Chilled beams

Saving Energy, Economy and Environment with Fläkt Woods.

FläktWoods

Chilled beams – designed for optimum comfort

Our well-being, comfort and efficiency are all influenced by the indoor air quality. An efficient ventilation system improves the air temperature, humidity, CO_2 level, draught and noise. Our range of Flexicool® Chilled Beams gives a quiet indoor air free from draught and with high quality.

Flexicool® is a complete and quality packed chilled beam system that offers various solutions for cooling/heating combined with highly efficient ventilation. Lighting and control equipment are available as accessories.

Choose between induction supply air beams or passive convection beams in various shapes and sizes suitable for integration in false ceilings or for exposed installation.

Function of chilled beams

In systems with chilled beams, the air is cooled by means of cold water, and the supply airflow rate is dimensioned in a way that fulfils the requirements of good air quality. Flexicool® chilled beams are a comprehensive range of air conditioning beams suitable for most applications where functions that ensure optimum comfort in the room are considered of great importance. Flexicool® chilled beams

»Flexicool® is a complete range of chilled beams and accessories. A system with chilled beams is suitable for ventilation and cooling for high cooling demands and/or where there is a requirement for individual regulation of the temperature.«

are designed to ensure a draught-free and quiet indoor climate, even with greater cooling effects.

Induction beams

Flexicool® IQID, IQFD, IQFE, IQTA, IQSA and IQCA are integrated systems for ventilation, cooling and heating, fulfilling most needs for indoor climates. The induction beams are designed to manage high cooling effects. The beams have a patented system for the adjustment of flow, cooling effect and flow pattern. The system can be adapted to suit the changing conditions in the room.

Passive convection beams

Flexicool® passive chilled beams QPSA, QPBA and QPDA cool a room by means of convection. A passive chilled beam (convection beam) has no supply air, but is based on the principle that circulating air is caused to flow down through the cooling coil by gravity flow natural convection circulation. The air is supplied to the room via a separate supply air system.

Chilled beams from Fläkt Woods

- Extremely flexible — easily adaptable to meet requirements.
- Adjusted in position in the relevant room as required — facilitates installation as you do not need to choose which room a chilled beam is to be used in before hand.
- Simple adjustment — no need for replacement when the conditions in a room change (for example, refurnishing).
- Easy to install and maintain — low installation and service costs.
- Broad range of stock — fast delivery.
- Easy to dimension correctly — ExSelAir calculates chilled beams and valves. Different models can be simulated.
- High quality components.
- Our chilled beams have low water pressure drop, which means low operation costs.

REFERENCES

- *Geschäftshaus Fortis, Dietlikon, Switzerland*
- *Aker Kvaerner Office, Oslo, Norway*
- *Swisscom, Ostemundigen, Switzerland*
- *Chiari Hospital, Italy*
- *Lidl´s head office in Helsinki, Finland*
- *Hermia Technology Center in Tampere, Finland*
- *Karlstad University, Sweden*
- *University Tammerfors, Finland*
- *Office building Budejovicka alej, Czech Republic*
- *Ricoh Centre Frankfurt, Germany*
- *Hospital, Malta*
- *Scandic Hotel, Helsinki, Finland*
- *Via Bergognone, Milano, Italy*
- *Visteon, Kerpen, Germany*
- *Le Gauguin, Paris, France*
- *Skärholmen Shoppingcenter, Stockholm, Sweden*
- *Millenium Art Centre, Brisbane, Australia*
- *242 George Street, Sydney, Australia*
- *Volvo Lastvagnar, Göteborg, Sweden*
- *Volvo Personvagnar, Göteborg, Sweden*

New free hanging chilled beams IQFD/IQFE

Our two new free hanging chilled beams IQFD and IQFE are designed to manage high cooling effects that provide comfort and low air velocities in the occupied zone. In order to fit most spaces, they have different profiles: IQFD is box-shaped with round corners and IQFE is eye-shaped. They can be equipped with a numerous functions,among others either direct or indirect lighting.

New generation - new possibilties

We have taken the best qualities of our popular chilled beam IQFC and made an even more efficient version - in two different models!

IQFD is box-shaped with rounded corners whereas IQFE is designed with the shape of an eye. Everything else is the same between the two new chilled beams: the high cooling capacity, easy adjustable flow and capacity directions, easy installation and the possibility to be equipped with a numerous functions.

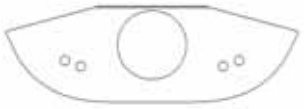
This means that you can let the space and your personal taste to decide which of the two beams will be suitable for your office, school, supermarket, hotel etc.

IQFD and IQFE offer the major advantage that the air from the beam is directed obliquely up towards the ceiling for optimal air flow and comfort in the room.

IQFD

Indirect / direct lighting

Depending on the ventilation needs, IQFD and IQFE can be equipped with various functions such as Flow Pattern Control which provides the possibility to adjust the air flow pattern at different angles, Comfort Control to adjust the air flow, Control equipment, High air flow, Heating and Lighting. For IQFD and IQFE we can for the first time offer both indirect and direct lighting.



IQFE

New Flexicool® cassette chilled beam IQCA

We are proud to present our new cassette chilled beam IQCA. IQCA manages high cooling effects that provide comfort and low air velocities in the occupied zone. It is also equipped with Coanda Safety Control which guarantees adhesion of the air stream to the ceiling.

Focus on energy efficiency

Combining the benefits of active chilled beam technology with the flexibility of fan coil systems, the new unit is cost-effective to run and has no moving parts, resulting in quiet operation and minimal maintenance requirements. Connecting the IQCA ceiling cassette is straightforward and provides a great degree of versatility for installation.

Fläkt Woods is focused on greater energy-efficient systems, especially in the light of the EU Energy Performance of Buildings Directive (EPBD), and this has naturally led us to design more water-based cooling systems, as the energy needed to provide the cooling requirement is less than air-cooling.

In addition to the energy efficiency and sustainable qualities, it has a low maintenance cost over the system's entire lifecycle adding cost-effectiveness to its other attributes.

IQCA is equipped with comfort control and has control equipment as accessory. The combination gives good flexibility when dimensioning the indoor climate. The air flow can easily be adjusted by means of patented adjusting rails, comfort control, that changes the length of the holes in the primary air channel. The simple adjustment of air distribution and capacity makes it possible to adapt to changing conditions in the future.

Coanda Safety Control

Uniquely, it is also equipped with Coanda Safety Control (CSC), which can be varied between high, normal and low settings. This function, necessary in low airflow situations to provide a good indoor climate, improves adhesion of the air stream to the ceiling.

Chilled beam IQID – From basic to multi service

The chilled beam Flexicool® IQID is an integrated system for ventilation, cooling and heating, fulfilling most needs for indoor climate.

The IQID chilled beam is a very flexible chilled beam that is available as a basic model, but can also be equipped with a number of functions to provide a multi-functional chilled beam. The following functions are available for IQID: Comfort control, function for high air flow (2 hole rows), Flow Pattern Control (FPC air deflector), heat, control and regulation equipment, lighting and provision for a sprinkler system.

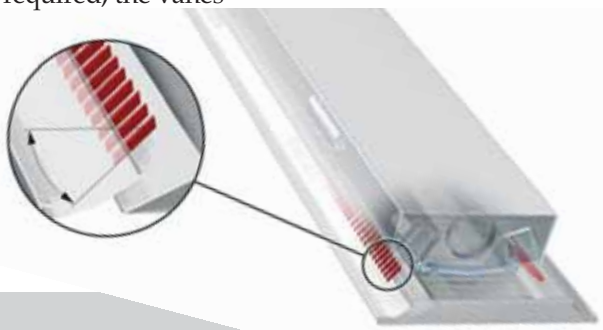
IQID has a covered upper side and is intended for flush-mounting in false ceilings and has dimensions adapted to a false ceiling module of 600 mm.

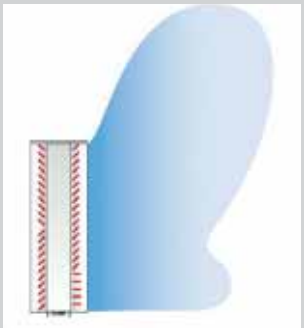
High Air Flow (double rows of holes) and Comfort Control.

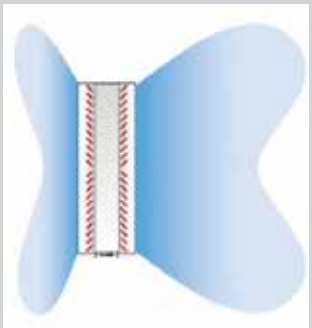
Chilled Beams with FPC (Flow Pattern Control)

Our IQ Chilled Beam range is totally unique with its FPC (Flow Pattern Control) function that provides high flexibility in new buildings or refurbish-ments.The combination of FPC and comfort control gives the IQ beam its unique characteristics.

The IQ Chilled Beams have the unique Flow Pattern Control (FPC) where the airflow can be directed up to 45 degrees through integrated vanes. When increased air flow is required, the vanes can be adjusted into different directions, in order to increase the comfort.







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.

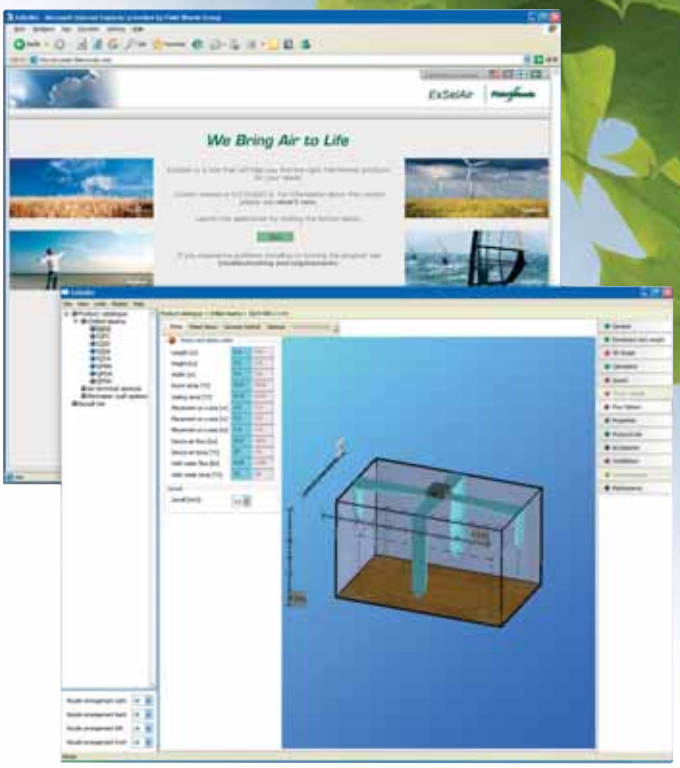
When increased air flow is required, the flow pattern can be adapted to maintain optimal comfort in the room!

IQ Chilled Beams with FPC function

- Adjustable air vanes 0° – 15° – 30° – 45°
- Adjustable air vanes in the outlet
- Optimized for minimal noise and pressure drop
- Sections of 30 cm

ExSelAir

Program for selection of devices, chilled beams, fan coils and perimeter wall units. This is a web-based program which is updated regularly without the user having to download and install updated versions.



The program includes:

- Technical data
- 3D models
- Flow patterns in 2D and 3D
- Dxf files can be exported to CAD software
- Installation, adjustment and maintenance instructions
- Heating and cooling requirement calculations.

Development

We have one of Europe's most extensive laboratories for testing ventilation products. This enables us to continually test new and existing products.

Our laboratory is unique since it is equipped with all components required for an entire ventilation system. The products are tested in testing rooms designed to simulate "real life" environments, for example, an office or conference room.

We are able to study sound levels, airflow/balancing, exhaust risks, comfort and control strategies within the laboratory. We are also able to see how the products perform in real life situations.

STRA Room Controllers – Energy efficient indoor climate from Fläkt Woods

Today, most people spend over 90 percent of their time indoors and there is a clear correlation between indoor air quality and people's performance and well-being. It is not unusual that there in one building can be several types of tenants and activities, all with different requirements on indoor air climate.

Increasing energy prices and focus on improvement of energy performance of buildings also emphasizes the importance of a control system adapted for the actual needs and applications. Therefore, Fläkt Woods has developed the STRA family, a complete range of room controllers that meets today's requirements on flexibility, energy efficiency and indoor air climate. In modern buildings, there is an increasing use of supervisory systems (BMS – Building Management System) for control and monitoring purposes. A prerequisite for these systems is that the different technical sub systems in the building supports open standard communication protocols and thereby enabling system integration. A properly used building management system is an efficient tool for a cost- and energy efficient building operation. It is Fläkt Woods ambition to support our customers and markets in their efforts to reduce energy costs and negative environmental impact. Communication (Modbus RTU) is therefore a standard feature in the STRA range.

ENERGY
ECONOMY
ENVIRONMENT

STRA Room Controllers for an energy efficient indoor climate.

The controllers in the STRA range are developed for heating and cooling applications, and are delivered pre programmed for broad range of applications.
The STRA range offers a wide range of accessories such as external temperature sensor, occupancy sensor, condensation sensor, window contact, control valves and actuators. There are also a variety of user interfaces available, enabling selection of a controller specifically adapted to the requirements of different types of users and environments.

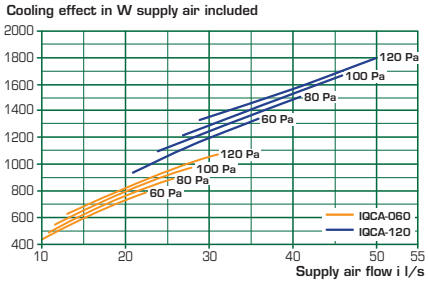
STRA Room controllers for Chilled Beam applications

- Hidden set-point
- Set-Point wheel
- Set-Point wheel and occupancy button
- Display and occupancy button

Quick selection

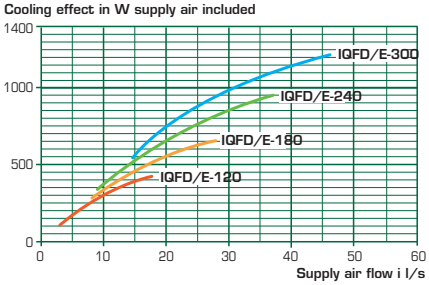
IQCA

• Cassette chilled beam for integrating in suspended ceiling • Available with the functions comfort control and control equipment as accessory • Fastening brackets for quick and easy mounting - lift up - snap on • Suited for standard 600 mm and 1200x600 mm ceiling module



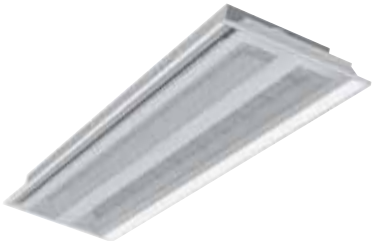
IQFD/IQFE – FPC function available

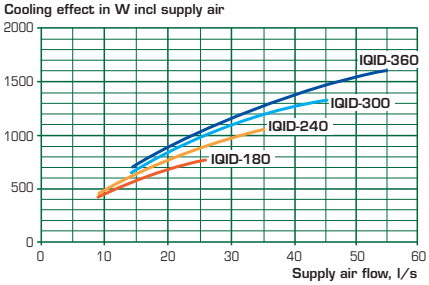
• Chilled beam IQFD for exposed installation • Air flow through the supply air slot is directed diagonally upwards • Capacity and flow directions easily adjustable • The side plate can easily open for maintenance • Enclosures for connections are available as accessories • Fastening brackets for rapid and simple installation – lift up – snap in place



IQID – FPC function available

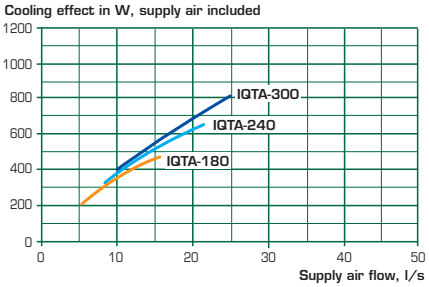
• IQID chilled beam for flushmounting in false ceilings • Very flexible – available in a wide range of executions from basic to multifunctional • Suitable for standard 600 mm false ceiling modules • Fastening brackets for rapid and simple installation – lift up – snap in place • Available with the following functions: Comfort control, function for high air flow (2 hole rows), Flow Pattern Control (FPC air deflector), heat, control and regulation equipment, lighting and provision for a sprinkler system





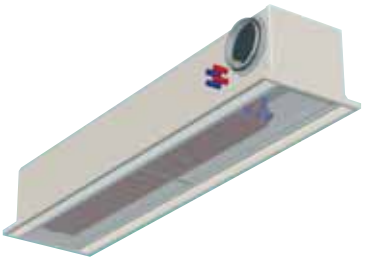
IQTA – FPC function available

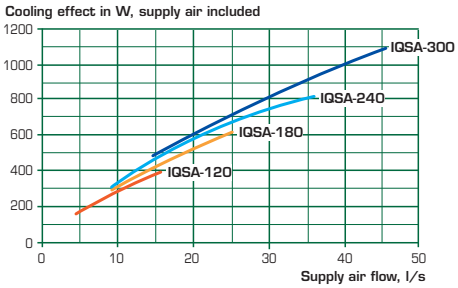
• IQTA chilled beam for exposed installation • Air and water connection within extended casing (30 cm/60 cm) • Available in three standard lengths, 210, 270 and 330 mm • Installed using special brackets attached to the wall or ceiling • The bottom plate can be pushed aside to enable inspection and cleaning.



IQSA

• IQSA chilled beam for integration in false ceilings • Suitable for standard 300 mm false ceiling modules • Capacity and flow directions are easily set • The bottom plate can be pushed aside to enable inspection and cleaning • Patent pending sound attenuator • Mounting brackets for quick and easy mounting — lift up — snap on.

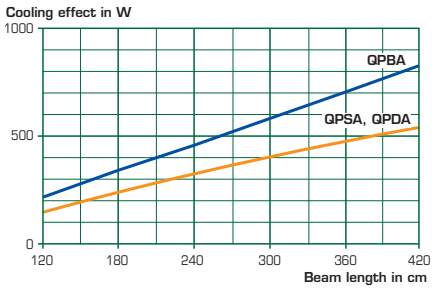




Passive chilled beams

QP(S, B, D) A

• QP (S, B) A chilled beams for integration in false ceilings or for exposed installation • QPDA customized beam with designer casing for exposed installation • The coil and casing are easy to clean and the side plates easy to remove • Adapted control and adjustment equipment available as an option • Quick and easy installation with attachments or directly onto the ceiling's support profiles using brackets.



We Bring Air to Life

Fläkt Woods Group provides a full range of products and solutions for building ventilation, air treatment and industrial air movement.

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