

CASA R5 Smart

Compact air handling unit with high performance



Swegon CASA R5 Smart

Residential air handling unit with rotary heat exchanger (598 x 600 x 597 mm, Ø160 mm) with modular dimensions for installation in the bathroom or laundry room in houses and large apartments (432 m³/h, 240 m²). Equipped with a fifth duct connection for the possibility to connect an external cooker hood. The market's most intelligent demand-controlled humidity function as standard. Developed, manufactured and tested for Nordic climate.

Free energy with rotary heat exchanger

The heat exchanger makes use of the energy in the indoor air in the winter to heat the incoming outdoor air and in the summer to reduce the supply air temperature. On a cold winter day the heat exchanger gives "free" heating energy up to 36°C by converting the -20° cold outdoor air to +16°C warm supply air. The heat exchanger is manufactured with aluminium fins and provides a high degree of efficiency. A certain amount of moisture, removed with the extract air, is recovered to the supply air. This is especially beneficial in the winter when the outdoor air is usually dry, which results in problems for people and the interior.

Defrosting

The defrosting function guarantees continuous ventilation in the home even during cold conditions. If there is a risk of the unit's heat exchanger freezing, the speed of the fans increases and the warm extract air prevents freezing occurring inside the heat exchanger. With the help of a preheater (accessory), you can maintain balanced ventilation and avoid negative pressure in the residence even under extreme conditions.

Preheater

With the help of a preheater (accessory), you can maintain balanced ventilation and avoid negative pressure in the residence even under extreme conditions and enable balancing functions for fireplaces and cooker hoods.

Reheater

Usually the recovered thermal energy from the extract air is sufficient to heat the supply air. In cold conditions, an electric or waterborne reheater can be used to maintain a comfortable indoor climate. It can be placed internally in the air handling unit or externally in the duct (see technical data).

Automatic summer mode

Summer mode helps to maintain the home's indoor air comfort. The heat exchanger makes use of the cool indoor air during warm days and cools the incoming outdoor air. At night

the home is cooled with fresh outdoor air. This is managed by an advanced automatic system that can be set according to the resident's requirements. Very economical comfort coolness can be produced intelligently almost free of charge.

Cooling

If there is access to cold water in the property (e.g. cooling pump), a cooling coil can be installed in the supply air/outdoor air duct to produce comfort cooling in the residence. The supply air temperature is controlled automatically from the ventilation unit's control system.

Separate connection for a cooker hood

The cooker hood can be connected via a separate duct to the unit. The cooker hood does not need a separate fan, duct, roof duct or roof hood. Permits balancing function for the cooker hood.

Installation

The unit can either be mounted on a wall or suspended from the ceiling using a separate ceiling mounting frame. Suitable installation locations are laundry rooms, store rooms, cold attic, etc. When installing in cold areas the unit should be insulated if necessary.

- 1 Ecodesign energy class A*
- 2 Air flow range 126-432 m³/h
- 3 Temperature efficiency up to 86 % (EN 308)
- 4 Annual efficiency up to 81 % (Stockholm 21°C)
- 5 Demand-controlled humidity function as standard
- 6 Automatic summer function and passive cooling
- 7 Anti-frost protection ensures continuous ventilation
- 8 External coils for heating and cooling as an option
- 9 Can be connect to the automated building management system (I/O/Modbus)
- 10 Mounted on the wall or ceiling.

**Energy classification according to EcoDesign directive Lot 6. Energy class may vary depending on the selected accessories.*



CASA Smart
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Swegon CASA



Smart control technology

Controls (options)

CASA Smart ventilation units are equipped with the market's most versatile control options! Select the required control method or combine several!



Smart Access

Use your mobile device to control and monitor your indoor climate. Connect the Smart Access module to your ventilation unit and connect it to your home network.



Smart control panel

White wall mounted control panel with a colour display and touch buttons for both recessed and surface mounted installation.



Cooker hood

All Smart cooker hoods can be used to regulate the ventilation unit in three modes (home, away, boost). Automatically balances the ventilation when a cooker hood is used.



Building automation

Centralised monitoring and control with the help of Modbus connection modules or configurable I/O.

Basic functions

You can switch as required to an appropriate operating mode or let the pre-programmed weekly clock switch operating mode according to the diurnal rhythm you want.



Boosted air flow

A large air flow is used when the ventilation requirement increases, e.g. for cooking, taking a sauna, showering or drying laundry.



Home

Normal air flow. Guarantees that there is sufficient fresh indoor air in the home, and that the building construction is at its best.



Away

Low air flow. Reduces energy consumption when the ventilation requirement in the home is small.



Travelling

Very low air flow and lower supply air temperature. Used when no one is present in the home.

Compensation functions

Compensates ventilation flows in the home in order to facilitate for the inhabitants.



Fireplace function

An intelligent fireplace function that helps to produce the correct amount of replacement air, specifically for your fireplace. Facilitates lighting the fire and ensures clean combustion.



Cooker hood function

Balances the ventilation when a cooker hood is used. Helps to prevent excessive negative pressure and improves fume extraction capability of the cooker hood.



Central vacuum cleaner function

Balances the ventilation when a central vacuum cleaner is used. Helps to prevent excessive negative pressure and improves the cleaning result.

Automatic functions (options)

Intelligent ventilation is capable of identifying residents' needs. The Smart System measures the indoor air quality and knows exactly how much ventilation is required in different situations.



Intelligent humidity automation (RH) as standard

The market's most advanced moisture automation is now standard in all new Swegon CASA ventilation units. While traditional humidity sensors only switch the ventilation to boosted ventilation, the Smart Automation continuously analyses the indoor air and regulates the ventilation in accordance with the actual humidity variations.



Automatic Home/Away/Boost system (CO₂)

automatically lowers the ventilation to Away mode and saves energy when the home is empty. When the residents are at home, the ventilation is automatically increased to bring exactly the right amount of fresh air into the home.



Air Quality Automation (VOC)

increases the ventilation if too much pollution is detected in the indoor air, such as odours or vapours (evaporating organic compounds).

The Smart Control is easy to activate. The installation does not require cabling around the home, and can also be installed retrospectively in older Smart ventilation units.



Swegon



Ventilation

CO2

Humidity

14

44

22

Technical data



More information
in ProCASA



procasa.swegon.com

	R5	R5 + reheating
Air flow range (according to Ecodesign)	126-432 m ³ /h	126-432 m ³ /h
Rated voltage	230 V, 50 Hz, 1,1 A	230 V, 50 Hz, 4,6 A
Fans	230 W	230 W
Internal electric preheater	—	—
Internal electric reheater	—	800 W
External electric pre/reheater (Duct mounted)	As an option	As an option
External water based heating coil/cooling coil (Duct mounted)	As an option	As an option
Max. total output	250 W	1050 W
Fuse protection	10 A	10 A
Weight	78 kg	78 kg
Duct connections	Ø 160 mm	Ø 160 mm
Outlet for condensate	3/8" male thread	3/8" male thread

Dimensions, w x l x h	598 x 600 x 597 mm
Heat exchangers	Rotary heat exchanger
Enclosure class	IP34
Control system	CASA Smart + automatic humidity function as standard
Control panel CASA Smart	Available as an option
Filters	Filter class ISO ePM1 55% (F7) for supply air and ISO coarse (G3) for extract air.
Colour, exterior	White, RAL 9016 (corresponds to NCS S1002-G50Y)

ENERG
енергия · ενεργεια

Swegon CASA R05VR08S00H

37 dB

421 m³/h

ENERGIA · ЕНЕРГИЯ · ΕΝΕΡΓΕΙΑ · ENERGIJA · ENERGY · ENERGIE · ENERGI
2016 1254/2014

(SEC) in kWh

Cold	-84.9	A+
Average	-41.4	A
Warm climate	-16.5	E

Energy class may vary depending on the selected accessories.



Dimensions



Outdoor air



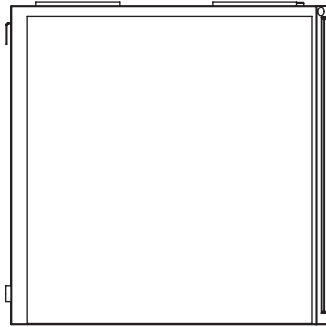
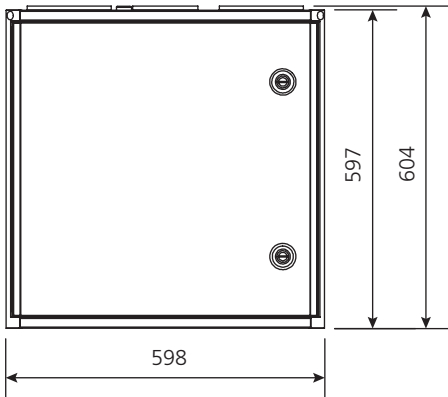
Supply air



Extract air

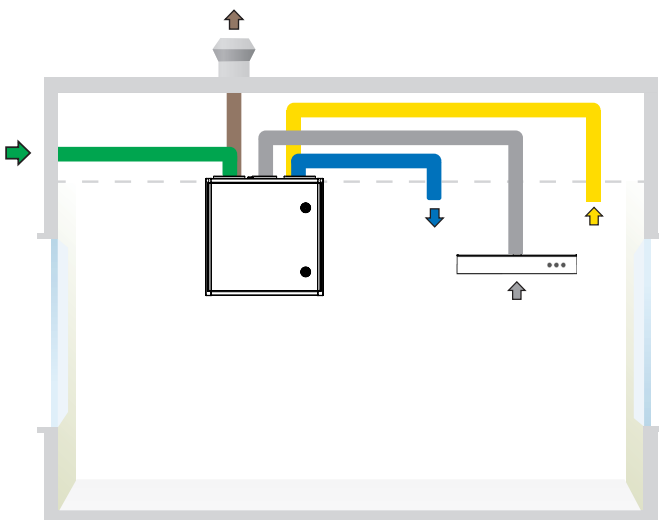
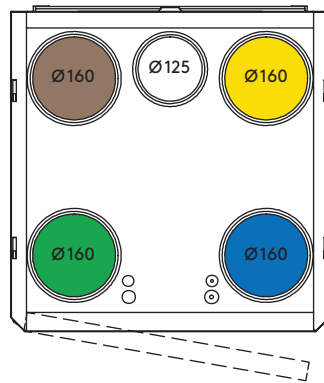
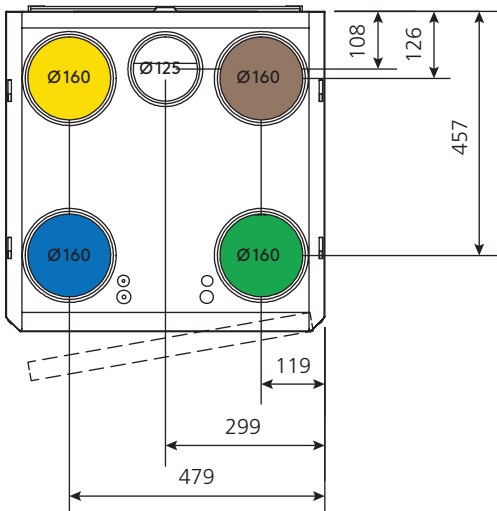


Exhaust air

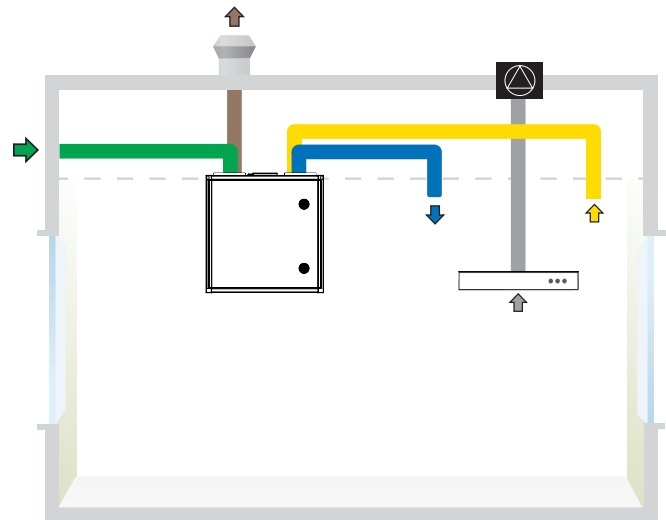


CASA R5 R, right-hand version

CASA R5 L, left-hand version



CASA R5 R, duct connections and cooker hood connected to the ventilation unit's kitchen duct connection.



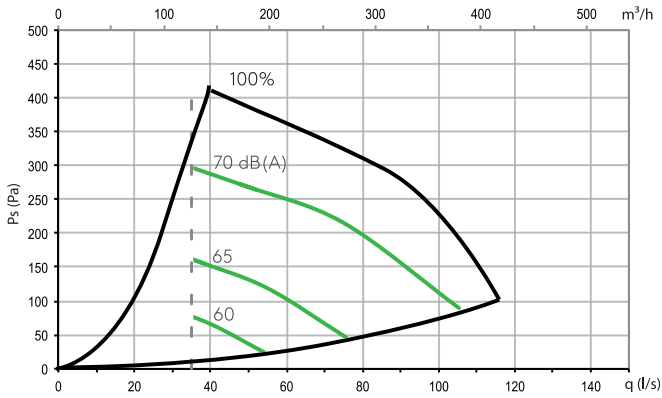
CASA R5 L, duct connections and cooker hood connected to external ceiling fan.

Note! Always check the unit design (L/R) and correct duct sequence in the installation instructions.

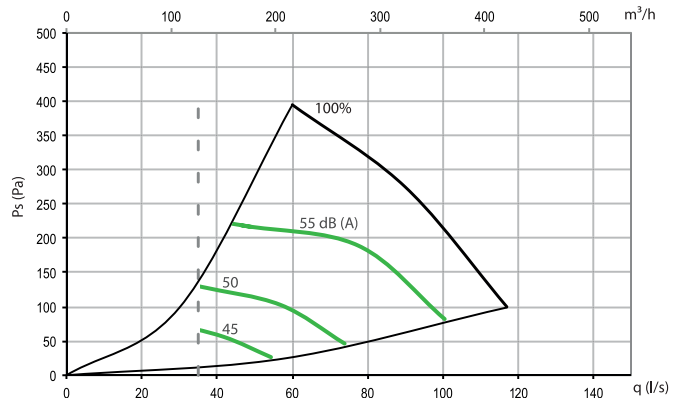
Fan curves

More detailed data for sound to the surroundings and duct connections are available via procasa.swegon.com.

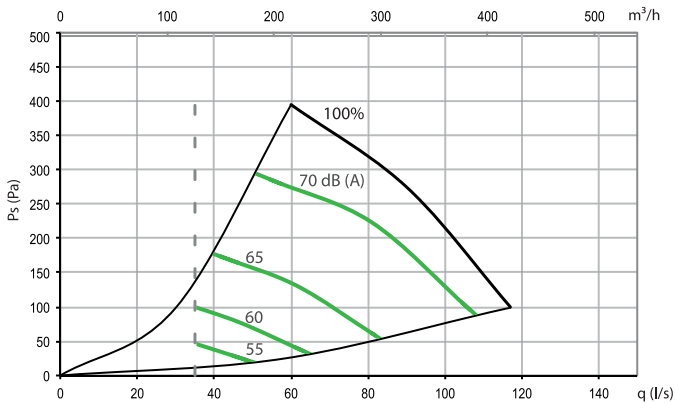
Sound power level emitted to the supply air duct



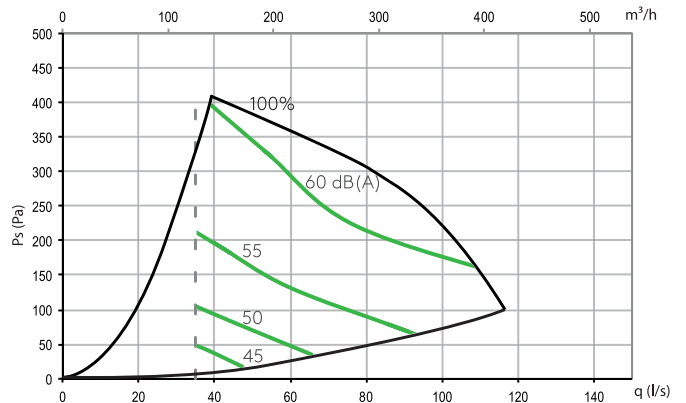
Sound power level emitted to the exhaust air duct



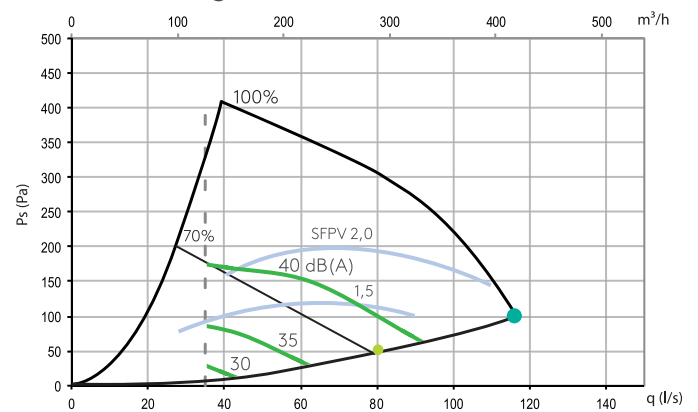
Sound power level emitted to the extract air duct



Sound power level to a duct for outdoor air



Air flow and sound power level to the surroundings (EN 13141-7)



	Sound power level L_w (dB), table K_{OK}							
	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
Sound the supply air duct	16	9	2	-6	-6	-12	-20	-27
Sound to exhaust air duct	12	8	2	-4	-7	-10	-19	-27
Sound to extract air duct	18	8	1	-2	-9	-13	-24	-27
Sound to outdoor air duct	12	12	4	-4	-13	-15	-21	-27
Sound to surroundings	17	9	5	-6	-13	-17	-23	-25

- Reference air flow
- Max. air flow
- Min air flow
- Sound power L_w dB (A)

Correction table for sound pressure level		
room area	normally furnished room	heavily furnished room
5 m ²	- 2 dB(A)	+ 3 dB(A)
10 m ²	- 4 dB(A)	0 dB(A)
15 m ²	- 5 dB(A)	- 3 dB(A)

For more detailed sound data refer to the calculation software ProCasa.



- 1 Smart ventilation takes care of the indoor air quality automatically
- 2 It knows when you leave home and when you come back
- 3 It knows when you do laundry, shower or cook food
- 4 It adjusts ventilation accordingly based on your current need
- 5 It guarantees fresh and healthy indoor climate

Air handling unit and accessories



CASA R5 Smart

- 126-432 m³/h, 4 x Ø160 mm + Ø125 mm
- Supplied with approx. 1.5 m controlled cable. Order control panel and 10 m/20 m extension cable separately.
- Humidity automation as standard (RH)
- Wall mounting bracket

Part no	Energy class*	Description
R05VR08S00H	A+ / A / E	CASA R5 Smart R 800W RH
R05VL08S00H	A+ / A / E	CASA R5 Smart L 800W RH
R05VR00S00H	A+ / A / E	CASA R5 Smart R RH
R05VL00S00H	A+ / A / E	CASA R5 Smart L RH

L = exhaust air left. *Energy classification according to EcoDesign directive Lot 6 (Cold/**Medium**/Warm).

Filter



10212RSS	Filter class ISO ePM1 55% (F7) for supply air and ISO coarse (G3) for extract air.
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Control accessories

White wall mounted control panel with a colour display and touch buttons for both recessed and surface mounted installation.



SC10	Control panel (1-2 per unit)
SC14	SC10 + modular cable 10 m
SC15	SC10 + modular cable 10 m + mounting frame
SC16	SC10 + mounting frame
102SAK	Mounting frame, for surface mounting of the control panel
PMK20	Modular cable, 20 m and RJ9 adapter for units
604010	Modular cable 10m



Use your mobile device to control and monitor your indoor climate. Connect the Smart Access module to your ventilation unit and connect it to your home network.



SMA	Smart Access module for connection to the internet
SMAW	Smart Access module + WLAN router
SMAG	Smart Access module + 3G/4G mobile router (not SIM)

Building automation

As standard the ventilation unit has two configurable I/O channels. If there is a need of additional connection points, the ventilation unit has space for a separate connection cable (SEC). Modbus connection module (SEM) gives you advanced connection options to a master system.



SEM	Modbus connection module
SEC	Connection cable (configurable I/O) for Smart ventilation units
WSTC	Room temperature sensor, total package with connection unit for ventilation units. The sensor is installed on the wall or in a recessed junction box (60 mm between holes).

Automatic functions

With the help of an internally mounted sensor, it is easy to fully automate your apartment's ventilation system. Can easily be retro-fitted by replacing the existing internal RH-sensor.



SRHCO2	Automatic Home/Away/Boost system + humidity automation (RH + CO ₂)
SRHVOC	Automatic air quality system + humidity automation (RH+VOC)

Waterborne air coolers

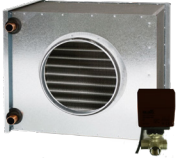
With an air cooler mounted in the supply air duct, comfort cooling is created in the residence by connecting a cooling medium circuit or a cooling water circuit to the cooler. The air cooler is controlled automatically from the ventilation unit's Smart control system and settings can be changed using a CASA Smart control panel. The delivery includes: Air cooler, SET connection module, actuator and 3-way valve, 24 V transformer, requisite sensors and instructions. SDCW250F is a fully insulated model + accompanying installation frame.



SDCW160	Cooling coil pack Ø160
SDCW200	Cooling coil pack Ø200
SDCW250	Cooling coil pack Ø250
SDCW250F	Air cooler Ø250. Air cooler Ø250. Fully insulated + accompanying ceiling/wall installation frame.

Waterborne air heaters

In buildings equipped with a waterborne heating system, the supply air can be heated with a duct mounted waterborne air heater. The air heater is controlled automatically from the ventilation unit's Smart control system and settings can be changed using a CASA Smart control panel. The delivery includes: Air heater, SET connection module, actuator and 3-way valve, 24 V transformer, requisite sensors and instructions.



SDHW160	Heating coil package Ø160
SDHW200	Heating coil package Ø200

Brine air heater/cooler for ground source heat pump

In a property equipped with a ground source heat pump, a brine air heater/cooler for the heat pump can be installed in the outdoor air duct. In the winter it heats the air taken in and ensures that the ventilation unit operates with the greatest efficiency even in extreme cold. In the summer, the medium in the ground circuit is used to cool the building. The control technology in CASA Smart automatically ensures that the air heater/cooler is utilised optimally all year round. The delivery includes: heating/cooling coil, wall mounting bracket/ceiling mounting frame, an effective 4-row air cooler for cooling medium, SET connection module, coarse filter, requisite sensors and instructions and drip tray for condensate water: condensation water outlet with 3/8" male thread.



SDHW250F	Heating/cooling coil Ø250, G4
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Electric air heater

Can be used for preheating and is placed in the outdoor air duct to guarantee continuous ventilation under very cold conditions and permit balancing functions (fireplace function/function for a cooker hood) in the air handling unit without an integrated air heater for preheating. If the air heater is to be installed as a preheater, a FLK-filter needs to be installed in the duct in front of the preheater. An electric air heater can also be placed in the supply air duct and used as a reheater to maintain a comfortable supply air temperature under very cold conditions. The electric duct heater has built-in regulation and is controlled directly from a ventilation unit. The heater is connected using a separate power supply 230 V. The delivery includes: air heater, SET connection module, requisite sensors and instructions



SDHE160-1T	Electric heater Ø160
SDHE200-1T	Electric heater Ø200
FLK16	Prefilter box Ø160mm, G4
FLK20	Prefilter box Ø200mm, G4

Other accessories

Used for connection of external accessories, for example, damper, duct coils, etc.



SET	Connection module for control of the duct mounted air heater/cooler / control of shut-off dampers
POWER24V20W	SET / power source for actuators



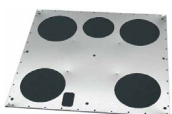
The constant duct pressure function on the Smart ventilation unit attempts to regulate the fan speeds to maintain the duct pressure at the set value. Individual setting values for the duct pressure should be determined for each operating mode (away, home, boost). The operating mode can be switched as normal when the constant duct pressure function is used.

PTH	PTH Regulation for constant duct pressure
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Mounting frame with quick-fit connectors for ceiling mounting the ventilation unit. Simplifies connection as the duct system can be fully installed prior to the installation of the ventilation unit.



10212KA	Ceiling mounting frame
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Vapour barrier which prevents moisture from entering the insulation in the attic joist floor and stops the air from the loft from coming down into the rooms.

10212YP	Vapour barrier for mounting frame
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Duct mounted shut-off dampers type 4 and damper actuator 24 V with spring return. The damper closes in the event of a power failure or alarm when a risk of freezing exists. The damper actuator is electrically connected to a CASA SET-module. SET module and 24 V adapter is ordered separately as required.

SDD160	CASA Damper Ø160 24V
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Feel good **inside**



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