THE KITCHEN FAN

If the kitchen fan is not supplied by Flexit, the fan supplier must plan air flow rates for extract air in the hood, and arrange for supply air to the hood.

#### 5.2.1. Kitchen fan without motor

(connected to unit)

The air flow rate through the fan is adjusted on the basis of the planned air flow rate. Flexit's kitchen fans can handle odour absorption of at least 75% at 150 m<sup>3</sup>/h. It is not necessary to compensate for the supply air fan to achieve a balanced air flow rate.

#### 5.2.2. Kitchen fan with motor

(not connected to unit)

If a kitchen fan with a motor is used, the volume of air extracted from the building increases. The ventilation unit can be adjusted to provide more supply air than extract air to compensate for this.

A signal to the unit is required when the kitchen fan is used:

Connect an external switch with potential-free ON/OFF signal to the 3-core cable on the unit (DI2, see wiring diagram).

Install the pressure relay (accessory).

#### The cooker hood function works as follows:

The supply air fan will speed up, while the extract air fan will continue at a low level to partly compensate for the air flow that the cooker hood extracts from the house.

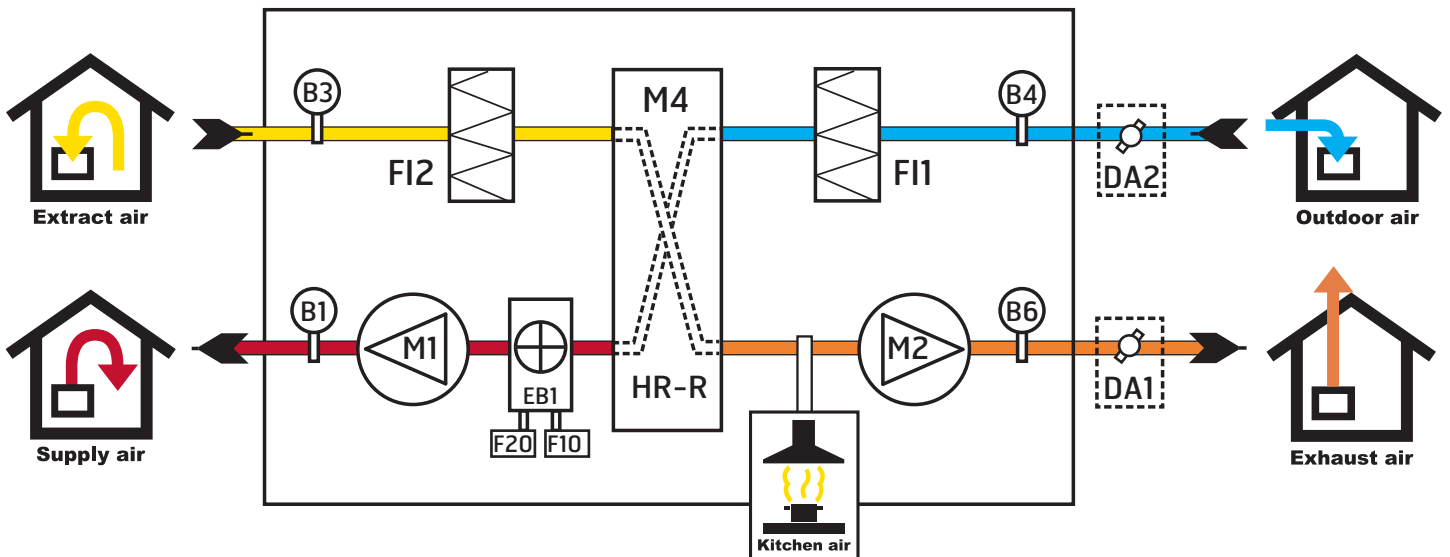
Check the kitchen fan's maximum capacity (based on the capacity diagram on the kitchen fan).

Ensure that the kitchen fan receives sufficient air via one or more fresh air valves, for example.

## 6. System and general drawings

### 6.1. SYSTEM DRAWING (ELECTRIC HEATING BATTERY)

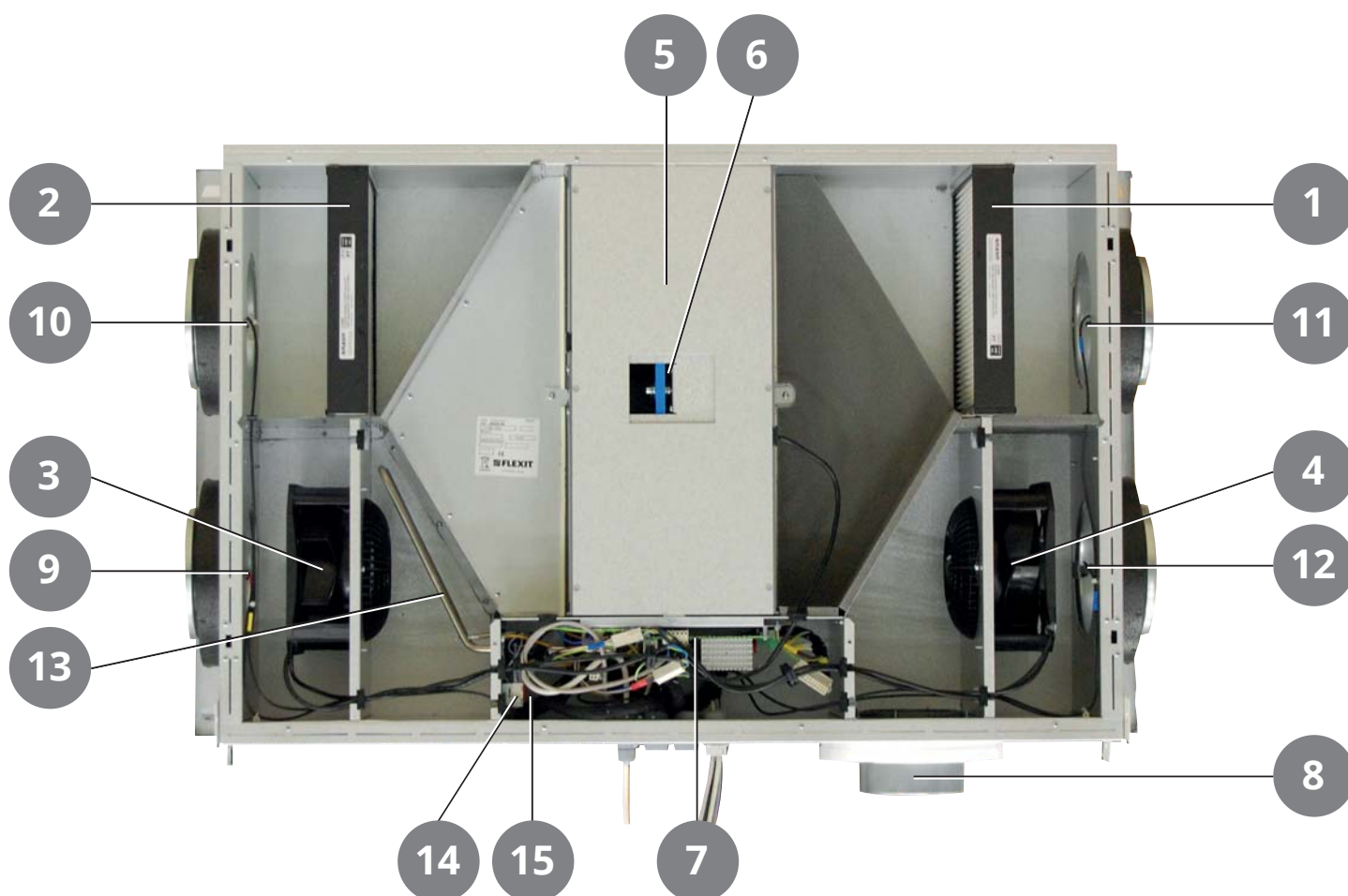
Abbreviation	Description
B1	Supply air temperature sensor
B3	Extract air temperature sensor
B4	Outdoor air temperature sensor
B6	Exhaust air temperature sensor
EB	Heating battery
F10	Overheating thermostat, manual reset
F20	Overheating thermostat, automatic reset
F11	Supply air filter
F12	Extract air filter
M1	Supply air fan
M2	Extract air fan
HR-R	Rotary wheel-type heat exchanger
M4	Rotor motor
DA1	Damper
DA2	Damper



(shown as a right model)

## 6.2. GENERAL DRAWING

No.	Abbreviation	Description
1	F11	Supply air filter
2	F12	Extract air filter
3	M1	Supply air fan
4	M2	Extract air fan
5	HR-R	Rotary wheel-type heat exchanger
6	M4	Rotor motor
7		Control unit
8	K	Kitchen fan connection
9	B1	Supply air temperature sensor
10	B3	Extract air temperature sensor
11	B4	Outdoor air temperature sensor
12	B6	Exhaust air temperature sensor
13	EB	Heating battery
14	F10	Heating overheating thermostat man.
15	F20	Heating overheating thermostat auto

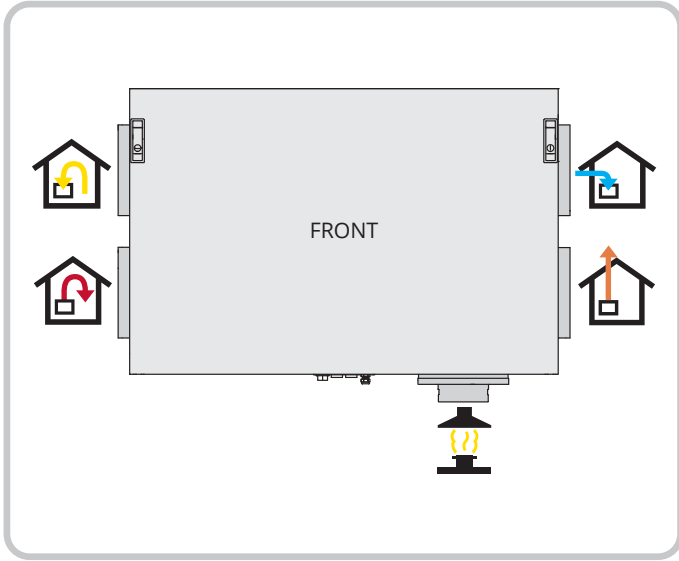


(right model)

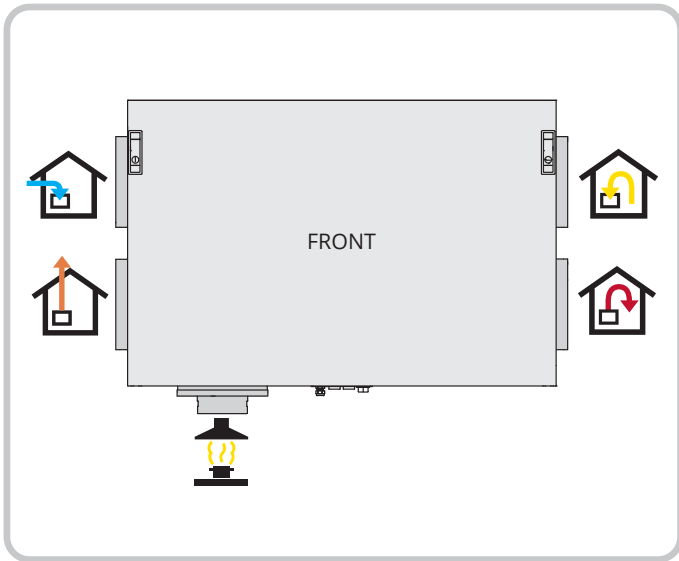


6.3. NIPPLE LOCATION

Right model



Left model



## 7. Technical data, CL2

		CL2 RE with electric battery
POWER	Rated voltage (AC 50 Hz)	230 V
	Frequency	50 Hz
	Fuse size	10 A
	Rated current	2,3 A
	Rated power, total	529 W
	Rated power, max. electric battery	350 W
	Rated power, fans	2 x 85 W
	Rated power, rotor motor	4 W

VENTILATION	Fan type	B-wheel
	Fan motor control	0-10 V
	Max. fan speed RPM	3 200
	Automatic control, standard	Flexit GO
	Filter class	ePM1 55% (F7)
	Filter type (supply air/extract air)	Compact filter

DIMENSIONS	Filter dimensions (WxHxD)	290 x 230 x 48 mm
	Kitchen fan connection	Dia. 125 mm
	Weight, ventilation unit	56 kg
	Weight, rotor	8,2 kg
	Weight, door	12,5 kg
	Weight, fan	1,2 kg
	Duct connection	Ø 160 mm
	Height	700 mm
	Width	1160 mm
	Depth	296 mm

COATING	Colour	White
	RAL	9016
	Gloss	25-35

Energy class:



CTRL 0.65

### LOCAL DEMAND CONTROL

Sensor control for different zones

**Accessories:** Advanced panel + CO<sub>2</sub> sensor/  
motion sensor + damper

**Result:** Increased air flow rate in zones that  
need it

[www.flexit.com](http://www.flexit.com)

## 8. Technical data, CL3

		CL3 RE with electric battery
POWER	Rated voltage (AC 50 Hz)	230 V
	Frequency	50 Hz
	Fuse size	10 A
	Rated current	3.9 A
	Rated power, total	679 W
	Rated power, max. electric battery	500 W
	Rated power, fans	2 x 83 W
	Rated power, rotor motor	4 W

VENTILATION	Fan type	B-wheel
	Fan motor control	0-10 V
	Max. fan speed RPM	3,200
	Automatic control, standard	Flexit GO
	Filter class	ePM1 55% (F7)
	Filter type (supply air/extract air)	Compact filter

DIMENSIONS	Filter dimensions (WxHxD)	290 x 230 x 48 mm
	Kitchen fan connection	Dia. 125 mm
	Weight, ventilation unit	58 kg
	Weight, rotor	11,3 kg
	Weight, door	12,5 kg
	Weight, fan	1,5 kg
	Duct connection	Dia. 160 mm
	Height	700 mm
	Width	1160 mm
Depth	296 mm	

COATING	Colour	White
	RAL	9016
	Gloss	25-35

Energy class:



CTRL 0.65

### LOCAL DEMAND CONTROL

Sensor control for different zones

**Accessories:** Advanced panel + CO<sub>2</sub> sensor/  
motion sensor + damper

**Result:** Increased air flow rate in zones that  
need it

[www.flexit.com](http://www.flexit.com)

## 9. Technical data, CL4

		CL4 RE with electric battery
POWER	Rated voltage (AC 50 Hz)	230 V
	Frequency	50 Hz
	Fuse size	10 A
	Rated current	4,5 A
	Rated power, total	1 050 W
	Rated power, max. electric battery	800 W
	Rated power, fans	2 x 115 W
	Rated power, rotor motor	4 W

VENTILATION	Fan type	B-wheel
	Fan motor control	0-10 V
	Max. fan speed RPM	4,200
	Automatic control, standard	Flexit GO
	Filter class	ePM1 55% (F7)
	Filter type (supply air/extract air)	Compact filter

DIMENSIONS	Filter dimensions (WxHxD)	290 x 230 x 48 mm
	Kitchen fan connection	Dia. 125 mm
	Weight, ventilation unit	58 kg
	Weight, rotor	11,3 kg
	Weight, door	12,5 kg
	Weight, fan	1,8 kg
	Duct connection	Dia. 160 mm
	Height	700 mm
	Width	1160 mm
	Depth	296 mm

COATING	Colour	White
	RAL	9016
	Gloss	25-35

Energy class:



CTRL 0.65

### LOCAL DEMAND CONTROL

Sensor control for different zones

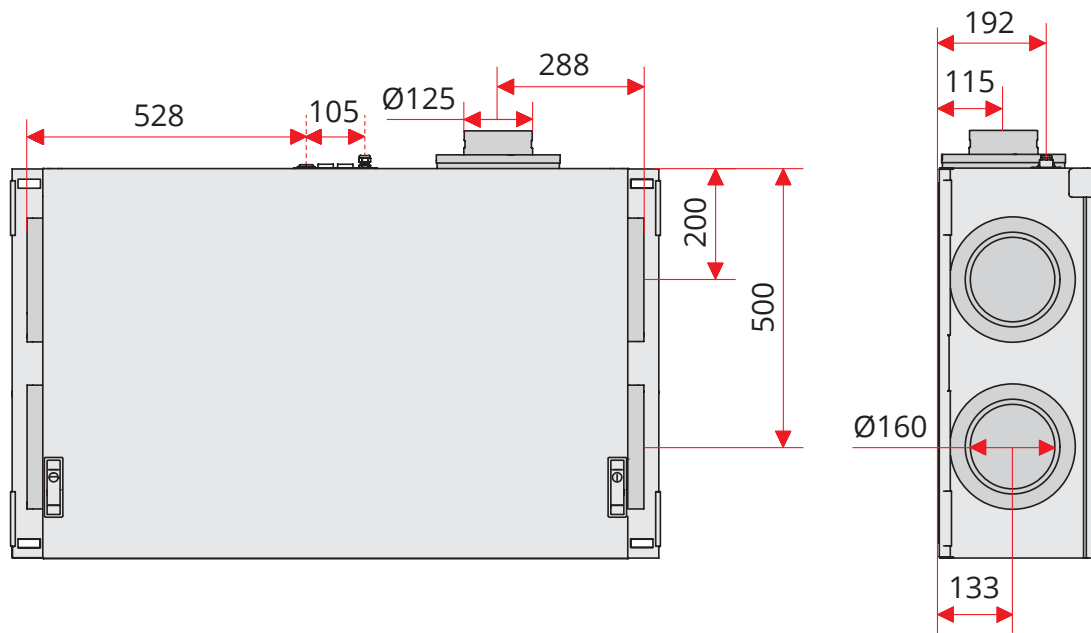
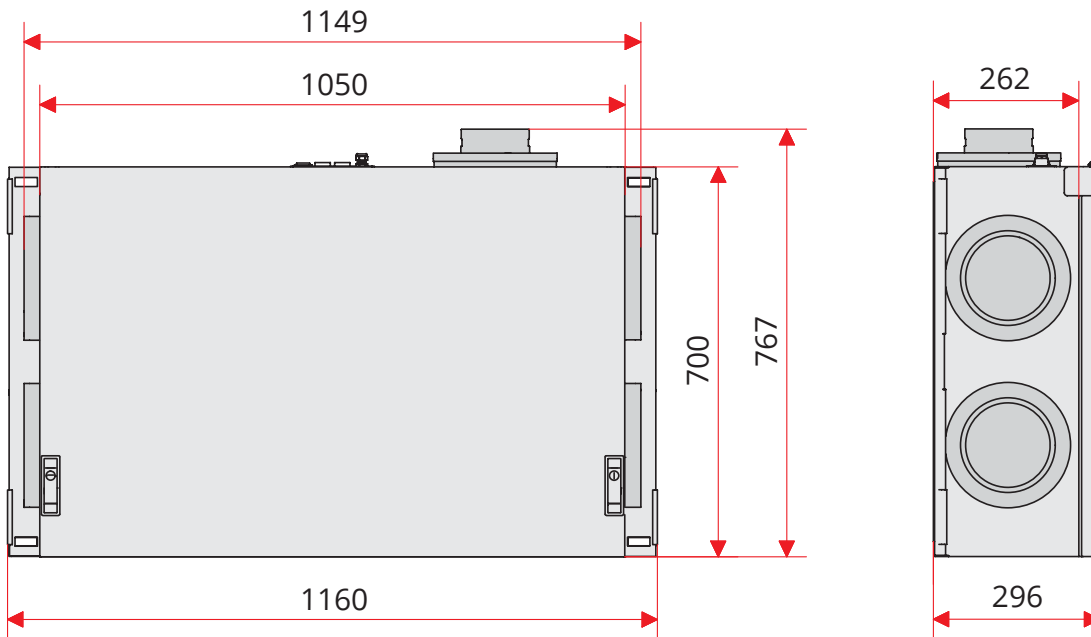
**Accessories:** Advanced panel + CO<sub>2</sub> sensor/  
motion sensor + damper

**Result:** Increased air flow rate in zones that  
need it

[www.flexit.com](http://www.flexit.com)

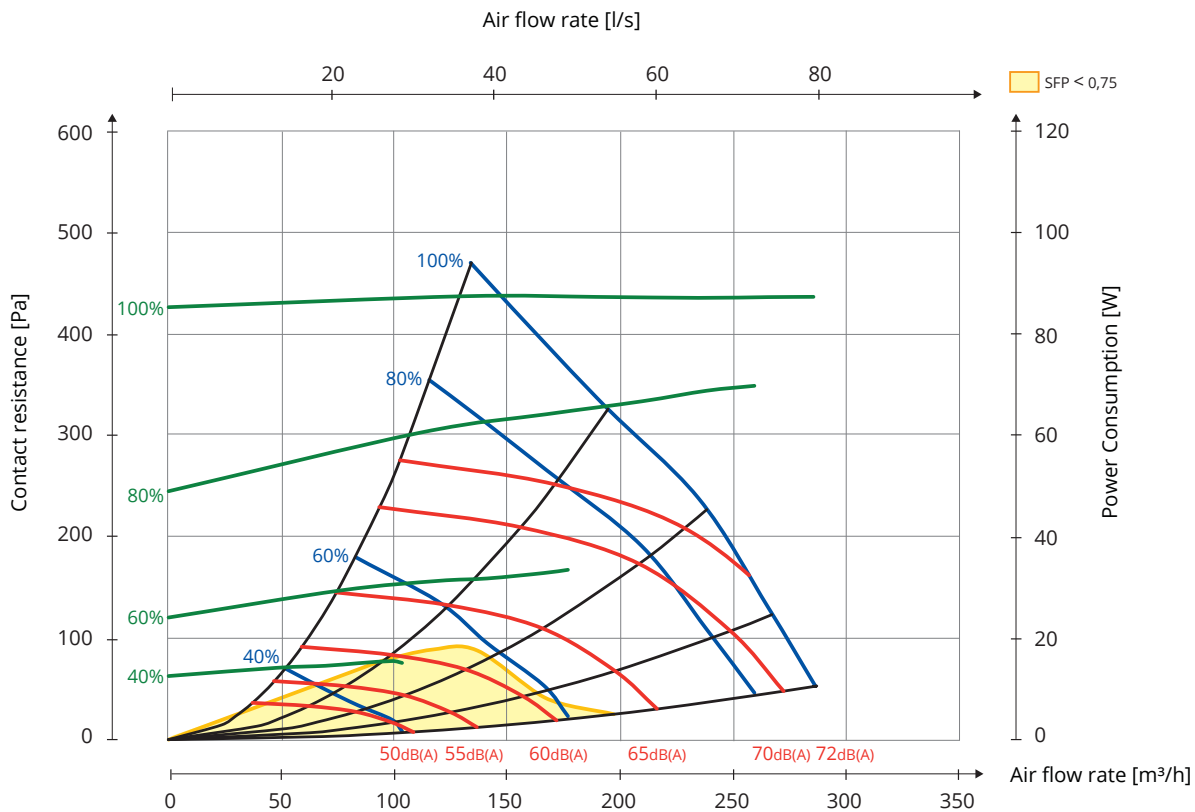
## 10. Dimensioned drawing

Dimensions in mm

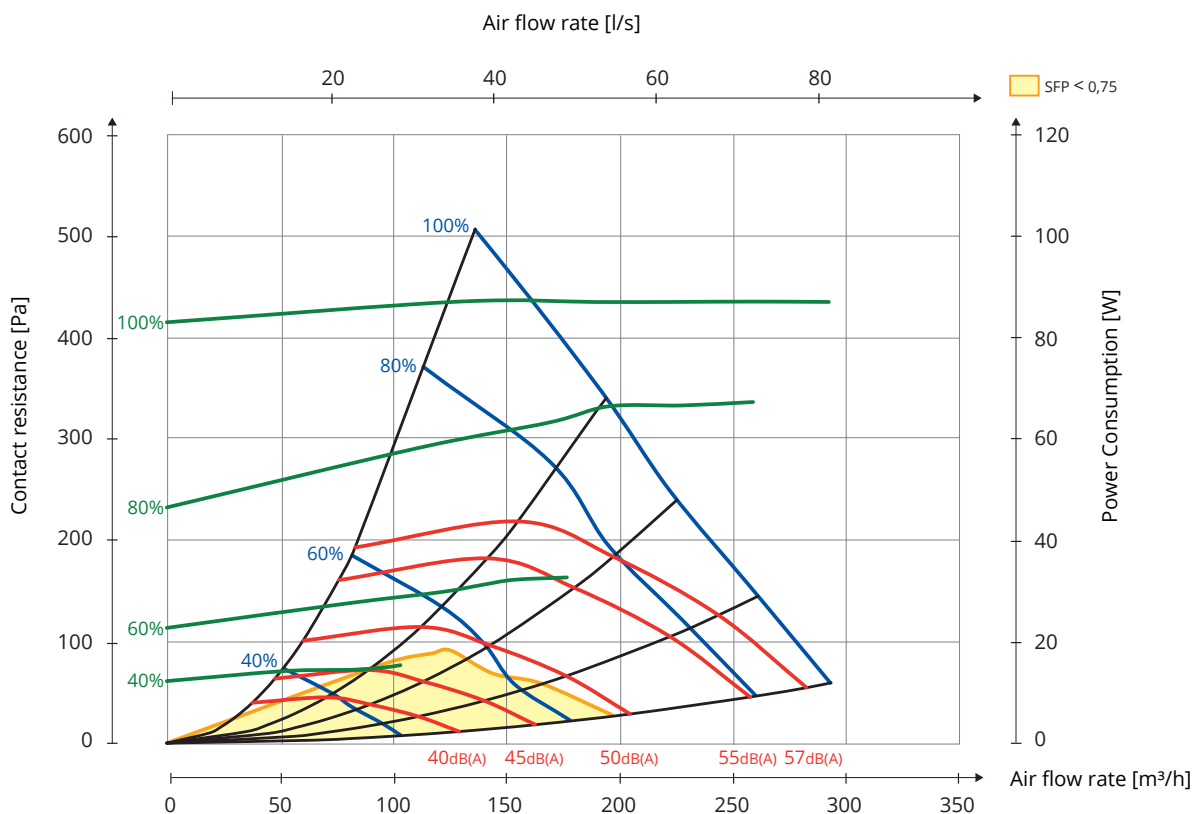


# 11. Capacity and sound data, CL2

## 11.1. SUPPLY AIR SIDE, CL2



## 11.2. EXTRACT AIR SIDE, CL2



**Using the capacity diagram:**

A diagram consists of a number of curves and axes which allow various types of data to be read off for the unit.

**1. Capacity curves (blue)**

These curves show the total available pressure and the air flow rate characteristic for the unit. The available pressure is read off to the left of the diagram. The air flow rate is read off in m<sup>3</sup>/h at the bottom of the diagram and in l/s at the top of the diagram. The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

**2. Operation curves (black)**

These curves show how air flow rate and pressure change at different operating levels (fan speed).

**3. Power consumption curves (green)**

These curves show energy consumption for the fan at each operating level in watts. The power consumption is read off the scale to the right of the diagram. The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

**4. Sound curves (red)**

These curves indicate values for the sound power level LwA of the duct at the various operating levels. To find the sound power level of the duct in the various octave bands, take the value read off in the diagram and correct it using the values in the table below the diagram for each octave. This produces the sound power level per octave.

**5. Correction axes (light green)**

Here you can read off the change in pressure when a water battery is used for heating. This pressure drop is deducted from the available pressure. This pressure increase is added to the available pressure.

Data for supply air is measured in accordance with ISO 5136, the "In-duct method". Radiated sound is measured in accordance with ISO 9614-2. Bruel & Kjaer measuring equipment, type 2260.

**11.3. CORRECTION FACTOR FOR LW, CL2**

Hz	63 Lw(dB)	125 Lw(dB)	250 Lw(dB)	500 Lw(dB)	1000 Lw(dB)	2000 Lw(dB)	4000 Lw(dB)	8000 Lw(dB)	LwA (dBA)
Supply air	3	3	3	-5	-9	-9	-14	-23	
Extract air	13	8	6	-13	-15	-16	-28	-28	
Radiated sound 1	-11	-17	-15	-21	-28	-28	-31	-39	-19
Radiated sound 2 (built in)	-11	-22	-21	-32	-37	-37	-41	-48	-27

Working point 240 m<sup>3</sup>/h against 100 Pa.

**> EXAMPLE 1**

**Sound to duct in the various octaves is stated in Lw**

The working point gives 60 dBA from the capacity diagram for supply air. I am interested in what this is specifically in the 250 Hz range.

60 dBA-3=57 dB which is an Lw value (sound power level without adaptation to the ear's A band)

**> EXAMPLE 2**

**Radiated sound in Lw per octave**

If a reading of 60 dBA at the working point is taken from the supply air capacity diagram (which indicates sound to duct) in order to arrive at a subsequent Lw value for the various octaves, a deduction is then made from the value for the relevant octave for the row with radiated sound.

60 dBA-21 (for 500 Hz) = 39 dB, which is an Lw value and indicates the radiated sound from the unit in this octave.

**> EXAMPLE 3**

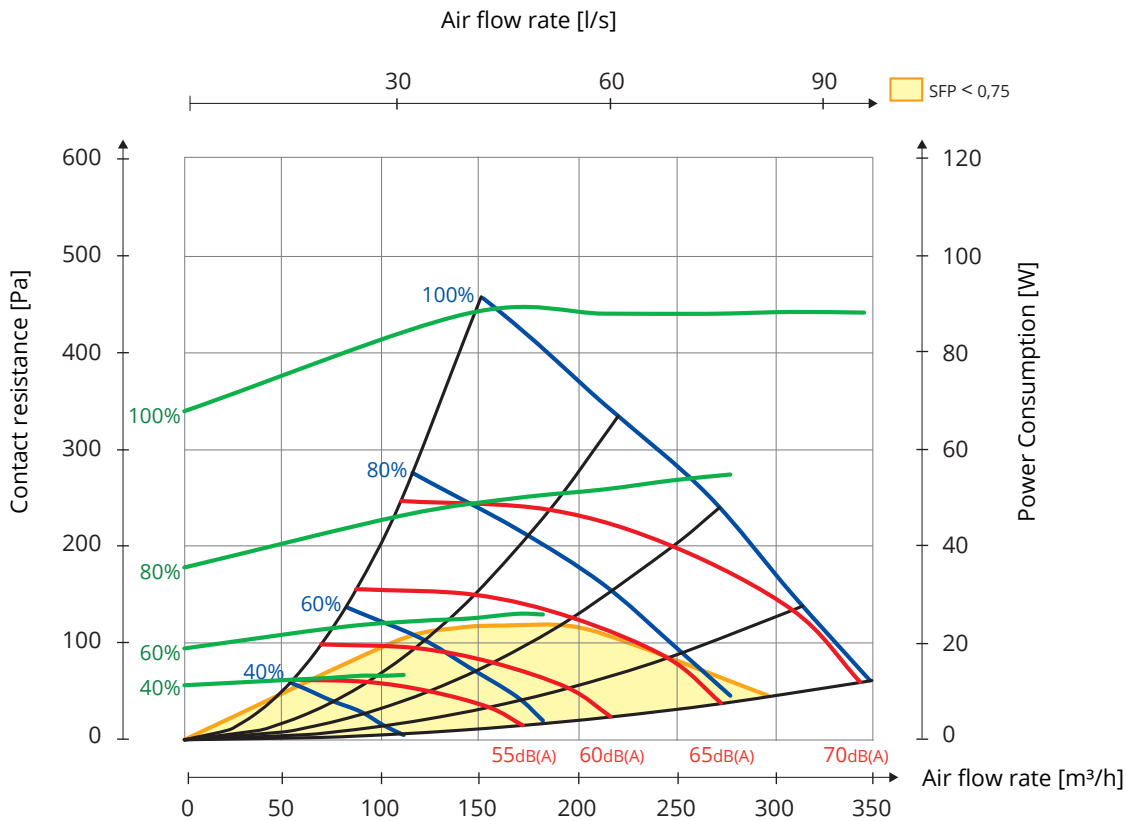
**Radiated sound in total from the unit in LwA**

At the bottom right of the table, a total value for radiated sound from the unit is stated in LwA. This is an aggregate value. The values for the radiated sound for the different octaves have been totalled up and then corrected for A band.

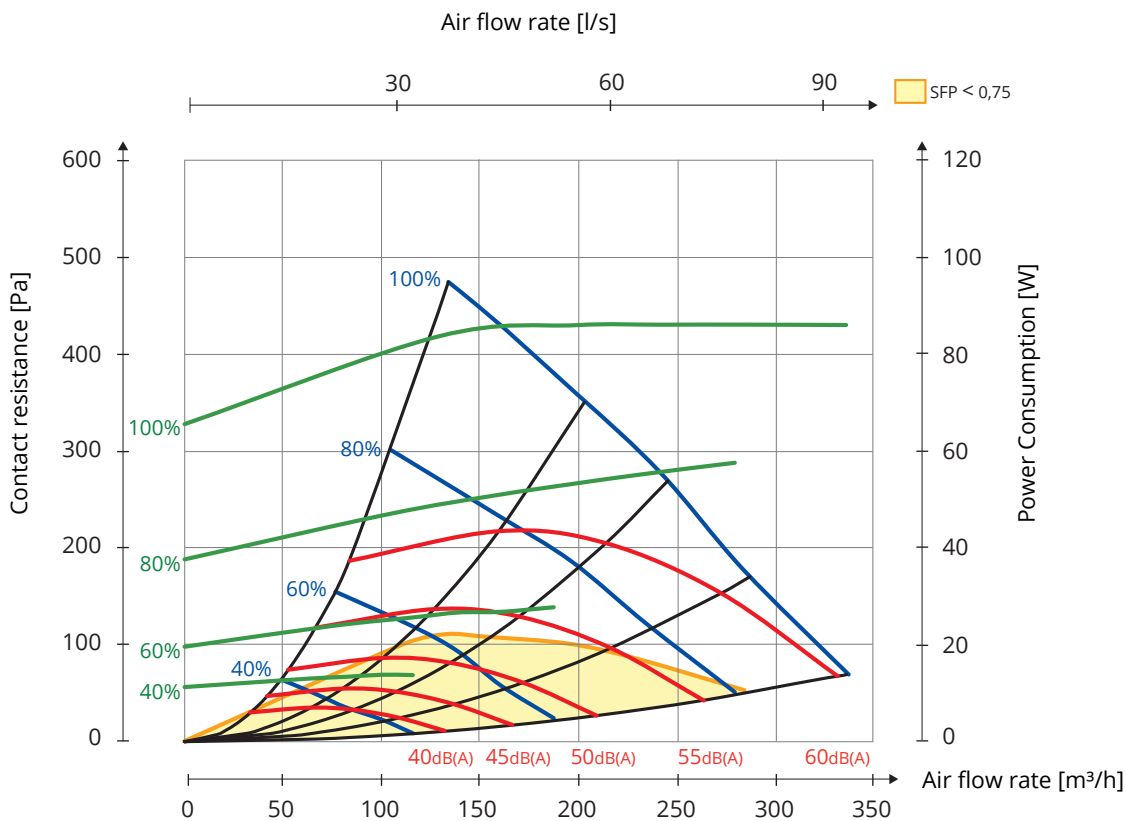
This is used as follows:  
The LwA value is read from the supply air capacity diagram, in our example 60 dBA, and this is then subtracted from the total value (this is also an LwA value). LwA 60 dBA-19 dBA = 41 dBA (which is then stated in LwA, the sound power level adapted to the ear's A band).

## 12. Capacity and sound data, CL3

### 12.1. SUPPLY AIR SIDE, CL3



### 12.2. EXTRACT AIR SIDE, CL3





## Using the capacity diagram:

A diagram consists of a number of curves and axes which allow various types of data to be read off for the unit.

### 1. Capacity curves (blue)

These curves show the total available pressure and the air flow rate characteristic for the unit. The available pressure is read off to the left of the diagram. The air flow rate is read off in m<sup>3</sup>/h at the bottom of the diagram and in l/s at the top of the diagram.

The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

### 2. Operation curves (black)

These curves show how air flow rate and pressure change at different operating levels (fan speed).

### 3. Power consumption curves (green)

These curves show energy consumption for the fan at each operating level in watts. The power consumption is read off the scale to the right of the diagram. The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

### 4. Sound curves (red)

These curves indicate values for the sound power level LwA of the duct at the various operating levels. To find the sound power level of the duct in the various octave bands, take the value read off in the diagram and correct it using the values in the table below the diagram for each octave. This produces the sound power level per octave.

### 5. Correction axes (light green)

Here you can read off the change in pressure when a water battery is used for heating. This pressure drop is deducted from the available pressure. This pressure increase is added to the available pressure.

Data for supply air is measured in accordance with ISO 5136, the "In-duct method". Radiated sound is measured in accordance with ISO 9614-2.

Bruel & Kjør measuring equipment, type 2260.

## 12.3. CORRECTION FACTOR FOR LW, CL3

Hz	63 Lw(dB)	125 Lw(dB)	250 Lw(dB)	500 Lw(dB)	1000 Lw(dB)	2000 Lw(dB)	4000 Lw(dB)	8000 Lw(dB)	LwA (dBA)
Supply air	4	6	4	-6	-9	-10	-17	-23	
Extract air	7	10	6	-8	-16	-18	-28	-29	
Radiated sound 1	-11	-17	-15	-21	-28	-28	-31	-39	-19
Radiated sound 2 (built in)	-11	-22	-21	-32	-37	-37	-41	-48	-27

Working point 240 m<sup>3</sup>/h against 100 Pa.

#### > EXAMPLE 1

##### Sound to duct in the various octaves is stated in Lw

The working point gives 60 dBA from the capacity diagram for supply air. I am interested in what this is specifically in the 250 Hz range.

60 dBA - 4 = 56 dB which is an Lw value (sound power level without adaptation to the ear's A band)

#### > EXAMPLE 2

##### Radiated sound in Lw per octave

If a reading of 60 dBA at the working point is taken from the supply air capacity diagram (which indicates sound to duct) in order to arrive at a subsequent Lw value for the various octaves, a deduction is then made from the value for the relevant octave for the row with radiated sound.

60 dBA - 21 (for 500 Hz) = 39 dB, which is an Lw value and indicates the radiated sound from the unit in this octave.

#### > EXAMPLE 3

##### Radiated sound in total from the unit in LwA

At the bottom right of the table, a total value for radiated sound from the unit is stated in LwA. This is an aggregate value.

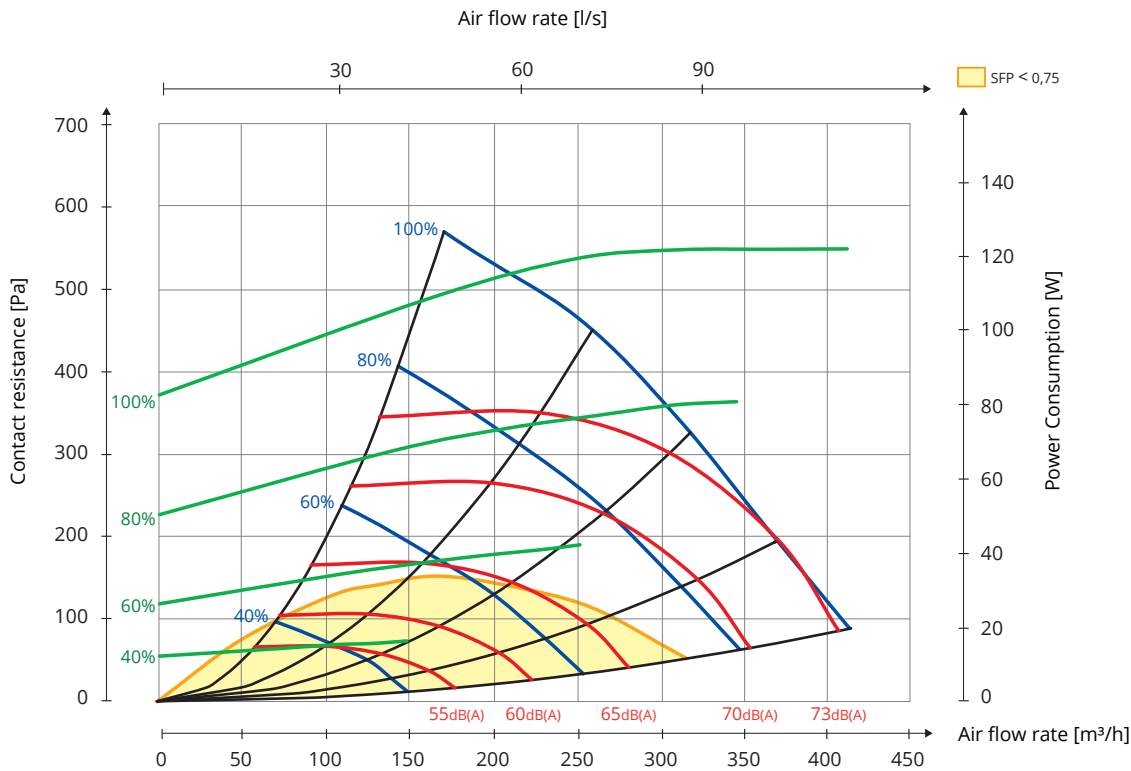
The values for the radiated sound for the different octaves have been totalled up and then corrected for A band.

This is used as follows:

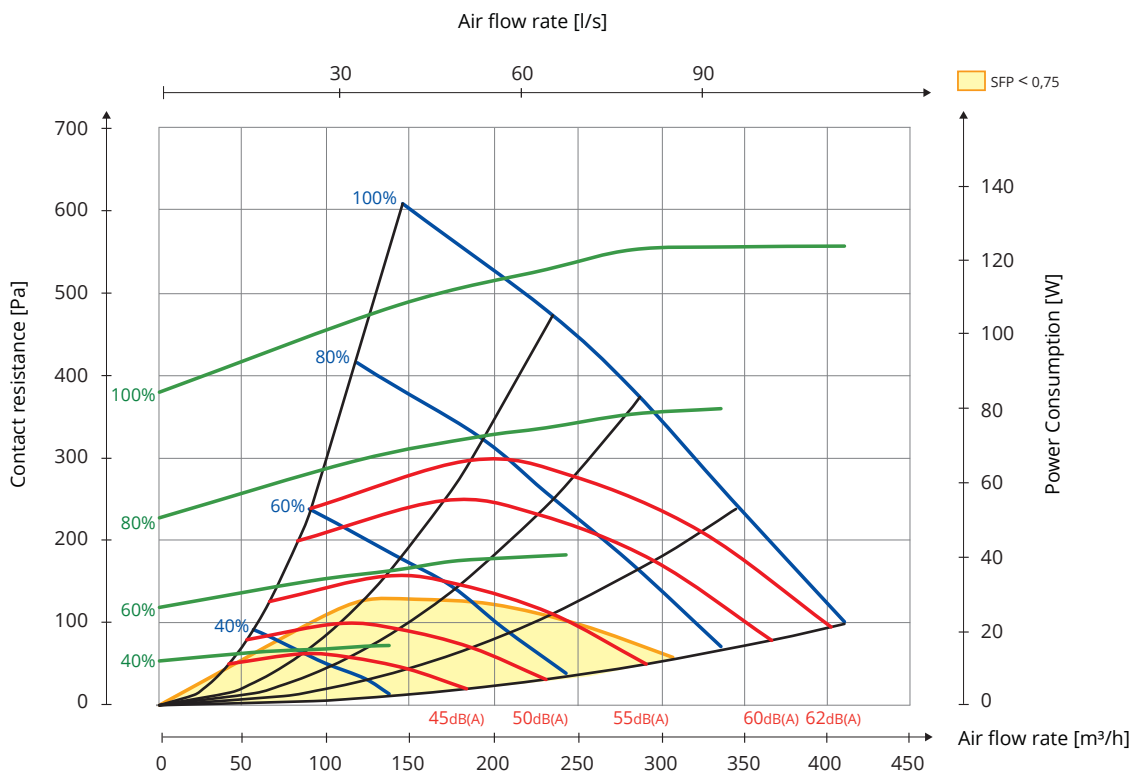
The LwA value is read from the supply air capacity diagram, in our example 60 dBA, and this is then subtracted from the total value (this is also an LwA value). LwA 60 dBA - 19 dBA = 41 dBA (which is then stated in LwA, the sound power level adapted to the ear's A band).

### 13. Capacity and sound data, CL4

#### 13.1. SUPPLY AIR SIDE, CL4



#### 13.2. EXTRACT AIR SIDE, CL4



**Using the capacity diagram:**

A diagram consists of a number of curves and axes which allow various types of data to be read off for the unit.

**1. Capacity curves (blue)**

These curves show the total available pressure and the air flow rate characteristic for the unit. The available pressure is read off to the left of the diagram. The air flow rate is read off in m<sup>3</sup>/h at the bottom of the diagram and in l/s at the top of the diagram.

The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

**2. Operation curves (black)**

These curves show how air flow rate and pressure change at different operating levels (fan speed).

**3. Power consumption curves (green)**

These curves show energy consumption for the fan at each operating level in watts. The power consumption is read off the scale to the right of the diagram. The various curves indicate different settings in % applied (0 – 100% = 0 – 10 V).

**4. Sound curves (red)**

These curves indicate values for the sound power level LwA of the duct at the various operating levels. To find the sound power level of the duct in the various octave bands, take the value read off in the diagram and correct it using the values in the table below the diagram for each octave. This produces the sound power level per octave.

**5. Correction axes (light green)**

Here you can read off the change in pressure when a water battery is used for heating. This pressure drop is deducted from the available pressure. This pressure increase is added to the available pressure.

Data for supply air is measured in accordance with ISO 5136, the "In-duct method". Radiated sound is measured in accordance with ISO 9614-2.

Bruel & Kjør measuring equipment, type 2260.

**13.3. CORRECTION FACTOR FOR LW, CL4**

Hz	63 Lw(dB)	125 Lw(dB)	250 Lw(dB)	500 Lw(dB)	1000 Lw(dB)	2000 Lw(dB)	4000 Lw(dB)	8000 Lw(dB)	LwA (dBA)
Supply air	3	5	3	-5	-8	-9	-15	-21	
Extract air	7	10	5	-6	-15	-17	-27	-30	
Radiated sound 1	-11	-17	-15	-21	-28	-28	-31	-39	-19
Radiated sound 2 (built in)	-11	-22	-21	-32	-37	-37	-41	-48	-27

Working point 240 m<sup>3</sup>/h against 100 Pa.

**> EXAMPLE 1**

**Sound to duct in the various octaves is stated in Lw**

The working point gives 60 dBA from the capacity diagram for supply air. I am interested in what this is specifically in the 250 Hz range.

60 dBA-3=57 dB which is an Lw value (sound power level without adaptation to the ear's A band)

**> EXAMPLE 2**

**Radiated sound in Lw per octave**

If a reading of 60 dBA at the working point is taken from the supply air capacity diagram (which indicates sound to duct) in order to arrive at a subsequent Lw value for the various octaves, a deduction is then made from the value for the relevant octave for the row with radiated sound.

60 dBA-21 (for 500 Hz) = 39 dB, which is an Lw value and indicates the radiated sound from the unit in this octave.

**> EXAMPLE 3**

**Radiated sound in total from the unit in LwA**

At the bottom right of the table, a total value for radiated sound from the unit is stated in LwA. This is an aggregate value.

The values for the radiated sound for the different octaves have been totalled up and then corrected for A band.

This is used as follows:  
The LwA value is read from the supply air capacity diagram, in our example 60 dBA, and this is then subtracted from the total value (this is also an LwA value). LwA 60 dBA-19 dBA = 41 dBA (which is then stated in LwA, the sound power level adapted to the ear's A band).

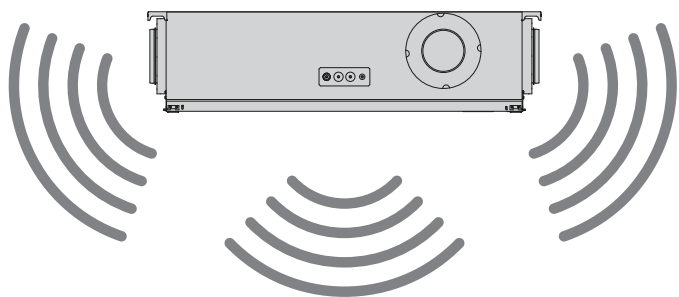


Figure 21 Radiated sound 1  
Suspended

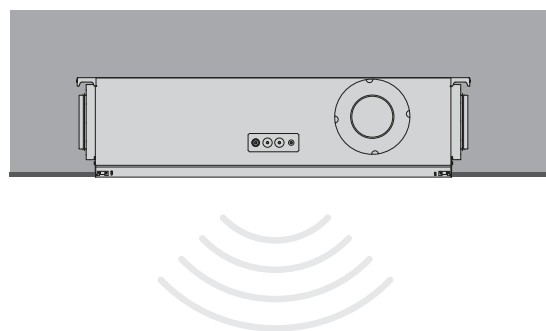


Figure 22 Radiated sound 2  
Integrated in ceiling

\*The test was performed with ceiling panels in 19 mm MDF.

## 14. Final checks/Starting

### 14.1. FINAL CHECKS

Check the following points:



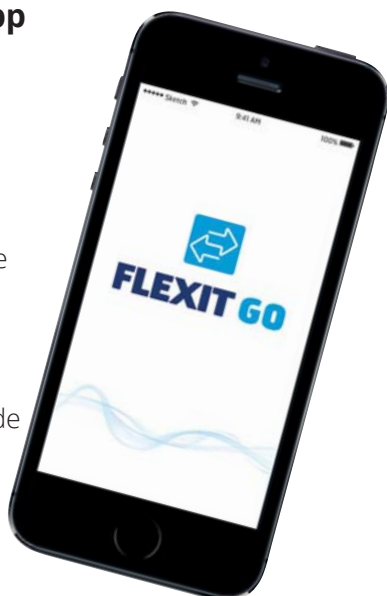
Description	Chapter	Performed
Duct insulation has been carried out in accordance with the manual and technical documents	3	<input type="checkbox"/>
Ducts have been connected to the correct nipples	6	<input type="checkbox"/>
Adjustment has been carried out in accordance with the manual and project engineering documents	-	<input type="checkbox"/>
The unit operates normally in all stages	-	<input type="checkbox"/>
The rotor rotates freely	-	<input type="checkbox"/>
Rotor rotates when heating is required	-	<input type="checkbox"/>
Heating comes on	-	<input type="checkbox"/>
Unit has filters for both outdoor air and extract air	3	<input type="checkbox"/>

## 14.2. STARTUP

### Flexit GO app (standard)

For installer, see  
startup guide  
(116628).

For end user,  
see startup guide  
(116908).



#### Using the Flexit GO app (standard):

Alt. 1: Connect the unit to the home's router.  
Alt. 2: Connect the unit to its own access point, see  
manual 116734.

- Connect the unit's power cable.
- The unit will now start.
- The unit will automatically carry out a startup procedure lasting approx. 3 min.
- Check that the app is connected to your unit. If not, follow the connection instructions in the startup guide for end user (116908).
- After the startup procedure the unit will follow the factory default operating settings.
- The settings can be changed using the app.
- Make sure that adjustment has been carried out in accordance with the manual and project engineering documents (ventilation data documentation).

### CI 70 control panel (accessory)

See manual  
(116081).

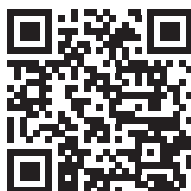


#### For use with a control panel (accessory):

- Check that the control panel has been wired up and was connected before the unit was started up.
- Connect the unit's power cable.
- The unit will now start.
- The unit will automatically carry out a startup procedure lasting approx. 3 min.
- After the startup procedure the unit will follow the control panel's default settings.
- The settings can be changed from the control panel.
- Make sure that adjustment has been carried out in accordance with the manual and project engineering documents (ventilation data documentation).



Startup guide  
(installer)



Startup guide (end  
user)

## 15. Complaints



Warranty claims will only be valid if the instructions in the manuals have been followed.

This product is covered by warranty in accordance with the current terms of sale, **provided that the product is used correctly and properly maintained.**

The warranty may be rendered invalid if the system is used incorrectly or maintenance is grossly neglected.

Complaints resulting from incorrect or defective installation must be submitted to the installation company responsible.

Filters are consumables.

Our products are subject to continuous development and we therefore reserve the right to make changes.

We also disclaim liability for any printing errors that may occur.

## 16. Waste handling



The symbol on the product shows that this product must not be treated as household waste.

It must be taken to a collection point for recycling electrical and electronic equipment.

By ensuring correct disposal of the equipment, you will help to prevent negative consequences for the environment and health that incorrect handling may entail.

For further information on recycling this product, please contact your local authority, your refuse collection company or the company from which you purchased it.

## 17. CE Declaration of Conformity

This declaration confirms that the products meet the requirements in the following Council Directives and standards:

2004/108/EC	Electromagnetic compatibility (EMC)
2006/95/EC	Low-voltage Directive (LVD)
2009/125/EC	Ecodesign Directive
1253/2014	Ecodesign Regulation
2010/30/EC	Energy Labelling Directive
1254/2014	Energy Labelling Regulation
327/2011	Fan Regulation
2002/95/EC	RoHS Directive
2002/96/EC	WEEE Directive
1907/2006/EC	REACH Regulation

Our products have been tested in accordance with parts of:

2006/42/EC	Machine Directive (Safety)
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Producer: FLEXIT AS, Televeien 15, 1870 Ørje, Norway

Type: Nordic CL2 Ventilation Unit  
 Nordic CL3 Ventilation Unit  
 Nordic CL4 Ventilation Unit

Complies with the following standards:

Safety standard	EN 60335-1:2012 + A11
EMF standard:	EN 62233: 2008
EMC standard:	EN 61000-6-3:2007 + A1:2011 EN 61000-6-1:2007
Ventilation for buildings, components	EN 13142:2013
Ventilation for buildings, performance characteristics	EN 13141-7:2010
Acoustics – Radiated sound	ISO 9614-2:1996
Acoustics – In-duct sound (In-duct method)	ISO 5136:2009

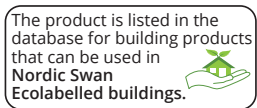
The product is CE-marked: 2019

FLEXIT AS 2019

Knut Skogstad  
 CEO



Flexit participates in the ECP programme for RAHU.  
Check ongoing validity of certificate:  
[www.eurovent-certification.com](http://www.eurovent-certification.com)



Flexit AS, Televeien 15, 1870 Ørje, Norway  
[www.flexit.no](http://www.flexit.no)