

PACIFIC AWC

Chilled beam for stand-alone demand controlled ventilation



QUICK FACTS

- **Smart Stand-alone control** — Integrated controls for automatic regulation of air and water flow.
- **Demand-controlled comfort** — Adjusts performance in real time based on room activity and climate needs.
- **Flexible integration** — Works independently or connects easily with building management systems for monitoring.
- **Modular design** — Three-module system for adaptable, optimized indoor climate solutions.
- **Integrated SA/EA air modules** — Optional supply and extract modules for a seamless look.
- **Coanda frame option** — Optimized air distribution for open ceilings, eliminating drafts.

Primary airflow	Pressure range	Cooling capacity	Heating capacity
l/s	Pa	W	Water W
Up to 97	30 to 150	Up to 2158	Up to 2494

Additional SA/EA module		
SA: Supply airflow	SA: Cooling capacity	EA: Extract airflow
l/s	W	l/s
Up to 65	Up to 470	max. 100

Size				
Length (mm)	Width (mm)		Height (mm)	
	min./max.		Ø125	Ø160
1200, 1800, 2400, 3000*	594 / 667*		189	244
				299

* The PACIFIC AWC is obtainable in lengths and widths that fit the majority of false ceilings available on the market.

Cooling, air: $\Delta T_i = 6K$ / water: $\Delta T_{mk} = 8,5K$, $t_{water} = 14/17,3^\circ C$, waterflow 0,1l/s
 Heating, air: $\Delta T_i = -1K$ / water: $\Delta T_{mk} = 16K$, $t_{water} = 45/31^\circ C$, waterflow 0,045l/s
 Commissioning pressure: 70 Pa
 30dB with 5db room attenuation

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Technical description

Design

PACIFIC AWC is a new generation of two-way blowing chilled beams, developed for buildings that demand stable airflow, excellent thermal comfort, and a clean, architectural expression. The beam delivers cooling, heating, and ventilation with high induction efficiency and very low sound levels—making it ideal for offices, schools, and hotels.

Designed for seamless ceiling integration, PACIFIC AWC supports flexible linear installations, both as continuous runs and individual units. This enables creative, well-balanced solutions that adapt easily to different interior layouts and architectural visions.

PACIFIC AWC is prepared for stand-alone demand-controlled ventilation, continuously regulating ventilation, cooling, and heating to meet the actual requirements of each room or zone.

Modular by design

The PACIFIC AWC platform is built from interchangeable modules:

- **Air Duct Module** - Available in three duct sizes and several lengths with integrated damper for easy balancing.
- **Capacity Module** - High-performance cooling and heating coil, available in several lengths to match different room sizes and loads.
- **Design Module** - Modern, clean surfaces with hidden water and air connections — allowing the beam to blend seamlessly into any interior.

This modularity simplifies design, installation, and future adaptations.

Lightweight & service-friendly

Construction reduces weight and improves access to all internal components. Ideal for buildings with tight installation spaces and renovation projects.

Quiet and efficient

- High induction ensures excellent air quality and thermal comfort
- Low pressure drop reduces fan energy
- Quiet operation suitable for noise-sensitive environments.

Sustainable by default

- Optimised material use
- Constructed from reused and renewably produced steel
- Long service life and easy refurbishment

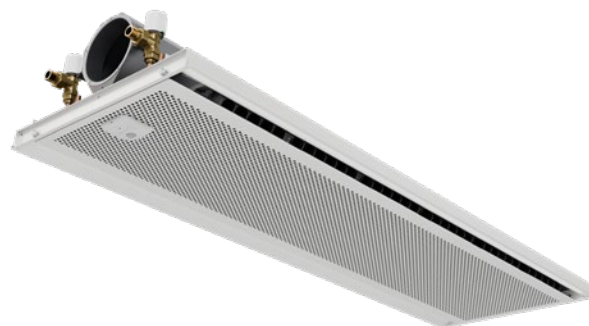


Figure 1. PACIFIC AWC



Figure 2. PACIFIC AWC from the opposite side with URC1 regulator and pressure sensor.

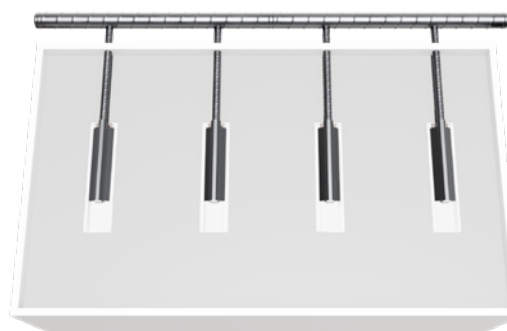


Figure 3. Example with four PACIFIC AWC installed in a room.



Figure 4. Example with PACIFIC AWC installed in serie.

Functionality

Air and water control (AWC) comfort

has integrated controls for stand-alone operation. Depending on the room requirement, PACIFIC AWC will regulate water valves and adjust the air flow for an optimal indoor environmental quality.

Flow Control

Act as an integrated damper with an actuator continuously adjust the airflow, ensuring accurate air volumes, stable performance, and consistent comfort.

Anti Draught Control (ADC)

Anti Draught Control (ADC) ensures that airflows can be redirected to reduce the risk of draughts in the occupied zone.

Modularity

As buildings become more energy-efficient, cooling and heating demands decrease while fresh air needs remain occupant-driven. PACIFIC AWC meets these requirements with a fully modular design:

- The capacity module is tailored to the required thermal load.
- The Airduct module is sized for the number of occupants.
- The design module can include a service hatch or supply/extract air modules.

This flexibility improves comfort, simplifies project design and supports long-term sustainability.

Material and surface treatment

Material

The air module is manufactured in RRP recycled and renewably produced galvanized sheet steel (zinc plated)

The capacity module (coil) is in copper and aluminium.

The design module (face plate) is in RRP recycled and renewably produced galvanized sheet steel (zinc plated) and painted in desired colour.

Standard colour:

- RAL 9003 White (Signal white), gloss ratio 30 ± 6%

Alternative standard colours:

- RAL 7037 Grey (Dusty gray), gloss ratio 30-40%
- RAL 9010 White (Pure white), gloss ratio 30-40%
- RAL 9005 Black (Jet black), gloss ratio 30-40%
- RAL 9006 Silver (White aluminium), gloss ratio 70-80%
- RAL 9007 Grey (Grey aluminium), gloss ratio 70-80%

Other colours available on request



Figure 5. Flow Control for fast and easy balancing during commissioning and layout changes



Figure 6. PACIFIC AWC full size.

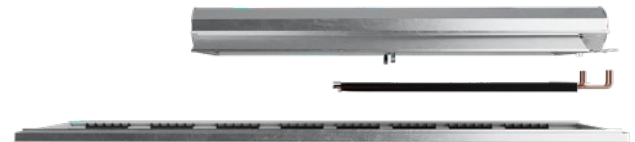


Figure 7. PACIFIC AWC with Air duct module, Capacity module and Design module in three different sizes.

Certifications/Standards

- EPD Declaration
- CE Declaration
- Eurovent

Adaptation

Installation in open plenum ceilings

Renovated buildings where open plenum ceilings are desired, PACIFIC AWC allows architects and designers to realize their vision without compromise.

With PACIFIC AWC's Coanda frame, air distribution is optimized, ensuring comfort and preventing drafts in the occupied zone, (see figure 8).



Figure 8. PACIFIC with coanda frame for installation in open plenum. PACIFIC T-CF

Plasterboard frame

The plasterboard frame is designed to create a seamless and integrated transition between the PACIFIC AWC unit and the surrounding plasterboard ceiling, (see figure 9).

It allows for fine adjustments within the ceiling cut-out, ensuring precise alignment during installation and a clean final appearance. This compensates for tolerances in ceiling construction and simplifies on-site mounting.



Figure 9. PACIFIC AWC with Plasterboard frame, PACIFIC AWC T-FPB

SA/EA module

An additional supply air (SA) and integrated extract air (EA) module can be added using an extended design frame, creating a seamless and unified appearance in the ceiling.

The SA/EA module is engineered to ensure optimal airflow separation, preventing short-circuiting between supply and extract air. This maintains efficient ventilation performance, supports good room air quality and preserves the intended air distribution pattern, (see figure 10).



Figure 10. SA/EA module (Supply/Extract air module)

Longer design module

In certain cases it could be advantageous to select a design module that is extra long in relation to the capacity module. One typical case is when the beam is installed in a plasterboard ceiling and there is a need for inspecting the valves and/or the commissioning damper.

By employing a design module that is longer than the air module and the capacity module, you get a built-in inspection cover per automatic control system, (see figure 11).

The inactive section of the design module is covered to avoid acoustic disturbance and so that the space above the false ceiling will not be visible from the room.

The face plate

The face plate of the design module is hinged and can be swung out from either side to a 90-degree open position. This completely exposes the coil for cleaning. Safety cords secure the face plate and ensure that it cannot fall down, (see figure 10).



Figure 11. Built-in inspection cover through shorter capacity module or longer design module.

Technical data

Dimensions

The product is available in different sizes

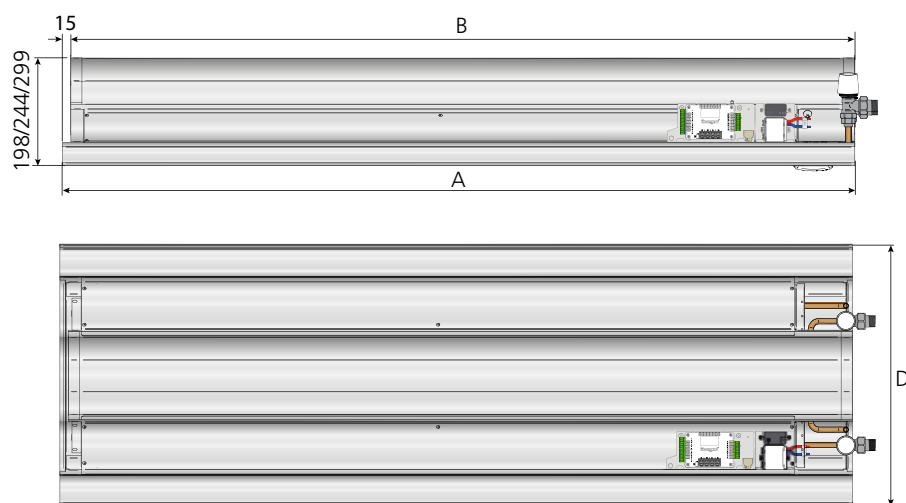


Figure 12. Dimension sketch - full size

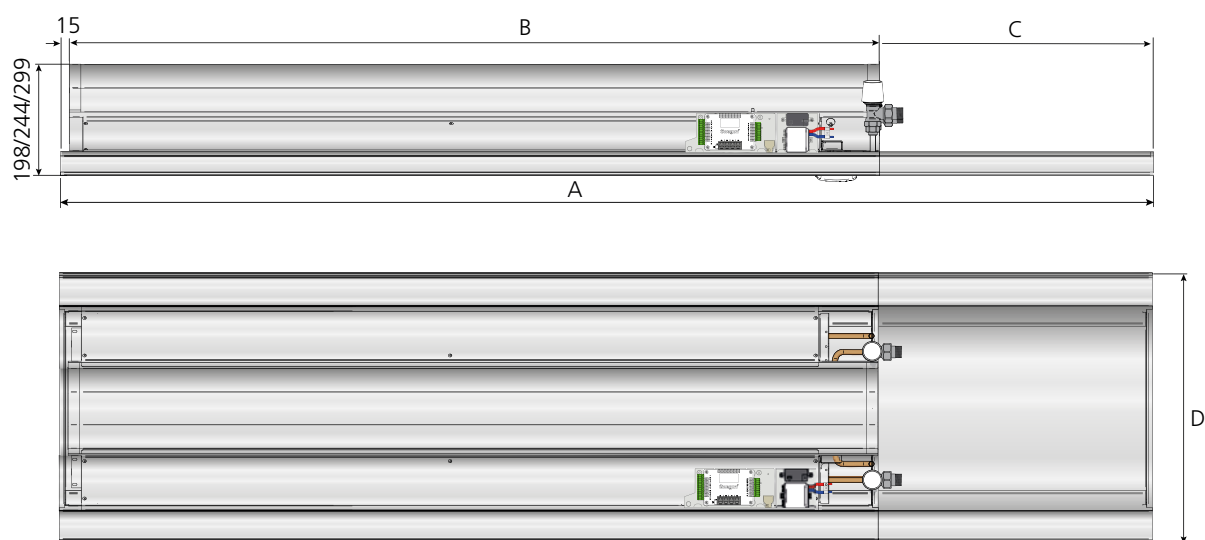


Figure 13. Dimension sketch - Modules in different sizes

For design module in T-bar with 600 mm centre-to-centre

A	B	C	D
1194; 1794	1170	(1194)=24; (1794)=624	594
1794; 2394	1770	(1794)=24; (2394)=624	594
2394; 2994	2370	(2394)=24; (2994)=624	594
2994	2970	(2994)=24	594

For design module in T-bar with 625 mm centre-to-centre

A	B	C	D
1242; 1867	1170	(1242)=72; (1867)=697	617
1867; 2492	1770	(1867)=97; (2492)=722	617
2492	2370	(2492)=122	617

For design module in T-bar with 675 mm centre-to-centre

A	B	C	D
1342; 2017	1170	(1342)=172; (2017)=847	667
2017; 2692	1770	(2017)=247; (2692)=922	667
2692	2370	(2692)=322	667

For design module in Clip-in ceiling and sheet metal ceiling coffers

A	B	C	D
1198; 1498; 1698; 1715; 1798	1170	(1198)=28; (1498)=328; (1698)=528; (1715)=545; (1798)=628	598
1798; 2398	1770	(1798)=28; (2398)=628	598
2398; 2998	2370	(2398)=28; (2998)=628	598
2998	2970	(2998)=28	598

Weight

Since the product can be combined in numerous combinations, we show the weight for the three different modules, where you pick your size and add them together to have the total weight of your product.

Air module

Length	Air connection	Weight
(mm)	ø	(kg)
1170	125	6,38
1170	160	6,94
1170	200	7,66
1770	125	9,63
1770	160	10,36
1770	200	11,46
2370	125	12,74
2370	160	13,75
2370	200	15,11
2970	125	15,8
2970	160	17,03
2970	200	18,71

Capacity module

Length	Water volume (l)		Dry weight
(mm)	Cooling circuit	Heating circuit	(kg)
1000	0,97	0,26	3,41
1000 NPT	0,97	0,26	3,79
1600	1,52	0,40	5,02
1600 NPT	1,52	0,40	5,4
2200	2,09	0,53	7,06
2200 NPT	2,09	0,53	7,44
2800	2,63	0,67	8,63
2800 NPT	2,63	0,67	9,01

Design module

Length	Width	Weight
(mm)	(mm)	(kg)
1194	594	5,35
1794	594	7,65
2394	594	9,96
2994	594	12,27
1198	598	5,39
1798	598	7,72
2398	598	10,04
2998	598	12,36
1213	603	5,49
1823	603	7,87
2433	603	10,25
3043	603	12,63
1242	617	5,72
1867	617	8,21
2492	617	10,71
1342	667	6,55
2017	667	9,46
2692	667	12,38

Cooling

The capacities are measured in conformity with EN 15116.

Sizing guide, Table 2.

The values in table 2 refer to the combination of the product's largest possible Air module with its largest possible capacity module, for the listed product length.

Example: Product length: 1800 mm

Air module: 1770 mm

Capacity module: 1600 mm

N.B.! The total cooling capacity is the sum of the airborne and waterborne cooling capacities.

Designations

P: Capacity (W, kW)

t_r : Room temperature (°C)

t_m : Mean water temperature (°C)

v: Velocity (m/s)

q: Airflow (l/s)

p: Pressure, (Pa, kPa)

ΔT_m : Temperature differential [$t_r - t_m$] (K)

ΔT : Temperature differential, between inlet – return (K)

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

Diagrams 1a-1b.

The correction factor in Diagram 1 shows how the cooling capacity is affected by the water flow, assuming that the temperature difference between the room and the mean cooling water temperature is kept constant. A correction factor of 0.7 corresponds to a 30% reduction in cooling capacity, compared to correction factor 1.0.

The diagram is valid for the 1000-capacity module; however, the curve is very similar for the 1600-capacity module as well. The diagram is intended to provide a general indication of how the water flow affects the cooling capacity. If specific cooling capacity values are required for a water flow other than the one specified in the cooling capacity table, the calculation software Single Product Calculator must be used.

The cooling capacity of the primary air for chilled beam and additional SA module

The following formula can be used for calculating the cooling capacity of the primary air for the chilled beam and the additional SA module:

$$P_i = q_i \times 1.2 \times \Delta T_i$$

P_i = cooling capacity of the primary air (W)

q_i = the primary airflow (l/s)

ΔT_i = Temperature differential between the temperature of the primary air and the room temperature (K)

Pressure drop for the cooling circuit

The following formula for calculating the pressure drop in the cooling circuit:

$$\Delta p_k = A \cdot q_k^B$$

A = constant, read from table 1 (Kpa)

B = constant, read from table 1

q_k = cooling water flow (l/s)

Table 1. Pressure drop, water in capacity module

Capacity module, Length (mm)	A	B
1000	708,1	1,69
1600	983,5	1,72
2200	580,7	1,80
2800	597,6	1,76

Diagram 1a. Water flow – capacity correction, cooling

Length of Capacity module: 1000 and 1600 mm

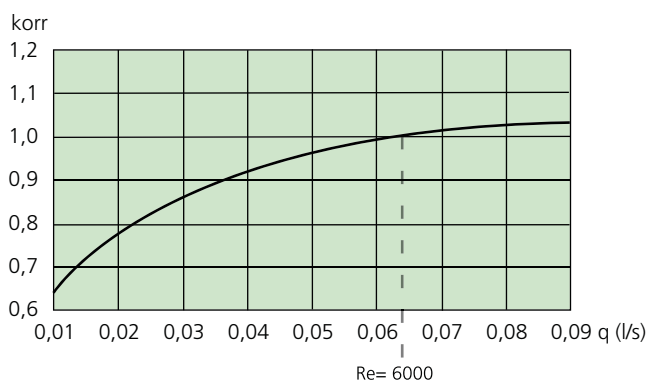


Diagram 1b. Water flow – capacity correction, cooling

Length of Capacity module: 2,200 and 2800 mm

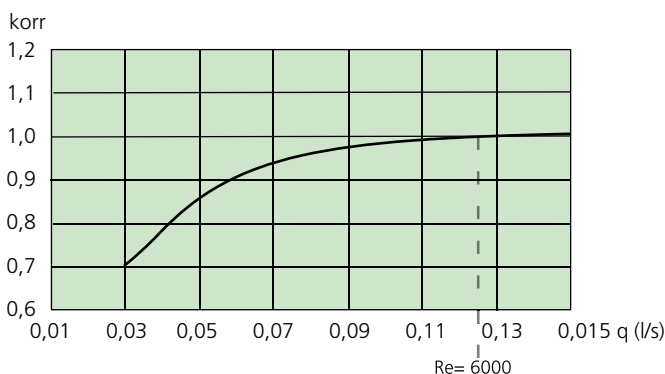


Table 2. Data – Cooling. Sizing guide for the PACIFIC AWC , 70 Pa nozzle pressure

Product length (mm)	Airflow		Sound level, dB(A) * Connection (mm)			Cooling capacity, primary air (W), ΔT_i			Cooling capacity of the water (W), ΔT_{mk}					k-factor
	(l/s)	(m³/h)	Ø125	Ø160	Ø200	6	8	10	6	7	8	9	10	
1200 **	12,5	45	<20	<20	<20	91	121	152	290	338	387	435	488	1,5
1200 **	23,4	84	<20	<20	<20	170	226	283	346	409	466	523	585	2,8
1200 **	36,0	130	24	21	22	261	348	435	381	448	509	576	638	4,3
1800 **	25,9	93	<20	<20	<20	188	251	313	480	563	645	735	811	3,1
1800 **	38,5	139	21	<20	21	279	372	465	528	617	706	795	884	4,6
1800 **	51,0	184	26	23	24	370	493	617	552	643	743	835	927	6,1
2400 ***	34,3	123	21	<20	<20	249	332	415	686	809	922	1035	1159	4,1
2400 ***	51,9	187	23	20	20	376	501	627	763	897	1021	1156	1280	6,2
2400 ***	71,1	256	28	25	24	516	687	859	810	939	1080	1210	1351	8,5
3000 ***	46,0	166	26	20	<20	334	445	556	866	1024	1182	1342	1502	5,5
3000 ***	71,1	256	35	27	24	516	687	859	982	1150	1318	1488	1657	8,5
3000 ***	87,8	316	39	33	27	637	849	1062	994	1164	1335	1505	1677	10,5

* The specified sound level is applicable to straight connection without duct bend and commissioning damper.

Room attenuation = 5 dB.

***) = The water capacity is specified for a water flow of 0.05 l/s and can vary depending on the installation and how the ADC air deflection factors are set.

***)) = The water capacity is specified for a water flow of 0.1 l/s and can vary depending on the installation and how the ADC air deflection factors are set.

Detailed acoustic data can be obtained by sizing with Swegon's Single Product Calculator or Room Unit Design available at Swegon's home page: www.swegon.com.

Heating

Waterborne heating

The PACIFIC AWC is as standard equipped with a coil containing two separate tube circuits. The first functions as a cooling

circuit and the second as a heating circuit. When hot water circulates in the tube circuit, the recirculated air from the room is heated up in the coil, is then mixed with the primary air and is distributed to the room. The inlet flow temperature of the heating water should be kept as low as possible to minimise the temperature differential between the air at ceiling level and at floor level. The temperature stratification in the room will be negligible if the inlet flow temperature is kept at 40°C or lower. If the inlet flow temperature is up to the recommended max temperature (60°C), the stratification will be perceptible even if it normally is within the prescribed range.

In the majority of cases, the system will heat the room air to a satisfactory temperature. In order to achieve good operating temperature, other factors must be taken into account. The following factors are typical in this respect: Window dimensions, the U factor of the windows, the orientation of the room, the location of the occupants, etc. The quality and dimensions of the windows are also important with regard to possible cold down draughts. The windows used now-a-days are usually so well insulated that cold down draughts do not arise. Cold down draughts are especially likely to occur in the renovation of old buildings if the planner decides to keep the existing windows.

Recommendations for waterborne heating	
Max. permissible inlet flow temperature:	60° C
Min. permissible heating water flow:	0.013 l/s
Min. permissible nozzle pressure:	50 Pa

Sizing guide, Table 4.

The values in table 4 refer to the combination of the product's largest possible Air module with its largest possible capacity module, for the listed product length.

Example: Product length: 1800 mm

Air module: 1770 mm

Capacity module: 1600 mm

N.B.! The total heating capacity is the sum of the airborne and waterborne heating capacities. If the primary air temperature is lower than the room temperature, it causes negative impact on the total heating capacity.

The heating capacity of the primary air for chilled beam and supply air module

The following formula can be used for calculating the heating capacity of the primary air for the chilled beam and the supply air module:

$$P_1 = q_1 \times 1.2 \times \Delta T_1$$

P_1 = heating capacity of the primary air (W)

q_1 = the primary airflow (l/s)

ΔT_1 = Temperature differential between the temperature of the primary air and the room temperature (K)

Diagram 2.

The correction factor in Diagram 2 shows how the heating capacity is affected by the water flow, assuming that the temperature difference between the room and the mean heating water temperature is kept constant. A correction factor of 0.7 corresponds to a 30% reduction in heating capacity, compared to correction factor 1.0.

The diagram is valid for the 2200-capacity module; however, the curve is very similar for the other capacity module sizes as well. The diagram is intended to provide a general indication of how the water flow affects the heating capacity. If specific heating capacity values are required for a water flow other than the one specified in the cooling capacity table (0.05 l/s), the calculation software Single Product Calculator must be used.

Pressure drop for the heating water circuit

Use the following formula for calculating the pressure drop in the heating circuit:

$$\Delta p_k = A \cdot q_k^B$$

A=constant, read from table 3, (Kpa)

B=constant, read from table 3

q_k =heating water flow (l/s)

Table 3. Pressure drop water in capacity module

Capacity module, Length (mm)	A	B
1000	115,8	1,39
1600	192,0	1,39
2200	106,9	0,99
2800	139,6	0,99

Diagram 2. Water flow – capacity correction, heating

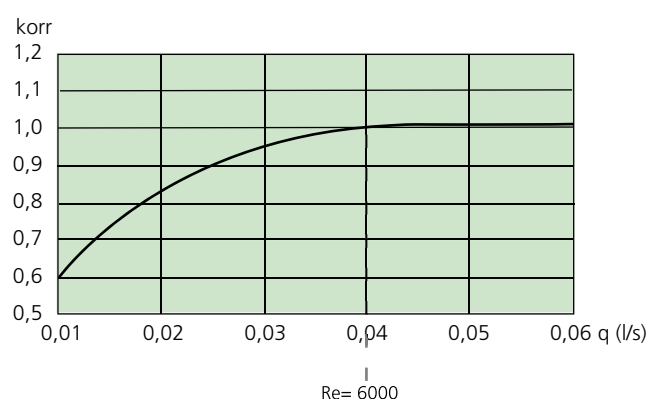


Table 4. Data – Heating. Sizing guide for the PACIFIC AWC, 70 Pa

Product Length	Airflow		Sound level, dB(A) *			Heating capacity, water (W) **					k-factor
			Connection (mm)			ΔT_{mv}					
(mm)	(l/s)	(m³/h)	Ø100	Ø125	Ø160	5	10	15	20	25	
1200	12,5	45	<20	<20	<20	246	334	424	521	630	1,5
1200	23,4	84	<20	<20	<20	279	376	478	589	714	2,8
1200	36,0	130	24	21	22	301	409	521	642	783	4,3
1800	25,9	93	<20	<20	<20	443	599	767	957	1179	3,1
1800	38,5	139	21	<20	21	469	637	815	1015	1254	4,6
1800	51,0	184	26	23	24	519	708	907	1129	1394	6,1
2400	34,3	123	21	<20	<20	594	804	1024	1271	1572	4,1
2400	51,9	187	23	20	20	643	873	1115	1382	1708	6,2
2400	71,1	256	28	25	24	673	915	1169	1454	1798	8,5
3000	46,0	166	26	20	<20	810	1103	1401	1711	2025	5,5
3000	71,1	256	35	27	24	868	1179	1501	1832	2173	8,5
3000	87,8	316	39	33	27	894	1219	1550	1890	2246	10,5

* The specified sound level is applicable to straight connection without duct bend and commissioning damper.

Room attenuation = 5 dB.

***) = The water capacity is specified for a water flow of 0.05 l/s and can vary depending on the installation and how the ADC air deflectors are set.

Detailed acoustic data can be obtained by sizing with Swegon's Single Product Calculator or Room Unit Design available at Swegon's home page: www.swegon.com.

Control equipment

VAV Controller

The VAV controller functions as the central control and connection unit of the PACIFIC AWC. It ensures pressure-independent airflow control and provides terminals for connection of room sensors, control panels, actuators, valves, and BMS communication.

LOCUS Room controller

- The room unit is a setpoint selector switch with integrated temperature sensor
- The unit is equipped with a capacitive, digital, full-colour screen with selectable display options
- The unit can be used as a configuration tool during commissioning, in which case it becomes a portable unit that can quickly be connected to the climate product with a cable
- The unit can be mounted on a wall, flush mounted in a standard electrical box
- Power supply via RJ12 cable to controller
- Available in two different colours
 - White RAL 9003
 - Black 2620 PC

VAV - Control equipment for demand-controlled ventilation, heating and cooling

In order to meet changing needs, with varying degrees of occupancy during the day or individual preferences, the beam needs to be regulated. The product is controlled with a VAV controller with a number of I/O, which control the product according to configured guidelines and measurement data from sensors or can easily be integrated in a BMS system via Modbus.

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



Figure 14. VAV controller for demand-controlled ventilation



Figure 15. Room controller LOCUS is suited for use along with VAV controller for configuration or use



Figure 16. Sensor module for used together with VAV controller for demand-controlled ventilation. Selected as a product accessory and mounted in the face plate or on the wall.

Operating mode

Depending on the status of connected sensors, the VAV controller adjusts the actuator and air supply according to various operating modes.

Occupancy mode

In the case of measured occupancy via sensors, the ventilation and temperature are controlled as required in order to meet the set values.

Unoccupancy mode

The system goes into energy-saving mode and minimises ventilation and cooling/heating, based on the sensor values.

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.

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.

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.

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.

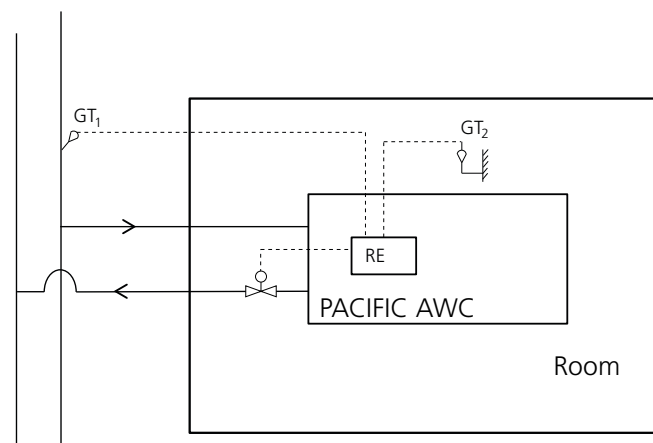


Figure 17.

- 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.

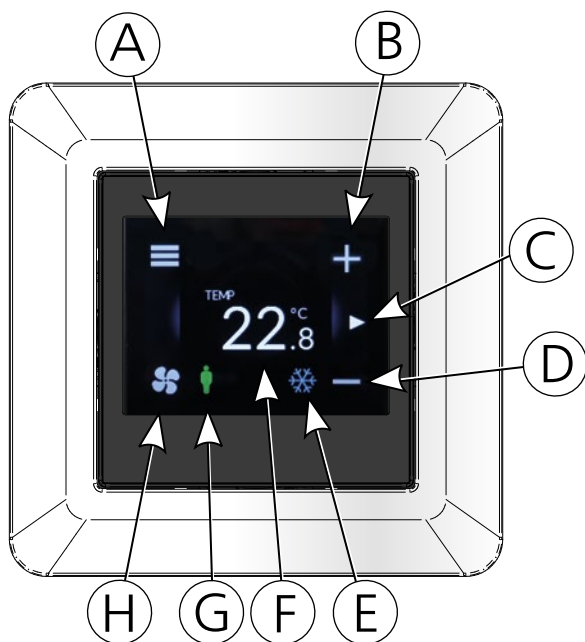
SWICCT:

External temperature sensor use

Change over temperature	▼
Not used	
Room temperature	
Change over temperature	
Temperature (read only)	
Window contact NO	
Window contact NC	

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 White RAL 9003, Black 2620 PC
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
LOCUS	RJ12	Connection on the URC1 controller
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 set-point 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)

Sensor module

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

On delivery, the sensor module is connected and mounted on the end. It is simply secured to the face plate on PACIFIC AWC. It can also be ordered as an accessory for installation on the wall, in which case it is either recess mounted in a standard junction box or surface mounted.

The pushbuttons on the sensor module allow you to adjust the temperature in the room, put the PACIFIC AWC in commissioning mode and read the alarm list.

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.

The floor surface that the presence sensor covers is approximately 24 m² when installed at a height of 2.7 m above the floor and parallel to it.

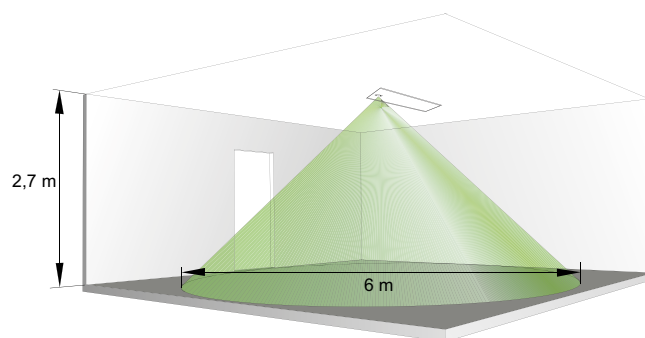


Figure 20. Detection range

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

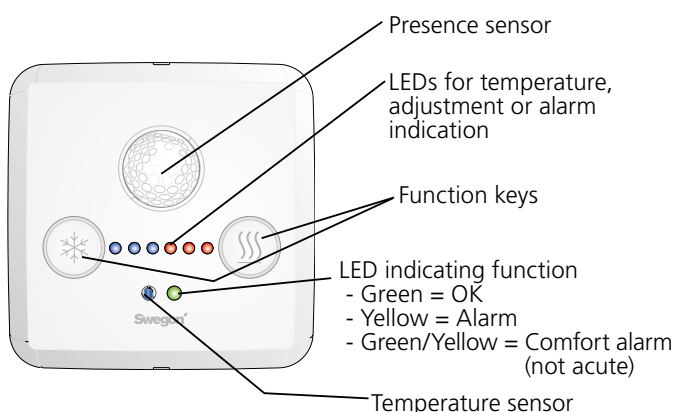


Figure 18. Sensor module seen from the front

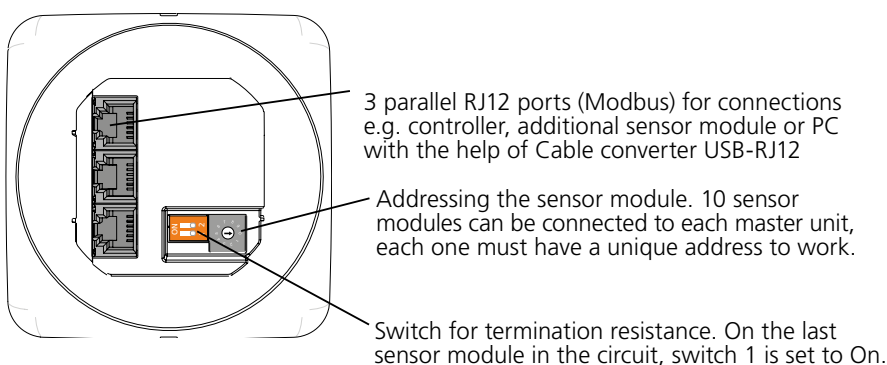


Figure 19. Sensor module seen from the back

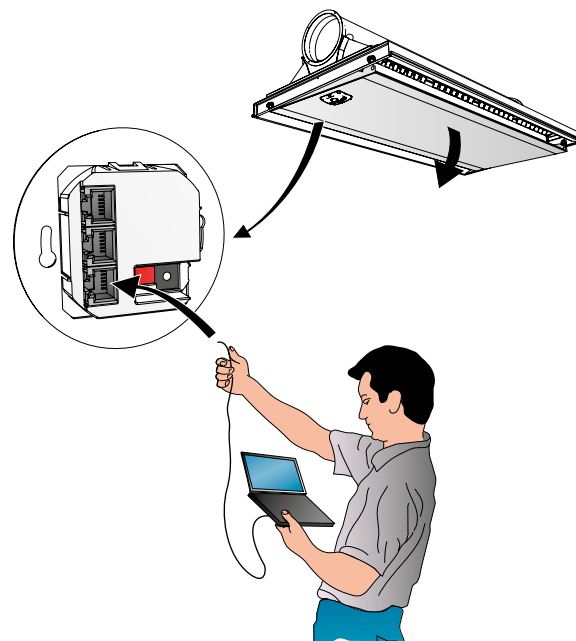


Figure 21. With the help of CABLE CONVERTER USB-RJ12 (RS485), you can easily connect a PC or LOCUS room controller to make e.g. software settings. The connection can either be made on the rear of the sensor module as illustrated, or directly on the controller. How to do this is described in the SWICCT manual.

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

The screenshot shows the SWICCT v1.22 software interface. The top menu bar includes: Connection settings, Status and Information, Customer configuration, Service mode, Update, Parameter access, and About and license. The main area is divided into several sections:

- Temperature setpoint settings:** Cooling setpoint OCC (2350 °C * 100), Heating setpoint OCC (2250 °C * 100), Cooling setpoint NoOCC (2400 °C * 100), Heating setpoint NoOCC (2100 °C * 100), Cooling setpoint Holiday (2300 °C * 100), Heating setpoint Holiday (2400 °C * 100), Cooling setpoint SNC (2400 °C * 100), Heating setpoint SNC (2100 °C * 100).
- Regulator settings:** P-band Heating (200 °C * 100), P-Band Cooling (200 °C * 100), I-time Heating (10 min), I-Time Cooling (10 min), P-Band airflow (1000 l/s * 10), I-time airflow (120 s).
- CO2/VOC:** VOC use (Auto), CO2/VOC min set value (850 ppm), CO2/VOC max set value (1050 ppm), Input 3 usage (CO2 2-10V), CO2/Volt (sensor) (200 ppm).
- Controller settings:** Ventilation boost delay (72 h), Ventilation boost time (1 min), Temperature offset timer (8 h), Occupancy on delay (10 s), Occupancy off delay (1024 s), Occupancy type (Auto), Two step cooling delay (10 min), Air cooling sequence (Air - Water), Slave air function (Variable), Heat type (Radiator), Cold draft protection level (0 % * 100), Cold draft protection stop (0 % * 100), Cold draft protection UnOcc (checkbox), Actuator period time (600 s), Continuous airflow type (Linear).
- Temperature settings:** Room temperature sensor use (Mean value of sensor module(s)), Input 1 usage (External temp) (Window contact NO), ChOv-4 Dead Zone low limit (550 V * 100), ChOV-4 Dead Zone high limit (650 V * 100).
- Airflow settings:** K-factor short side (1+3) (0 k * 100), K-factor long side (2+4) (580 k * 100), Zero cal. pressure sensor (checkbox), Airflow setpoint HOLIDAY (100 l/s * 10), Airflow setpoint UNOCC (90 l/s * 10), Airflow setpoint OCC (200 l/s * 10), Airflow setpoint MAX (450 l/s * 10), Min cooling Pressure (50 dPa), ADAPT EA analog min (90 l/s * 10), ADAPT EA analog max (460 l/s * 10), ADAPT EA offset (0 % * 100).
- Commissioning:** Air (Off, Min unoccupied, Min occupied, Max, Min holiday), Water (Off, Open cooling valve, Open heating valve, Valve first open function, STOP water actuators).

Buttons at the bottom include: Check slave bus, Write settings to file, Read current values, and Exit. The status bar at the bottom indicates: Selected controller: URC1 with Modbus ID 1.

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

Comfort and commissioning functions

Anti Draught control (ADC)

ADC consists of a number of sections with adjustable fins arranged in the outlet of the unit. With a simple grip of the hand, the fins can be set to an appropriate angle to direct the discharge of air and in this way create the desired air distribution pattern.

The standard setting for ADC is straight but the unit can be supplied factory-preset to a V-shape distribution pattern, if desired.

The ADC is also included as standard feature.

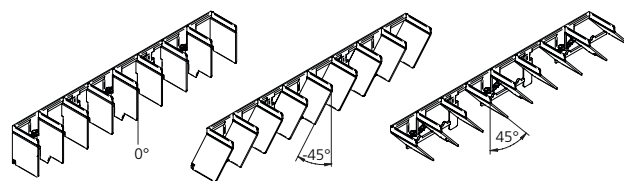


Figure 22. Detailed illustration of ADC

K-factor settings

PACIFIC AWC continuously regulates the airflow to each room or zone to match the actual demand. The current k-factor position can be viewed digitally in WISEdesign and verified directly on the product via the positioning lever on the k-factor label.

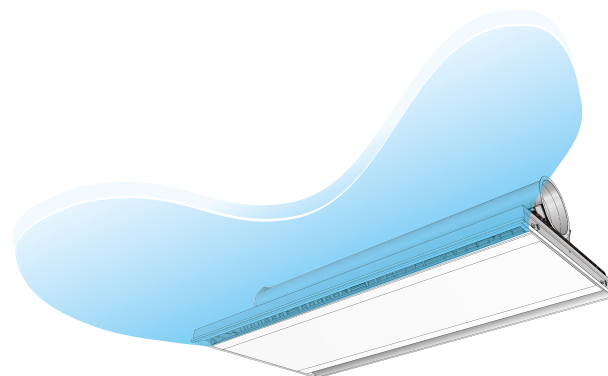


Figure 23. ADC set to the V-shape setting

Check measure

For detailed instructions, see WISE Pacific IOM manual on www.swegon.com.

Flow tolerance

Air module Ø	Minimum flow **			Tolerance Q* ±5 % but at least ±x		
	l/s	m³/h	cfm	l/s	m³/h	cfm
1200	7	25	14,8	2	7	4
1800	9	32	19	2	7	4
3400	11	39	23	2	7	4
3000	14	50	29	2	7	4

* Installed according to instructions

** For flows below the lowest specified level, we cannot guarantee the tolerances.

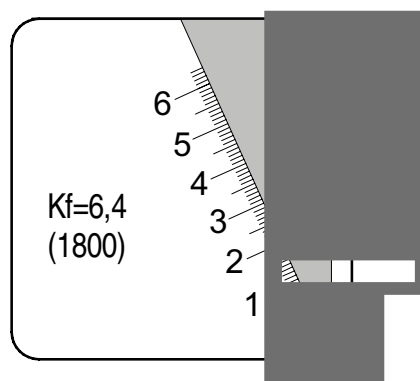


Figure 24. k-factor label.

Installation, commissioning and maintenance

Mounting

The PACIFIC AWC is supplied with four mounting brackets and self-tapping screws packaged separately and supplied with each unit. The pre-punched holes in each mounting bracket simplify the fastening work.

The mounting brackets are designed enabling them to be turned in any optional direction depending to suit type of suspension system selected. Turned inward, the mounting brackets offer simple installation by means of mounting strips. Turned outward, the mounting brackets work at their best for suspending the beams by means of size M8 threaded rods.

Mounting strips and threaded rods are not supplied with the unit. If assembly fittings are required, these can be ordered separately.

Connecting water

The water pipes are always placed on the product's short side. Connect the water pipes using push-on couplings or compression ring couplings when the product is ordered without valves. 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.

Recommended limit values

Max. recommended operating pressure:	1600 kPa
Max. recommended test pressure:	2,400 kPa
Min. permissible nozzle pressure:	50 Pa
Min. cooling water flow*	0.03 l/s
Capacity module: L = 1,100; 1,600 mm:	
Min. cooling water flow*	0.045 l/s
Capacity module: L = 2200; 2,700 mm:	
Min. permissible heating water flow*:	0.013 l/s
Increase in temperature, cooling water:	2-5 K
Decrease in temperature, heating water:	5-10 K
Min. permissible inlet flow temperature:	Should always be sized avoid condensation
Max. permissible inlet flow temperature:	60° C

* The min. recommended water flows ensure evacuation of any air pockets in the circuit.

Connection dimensions

Cooling (water):	Cu Ø 12 x 1.0 mm plain pipe end
Heating (water):	Cu Ø 12 x 1.0 mm plain pipe end
Air:	Ø125, 160 or 200 mm insertion joint
SA/EA module:	Spigot Ø160 mm

For detailed information about Installation, commissioning and maintenance, see PACIFIC AWC IOM-manual and Operations & maintenance

Flush-mounted installation

The PACIFIC AWC is designed for installation flush-mounted in the majority of false ceilings available on the market.

- T-bar with 600 mm c-c and plasterboard ceilings:
Width: 594 mm
Lengths: 1,194; 1,794; 2,394 and 2,994 mm
- T-bar with 600 mm c-c in combination with 100 mm wide strip grid systems, 1800 mm c-c
Width: 594 mm
Length: 1,715 mm
- T-bar with 625 mm c-c
Width: 617 mm
Lengths: 1242; 1867; 2,492 mm
- T-bar with 675 mm c-c
Width: 667 mm
Lengths: 1,342; 2,017; 2,692 mm
- T-bar with IP units (USA)
Width: 23.7 inches (603 mm)
Length: 47.8, 71.8, 95.8, 119.8 inches (1213; 1823; 2433; 3043 mm)
- Clip-in ceiling / sheet metal ceiling coffers 598 mm
Lengths: 1,198; 1,498; 1,698; 1,715; 1,798; 2,398; 2,998 mm

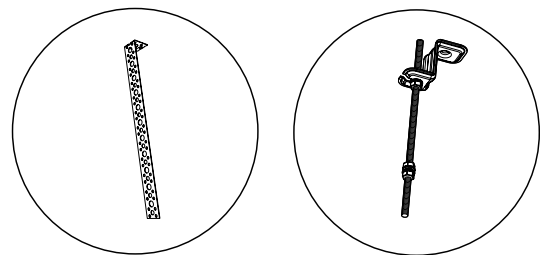


Figure 25. Suspension variant with mounting brackets and threaded rods respectively.

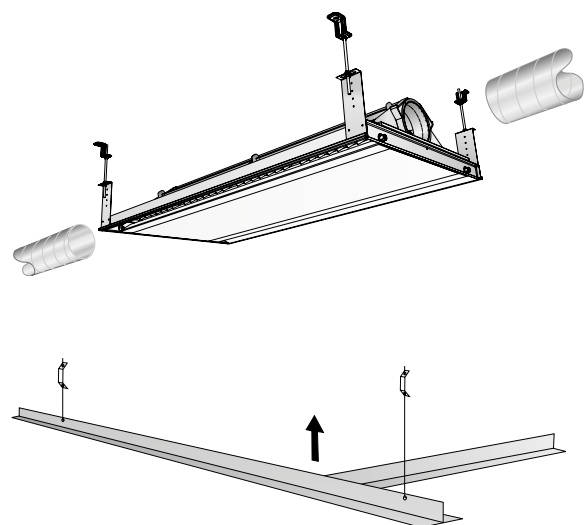
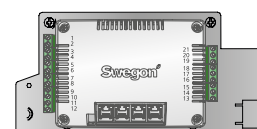


Figure 26. Installation of PACIFIC AWC, here suspended by means of threaded rods.

Accessories, factory-fitted

VAV Controller

VAV Controller is factory-fitted as standard

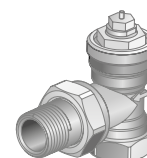


Valve, cooling & heating

Factory fitted valves for cooling and heating.

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

Unit	Function	Type	Dim.	K _v (m³/h)
1200, 1800	Cooling/heating	VEN115	DN15 (½")	0.10-0.89
2400, 3000	Cooling	VEN120	DN20 (¾")	0.31-1.41
2400, 3000	Heating	VEN115	DN15 (½")	0.10-0.89



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.



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.

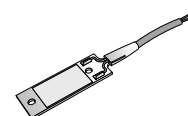


Condensation sensor, CG IV

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.

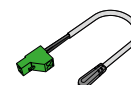
The sensor is positioned on the coil fins by the cooling supply.

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



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.



Sensor module

Rectangular sensor module with temperature and presence sensors.

Selected for mounting in either the face plate or for wall mounting.

Sensor module for wall mounting supplied loose. Mounting frame is then supplied for the most common junction boxes and a spacer frame for surface mounting.



VOC sensor Detect VOC

Modbus connected air quality sensor that is mounted concealed above the face plate.



Loose accessories

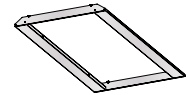
Plasterboard frame, PACIFIC AWC T-FPB

Available in four sizes: 1194, 1794, 2394, 2994 mm



Coanda frame, PACIFIC AWC T-CF

Available in four sizes: 1194, 1794, 2394, 2994 mm



Transformer, Power ADAPT 20 VA (ARV)

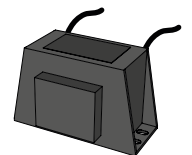
Input voltage 230 V, 50-60 Hz, Output voltage 24 V AC
Power 20 VA, Enclosure IP33



Transformer, 30 VA

Transformer for the voltage supply of products.

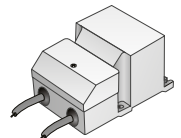
Protective transformer with Euro plug or WAGO,
Input voltage 230 V 50-60 Hz, Output voltage 24 V AC
Power 30 VA, Double insulation, Enclosure IP33



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 72 VA, Enclosure IP44

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



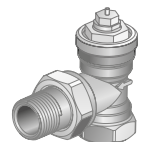
Valve, SYST VEN115 / SYST VEN120

Angle valves for cooling and heating.

VEN115 is preset fully open on K_v 0.89.

VEN120 is preset fully open on K_v 1.41.

Unit (m)	Function	Type	Dim.	K_v (m³/h)
1.2, 1.8	Cooling/heating	VEN115	DN15 (½")	0.10-0.89
2.4, 3.0	Heating			
2.4, 3.0	Cooling	VEN120	DN20 (¾")	0.31-1.41



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

Valve actuator, cooling & heating, ACTUATORc 24V NC

Valve actuators for cooling and heating.

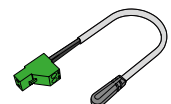
24V AC/DC, NC (Normally Closed).

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



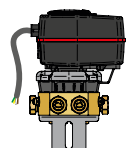
Temperature sensor, T-TG-1

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.



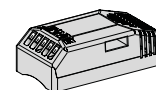
Six-way valve, CCO

Compact Change Over, for maximum utilisation of the coil and thus high cooling and heating capacity.



Condensation sensor SYST PCS

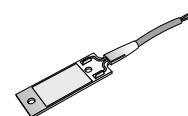
The detector operates at the dew point temperature rather than a fixed relative humidity value. The dew-point is calculated from a temperature compensated RH element and an extremely accurate sensor element that is bound to the metal plate on the detector.

**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.

**Card switch, SYST SENSO II**

Key card holder for hotel rooms.

**Assembly fitting, SYST MS M8**

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

**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, CO₂ and alarms.

**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.



PACIFIC AWC

Cable, SYST KABEL RJ12 6-LED.

Cable for the connection of an external sensor module to the controller or between sensor modules. Available in different standard lengths.

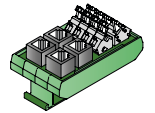


Cable, CABLE CONVERTER USB-RJ12 (RS485)

Cable with integrated modem to connect a PC to the controller. Needed to run e.g. SWICCT or ModbusPoll.



Cable adapter, ADAPTER RJ12-WIRE



LINK Wise

Network cable for Modbus communication in the WISE system.

The cable conforms to the 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.



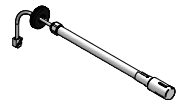
Co₂ sensor. Detect Qa

Analogue carbon dioxide sensor that is mounted concealed, above the face plate. See separate product datasheet at www.swegon.com.



VOC sensor Detect VOC

Modbus connected air quality sensor that is mounted concealed above the face plate.



Ordering key

Product

Swegon's PACIFIC AWC chilled beam with cooling, heating and ventilation for stand alone demand controlled indoor climate. The product is suitable for integrated installation in false ceilings or open plenums.

REACT Pacific	d-	aaaa-	b-	c-	dddd-	e
Version:						
Design module: Length (mm) 1194, 1198, 1213, 1242, 1342 1794, 1798, 1823, 1867, 2017 2394, 2398, 2433, 2492, 2692 2994, 2998, 3043						
Air module: Length (mm) 2=1170 3=1770 4=2370 5=2970						
Capacity module : Length (mm) 2=1000 3=1600 4=2200 5=2800						
Function: A=Cooling B=Cooling/Heating C=Ventilation HT-B=High-temperature cooling, heating and supply air						
Connection, air (mm): 1=125 2=160 3=200						

Example:

PACIFIC AWC-d-2394-4-4-A-1

Design module: 2394
Air module: 2370
Capacity module: 2200
Function: Cooling
Connection, air=125

The product is possible to order in multiple combinations between capacity modules, air modules and design modules. The rule is that the capacity module cannot be bigger than the air module, and the air module cannot be bigger than the design module. It is also possible to order a combination with SA/EA module, if the design module is at least 600 mm bigger than the air module.

See possible combinations for different false ceilings below.

Possible combinations for false ceilings below

For design module in T-bar with 600 mm centre-to-centre

Design module	Air module	Capacity module
1194; 1794	1170	1000
1794; 2394	1770	1000, 1600
2394; 2994	2370	1000, 1600, 2200
2994	2970	1000, 1600, 2200, 2800

For design module in T-bar with 625 mm centre-to-centre

Design module	Air module	Capacity module
1242; 1867	1170	1000
1867; 2492	1770	1000, 1600
2492	2370	1000, 1600, 2200

For design module in T-bar with 675 mm centre-to-centre

Design module	Air module	Capacity module
1342; 2017	1170	1000
2017; 2692	1770	1000, 1600
2692	2370	1000, 1600, 2200

For design module in Clip-in ceiling and sheet metal ceiling coffers

Design module	Air module	Capacity module
1198; 1498; 1698; 1715; 1798	1170	1000
1798; 2398	1770	1000, 1600
2398; 2998	2370	1000, 1600, 2200
2998	2970	1000, 1600, 2200, 2800

Choose from several factory mounded accessories in Single Product Calculator or Room Unit Design

Additional module	PACIFIC SA/EA
Supply and extract air module SA/EA	

Extract air register	PACIFIC T-EA-EXC
EXC Extract air register	

Accessories

Assembly piece	SYST MS	aaaa-	b	M8
Length, threaded rod (mm)				
200; 500; 1000				
1 = One threaded rod				
2 = Two threaded rods and a thread lock				

Plasterboard ceiling frame	PACIFIC T - FPB	aaaa
Length (mm)		
1194, 1794, 2394, 2994		

Coanda frame	PACIFIC T - CF	aaaa
Length (mm)		
1194, 1794, 2394, 2994		

Flexible hoses	FH	aaaaaa	bbb	cccccc
See separate product sheet "FH"				
Coupling A				
Length (mm)				
Coupling B				

Specification text

Example of specification text according to VVS AMA QLC.11 **Active Chilled Beam**

Manufacturer: Swegon

Type: PACIFIC AWC d

Active chilled beam with the following functions:

- Air- and water-based chilled beam for comfort cooling and heating.
- PACIFIC AWC (Air and Water control) for demand controlled indoor climate.
- Induction-based operation for efficient heat and cooling transfer.
- Integrated waterborne heat exchanger.
- Integrated air deflector (ADC) for even air distribution and draught-free comfort.
- Modular design to suit room-specific requirements.
- Possibility to upgrade DCV functionality.
- Integrated control equipment factory-mounted for demand controlled ventilation
- Continuously regulates airflow depending on requirements in the room or zone.
- Euroventcertified (verified cooling capacity in accordance with EN 15116).
- Available in a wide range of colours and gloss levels.
- Suitable for most suspended ceiling systems.
- To be installed in suspended ceiling or as exposed installation according to drawings.
- Installation shall be carried out to allow access for service and cleaning.
- Lengths: 1200–3000 mm
- Colour: RAL 9003 Signal White, gloss level 30 ±6%
- Nominal lengths: 600, 1200, 1800, 2400, 3000 mm
- Nominal width: 600 mm
- Height: 198 (ø125), 244 (ø160), 299 (ø200) mm
- Air connection: ø125, ø160, ø200 mm
- Water connection: Plain pipe end Cu Ø12 × 1.0 mm
Alternative: External thread DN 15 (applies to factory-mounted valves)

Accessories:

- Flexible connection hose, FH-aaaaa-bbb-cccc xx pc.
- Assembly piece SYST MS aaaa - b - M8 xx pc.
- Plasterboard frame, PACIFIC T-FPB aaaa xx pc.
- Coanda frame, PACIFIC T-CF aaaa xx pc
- Supply and extract air module, PACIFIC SA/EA, xx pc.
- Extract air register, EXC, PACIFIC T-EA-EXC, xx pc.
- Valve actuator, ACTUATORc 24V aa-bb, xx pc.
- Valve actuator, ACTUATORc 0-10V AC/DC aa, xx pc.
- Valve, SYST VEN-bbb, xx pc
- Venting nipple SYST AR-12 xx pc.
- Condensation sensor SYST PCS, xx pc.
- Condensation sensor SYST CG-IV, xx pc.
- Transformer, SYST TS, xx pc
- etc.