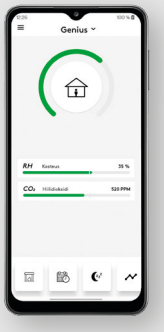
CASA W5 Genius

Technical catalogue



Available on the App Store

Get it on Google play

QUICK FACTS

- Modular size ventilation unit
- Can be mounted on the wall, floor or ceiling
- Ceiling mounting bracket and base available as an accessory
- Control from the control panel and mobile app
- Junction box for connecting to building automation systems (Modbus) as standard
- Extensive possibilities for external controls, e.g. fireplace switch, roof fan compensation, duct damper
- Demand-based control of air flows (RH, CO2, VOC*)
- Stepless supply air temperature control
- Automatic summer and winter function
- Designed and tested to work in northern conditions
- Wide range of accessories available

UNIT TECHNICAL CONTENT	
Air flow range	30-130 l/s | 108-468 m³/h
Dimensions, w x l x h	597 x 630 x 951 mm
Duct outlets	4 x Ø 160 mm
Energy calculations and acoustic data	procasa.swegon.com
Connection power	2250 W
Power connection	230 V, 50 Hz, 10 A
Fans	230 W, EC
Filters	ISO ePM1 50% (F7) filter for supply air and ISO coarse (G3) for extract air
Colour	Exterior White, RAL 9016 (corresponds to NCS S0502-G50Y)

Content

Technical description

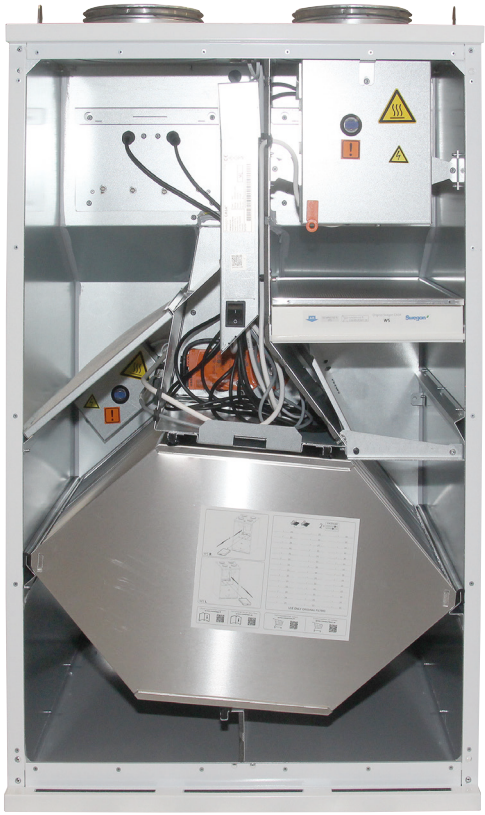
Swegon CASA W5 Genius

Ventilation unit with plate heat exchanger, for apartments under 250 m² (30-130 l/s).

The W5 is a module size ventilation unit suitable for wall or ceiling installation in connection with furniture.

The ventilation unit is controlled from the control panel and via a mobile app (iOS/Android) and can be connected to building automation systems using Modbus.

The unit is Eurovent certified and has a third-party certified EPD environmental declaration and LCA life cycle assessment.



Indoor environmental quality

Ventilation control

The unit is controlled steplessly with automation functions to guarantee the best indoor environmental quality. The user can select five operating modes home, away, boost, travelling and home+ by using control panel, cooker hood or Swegon CASA app. Operation modes can be automated with unit's weekly programs.

Temperature control

The supply air temperature is controlled with heat exchanger and if needed with optional heating or cooling element.

The unit has automatic summer time detection. The function sets lower supply air temperature setpoint and boost ventilation in order to bring more fresh outdoor air to the apartment during summer nights.

Available variants

Standard units are available in following variants:

- Unit with RH-sensor
  L (exhaust air left) / **R** (exhaust air right)
- Unit with RH- and CO2-sensor
  L (exhaust air left) / **R** (exhaust air right)

Components

Fans

CASA W5 is equipped with energy efficient EC fans.

Filter

The ventilation unit is equipped with ISO ePM1 50% (F7) filter for supply air and ISO coarse (G3) for extract air. The need of filter replacement is indicated on the control panel and on the CASA cooker hood.

Heat exchanger

The ventilation unit is equipped with **a plate heat exchanger which is based on the counterflow technology**. The incoming and outgoing air flows in a counterflow plate heat exchanger use separate channels, and thanks to this the heat exchanger does not return any odours back into the room air. It also does not return moisture and is therefore very well suited to dwellings with high humidity (eg abundant sauna and laundry).

The heat exchanger operates with the best possible efficiency in all conditions. This is possible with the demand and learning defrosting technology, which steplessly controls the heaters. Intelligent defrosting never leads cold outdoor air past the heat exchanger, keeping the supply air temperature constantly at a comfortable level.

External connections

All connections can be made without opening the electrical box. Plug-in modules are available for external connections. Wide variety of IO functions are available.

The ventilation unit is equipped with In-build Modbus and connection box.

Modbus cabling can also be made easily with external cable (SEC) or module (SEM). Unit can be fully controlled with Modbus and all external IO´s can be configured to Modbus usage.

Protective functions

The heat exchanger freeze protection

The defrosting function guarantees continuous ventilation and maintains units performance even during extreme conditions. If reheat can't maintain sufficient supply air temperature, the air flows are reduced.

The fan overheating protection

The fan overheat protection stops the fan if the temperature rises too high and is reseted automatically. If protection stops the fans an alarm is generated.

Electric air heaters

The electric heater is equipped with automatic and manual overtemperature protection. Overheat cuts the heating circuit and generates an alarm.

Cold supply air

The ventilation unit has built-in condensation protection. If the supply air is too cold, the ventilation unit stops and an alarm is generated

High temperature

If supply air or units internal temperature is detected dangerously high the unit is stopped and an alarm is generated.

Temperature sensors

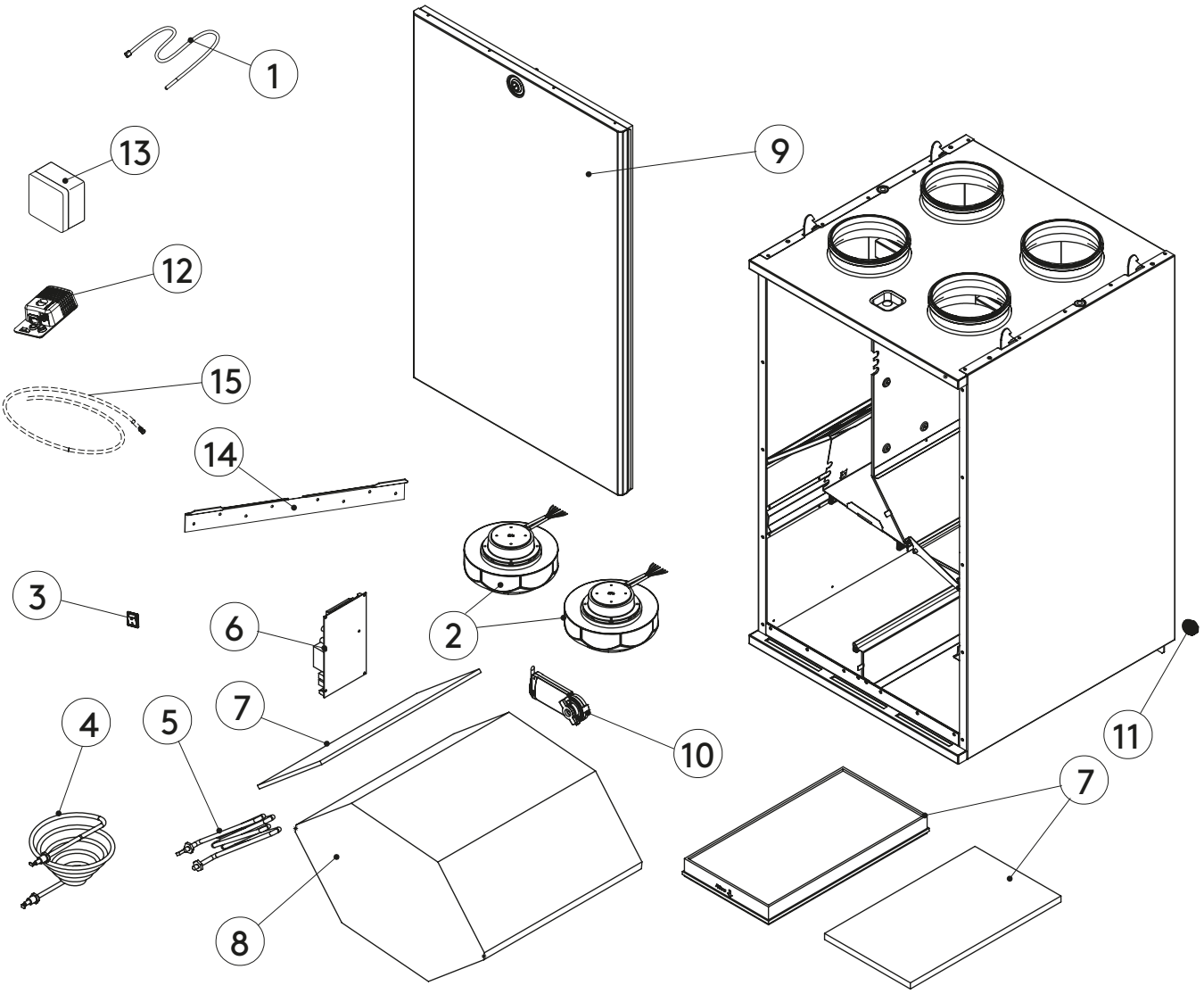
If a sensor fault is detected, an alarm is generated. If the faulted sensor is critical the ventilation unit is stopped. The ventilation unit returns to normal mode once the fault has been corrected.

The delivery includes

- Ventilation unit
- Anti-vibration mountings (2 pcs.)
- Wall mounting bracket
- Condensate discharge hose
- Quick Guide
- Installation and commissioning instruction
- Product fiche

Standard connections

- Power cord with earthed plug (2 m)
- SEM connection module with cable (2 m)
- Modular cable with RJ9 connector (1.5 m)
- Freely configurable I/O contacts for connection of accessories (2 pcs.)



1. **Temperature sensor**
2. **Fan (left + right)**
3. **Operating switch**
4. **Pre-heating module**
5. **Reheating module**
6. **Genius control board**
7. **Set of filters: ISO ePM1 50% (F7) for supply air, ISO coarse (G3) for extract air**
8. **Heat exchanger**
9. **Door**
10. **Damper motor**
11. **Anti-vibration mountings (2 pcs.)**
12. **Sensor package**
13. **Connection box**
14. **Wall mounting bracket**
15. **Condensate discharge hose**

Swegon CASA Genius

Intelligent control of the ventilation

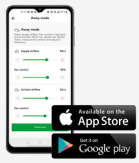
With Swegon CASA Genius residents can monitor the indoor air quality (RH, CO2, VOC, °C), adjust ventilation to their wishes or let the intelligent control to adjust ventilation automatically while saving energy and providing fresh and healthy indoor air.

The Swegon CASA control panel (GC10)

Wall-mounted touch screen for external or flush mounting. From the touch screen user can monitor ventilation, change ventilation mode, change the settings and commission the ventilation unit. The screen can be connected to the home WLAN, enabling the ventilation to be controlled remotely from a Swegon CASA mobile app

The Swegon CASA app

With Swegon CASA app residents can use all the control functions remotely from their own smartphone. Users get more information about their home's air quality as well as valuable instructions and advice about the ventilation (requires Swegon Genius control panel).



The CASA Service app

for quick and easy commissioning. The app works locally together with the ventilation unit and doesn't require connection to network. The app defines the I/O connections, presets the fan speeds that correspond to specified air volumes, as well as automatically sets air volumes for home and boost mode. Finished settings can be saved in the app and copied to the next apartment (requires Swegon Genius control panel).

Swegon CASA cooker hood

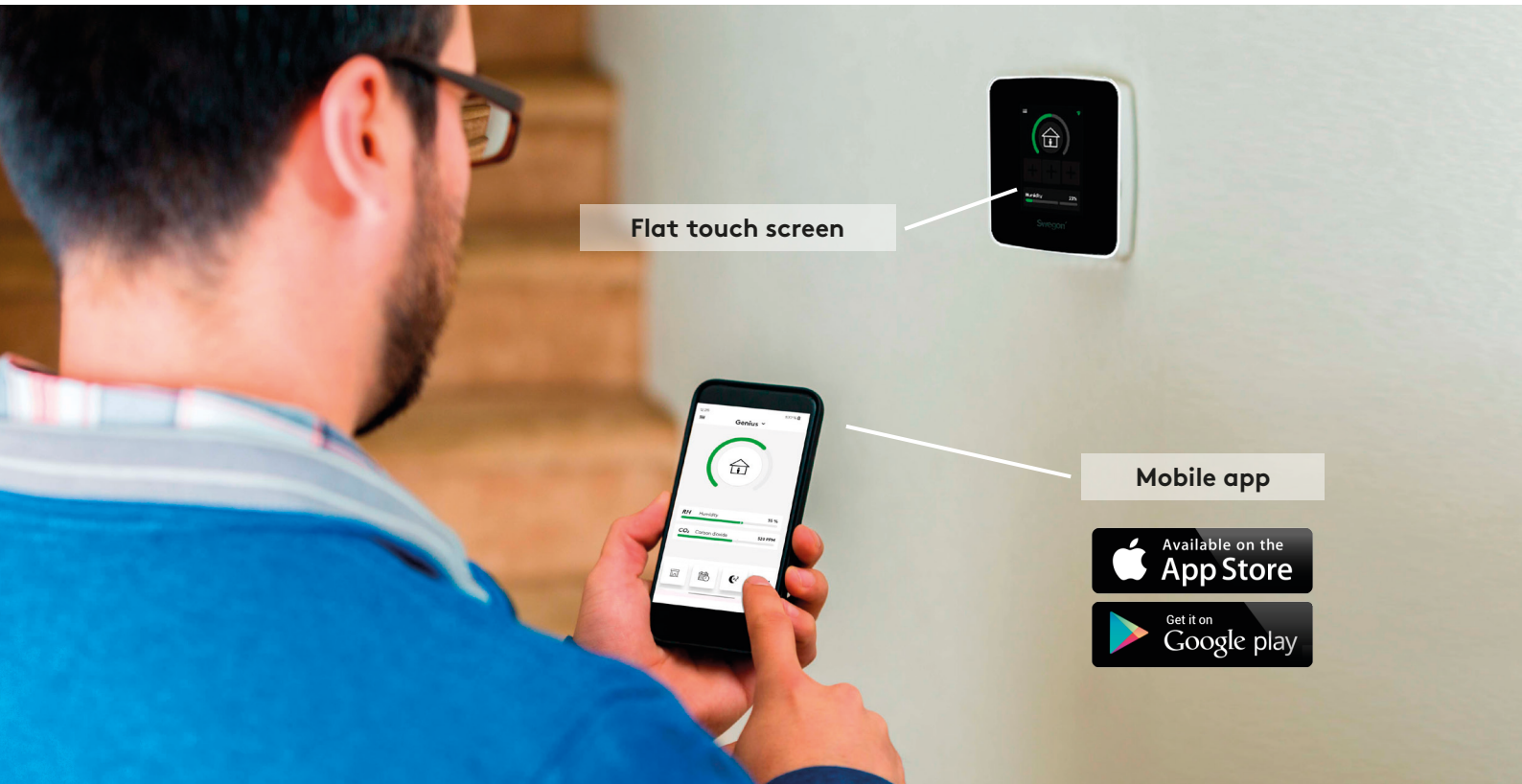
With cooker hoods, it is possible to control the ventilation unit's operating mode (home, away, boost), the cooker hood's shut-off damper and the lighting in the hood. The system balances the ventilation automatically when using the cooker hood.

The Swegon CASA HOME/AWAY/BOOST control switch (GC04)

Wall-mounted control switch for selecting boost, home and away modes.

Home automation

Can be connected to the home automation for centralised monitoring and control, either directly via configurable I/O or with the aid of a separate Modbus connection module (SEM).



Basic modes

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.

Home
Normal air flow. Sufficient amount of fresh indoor air to ensure the wellbeing of the residents and the structural building elements when there are people in the home.

Home+
Higher air flow. Can be used when more ventilation is required. The home owner can change the efficiency of the operating mode from the settings.

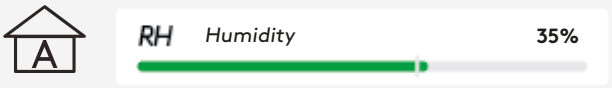
Boost
High air flow. Used if the ventilation requirement increases, for example, when cooking, taking a bath or drying laundry, or when an unusually large number of people are in the home.

Away
Low air flow. Reduces the energy consumption when nobody is present in the home.

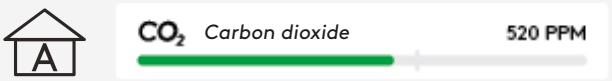
Travelling
Very low air flow and lower supply air temperature. Used when nobody is present in the home.

Automatic functions

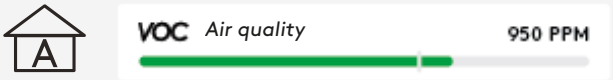
The intelligent ventilation monitors the quality of the indoor air and adjusts the ventilation automatically.



Automatic RH system included as standard
Humidity automation removes damaging moisture. The intelligent control analyses the indoor air continuously and regulates the ventilation steplessly so that excess moisture is removed, for example when you are washing.

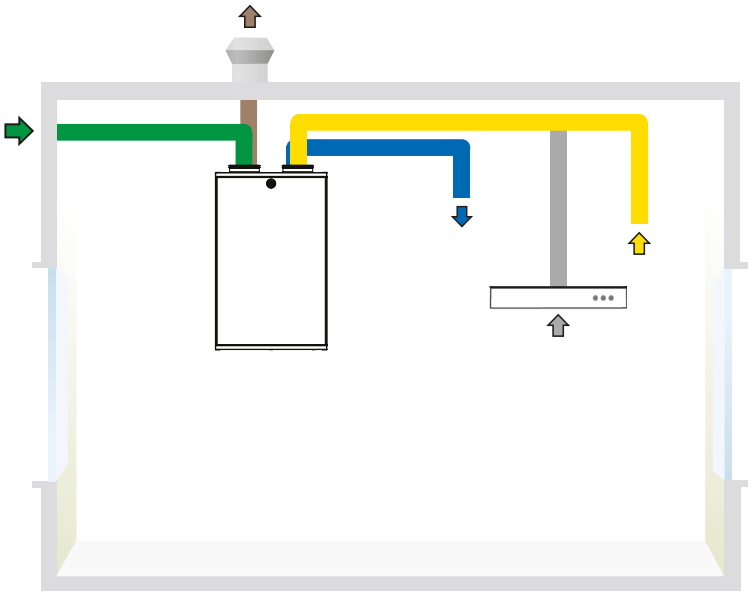


Automatic CO2 system as optional equipment
Automatically lowers the ventilation and saves energy when nobody is in the home. When the residents are at home, the ventilation is automatically boosted to bring exactly the right amount of fresh air into the home.

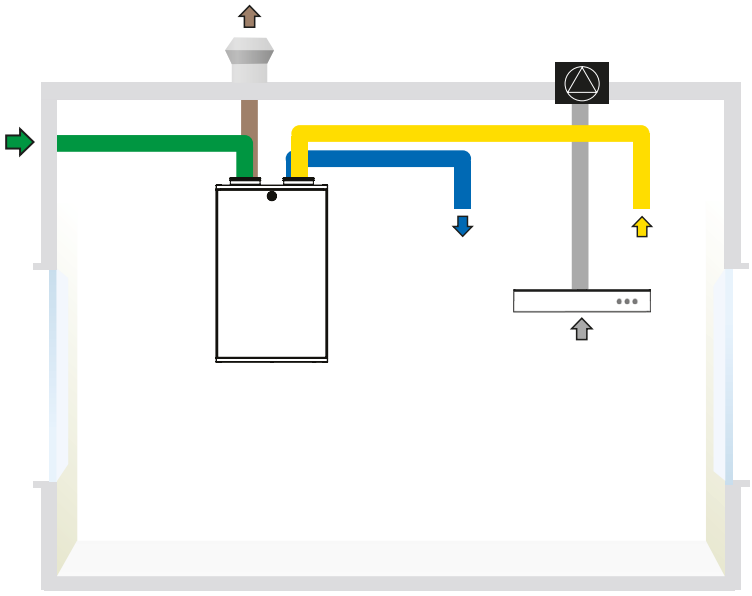


Automatic VOC system as optional equipment
The automatic air quality system boosts the ventilation if pollution, odours or vapours (evaporating organic compounds) are detected in the indoor air.

Design data



CASA W5 L, duct connections and cooker hood connected to the extract air duct.



CASA W5 L, duct connections and cooker hood connected to external ceiling fan.

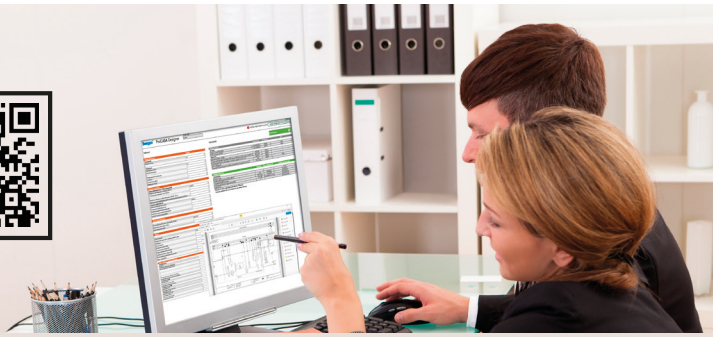
Outdoor air Supply air Extract air Exhaust air

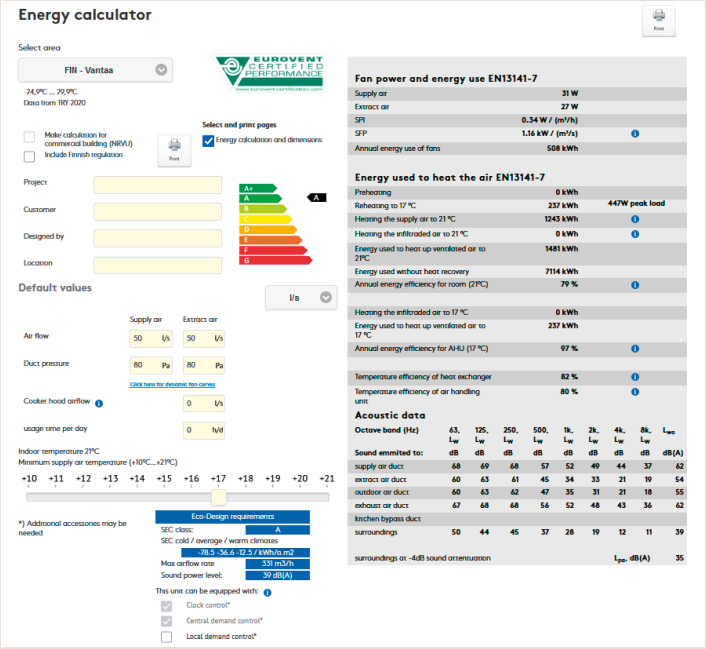
Note! Always check the unit design (L/R) and correct duct sequence in the installation instructions.

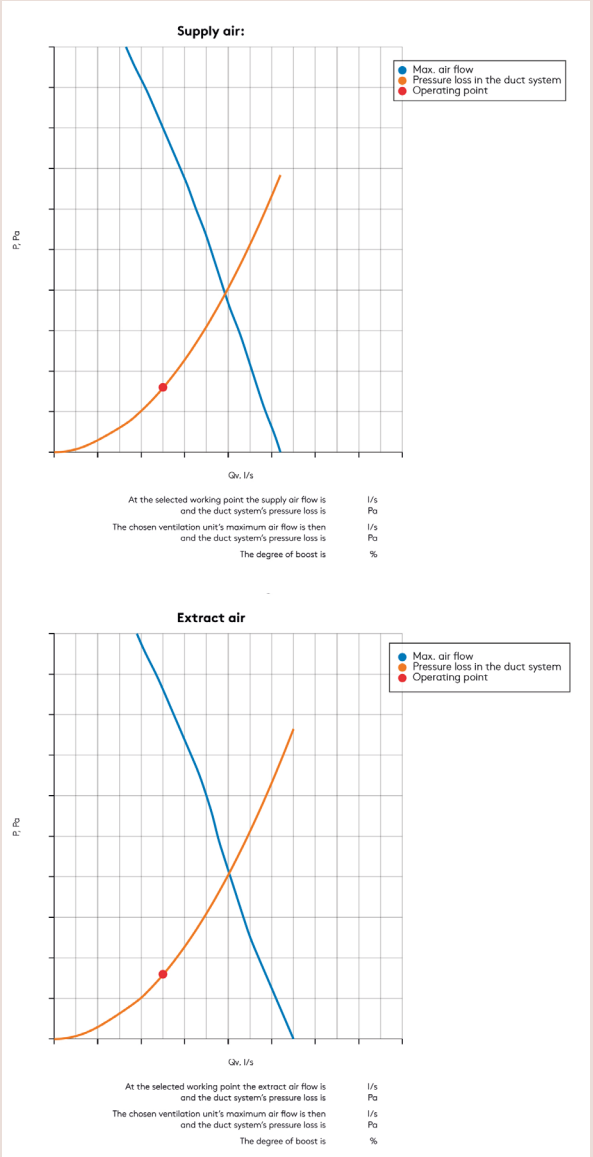
ProCASA®

Energy calculation, functional diagram and acoustic data on ProCASA.

procasa.swegon.com







MagiCAD

3D models and CAD dimension sketches for all Swegon CASA products are available from MagiCloud. You can download DXF files directly from MagiCloud or use a MagiCAD plugin to transfer dimension sketches to the Revit and AutoCAD software packages.

www.magicloud.com

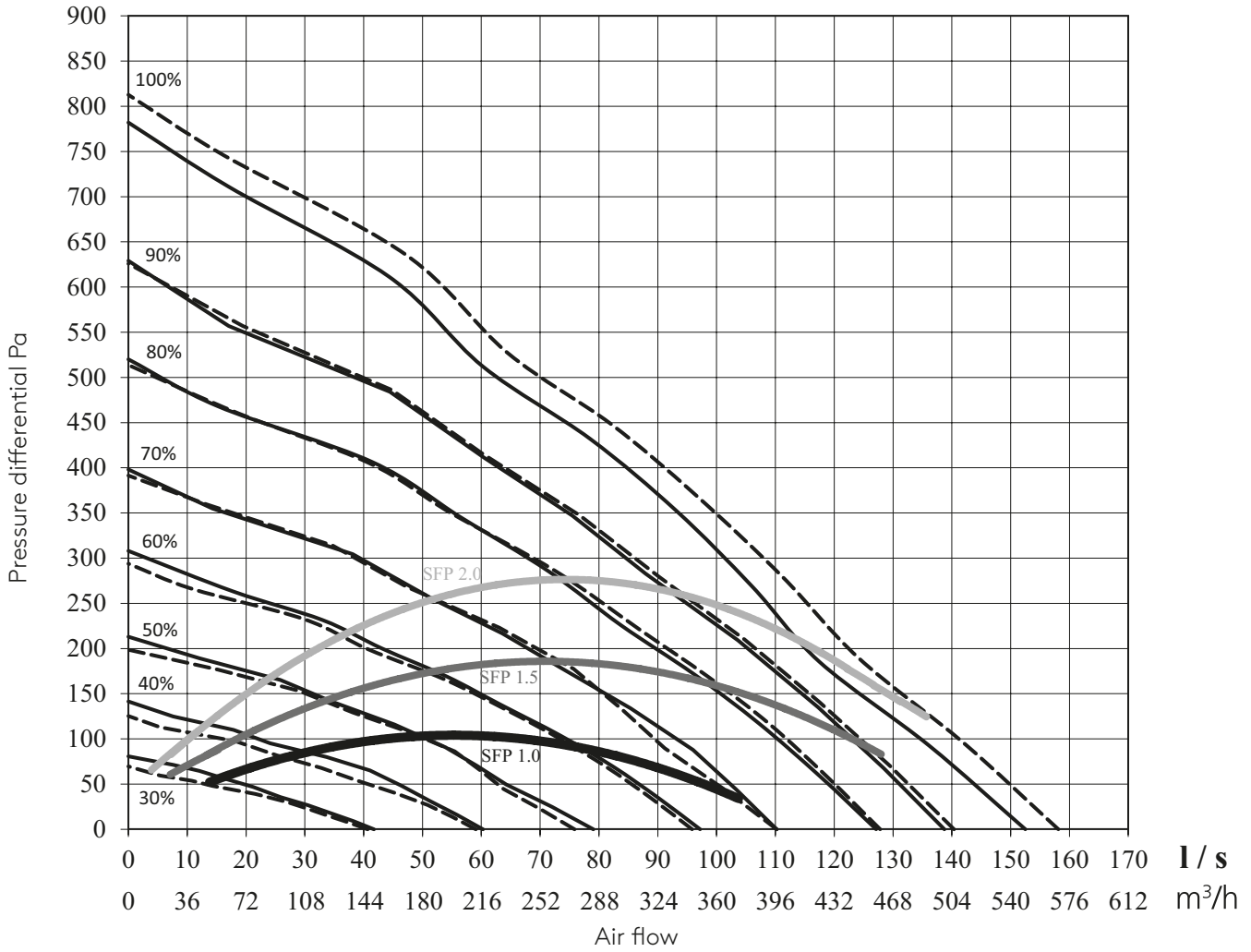
Air flows

Air flows EN 13141-4

W5

Supply airflow

Extract airflow



Acoustic data

See acoustic data on ProCASA.

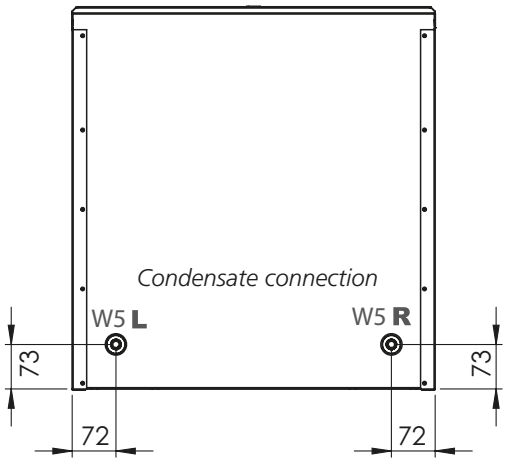
procasa.swegon.com

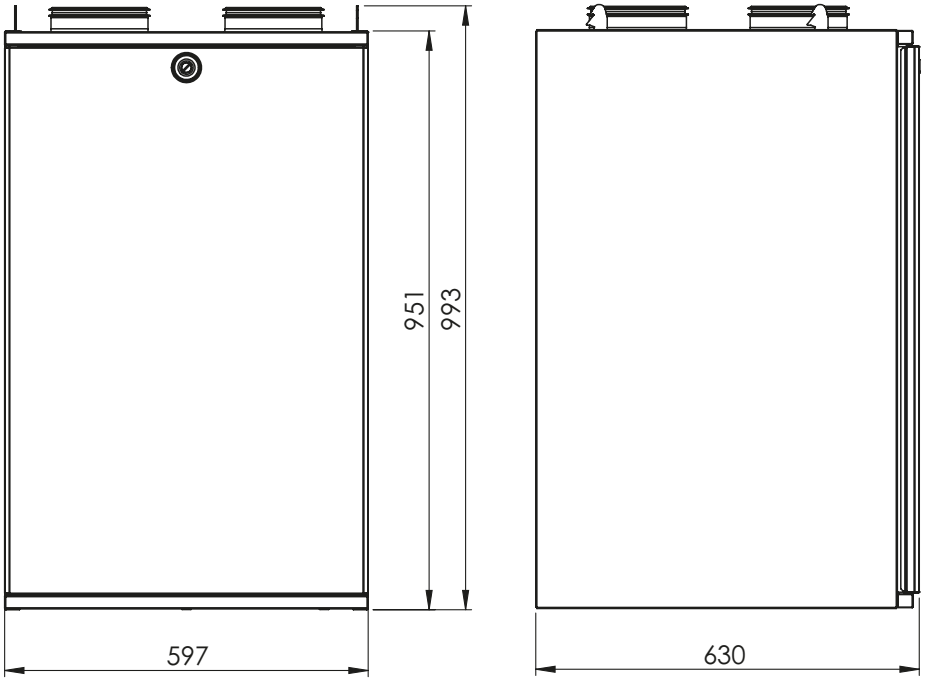
Dimensions and weight

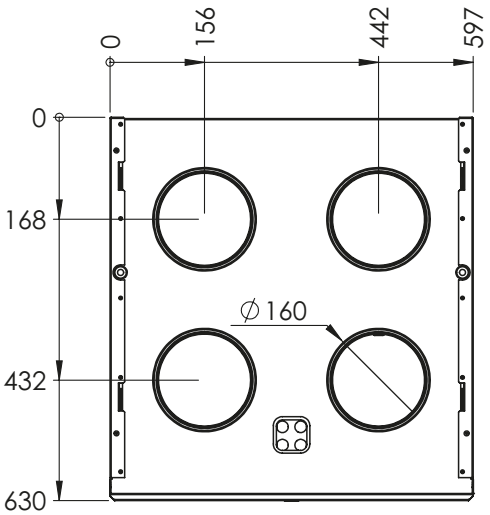
Dimensions

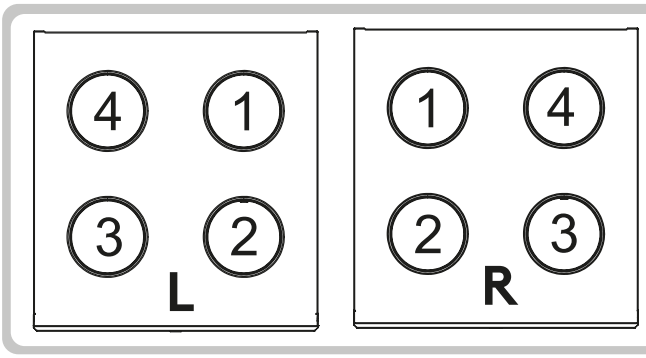
W5

Weight of the unit: **87 kg**





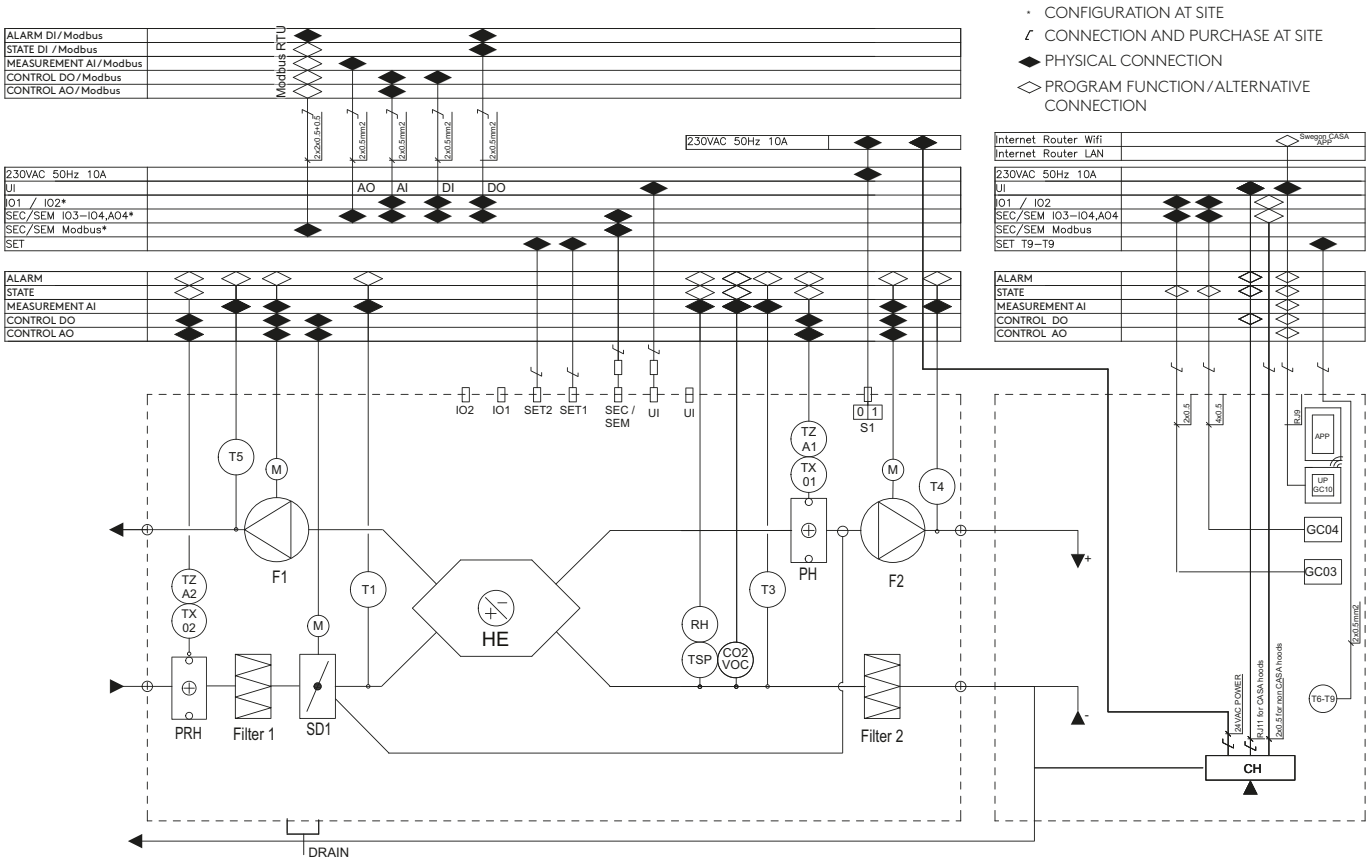




1. Supply air
2. Extract air
3. Outdoor air
4. Exhaust air

Functional diagram

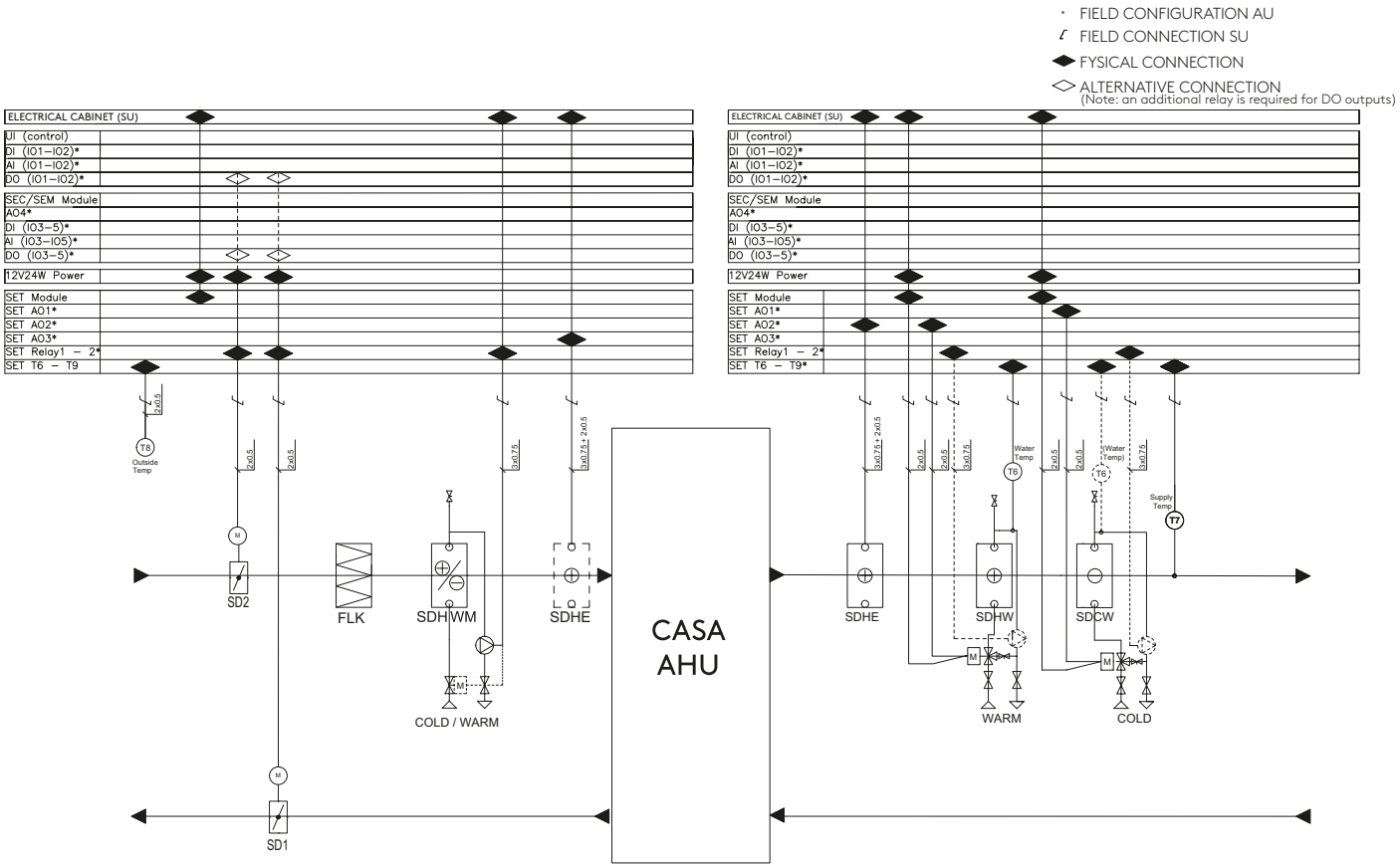
Functional diagram
W5



Device	Description	Modbus register
T1	Temperature sensor, outdoor air	3x6201 (0,1°C)
TSP	Temperature sensor, extract air	3x6204 (0,1°C)
T4	Temperature sensor, supply air	3x6203 (0,1°C)
T5	Temperature sensor, exhaust air	3x6205 (0,1°C)
TZ01, TZ02	Manual overheat protection 70°C	Alarm 3x6117
TZA1, TZA2	Automatic overheat protection 55°C	Alarm 3x6117
Filter 1	Fresh air filters ISO ePM1 50% (F7)	Service reminder info 3x6129
Filter 2	Extract air filter ISO coarse (G3)	Service reminder info 3x6129
F1	Extract fan including internal overheat protection.	Control 3x6304(%), RPM 3x6306
F2	Supply fan including internal overheat protection.	Control 3x6303(%), RPM 3x6305
PRH	Pre heater, controlled steplessly according to demand	Control 3x6344 (%)
PH	Post heater, controlled steplessly according to demand.	Control 3x6317 (%)
HE	Heat exchanger	
SD1	Heat exchanger bypass damper and damper motor. Note, the wiring according to the handiness of the unit.	Control 3x6348 (%)
S1	Use Switch. Note! power off the unit by removing the socket from the Mains when Service	
RH	Humidity sensor for RH automation	RH 3x6214
DRAIN	Condensate discharge drain. Connect the water trap and drain hose to the condensate connection. Check the operation of the water trap.	

Functional diagram

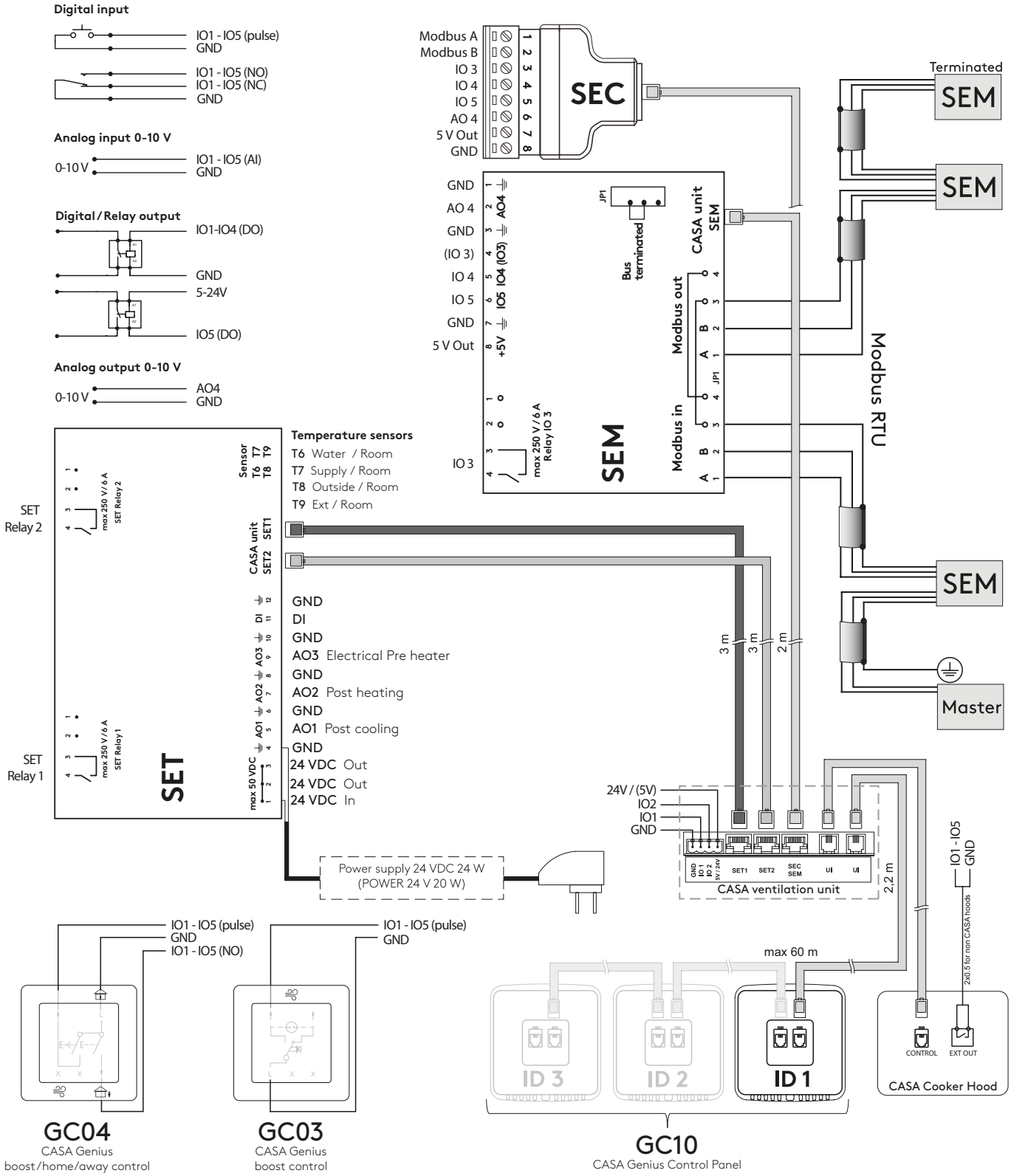
Duct actuators



Device	Description
T6-T9	Temperature sensor. Connection to the SET module. The sensor must be defined on the control panel.
SD1, SD2	Duct Plate for Outdoor / Exhaust duct.
FLK	Duct filter in combination with an electric pre heater (SDHE)
SDHWM	Ground Liquid preheating/cooling coil for outdoor air duct. (Inc SET, heating/cooling coil, sensor)
SDHE	Electrical duct heater for Supply / Outdoor air duct (Inc. SET, duct heater and sensors) Note! A duct filter (FLK) is required for the preheater.
SDHW	Heating coil for supply air duct (Inc. SET, three-way valve + actuator, heating coil, sensors).
SDCW	Cooling coil for supply air duct (Inc. SET, three-way valve + actuator, cooling coil, sensors).
CO2	CO2 sensor for CO2 automation
VOC	VOC sensor for VOC automation
SEM	Modbus module (Inc. 2m RJ-45 cable)
SEC	IO extension module (Inc. 2m RJ-45 cable)
SET	Connection module for duct batteries and temperature sensors. (Inc. 2 x 3m RJ-45 cable)
APP	Swegon CASA mobile application for ventilation control and monitoring. Requires a Genius control panel (GC10) to operate.
UP GC10	Genius control panel that can be connected to Swegon CASA application via WiFi.
GC04	Control switch to select boost, home and away mode.
GC03	Control switch to select boost mode.
CH	Cooker hood. The CASA hood is connected to the ventilation unit with a modular cable. With other hoods, you can control the cooking function with a switch input that is determined for the function.

External connections

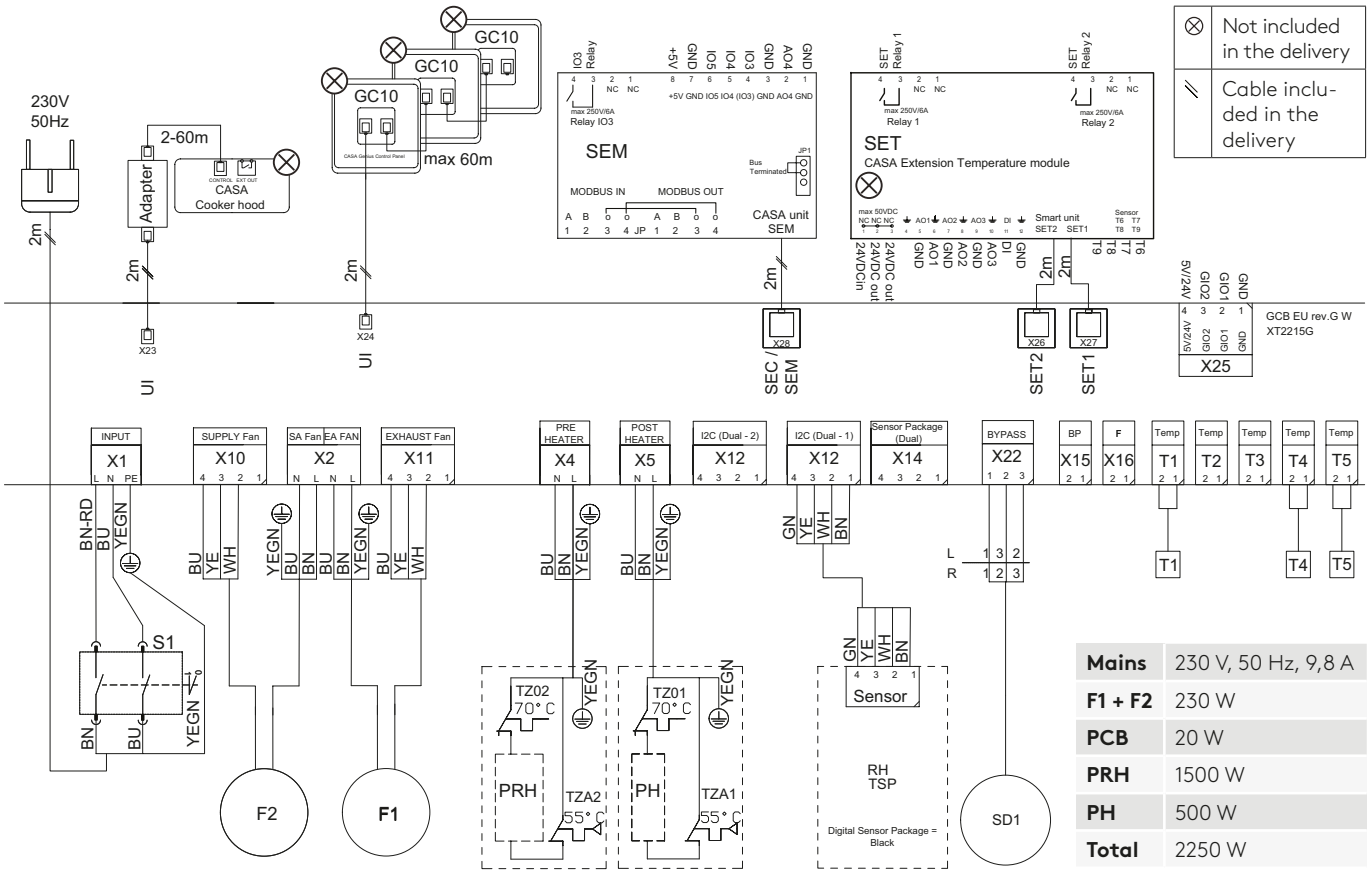
External connections
CASA Genius



SEC IO extension cable with Modbus RTU
SEM IO extension module with relay and Modbus RTU (input and output connections)
SET IO extension module for control of external accessories

Internal connections

W5



Mains	230 V, 50 Hz, 9,8 A
F1 + F2	230 W
PCB	20 W
PRH	1500 W
PH	500 W
Total	2250 W

Device	Description
T1	Temperature sensor, outdoor air
T3/TSP	Temperature sensor, extract air
T4	Temperature sensor, supply air
T5	Temperature sensor, exhaust air
PRH	Pre heater, controlled steplessly according to demand
PH	Post heater, controlled steplessly according to demand.
TZ01, TZ02	Manual overheat protection 70°C
TZA1, TZA2	Automatic overheat protection 55°C
F1	Extract fan including internal overheat protection.
F2	Supply fan including internal overheat protection.
SD1	Damper motor. Note, the wiring according to the handiness of the unit.
S1	Use Switch. Note! power off the unit by removing the socket from the Mains when Service
RH	Humidity sensor for RH automation
UI	Connectors for connecting the control panel and/or CASA cooker hood. One connection point is wired outside the unit.
SEC/SEM	Connector for connecting the SEC or SEM module. The connection point is wired outside the unit.
SET 1&2	Connectors for connecting the SET module
5V/24V	24V voltage output, which can be changed to 5V output with a jumper on the circuit board.
IO 1&2	Two general-purpose IO connectors. Connectors must be configured for the desired functions.
GND	Ground for IO connections.

Installation options

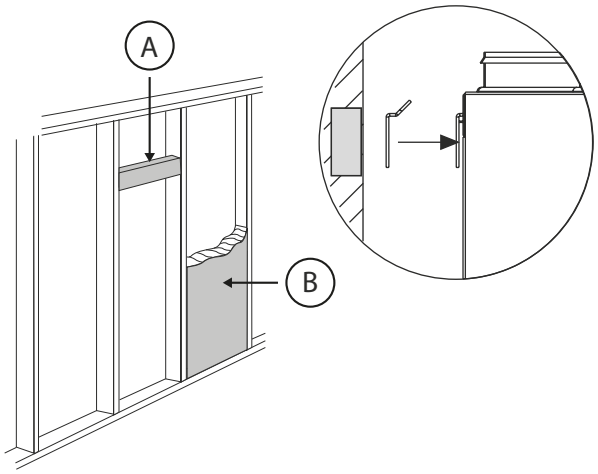
Ventilation unit installation site

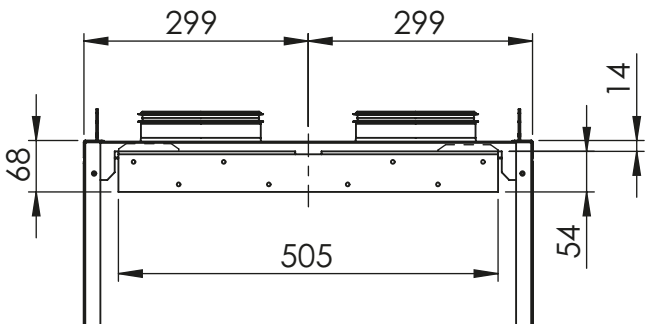
The ambient temperature where the ventilation unit will be installed must be between +10 - (+50) °C. Due to the risk of disruptive noise, the ventilation unit should not be installed on the wall towards the living room or bedroom.

Wall mounting

If it is a question of a light partition wall, the wall must be reinforced with horizontal studs (A) that support the weight of the ventilation unit. In addition, Swegon also recommends that the wall be insulated with mineral wool or similar insulation (B) for preventing sound from propagating to other rooms.

Screw the wall mount firmly in horizontal position onto the wall where a wall stud will support the weight of the unit. Lift up the ventilation unit onto the wall mounting bracket so that the ears on the bracket engage in the corresponding notches at the top on the backside of the unit. Set the final position of the ventilation unit with the help of the adjustable anti-vibration mountings so that the ventilation unit tilts slightly backward.





Ceiling mounting

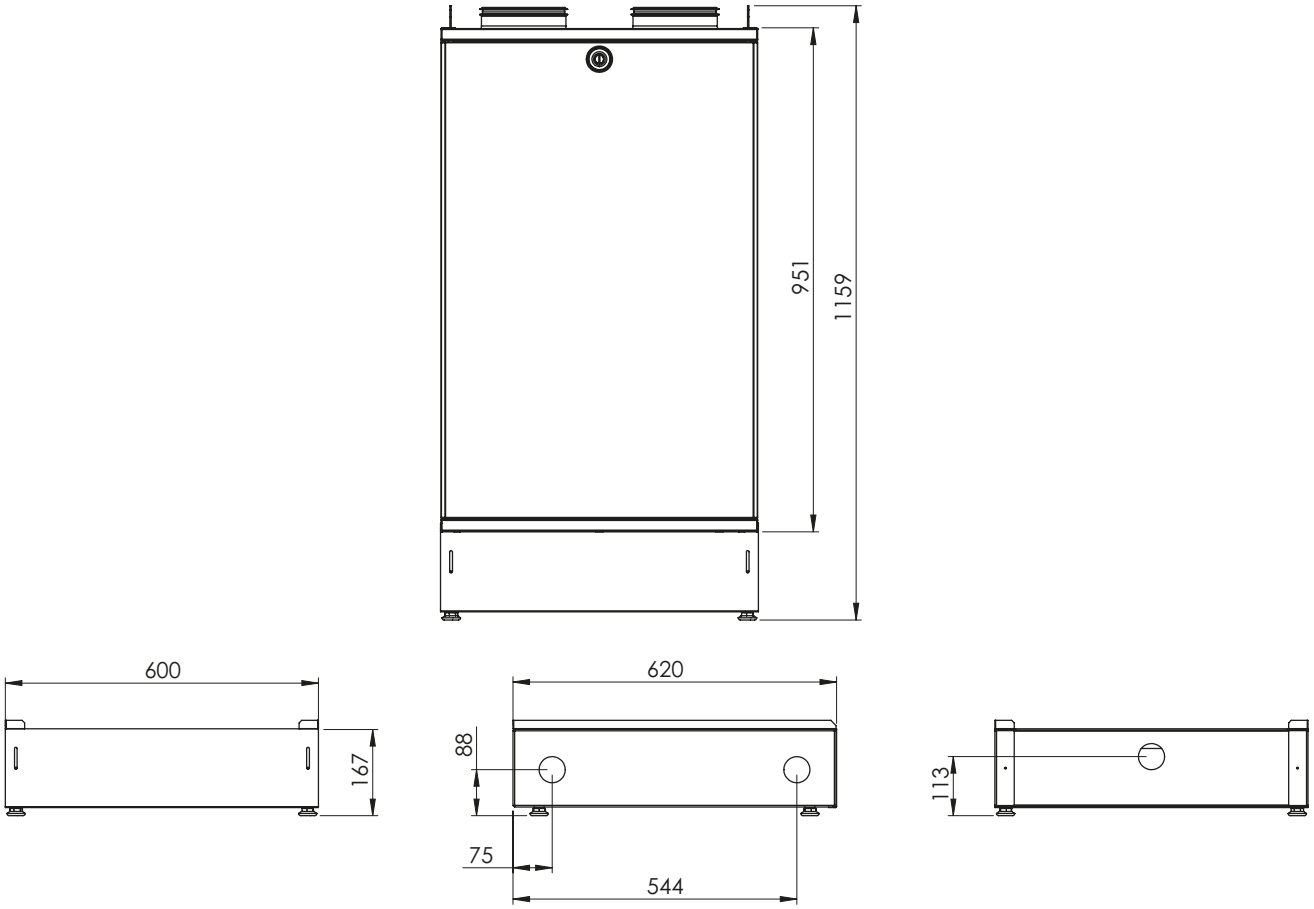
The ventilation unit can also be mounted in a ceiling mounting frame (available as an accessory) on the ceiling.

The ceiling mounting frame must not be used as part of a support structure for the ducts, the duct support must be sufficient even without the support effect provided by the ceiling mounting frame.

Mounting on a base

The CASA W5 ventilation unit can also be mounted on the floor using a base which is available as an accessory.

The ventilation unit's base is mounted horizontally by using the adjuster feet. Einstellbereich 35 mm (15-50 mm). Installation of the condensate hose can be done when the ventilation unit is on the base, by loosening the front edge that is secured with screws. There are openings for the condensate hose on the sides of the base.



Product codes

W5

Product	Part no.	LVI no.	GTIN
CASA W5 Genius L RH+CO2	W05VL05G10CAA	7907370	6430080090662
CASA W5 Genius L RH	W05VL05G10HAA	7907371	6430080090679
CASA W5 Genius R RH+CO2	W05VR05G10CAA	7907373	6430080090693
CASA W5 Genius R RH	W05VR05G10HAA	7907374	6430080090709

Accessories

Product	Part no.	LVI no.	GTIN
Ceiling mounting bracket	W05CMB	7906691	6415879066912
Base	W05FMB	7906688	6415879066882
Mounting frame with vapour barrier	W05PP	7906689	6415879066899
Water trap	UVLL	7906930	6415879069302

CASA – Accessories

Control accessories	Part no.	LVI no.	GTIN
GC10 CASA Genius control panel and WiFi	GC10	7907376	6430080090846
GC10 control panel + 10 m long cable	GC14	7907377	6430080090853
GC10 control panel + 10 m long cable + frame	GC15	7907378	6430080090860
GC10 control panel + frame	GC16	7907379	6430080090877
Frame for control panel GC10	102SAK	7906675	6415879066752
CASA Genius boost/home/away control button	GC04	7907057	6430080090013
CASA Genius boost control button	GC03	7907399	6430080091119

Building automation	Part no.	LVI no.	GTIN
Modbus connection module with electrical box (included in W5 delivery)	SEMIO	7907455	6430080091348
Modbus connection module for DIN rail	SEM	7907376	6415879067346
Connection cable (configurable I/O) for Genius ventilation units	SEC	7907377	6415879067353
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).	WSTC	7907378	6415879069395

Automatic functions	Part no.	LVI no.	GTIN
RH + CO2 + VOC automation	GRHCV	7907476	6430080091461

Waterborne air coolers	Part no.	LVI no.	GTIN
Cooling coil package Ø 160	SDCW160	7906805	6415879068053

Waterborne air heaters	Part no.	LVI no.	GTIN
Heating coil package Ø 160	SDHW160	7906804	6415879068046

Brine air heater/cooler for ground source heat pump	Part no.	LVI no.	GTIN
Heating/cooling coil Ø250, G4	SDHW250F	7906808	6415879068084

Electric air heater	Part no.	LVI no.	GTIN
Electric heater Ø 160	SDHE160-1T	7906724	6415879067247
Prefilter box Ø 160mm, G4	FLK16	7906748	6415879067483

Duct mounted shut-off dampers	Part no.	LVI no.	GTIN
Damper Ø 160 mm	SDD160	7906993	6415879069937

Other accessories	Part no.	LVI no.	GTIN
Connection module for control of the duct mounted air heater/ cooler / control of shut-off dampers	SET	7906733	6415879067339
SET / power source for actuators	POWER24V20W	7906840	6415879068404
PTH Regulation for constant duct pressure	PTH	7906728	6415879067285

Feel good **inside**

Swegon