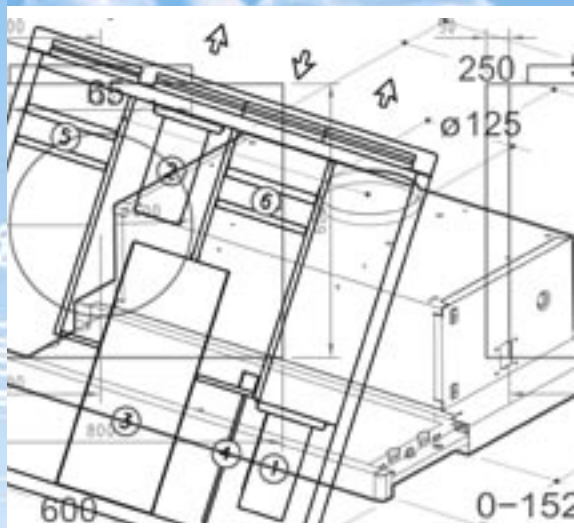
Flexit S3 R

Air Handling Unit
– rotor technology
– flexible installation



– FOR FLATS AND SMALL DETACHED HOUSES

FOR A HEALTHY INDOOR ENVIRONMENT

FLEXIT®
CLEAN AND FRESH AIR

Flexit S3 R

Air Handling Unit with Rotor Technology

Flexit has developed a new S3 R ventilation unit that can be installed in many locations.
The unit has rotating recovery systems that ensure high recovery and simple installation. The unit has small physical dimensions and has been developed for flats and small detached houses. The unit can be connected to a kitchen hood.

Optimal ventilation - clean, fresh air – all year long
The rotor unit offers stable operation throughout the year. The rotor technology has no problems with icing and freezing. This is particularly important in the Nordic countries, where the climate can be cold.

High efficiency - energy-saving
The rotor unit has a high efficiency and efficiently recovers the heat from the air extracted from the home. The high efficiency ensures that a high proportion of the energy used for heating the ventilation air is recovered and produces the desired ventilation in the home throughout the year, including the cold part of the year.

Heating required only in severe cold
The rotor unit has a high efficiency and meets all the heating requirements for the ventilation air for most of the year. Additional heating may only be required with severe cold. The heating batteries are dimensioned to meet heating requirements for the ventilation air throughout the year.

Automatic summer operation
The rotor unit has an electronic control that automatically switches the recovery function off/on in relation to the outdoor temperature. This means you do not have to switch to a summer cassette in the summer and take out the summer cassette in the winter.

Simpler installation without a drainage outlet
The rotor technology does not require condensation drainage. This means simpler installation and lower installation costs, plus great freedom when it comes to locating the unit.

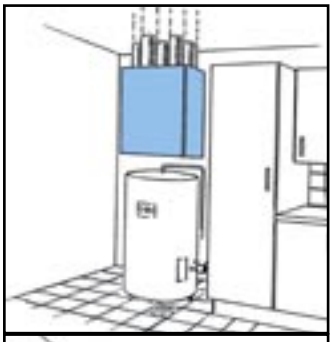
Energy limits
The high efficiency in the rotor unit means that you can utilise the energy limits for redistribution. This means that, with the high efficiency, you can have larger windows or more windows and/or reduced insulation. This may be of particular interest in “problem houses” where you have challenges relating to the structural engineering.

Area of use
The unit is particularly well suited to flats and small detached houses. The unit can be installed in many locations, for example in storage rooms, in washrooms, in corridors, in lofts, on roofs/ceilings or in the kitchen. The unit can be installed vertically as a cabinet model or horizontally, for example in a loft.

Flexit S3 R

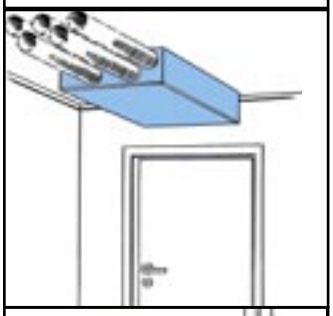
Possible Installation Locations

In flats and small houses, it is very important to use space well. The S3 R unit has been developed precisely to fulfil this need. In addition, the unit has the advantages of rotor technology in that no condensation water is formed and it is not necessary to connect it to a drainage outlet. The S3 R has small physical external dimensions, is easy to install and can be installed in a number of locations in the home.

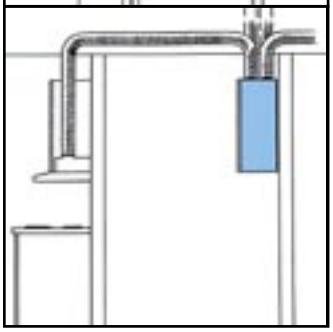


Installation on the wall as a cabinet model
The S3 R unit is ideal for installation on the wall as a cabinet model. For example, the unit can be installed in a wet room above a water heater or in connection with a top cabinet. In wet rooms the unit must be located in zone 3 (minimum 0.6 m from the edge of the bath and 1.2 m from the shower head).

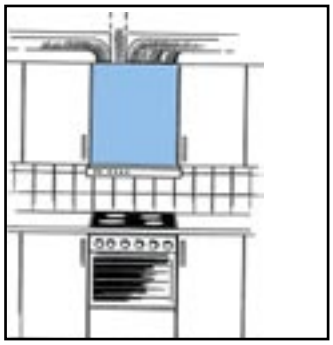
Installation in a Loft
The S3 R unit can be installed in a loft. It is condensation-insulated and can be installed horizontally with the back down or vertically with the bosses on the top.



Installation under a roof/ceiling
The S3 R unit can be installed under the ceiling in storage rooms, technical rooms, wet rooms or corridors. Mounting brackets are supplied for simple installation.



External connection of a kitchen hood
The unit can be connected to an external kitchen hood. A separate duct connection that is standard on the unit is used for the external kitchen hood. During food preparation, the extract air from the kitchen hood bypasses the rotary wheel-type heat exchanger.
We recommend a closed air damper and basic ventilation from the kitchen via a separate extraction valve in the roof or wall.
The kitchen hood is supplied separately and is installed on site. It is possible to choose between Slimline models, built-in hoods and ventilator cabinet models. Also available with a separate SP 30 control switch that can be installed in the bathroom, for example.



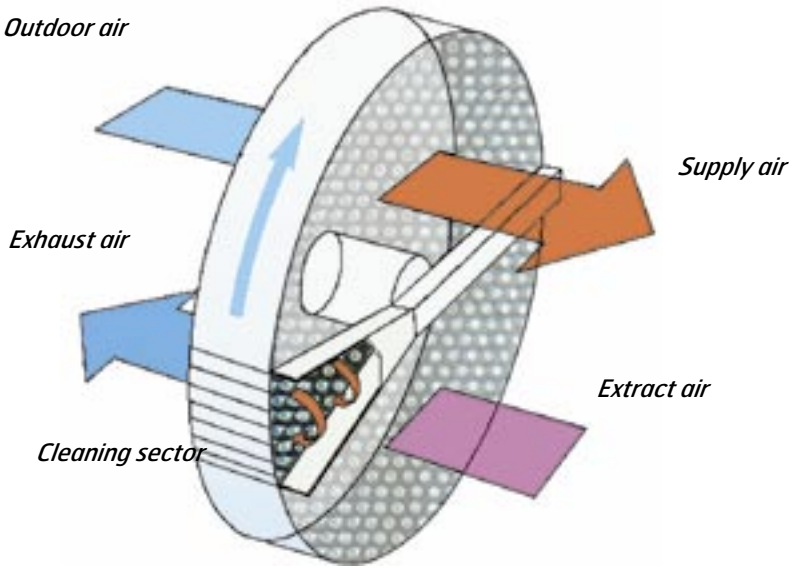
Installation in a kitchen cabinet
A separate unit model, the S3 RK, can be installed in a kitchen cabinet above the cooker. During food preparation, the cooking fumes bypass the rotary wheel-type heat exchanger.
The kitchen hood is supplied separately and is installed on site.
We recommend a closed air damper and basic ventilation from the kitchen via a separate extraction valve in the roof or wall.
Please note that extra height is required between the cooker and up to the bottom of the kitchen hood where a gas cooker is used.

Product Description

The unit is designed to provide optimal air comfort combined with low energy consumption in flats and small houses. The heated, used indoor air is extracted via extraction valves from the kitchen and wet rooms, passes through a filter and is introduced into the unit's rotary wheel-type heat exchanger before being conducted out of the home via a roof hat or wall outlet (combined box). The outdoor air is introduced, via an outdoor air intake, into the unit, is filtered, continues via the rotary wheel-type heat exchanger and absorbs up to 80 % of the heat from the extract air. The electronically controlled heating battery ensures a comfortable supply air temperature at very low temperatures. After the unit, the supply air normally passes through silencers before flowing in through the supply air valves, fresh, clean and tempered. The S3 R unit is fitted with an electronic automatic control that is operated from a separate SP30 control switch.

Installation
The rotor units do not create condensation water. This makes installation simplier because a drainage system is not necessary. There is greater flexibility for the installation location as you do not need to take into account the distance to the drain.

Rotating recovery system
The S3 R unit is fitted with an efficient rotating recovery system.
To protect the air flows from each other, the recovery system is fitted with a cleaning sector.
In addition, both the extract air and supply air are filtered so that contamination does not come into contact with the rotor material.



Design
The unit's outer cabinet is made of white-lacquered sheet steel. The inner cabinet has galvanised sheet steel and 15 mm condensation insulation. The front door is hinged and locked with screws.

Duct connections
The connection is dia. 127 mm sleeve dimensions and fits dia. 125 mm duct dimensions.
The unit is available in right or left versions.

General
The unit is available in two variants, as just a unit and as a unit with a kitchen hood for installation above the cooker. The kitchen hood is a separate unit that is installed on site.
The kitchen hood can be installed separately or as a separate model with an integrated kitchen hood for kitchen installation. See Technical Data for an overview of models.

Product Description

Temperature adjustment
The unit is supplied with an electronic temperature sensor that must be installed in the supply air duct. The supply air temperature required can be set. The supply air is maintained by the unit's rotating recovery system and heating battery.

Connection of external components
External components such as timers, external control switches for heating and forcing switches can be connected to the unit. All connections are via flexilink cables to the SP 30 control switch.
An external kitchen hood can be connected.

Fans
The unit is fitted with single-suction F-wheel radial fans. The fans have a low noise level and a high capacity, even with long duct sections. The fans are mounted in a hinged bracket that can easily be removed. The electrical connections can also be removed easily via click connections.

Heating element
In order that the supply air has the correct comfort temperature and does not feel like a cold draught, the units are fitted with an electronically controlled heating element. This is switched on when the supply air temperature falls below the set level and produces the necessary temperature increase.

Summer operation
The rotating heat exchanger is electronically controlled and controls the supply air temperature. During the warm part of the year, the recovery function is switched off automatically when it is not required. A summer cassette is therefore not necessary.

Filters
The unit is fitted with supply air and extract air filters in the F7 class. The filters can be replaced easily without the use of tools. The rotor unit requires regular filter replacement (1-2 times a year) to ensure clean, fresh air and problem-free operation.

Control
The Flexit S3 R is fitted with an electronic control that controls the unit automatically via a printed circuit board. The connection board is mounted on a rail and can be pulled out for easy service. An SP 30 control panel, with a 12 m signal cable with an ISDN contact for simple, flexible installation of the control panel, is supplied. The supply air temperature is maintained by means of the highly efficient heat recovery in the rotor. The rotor is controlled according to the supply air temperature required. If the supply air temperature cannot be maintained just by using the rotor, the heating battery switches on automatically as required. During the warm part of the year, when heating requirements are minimal, the rotor stops so that the supply air is not heated. Using the SP 30, the fans can be set to three speeds and the rotor/heating can be activated. The panel has signal lamps that show the speed stage selected and when the heating sequence is activated. A lamp warns of fire/overheating and if the filters are clogged (a pressure guard is an accessory).

Flexit S3 R External Connection of a Kitchen Hood

The S3 R air handling unit can be connected to an external kitchen hood. For external connection, you can choose between three types of kitchen hood; ventilator cabinet models,slimline models and built-in hoods. The kitchen hoods have manually adjustable air dampers with simple adjustment for basic ventilation. The fan speed and air damper are operated easily from the same switch.

Fan speeds
The desired speed is selected on the unit's control panel, the SP 30. By opening the kitchen hood's forcing air damper, the fan speed is also increased to the preselected maximum speed. When the kitchen hood's air damper for basic ventilation is used, the extract air is extracted from the kitchen outlet as all the air from the kitchen hood bypasses the heat exchanger. Flexit recommends including the kitchen's basic ventilation in the heat recovery system and fitting a separate extraction valve in the kitchen. If it is not possibleto have a separate extraction valve in the kitchen, the basic ventilation air damper can be replaced with an open air damper.

SP 30 control panel

Brasserie

Bistro

Fondue

Brasserie – ventilator cabinet model
Brasserie is placed under a ventilator cabinet/spice rack. The hood is equipped with a 0-60 min. timer that opens the air damper and forces the unit. The kitchen hood is easy to clean and is fitted with a grease filter that can be washed by hand or in a dishwasher. The light part is fitted with an 11 W compact fluorescent tube. Min. 40 cm installation height is required between an electric cooker and the bottom of the kitchen hood. For gas cookers, the distance must be min. 65 cm. Available in white or steel.

Bistro – built-in model
Bistro is a modern, elegantly designed built-in hood. The hood is equipped with a 0-60 min. timer that opens the air damper and forces the unit. The light part is fitted with an 11 W compact fluorescent tube. The hood is easy to install with a mounting frame. Min. 45 cm installation height is required between an electric cooker and the bottom of the kitchen hood. For gas cookers, the distance must be min. 60 cm. Available in white.

Fondue – slimline model
Fondue is designed for integration in a top cabinet. The hood is equipped with a 0-60 min. timer that opens the air damper and forces the unit. The hood has a screen with a glass panel which can be pulled out when food is being prepared for efficient absorption of cooking smells and fumes. The kitchen hood is easy to clean and is fitted with a grease filter that can be washed by hand or in a dishwasher. The fan speed and air damper are operated easily from the same switch.
Min. 45 cm installation height is required between an electric cooker and the bottom of the kitchen hood. For gas cookers, the distance must be min. 60 cm. NB! Requires min. 31.5 cm cabinet depth. Available in white.

Flexit S3 RK Installation in the Kitchen Units

The air handling unit is available in a separate S3 RK model that is designed for installation in the kitchen unit above the cooker. The cabinet door of the kitchen unit can be installed on the front of the unit.

Kitchen hood
The Brasserie kitchen hood is available in a stainless or white-lacquered version. The hood has a fume absorption part with a glass screen at the front. The kitchen hood is fitted with a large filter that can easily be removed for cleaning without tools.

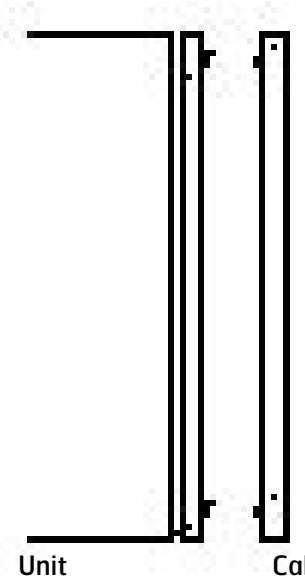
When the kitchen hood's air damper for basic ventilation is used, the extract air is extracted from the kitchen outlet as all the air from the kitchen hood bypasses the heat exchanger. Flexit recommends including the kitchen's basic ventilation in the heat recovery system and fitting a separate extraction valve in the kitchen. If it is not possibleto have a separate extraction valve in the kitchen, the basic ventilation air damper can be replaced with an open air damper.

Fan speeds
The desired speed is selected on the unit's control panel, the SP 30. By opening the kitchen hood's forcing air damper, the fan speed is also increased to the preselected maximum speed.

SP 30
Control Panel

Brasserie
white

Brasserie
stainless



Unit Cabinet door

Mounting a cabinet door
The white-lacquered door on the unit can be covered by a cabinet door in the same style as the rest of the kitchen. 4 plate rails are supplied with the unit. 2 of these are screwed onto the unit door and 2 onto the rear of the cabinet door. The cabinet door can then easily be hooked onto and off the unit door as required.

Flexit S3 R/S3 RK Technical Data

S3 R air handling unit

Art. no.	Type
14010	S3 REL
14011	S3 RER

Kitchen hoods for external installation, for S3 R

13750	Brasserie-E white
13751	Brasserie-E steel
13616	Fondue-E, slimline
13626	Bistro-E, built-in hood

S3 RK air handling unit, installation in kitchen units

14012	S3 RKEL
14013	S3 RKER

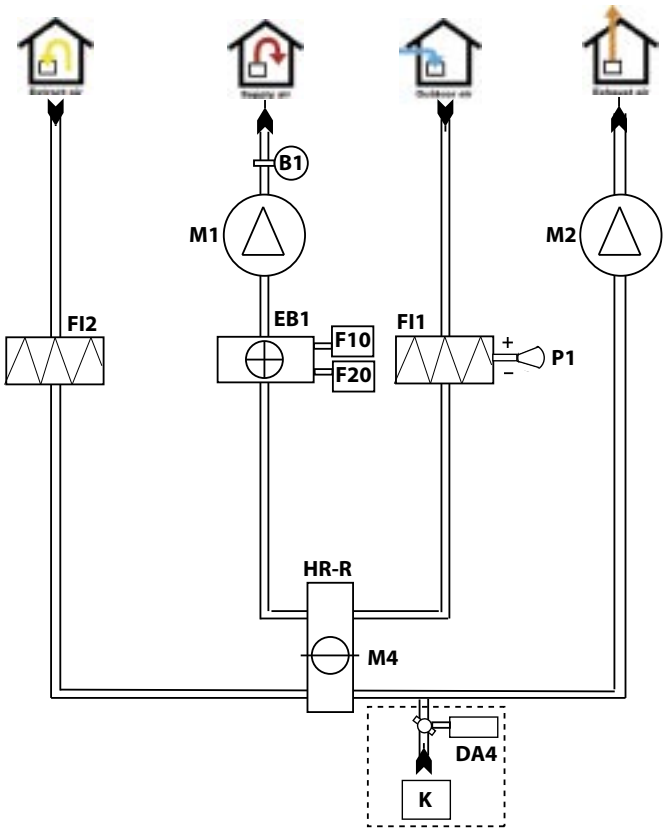
Kitchen hoods for units installed in kitchen units, for S3 RK

13756	Brasserie-KL, white
13754	Brasserie-KR, white
13757	Brasserie-KL, steel
13755	Brasserie-KR, steel

	S3 R/S3 RK
Rated voltage	230 V/50 Hz
Fuse	10 A
Rated current, total	5.4 A
Rated power, total	1236 W
Rated power, electric batteries	900 W
Rated power, fans	2 x 165 W
Rated preheating power	-
Fan type	F-wheel
Fan motor control	Transformer
Max. fan speed	2230 RPM
Automatic control standard	SP 30
Filter type (SUP/EXTR)	F7/F7
SUP filter dimensions (WxHxD)	285x130x50 mm
EXTR filter dimensions (WxHxD)	285x130x50 mm
Weight	38.5 kg (without kitchen hood)
Duct connection	Dia. 125 mm (127 mm sleeve)
Height	700 mm (without kitchen hood)
Width	598 mm
Depth	320 mm

Flexit S3 R/S3 RK

System Drawing



B1	Supply air temperature sensor
EB1	Heating element
F10	Overheating thermostat, manual reset
F20	Overheating thermostat, automatic reset
FI1	Supply air filter
FI2	Extract air filter
M1	Supply air fan
M2	Extract air fan
HR-R	Rotary wheel-type heat exchanger
M4	Rotor motor
P1	Pressure guard (accessory)

Only for models with a kitchen hood:

K	Kitchen hood
DA4	Damper - Kitchen hood

Functional Description

S3 R/S3 RK

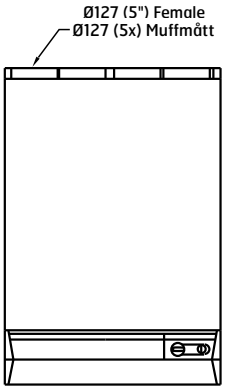
The fan speed for **M1** and **M2** is adjusted by a transformer connected to the unit's automatic control. At *normal* speed, each fan can be adjusted spearately and at *max*. speed, there is joint adjustment for both fans.

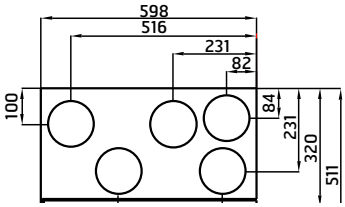
On the SP30 control switch, you select the desired speed stage, *min.*, *normal* or *max*. F10 and F20 are integrated overheating thermostats. **F20** breaks the power supply to the electric battery when the temperature exceeds 65 °C and is reset automatically at normal temperature. **F10** breaks the power supply to the electric batteries at 85 °C and produces a warning on the SP30 control panel. F10 must be reset manually. The desired supply air temperature is set for **B1,** which controls the rotor via the motor **M4** and, if required, **EB1** for the selected supply air temperature. By opening the kitchen hood's air damper **DA4**, the fan speed is inreased to max. during the selected period of time.

Flexit S3 R

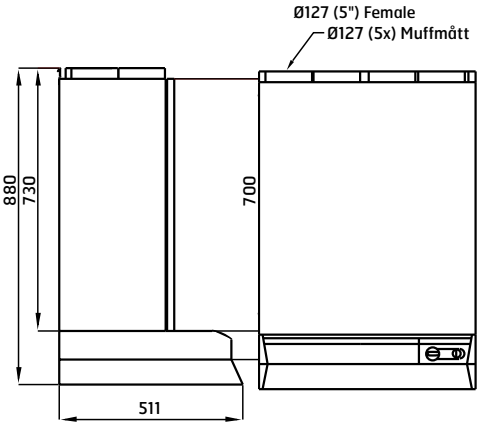
Dimensioned Drawing (shown as a right model)

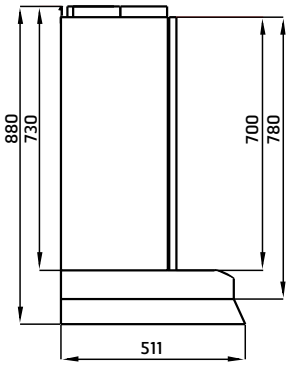
S3 R

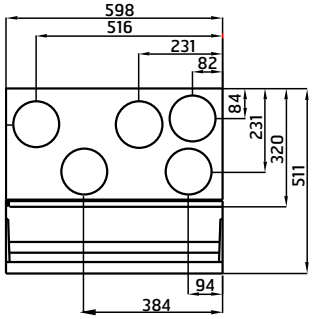




S3 RK Installation in Kitchen Units

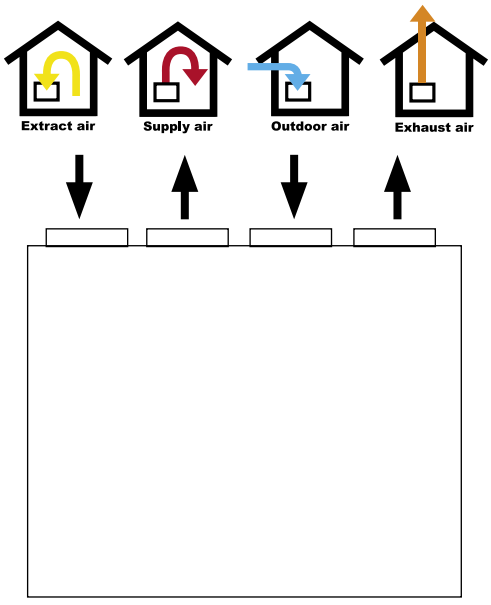




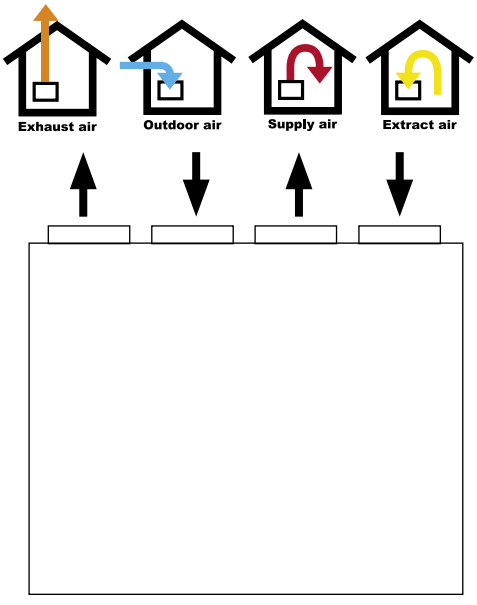


S3 R / S3 RK

S3 R / S3 RK right model



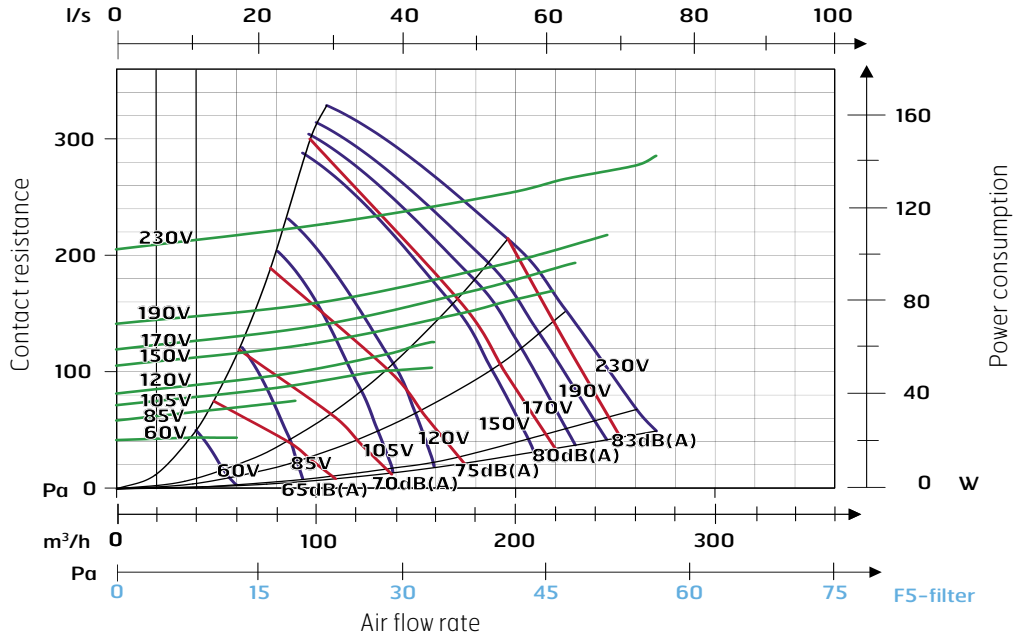
S3 R / S3 RK left model



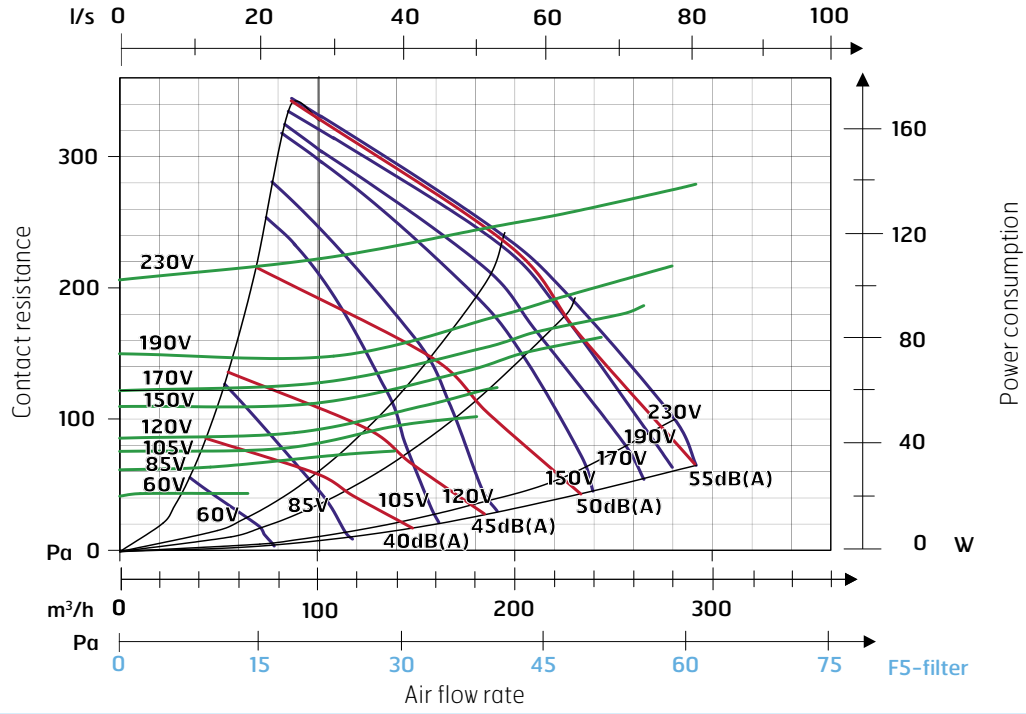
Flexit S3 R/S3 RK Technical Data

Capacity Diagram

Supply air side (with F7 filter)



Extract air side (with F7 filter)



Sound data is given at sound power level LwA in the capacity diagrams and is corrected with the table below for the various octave bands. Radiated noise produces Lw in the various octave bands and total LwA. This is read directly from the supply air table.

Correction factor for Lw

Hz	63	125	250	500	1000	2000	4000	8000	LwA
Supply air	3	2	-2	-5	-5	-6	-13	-29	
Extract air	18	14	1	-12	-14	-28	-37	-43	
Radiated	-47	-42	-40	-43	-44	-45	-49	-57	-38.7

Supply air data is measured in accordance with ISO 5136, the in-duct method. Radiated noise is measured in accordance with ISO 9614-2. Bruel ξ Kjær measuring equipment, type 2260.

Blue curves: *Air capacity at various capacity settings in Volt.*

Green curves: *Supply air fan power consumption at various capacity settings.*

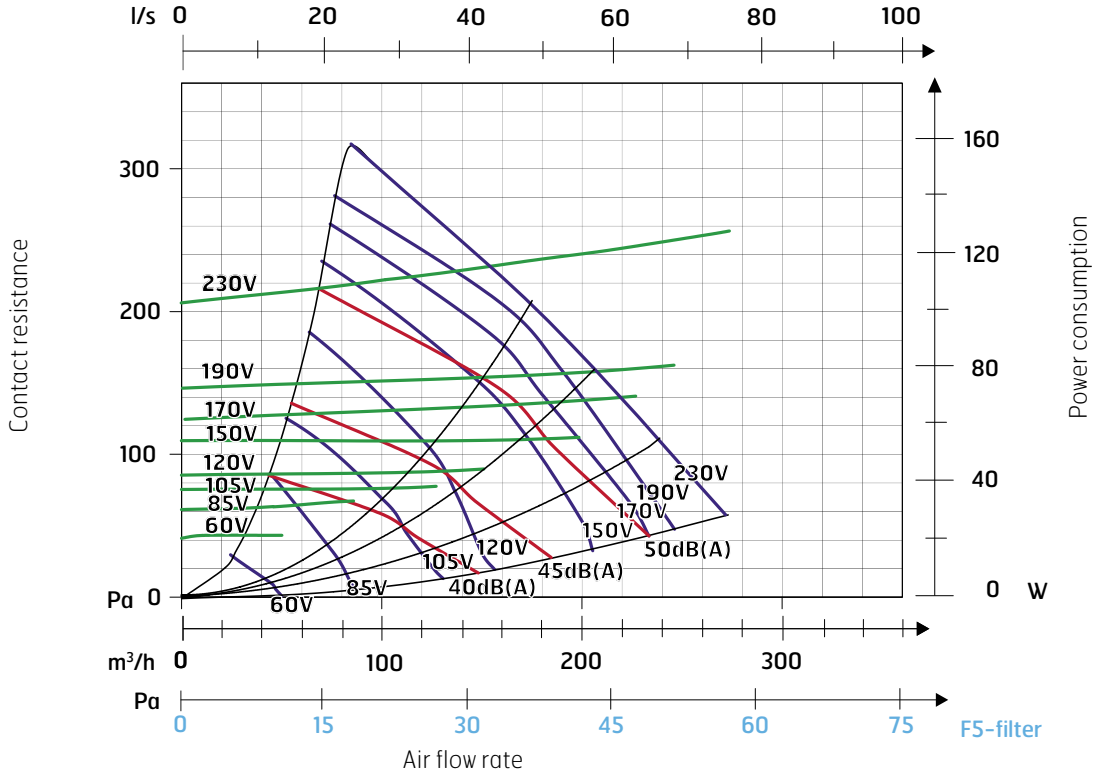
Red curves: *Sound power level Lw_{A}, cf. correction table.*

Light blue correction axe: *Pressure increase using an EU-5 filter.*

Technical Data, S3 RK Installation in Kitchen Units

Capacity Diagram

Extract air side with 10 l/s – 36m³/h basic ventilation over the kitchen hood



Accessories

Description:	Art. no.
Filter set, complete, for S3 R/S3 RK	12328
(2 F7 compact filters)	

SP405 weekly timer	09297

SP415 forcing switch	09299

SP420 control switch	09294

Art.no. 92925 1000 03/2006

FLEXIT® CLEAN AND FRESH AIR