CASA® Ventilation Units

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Swegon
Home Solutions

How is your indoor climate?

Do you have headaches in the morning?
Do you feel sick or tired when at home?
Do you have condensation on your windows or mirrors?
Do you cough more when you are indoors?

Today we spend more time indoors; we shower more and we do laundry and wash the dishes more often. We easily spend thousands of euros on interior design and high-tech electronics, but we tend to save on the indoor quality which is essential to our well-being. Modern building requirements aim for low energy consumption and building structures are designed to be airtight not to lose any valuable heating energy. That is why it is very important that new buildings also have properly planned ventilation to provide enough fresh air and to extract moisture from the apartment.

A need to breathe

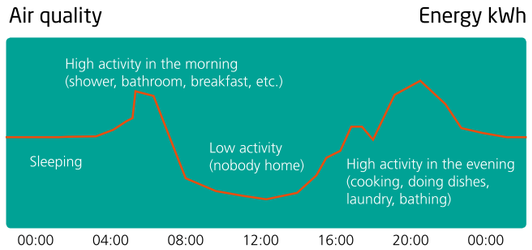
We need at least 0,75 kilos of food, 1,5 kilos of water and 20 kilos (15 000 liters) of air every day just to survive. Normal breathing, perspiration and daily activities such as cooking, cleaning and bathing create high level of CO2, humidity and odors in our surroundings. And we spend 85 % of our time indoors. Emissions from traffic and industry can also transfer harmful substances from outside to our breathing air. Inadequate, unfiltered or unbalanced ventilation may lead to increased moisture levels that provide a habitat for harmful microbes and molds. Air quality has an enormous influence on our well-being. It can affect our quality of sleep, concentration capacity and even health. Poor air quality can lead to nausea, headache and even serious diseases to our respiratory organs.

Up to 70% less energy consumption

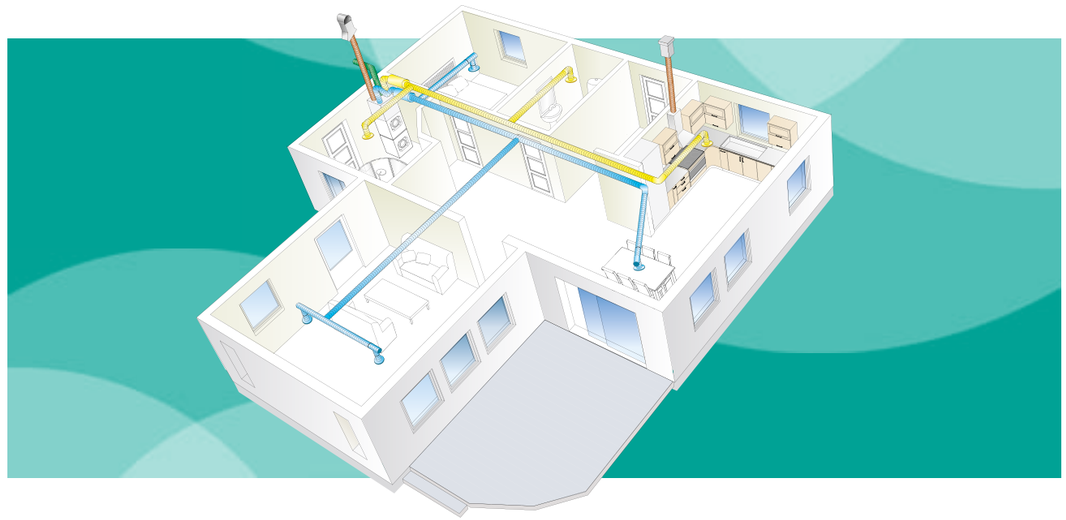
In the olden days we simply opened the window for fresh air. After that we had systems that were based on air moving freely inside the apartment and a fan for blowing out the extract air. These methods have no solution for heat recovery however and they waste a lot of valuable heating energy. Nor are the airflows filtered or targeted to areas and situations where they are mostly needed.

Save more with CASA

The need for ventilation varies depending on the situation. The number of people in the apartment and their activities like bathing, cooking, using the sauna or doing laundry have an influence on how much air flow is needed. Adjusting ventilation accordingly guarantees the best possible indoor climate in all situations and can also save hundreds of euros per year in energy costs. With our intelligent demand control logic, the ventilation system will adjust to the right ventilation level automatically for you.



The smart and comfortable CASA ventilation



Swegon CASA offers you a wide range of ventilation units with different control logics for various needs, kitchen hoods that work perfectly together with ventilation to guarantee perfectly balanced ventilation and a wide range of accessories such as silencers and diffusors

Feel the healthy indoor climate

Efficient ventilation that keeps oxygen levels inside the apartment adequate and extracts harmful fumes and odors. Incoming air is always filtered through high quality filters so that indoor living is healthy and comfortable.

Save energy

We need fresh air 24 hours a day all year around. Therefore it is important to choose the most energy efficient system available. CASA units are equipped with highly efficient heat exchangers that can use up to 85 percent of the exhaust air heat energy to warm the incoming fresh air! Smart ventilation does not waste energy, but reuses it to create free heating or passive cooling and saves household energy costs

Balance indoor humidity

Adequate and controlled ventilation extracts excess humidity from indoor air and makes sure that the uncontrolled pressure differences don't create a risk of moisture in the structures and surfaces of the building.

Enjoy silent comfort

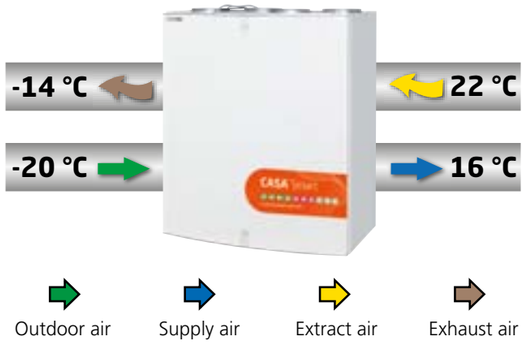
Technical design and high quality components such as fans and motors offer you the smoothest and most silent ventilation experience in the market!

Quality to the highest standards

With over 400 000 delivered air handling units Swegon provides fresh and healthy air to millions of people every day.
Solutions tested in high tech laboratories and proven in the Scandinavian arctic weather conditions to guarantee supreme energy-efficiency and healthy indoor climate in all circumstances.

This is how it works!

Extract air is removed from the apartment through the extract valves and ducting to the ventilation unit. The extract air is taken from those parts of the apartment that have the highest amount of substances harmful to air quality such as the wc, kitchen and bathroom. The air continues inside the unit to the built-in heat exchanger which recovers the heat energy from the extract air, passes the extract air fan and is sent outside as exhaust air. Simultaneously fresh and cold outside air enters the unit, passing through filters that remove all harmful substances, and continues to the heat exchanger where it is heated up by the recovered heat. Finally it is distributed through supply air ducts and diffusers to the apartment as supply air.



The most efficient CASA units use less than 55W of energy at an airflow of 50 l/s, which is just slightly more than the use of a traditional light-bulb. With that energy the heat exchanger creates a temperature rise of 36 °C in the supply air, from -20 °C to +16 °C.

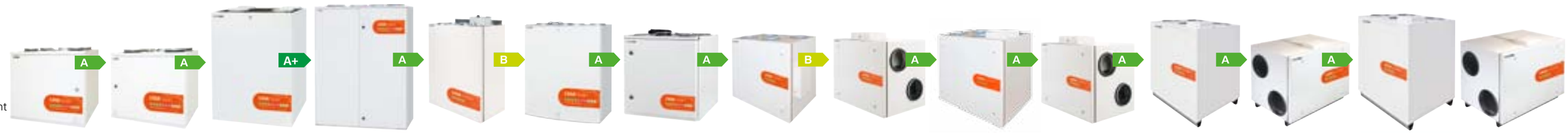
More information ProCASA

procasa.swegon.com

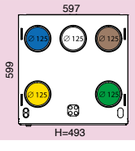
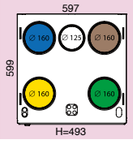
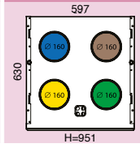
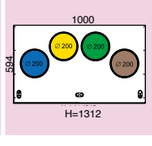
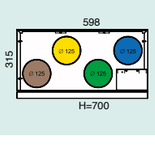
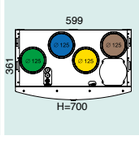
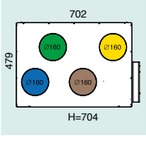
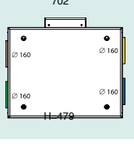
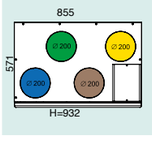
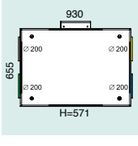
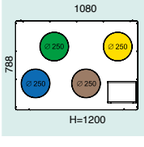
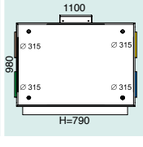
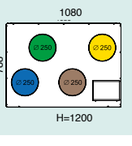
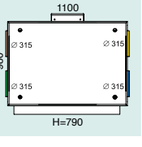
Energy class according to Ecodesign Directive Lot 6 (average). Energy class can vary depending on equipment level of the unit.

* Defined as non-residential ventilation unit according to Ecodesign Lot 6.

● Standard equipment
○ Available
– Not available



Ecodesign Lot 6

	W3 Smart	W4 Smart	W5 Smart	W9 Smart	R2 Comfort | Nordic	R3 Smart	R5 Smart	R5 Comfort | EL	R5-H Comfort | EL	R7 Comfort | EL	R7-H Comfort | EL	R9 Comfort	R9-H Comfort	R15 Comfort	R15-H Comfort
Airflow range	20-80 l/s	20-100 l/s	30-130 l/s	50-230 l/s	20-60 l/s	25-80 l/s	35-120 l/s	40-120 l/s	40-120 l/s	60-190 l/s	60-210 l/s	75-240 l/s	75-275 l/s	100-475 l/s	100-550 l/s
Apartment size	< 150 m²	< 200 m²	< 250 m²	< 450 m²	< 140 m²	< 150 m²	< 240 m²	< 250 m²	< 250 m²	< 450 m²	< 450 m²	< 500 m²	< 500 m²	< 850 m²	< 1000 m²
(SEC) in kWh Cold / **Average** / Warm climate	-77,5 A+ / **-39,7 A** / -15,5 E	-77,2 A+ / **-39,3 A** / -15,0 E	-80,6 A+ / **-42,1 A** / -17,4 E	-77,9 A+ / **-39,5 A** / -15 E	-68,0 A+ / **-28,4 B** / -5,7 F	-82,7 A+ / **-39,8 A** / -15,2 E	-84,9 A+ / **-41,4 A** / -16,5 E	-76,1 A+ / **-33,9 B** / -9,7 F	- 76,3 A+ / **-34,1 A** / -9,9 F	-76,3 A+ / **-34,3 A** / -10,3 E	-76,3 A+ / **-34,6 A** / -10,7 E	-79,4 A+ / **-37,2 A** / -13,0 E	-79,6 A+ / **-37,3 A** / -13,1 E	NRVU*	NRVU*
Maximum flow rate (in m3/h)	286	349	468	857	216	295	421	432	439	677	749	871	997	NRVU*	NRVU*
Sound power level (L_{WA}) in dB(A)	41	41	41	48	36	39	38	40	42	44	46	36	39	NRVU*	NRVU*
Filter class	F7 + G3	F7 + G3	F7 + G3	F7 + G3	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7	F7 + F7
Heat exchanger efficiency (EN 308)	82 %	82 %	85 %	84%	83 %	86 %	86 %	86 %	86 %	86 %	86 %	86 %	86 %	86 %	86 %
Control system	Smart	Smart	Smart	Smart	Comfort	Smart	Smart	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort	Comfort
Control panel	○	○	●	●	●	○	●	●	●	●	●	●	●	●	●
Remote control system	DDC/(Modbus)	DDC/(Modbus)	DDC/(Modbus)	DDC/(Modbus)	–	DDC/(Modbus)	DDC/(Modbus)	–	–	–	–	–	–	–	–
Fans	230 W	290W	238 W	1020 W	234 W	230 W	230 W	234 W	234 W	340 W	340 W	340 W	340 W	1000 W	1000 W
Connection power	740/1240 W	1300 W	2248 W	1780/2680 W	647 W | 947 W	250/750 W	250/1050 W	259 W | 959 W	259 W | 959 W	365 W | 1765 W	365 W | 1765 W	366 W	366 W	1026 W	1026 W
Power connection	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 16 A	230 V, 50 Hz, 16 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 10 A	230 V, 50 Hz, 16 A	230 V, 50 Hz, 16 A	230 V, 50 Hz, 16 A	230 V, 50 Hz, 16 A
Internal Electric preheater	● 500/1000 W	● 1000 W	● 1500 W	● 750 W	–	–	–	–	–	–	–	–	–	–	–
Internal Electric reheater	● 500 W	● 500 W	● 500 W	● 900 W	● 700 W	○ 500 W	○ 800 W	● 700 W	● 700 W	● 1400 W	● 1400 W	–	–	–	–
External electric reheater (duct mounted)	–	–	–	–	○ 400 W	–	–	○ 300/600/900 W	○ 300/600/900 W	○ 900/1200 W	○ 900/1200 W	○ 900/2100 W	○ 900/2100 W	○ 900/2100 W	○ 900/2100 W
Internal water coil (econo) available	○	○	–	○	–	–	–	–	–	–	–	–	–	–	–
External water coil for reheating/cooling available	○	○	○	○	–	○	○	○	○	○	○	○	○	○	○
Passive cooling with automatic summer bypass	○	○	●	●	●	●	●	●	●	●	●	●	●	●	●
Wall installation	○	○	●	–	●	●	●	○	○	–	–	–	–	–	–
Ceiling installation	○	○	○	–	–	○	○	–	–	–	–	–	–	–	–
Floor installation	–	–	○	●	●	●	●	●	●	●	●	●	●	●	●
Attic installation	–	–	–	–	–	–	●	●	●	●	●	●	●	●	●
Separate connection for the cooker hood	●	●	–	–	–	●	●	–	–	–	–	–	–	–	–
Can be integrated with kitchenhood	–	–	–	–	●	●	–	–	–	–	–	–	–	–	–
Inspection side	R(L)	R(L)	R(L)	R(L)	R(L)	R(L)	R(L)	L	L/R	L	L/R	L	L/R	L	L/R
Dimensions (R-model)															

Outdoor air · Extract air · Supply air · Exhaust air

13-12-2016 Swegon reserves the right to alter specifications.

Control technologies

Smart-control

The new Smart panel makes adjusting your ventilation to changing circumstances easier than ever. You can change functions manually from the color user panel, use the weekly 24h timer to change the modes according to your wishes or you can let the Smart-logic take care of it for you automatically (accessory). Compatible with all Smart-units.

Comfort-control

The new Comfort-panel lets you easily adjust your ventilation to changing circumstances. You can change functions and temperature simply from the easy-to-use color user panel. Compatible with all Comfort units.

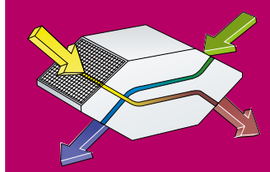
Cooker hood control

In multi-apartment buildings the ventilation unit is mainly operated from the kitchen hood. Swegon CASA cooker hoods have separate switches for fan speed, damper control and lights.

Control systems and connection possibilities

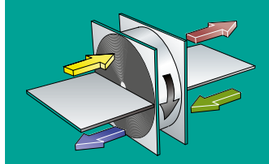
Smart and Premium ventilation units are easy and simple to connect in apartment automation systems via DCC (standard) or Modbus gateway (accessory). Connection to centralized surveillance and control systems lowers both maintenance and operating costs for property owners.

Counteflow heat exchanger



Counterflow plate heat exchangers consist of thin aluminium plates that form parallel air ducts arranged at opposite angles to one another. The warmer extract air heats the plates and transfers heat to the colder supply air. The contact surfaces are large because the air streams flow in parallel and in opposite directions.Temperature efficiency is as high as 84 %. The supply air and extract air have completely separate air passages therefore any possible odours in the extract air cannot be transferred to the supply air. The heat exchanger does not recover moisture to supply air, which is good in apartments with high humidity levels (sauna).

Rotary heat exchanger



The rotary heat exchanger consists of a rotating wheel with a multitude of small air ducts made of aluminium. The warmer extract air heats the ducts and the heatis transferred to the colder supply air. Temperature efficiency is as high as 86 %. A certain amount of moisture, removed with the extract air, is recovered to the supply air. This can be beneficial in the winter when the outdoor air is usually dry and results in problems for people and interior fittings. If the home has a high moisture load, the extract airflow must be sufficient to remove the moisture.

Boost
High air flow. To be used when the need for ventilation increases i.e. during cooking, bathing, doing laundry etc.

Active
Increased air flow. Can be used when more people than usual are in the building or to cool on hot days.

Home
Normal air flow. To guarantee that there is enough fresh air inside the apartment and that the building is doing well.

Away
Low air flow. Minimizes energy use when there is decreased need for ventilation inside the apartment.

Traveling
Very low air flow. Used when the apartment is empty for a long period of time.

Auto RH control
For controlling interior air humidity and defining the right ventilation mode according to humidity levels.

Auto home/away/boost
During automatic function Smart logic measures inside CO2 levels to determine the number of people in the apartment and define the right ventilation mode accordingly.

Auto air quality control
The most advanced automation logic for supreme air quality. Reacts to a wide range of particles including humidity, fumes, odors, smells and perspiration to define you the possible indoor climate experience for you in all circumstances!

Fireplace function
Fireplace function helps to produce compensation air for easy setup and clear burning for fires in your fireplace.

Cooker hood function
Balances ventilation during the use of kitchen hood. Helps to prevent too much under pressure being created and enhances the odor catching capability of the cooker hood.

Central vacuum function
Balances ventilation during the use of central vacuum cleaner. Helps to prevent creating too much under pressure and enhances cleaning results.

Always comfortable indoor climate
CASA provides several features that upgrade your ventilation unit into an efficient and economical heating and/or cooling device, which provides an indoor climate that is always comfortable.

Summer cooling
The summer function creates economical comfort cooling by intelligently exploiting the temperature differences between indoor and outdoor climate. During warm summer days it recovers the coolness of indoor air to the warmer incoming air. During colder night time the heat exchanger is bypassed and the apartment will be cooled with fresh outdoor air. In our latest models this can be done automatically with the Smart summer cooling function!

Active cooling unit
With integrated external cooling devices you can cool the supply air by connecting it to your waterborne cooling system (ground source heat pump) and enjoy economical comfort cooling integrated into your ventilation system.

Comfort heating
Most of time, the built-in heat exchanger is all that is needed to heat the incoming air. For the coldest weather CASA units are equipped with an electrical additional heater that will automatically switch on if extra heating is needed to heat the supply air and to avoid the uncomfortable feeling of draft.

De-frost function
Reliable de-frost function guarantees continuous ventilation even in extreme cold conditions. If there is a risk of freezing in the heat exchange unit, the logic will change fan speeds and turn on a preheater unit that makes sure that ventilation won't stop under any circumstances.

Waterborne comfort heating units
To gain even more economical comfort heating you can connect your ventilation unit to your waterborne heating system with internal (econo) or external reheating units and let your primary heating system (for example, a ground source heat pump) take care of supply air re-heating.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