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AIR DIFFUSION

CHILLED BEAMS

## CHILLED BEAMS by FLÄKTGROUP

A COMPLETE  
RANGE OF  
CHILLED BEAMS  
FOR **COMFORT  
AND FLEXIBILITY**



iQ Star Wega II®



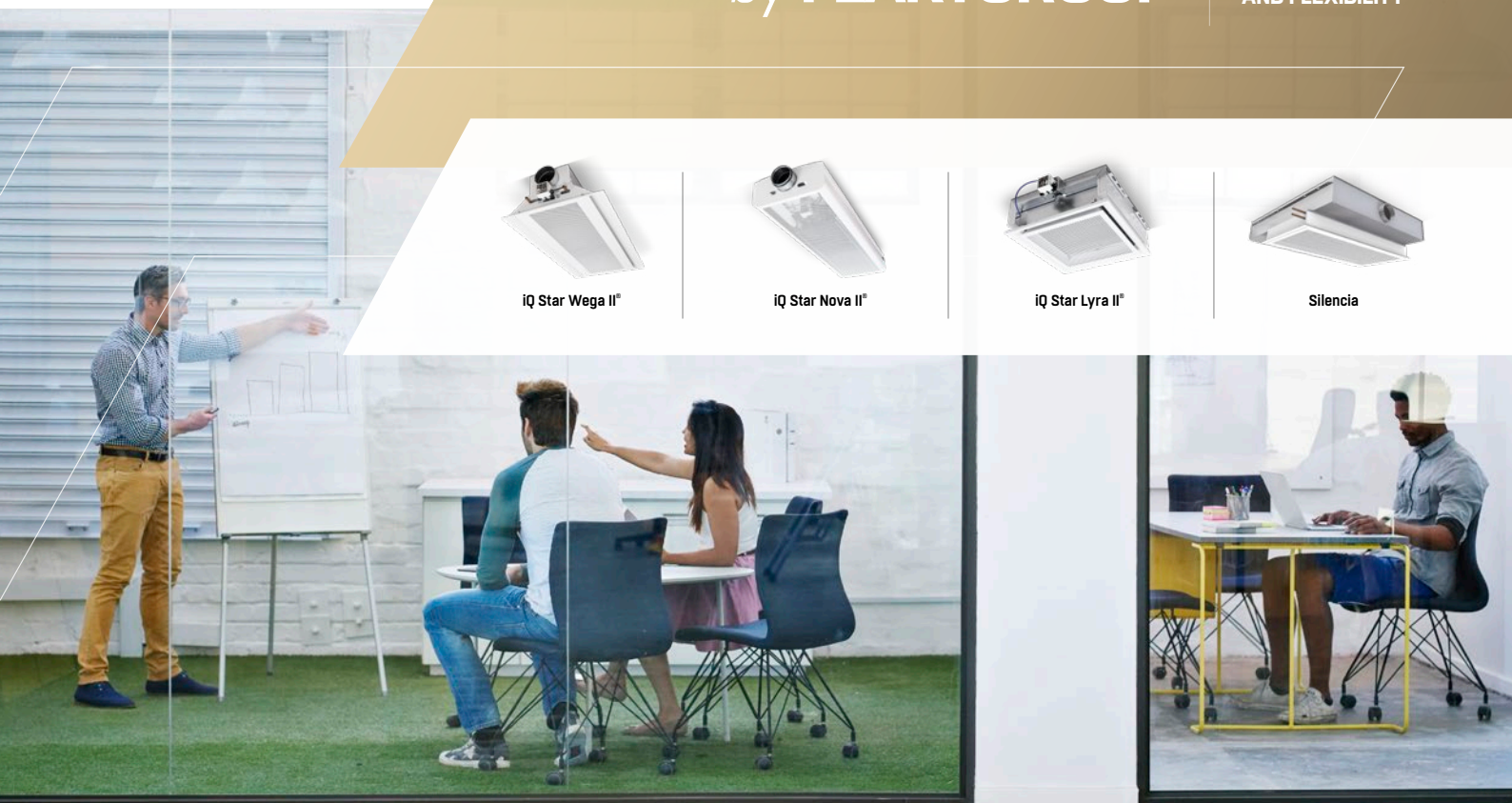
iQ Star Nova II®



iQ Star Lyra II®



Silencia







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# CHILLED BEAMS *by* FLÄKTGROUP TOP INDOOR AIR QUALITY AND MINIMISED ENERGY CONSUMPTION

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When we enter a modern building today we expect nothing but perfect indoor air quality. In fact anything less will be noted; It can't be too warm, nor too cold. Not too dry or too humid. Obviously without annoying smells or noises, and with oxygen levels like a walk in the park. That's the human side of it.

On the other hand, ever more stringent legislation and building regulations when it comes to environmental aspects and reduced energy consumption are introduced. Also, economical pressures demand both the smallest possible operational costs and a low life cycle cost. At FläktGroup we strive to meet these demands in our individual products as well as by integrating them in optimised systems. We do it both by gradually fine tuning every detail and by landmark innovations like the Pi (Pressure Independent) function, that makes true demand control ventilation available to all projects.

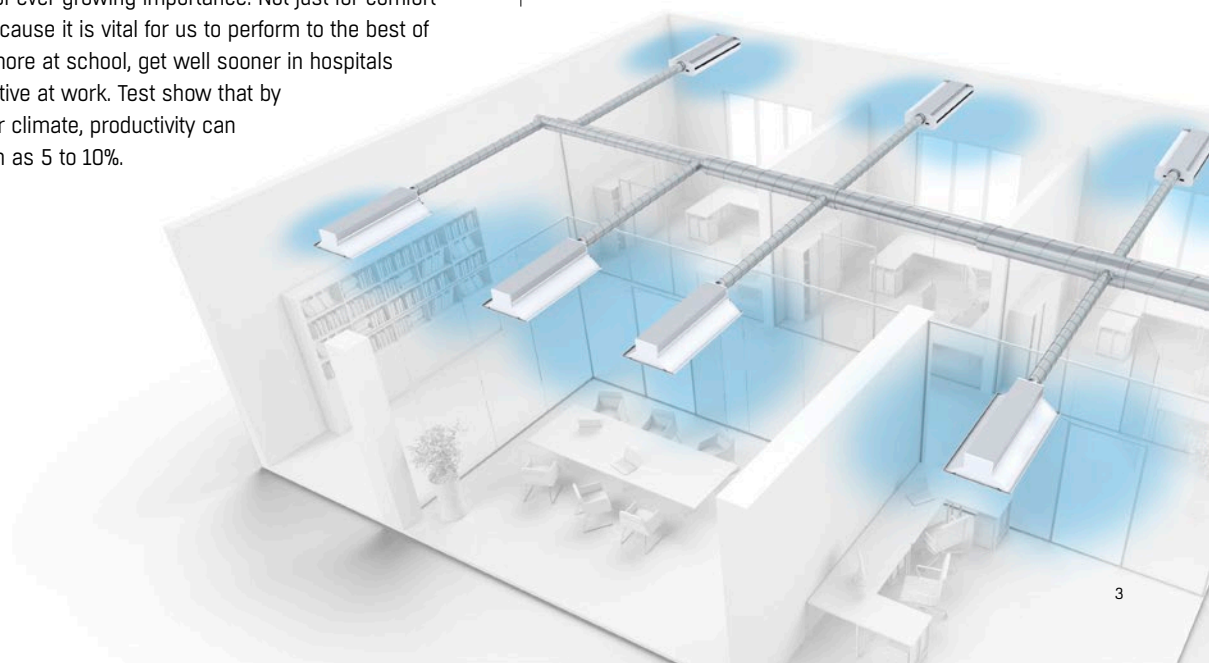
## **INCREASED WELL-BEING MEANS HIGHER PRODUCTIVITY**

Today most people spend over 90% of their time indoors. That means indoor air quality is of ever growing importance. Not just for comfort reasons, but also because it is vital for us to perform to the best of our ability; to learn more at school, get well sooner in hospitals and be more productive at work. Test show that by optimising the indoor climate, productivity can increase by as much as 5 to 10%.

## Energy efficiency – the essence of our solutions

All our research, development and testing activities are singularly focused to provide our customers with the best and most efficient solutions possible to their ventilation and indoor climate challenges.

From new and innovative concepts, smart material choices and manufacturing processes to advanced controls, minimised running cost and easy maintenance, FläktGroup always strive to deliver the best for your long-term economy and our environment.





# We always have the right air handling solutions **for all types of environments**

## OFFICES

We provide high indoor air quality to ensure the wellbeing and productivity of the occupants, to ensure no sick leave due to draught or bad indoor climate. Making the office environment attractive will also allow for higher rental income for property owners.



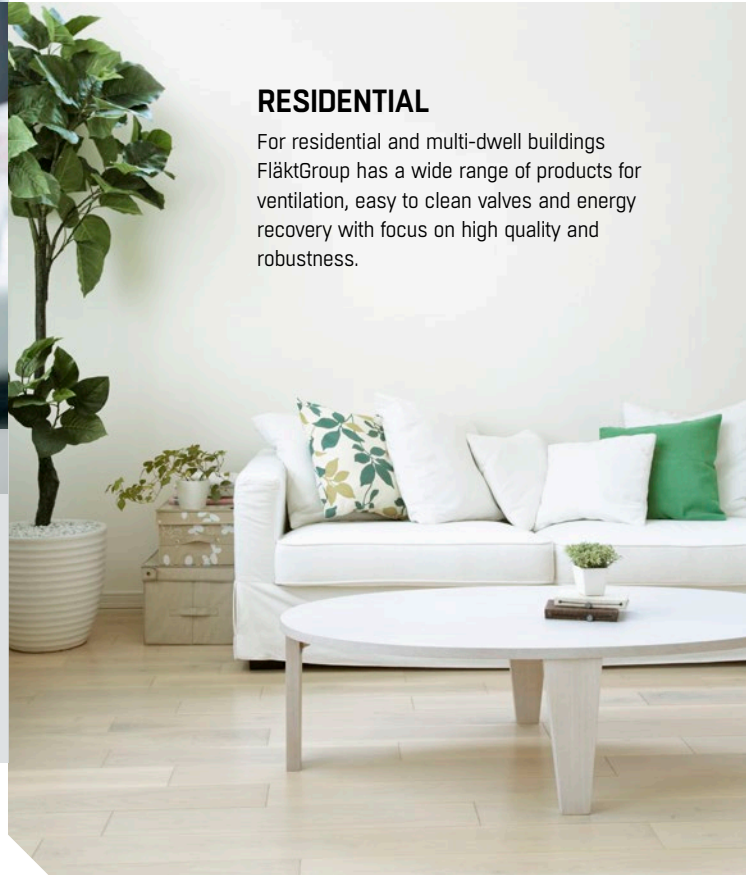
## HOTELS & RESTAURANTS

FläktGroup has a proven history of providing high comfort solutions for hotel rooms with low noise levels and comfortable airflows. For restaurants there is a wide range of products to ventilate dining areas and kitchens and to ensure that energy can be recovered without any risk of odours.



## HYGIENE

For hygienic applications such as hospitals and pharmaceutical facilities we offer solutions suited for perfect cleanliness, advanced energy recovery with zero contamination and adhering to legislative demands for patient security.



## RESIDENTIAL

For residential and multi-dwell buildings FläktGroup has a wide range of products for ventilation, easy to clean valves and energy recovery with focus on high quality and robustness.

## INDUSTRIAL APPLICATIONS

Industrial buildings with large volume spaces and a lot of machinery can present unique challenges when it comes to managing ventilation. FläktGroup has efficient solutions that optimise climate and productivity for both people and business critical equipment.



## SHOPPING CENTRES

Shopping should be a pleasant and safe experience for the visitors as well as the possibility for the property owner to generate higher incomes. With our air treatment and fire safety solutions we ensure matching these requirements today and tomorrow.



## EDUCATION

We provide children and students the best possible climate for learning but still allowing for great flexibility as layout demands or occupancy will change over time, always adapting to the needs of the people occupying the spaces.



## PUBLIC BUILDINGS

In tunnels and metros it is crucial that people are safe in case of accidents and that bad air is ventilated out from the confined spaces. The FläktGroup fan range is developed to meet the needs in these complex installations.



## MARINE

Marine environments such as naval ships and oil rigs demand high quality solutions due to the harsh, corrosive and possibly explosive conditions. FläktGroup has a long history of successfully delivering solutions meeting the strict demands for these applications.



# 8 product families **that cover** **your project's every need**

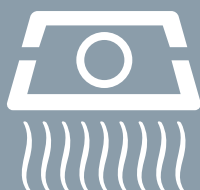
## AIR TREATMENT



- Modular Air Handling Units
- Compact Air Handling Units
- Low Airflow Compact Units
- Top Connected Air Handling Units
- Residential Air Handling Units
- Energy Recovery Solutions
- Integrated Heating & Cooling
- Swimming Pool Dehumidification



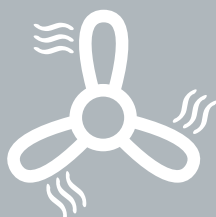
## AIR DIFFUSION



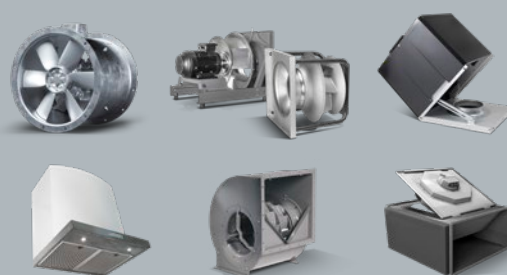
- Chilled Beams
- Fan Coils
- Air Curtains
- Air Heaters



## AIR MOVEMENT



- Ventilation Fans
- Fire Safety Fans
- Cooker Hoods



## AIR MANAGEMENT & ATD's

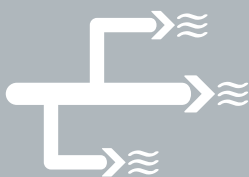


- Air Valves
- Diffusers
- Grilles
- External Louvres & Cowls
- Air Distribution Systems
- Dampers
- Air Volume Dampers
- Fire Dampers
- Smoke Dampers & Ducts

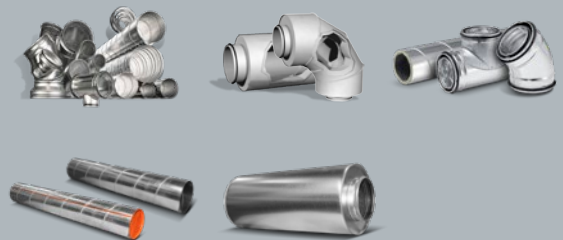


**We have more than 3000 products to ensure that there is always a perfect fit in our customer's projects.** Having the largest product range in the market, our offering covers five critical air functions of the HVAC system for providing the best Indoor Air Comfort & Critical Air solutions.

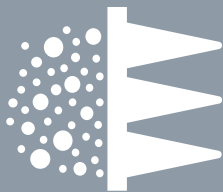
#### AIR DISTRIBUTION



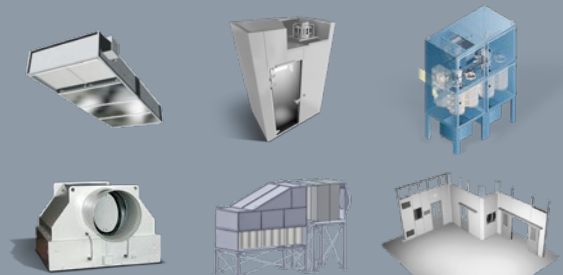
- Fittings
- Ducts
- Silencers



#### AIR FILTRATION



- Filter Media
- Air Intake Systems
- Clean Room Technology



#### AIR CONDITIONING & HEATING



- Chillers and Heat Pumps
- Data Centre & IT Cooling
- Air Conditioning



#### CONTROLS



- ISYteq Controls for AHU and FCU
- ISYteq FICO Fire Safety Control System
- Ipsum Optimisation System



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**0–60 l/s in 2.4 m\***

WITH THE **PI** FUNCTIONALITY WE  
DELIVER **TRUE DEMAND CONTROL**  
**VENTILATION** FOR ALL DUCTWORKS

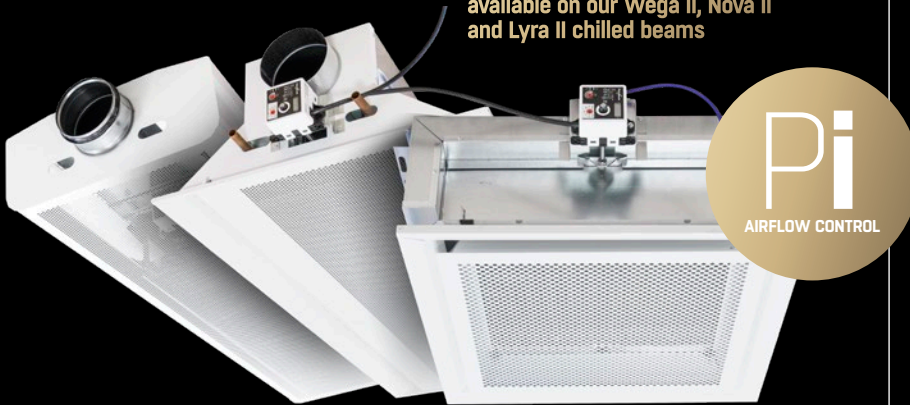
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\*Close to 0 to 60 l/s in same chilled beam with a length of 240 cm.



FläktGroup innovative Pi function is available on our Wega II, Nova II and Lyra II chilled beams



Pi  
AIRFLOW CONTROL



## The benefits of Pi

Thanks to the clever Pi functionality, Wega II, Nova II and Lyra II are the only chilled beams that you need. The pressure independant functionality means that you can get the comfort and energy saving benefits of demand control ventilation irrespective of what ductwork system your building has.

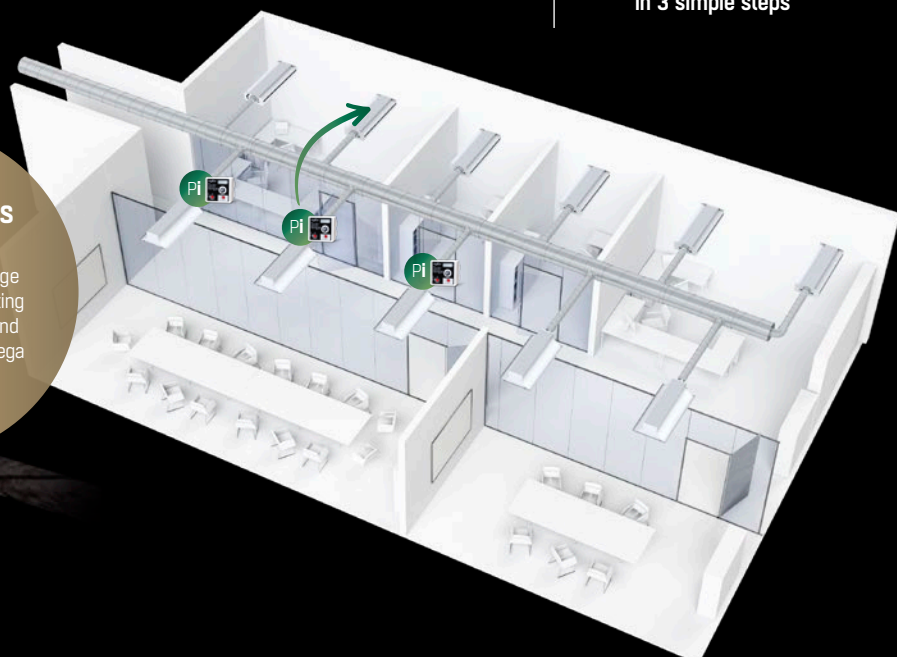
- Demand control ventilation for all ductwork systems
- Consistant Coanda effect and good cooling, even at low airflows
- Large airflow range with stepless adjustment down to 0 l/s
- Very low noise levels
- Retrofit option
- Easy installation and commissioning in 3 simple steps

**Wega II / Nova II / Lyra II has been developed for the high demands of the modern dynamic office where the ability to adapt the room comfort system to layout change is equally as important as adopting the latest energy saving solution.**

The enhanced design features variable geometry nozzles, to offer the widest choice of airflow settings. Nozzle change can be actuated to automatically adjust ventilation flow rates to occupancy levels regardless of pressure changes in the ductwork system. With the Pi function, variable air volume with chilled beams need no longer be restricted to larger Pressure Regain ductwork systems. Energy efficiencies and high comfort levels of chilled beams operating in Demand control, is now available to refurbishment projects where space is often restricted.

### RetroFIT Pi – MOVES WITH THE ROOM

Ultimate flexibility. Change the location of your meeting room, just disconnect and fit Pi Airflow control to Wega units in new location



# MORE AIR FOR COMFORT AND **60% ENERGY SAVINGS** USING DCV CHILLED BEAMS



Demand Controlled Ventilation (DCV) is a variable air volume system with automatic control based supply air to match occupancy levels. DCV with VAV Chilled Beams delivers ultimate room comfort and up to 60% energy savings by ventilating only to room occupancy levels. DCV increases indoor air quality and saves energy normally wasted in ventilating unoccupied spaces or by over-cooling unoccupied space.

Studies have shown average occupancy levels vary between 65% to 35% during normal office hours therefore when ventilation systems are designed for peak loads, there is a potential savings of up to 60% in energy consumption compared to Constant air volume systems.

## Components for a perfectly balanced DCV system

FläktGroup has a uniquely wide product range. This gives us the possibility to offer complete solutions where the components are perfectly balanced to deliver the best possible comfort and energy saving.



IPSUM  
System Optimiser



eQ Prime  
Air Handling Unit



WEGA II / NOVA II / LYRA II  
Chilled Beams



STRA  
Room Controller





- **Increasing fresh air rates** from 12 l/s to 24 l/s has been shown to **reduce short term sick leave by up to 35%**
- **Doubling the outdoor air supply rate** in classrooms (in a range from 3 to 9,5l/s per person) would **improve the performance speed by 8–14%**
- **Average occupancy levels of rooms can vary between 35% and 65%** during normal office hours





### ENERGY CONTROL

Rail mounted, steplessly variable geometry nozzles for more flexibility. Easily adjustable to provide the widest choice of air flow settings for symmetrical or asymmetrical throw.



### HYGIENE VERSION

Wega II is also available in a Hygiene version, ideally suited to hospitals and other sensitive applications. The coils are coated for a very smooth finish, which help avoid dust buildup. The Hygiene version also has a clever quick-release system that makes it possible to drop down the coil pack from either side to allow easy access for cleaning.

## INNOVATIVE FEATURES FOR SUPERIOR COMFORT AND EASY INSTALLATION

All FläktGroup chilled beams have been developed with the aim of providing a comfortable and healthy indoor climate, in a flexible and efficient way. **Wega II, Nova II and Lyra II** with the unique Pi function are especially suited to simplify the introduction of Demand Controlled Ventilation and improve its adaptability to change. The energy saving and high indoor air quality benefits of chilled beams are ensured with the Pressure Independent functionality where airflow is matched to demand regardless of changes in other rooms. The easy-to-install Pi actuator can be retro-fitted to move with requirements when change happens, or to enable Demand Control Ventilation to be gradually phased in.





## EASY TO INSTALL AND COMMISSION

- Clip-in brackets that make installation quick, safe and easy. Install the rods and brackets and then clip in the beam at second fix stage – when the room is clean.
- Exact location of the pressure tap-off point provided for commissioning – no guess work required.



## PI AIRFLOW CONTROL WITH AIRFLOW OUTPUT – FITS ALL DUCTWORK

For added energy saving, nozzle change can be actuated to match airflow to occupancy level and kept at set values regardless of pressure changes in ductwork. Simply link to presence or CO<sub>2</sub> detection devices. Airflow information is directly available for exhaust damper.

Linear airflow control provides optimal coanda control preventing dumping through the widest airflow range and thus maintaining comfort. Actual flow output is easily linked to exhaust for balancing ventilation.

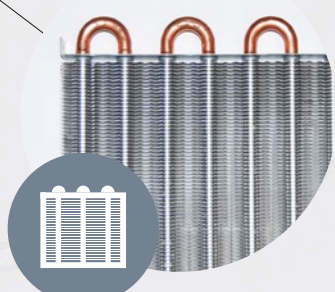
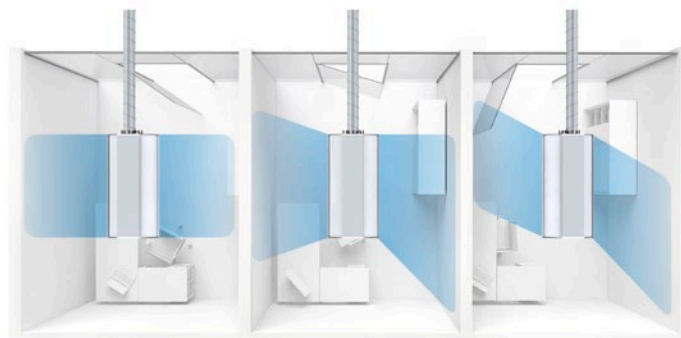
The Pi-function is available as an option and can be retro fitted.



## FPC – FLOW PATTERN CONTROL

The adjustable plastic vanes enable optimized air diffusion. By a combination of different angles on each side, it is possible to adapt the flow pattern to always maintain optimal comfort in the room with the following benefits:

- Vary throw direction
- No tools required
- Accessible from room



## COIL VARIATIONS

Available for cooling only or cooling and heating in 2 size options:

- 10 tube for higher capacity
- 10 tube with low pressure drop

# Recessed active? Cassette with Pi or multiservice with lighting? Our range is full of possibilities

ACTIVE

CEILING FLUSH MOUNTED



AIRFLOW CONTROL



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



## iQ Star Wega II

(iQII)

Wega II is an active chilled beam system for ventilation, cooling and heating. It offers comfort and flexibility thanks to the Flow Pattern Control combined with adjustable nozzles. The Pi function gives even more flexibility, adding Demand Controlled Ventilation to the system. Wega II with Pi function is pressure independent and makes the system suitable for many duct work system types.

### QUICK FACTS

- Length: 120 to 300 cm
- Height: 152, 190, 250 mm
- Pi actuator
- Nozzles: 0–36 mm
- Factory mounted controls
- Easy installation with fastening brackets
- Available in X-Flow – high airflow version

### ACCESSORIES

- Bracket QFAZ-19
- Room controller STRA-24
- Valves and actuator STRZ-70

ACTIVE

CEILING FLUSH MOUNTED



AIRFLOW CONTROL



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



## iQ Star Wega II X-Flow

### COOLING AND HEATING BEAM SPECIALLY DEVELOPED FOR MEETING ROOMS

With its exceptional air flow range of 0–100 l/s, Wega II X-Flow is an excellent solution to meet cooling, heating and ventilation needs in conference and meeting rooms. In heating mode it solves the problem of poor warm air circulation – the large air flow and clever Pi functionality ensures optimal room comfort.

A single X-Flow unit has sufficient capacity to ventilate a conference room for up to 12 people. Because you can eliminate separate ductwork, additional VAV dampers, supply air diffusers and in many cases even radiators it is possible to realise cost savings compared to traditional solutions.



**Providing energy efficient interior spaces where people feel comfortable and productive can be a challenge.** FläktGroup is a proud market leader in Air Comfort solutions and we have applied all our expertise within our Air Diffusion product segment to develop a wide range of chilled beams. We can always find a match for your needs – whether you are designing a brand new office complex, managing a hospital refurbishment or carefully restoring an old hotel.

#### ACTIVE

#### CEILING FLUSH MOUNTED



AIRFLOW CONTROL



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



### iQ Star Wega II Hygiene

#### THE NATURAL CHOICE WHERE HYGIENE IS CRITICAL

The Wega II Hygiene version is ideally suited to hospitals and other sensitive applications. Performance is the same as the Wega II chilled beams, but here the coils are coated for a very smooth finish, which helps to avoid dust buildup. The Hygiene version also has a clever quick-release system that makes it possible to drop down the coil pack from either side to allow easy access for cleaning.

#### ACTIVE

#### CEILING EXPOSED MOUNTED



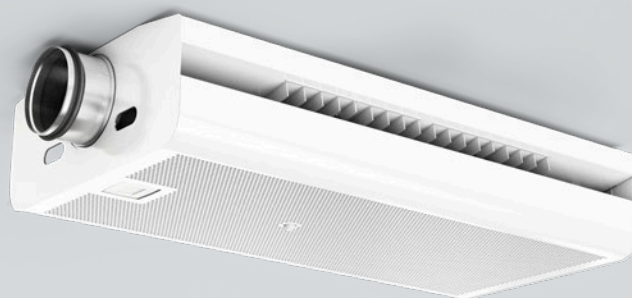
AIRFLOW CONTROL



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



### iQ Star Nova II

(IQFI)

The NOVA II chilled beam is an attractive active chilled beam for ventilation, cooling and heating. This diffusion system offers comfort and flexibility thanks to the Flow Pattern Control combined with adjustable nozzles. The Pi advanced function gives even more flexibility adding a Demand Controlled Ventilation function. The air diffusion follows building occupancy and makes the HVAC system highly efficient.

#### QUICK FACTS

- Length: 120 to 300 cm (every 30 cm)
- Rounded shape
- Pi actuator
- Nozzles: 0–36 mm
- Factory mounted controls
- Easy installation with fastening brackets

#### ACCESSORIES

- Bracket QFAZ-18
- Room controller STRA-24
- Valves and actuator STRZ-70



Be sure to visit our website, where you can always find complete product information, technical documentation, declarations of conformity as well as installation and commissioning manuals.

» [www.flaktgroup.com](http://www.flaktgroup.com)

#### ACTIVE

#### CEILING EXPOSED MOUNTED



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



OPTIONAL LIGHTING



### iQ Star Stella

(IQFF)

Stella is an aesthetic, exposed multi service chilled beam. It has been developed specifically for the multi-service market and enables the integration of direct and indirect lights, sensors, sprinklers etc. without the need for a false ceiling. The airflow is adjustable thanks to the energy control feature. It offers high flexibility thanks to the motorised nozzles.

#### QUICK FACTS

- Length: 180 to 300 cm
- Many options are available to provide a multifunctional chilled beam, including lighting
- Motorised energy control
- 6 step nozzles
- Easy installation with fastening brackets

#### ACCESSORIES

- Room controller STRA-18
- Valves and actuator STRZ-70

#### ACTIVE

#### CASSETTE CEILING FLUSH/EXPOSED MOUNTED



AIRFLOW CONTROL



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



### iQ Star Lyra II

(IQCC)

LYRA II is an active cassette chilled beam. It can be used as a traditional CAV chilled beam, or equipped with Pi function to give even more flexibility making it pressure independent and adding a Demand Controlled Ventilation function. Lyra II offers high flexibility thanks to the combination of Flow Pattern Control, Coanda Safety Control and adjustable nozzles for the best comfort.

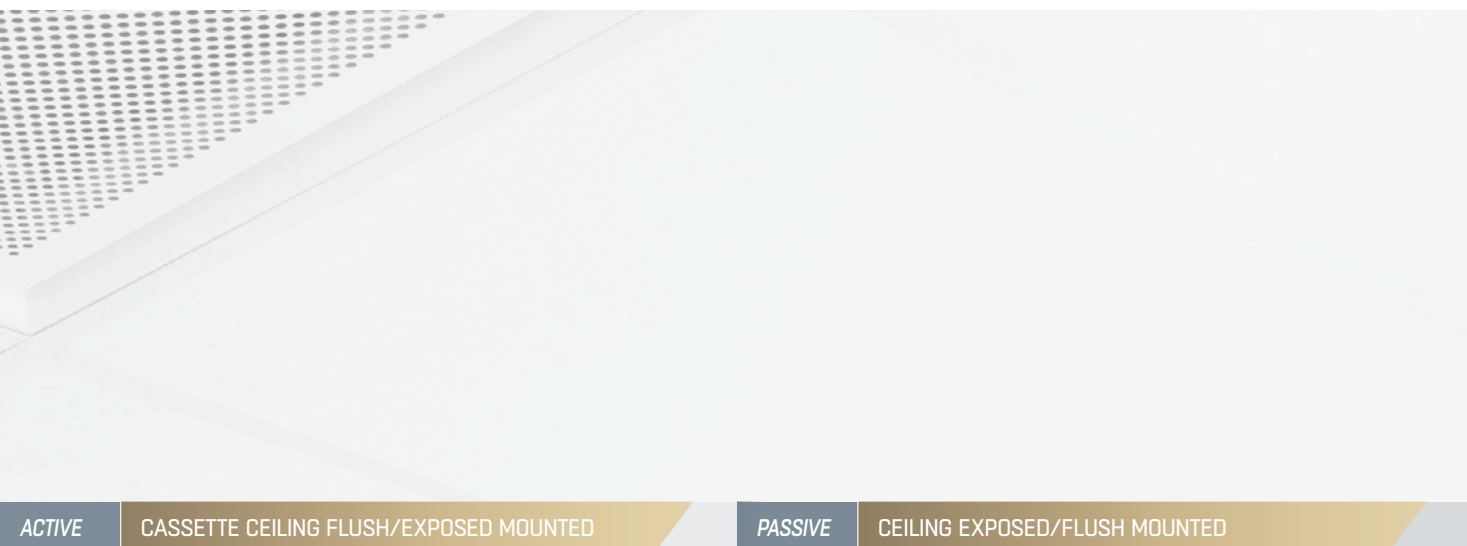
#### QUICK FACTS

- Sizes: 60x60 and 60x120 cm
- Recessed and exposed versions available
- Pi actuator
- Nozzles: 0-36 mm
- Factory mounted controls
- Easy installation with fastening brackets

#### ACCESSORIES

- Bracket QFAZ-18
- Room controller STRA-24
- Valves and actuator STRZ-70





ACTIVE

CASSETTE CEILING FLUSH/EXPOSED MOUNTED

PASSIVE

CEILING EXPOSED/FLUSH MOUNTED



FLOW PATTERN CONTROL



ADJUSTABLE NOZZLES



VERY LOW NOISE



## iQ Star Lyra

(IQCB)

Ultra Silent (<20 dB) compact cassette chilled beam for ventilation, cooling and heating. Lyra diffuses air in 4 directions which gives a high cooling effect. It is available with comfort control - adjustable nozzles - and Flow Pattern Control, giving high flexibility. Lyra is equipped with Coanda Safety Control to guarantee an optimal indoor climate at low air flows.

### QUICK FACTS

- Sizes: 60x60 and 60x120 cm
- Recessed and exposed versions available
- 4 step nozzles
- Easy installation with fastening brackets

### ACCESSORIES

- Bracket QFAZ-18
- Room controller STRA-14/24
- Valves and actuator STRZ-70



## Flexicool QPBA/QPVA

(QPBA/QPVA)

The Flexicool QPVA and QPBA passive chilled beams provide for the cooling in a room. They are either ceiling installed, in which case they lie flush with the suspended ceiling, or free space installed without ceiling. The passive chilled beams are available in lengths 1,2–4,2 m at 60 cm intervals. In installations with passive chilled beams the air is supplied by means of separate supply air valves.

### QUICK FACTS

- Size QPBA: 480 mm
- Size QPVA: 560 mm
- Available in different heights
- False ceiling/exposed installation
- Easy installation with fastening brackets

### ACCESSORIES

- Bracket QFAZ-18
- Room controller STRA-14/24
- Valves and actuator STRZ-70

# SELECT – for quick and easy selection

SELECT is FläktGroup's web based product selection tool for calculation and documentation of air terminal diffusers. The tool shows all products, functions, and features visually, which makes it very easy to use.

## SELECT contains:

- 3D presentation of all products
- 3D presentations of the flow patterns in selected rooms
- A calculation and dimensioning tool
- Installation and maintenance manuals
- Connections with MagiCad or Revit (plugin or database)

ACTIVE

BULKHEAD MOUNTED



VERY LOW NOISE



## Silencia

(QVFH)

Our QVFH unit is designed for use in hotel bedrooms, individual hospital wards and cellular offices. It ensures good indoor air climate while the noise level is very low. It provides high cooling capacity through optimal utilisation of its cooling coil already when the air pressure and airflows are low.

### QUICK FACTS

- Length: 100 cm
- 4 air levels
- Horizontal air connection
- Simple installation

### ACCESSORIES

- Room controller STRA-24
- Valves and actuator STRZ-70





# WORLD-CLASS INNOVATIONS AND **AIR TECHNOLOGY** PRODUCTS RESEARCH



FläktGroup has often been a leader when it comes to developing products that are at the industry forefront. At our Centres of Excellence and manufacturing sites we have among the most advanced industry development and lab facilities in the world. We continuously invest in research and development in our Centres of Excellence, research centres, and state of the art laboratories to demonstrate and prove the performance of our products and controls. Thanks to the work of more than 170 experts, the knowledge we gather is continuously fed back into every project and every product we deliver to our customers.

» Energy efficiency and sustainability is in our DNA

When you choose a FläktGroup product you can always do so safe in the knowledge that it has been developed to provide the best possible functionality combined with the least possible environmental impact. It will also have been tested according to all the relevant international standards and will be fully supported by our sales and technical teams.

» *Learn more on our website*  
[www.flaktgroup.com](http://www.flaktgroup.com)



## EXCELLENCE IN SOLUTIONS

WWW.FLAKTGROUP.COM

CHILLED BEAMS RANGE 9913GB

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

### PRODUCT FUNCTIONS BY FLÄKTGROUP

Air Treatment | Air Movement | Air Diffusion  
Air Distribution | Air Filtration | Air Management & ATD's  
Air Conditioning & Heating | Controls | Service



» Learn more on [www.flaktgroup.com](http://www.flaktgroup.com)  
or contact one of our offices