



Lindab
Sustainable solutions overview and
practical experience. Scores in LEED
rating system



www.lindabbuildings.com



Lindab Group

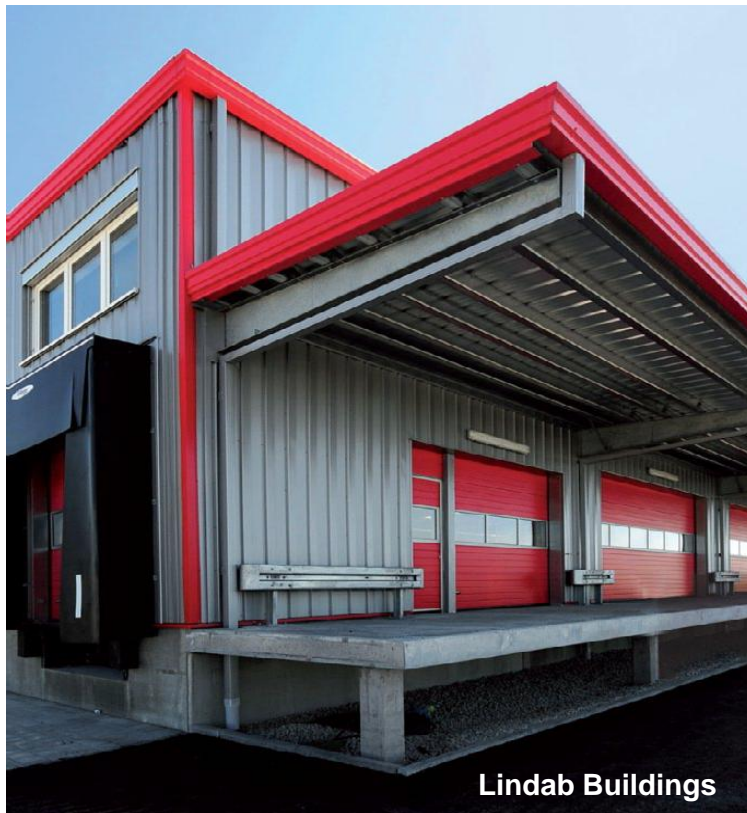
Lindab is an international Group that develops, manufactures, markets and distributes products and system solutions primarily in steel for simplified construction and improved indoor climate.



Ventilation



Building components



Lindab Buildings

The products are characterized by their high quality, ease of assembly, energy efficiency, consideration towards the environment, and are delivered with high levels of service. Altogether, this increases customer value.

The Group had net sales of SEK 6,878m in 2011, was established in 31 countries and had approximately 4,300 employees.

The share is listed on the Nasdaq OMX Nordic Exchange, Stockholm, Mid Cap, under the ticker symbol LIAB.

The principal shareholders are Creades, Ratos, Sjötte AP-fonden and Skandia Liv.



Lindab Reference

Preferred supplier for ventilation and comfort solutions



Pentagon, Washington D.C.



Kongelige Teaters Operahus, Copenhagen



Pareto Print, Tver



Dexia Towers
Brussels



BMW factory
Leipzig



Copenhagen Airport



Finnish State Palace,

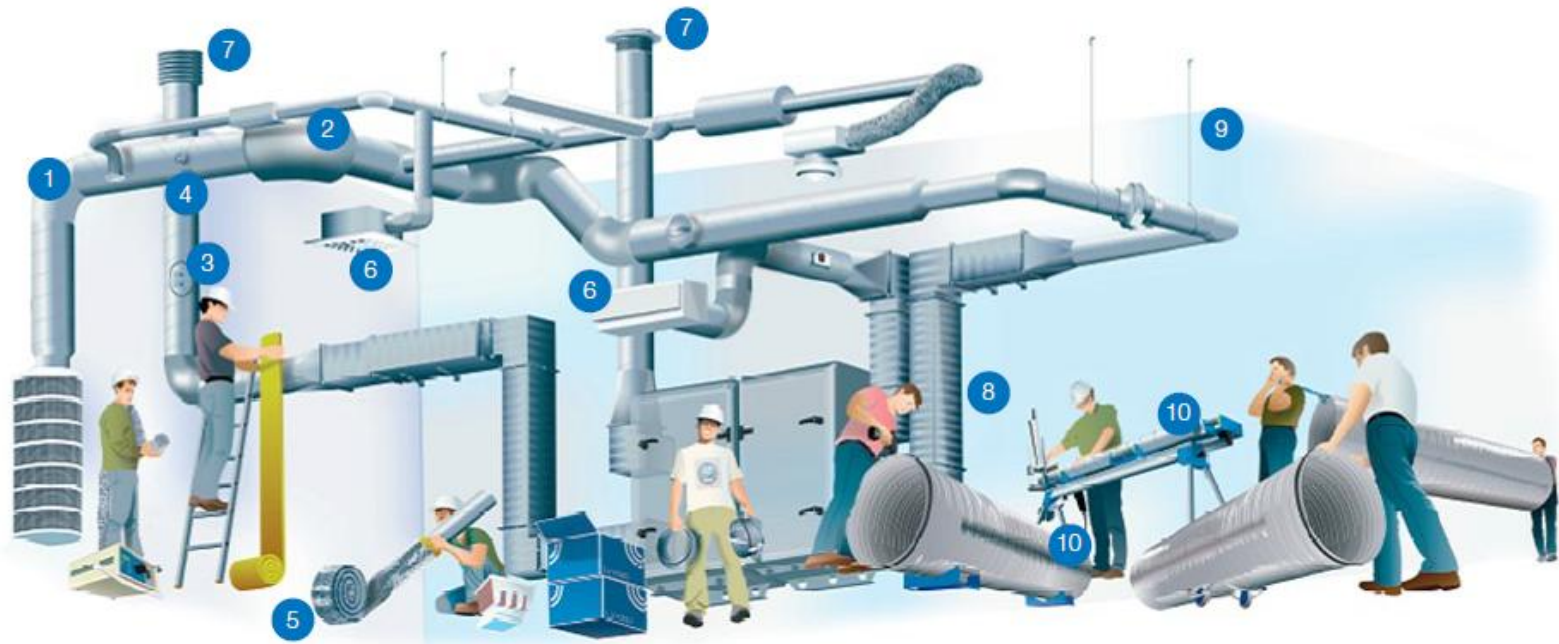


Lombardia Center, Milano



Ventilation business area

Lindab Ventilation



- 1. Lindab safe
- 2. Silencers
- 3. Access doors
- 4. Pampers and mesure units

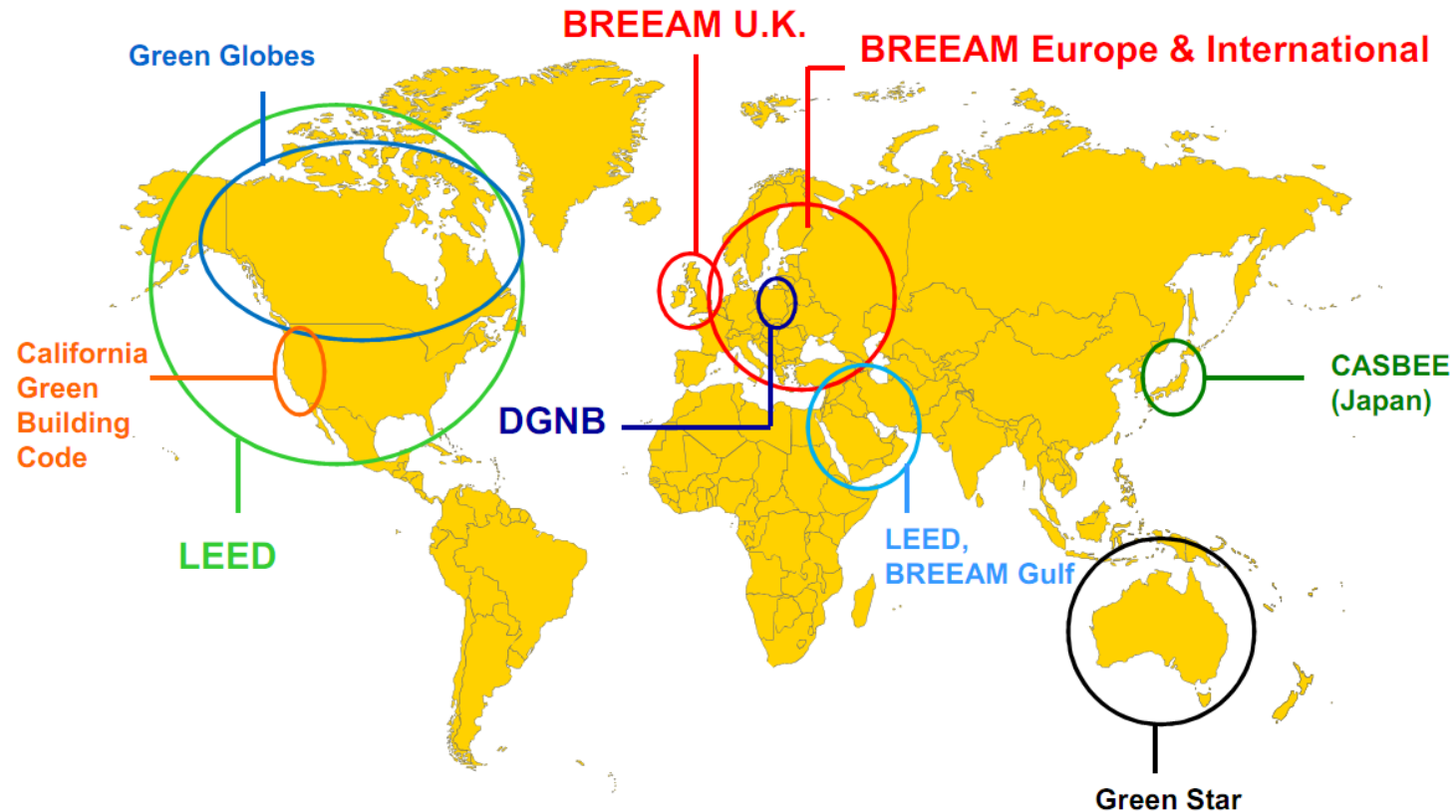
- 5. Flexible ducting
- 6. Comfort
- 7. Roof hoods
- 8. Recrangle systems

- 9. Duct suspentions & support systems
- 10. Other products
- 11. IT solutions



Green building

Rating systems

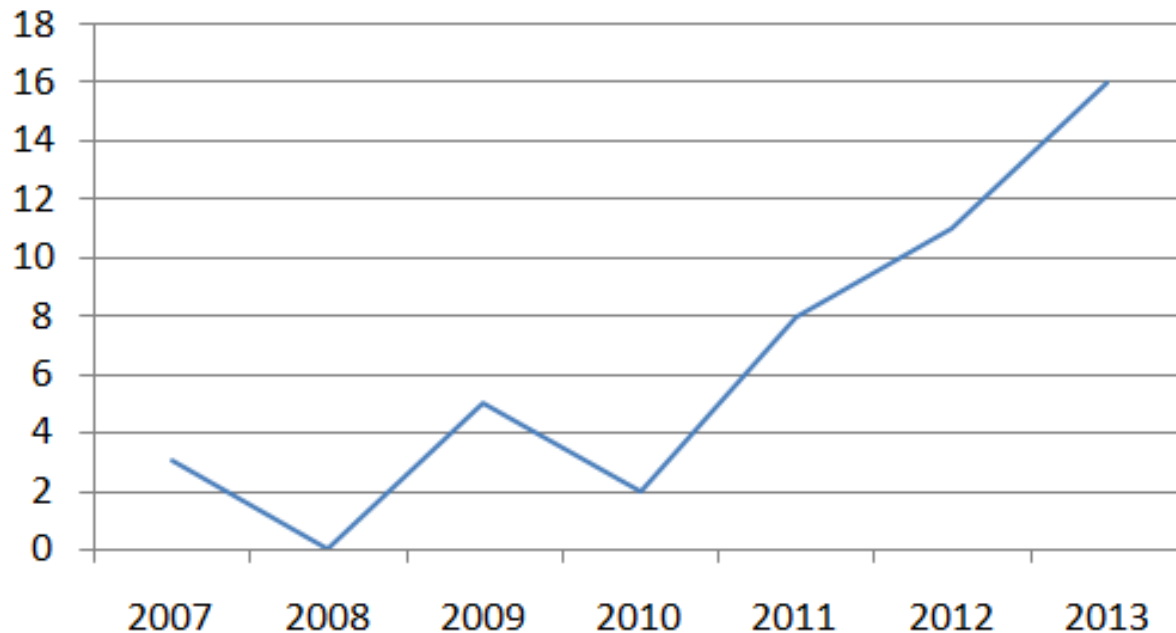




Situation in Russia

LEED, BREEAM , DGNB

LEED registered projects, Total > 45





Situation in Russia

<http://www.usgbc.org/projects>

LEED GOLD certified projects

LEED ID+C: Commercial Interiors v2009 Jones Lang LaSalle Moscow office

LEED ID+C: Commercial Interiors v2009 Deutsche Bank IBIT Relocation Moscow

LEED ID+C: Commercial Interiors v2009 Siemens Headquarters Russia

LEED BD+C: New Construction v2.2 SKF Tver, Russia

LEED BD+C: Core and Shell v2009 Renaissance Pravda Business Center

LEED Silver certified projects

LEED ID+C: Commercial Interiors v2009 Training Center, Federal Energy Systems

LEED BD+C: New Construction v2009 Heat Exchangers Manufacture for Aviation



Situation in Russia

<http://www.greenbooklive.com/>

BREEAM projects

- 22 registered projects
- 13 projects certified & final stage
- Offices, Industrial, Public buildings, Residential



Situation in Russia

Certification System

- New construction
- All other types



Situation in Russia

Certification challenges

- Absence of local specialists experienced in Green certification
- Absence of local specialists experienced in Green design and build
- Solutions should be modified for Local Norms and Standards
- Absence of Environmental declarations for local made materials and equipment

SLOW AND EXPENSIVE PROCEDURE



Rating points

LEED

	Max.points
Sustainable sites	26
Water efficiency	10
Energy and atmosphere	35
Materials and resources	14
Indoor environmental quality	15
Innovation and design	6
Regional priority credits	4
TOTAL	110

BREEAM (new buildings)

	<u>Weighting</u>
Management	12%
Energy Use	19%
Health and well being	15%
Waste	7.5%
Transport	8%
Land use & ecology	10%
Pollution	10%
Materials	12.5%
Water	6%

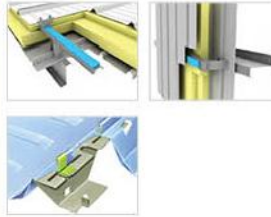


Lindab Buildings

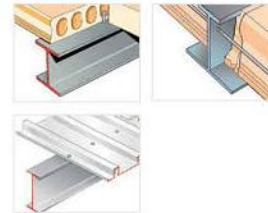
1 Primary and secondary framing



2 Roof and wall systems



3 Crane beams and mezzanines (intermediate floors)



4 Accessories

Perfectly integrated with Lindab Building system



- Pre-design and factory fabricated building
- Minimum waste on job site (all recyclable)

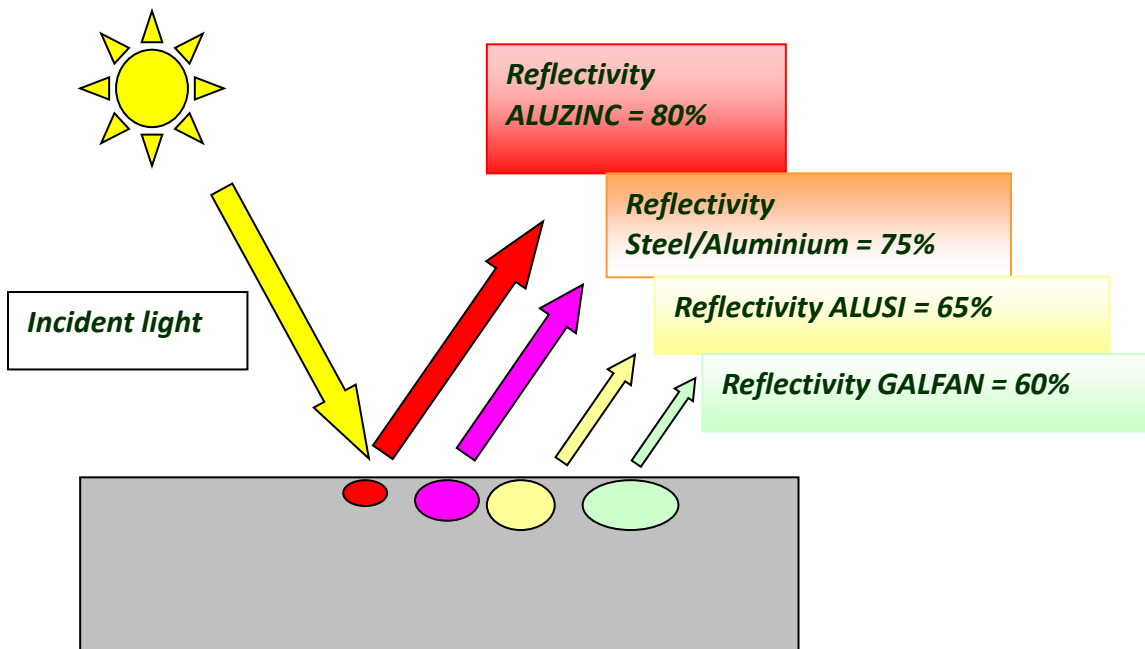


Lindab Buildings

SSc7.2

Heat Islands Effect, Roof

Option 1: use roofing materials with SRI at least 29 (steep sloped roof) or 78 (low sloped roof) for minimum of 75% of roof surface.





Lindab Buildings

MRc1.1

Building Reuse: Maintain 75% of existing Walls, Floors & Roof

EQc4.1

Low Emitting Materials: Adhesives & Sealants

All adhesives and sealants used on the interior of the building (inside weatherproofing system and applied on-site) shall comply with requirements of following reference standards: Adhesives, Sealants and Sealant Primers: South Coast Air Quality Management District (SCAQMD) Rule 1168 VOC limits. Aerosol Adhesives: Green Seal Standard for Commercial Adhesives GS-36 requirements in effect on October 19, 2000.



Lindab Buildings

EQc4.2

Low Emitting Material: Paints &Coatings

for non flat paint. Flats: 50 g/L. Non-flats: 150g/L. Anti-corrosive and anti-rust paints applied to interior ferrous metal substrates do not exceed VOC content limit of 250 g/L established in Green Seal Standard GS-03 Anti-Corrosive Paints

MRc5.2

Regional Materials: 20% Extracted, Processed & Manufactured Regionally

Use building materials or products that have been extracted, harvested or recovered, as well as manufactured within 500 miles of project site for minimum/additional 10% (total minimum 20%, based on cost) of total materials value.



Lindab Buildings

MRc4.2

Recycled Content: 20% (postconsumer+ pre-consumer)

Use materials with recycled content such that the sum of post-consumer recycled content plus one-half of the preconsumer content constitutes at least 20% (based on cost) of total value of materials in the project.

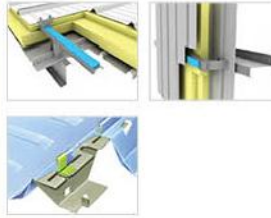


Lindab Buildings

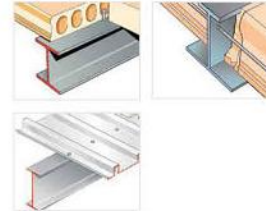
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2 Roof and wall systems

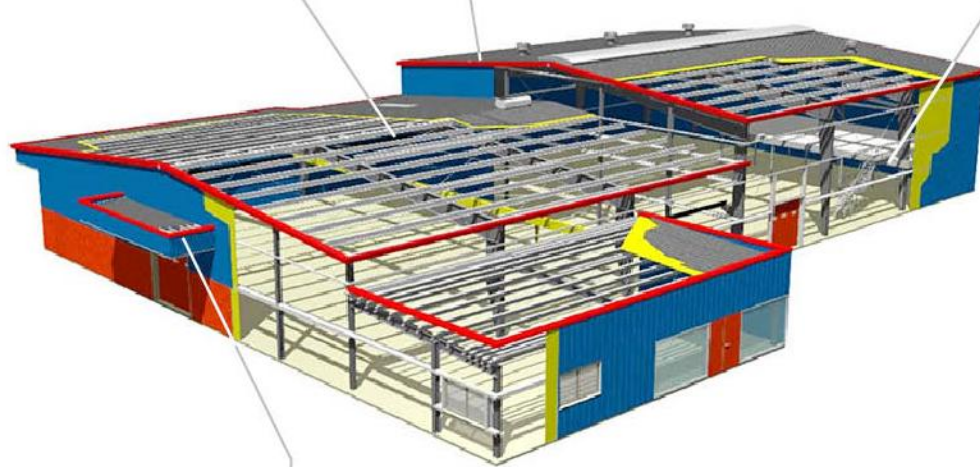


3 Crane beams and mezzanines (intermediate floors)



4 Accessories

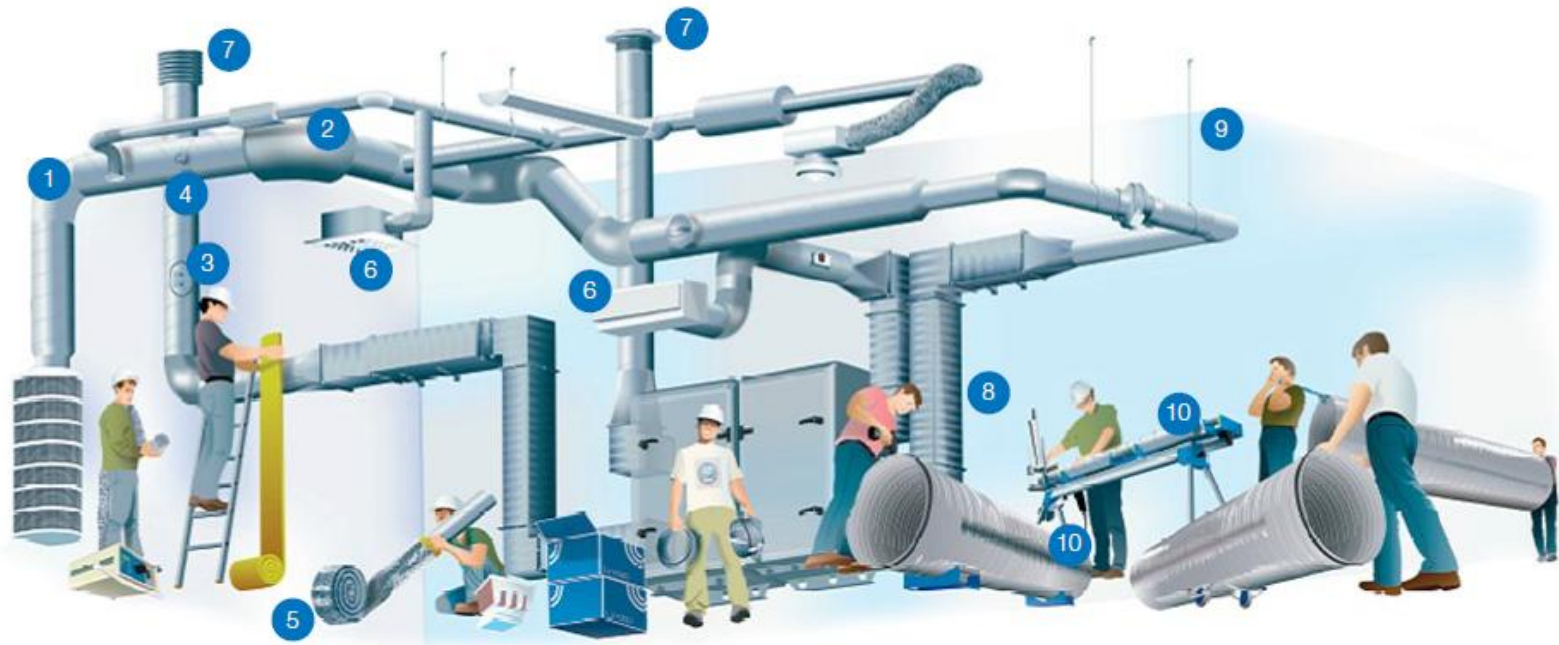
Perfectly integrated with Lindab Building system





Lindab Ventilation

Lindab Ventilation



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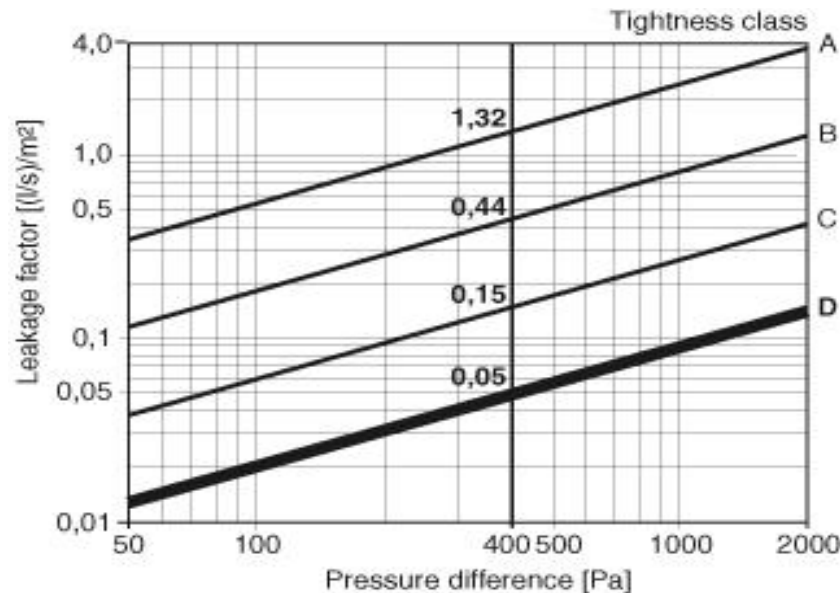
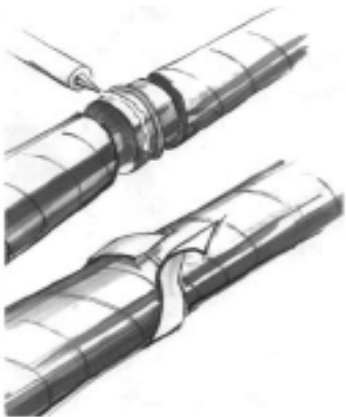
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Lindab Safe



Up to 10% energy savings in HVAC system
Payback period 0,5 - 3 years

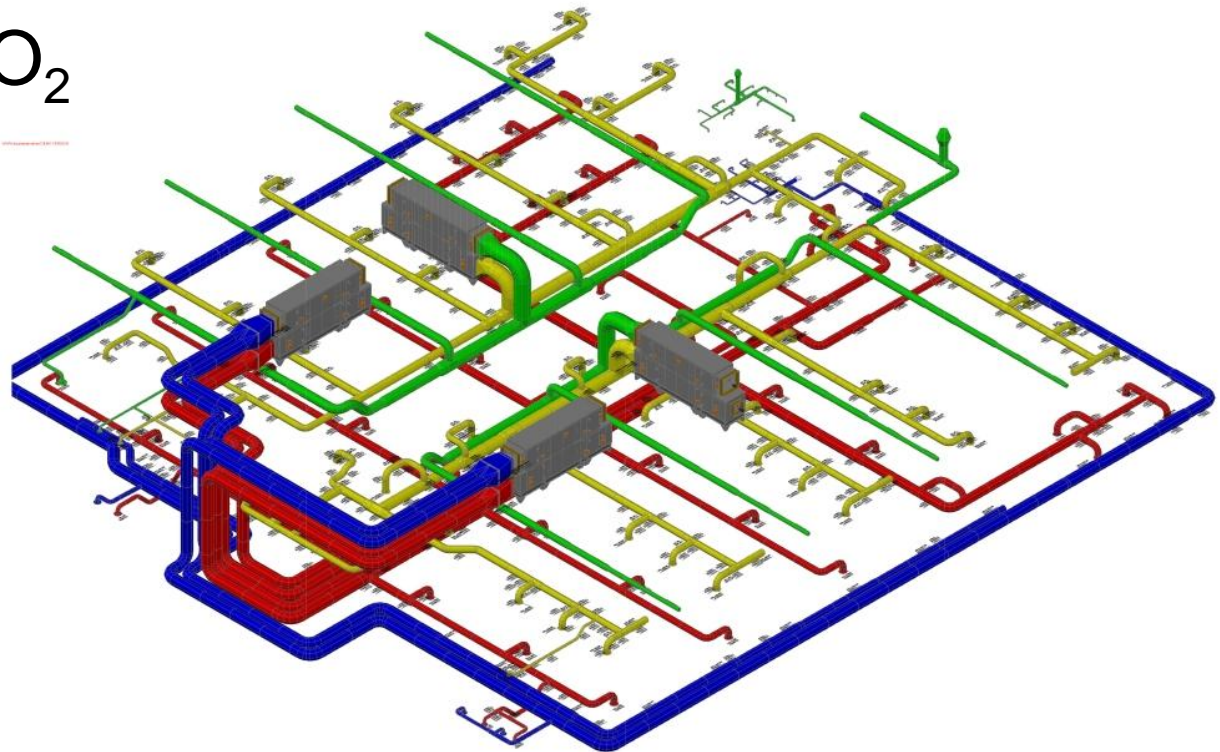




Engineering systems

Comfort Level – People's performance

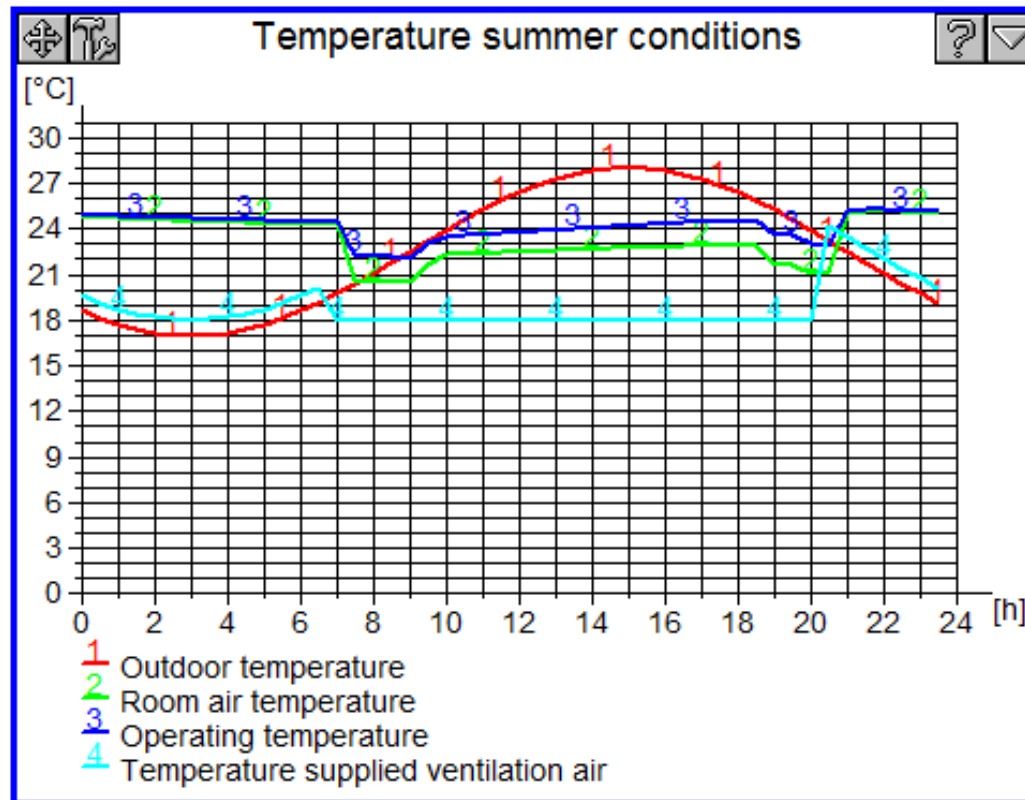
- Air quality - CO₂
- Temperature
- Humidity
- Lighting
- Noise level
- Air velocity





Engineering systems

The demand for energy is a variable value!
Example: External factor of weather conditions





Engineering systems

The demand for energy is a variable value!
Example: Internal factor of employee presence %





Engineering systems

The demand for energy is a variable value!

But system designed for peak value!



Building automation

You always have a choice

Constant performance



Demand controlled regulation





Demand controlled regulation

Measuring



Calculation



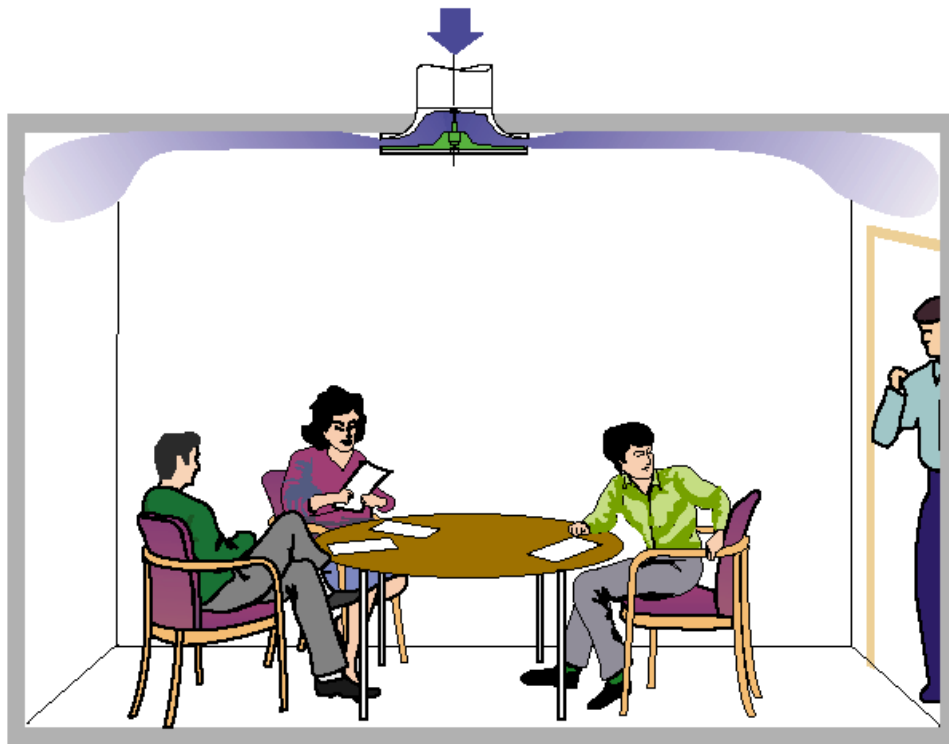
Adjustment





Demand controlled regulation

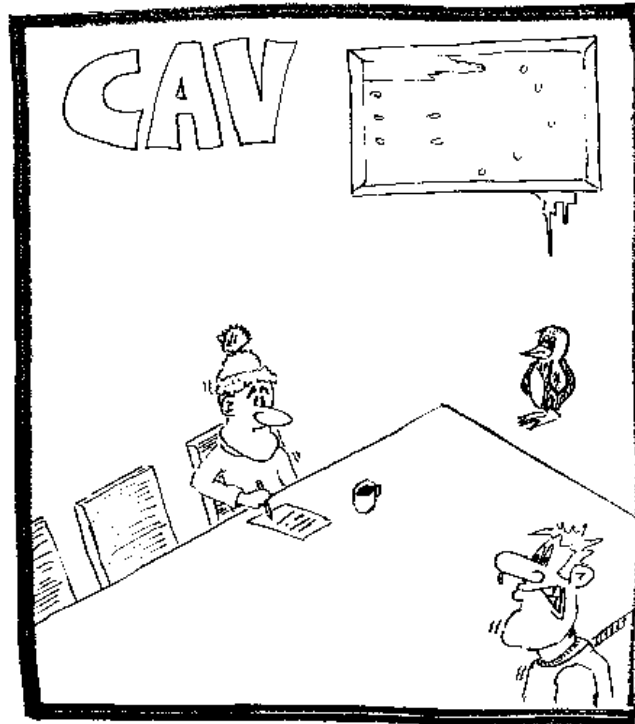
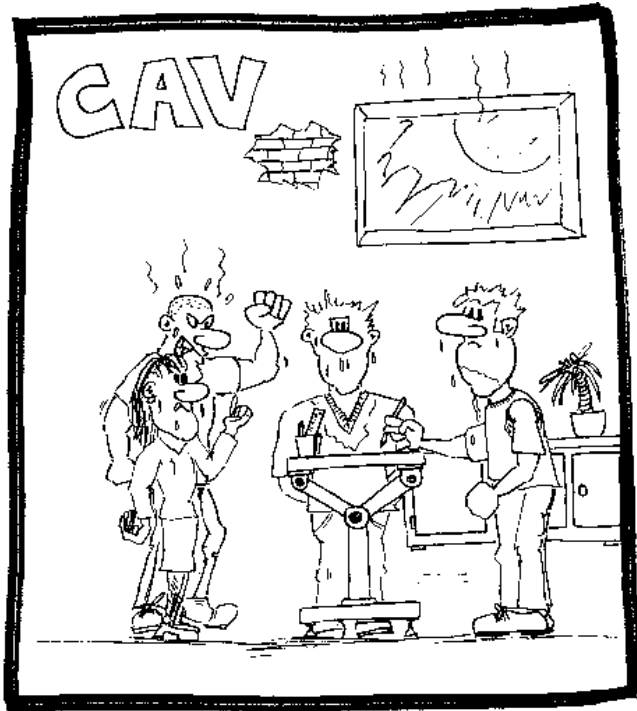
Air quality - CO₂





Demand controlled regulation

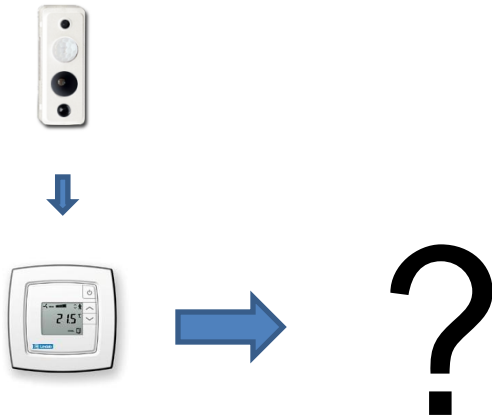
Temperature





Demand controlled regulation

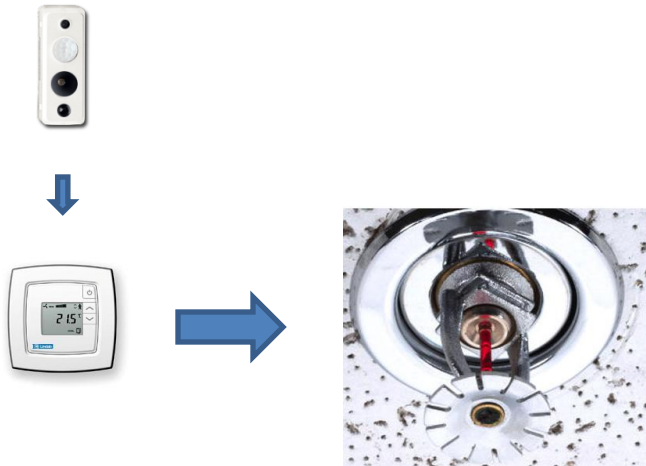
Humidity





Demand controlled regulation

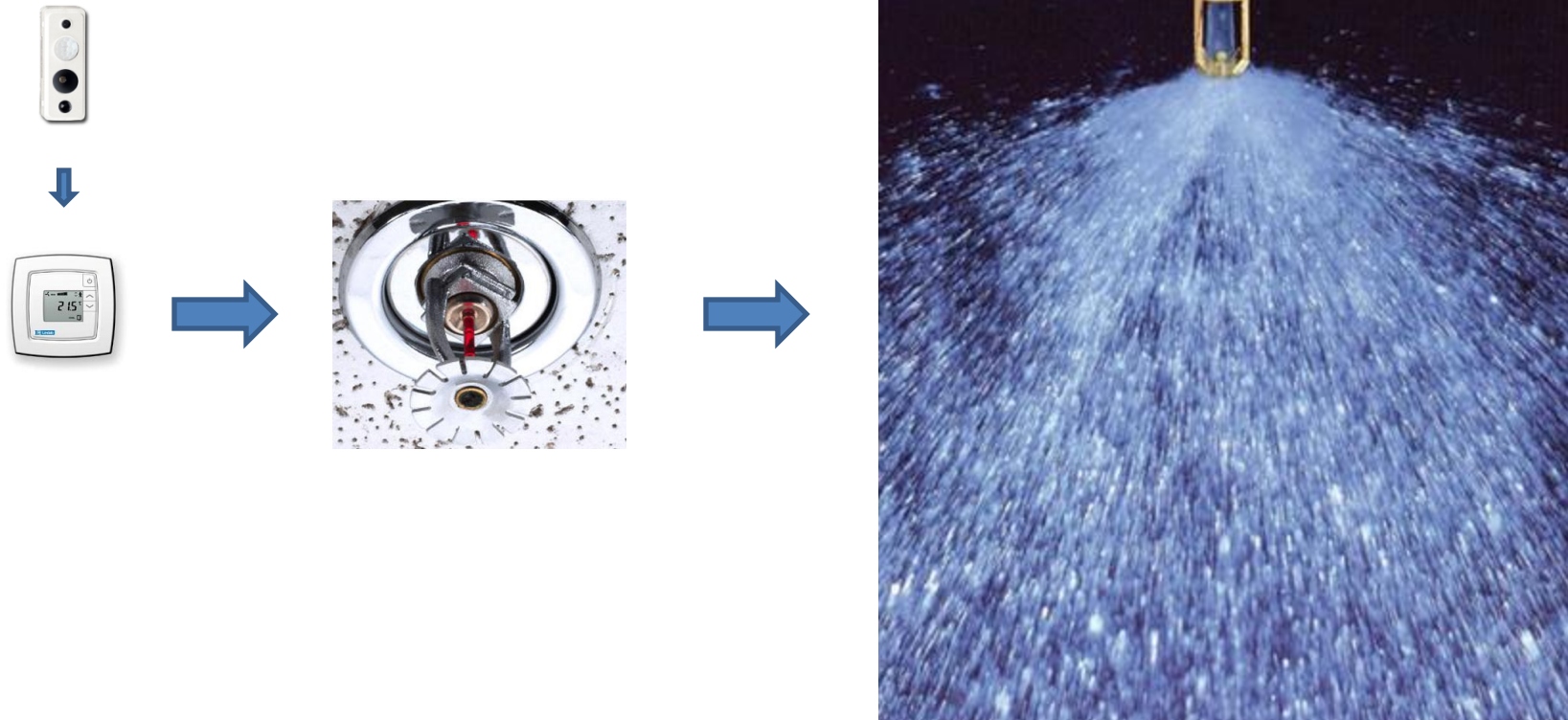
Humidity





Demand controlled regulation

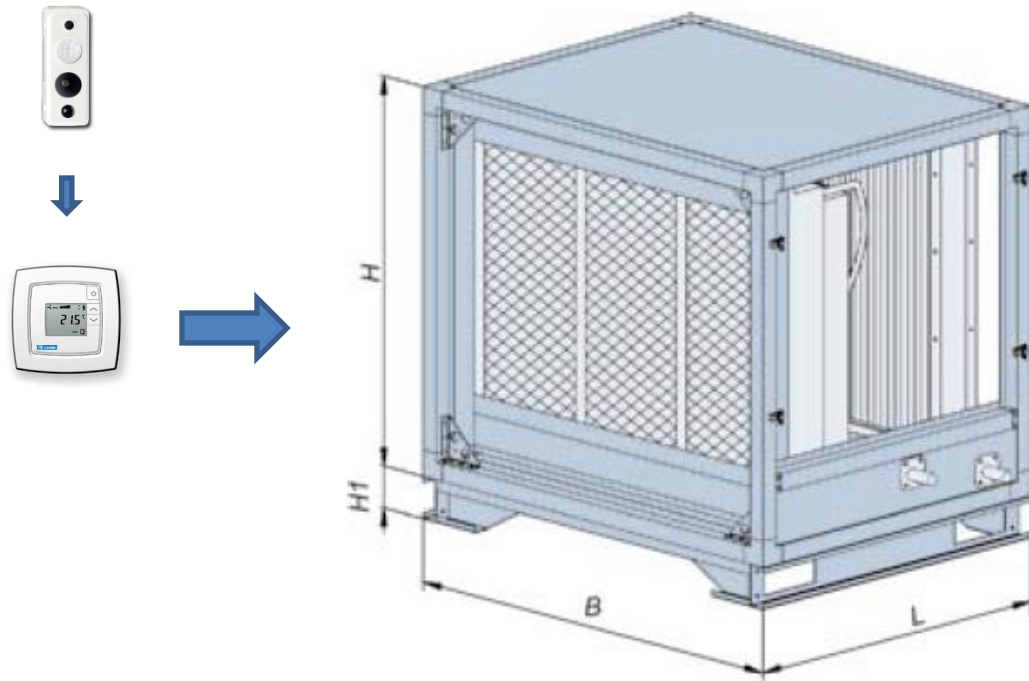
Humidity





Demand controlled regulation

Humidity





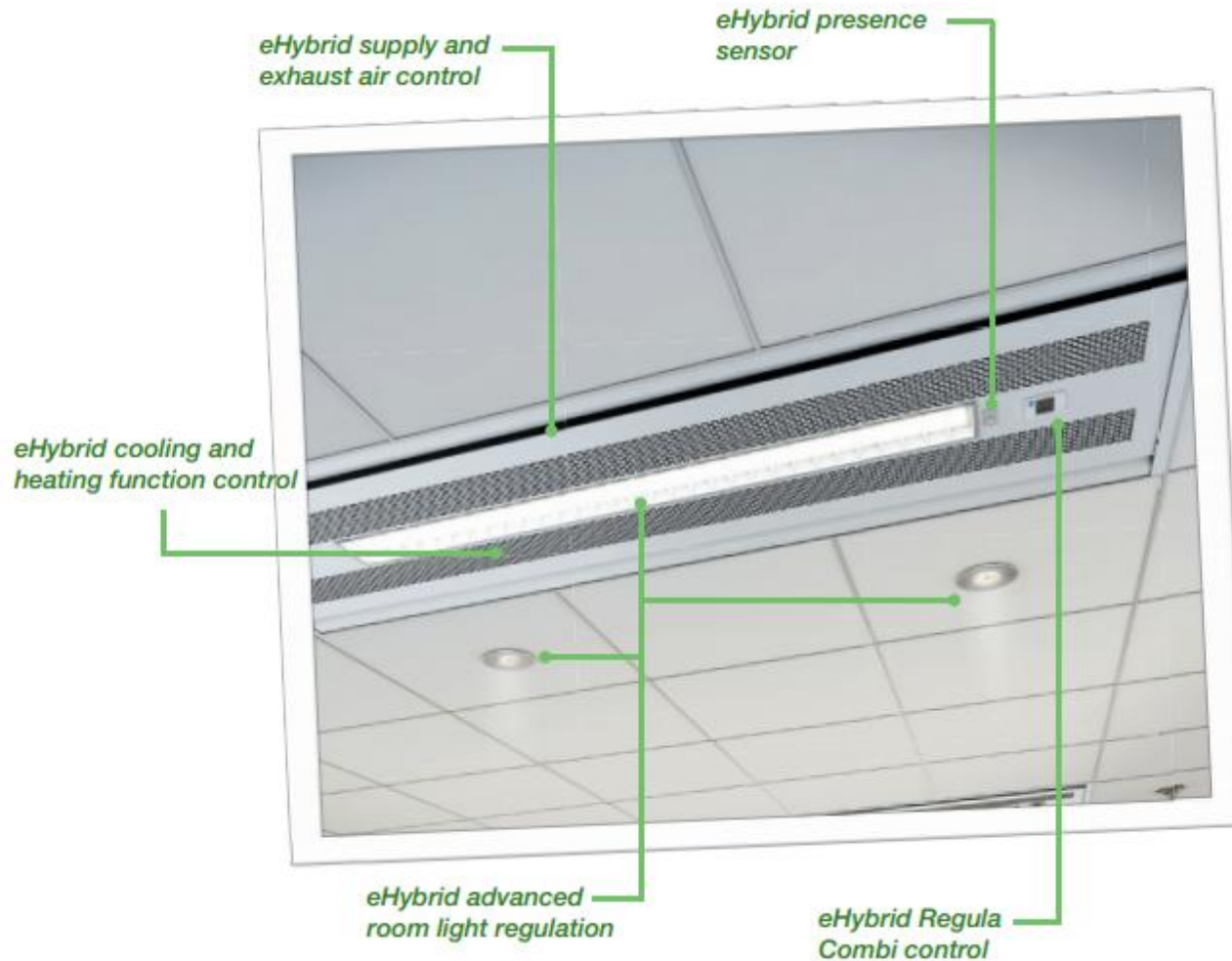
Demand controlled regulation

Lighting





Demand controlled regulation





Demand controlled regulation





Demand controlled regulation





eHybrid

- Design a sustainable future...

Lindab let's you design a sustainable future at no extra cost!

Lindab have combining all supplying functions into one 'plug and play' unit:

- Ventilation
- Heating
- Cooling
- Lighting

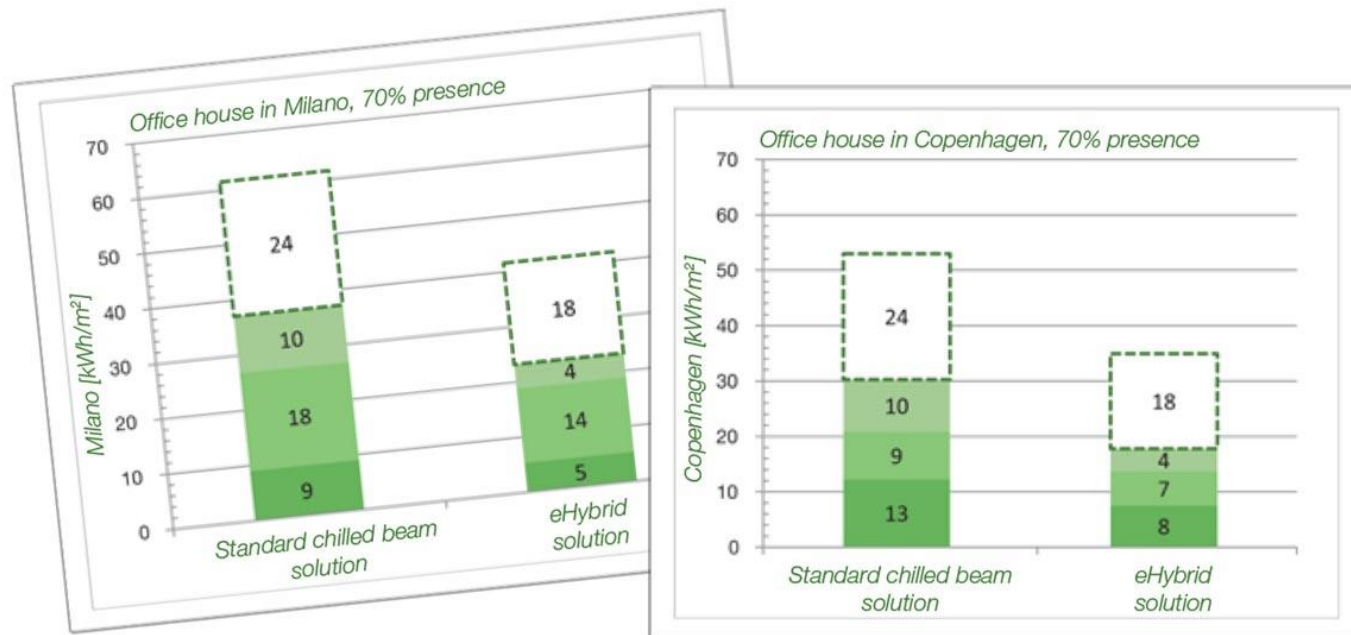
This saves both space and installation costs. In practise, this means the best indoor climate at no additional cost, and with the 34% lower energy consumption.

The eHybrid solution sets new standards for an economical, sustainable and comfortable indoor climate



Demand controlled regulation

25-35% energy savings!



□ Lighting ■ Fans & pumps ■ Cooling ■ Heating



Q&A





Thank you for attention!





Sustainable building solutions
to work and live in
across EU, Russia and CIS



www.lindabbuildings.com