PARAGON Wall AWC

Demand-controlled comfort module for offices

QUICK FACTS

- Comfort module for demand-controlled indoor climate
- Designed for installation in the rear edge of the room and ideally is positioned above the adjacent corridor's suspended ceiling
- Equipped with control equipment for stand-alone or connectable to BMS via Modbus
- Complete product with integrated damper for variable air flow control 0-100%
- Energy-efficient operation since the room is ventilated, heated and cooled exactly as called for by the load, neither more nor less
- Ventilation, cooling and heating (water)
- Straightforward installation with two optional water connection sides and centred air connection
- Adjustable air direction ADC and adjustable grille louvres
- Low installation height
- High capacity

KEY FIGURES				
Air flow range:		Pressure range:	Cooling capacity total:	Heating capacity:
l/s	m³/h	Pa	W	W
0 - 85	0 - 306	20 - 200	Up to 2682	Up to 4274

SIZE		
Length (mm)	Width (mm)	Height (mm)
800, 1100, 1400	722 (+0-20)	286

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Technical description

PARAGON Wall AWC

The product is a demand-controlled comfort module with integrated regulation which, with its mounted control equipment, brings air flow and cooling and heating under demand-control for the best energy efficiency and comfort.

The product has a unique slot opening that means we can always guarantee the right air flow into the room and this with our functional controller with many I/O possibilities.

This is a plug & play product for quick and easy installation.

The compact comfort module is primarily designed for offices.

The product provides high cooling/heating capacity through optimal utilisation of its cooling/heating coil even when the air pressure and airflows are low.

As the PARAGON Wall AWC uses the same grille for both the distribution of supplied air and the recirculation of the supply air,
this makes a technical installation outside the relevant room possible, which gives several important advantages.

By utilising the space above the false ceiling in the adjoining corridor, service can be carried out in the corridor without the need for access to the room served by the unit. With only one grille to take into consideration, only one opening needs to be cut in the wall.

Figure 1. PARAGON Wall AWC, front view

Figure 2. PARAGON Wall AWC, rear view

PARAGON Wall AWC in a nutshell

- Complete plug & play product with factory-fitted control equipment
- Low flow-generated noise level
- Draught-free indoor climate
- Straightforward installation with two optional water connection sides and centred air connection
- No fan in the room
- Dry system without condensation
- No need for any drainage system
- No filter
- Requires minimal maintenance
- Low energy consumption
- Guaranteed comfort through flexible adjustment of the direction of air discharge (ADC)
- Can ordered with or without grille.

Sizes and variants

The product is available in three different lengths 800, 1100 and 1400 mm.

All sizes can be ordered with the water connection on the left or right short side.

EUROVENT CERTIFIED PERFORMANCE
www.eurovent-certification.com

www.eurovent-certification.com
www.certiflash.com

Version

PARAGON Wall AWC is available in the following variants:

Variant A:	Ventilation, waterborne cooling.
Variant B:	Ventilation, waterborne cooling and heating from a coil.

Basic function diagram

Offices

The primary air is supplied via duct connection in the rear edge of the unit and this builds up positive pressure inside the unit. The positive pressure distributes the primary air with relatively high velocity via two rows of nozzle holes, one row in the upper edge and one row in the lower edge of the outlet. The high velocity of the primary air creates negative pressure which generates induction of the room air.

The recirculation air is sucked into the unit through the same grille that is used for distributing air into the room.

The recirculation air is then conveyed through the coil where it is cooled, heated, if required, or just passes untreated, before it mixes with the primary air and is discharged into the room.

The air is ideally distributed to office rooms by discharging it in a fan shape and utilising as much of the ceiling and any intermediate walls as possible for preventing draughts in the occupied zone.

Horizontal air distribution is achieved by means of the ADC (Anti-Draught Control) feature. If vertical air distribution is desirable, this is achieved by setting the outlet grille vanes to slant upward or downward.

Our new generation PARAGON Wall AWC has variable k-factor setting and large air flow range.

See also WISE Paragon Wall for full integration in Swegon's WISE system.

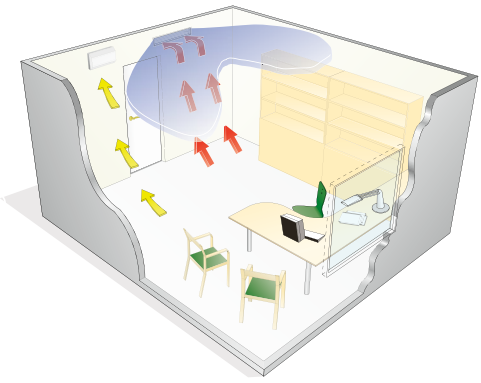


Figure 3 – Air distribution with the PARAGON Wall AWC in a separate office room

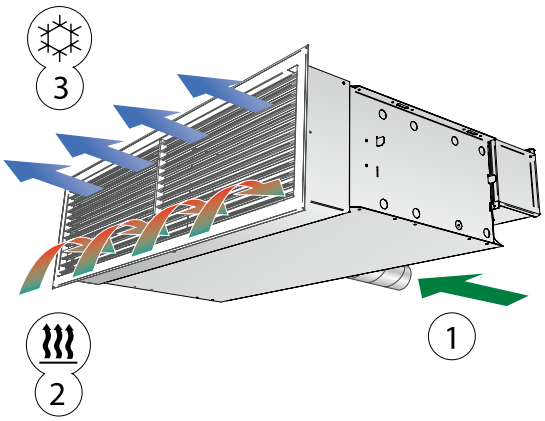


Figure 4 – Cooling function
1 = Primary air
2 = Induced room air
3 = Primary air mixed with chilled room air

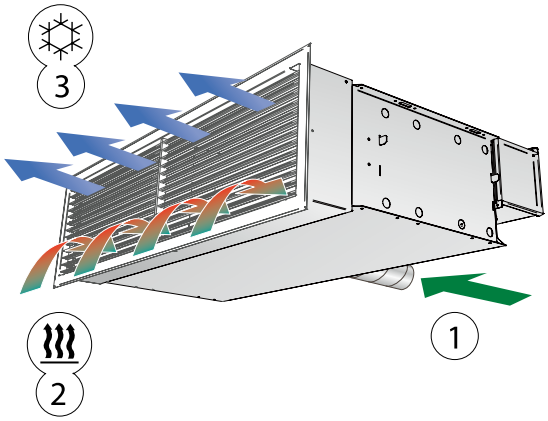


Figure 5 – Heating function (waterborne) also includes cooling function
1 = Primary air
2 = Primary air mixed with heated room air
3 = Induced room air

Air distribution

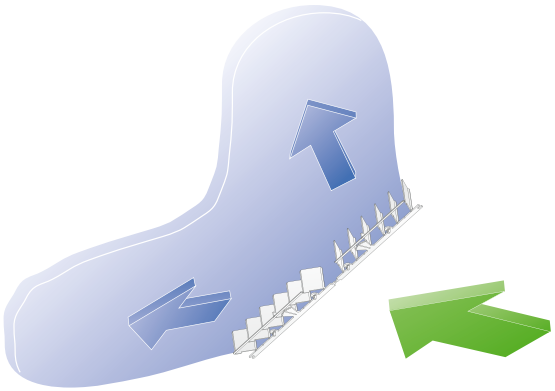


Figure 6 – Horizontal air distribution with ADC

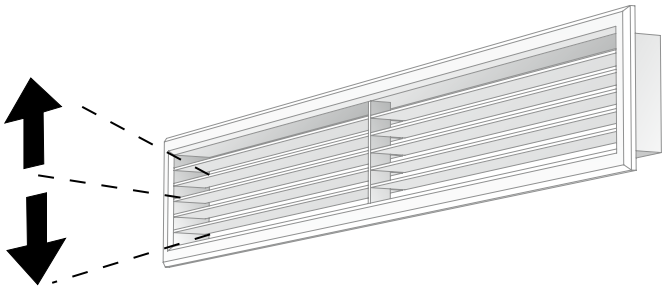


Figure 8. Vertical air distribution with adjustable louvres in the supply air grille.

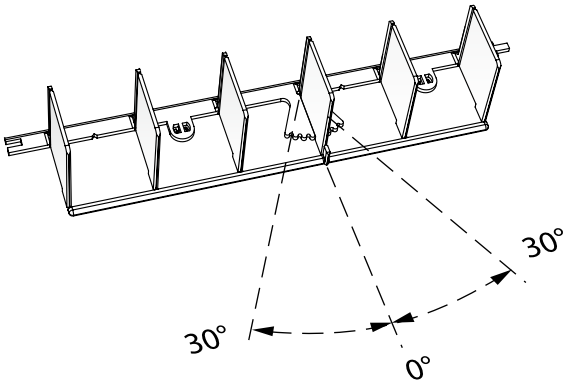


Figure 7. PARAGON ADC

Control equipment

PARAGON Wall AWC is fully equipped with actuator, controller, pressure sensor, valves and valve actuators for optimum demand control according to the actual need.

As standard the product has two selectable water connection sides.

Plug & Play

Factory-fitted control equipment makes the installation work simple. All components are accessible from the back of the product.

Selectable factory-fitted optional extras:
In addition to those above that are included in PARAGON Wall AWC

Condensation sensor, CO_2 sensor, VOC sensor

In addition to the above factory-fitted options, loose accessories and kits (not factory-fitted) are also available:

PARAGON Wall AWC together with the URC1 room control system is the optimum demand-controlled solution for an office building.

URC1 is also used to control the CCO valve.

In the case of increased occupancy, the air flow increases from the economical low flow to the normal flow, while the temperature adjusts to the comfort level.

When the room is empty, the ventilation and temperature return to economic low flow.

In addition to the automatic room control, the user can manually adjust the temperature and air flow.

Also see the product sheet WISE PARAGON Wall on our website www.swegon.se.

Figure 9. PARAGON with water connection on the right-hand side.

Figure 10. PARAGON with water connection on the left-hand side.

Figure 11. VAV controller for demand-controlled ventilation

Figure 12. Room controller/Setpoint selector switch LOCUS

Operating case

Depending on the status of connected sensors, the controller adjusts the outputs from any of several possible operating modes.

Operating modes are described below, these are based on occupancy in the room, status of the current sensor or the signal from the main control system.

Operating modes

There are a variety of operating modes for PARAGON Wall AWC:

- Occupancy mode.
- No occupancy mode.
- Holiday.
- Standby mode.
- Emergency mode.
- Commissioning mode.
- Summer night cooling.

Occupancy mode

When the product receives a signal via the occupancy sensor that someone is present in the room, the valve actuator is regulated for cooling or heating water according to the chosen switching temperatures for cooling or heating linked to this operating mode. The air flow is controlled to the selected occupancy flow, but is naturally influenced by sensors such as condensation sensor, temperature sensor, window contact, possible air quality sensor, etc.

No occupancy mode

When No occupancy mode is enabled, the system automatically switches to energy save mode. The system returns to the Occupancy mode when occupancy is registered again. In Energy-save mode/No occupancy mode, the valve actuator is controlled for cooling or heating water according to the status on other sensors in the room, but normally with a greater permissible difference between switching temperature cooling and heating than in Occupancy mode at the same time as the air is regulated to Min. flow.

Holiday

When Holiday mode is enabled, the system automatically switches to energy save mode exactly as in No occupancy mode, but with the possibility to permit an even greater temperature difference. Controlled from the main control system.

Standby mode

When the control system registers that a window is open the controller switches to Standby mode. When the window is closed the controller switches to Occupancy mode. When the controller is in Standby mode the room temperature is kept above 10 °C (frost protection).

Emergency mode

In the event of a fire alarm, the air damper in the extract air duct is open or closed, depending on how the control system has been set. In Emergency mode cooling and heating are switched off. Supply air is normally switched off.

Operating mode EMERG can only be handled in control systems that are connected to the main control system via Modbus RTU.

Commissioning mode

The “first open” function means that the water valves are open during installation, which simplifies filling, pressure testing and venting the water system.

The function is disabled automatically after being energised for about 6 minutes.

A clicking noise can be heard when the valves and dampers change over to NC mode (normally closed) and the normal control function is enabled.

More details about commissioning mode can be read in the sensor module description on page 10.

Summer night cooling

The function means that cold outdoor air is used to cool the room during the night to the predefined level.

The function can only be handled in control systems that are connected to the main control system via Modbus RTU.

Functions

Change over

The function involves the use of only one valve actuator which should be wired to the cooling output terminal. This actuator then controls both the heating water and the cooling water, which is transported in the same pipe. An external temperature sensor should be used and this should measure on the main pipe where the water always circulates.

In winter, when heating is required, the valve opens if the water in the pipe is warmer than the temperature set point. If the water is colder, the valve does not open.

In summer, when cooling is required, the valve opens if the water in the pipe is colder than the temperature set point.

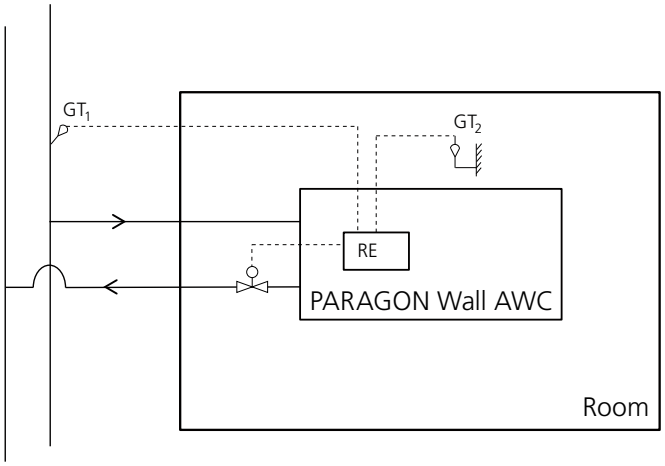


Figure 13.

- 2-pipe system with cooling water in the summer and heating water in the winter
- GT1 is placed where heating or cooling water always circulates
- Summer: If the room temperature T2 is higher than the water temperature T1, the valve opens when cooling is required.
- Winter: If the room temperature T2 is lower than the water temperature T1, the valve opens when heating is required.
- GT1 is connected to the regulator as an external temperature sensor
- In SWICCT or with LOCUS, it is possible to change the parameters so that the sensor is used for the change-over function
- GT2 is the temperature sensor which is located in the Sensor module
- The valve actuator must be connected to the regulator's cooling output.

Activating valves

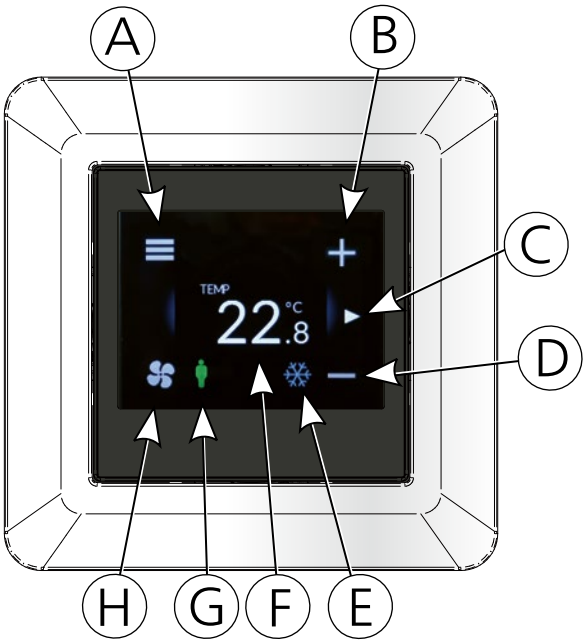
The function requires regular automatic activation of the water valves to avoid them beginning to stiffen or stick. During activation, all valves connected to the regulator are open for a maximum of 6 minutes, and then closed. The valves for the cooling system are activated first, followed by those for the heating system.

Frost protection

The function means that heating operations start at 10°C to counteract the risk of damage that can otherwise occur due to freezing.

Room controller, LOCUS

Main menu and explanation of symbols



A. menu
B. increase
C. swipe left to go to the next page
D. decrease
E. symbol showing ongoing cooling or heating
F. shows programmed setpoint or measured temperature
G. shows occupancy in the room
H. press to activate boost flow

Technical data

Display	Capacitive touch TFT Display QVGA 2.3"
Screen resolution	320x240
Communication	Modbus RTU via RS-485
Temperature sensor	Internal 10K NTC sensor
Operating temperature	+5 ... +40°C
Degree of protection	IP20
Dimensions	88 x 88 x 35 mm
Colour	Optional white or black frame
Operating voltage	12-40 VDC
Current requirement	0.5 W

Connection

LOCUS	Connection	Description
VDD	RJ12	12-40 VDC power supply
A+	RJ12	RS-485 bus connection
B-	RJ12	RS-485 bus connection
GND	RJ12	Earth for 12-40 VDC power supply
Memory card slot		The user panel's software can be updated via a Micro SD card

Standards and directives

The following standards have been observed:

EC Directive:	93/68/EEC
Low Voltage Directive:	2014/35/EU
Machinery Directive:	2006/42/EEC
EMC Directive:	2014/30/EU
RoHS Directive:	2002/95/EC
Vibrations:	EN-60721-3-3

Description of display

Display	Description	Explanation
	Display in standby mode	Activated with a click
	Active main menu	Click on the + or – signs to increase/ decrease the setpoint temperature
	Activated boost mode	
	Swipe left for next display page	Shows input values from connected sensors
	Swipe right to go back to the main menu	

For more detailed information about LOCUS room controller. See the following documentation at www.swegon.com

LOCUS Product datasheet

LOCUS Instructions for Use (IOM)

VAV Modbus

Sensor module

The sensor module consists of an occupancy sensor and a temperature sensor in the same unit.

The sensor module is ordered separately and is mounted on a wall, flush mounted in a standard electrical box or surface-mounted.

The push buttons on the sensor module allow you to adjust the temperature in the room, put the PARAGON Wall AWC in commissioning mode and read the alarm list.

In normal mode, 6 LEDs indicate the selected temperature level. In the event of a fault, the relevant alarm is indicated in the form of flashing LEDs that is translated with the help of an alarm list.

The sensor module is connected to the controller with the help of an RJ12 cable.

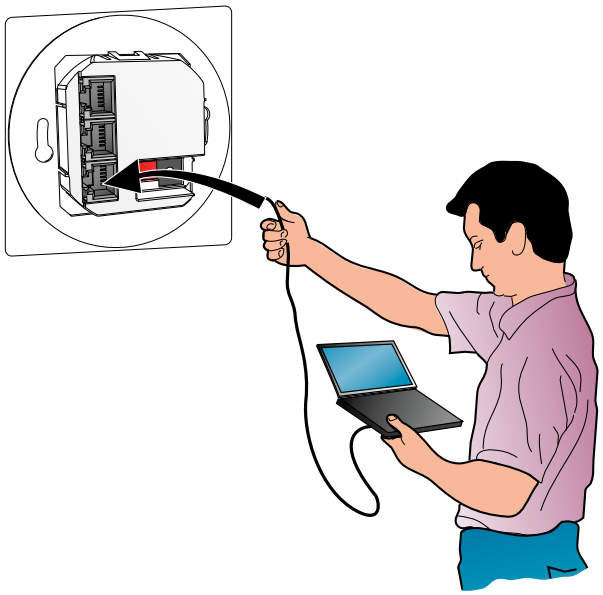


Figure 16. With the help of CABLE CONVERTER USB-RJ12 (RS485), you can easily connect a PC to make e.g. software settings. The connection can either be made on the rear of the Sensor module as illustrated, or directly on the controller. How to do this is described in the SWICCT manual.

Temperature adjustment

Reduce the temperature by pressing the left-hand button

Increase the temperature by pressing the right-hand button

Each LED corresponds to an increase or decrease of the set point by one degree. Base setting of temperatures is made in SWICCT or SuperWISE

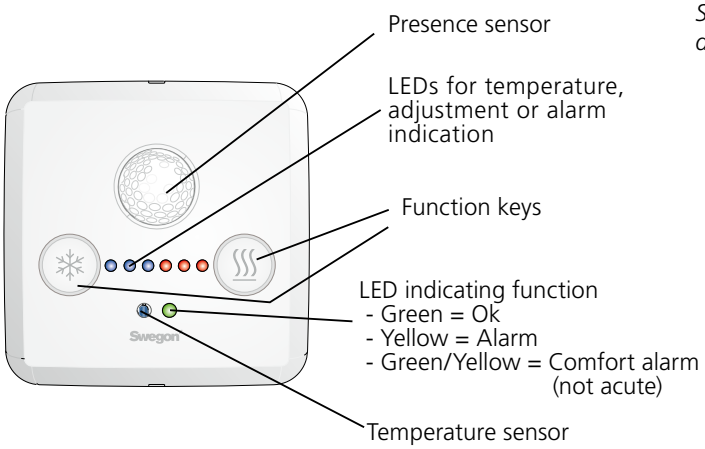


Figure 14. Sensor module seen from the front

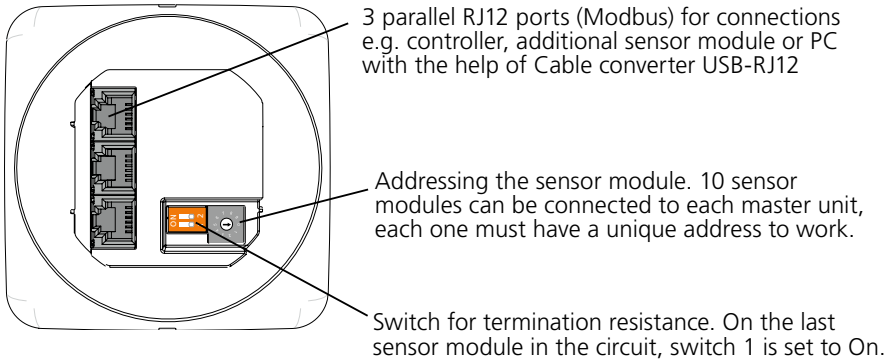
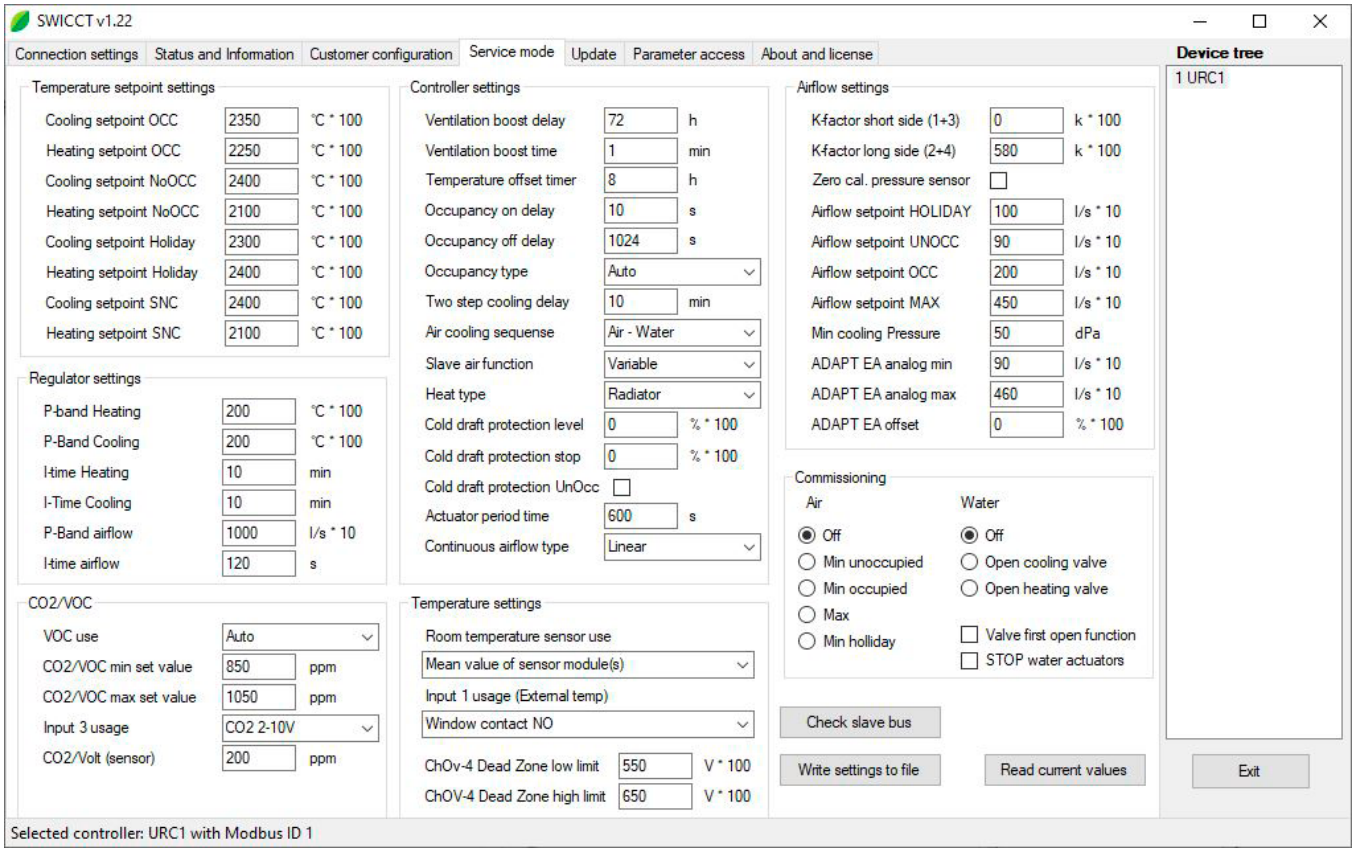


Figure 15. Sensor module seen from the back

SWICCT

SWICCT (SWegon Indoor Climate Configuration Tool) is the software that makes it easy to make settings in the controller. (To make settings requires the cable "CABLE CONV. USB RJ-12", and the installation of this, see the SWICCT manual) Here it is possible to make all essential settings for the Product, for example;

- Base settings for temperature
- Use of external sensors, e.g. for air quality
- Air flows
- Commissioning



SWICCT is available for download from www.swegon.se, both the software and a separate manual.

Technical data

Cooling capacity total, max.	2682 W
Heating capacity, water, max.	4274 W
Air flow	0-85 l/s
	0-306 m^3/h
Pressure range	20-200 Pa
Dimensions:	
Length:	800, 1100, 1400 mm
Width:	722 (+0-20) mm
Hight:	286 mm

See the dimensional drawing for exact measurements

Power consumption

Power consumption for transformer sizing:	VA / unit
Actuator	6
Damper motor (UM24)*	2,5
Controller (URC1)*	1
Sensor module	1

** Always included in the product*

Example A:
PARAGON Wall AWC 1100-B; 6+2,5+1+1 = 10,5 VA
6 VA for cooling - OR heating actuator when they are normally regulated in sequence.
Example B:
PARAGON Wall VAV 1100-B; 6+6+2,5+1+1 = 16,5 VA
For operating modes such as Radiator Heat and Cold draught protection, power consumption will then be 6+6 VA for actuators when they are not regulated in sequence.

Recommended limit values, water

Max. recommended operating pressure (above coil only):	1600 kPa *
Max. recommended test pressure (across coil only):	2400 kPa *

** Applicable without control equipment mounted*

Max. recommended pressure drop across the CCO valve:	20 kPa
Max. recommended pressure drop across a standard valve:	20 kPa
Min. permissible heating water flow:	0.013 l/s
Max. permissible supply flow temperature:	60 °C
Min. permissible cooling water flow:	0.04 l/s
Lowest permissible supply flow temperature:	Must always be sized so that the system works without condensation

Designations

P: Capacity (W, kW)

v: Velocity (m/s)

q: Flow (l/s)

p: Pressure, (Pa, kPa)

t_r: Room temperature (°C)

t_m: Mean water temperature (°C)

ΔT_m: Temperature difference $[t_r – t_m]$ (K)

ΔT: Temperature difference, between inlet and return (K)

ΔT_i: Temperature difference, between room and supply air (K)

Δp: Pressure drop (Pa, kPa)

k_p: Pressure drop constant

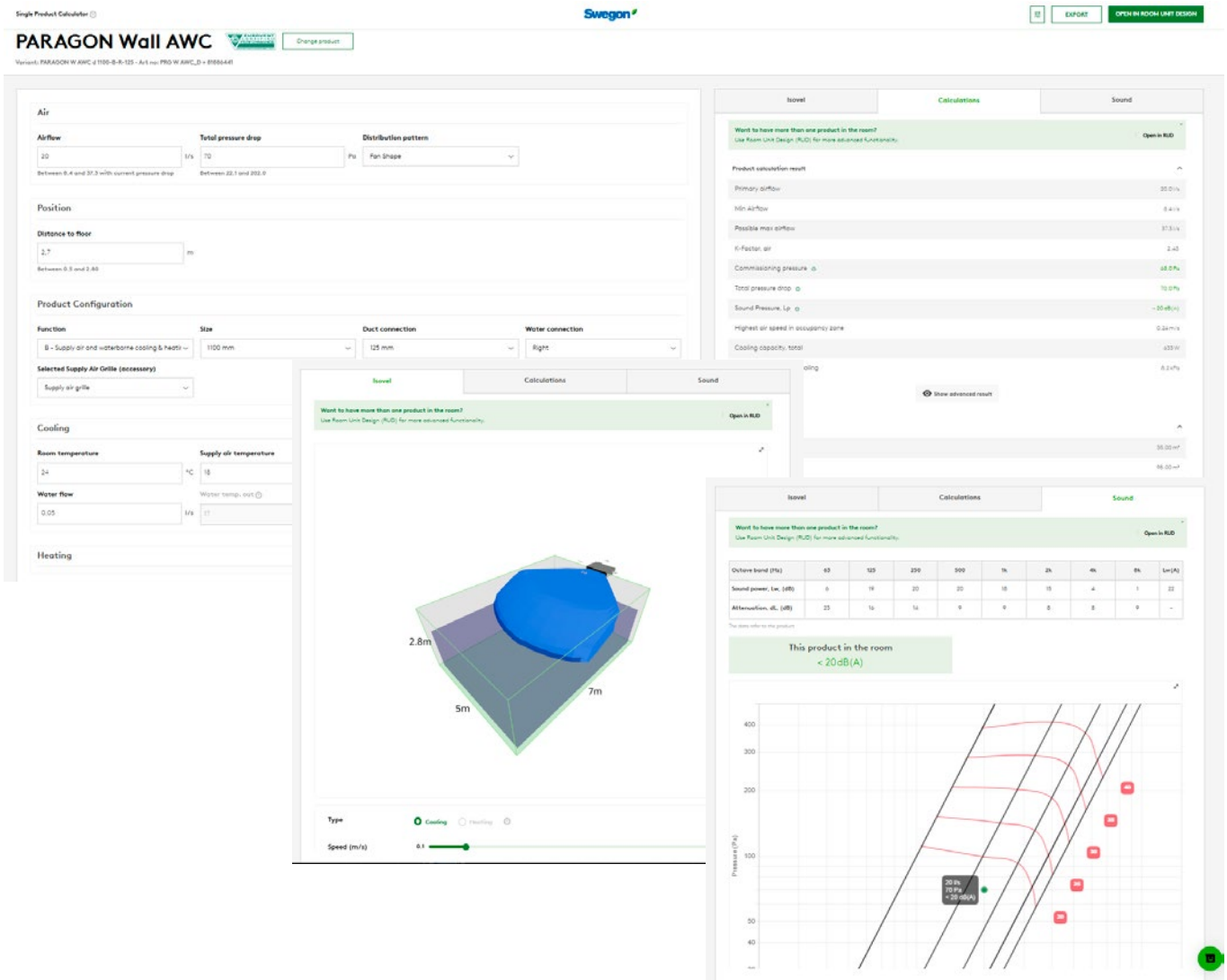
index:
k = cooling, l = air, v = heating, i = commissioning

Sizing

Easy and quick calculation of room products

Single Product Calculator "SPC" is a simple quick calculation for room products. Capacities, sounds, flows, isovels, etc. can be calculated and printouts can be made.

SPC is accessible from our product pages at www.swegon.se where there is a "Calculate" button. No login or software download needed, incredibly quick and easy!



Installation

Suspension

The PARAGON Wall AWC has two holes on each short side for suspension and is mounted with a threaded rod in each hole.

A double threaded rod with a thread lock should be used if there is substantial distance between the overhead slab and the unit. A 200 mm threaded drop rod is used for surface mounting. The threaded rod, SYST MS M8 assembly piece must be ordered separately.

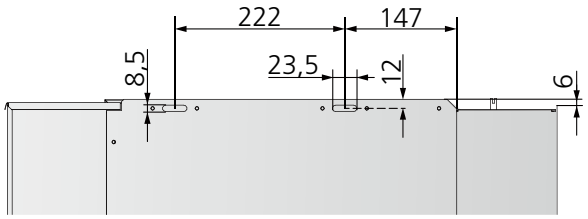


Figure 17. Suspension measurements

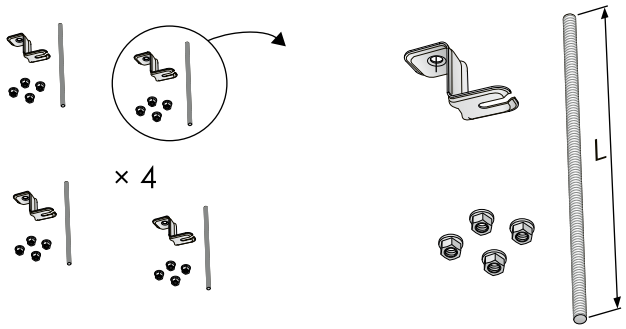


Figure 18. Assembly piece SYST MS M8-1, ceiling mount and threaded rod

Lining

The work involving the casing can begin once PARAGON Wall AWC has been fully installed. The product is designed to be placed at the rear of the room adjacent to the corridor and installed in the space above the suspended ceiling in the corridor.

To simplify the work, cut-out dimensions are given in separate installation instructions at www.swegon.com.

Connection - Air

All variants have the air connection Ø125.

The air connection is centred at the rear of the product for easy access from both ends and the rear.

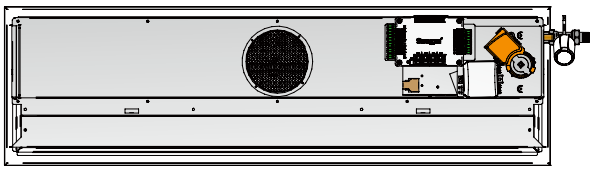


Figure 19. Rear view med water connection - right

Connection - Water

Connection dimensions

Standard variant with factory-fitted valves:

Length	Cooling	Heating
(mm)	Return	Return
800, 1100, 1400	DN15 male thread	DN15 male thread

Standard variant without factory fitted valves:

Length	Cooling	Heating
(mm)	Supply and return	Supply and return
800, 1100, 1400	plain pipe ends	plain pipe ends
	(Cu) Ø 12 x 1.0 mm	(Cu) Ø 12 x 1.0 mm

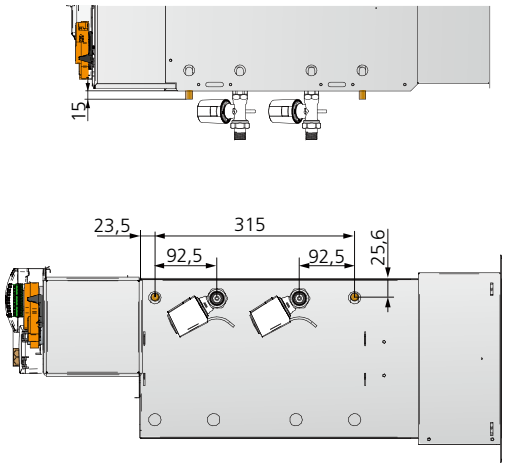


Figure 21. Dimensional drawing, water connection

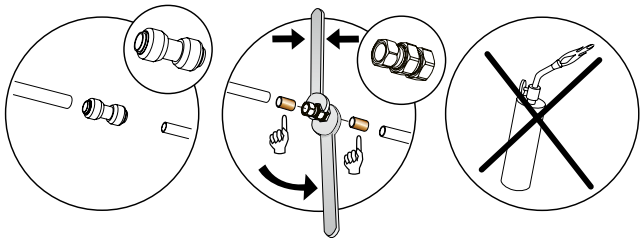
Connecting water

The water pipes are placed on the left or right short side of the product depending on the choice made.

Connect the water pipes using push-on couplings or compression ring couplings. Note that compression ring couplings require support sleeves inside the pipes.

Do not use solder couplings to connect the water pipes. High temperatures can damage the unit's existing soldered joints.

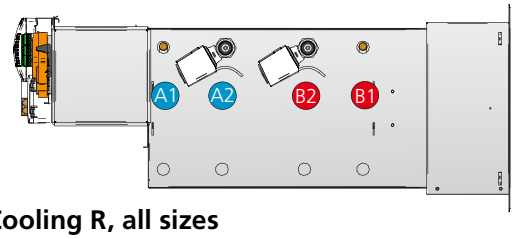
Flexible connecting hoses for water are available for flat-end pipes and valves, and can be ordered separately.



Note that compression ring couplings require support sleeves inside the pipes.

Water connection on the right-hand side "R"

Cooling and heating R. all sizes



Cooling R, all sizes

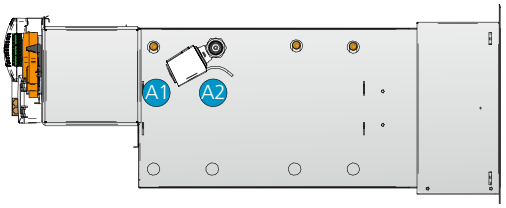
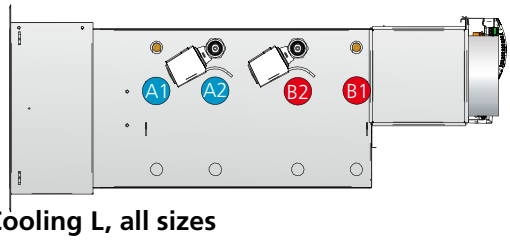


Figure 20. Water connection on right-hand side (R).
A1 = Cooling water, supply
A2 = Cooling water, return
B1 = Heating water, supply
B2 = Heating water, return

Water connection on the left-hand side "L"

Cooling and heating L. all sizes



Cooling L, all sizes

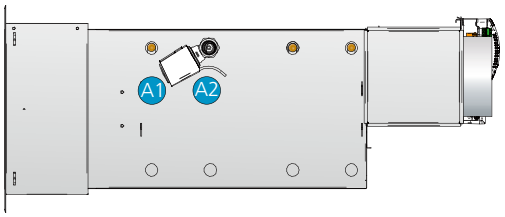


Figure 22. Water connection on left-hand side. (L).
A1 = Cooling water, supply
A2 = Cooling water, return
B1 = Heating water, supply
B2 = Heating water, return

Accessories

Selectable factory-fitted options/accessories

Factory-fitted control equipment makes the installation work simple. All components are accessible from the back of the product.

A selection of our optional factory-fitted extras:

Controller	PARAGON VAV RE
Actuator	PARAGON VAV SA
Valve cooling	SYST VDN 215 Straight valve
Valve heating	SYST VDN 215 Straight valve
Actuator cooling	ACTUATOR 24 V NC
Actuator heating	ACTUATOR 24 V NC
Pressure sensor	SYST PS
Condensation sensor	CG IV
"	SYST PCS
Temperature sensor	T-TG-1
Air quality sensor CO_2	Detect Qa
Air quality sensor VOC	Detect VOC-2

Upgrade kits

There are also a number of upgrade kits for upgrading from PARAGON VAV and to WISE Paragon

Upgrade kit WISE Paragon CU

Upgrade kit WISE Paragon SA

Control kit WISE Paragon Dew point

In addition to the factory-installed options, loose accessories and kits (not factory-fitted) are also available:

Kits and accessories are mounted during installation.

Controller KIT	WISE PARAGON CU - Kit
Actuator motor KIT	WISE Paragon SA - Kit
Pressure sensor	SYST PS
Valve cooling	SYST VDN 215 Straight valve
Valve heating	SYST VDN 215 Straight valve
Actuator cooling	ACTUATOR 24 V NC
Actuator heating	ACTUATOR 24 V NC
Valve 6-way	CCO-kit
Condensation sensor	CG IV - Kit
	SYST PCS - Kit
	WISE SMA Multi
Temperature sensor	T-TG-1
	WISE Temperature sensor PT1000
Air quality sensor	CO_2-Kit, Detect Qa
	VOC-Kit, Detect VOC-2
Setpoint selector switch	LOCUS (wall)
Temp./Occupancy detector	VAV sensor (wall) - kit

Accessories, factory-fitted

Valve, cooling & heating

Factory fitted valves for cooling and heating.

The valve is mounted on the product and preset fully open.

Function	Type	Dim.	K_v(m³/h)
Cooling/heating	VDN215	DN15 (½")	0.07-0.89

For more information about the valve, see the separate product data sheet on www.swegon.com.

Actuator cooling & heating, ACTUATORc 24 V NC

Factory fitted valve actuators for cooling and heating.

24V AC/DC, NC (Normally Closed).

For more information about the actuator, see the separate product data sheet on www.swegon.com.

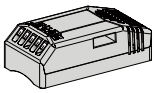
Transformer, Power Adapt 20 VA

Transformer for the voltage supply of products.
Protective transformer with plug type F.
Input voltage 230 V 50-60 Hz
Output voltage 24 V AC
Power 20 VA
Double insulation
Enclosure IP33

Condensation sensor SYST PCS

The detector operates at the dew point temperature rather than a fixed relative humidity value.

The dew-point is calculated from a temperature compensated RH element and an extremely accurate sensor element that is bound to the metal plate on the detector.

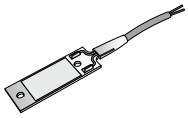


Condensation sensor, CG IV

The condensation sensor is supplied fitted and connected from the factory. The actual sensor element consists of a circuit board with gold plated conductive paths that react when condensation occurs between these. When condensation arises, the cooling valve closes the incoming water flow to the product. When the condensation on the conductive paths has been wiped off, the cooling valve is permitted to open again.

The sensor is positioned on the coil fins by the cooling supply.

For more information about the condensation sensor, see the separate product data sheet on www.swegon.com.

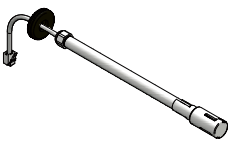


Co_2 sensor. Detect Qa

Analogue carbon dioxide sensor that is mounted concealed in the product.
See separate product sheet at www.swegon.com.

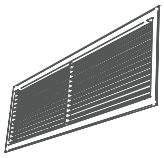
VOC sensor Detect VOC

Modbus connected air quality sensor that is mounted concealed in the product.



Loose accessories

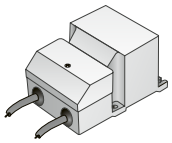
Supply/extract air grille, PARAGON T-SG/RG
Front grille for PARAGON Wall, available for products with the length, 800, 1100, 1400 mm



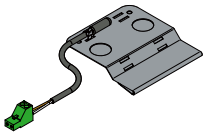
Transformer, Power ADAPT 20 VA (ARV)
Input voltage 230 V, 50-60 Hz, Output voltage 24 V AC
Power 20 VA, Enclosure IP33

Transformer, SYST TS-1
Double-insulated protective transformer 230 V, AC/24 V AC
Input voltage 230 V, 50-60 Hz, Output voltage 24 V AC,
Power 20 VA, Enclosure IP33

For more information, see the separate product data sheet on www.swegon.com.



Temperature sensor, T-TG-1
External temperature sensor. Used for example if the room temperature must be measured elsewhere than at the sensor module, or to measure the temperature of the main pipe in change-over systems.



Valve, SYST VDN215
Straight valves for cooling and heating.

VDN215 is preset fully open on K_v 0.89.

Function	Type	Dim.	K_v (m^3/h)
Cooling/heating	VDN215	DN15 (½")	0.07-0.89

For more information about the valve, see the separate product data sheet on www.swegon.com.

Valve actuator, cooling & heating, ACTUATORc 24 V NC
Valve actuators for cooling and heating.

24V AC/DC, NC (Normally Closed).

For more information about the actuator, see the separate product data sheet on www.swegon.com.

Card switch, SYST SENSO II
Key card holder for hotel rooms.

Sensor module, external
Rectangular sensor module with temperature and occupancy sensors for wall mounting

Always supplied with both a mounting frame for the most common junction boxes and a spacer frame for surface mounting.

Room controller, LOCUS
Setpoint selector switch with built-in temperature sensor, designed for Swegon's products with a VAV controller (URC1). It has a digital, colour touch-display, where you can regulate the indoor climate by increasing or decreasing the setpoint temperature. You can also see air flows, pressure, VOC, CO_2 and alarms.

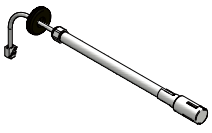
Cable, SYST CABLE RJ12 6-LED.
Cable for the connection of an external sensor module to the controller or between sensor modules. Available in different standard lengths.

Cable, CABLE CONVERTER USB-RJ12 (RS485)
Cable with integrated modem to connect a PC to the controller.
Needed to run e.g. SWICCT or ModbusPoll.

LINK Wise
Network cable for Modbus communication in the WISE system.
The cable conforms to EIA 485 standard. Shielded four conductor AWG 24, external diameter Ø 9.6 mm, Grey PVC. The cable is only supplied in reels of 500 m.

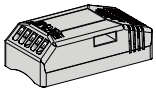
Co_2 sensor. Detect Qa
Analogue carbon dioxide sensor that is mounted concealed in the product.
See separate product sheet at www.swegon.com.

VOC sensor Detect VOC
Modbus connected air quality sensor that is mounted concealed in the product.

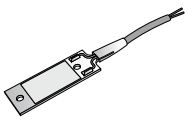


Condensation sensor, SYST PCS
The detector operates at the dew point temperature rather than a fixed relative humidity value.

The dew-point is calculated from a temperature compensated RH element and an extremely accurate sensor element that is bound to the metal plate on the detector.



Condensation sensor, CG IV



The condensation sensor's sensor element consists of a circuit board with gold plated conductive paths that react when condensation occurs between these. When condensation arises, the cooling valve closes the incoming water flow to the product. When the condensation on the conductive paths has been wiped off, the cooling valve is permitted to open again.

Sensor is positioned on the coil fins by the cooling supply.

For more information about the condensation sensor, see the separate product data sheet on www.swegon.com.

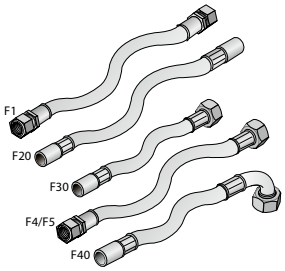
Grille lock, PARAGON VAV T- GL

Grille lock for fixing the position of the supply air grille.

Assembly fitting, SYST MS M8

For installation use the assembly fitting containing threaded rods, ceiling brackets and nuts to all four mounting brackets.

Flexible connection hoses, SYST FH

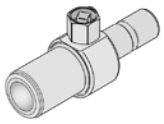


Flexible hoses are available with quick-fit, push-on couplings as well as clamping ring couplings for quick and simply connection. The hoses are also available in various lengths.
Note that compression ring couplings require support sleeves inside the pipes.

Flexible hoses also reduce the risk of movement in the piping system due to thermal expansion.

F1 = Clamping ring couplings at both ends.
F20 = Push-on couplings at both ends.
F30 = Push-on coupling at one end and union nut G20ID at the other end.
F4/F5 = Clamping ring coupling at one end and union nut with flat seal at the other end.
F40 = Push-on coupling at one end, union nut 90° at the other end.

Venting nipple, SYST AR-12



A venting nipple is available as a complement to the flexible hoses with push-on couplings. The venting nipple fits directly in the push-on hose coupling and can be fitted in an instant.

Connection piece, air – insertion joint, SYST AD1

SYST AD1 is used as an insertion joint between the product and the duct system. Ø125 mm.

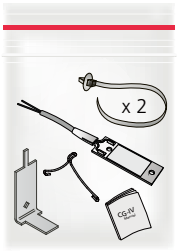
Connection piece, air, SYST CA

90° duct bend

Ø125 mm.

Accessory kits

CG-IV-KIT

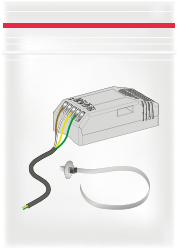


Condensation sensor CG-IV and assembly parts for retrofitting.

Condensation sensor's sensor element consists of a circuit board with gold plated conductive paths that react when condensation occurs between these. When condensation arises, the cooling valve closes the incoming water flow to the product. When the condensation on the conductive paths has been wiped off, the cooling valve opens again. The sensor is positioned on the coil fins by the cooling supply.

For more information about the condensation sensor, see the separate product data sheet and installation instructions on www.swegon.com.

SYST PCS-KIT



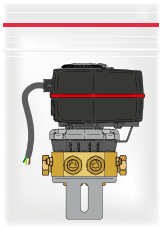
Condensation sensor SYST PCS and assembly parts for retrofitting.

The detector operates at the dew point temperature rather than a fixed relative humidity value.

The dew-point is calculated from a temperature compensated RH element and an extremely accurate sensor element that is bound to the metal plate on the detector.

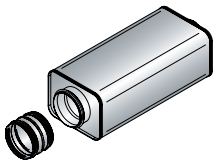
For more information about the condensation sensor, see the separate product data sheet and installation instructions on www.swegon.com.

6-way valve, CCO-KIT



Compact Change Over, for maximum utilisation of the coil.

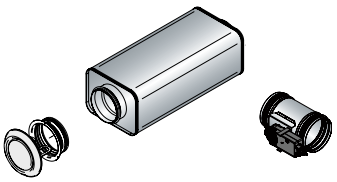
SUPPLY AIR KIT-125



The supply air kit contains a sleeve and sound attenuator Ø125 mm.

Accessories must be completed through user configuration of one or more selectable properties on the product.

Extract Air Kit VAV-REACT-125



Extract air kit for VAV containing a REACT Va Mb damper, control valve EXC and sound attenuator. Accessories must be completed through user configuration of one or more selectable properties on the product.

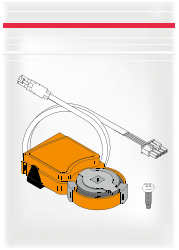
Upgrade kit for WISE

UPGRADE KITS WISE PARAGON CU

Control kit for upgrading to WISE

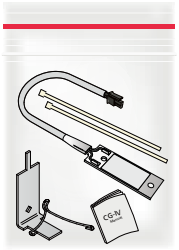
UPGRADE KIT WISE PARAGON SA

Motor kit and control cable for upgrading to WISE



Upgrade kit WISE CG-IV-KIT

The upgrade kit includes condensation sensor and assembly parts



Upgrade kit WISE temperature sensor

The upgrade kit includes temperature sensor TG3 PT-1000

Upgrade kit WISE SMA Multi

The upgrade kit includes WISE SMA Multi incl. RJ12 cable and assembly plate.

Dimensions and weight

Weight

PARAGON Wall AWC 800

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
mm		Ø	Without grille	incl. grille	cooling	heating
800 R	A	125	17.4	19.6	1.39	
800 L	A	125	17.4	19.6	1.38	
800 R	B	125	17.4	19.6	1.39	0.38
800 L	B	125	17.4	19.6	1.38	0.37
800 R	X	125	17.4	19.6	1.39	
800 L	X	125	17.4	19.6	1.38	

PARAGON Wall AWC 1100

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
mm		Ø	Without grille	incl. grille	cooling	heating
1100 R	A	125	22.6	25.5	1.93	
1100 L	A	125	22.6	25.5	1.92	
1100 R	B	125	22.6	25.5	1.93	0.52
1100 L	B	125	22.6	25.5	1.92	0.51
1100 R	X	125	22.6	25.5	1.93	
1100 L	X	125	22.6	25.5	1.92	

PARAGON Wall AWC 1400

Length	Type	Dim.	Dry weight* (kg)		Water volume (l)	
mm		Ø	Without grille	Incl. grille	cooling	heating
1400 R	A	125	27.6	31.2	2.47	
1400 L	A	125	27.6	31.2	2.46	
1400 R	B	125	27.6	31.2	2.47	0.65
1400 L	B	125	27.6	31.2	2.46	0.64
1400 R	X	125	27.6	31.2	2.47	
1400 L	X	125	27.6	31.2	2.46	

**Added weight for:*
Control equipment: 0.80 kg
Actuator: 0.28 kg

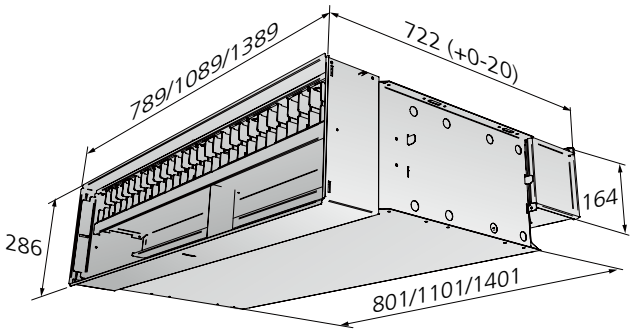


Figure 23. Dimensional drawing without grille.

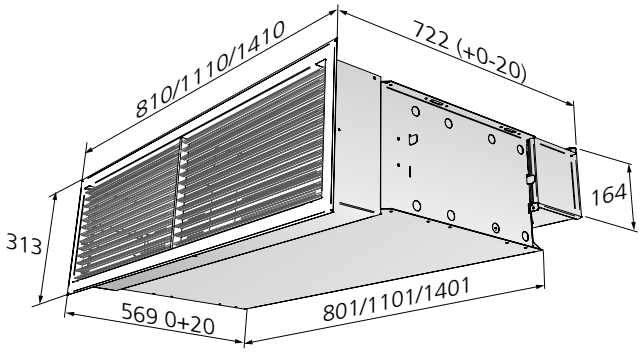


Figure 24. Dimensional drawing with grille.

Specification

Specification

Type PARAGON Wall AWC comfort module for cooling, heating, ventilation and control. As standard, factory fitted components are included for plug & play installation.

Delivery demarcation

Swegon's limits of supply are at the connection points for water.

At these connection points, the RE pipework contractor connects to plain pipe end and/or male threads towards valves, fills the system, bleeds it and tests the pressure in the circuits.

The ventilation contractor connects to the duct connections with dimensions as specified on the basic size drawing in the section "Dimensions".

EE electrical equipment contractor provides a 24 V AC network power supply or earthed 230 V outlets for a transformer, as well as a junction box, if required, installed in a wall for a room thermostat.

The building contractor cuts the openings in corridor wall for the supply air duct, in the interior wall and suspended ceiling for the supply air and extract air grilles and in the bathroom ceiling for the extract air duct.

The electrical contractor connects the power (24V) and signal cables to the connection terminals with spring-loaded snap-in connections.

Maximum cable cross section 2.5 mm^2. For safe operation, we recommend cable ends with ferrules.

Maintenance

Since the PARAGON Wall AWC operates without any built-in fan, without filter and without a drainage system, very little maintenance is required.

In an office, it is normally sufficient to vacuum clean the back side of the coil once every two years to remove loose dust. A simple visual inspection of connections and wiping the supply/extract air grille with a damp cloth is also recommended. Avoid aggressive cleaning agents which may harm painted surfaces. Normally a mild soap or alcohol solution is fully adequate for cleaning. Note that the dry operation without condensation minimises the risk of bacteria growth that otherwise is occurs in wet systems.

The maintenance requirement for PARAGON Wall AWC is low, as it is normally a dust-free environment, which is why the maintenance interval is so long.

Ordering key PARAGON Wall

PARAGON Wall AWC	d	aaaa-	b-	ccccc-	125
Version:					
Length (mm) 800, 1100 and 1400					
Function: A = Cooling B = Cooling and heating (water)					
Connection side - water *(seen from the back of the product)* R - Right L - Left					
Air connection Ø 125					

Factory-fitted optional extras

Control unit/Controller	PARAGON VAV RE
Motor	PARAGON VAV SA
Valve cooling	SYST VDN 215 Straight valve
Valve heating	SYST VDN 215 Straight valve
Actuator cooling	ACTUATOR d 24V NC
Actuator heating	ACTUATOR d 24V NC
Condensation sensor	CG IV SYST PCS
Temperature sensor	T-TG-1
Air quality sensor CO_2	Detect Qa
Air quality sensor VOC	Detect VOC-2

Available to order, kit and accessories

In addition to the factory-installed options, loose accessories and kits (not factory-fitted) are also available:
Kits and accessories are easily mounted during installation

A selection of our optional kits and accessories:

Controller KIT	PARAGON VAV RE - Kit
"	WISE PARAGON CU - Kit
Actuator motor KIT	PARAGON VAV SA - Kit
"	WISE Paragon SA - Kit
Valve cooling	SYST VDN 215 Straight valve
Valve heating	SYST VDN 215 Straight valve
Actuator cooling	ACTUATOR 24 V NC
Actuator heating	ACTUATOR 24 V NC
Valve 6-way	CCO - Kit
Condensation sensor	CG IV
"	SYST PCS
Temperature sensor, Occupancy sensor - KIT	T-TG-1
Air quality,	WISE SMA Multi
Air quality, CO2-KIT	CO_2 Detect Qa - kit
Air quality, VOC-KIT	DETECT VOC-2 - kit
Condensation sensor KIT	CG IV - kit
"	SYST PCS - kit
Pressure sensor	SYST PS
Sensor moduley	VAV sensor module
"	WISE SMB
Room controller	LOCUS
Supply air kit	Supply Air Kit 125
Extract air kit	Extract Air kit VAV-REACT-125

Ordering Key, Accessories

Grille	PARAGON Wall d T-	SG/RG-	bbbb
Type: SG/RG = Supply/extract air grille			
Product length (mm): 800, 1100, 1400			

Assembly fitting	SYST MS M8	aaaa-	b
Length threaded rod (mm): 200; 500; 1000			
Type: 1=One threaded rod 2=Two threaded rods and one thread lock			

Flexible connection hose, (x1)	SYST FH F1-	aaa-	12
Compression ring (Ø12 mm) against pipe at both ends (excl. support sleeves)			
Length (mm): 300, 500, 700			

Flexible connection hose, (x1)	SYST FH F20-	aaa-	12
Quick-connector push-on (Ø12 mm) against pipe at both ends			
Length (mm): 275, 475, 675			

Flexible connection hose, (x1)	SYST FH F30-	aaa-	12
Quick-fit coupling, push-on (12 mm dia.) against pipe on one end, G20ID sleeve nut on the other end.			
Length (mm): 200, 400, 600			

Condensation sensor	aaaa
SYST PCS proactive condensation control	
CG-IV reactive condensation control	

Room controller	LOCUS	a-	b
Version:			
Frame colour: W = white B = black			

Accessory kits:

- Controller KIT WISE PARAGON CU xx items
- Controller KIT LUNA RE xx items
- Actuator motor KIT WISE PARAGON SA xx items
- Condensation sensor KIT for retrofitting Condensation sensor CG IV-KIT, xx items
- Condensation sensor for retrofitting, SYST PCS-KIT, xx items
- Temp. sensor, T-TG1-KIT, xx items
- Temp. sensor, Dew-point KIT WISE Paragon, xx items
- Air quality sensor, CO2-Kit, Detect Qa, xx items
- Air quality sensor, VOC-Kit, DETECT VOC-2
- Air quality, WISE SMA Multi, xx items
- 6-way valve, CCO KIT, xx items
- Supply Air Kit-125, xx items
- Extract Air Kit VAV-REACT-125, xx items

Accessories:

- Supply/extract air grille, PARAGON Wall d-T-SG/RG-aaaa, xx items
- Grille lock, PARAGON T-GL xx items
- Valve cooling SYST VDN 215 xx items
- Valve heating SYST VDN 215, xx items
- Actuator cooling ACTUATORc 24 V NC, xx items
- Actuator heating ACTUATOR c 24 V NC, xx items
- Transformer, POWER Adapt 20 VA, xx items
- Transformer, SYST TS-1, xx items
- Pressure sensor, SYST PS, xx items
- Room controller/Setpoint selector switch, LOCUS, xx items
- Sensor module, VAV sensor module, xx items
- Card switch, SYST SENSO II, xx items
- Assembly piece, SYST MS M8 aaaa-b
- ADC for subsequent installation, SYST ADC-2-105, xx items
- Cable adapter, ADAPTER RJ12-WIRE, xx items
- Flexible connection hose, SYST FH F1 aaa- 12 xx pcs.
- Flexible connection hose, SYST FH F20 aaa- 12 xx pcs.
- Flexible connection hose, SYST FH F30 aaa- 12 xx pcs.
- Venting nipple, push-on, SYST AR-12, xx items
- Connection piece, air – nipple, SYST AD1-aaa, xx items
- Connection piece, air (90°elbow), SYST CA-aaa-90, xx items

etc.

Specify the quantities individually or with reference to the drawing.

Specification text

Example of a specification text according to VVS AMA. PCT.312 Duct connected chilled beams.

KB XX

Swegon's PARAGON Wall comfort module that supplies air via a common supply air and recirculated air grille.

For rear edge installation in a wall or ceiling, with the following functions:

- Waterborne cooling
- Waterborne heating
- Ventilation
- Comfort guarantee ADC with adjustable function +-30 degrees
- Ø125 mm duct connection
- Coil and any control equipment are accessible via the rear of the product
- Cleanable
- Fixed measurement tapping with hose
- Contractor demarcation at connection point for water and air as in outline drawing.
- At the points of connection the pipe contractor connects to 12 mm plain pipe end after which the ventilation contractor connects the Ø125 mm insertion piece (sleeve).
- The pipe contractor fills, bleeds, tests the pressure and assumes responsibility for the design water flows reaching each branch of the system and the unit.
- The ventilation contractor conducts initial commissioning of the airflows
- Eurovent certified
- Grilles in standard colour RAL 9003

Contractor demarcation at connection point for water and air as in outline drawing.

- At the points of connection the pipe contractor connects to 12 mm plain pipe end after which the ventilation contractor connects the Ø125 mm insertion piece (sleeve).
- The pipe contractor fills, bleeds, tests the pressure and assumes responsibility for the design water flows reaching each branch of the system and the unit.
- The ventilation contractor conducts initial commissioning of the air flows