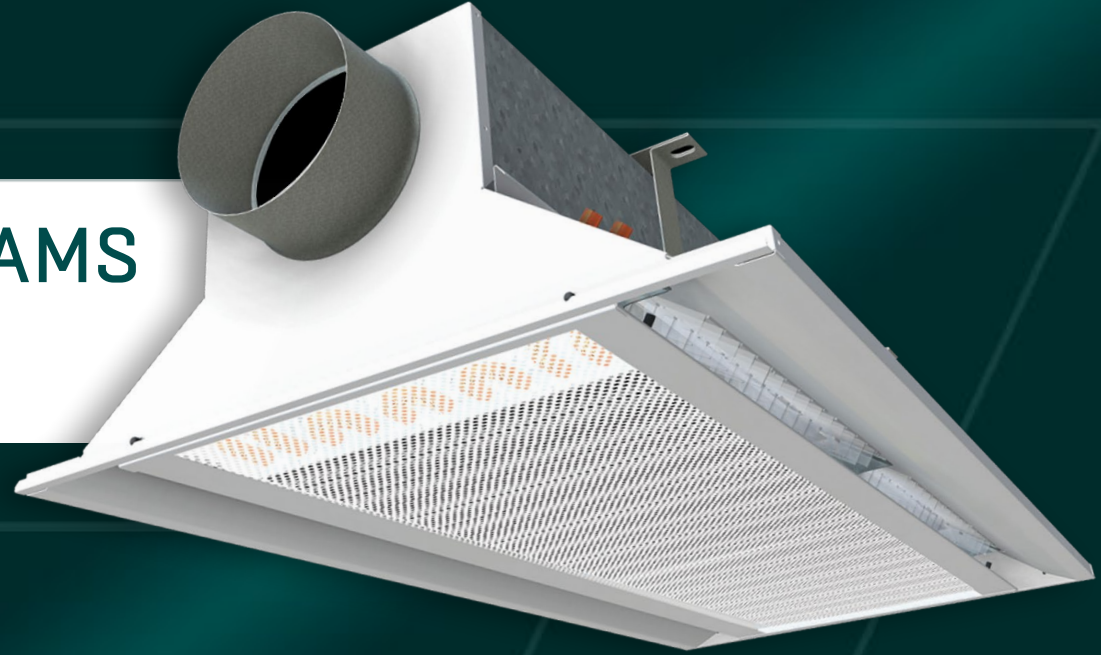


JUNO IQHC CHILLED BEAMS

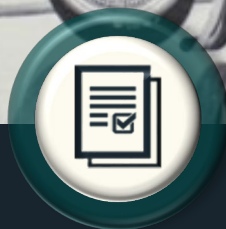
High comfort solutions—
Versatile & performance



Corporate Overview



Energy
& Environmental
Focus



Patented &
Certified
Products



U.S & Global
Footprint



Engineered
Air Quality &
Data Center
Solutions



Engineered
Air Distribution
& Sound
Solutions



OEM,
Key Account &
Sales Rep
Route To Market



Service
& Support

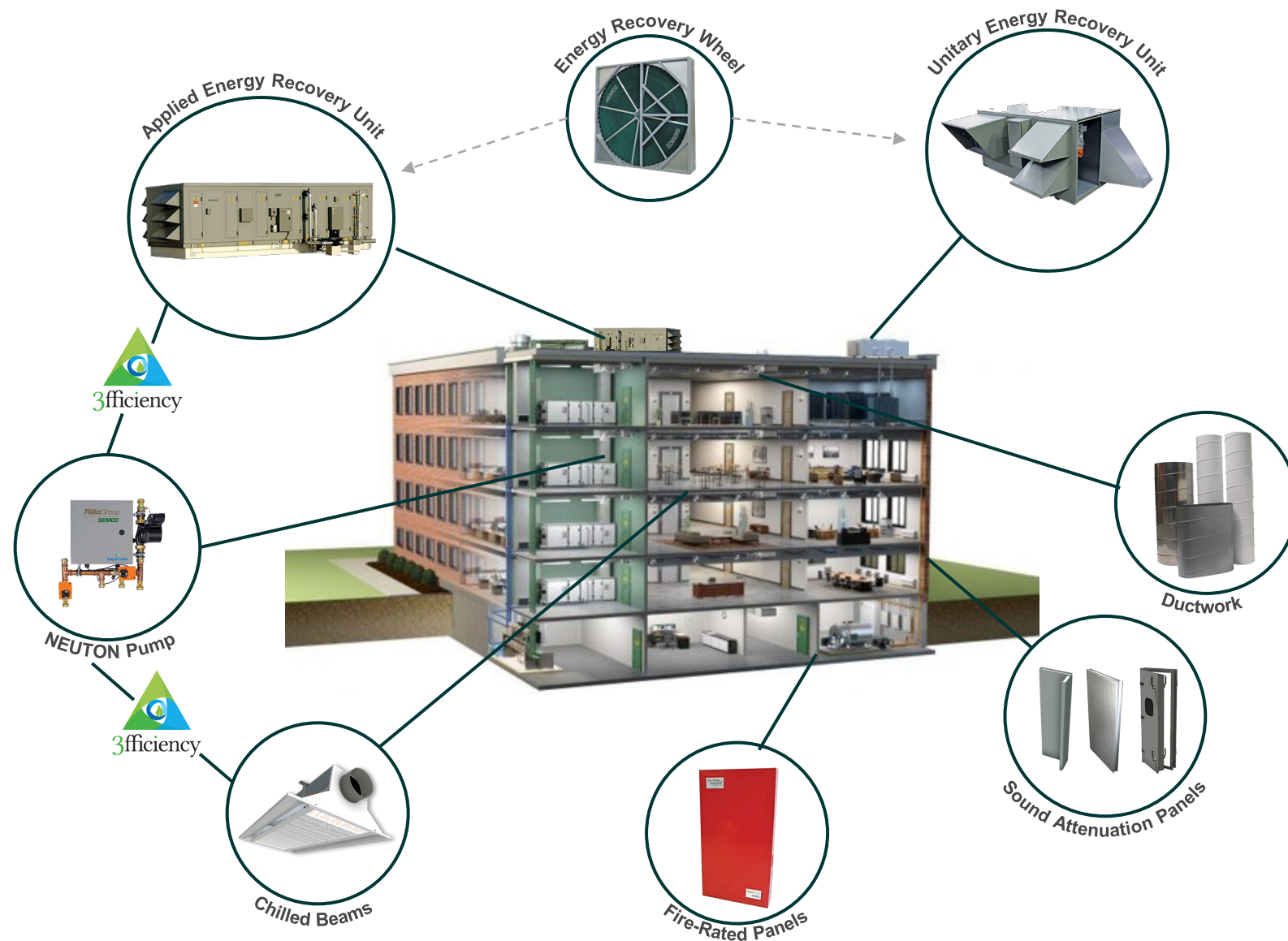


Award Winning
& Industry
Recognized

Who we are & what we do

FläktGroup
SEMCO

FläktGroup SEMCO Products For Commercial Applications



Education



Offices



Healthcare & Labs



Manufacturing & Automotive



Public Buildings & Entertainment



Sports Facilities



Datacenters





FläktGroup SEMCO Superior Sales Support & Service



FläktGroup SELECT

WELCOME TO SELECT - YOUR RESOURCE FOR OPTIMAL INDOOR AIR CLIMATE

Quick Select Calculate Project

Quick Select will simplify your selection of Diffusers, Varies and Chilled Beams. Simply enter your performance requirements and desired product properties to find the best fitting product.

Configure your product for optimal performance.

Manage, save and share your work. Create unique room designs and simulate the effects of climate on the room design. Project and Room Designers are available for registered users.

FläktGroup / SELECT

Product Catalogue / Chilled Beams / IQ STAR ORION II Chilled beam (IQHA)

Properties

- Length: 100
- Coil function: Cooling
- Coil: Cooling left
- PI Function: With
- Flexible hoses: Without
- Grille: Adjustable horizontal z

ADVANCED PRODUCT PROPERTIES

- Horizontal deflection: 0
- Vertical deflection: 0

Parameters

- Number of units: 1
- Air pressure drop: 100Pa

RESULT VISUALIZATION DESCRIPTION DOCUMENTS ACCESSORIES (1)

Power	481	1892	2230	btu/h
Coil power	437	1175	1247	btu/h
Supply air power	44	517	992	btu/h
Power (all units)	481	1892	2230	btu/h
Sound Lp10A dBA	< 20	< 20	25	dB(A)

EXPRESS SELECT

FläktGroup SEMCO

Colleen Devlin Semco
colleen.devlin@flaktgroup.com

Home Selection Tool Quote Request Administrator Account Sign Out

Print Schedule Preview Proposal

Read-only mode

Project Global Input Input Output Energy Analysis

Project Information

Project Date	08/28/2018
Quote Valid Through	2nd Half 2018
Project Name	Assembly Dental



What Are Chilled Beams?

Chilled beams combine radiant cooling with conventional overhead ventilation to:

- Reduce energy usage
- Improve comfort levels
- Reduce the architectural impact of ductwork and other mechanical systems

Designed for non-residential applications where there is a high temperature load and/or rooms that require individual comfort control.

Chilled beams are often used in lieu of fan coil units.



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SPECIALIZED
HEALTHY
AIR SOLUTIONS

Indoor Comfort Components – ASHRAE 62.1



AIR TEMPERATURE



HUMIDITY



VENTILATION &
AIR QUALITY



AIR VELOCITY



SOUND LEVEL



LIGHTING LEVEL



CLOTHING
& ACTIVITY



COMFORT

OPTIMIZED COMFORT WITH CHILLED BEAMS



FULLY MIXED AIR

Low-temperature gradient



LOW NOISE

No fan in Chilled Beams



FRESH AIR

Right humidity & temperature



EVEN AIR DISSEMINATION

No pockets of concentrated air



ENVIRONMENTALLY FRIENDLY

- Improves the indoor environment with a low velocity (draught-free) solution
- Low noise level to surrounding area



ECONOMICAL & ENERGY EFFICIENT

- Lower airflow means that you can use a smaller AHU
- Low temperature gradient – more uniform room temperature



EXPERTISE DRIVEN

- No fans, no filters & no drain for condensation means that less maintenance is required over time

Indoor Air Quality

- Increased ventilation to each space (all applications)
- Better air distribution (circulation) within the space
- Lower noise levels than most HVAC systems ~30 db(A)
- Low velocity – no perceived draft



SEMCO Chilled Beam Solutions



JUNO IQHC

Highest cooling with
lowest air & water
pressure drop



LYRA II IQCC

Low noise level with
high flexibility & high
cooling capacity



NOVA II IQFI

Exposed active chilled
beam suitable for
many ductwork
system types



AURORA IQSA

Narrow 1-foot-wide
active beam for
ceiling mount



ORION II IQHA

Very low noise level –
perfect for hotel &
hospital rooms



NEUTON

Active condensation
control for chilled
beams

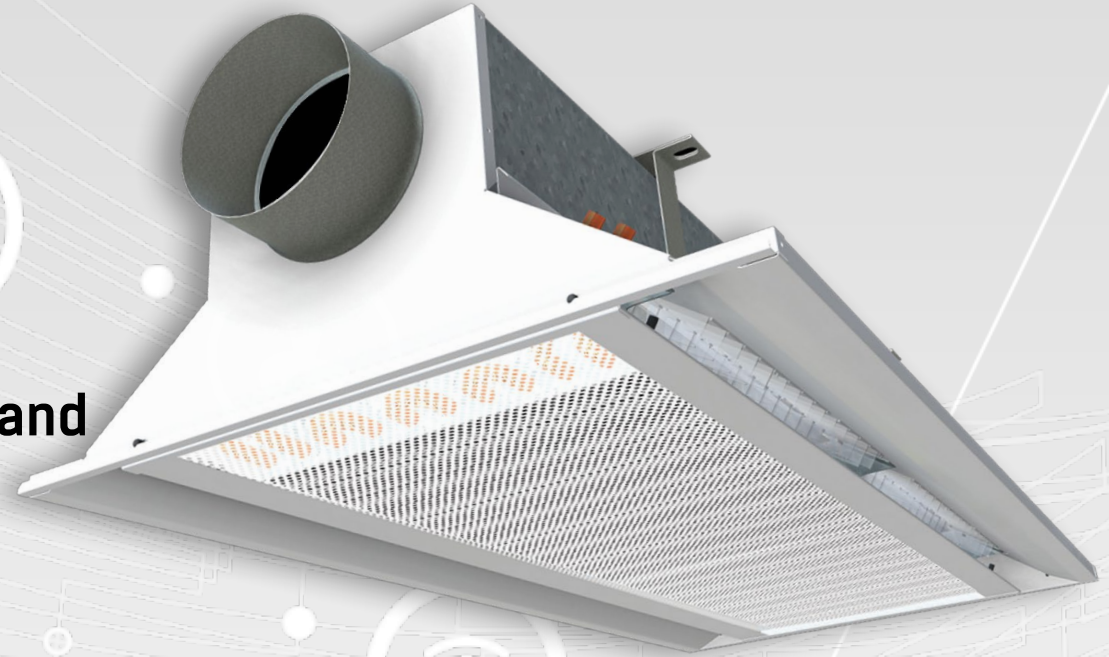
JUNO IQHC ACTIVE RECESSED CHILLED BEAM

JUNO is the right choice for modern buildings requiring high comfort, low energy consumption and flexibility

Three main functions:

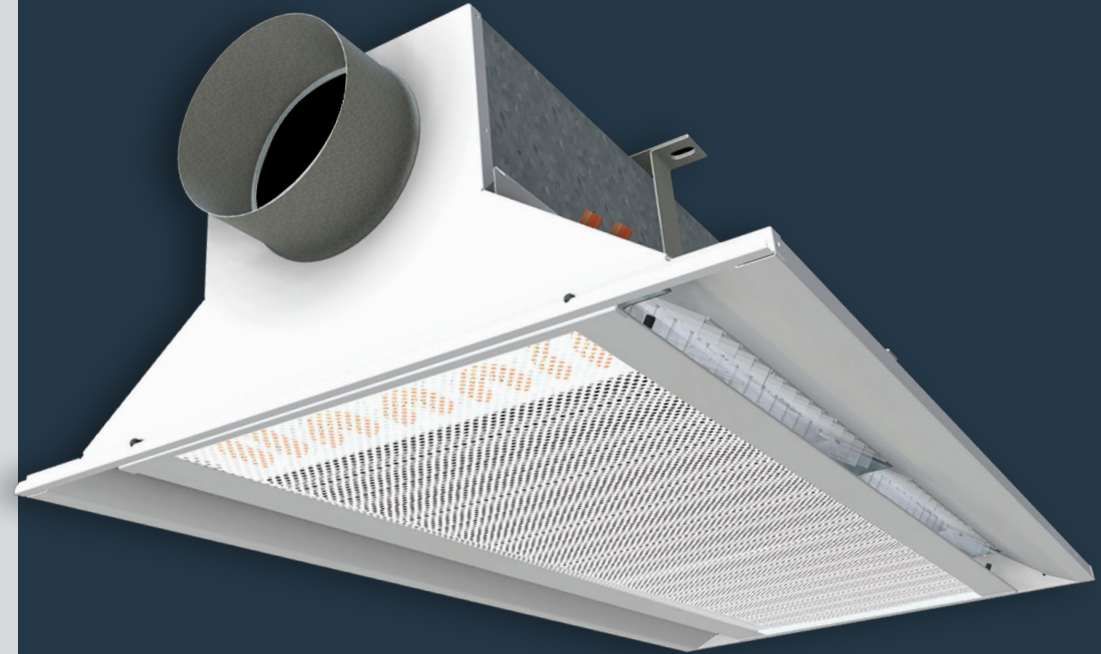
- 1. Ventilation**
- 2. Cooling**
- 3. Heating**

JUNO will supply the right indoor climate for applications like offices, schools, hospitals and retail developments

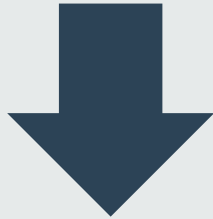


JUNO IQHC ACTIVE RECESSED CHILLED BEAM

- Highest industry cooling capacity with the lowest air and water pressure drop
 - Diffusion system allows for customized comfort control with adjustable induction, flow pattern control and twelve configuration slot settings
 - Flexible, universal air & water connections
 - Available with less than 20 dB of sound level which provides practically silent operation
 - Significant energy savings
 - Ease of installation
 - Made in the U.S.A
-
- Available in 2' wide X 2'-10' long (length in 1' increments)
 - Air flow range: 19 – 267 CFM

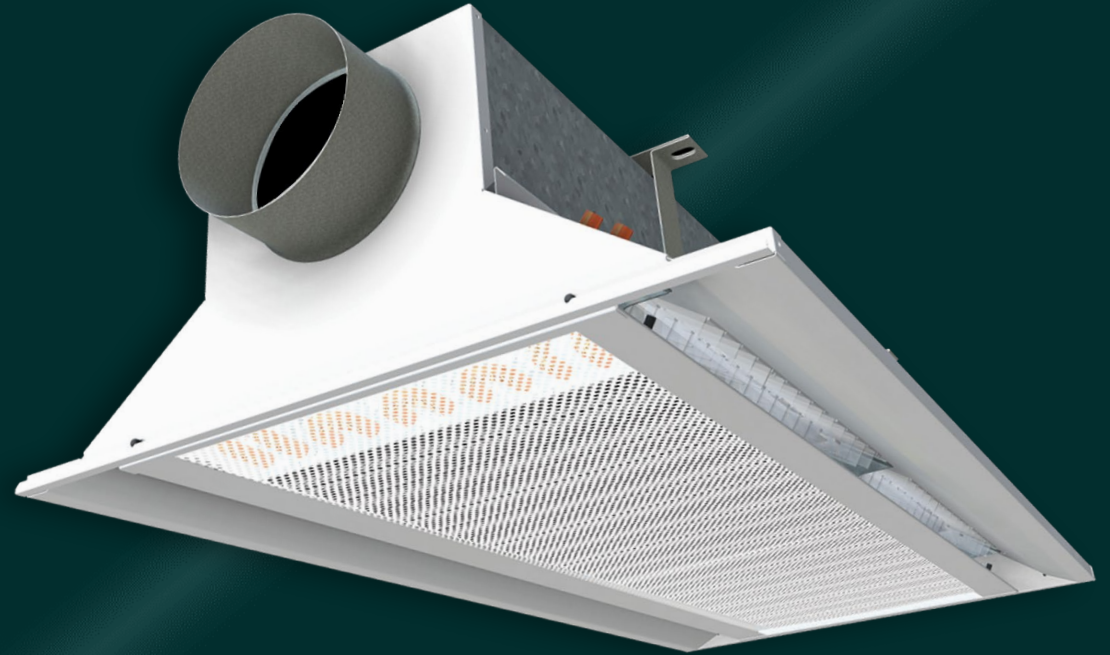


**HIGH EFFICIENCY
LARGE SAVINGS**



LOW LIFE CYCLE COST

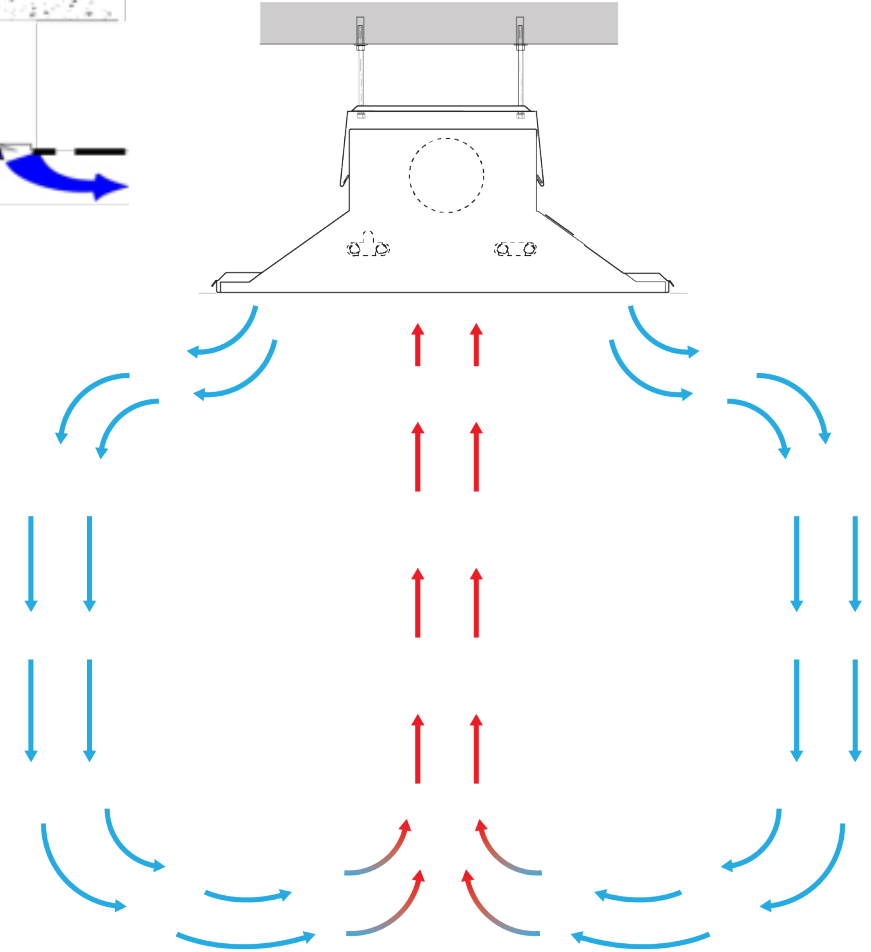
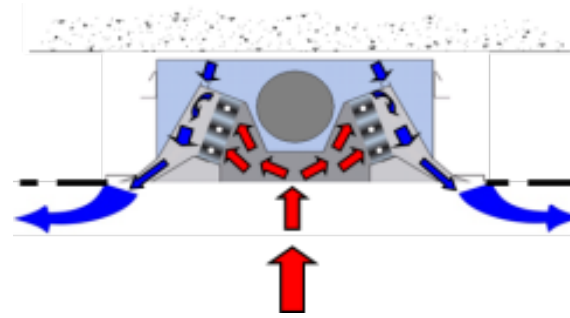
- Smaller AHU size for the system
- Low maintenance
- Free cooling capability
- Reduced energy consumption by



Juno – Energy Savings

- **Reduced fan horsepower**
- **Load matching** (only use space cooling if required)
- **Water Cooling:** ~ 75% of cooling handled by higher capacity water rather than by having the full load handled by air
- **Increased Chiller Efficiency:** Chilled water temperatures in chilled beams operate at higher water temperatures than fan coil systems. Chiller energy consumption with chilled beam systems provides ~35% energy savings.
- **Free Cooling:** When outside ambient air conditions are sufficiently dry and cooler than the return water temperature, energy can be saved in the chiller and primary air supply by using outdoor air.

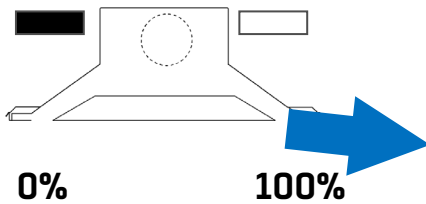
- The “engine” is the induction created by the adjustable slots.
- Cooling and heating modes
- The fresh air is supplied through the chilled beam.
- Mixing air diffusion into the room so the air velocity is controlled.



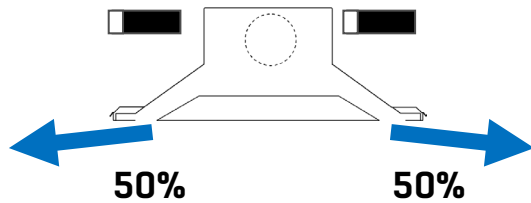
Active chilled beams provide heating, cooling and ventilation with high comfort.

- Adjustable induction on site
- Different air distribution available:

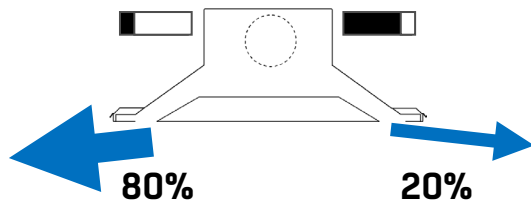
- One way distribution



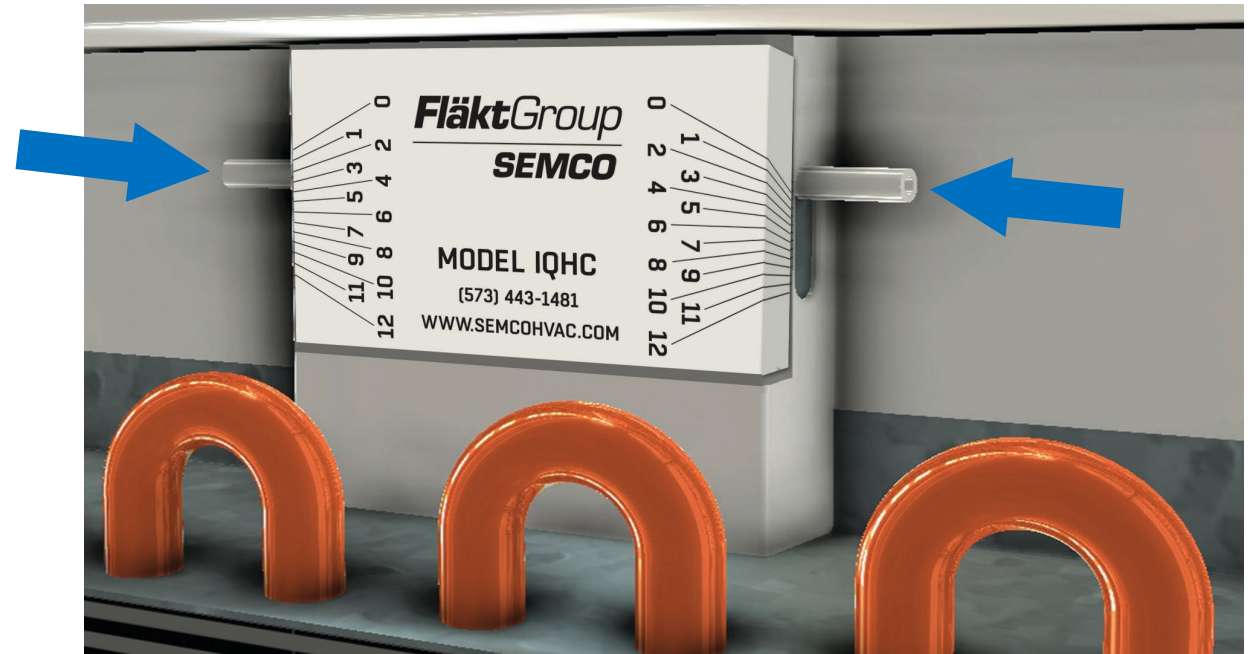
- Two way distribution



- Asymmetric air diffusion

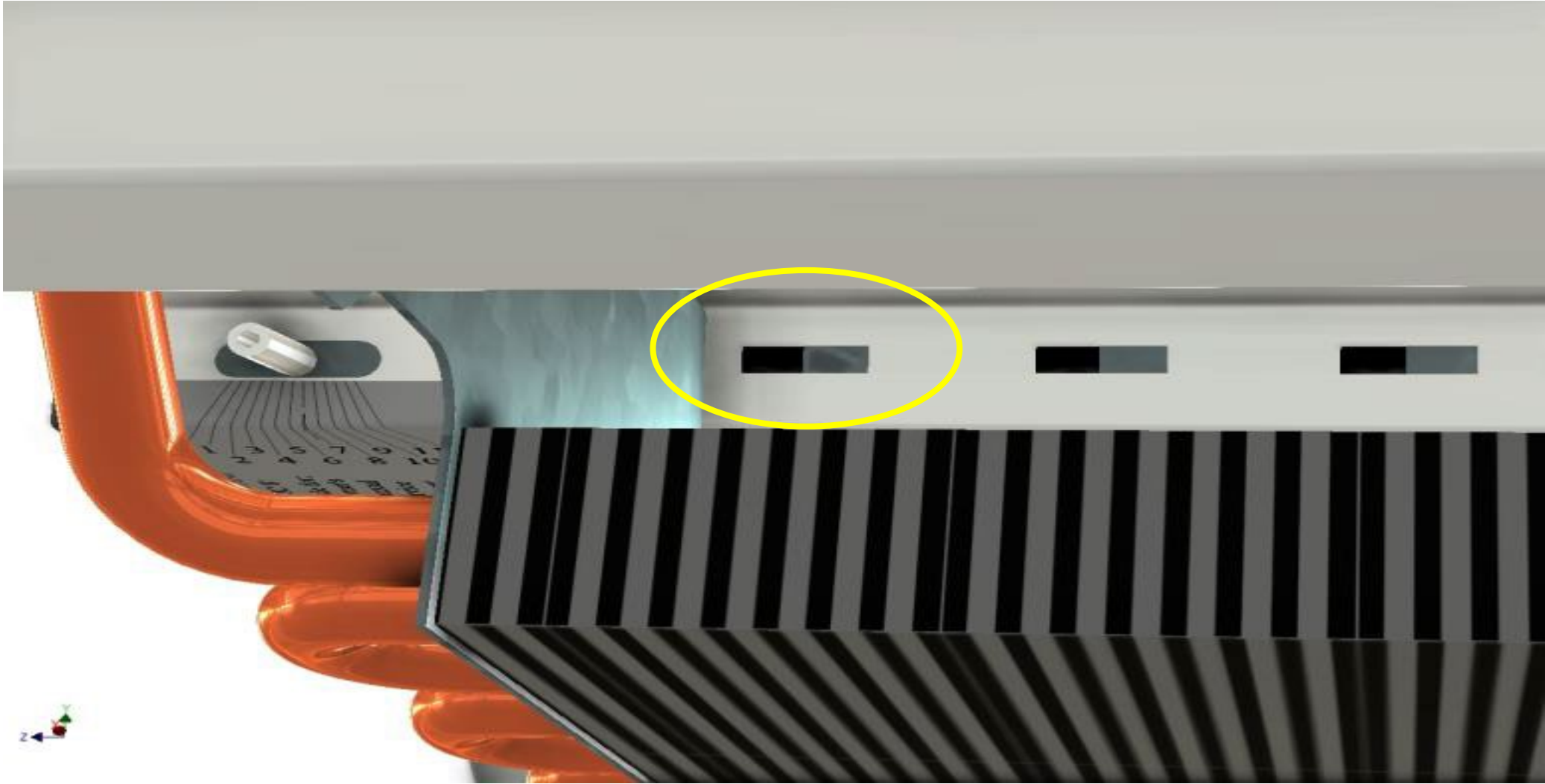


- Chilled beam capacity can be increased or decreased by slot adjustment
- No tools required



IQHC Air Slider Open







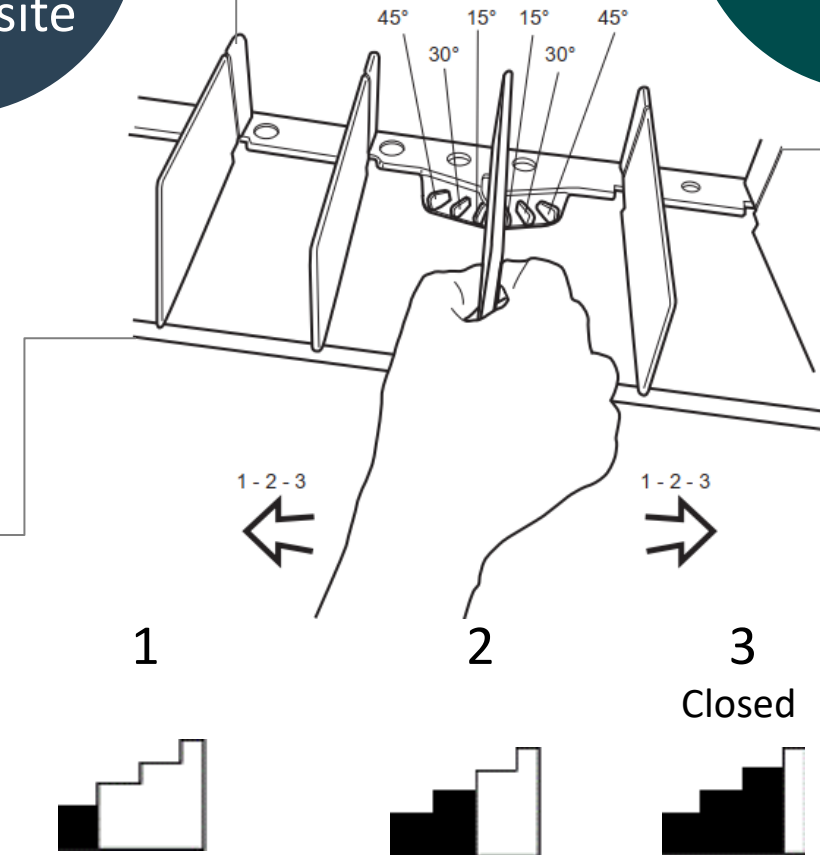
ADJUSTABLE INDUCTION

- Adjustable induction on site (manual)
- Symmetric or dissymmetric airflow
- Adjustable control blades

Easy to
change
induction
rate on-site

Building
design
flexibility

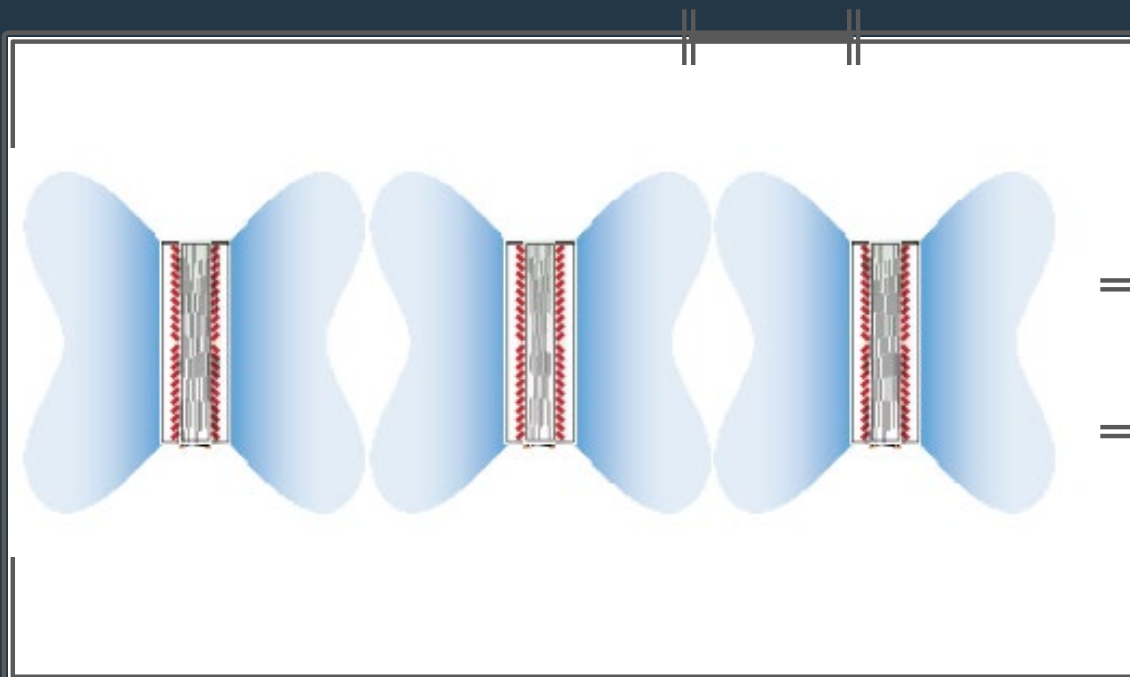
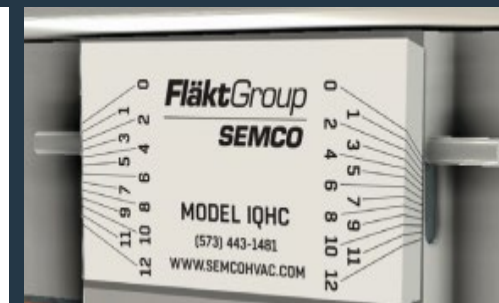
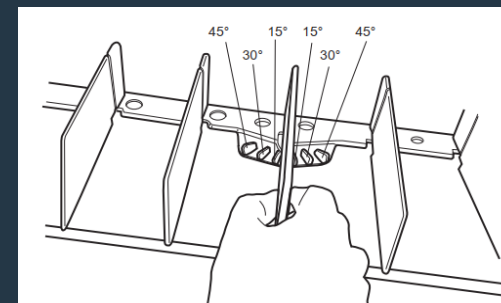
No tools
required for
adjustments



Juno – Adjustable Airflow Pattern

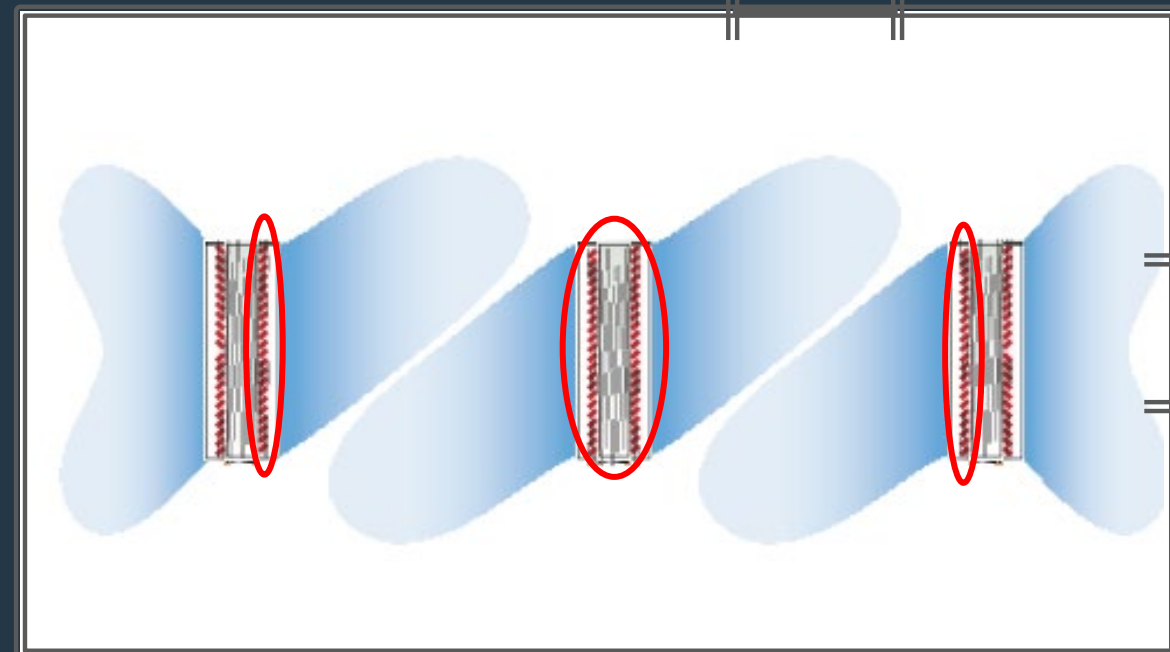
SYMMETRIC OR DISSYMMETRIC AIRFLOW

- Full-time control – possible to change at any time



Concentrating on the angle of the **RED** marks:

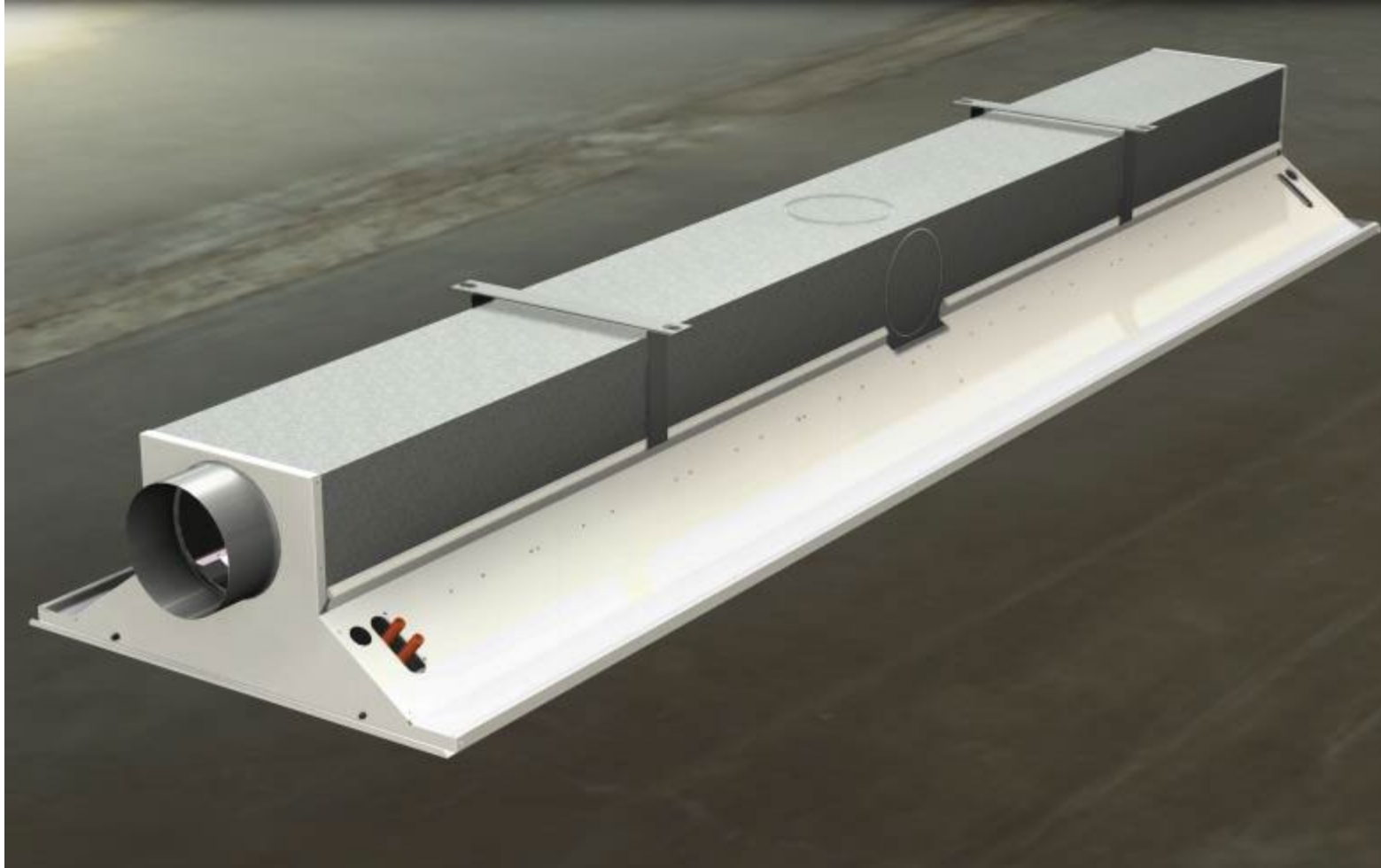
The flow pattern control blades are set at opposing 30° for each side of the beam and opposite on the left/right sides. The comfort control is set to symmetric at 6 which adjusts the air flow to the above pattern.



Concentrating on the angle of the **RED** marks:

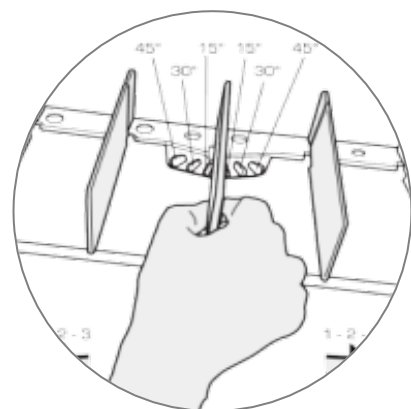
The outer beam settings are set the same as the former illustration. The circled area are set to a uniform 30° for all inner air distribution. This is ideal for high air flow streams ensuring each stream does not push against each other

Juno – Universal Beams



FLOW PATTERN CONTROL

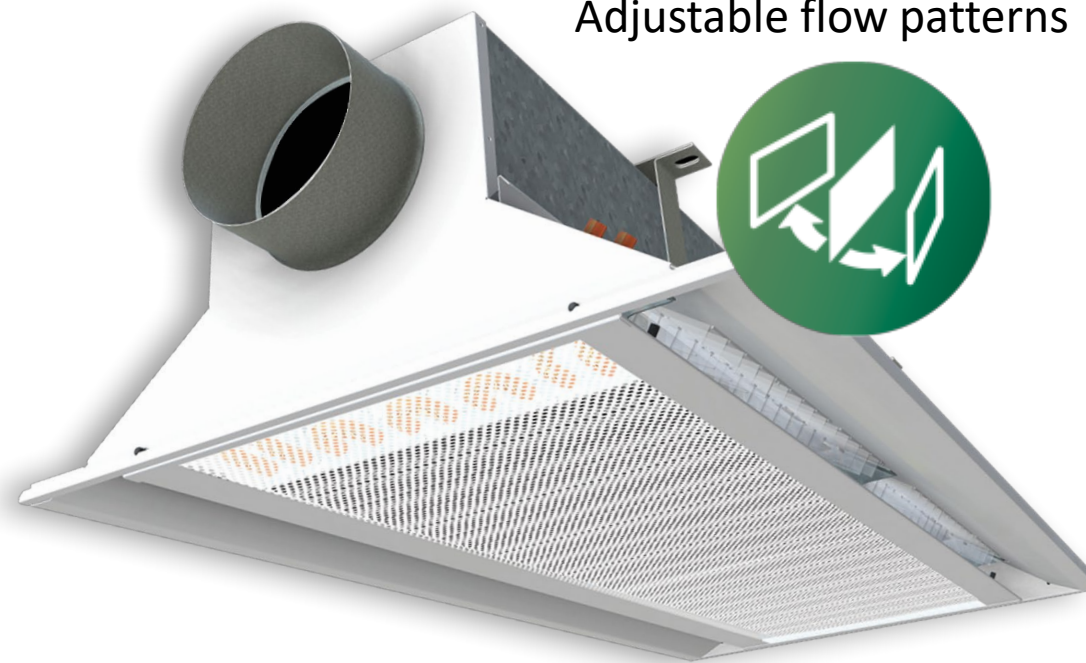
- Air diffusion angles: 0° - 60° - 85° - 115°F
- FPC is accessible without removing the front plate



- Increased comfort
- No tools required
- Building design flexibility

FLOW PATTERN CONTROL

Adjustable flow patterns



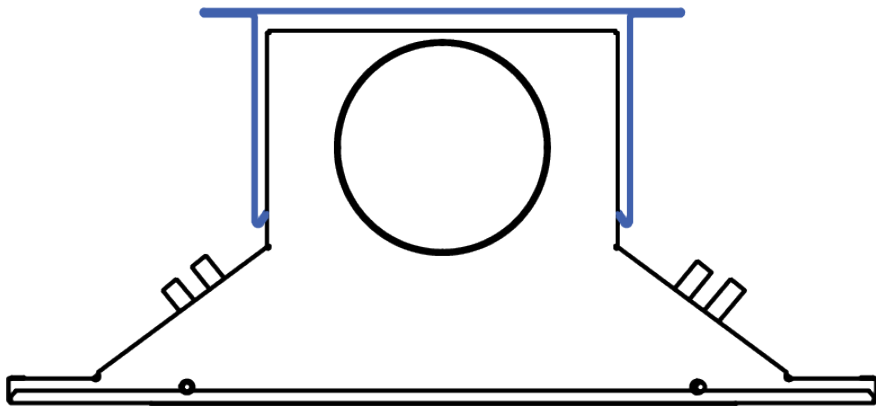
Juno – Easy-To-Open Faceplate



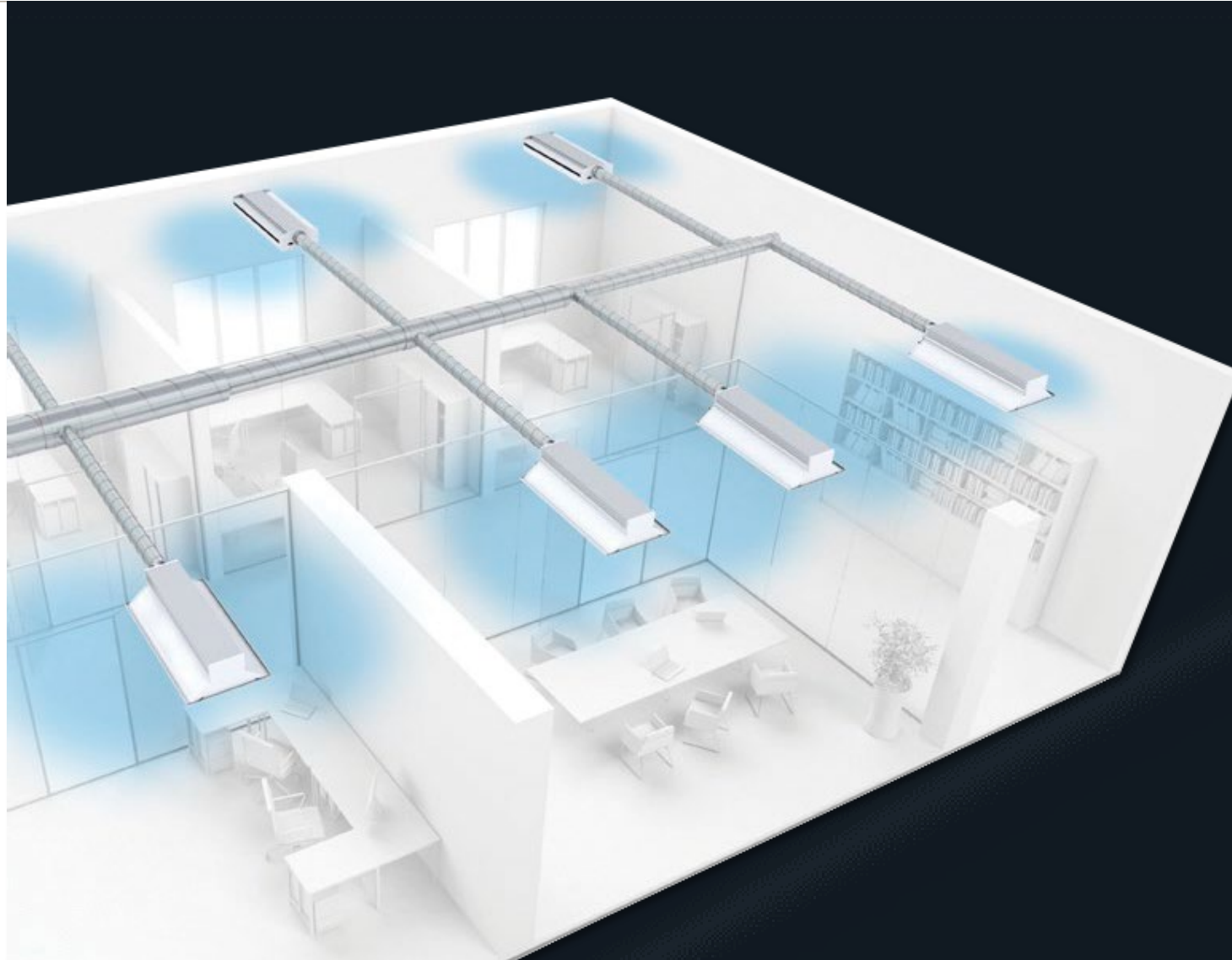
Fastening brackets for easy installation (free hanging or false ceiling)

1. Use threaded rods to attach brackets to Unistrut.
2. Clip beam into place.

**Easy + fast installation =
Low Installation Costs**



Juno – Quiet Comfort



1 Juno 4 ft Beam Per Room
Airflow: 120 CFM
Noise level: <40 dBA
Capacity: 3729 BTU/h

2 Juno 4 ft Beam Per Room
Airflow: 120 CFM
Noise level: <46 dBA
Capacity: 7457 BTU/h

3 Juno 4 ft Beam Per Room
Airflow: 120 CFM
Noise level: <49 dBA
Capacity: 11,186 BTU/h



“The chilled beam system is a major contributor to the building’s sustainability story and ongoing energy efficiency.”

- Michael W. Pavelsky, sustainability director, AIA, LEED AP

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Juno – Case Study: 2.0 University Place, Philadelphia

- 98,000-square-foot, multi-certified LEED Platinum
- 500 active chilled beams
- Air around ceiling-mounted chilled beam water coils continually cools and falls while warmer air rises in a continual convection of air comfort benefits with no drafts, no noise and stable temperature tolerances of $\pm 1^{\circ}\text{F}$.
- Beams reduce fan energy by up to 50% vs. the large fan horsepower required in the conventional rooftop DX, ductwork and variable air volume system the design team

Juno – Benefits By Audience



PROPERTY OWNER

- High indoor air climate comfort – silent and draught free diffusion
- Flexibility in building layout – adjustable capacity and air diffusion
- Low life cycle cost – reduced energy consumption and maintenance costs



CONSULTANT

- Energy saving functions such as free cooling and occupancy detection
- Ease of layout design – compact unit with high cooling capacity
- High indoor air climate comfort – silent unit and low air velocity in the room



CONTRACTOR

- Quick and easy installation – smart fastening brackets system
- Simple commissioning – no tools required
- Low maintenance – no moving parts & no condensation tray

Thank you for your attention!

