Waterborne climate systems

Air & water combined

A good indoor climate is characterised by:

- Good air quality
- The right temperature
- Low sound level
- Low air velocity

Air is the only medium that can create good air quality. This presupposes that a sufficient quantity of air must be supplied to the premises. The supply air requirement is primarily controlled by the type of premises. Sometimes, the quantity of supply air is enough to both ventilate and temper the premises, for example, rooms with high occupancy including auditoriums, theatres, cinemas etc. In premises with a lower ventilation requirement, for example, offices, hotel rooms and hospital wards, the quantity of supply air is not sufficient to temper the premises. In these cases, a combination of air and water is an ideal solution.

Water

...consists of hydrogen and oxygen

...covers 71% of the Earth's surface

...is taste and odourless

...boils at 68°C at the top of Mount Everest

...besides, it is also an excellent energy carrier!

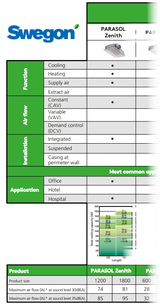
It is the physical properties of water that makes it suitable to carry energy. The cooling capacity of water is about 3,500 times higher than for the same volume of air.

In a climate system, water becomes a powerful tool to convey cooling and heating exactly where it is needed. This gives good comfort and saves valuable space thanks to the use of small pipes instead of large ducts.

Overview

On the centre pages is an overview of Swegon's waterborne climate systems as well as products and properties.

- Function: Specifies the product integrated functions
- Air flow: Specifies the most appropriate system types for the product
- Installation: Specifies the most appropriate installation type for the product
- Application: Specifies the most appropriate building/room type for the product
- Diagram: The diagrams give a good indication of performance
  - X axis: The product's dimensions (nominal length in mm)
  - Y axis: Cooling capacity at different air flows
- Bars: Air flow and sound level
- Max. air flow: Shows the maximum air flow at sound levels of 30 and 35dB(A) respectively.



		PARASOL Zenith	I	PA
Function	Cooling	•		
	Heating	•		
	Supply air	•		
Air flow	Extract air			
	Constant (CAV)	•		
	Variable (VAV)			
	Demand control (DCV)			
Installation	Integrated	•		
	Suspended			
	Casing at perimeter wall			
	Most common ap			
Application	Office	•		
	Hotel			
	Hospital	•		

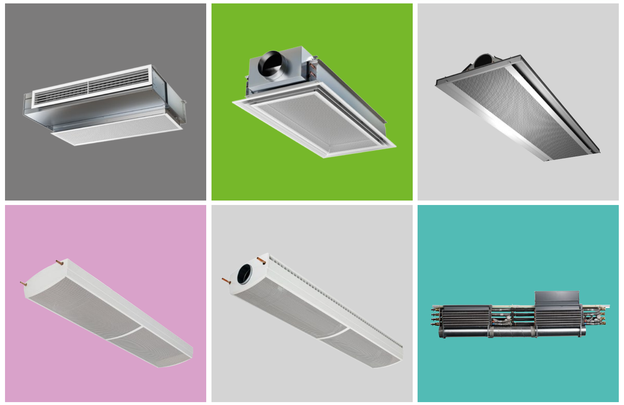
We make every breath count.

EN-Waterborne climate systems - Quick Guide 2/1/2006

Swegon

Waterborne climate systems

Quick Guide



A quick overview of Swegon's waterborne climate systems as well as products and properties

Swegon

News

PARASOL Zenith

- Energy optimised comfort module
  - Lowers the duct pressure and saves energy
- Large working range (min-max air flow)
  - High comfort
- Easy installation
  - Choose between air connections on the short or long side
  - Low weight
  - Unique design, can be installed keeping T-bars intact

Also available in 1800 - size

- Manages 40 m^3/unit

PARASOL – For VAV & DCV systems

- Variable air flow in combination with waterborne cooling and heating – all packaged in Swegon's market-leading comfort modules
- Selectable sequences as required
- Stand alone, connected to Swegon's WISE system or master BMS system

PARASOL VAV

- Cost effective VAV/DCV solution for landscape offices and large conference rooms
- Variable air flow regulation of up to eight units per zone

ADAPT Parasol

- Fully equipped comfort modules for premises that focus on flexibility

PARAGON

- The comfort module for hotel rooms and hospital wards has been further developed with a higher cooling & heating capacity
- The heat exchanger can be equipped with a unique 6-way valve for even higher energy efficiency. This gives the heat pump/chiller up to 25% higher efficiency.
- Maximum comfort and minimal operating costs due to a lack of moving parts.

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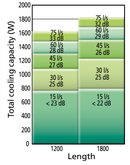
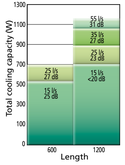
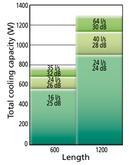
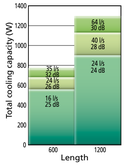
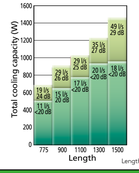
		Parasol family 4-way comfort modules						Paragon family 1-way comfort modules		Active climate beams 2-way			Passive chilled beams	Perimeter systems	Control equipment	
		PARASOL Zenith	PARASOL	PARASOL EX	PARASOL VAV	ADAPT Parasol	ADAPT Parasol EX	PARAGON	PARAGON Wall	PACIFIC	PACIFIC SA/EA	ADRIATIC	FRB	PRIMO	CONDUCTOR	LUNA
Function	Cooling	•	•	•	•	•	•	•	•	•	•	•	•	•		
	Heating	•	•	•	•	•	•	•	•	•	•	•		•		
	Supply air	•	•	•	•	•	•	•	•	•	•	•		•		
	Extract air										•					
Air flow	Constant (CAV)	•	•	•				•	•	•		•		•	•	•
	Variable (VAV)				•	•	•	•			•				•	(•)
	Demand control (DCV)				•	•	•	•			•				•	(•)
Installation	Integrated	•	•		•	•		•	•	•	•					
	Suspended			•			•					•	•			
	Casing at perimeter wall													•		
Application		Most common applications				Most common applications				Most common applications				Most common applications		
	Office	•	•	•	•	•	•		•	•	•	•	•	•	•	•
	Hotel							•	•						•	•
	Hospital	•	•		•	•		•	•	•	•				•	•

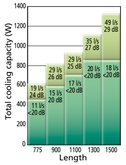


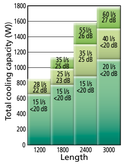


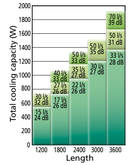


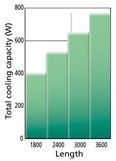


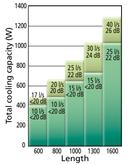












Product	PARASOL Zenith		PARASOL		PARASOL EX		PARASOL VAV		ADAPT Parasol		ADAPT Parasol EX		PARAGON & PARAGON Wall					PACIFIC & PACIFIC SA/EA				ADRIATIC					FRB	PRIMO				
Product size	1200	1800	600	1200	600	1200	600	1200	600	1200	600	1200	775	900	1100	1300	1500	1200	1800	2400	3000	1200	1800	2400	3000	3600	1200-3900	600	800	1000	1300	1600
Maximum air flow (l/s) * at sound level 30dB(A)	74	81	28	70	28	70	38	67	38	67	38	67	28	33	40	46	50	37	52	63	69	30	38	48	51	51	-	17	24	32	43	54
Maximum air flow (l/s) * at sound level 35dB(A)	85	95	32	80	32	80	44	78	44	78	44	78	33	39	48	55	60	-	60	74	80	35	45	57	60	60	-	-	-	-	-	-

Specified data should be seen as indications. For exact figures, use Swegon's product selection software ProSelect WEB which is available from www.swegon.com.

Sound data is dependent on the size of the air connection, which on some products affects the height measurement. Swegon reserves the right to make design changes.

Prerequisites for all diagrams:

- Room temperature: 24°C
- Cooling water temperature: 14°C
- Water flow: 0.07 l/s
- Supply air temperature: 17°C

dB in the diagram, refers to dB(A).

Prerequisites that apply for all diagrams except Primo:

- Nozzle pressure: approx. 80 Pa (Primo 150 Pa)

FRB: Passive chilled beam → water only – not supply air

*Guidelines for maximum air flow at 30 & 35 dB (A) sound levels with 4 dB room attenuation.

The presentation does not take nozzle pressure into consideration, but represents only the maximum air flow you can get out of the product without exceeding the given sound levels.