

Flexit SPIRIT K2R



Air handling unit with integrated kitchen hood

- The quietest on the market
- Modern design
- Energy-efficient
- Installation in the kitchen



Flexit SPIRIT -
a new generation of air handling units for homes.



Functional design

Flexit SPIRIT K2 is available in white and silver. A separate volume part in glass and metal for installation below the unit is supplied with the product. The volume part ensures extremely good odour absorption. The product can be installed without the volume part. Separate mouldings must be ordered. See accessories.



Control panels

To go with the new unit, you can choose between the CI 60 and CI 600 control panels.



CI 60 control panel

The CI 60 control panel has all the necessary control functions. It is possible to adjust and control speed and temperature on the panel. The panel gives a signal if there is a fault in the unit or the filter needs changing. The panel is the right size to fit a single wall box and comes with a low-voltage cable for connection to the unit. Several panels can be connected if ventilation needs to be controlled from several places in the dwelling..



CI 600 control panel

The Flexit CI 600 has lots of extra refinements and control options. In addition to the standard functions on the CI 60, the CI 600 has the following features:

- Timer function
- High-resolution colour display with text and symbols
- Cooling control
- Extract air control

The panel displays indoor and outdoor air temperature. Functions and alarms appear on the display with help messages. The panel is the right size to fit a single wall box and comes with a low-voltage cable for connection to the unit.

If ventilation needs to be controlled from several places in the dwelling, a CI 60 panel and wireless forcing switch can be used.

Cleaning and filter changes

Changing the filters regularly and cleaning the fans ensure that the air handling unit works optimally. Cleaning is simple if you follow the description in the user manual. The fat filter in the kitchen hood absorbs fat and food odours from food preparation. The fat filter must be cleaned regularly and can be cleaned in a dishwasher.

The air handling unit has two filters that filter out outdoor pollution and protect the rotor from dirt. Filters must be replaced as required, once or twice a year. Filter replacement is easy. Open the front and change to a new filter. With a Flexit filter subscription, filters are sent directly to the address you specify. Read more about filter subscriptions at www.flexit.no.



The filters for the air handling unit are easily accessible and can be easily replaced.

Requirement-controlled ventilation

– the right amount of air at the right time

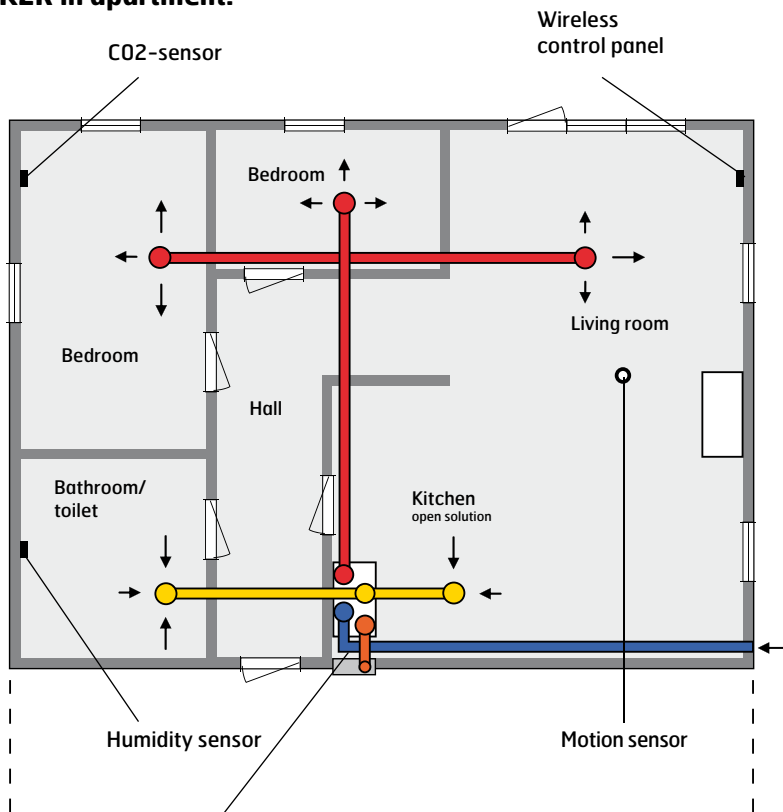
In addition to high efficiency and low SFP, energy-efficient ventilation is also about supplying the right amount of air at the right time. Flexit's new automatic control system has been developed to make it easier to operate the user interface correctly. It is also possible to use a number

of control options such as timer, CO2, pressure, humidity and the presence of people to automate ventilation so as to ensure a good indoor environment and low energy consumption.

Key to the colour codes used in the ventilation system:

- Extract air. Contaminated air is removed from wet rooms, bathrooms and toilets.
- Supply air. Filtered, conditioned air is supplied to bedrooms and living rooms.
- Exhaust air. Contaminated air is expelled from the house.
- Outdoor air. Clean, fresh air is drawn in from outside.

K2R in apartment:



Air handling units

in a separate room. It is equipped with low-energy fans, a high-efficiency rotor recovery system and fine filters. The control system regulates as required.

CI60 (09410) or CI600 (09415) (advanced)

in a separate location in dwelling for simple control and monitoring of the ventilation system.



Motion sensor (09390)

in living room sends a signal to the unit to increase ventilation to max setting



CO2-sensor (110991) in living room

sends a signal to the unit regarding the contamination level in the room. Ventilation is adjusted as required



Wireless control panel (110983)

for forcing (max) ventilation. It can be positioned near the bathroom for accessibility. Simple retrofitting without laying cables.



Humidity sensor (110987) in bathroom and wet room

sends a signal to the unit regarding the humidity level in the room. Ventilation is adjusted as required.



Fireplace requires an adequate air supply to ensure a good updraught and prevent smoke from coming into the room.

Wireless control panel (110983) for increasing the air supply if a fireplace is used. It can be positioned near the fireplace for accessibility. Simple retrofitting without laying cables



Requirement-controlled ventilation

– the right amount of air at the right time

Requirement-controlled ventilation means that ventilation in the building can be controlled in such a way that the needs of the occupants are properly catered for and the building is ventilated well enough to prevent possible damage.

See www.flexit.com for more information.

Product description

Flexit SPIRIT K2R is an air handling unit with a rotating heat recovery system and integrated kitchen hood. The product is installed in the kitchen above the hob and is suitable for new and existing flats, studio flats, terraced houses and small detached houses. The unit is available with AC or EC fans. The unit has two F7 compact filters.

The supply air passes via ducts and valves to living rooms and bedrooms. The extract air is extracted either from the same room or via door gaps/overflow gratings to toilets and wet rooms. The used air passes via the duct system back to the unit, emits heat and is blown out of the building via a roof hat, combi-box or wall grating.

Flexit SPIRIT K2R is fitted with an efficient rotating heat recovery system. The rotor unit has a high efficiency and meets the heating requirements for the ventilation air for most of the year.

The cold outdoor air passes through one half of the rotor and the warm extract air passes through the other half. With this principle, a large part of the heat in the extract air will be transferred to the supply air.

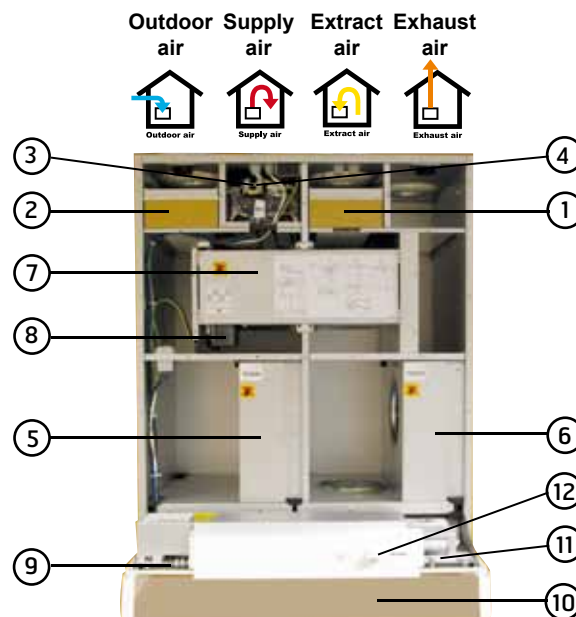
Spirit K2 is designed with a pressure fan for supply air and a suction fan for extract air to avoid odour transfer. Both extract air and supply air are filtered so that pollution does not come into contact with the rotor material. The moisture in the extract air accompanies the air out in the exhaust duct and out of the building.

The rotor technology does not require condensation drainage. This means simpler installation. The unit has an electronic control that automatically switches the recovery function off/on in relation to the outdoor temperature. If the outdoor temperature is extremely low, a heating element will ensure that the supply air has the desired temperature. When there is no need for recovery (for example in the summer), the rotor will stop.

Flexit SPIRIT K2R is fitted with electronic automatic control which is controlled from a separate CI 60 or CI 600 control switch. There is simple adjustment of speeds for both AC and EC fans.

The integrated kitchen hood has switches for the damper and forcing and a pushbutton for lighting. The damper is opened during food preparation by turning the switch. When the switch is at level 1, the damper will be half open. When the switch is at level 2, the damper is fully open. When the switch is at level 3, the unit will increase the air flow rate to 3 (forced ventilation). The switch must be turned back manually (after food preparation). To avoid the rotor getting dirty, cooking fumes bypass the rotor recovery system.

(Left model shown. The right model is inverted.)



General view (rotary wheel heat exchanger)

- | | |
|------------|----------------------------------|
| 1 (F12) | Extract air filter F 7 |
| 2 (F11) | Supply air filter F 7 |
| 3 (EB1) | Heating element |
| 4 (F10-20) | Overheating thermostat (Reset) |
| 5 (M1) | Supply air fan |
| 6 (M2) | Extract air fan |
| 7 (HR-R) | Rotary wheel-type heat exchanger |
| 8 (M4) | Rotor motor |
| 9 | Control unit |
| 10 | Kitchen hood |
| 11 | Adjustment switch |
| 12 | Damper adjustment |



Switches for operating the kitchen ventilation and light are easily accessible at the front.



Flexit Spirit K2R seen from below. The fat filter and glass for the compact fluorescent tube can be easily detached.

Flexit SPIRIT K2R

Art.no.	Type	
	EC-fans	(Low-energy fans)
700014	K2 RER EC W	right mod. white, EC-fan
700015	K2 RER EC S	right mod. silver, EC-fan
700016	K2 REL EC W	left mod. white, EC-fan
700017	K2 REL EC S	left mod. silver, EC-fan
	AC-fans	
700010	K2 RER AC W	right mod. white, AC-fan
700011	K2 RER AC S	right mod. silver, AC-fan
700012	K2 REL AC W	left mod. hvit, AC-fan
700013	K2 REL AC S	left mod. silver, AC-fan



Control Panel must be selected.
CI60 or CI600 specified when order a unit.

Control panels

Art.no.	Type
09410	CI 60 Control panel
09415	CI 600 Control panel, with timer function



CI 60



CI 600

If you want to control the unit from multiple locations, order extra control panels.

Accessories

Art.nr.	Type
12767	Filter set, F7/F7
111577	Filter, F7, hybrid (carbon-coated)
102194	Filter for kitchen hood, 400x200mm
110983	Forcing switch, wireless (complete set)
111293	Additional forcing switch
09390	Motion detector SP 450
09861	Fire- smoke detector
110991	CO ₂ -sensor
110987	Humidity sensor
09862	Damper for ventilation throug kitchen hood
00801	Combi. Unit, hvit (2x125mm)
00802	Combi. Unit, black (2x125mm)

Kitchen hood without vol.glass

110058	Profil list, white
110059	Profil list, silver

For top cabinet below 700mm

110056	Film for side, whitet
110057	Film for side, silver

Duct covers

When duct goes straight up. Covers height 215-380mm.

09863	Duct cover, white
09864	Duct cover, silver

When duct goes to the side. Covers height 215-380mm.

09865	Duct cover, white
09866	Duct cover, silver



Filter set (F7/F7)



Filter, kitchen hood



Forcing switch, wireless, complete set



Motion detector



Fire-/smoke detector



CO₂-sensor



Humidity sensor



Damper



Combi. Unit



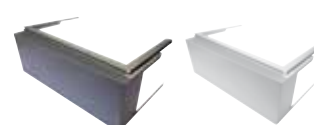
Profil list



Film



Duct cover,



Duct cover, open

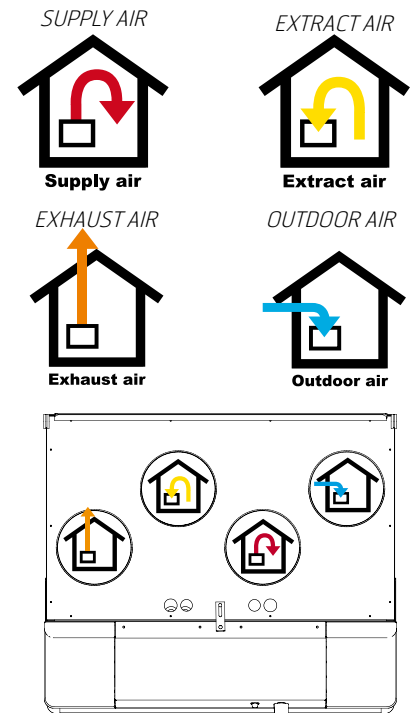
Technical data

	K2R AC	K2R EC
Rated voltage	230 V/50 Hz	230 V/50 Hz
Fuse	10 A	10 A
Rated current, total	3.7 A	3.9 A
Rated power, total	846 W	870 W
Rated power, electric batteries	700 W	700 W
Fan power	2 x 62 W	2 x 74 W
Rated power rotor motor	3 W	3 W
Fan type	B-wheel	F-wheel
Fan motor control	Transformer	0-10 V
Max. fan speed	2500 RPM	1970 RPM
Automatic control standard	CS 60	CS 60
Filter type (SUP/EXTR)	F7/F7	F7/F7
SUP filter dimensions (WxHxD)	130x335x50 mm	130x335x50 mm
EXTR filter dimensions (WxHxD)	130x335x50 mm	130x335x50 mm
Weight	56 kg	56 kg
Duct connection	Dia. 125 mm (sleeve)	Dia. 125 mm (sleeve)
Height (without glass screen and bosses) *	700 mm	700 mm
Width	598 mm	598 mm
Depth (including glass screen) *	510 mm	510 mm
Lighting, compact fluorescent tube	11 W/G23	11 W/G23

* See dimensioned drawing on next page.

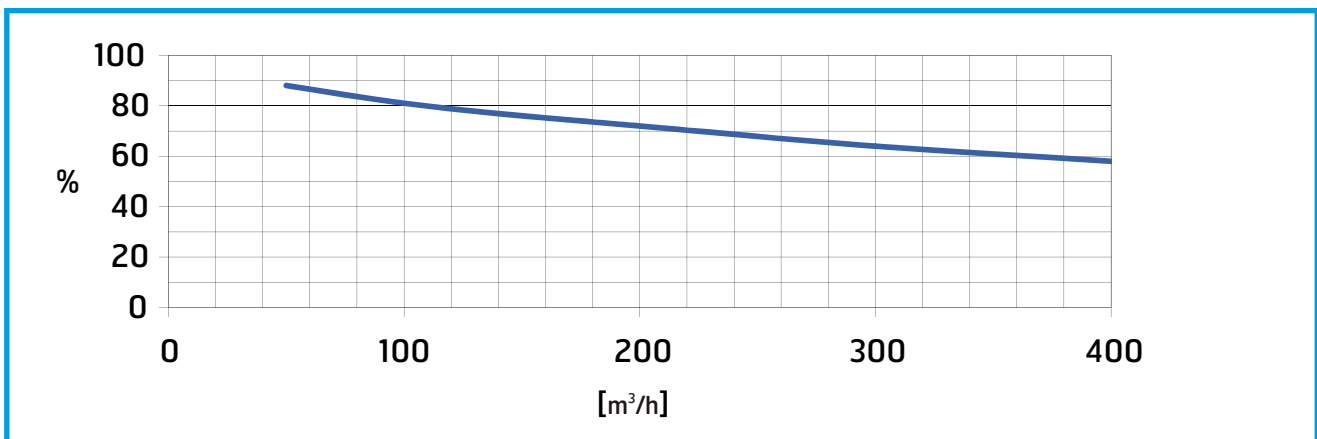
Symbols Used

These products have a number of symbols that are used to label the product itself and in the installation and user documentation.



EXAMPLE OF NIPPLE LOCATIONS (shown as a right model)

Temperature efficiency (according to EN 308)

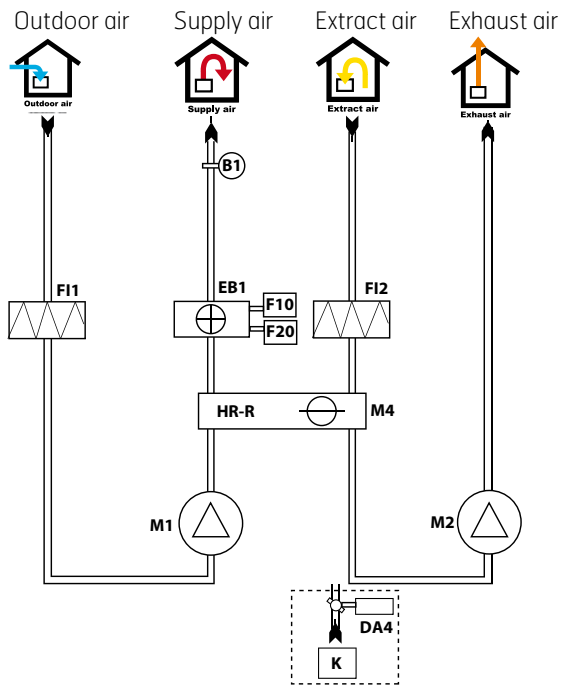


www.flexit.no

Here it's possible to download FlexitCalculation. This is a calculation program for air handling units that make it easier to find the best unit.

There are dimensioned drawing and 3D-models of the units and all technical values of the products. It can be removed files for use in other applications, eg. MagiCAD.

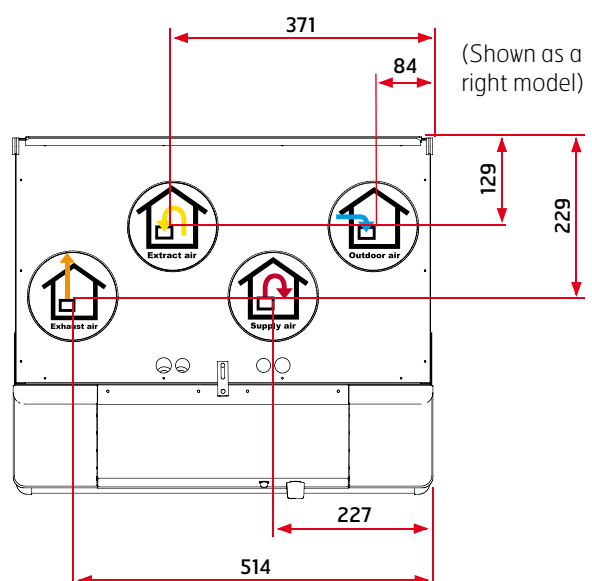
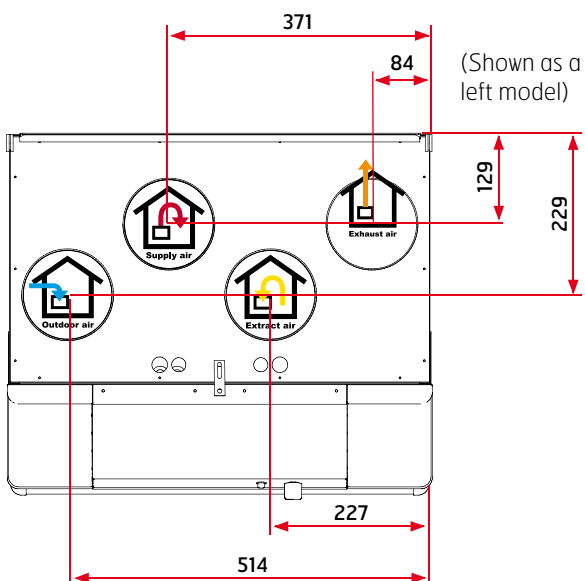
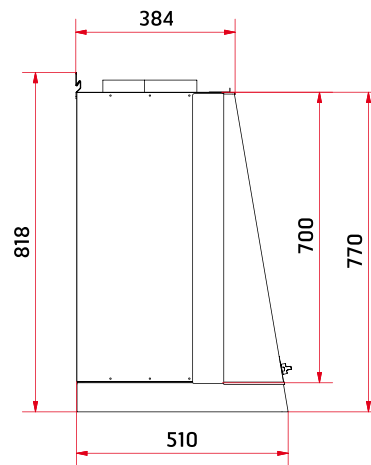
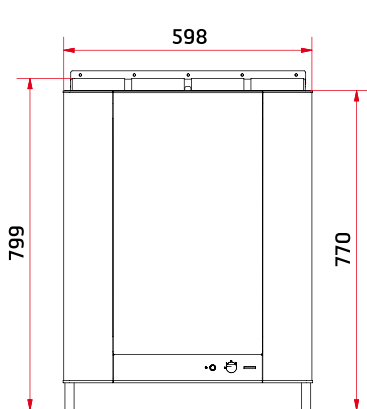
System drawing



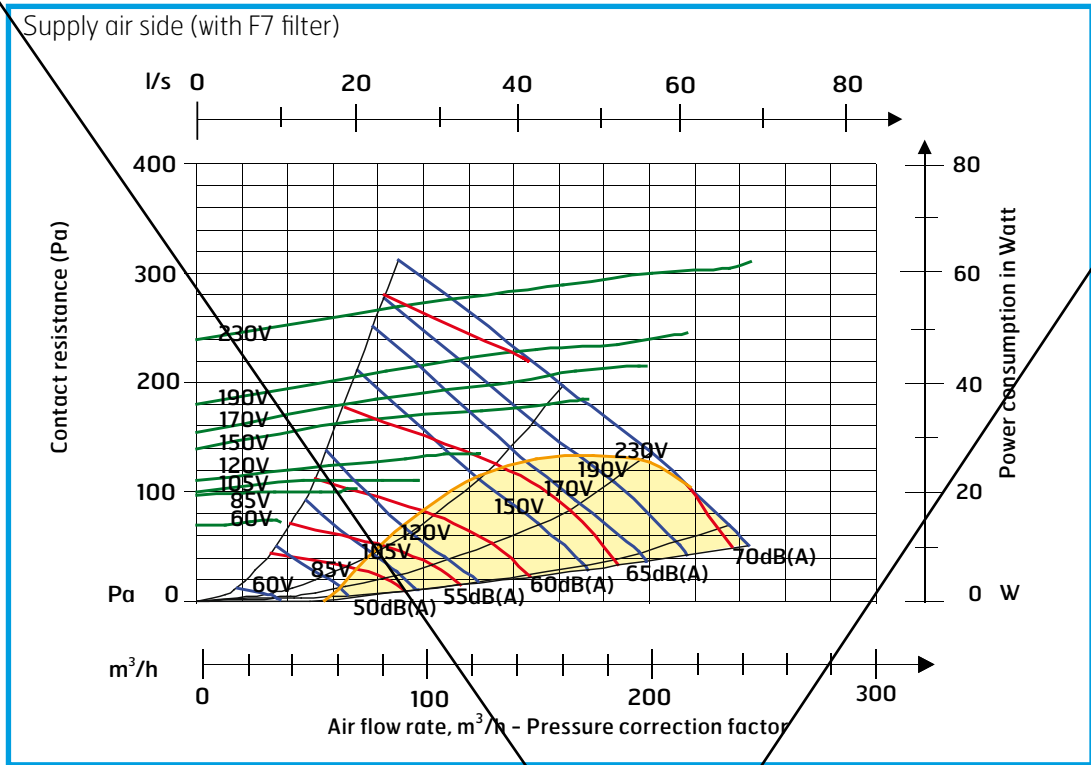
System drawing (electric battery)

- B1 Supply air temperature sensor
- EB1 Heating element
- 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
- K Kitchen hood
- DA4 Damper

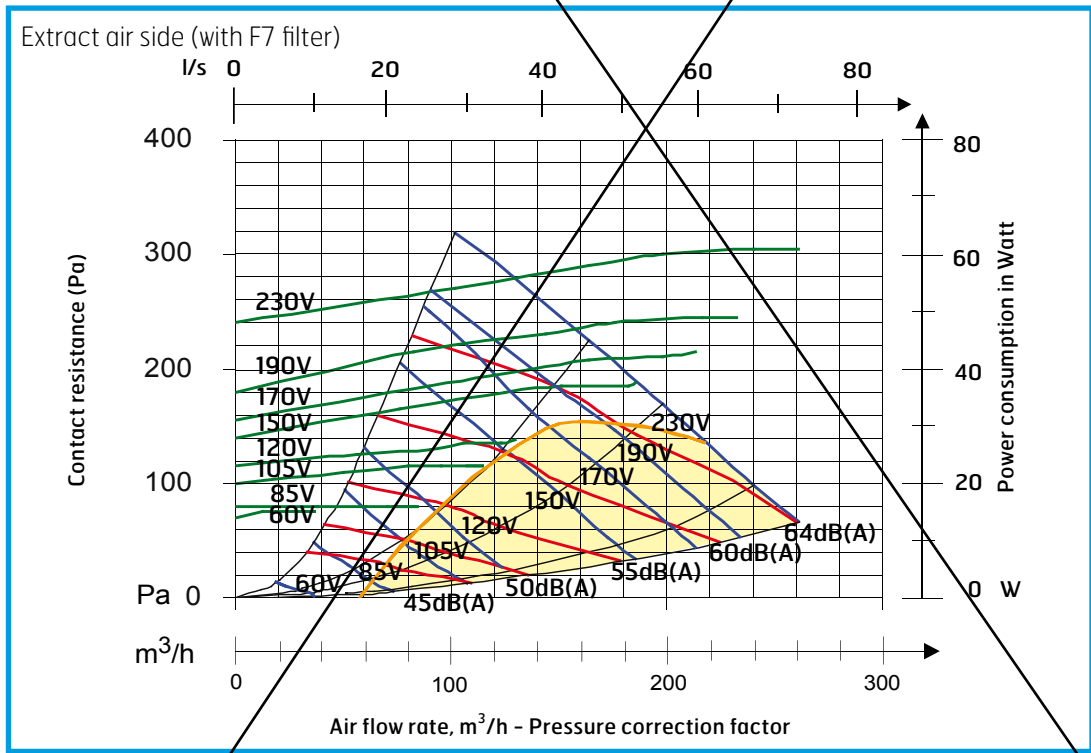
Dimensioned drawing



Capacity diagram, sound data, specifications - K2R AC



Yellow field:
SFP < 1.0 per fan



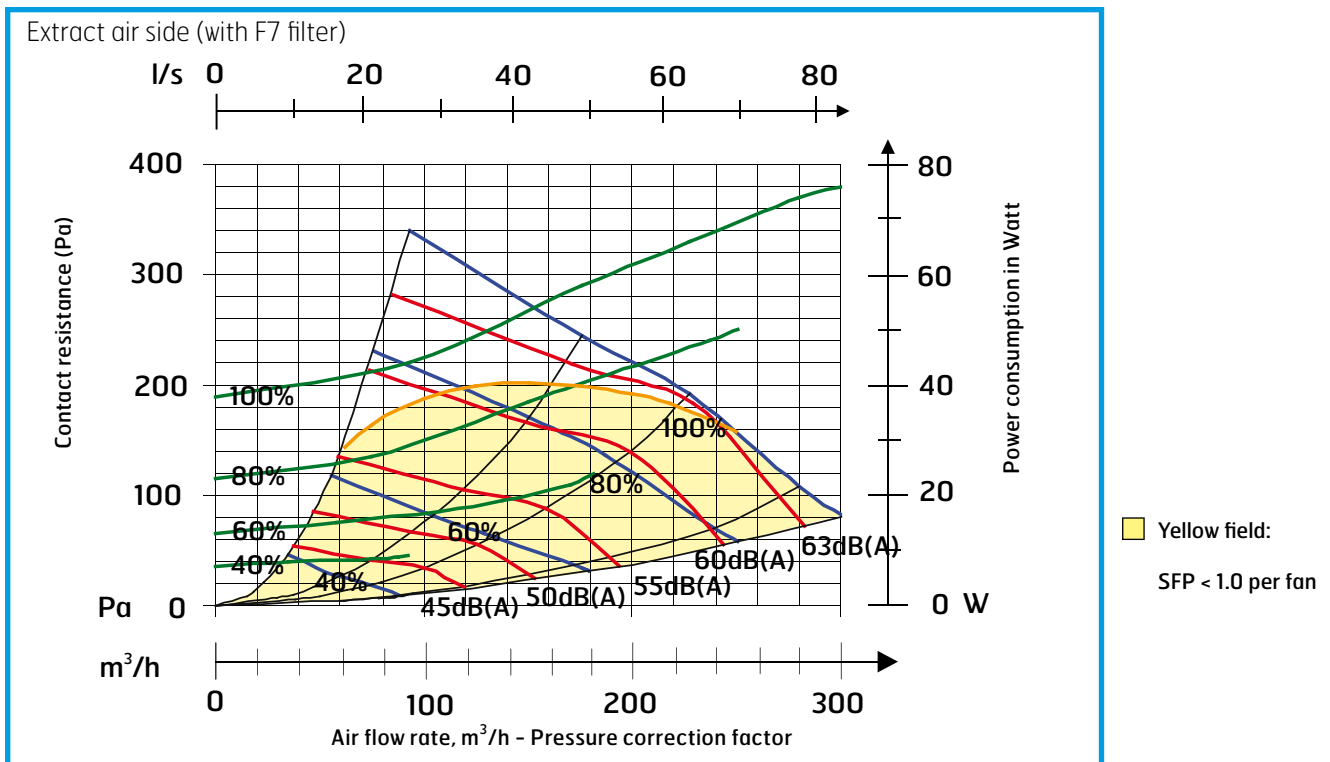
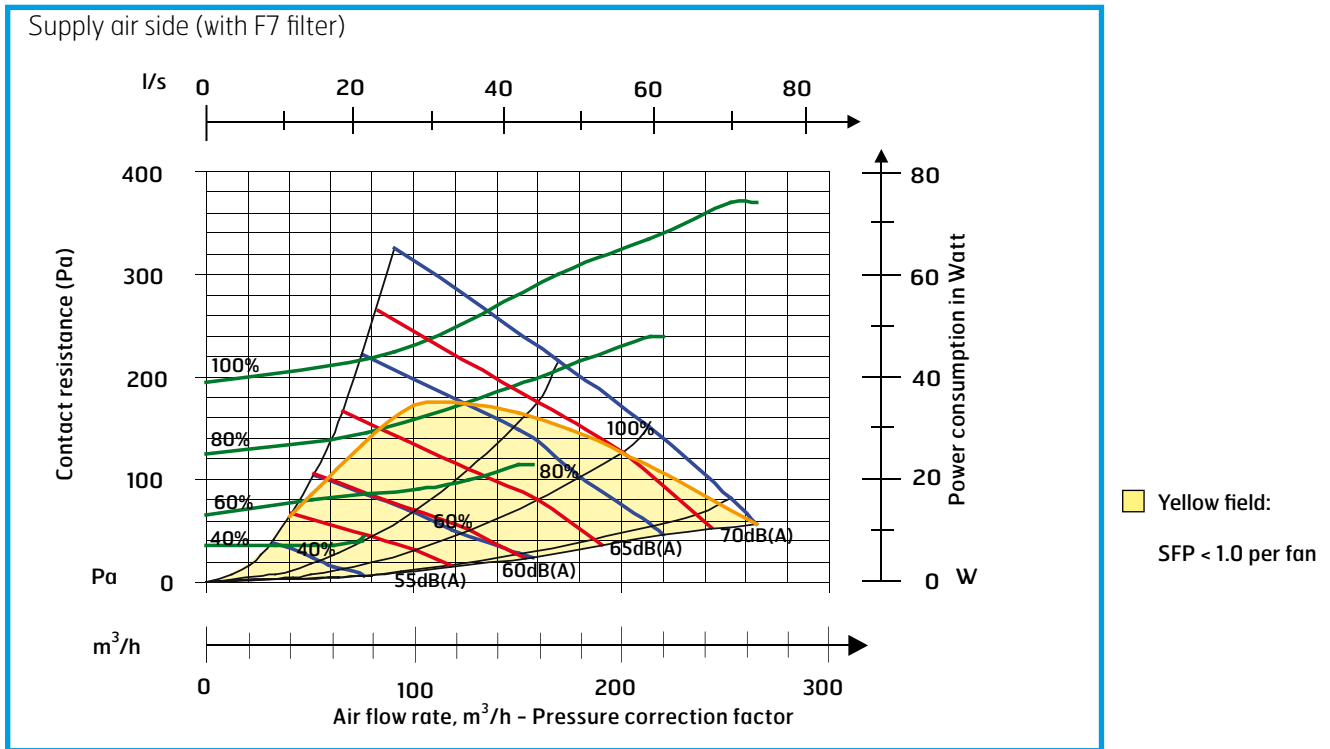
Yellow field:
SFP < 1.0 per fan

Sound data is given at sound power level L_{wA} in the capacity diagrams and is corrected with the table below for the various octave bands. Radiated noise produces L_w in the various octave bands and total L_{wA} . Radiated noise is calculated by taking the noise value from the supply air table and deducting the total value from the correction factor table.

Correction factor for L_w

Hz	63	125	250	500	1000	2000	4000	8000	L_{wA}
Supply air	4	5	5	-2	-12	-15	-21	-41	
Extract air	9	10	5	-5	-16	-14	-26	-45	
Radiated	-46	-39	-29	-36	-40	-44	-54	-58	-33.5

Capacity diagram, sound data, specifications - K2R EC



Sound data is given at sound power level L_{wA} in the capacity diagrams and is corrected with the table below for the various octave bands. Radiated noise produces L_w in the various octave bands and total L_{wA} . Radiated noise is calculated by taking the noise value from the supply air table and deducting the total value from the correction factor table.

Correction factor for L_w

Hz	63	125	250	500	1000	2000	4000	8000	L_{wA}
Supply air	14	7	-2	-5	-3	-13	-18	-33	
Extract air	15	9	0	-3	-8	-11	-19	-36	
Radiated	-41	-35	-33	-39	-40	-49	-50	-60	-33.5

Flexit – the safe choice!

Flexit specialises in home ventilation and delivers clean, fresh air solutions for a healthy indoor environment. Flexit is the market leader in home ventilation and has been supplying ventilation solutions to Norwegian homes for 35 years.

Flexit is a Norwegian company. All products are developed specially for the Nordic climate. Products are tested and documented in accordance with the latest standards.
That gives you peace of mind!

The SPIRIT range

– a new generation of air handling units from Flexit

Flexit's new SPIRIT range is a brand new generation of air handling units. Stricter energy requirements in the regulations and the new Passive House Standard demand efficient air handling units, and the SPIRIT range has been developed to meet that need. High targets for energy efficiency, quietness, user friendliness and quality

characterise the whole range, and new models will be introduced in the future. All the models are equipped with high-efficiency rotating recovery systems and have low-energy fans. Together with the new control system, this means that the SPIRIT range sets a new standard in home ventilation.



Flexit K2R

It is a combined air handling unit with an integrated kitchen hood, specially designed for flats. It has a high-efficiency rotary recovery system and low-energy fans. The unit is very quiet.



Flexit UNI 3

Air handling unit with a capacity of around 400 m³/h. It has a high-efficiency rotary recovery system, low-energy fans and a new control system. Designed for small dwellings, single-family houses, small office buildings and passive houses.



Flexit UNI 4

New air handling unit with a capacity of 680 m³/h. It has a high-efficiency rotary recovery system, low-energy fans and a new control system. Design for bigger homes, small office buildings and passive houses.



SINTEF, working together with Flexit, has developed optimal technological solutions with the emphasis on energy efficiency and good indoor environment.



NORSK DESIGNRÅD
NORWEGIAN DESIGN COUNCIL

The Norwegian Design Council, working together with Flexit, has conducted user surveys to ensure optimal user friendliness.

Hareide Designmill has assisted Flexit with design development.

EE products

(electrical and electronic products)

Flexit meets its obligations under the Waste Regulations/ EE Regulations through its membership of the following waste recycling company **Ei-retur AS**

EE waste must not be disposed of with other waste, but when no longer needed should be handed into a dealer or appropriate location at a local disposal/collection centre. Since 2005 EE products have been labelled with a crossed-through waste bin and are part of a return and recycling system where they are accepted free of charge.

*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.*