iQ Star Stella

Energy efficient chilled beam

iQ Star
by Fläkt Woods

FläktWoods

Flexible, comfortable and energy efficient climate for the modern office

Stella is our free-hanging multi-service Chilled Beam in the new iQ Star family. It is characterized by modularity, flexibility, sustainability and energy efficiency. Stella is developed specifically for the high demands of the modern, dynamic office where an attractive design is equally important to cutting-edge energy saving features. Thanks to pioneering nozzle technology and smart controls, the air flow is always sufficient and adapted to just-in-time need. Stella's modularity and the Flow Pattern Control and Energy Control functions allow flexibility in the office layout. Good indoor air quality is possible despite organizational changes and renovations without the need to change the installation.

Boost, Normal or Energy Saving mode

The traditional office with rooms and cubicles that are occupied from 9 to 5 will soon be a distant memory. Most office space is hardly ever used, or sometimes it is overused. Stella's smart control panel with Normal, Energy Saving and Boost modes enables easy adjustment of the air flow. This means that whether an office or meeting room is empty or crowded, the Stella beam provides sufficient air flow. Not only does it save a lot of energy when the room is not in use, it also keeps the employees spry and alert. A good reason to have high indoor air quality.

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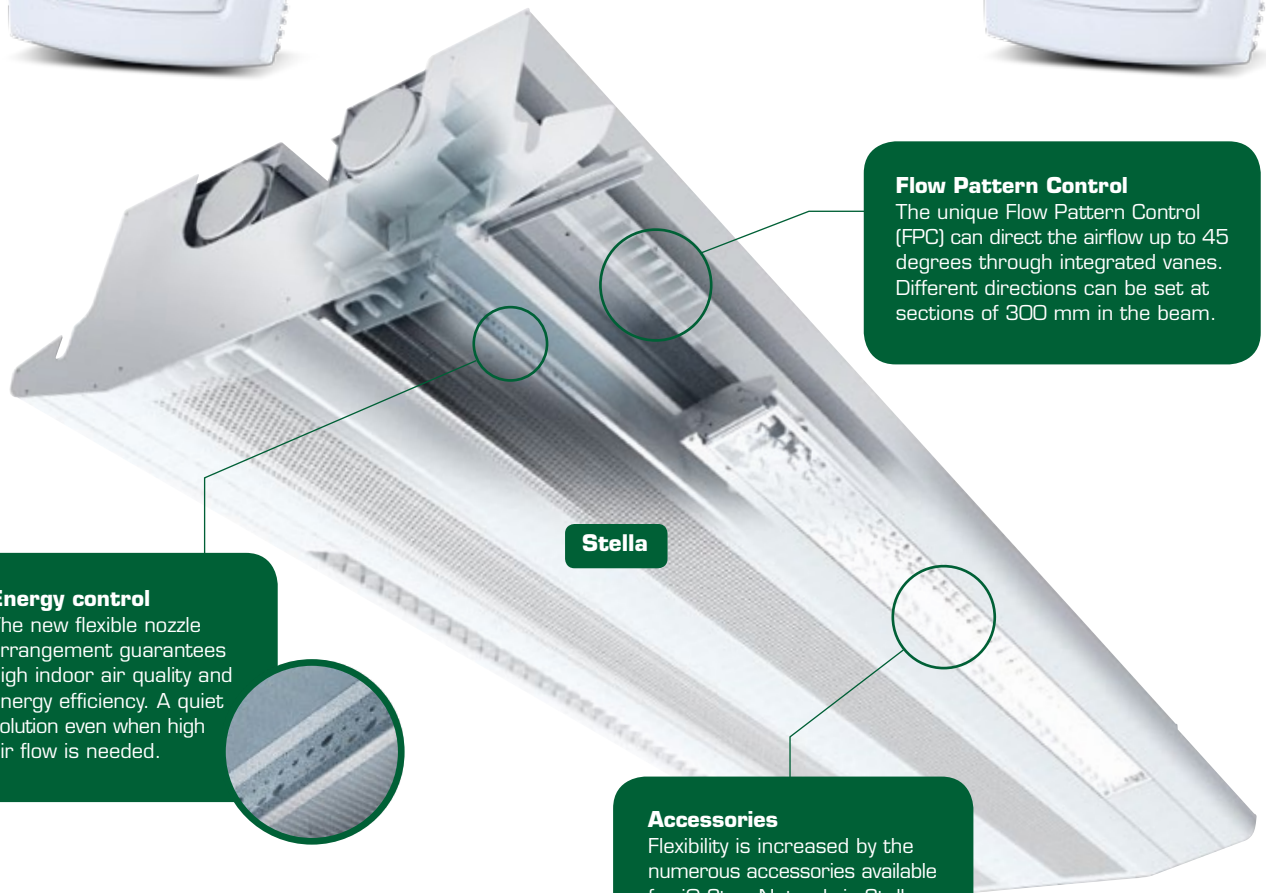


Stella

Flow Pattern Control
The unique Flow Pattern Control (FPC) can direct the airflow up to 45 degrees through integrated vanes. Different directions can be set at sections of 300 mm in the beam.

Energy control
The new flexible nozzle arrangement guarantees high indoor air quality and energy efficiency. A quiet solution even when high air flow is needed.

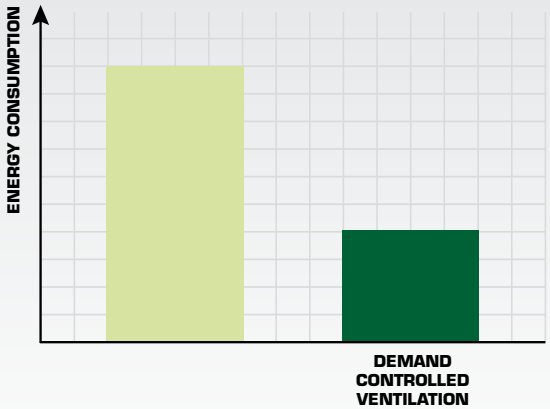
Accessories
Flexibility is increased by the numerous accessories available for iQ Star. Not only is Stella available with any equipment you need, you also have the opportunity to customize its design.

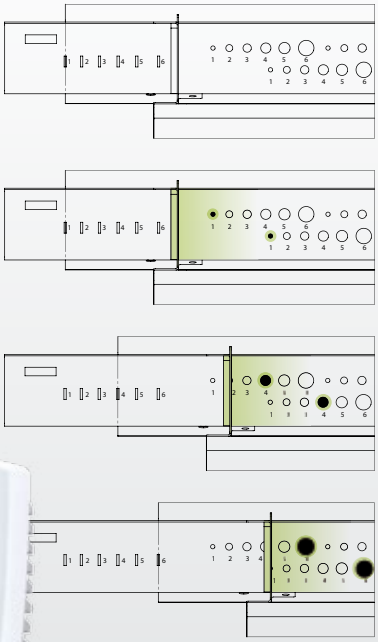
Increased productivity and low energy costs

Today, most people spend over 90 percent of their time indoors e.g. at home, in schools, at hospitals and offices. Breathing fresh indoor air is vital for our health, performance and well-being.

Demand Controlled Ventilation

Demand controlled ventilation provides desired ventilation based on the actual occupancy of the room. It increases indoor air quality and saves energy normally wasted in ventilating unoccupied spaces. This can be applied to areas where there are frequent changes in occupancy, such as conference rooms, board rooms, cafeterias etc. Field experience indicates that actual occupancy levels are at least 25% lower and perhaps as much as 60% lower. In normal office building the offices are not occupied more than 60% of the time during a normal working day. This means that demand controlled ventilation can reduce ventilation as well as heating and cooling loads by 10%–30%.





Pioneering nozzles

Stella always provides sufficient air flow, whether the room is empty or crowded. Choose Normal, Energy Saving or Boost mode on the room controller. The new flexible nozzle arrangement guarantees high indoor air quality and energy efficiency. A quiet solution even when high air flow is needed.

User-friendly controller for optimal performance

The STRA-14 room controller is specifically developed for Stella. It is pre-programmed for chilled beam applications and contains a wide range of control functions including a unique three step air flow control for flexibility, comfort and energy efficiency.

The user-friendly display enables fast and easy access for change of set-points and control parameters. For optional integration with building management systems, STRA-14 has Modbus communication as standard.

For rooms with variations in occupancy, the optional occupancy sensor enables a control strategy where the controller is in Energy saving mode (reduced air flow and increased neutral zone for heating and cooling) when the room is unoccupied and thereby energy is saved. When the occupancy sensor is activated by presence in the room, the controller shifts to Normal mode and controls airflow, heating and cooling for comfort.

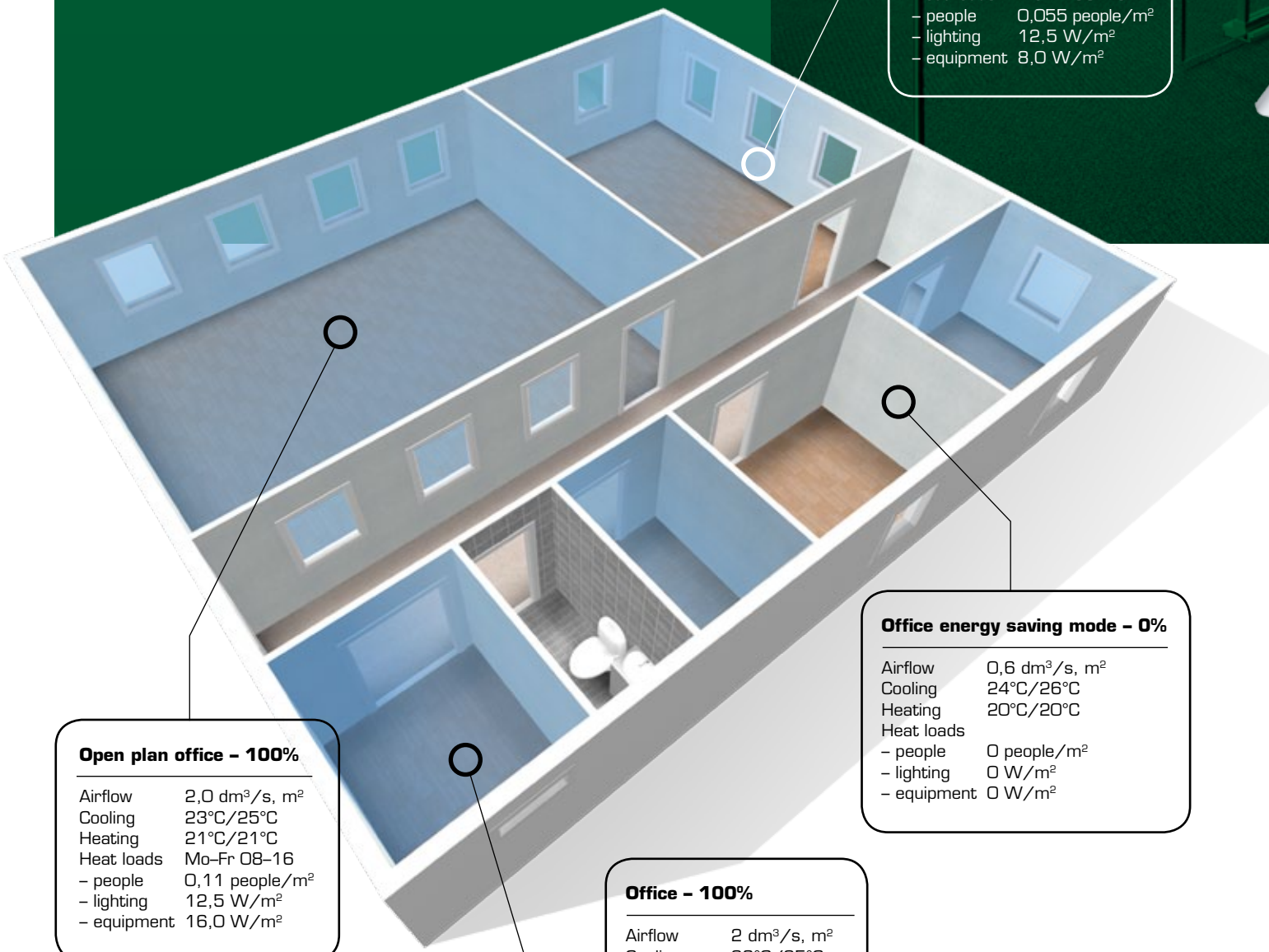
Experience has shown that the level of CO_2 in a room is a reliable indicator of the indoor air quality, and is therefore used as the determing parameter in the integrated Energy Control in Stella. A high level of CO_2 in a room indicates that the ventilation rate is insufficient to obtain an adequate indoor quality.

This is a common situation in rooms with large variations or peaks in load, therefore STRA-14 can be equipped with an optional CO_2-sensor and thereby offer a control function where the controller shifts to Boost mode if the level of CO_2 exceeds the set point value, in this mode the integrated Energy Control opens and the air flow is increased until the level of CO_2 has decreased to the lower set point value.

The built in operator button on STRA-14 can also be used to activate the bypass mode, after 60 minute the controller then change back to its preset operating mode.

Flexible solutions for your changing needs

The modern office is dynamic. Fast decisions in organisational changes call for a modern ventilation system that is easy to adjust to the rearrangement of people, walls and furniture and to meet the just in time need. Flexibility is an important factor for optimized indoor air quality.



Open plan office – 50%

Airflow	1,0 dm^3/s, m^2
Cooling	23°C/25°C
Heating	21°C/21°C
Heat loads	Mo–Fr 08–16
– people	0,055 people/m^2
– lighting	12,5 W/m^2
– equipment	8,0 W/m^2

Office energy saving mode – 0%

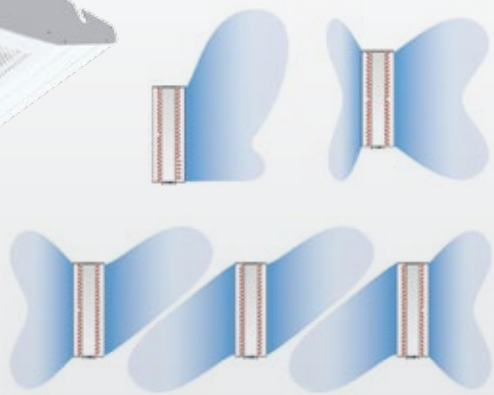
Airflow	0,6 dm^3/s, m^2
Cooling	24°C/26°C
Heating	20°C/20°C
Heat loads	
– people	0 people/m^2
– lighting	0 W/m^2
– equipment	0 W/m^2

Open plan office – 100%

Airflow	2,0 dm^3/s, m^2
Cooling	23°C/25°C
Heating	21°C/21°C
Heat loads	Mo–Fr 08–16
– people	0,11 people/m^2
– lighting	12,5 W/m^2
– equipment	16,0 W/m^2

Office – 100%

Airflow	2 dm^3/s, m^2
Cooling	23°C/25°C
Heating	21°C/21°C
Heat loads	Mo–Fr 08–16
– people	0,1 people/m^2
– lighting	12,5 W/m^2
– equipment	15,0 W/m^2



IQ Chilled Beams with FPC function

Highest possible efficiency can be maintained by adjusting the comfort control and air vanes! A combination of different angles on one side is possible.

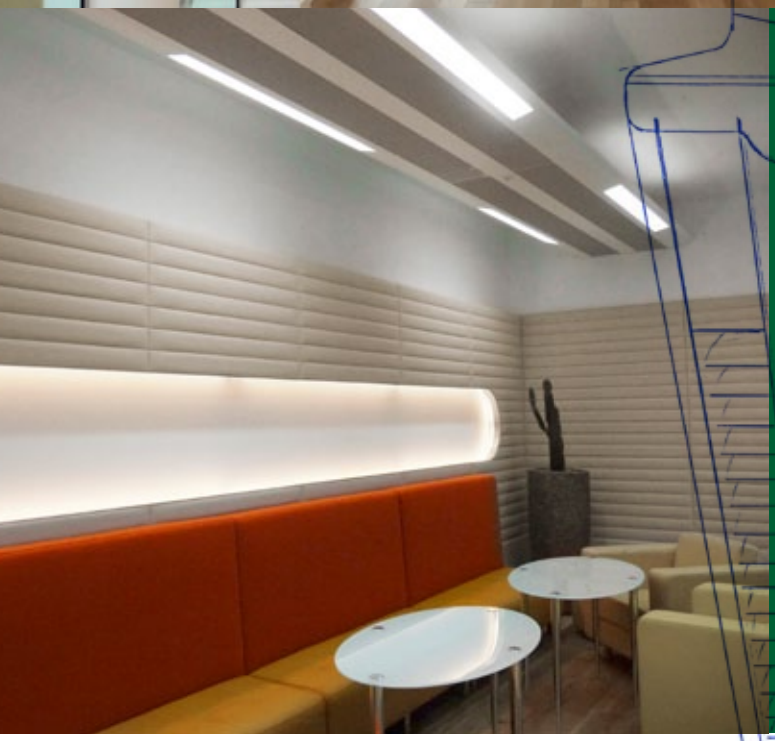
When increased air flow is required, the flow pattern can be adapted to maintain optimal comfort in the room!

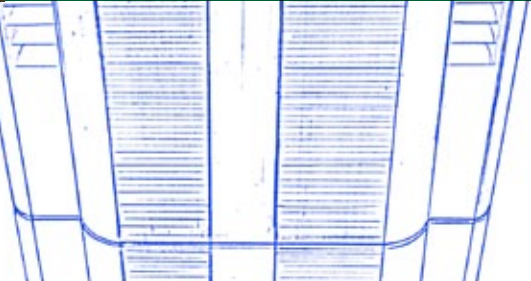
Flexibility in the office layout

Good indoor air quality is possible despite organizational changes and renovations without the need to change the installation. Thanks to the functions Energy Control and Flow Pattern Control, the air flow can be rearranged to fit a new layout of a room.

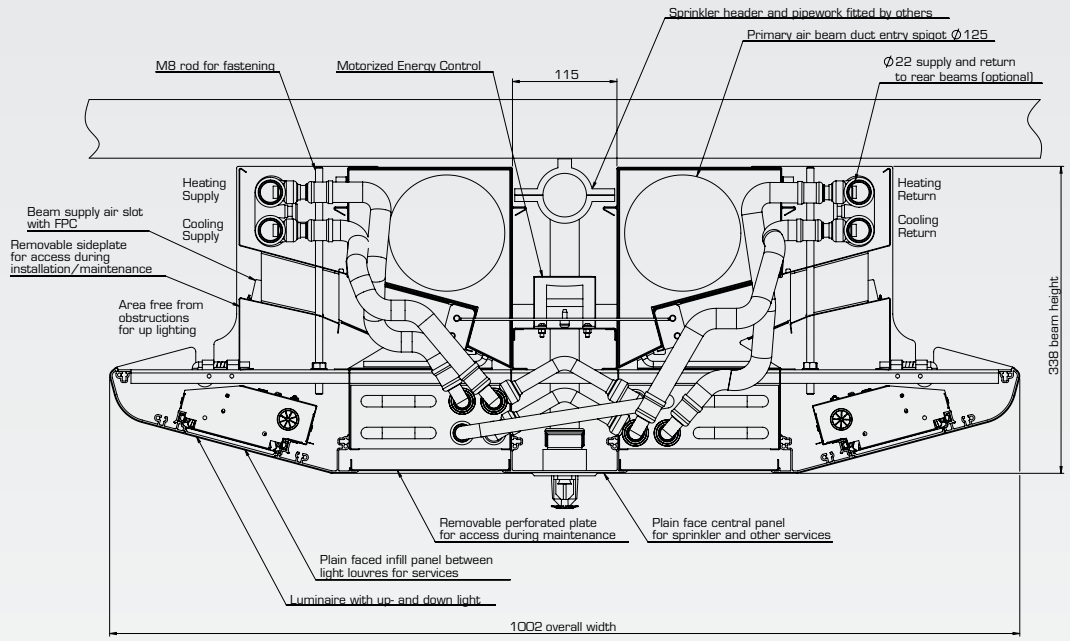
Design your own customized Stella

Design is important for the indoor environment. Stella has a modern standard design, but offers the opportunity to create a unique design depending on room use and personal taste. Design and colour - you decide!

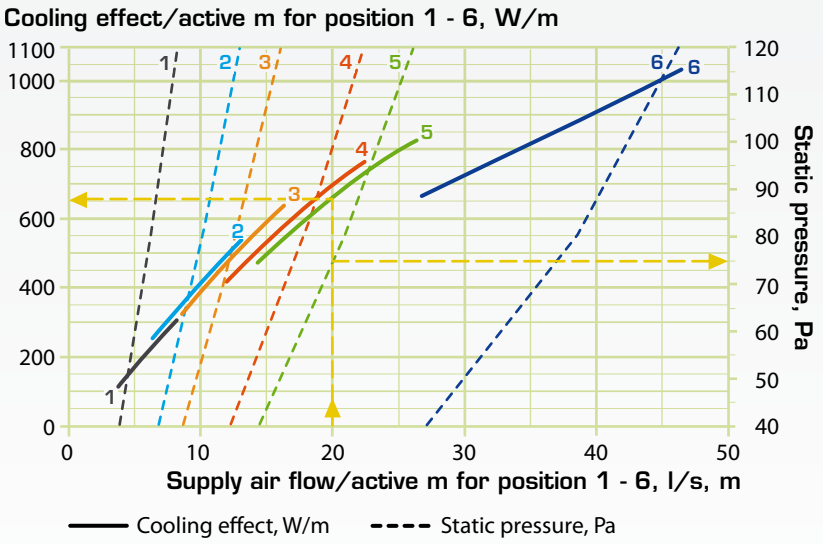




iQ Star Stella chilled beam – cross-section

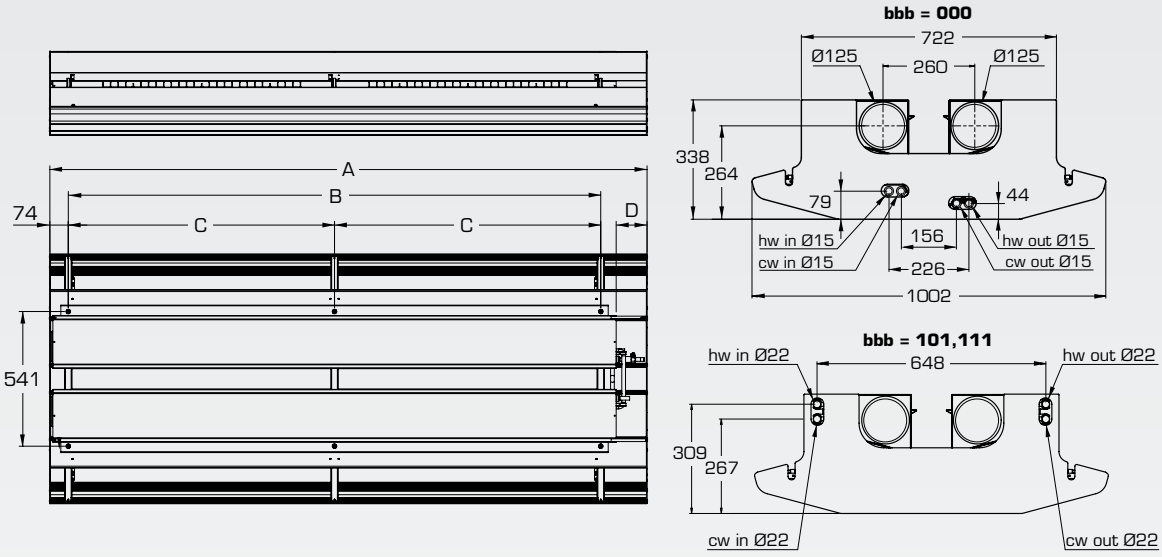


Quick selection iQ Star Stella chilled beam



The diagram shows the approximate cooling effect P_{tot} in W with water flow qw = 0.1 l/s, temperature difference between room air and supply air Δt = 8°C, pressure drop 70 Pa on the air side and max. sound pressure level L_{A10} = 30 dB(A).

iQ Star Stella chilled beam



Dimensions

Size	A	B	C	D
180	1798	1546	–	116
240	2398	2138	1069	124
300	2998	2730	1365	132

Weight

Weight per meter of chilled beam	kg/m
Beam dry weight	42.0
Beam water filled, cooling	43.4
Beam water filled, cooling and heating	43.8

We Bring Air to Life

Fläkt Woods is a global leader in air management. We specialise in the design and manufacture of a wide range of air climate and air movement solutions. And our collective experience is unrivalled.

Our constant aim is to provide systems that precisely deliver required function and performance, as well as maximise energy efficiency.

Solutions for all your air climate and air movement needs

Fläkt Woods is providing solutions for ventilation and air climate for buildings as well as fan solutions for Industry and Infrastructure.

Air Handling Units (AHUs)

Modular, compact and small AHU units. Designed to ensure optimisation of indoor air quality, operational performance and service life.

Air Terminal Devices and Ducts

Supply and exhaust diffusers and valves for installation on walls, ceiling or floor are all included in our large range and fit all types of applications.

Chilled Beams

Active induction beams for ventilation, cooling and heating, and passive convection beams for cooling. For suspended or flush-mounted ceiling installation – and multi-service configuration. With unique Comfort Control and Flow Pattern Control features.

Residential ventilation

A complete range of products for residential ventilation. Consists of ventilation units, exhaust air fans and cooker hoods designed to optimise indoor comfort and save energy.

Energy recovery

Dessicant-based product and systems that recover energy, increase ventilation and control humidity.

Fans

Advanced axial, centrifugal and boxed fans for general and specialist applications. Comprehensive range including high temperature and ATEX compliant options. Engineered for energy efficiency and minimised life cycle cost.

Chillers

Air-cooled and water-cooled chillers with cooling capacity up to 1800kW. Designed to minimise annual energy consumption in all types of buildings.

Controls and drives

Variable speed drives and control systems, all tested to ensure total compatibility with our products. Specialist team can advise on energy saving and overall system integration.

Acoustical Products

A complete line of sound attenuating products, including rectangular and round silencers, Media Free silencers, custom silencers and acoustic enclosure panels.

FWG-StellaTech... SalesBrochure-GB-10-8895 CCJ Kommunikation

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