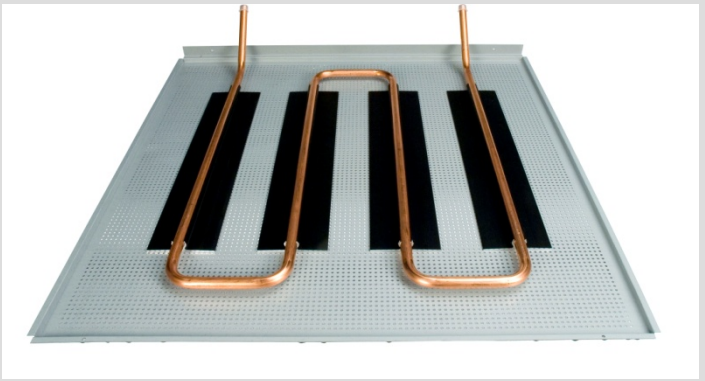
Experience the cooling Comfort with Chilled Water Ceiling System



Radiant System now in India

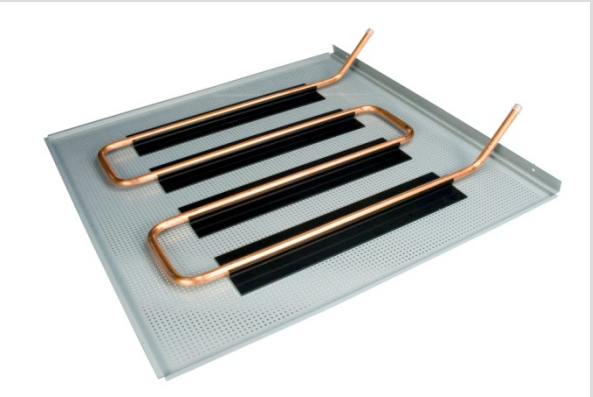
GIACOMINI
Technology in Comfort

RADIANT CEILING SYSTEMS:

GENERAL FEATURES AND TECHNOLOGY

Radiant elements

-The cooling or heating water passes through the modular elements creating the radiant effect



Cooling

-The system needs just the minimum air flow

to grant dehumidification (Normally 2-3 Volumes/h)

-Traditional systems need up to 10-12 Volumes/h (Very large ducts and problems with air distribution)

GK Series:

- Modular systems:
  60x60 cm
  60x120 cm
  120x120 cm

- Flexible structure (in order to cover the best way the surface)
- Possibility to fit the solution to customer (different colour and surface options)
- Different possibility on side compensation

GIACOMINI – Radiant Ceiling

METAL

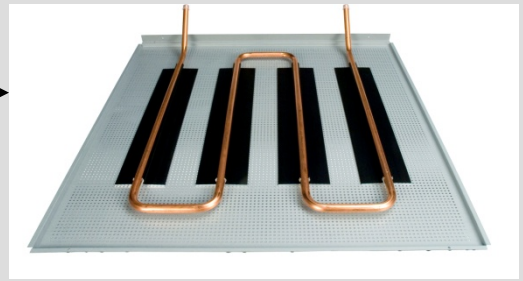
-GK 120 (1200x1200 mm)

-GK60 (600x1200 mm)

-GK30 (300x1200 mm)

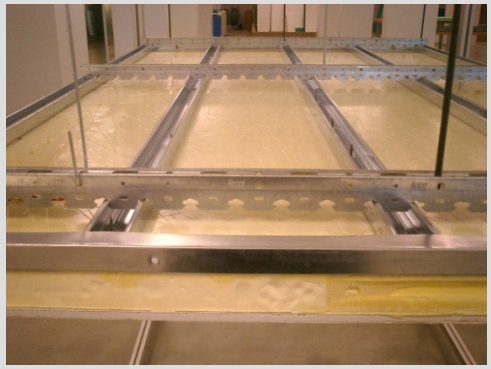
-GK 60x60 (600x600 mm)

-GK 60x120 (600x1200)



GYPS CARTON

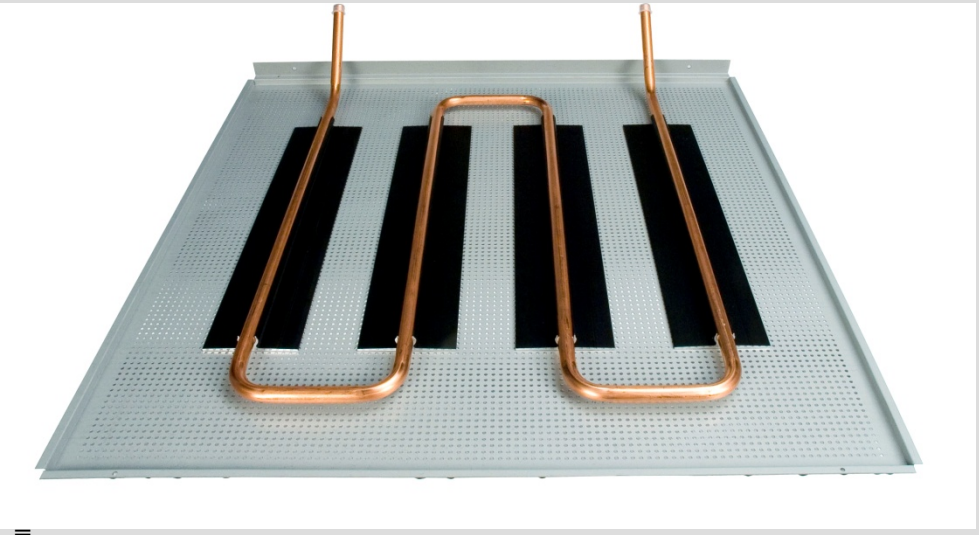
GKC

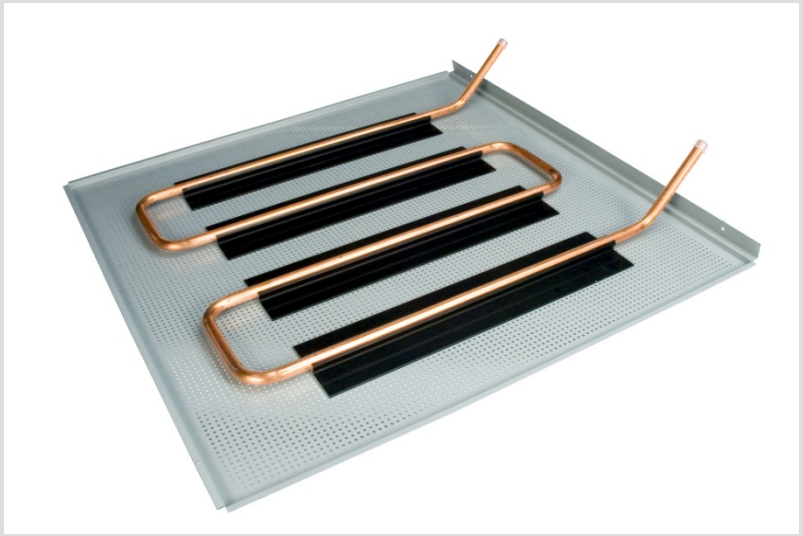


Metal Radiant Ceiling

Activation C75: **made through copper pipe**

Open metal diffuser width 75 mm and serpentine of copper pipe 12x1 m

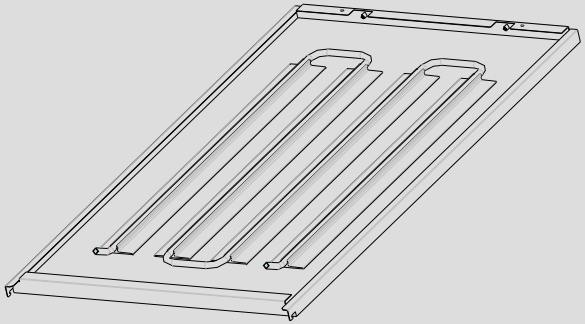


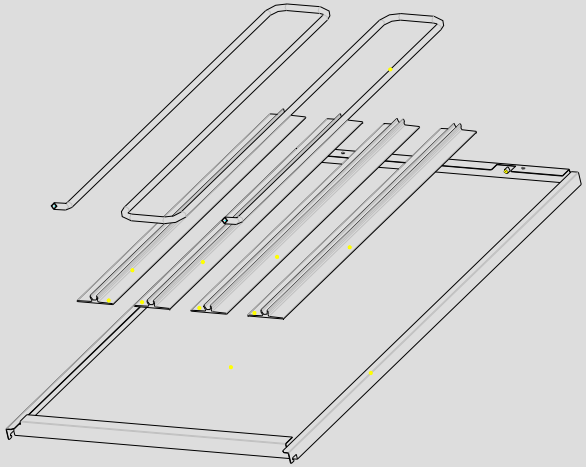


GK metall

Metal Radiant Ceiling

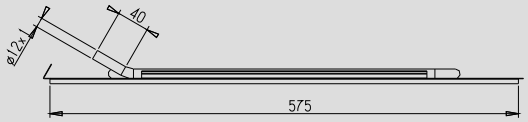
Example of application with GK60

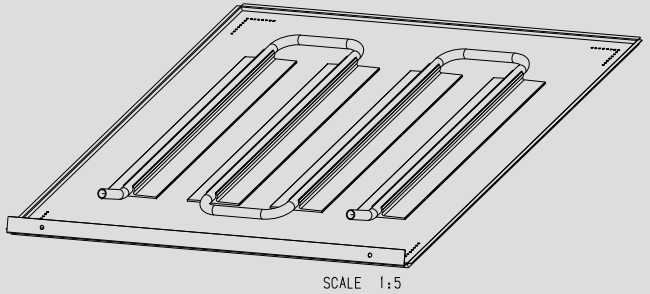


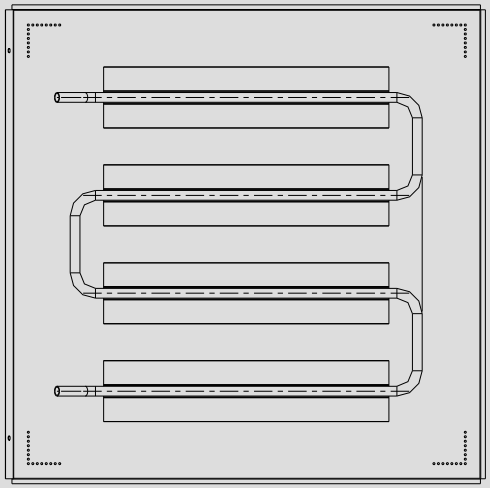


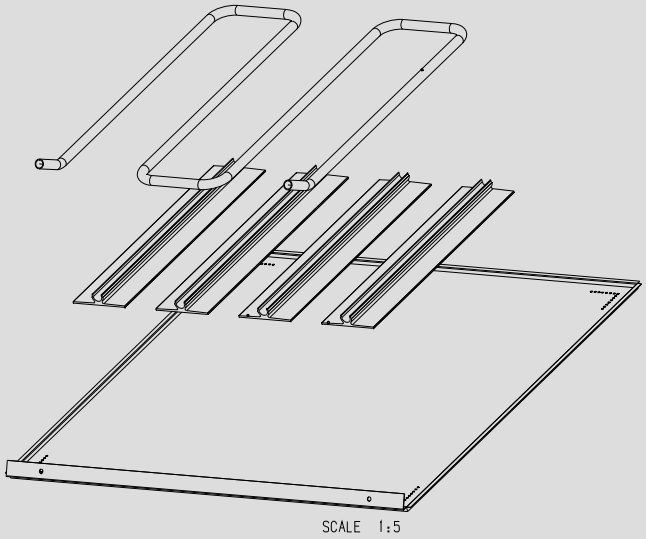
Metal Radiant Ceiling

Example of application with GK60x60









GK metallico.ppt

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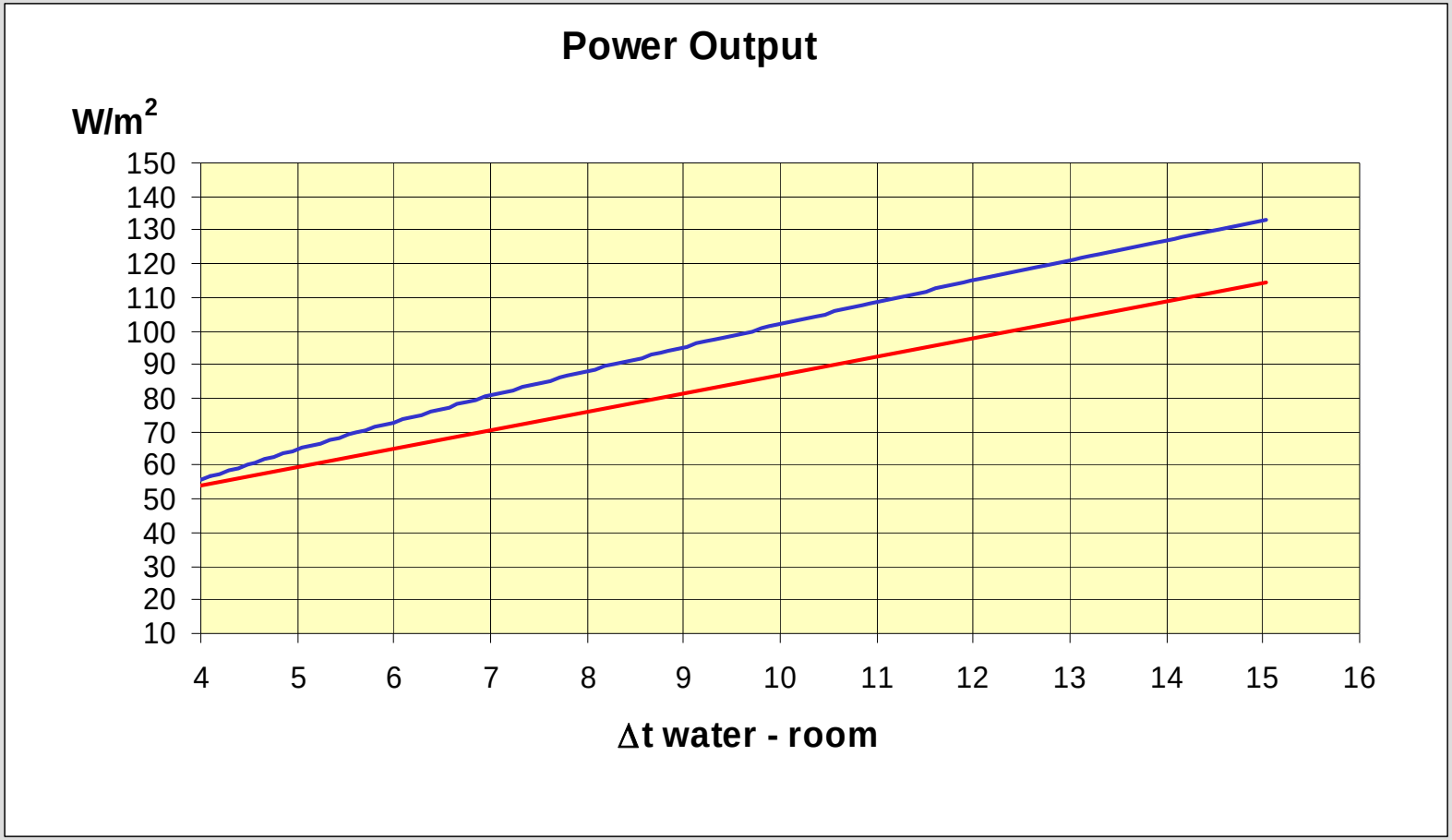
SPECIFIC POWER OUTPUT W/m²



GYPS CARTON

RADIANT CEILING

Gyps carton radiant ceiling:
GKCS version: **activated through plastic serpentine**

Activation with serpentine with polyethylene tubing 8x1 mm with oxygen barriers.

Polyethylene pipe connecting preinsulated 16x1, 5 mm.
Type of connection panels in parallel.

N. 3 radiant panel sizes :

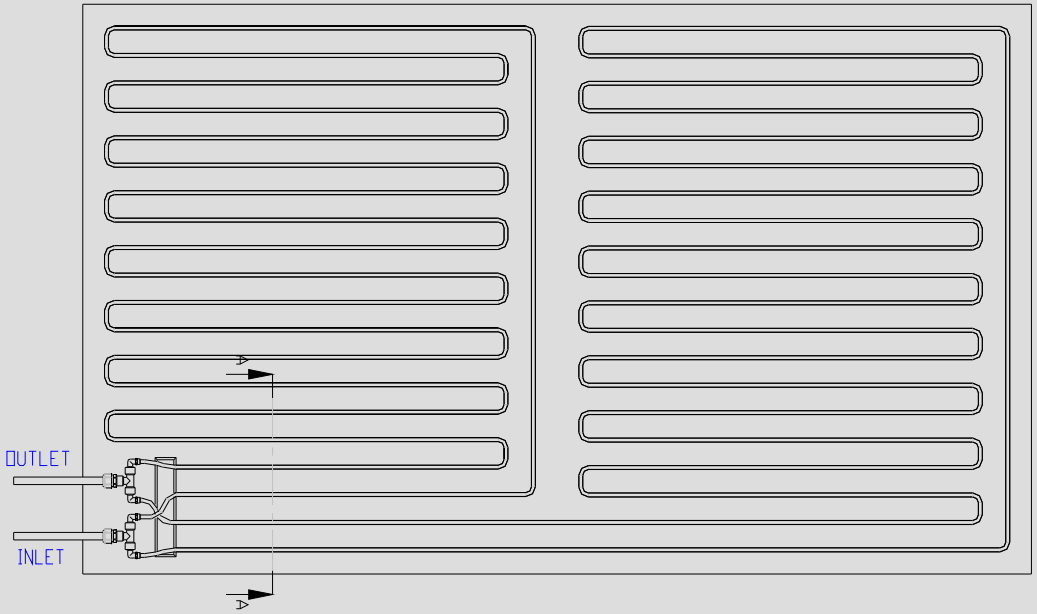
1200 x2000 mm	**KS120x200**	**N. circ. 2**
1200x1000 mm	**KS120x100**	**N. circ. 1**
600x2000 mm	**KS60x200**	**N. circ. 1**

Not active panels 1200 x 2000mm KS200x300

Gyps Carton radiant panel

Type GKCS: activated through serpentine

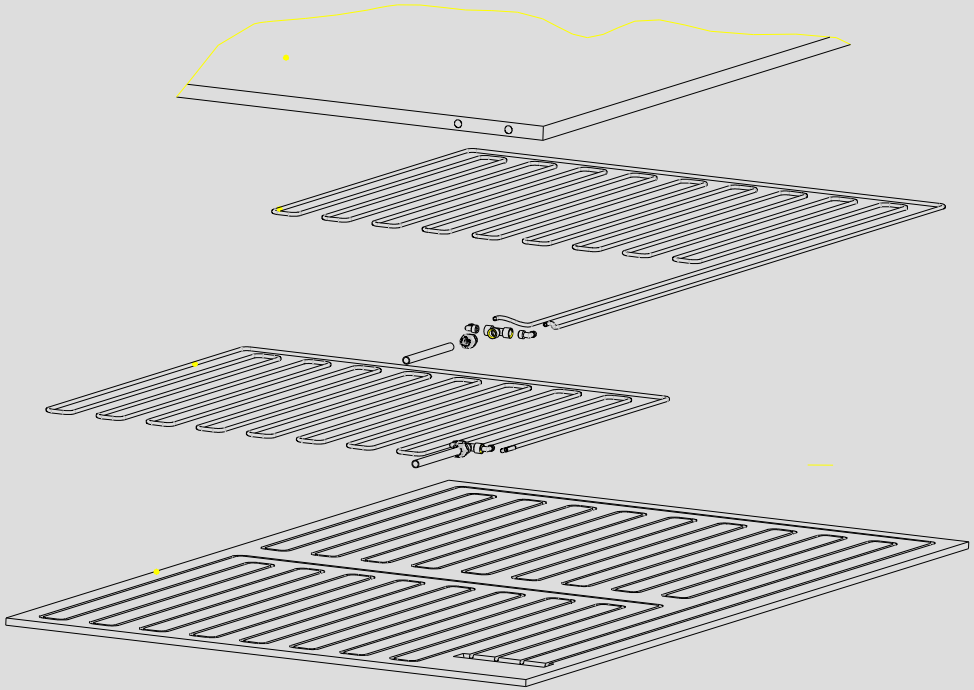
Radiant panel 1200x2000 mm

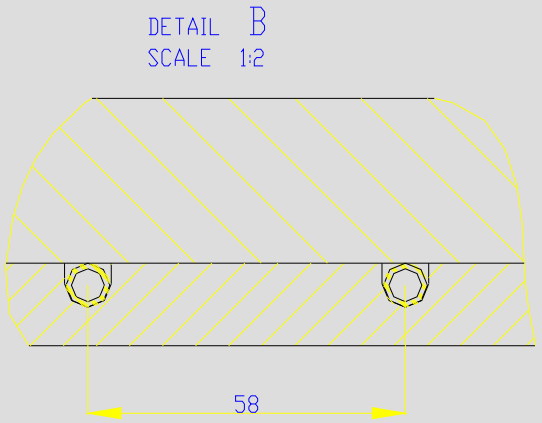


Gyps Carton radiant panel

Type GKCS: activated through serpentine

Radiant panel 1200x2000 mm





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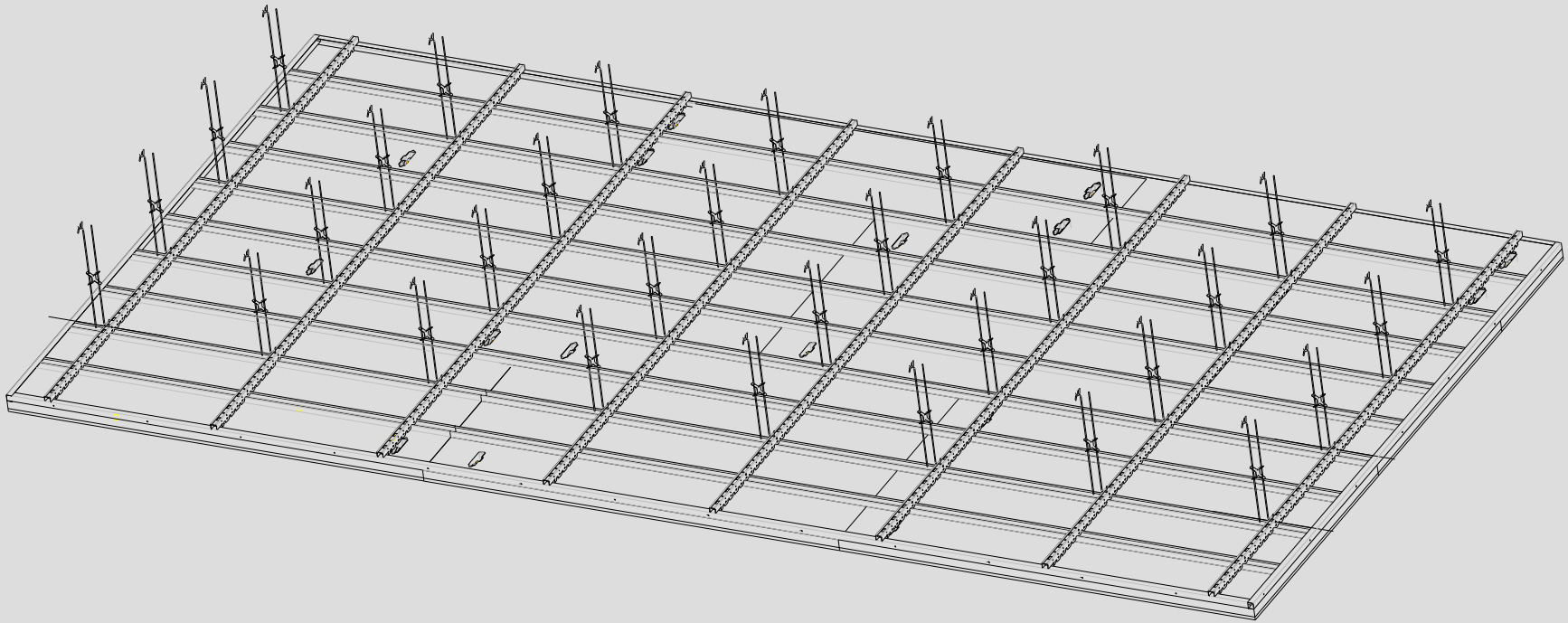
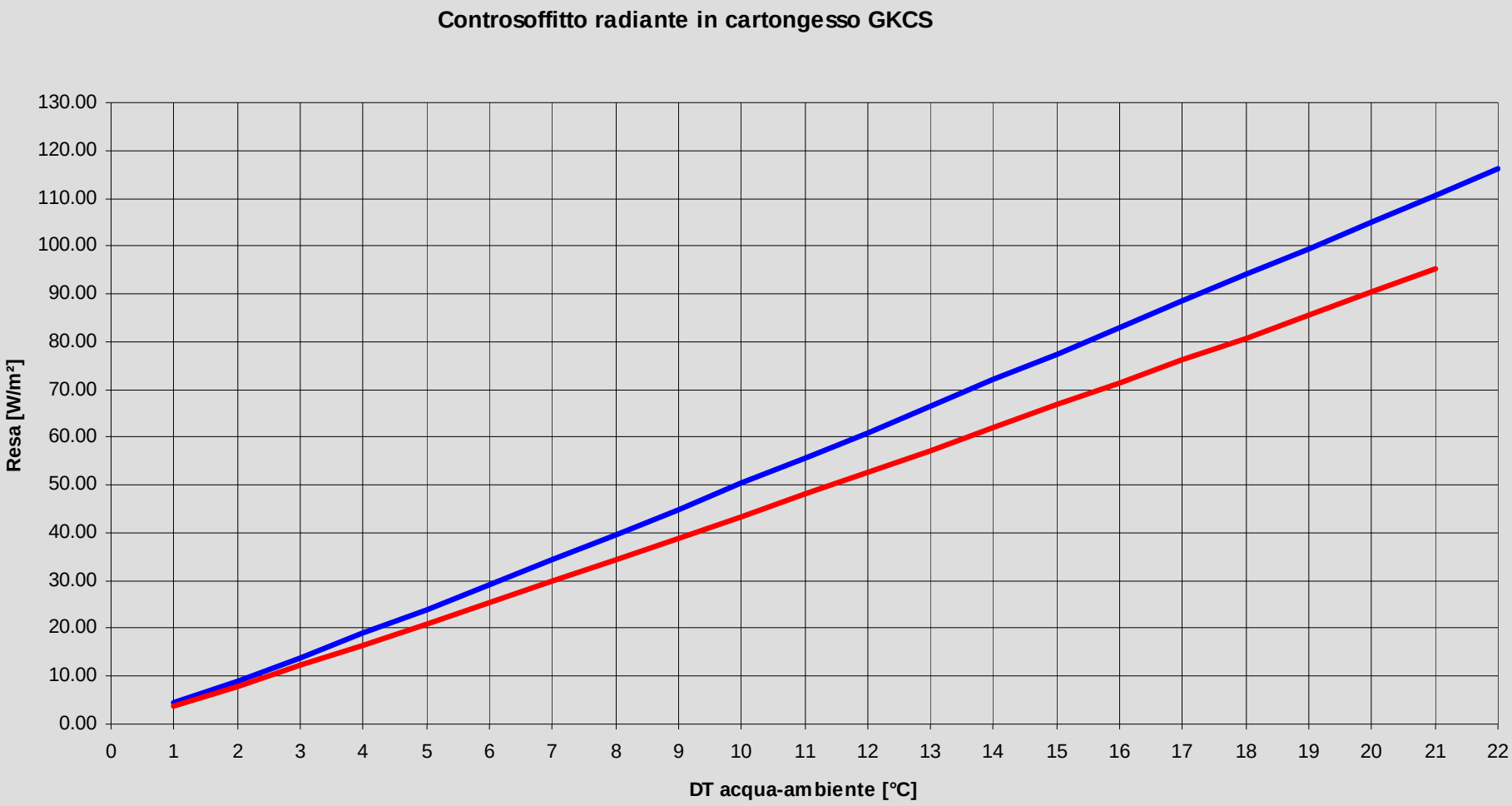
GIACOMINI Technology in Comfort

Gyps carton radiant ceiling
Structure



Gyps Carton radiant panel

Type GKCS: activated through serpentine



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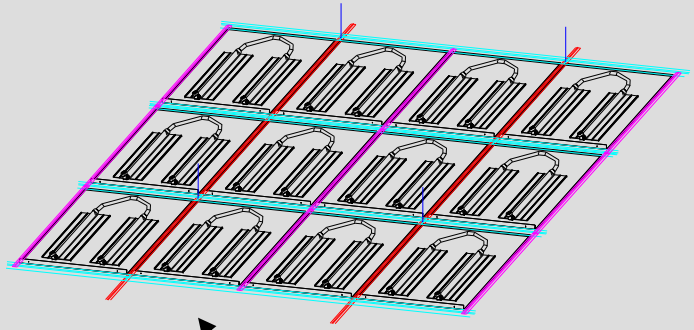
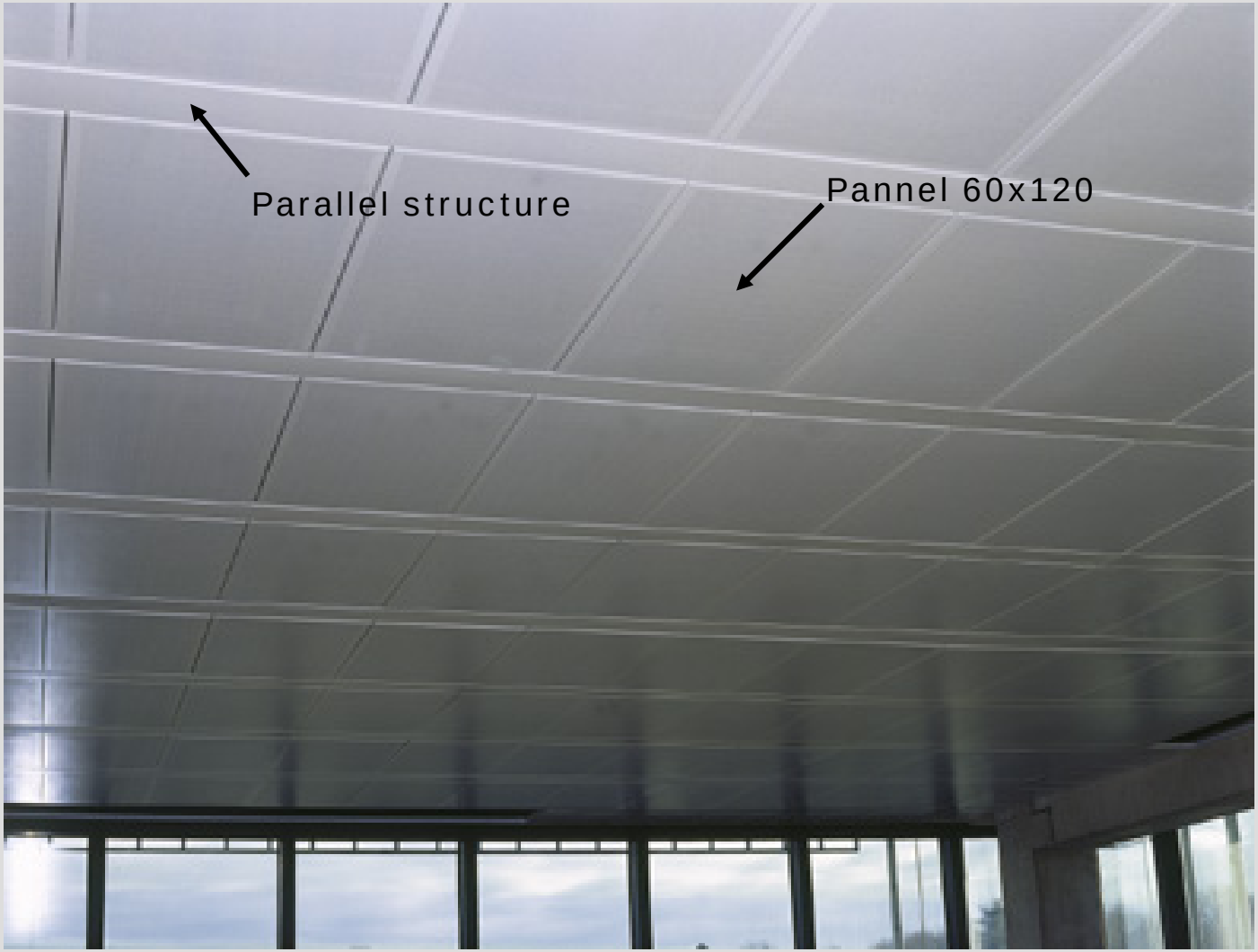
GIACOMINI Technology in Comfort

GK 60x60 Structure

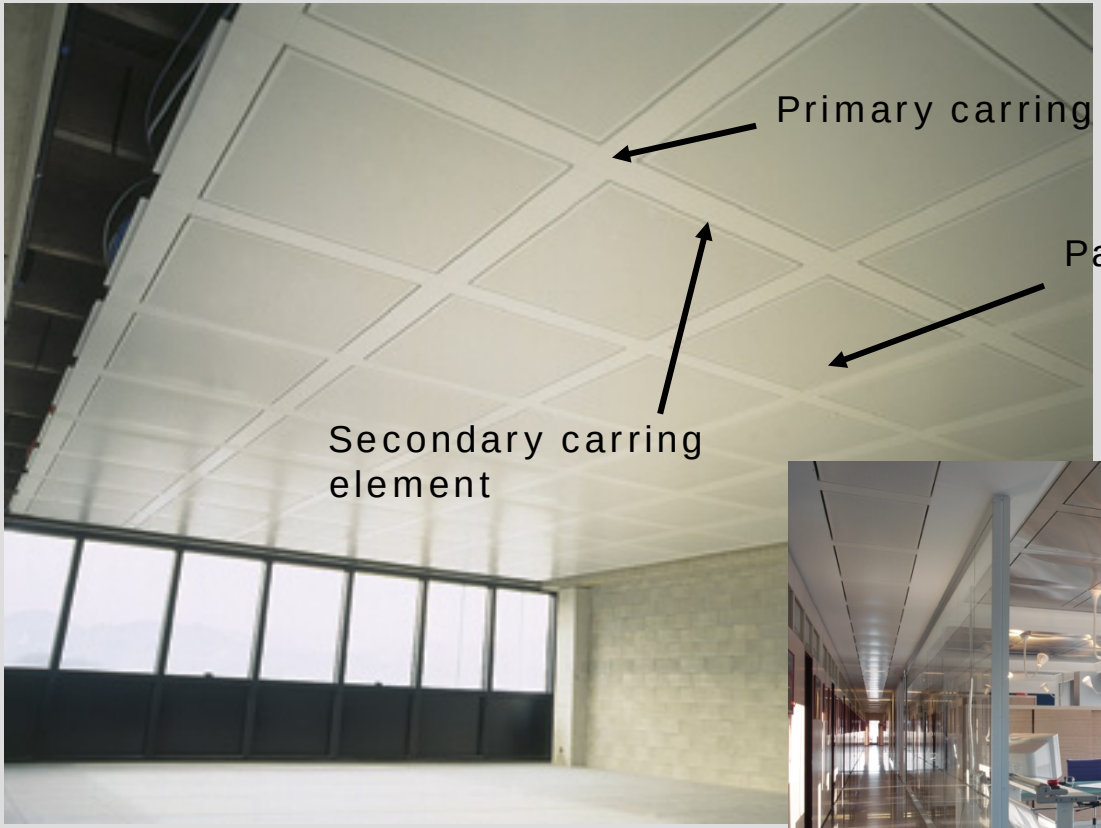


Example of 60x60 structure

GK 60 Parallel Structure



GK 120 Crossed Structure

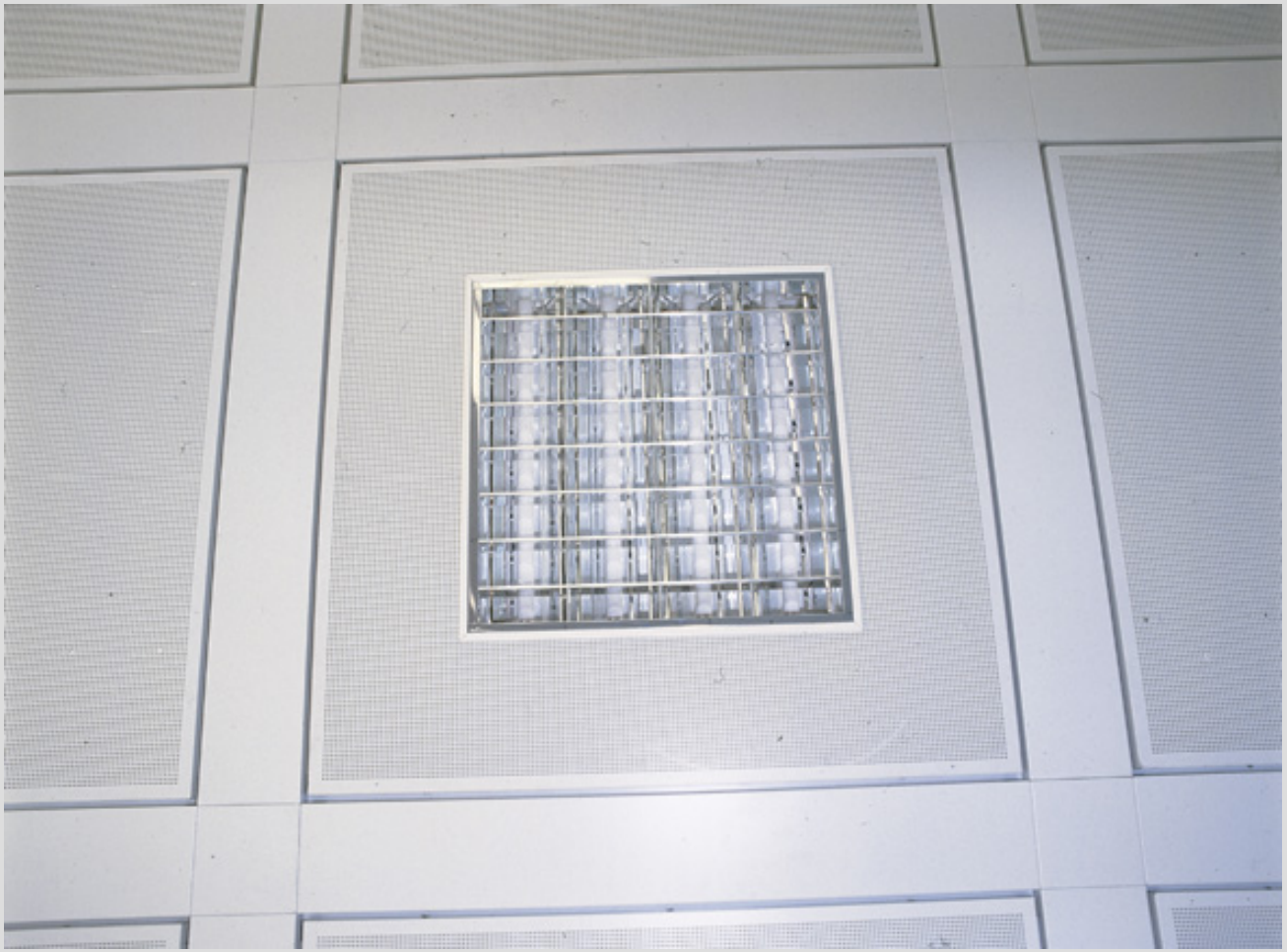


Opening Panel (Complete Inspectionability)

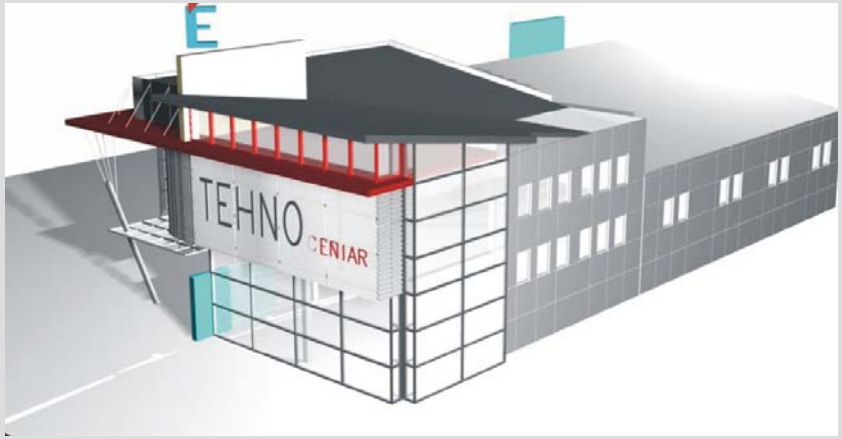
Side Finishing

OTHER SYSTEMS INTEGRATED

LIGHTS INTEGRATED IN A PANEL GK120



Example of Installation: Show Room and Offices



Example of Installation: Hospital

SAN PAU - BARCELONA

CISANELLO-PISA

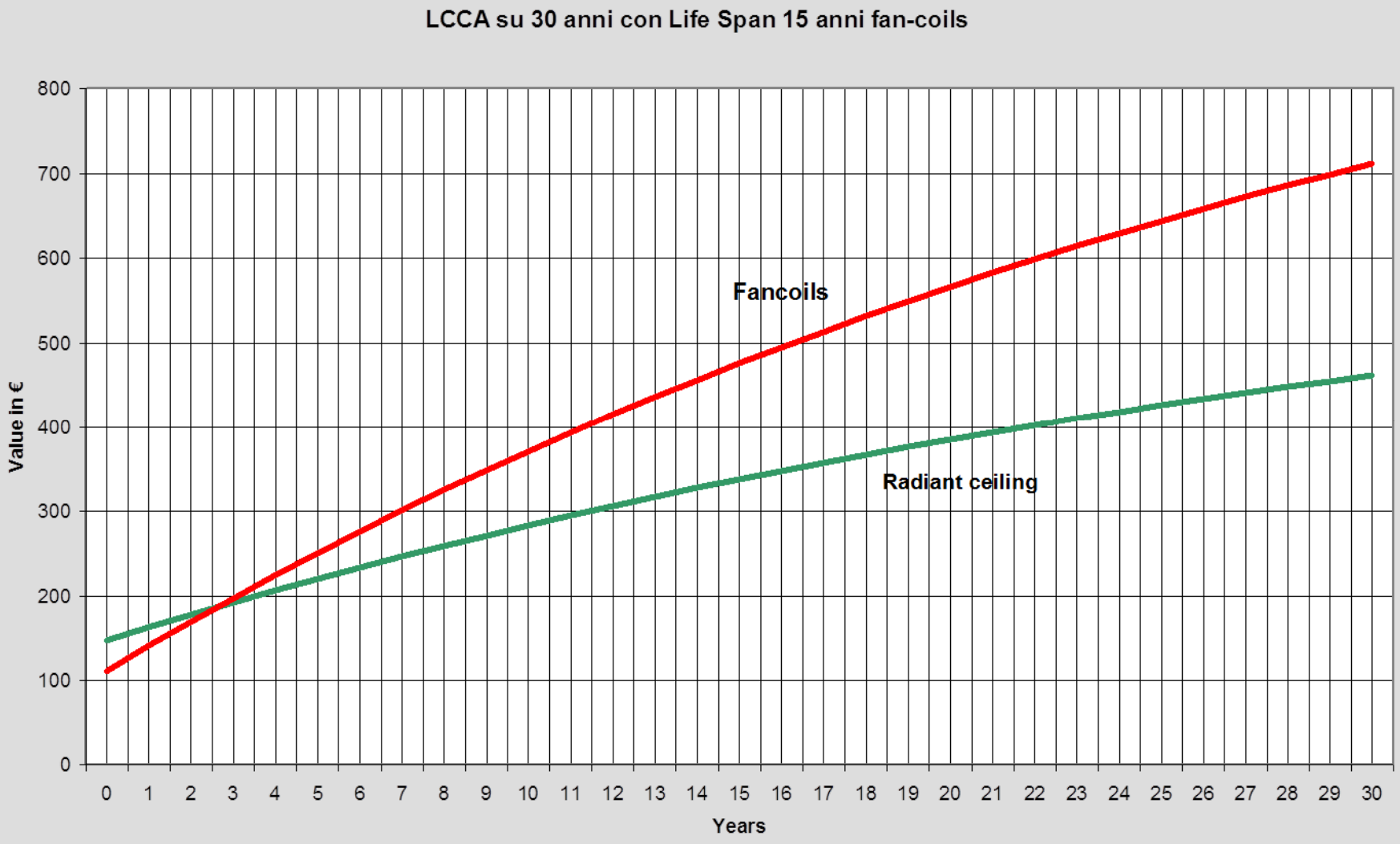
Office

In show-room

In airports

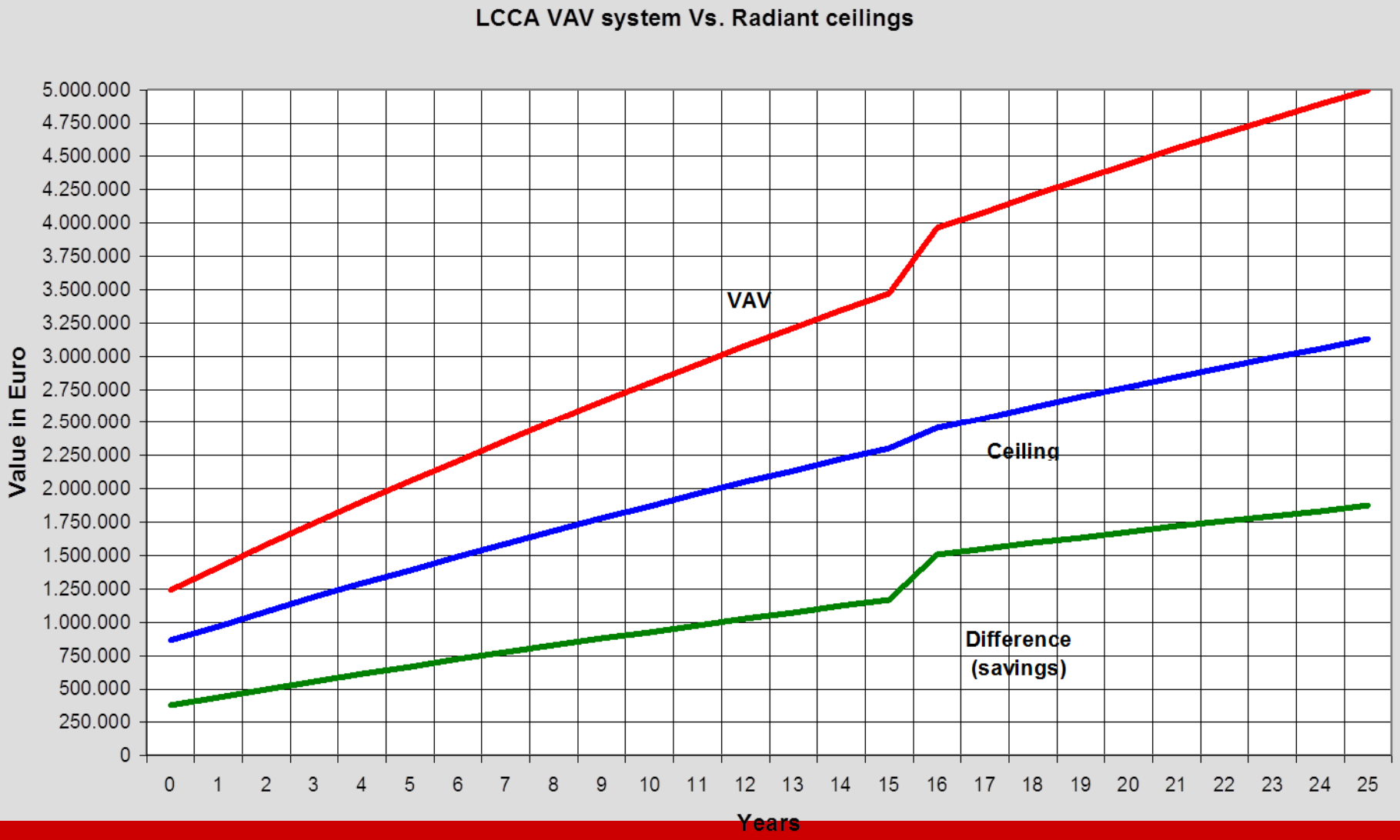
ECONOMIC ADVANTAGES

ROI 2.6 years LCCA 30 years (radiant system vs fancoils)



Life Cycle Cost Analysis (VAV vs radiant ceiling)

(example for 17.300 m2 by an ASHRAE document)



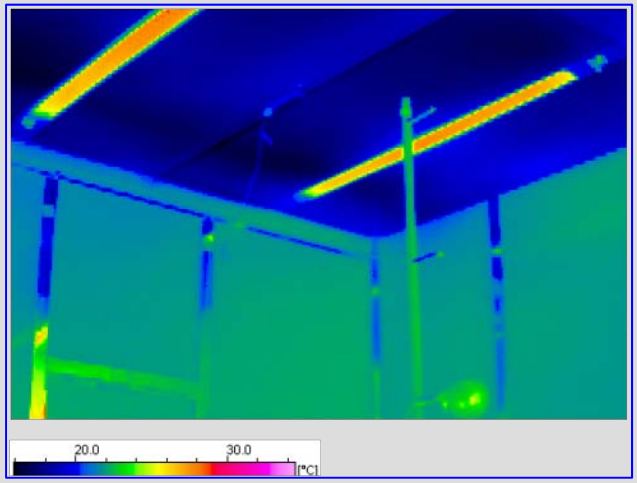
GIACOMINI Technology in Comfort

COMFORT

NO AIR MOVEMENT

NOISE REDUCTION

Comfort Parameters

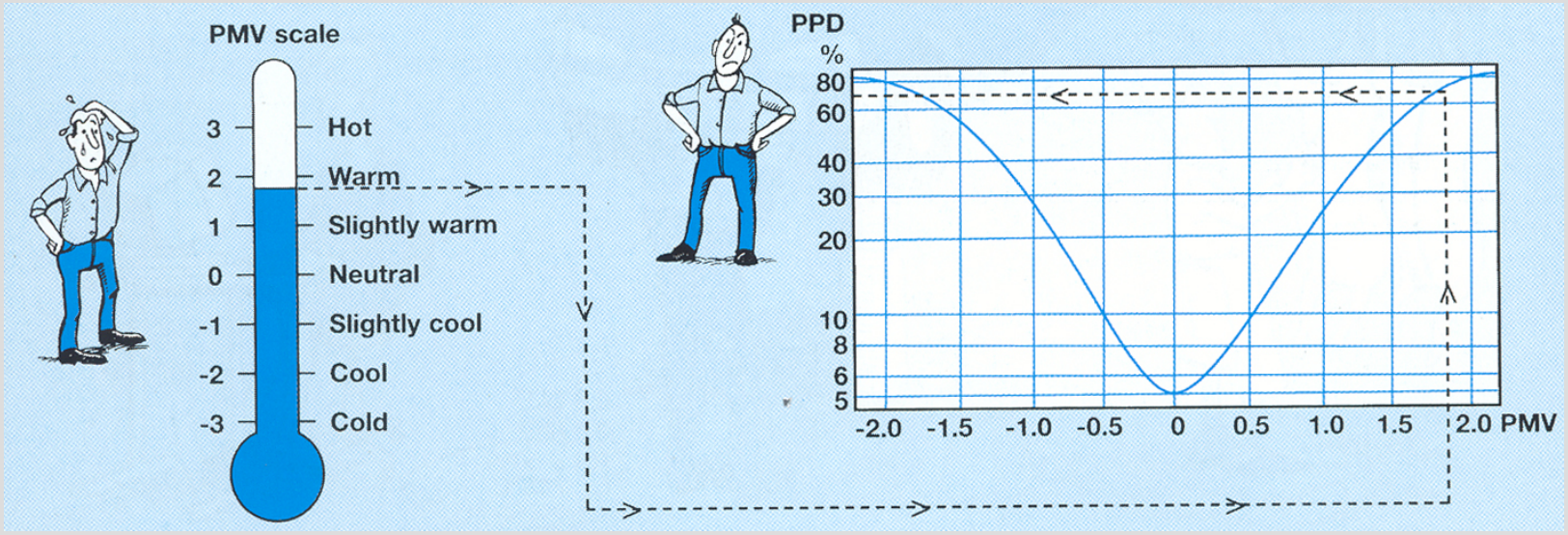


The system exchanges power mainly by radiation so reduces both thermal gradients and air movement.

Temperature is far more constant in winter and summer.

Low air speed gives comfort to people.

Predicted percentage of dissatisfied (PPD) as function of votes on the PMV scale

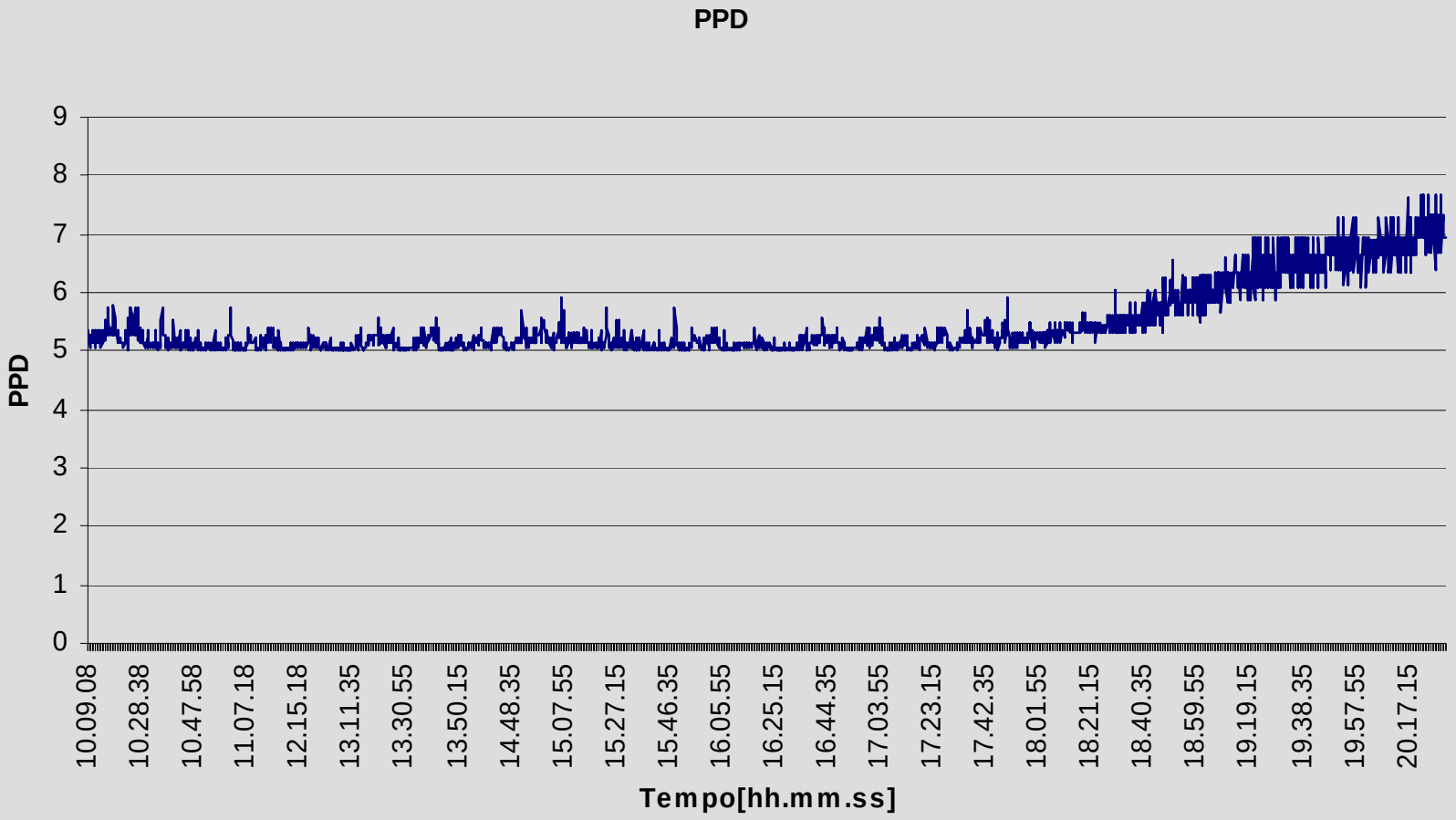


COMFORT TEST (COOLING)

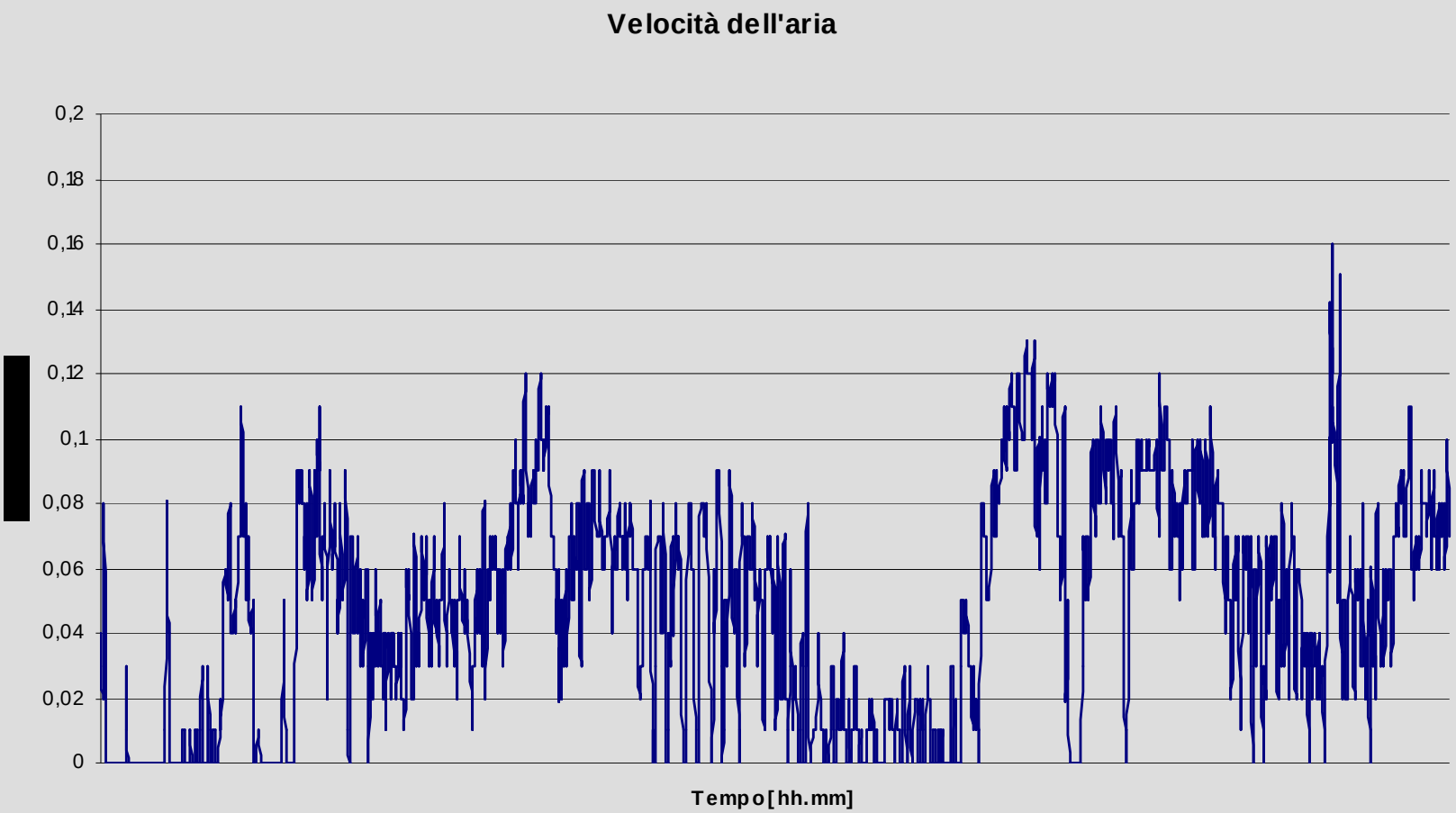
EXTERNAL CONDITIONS

- Date: 15.07.2004
- External temp.: 17-32°C
- System working from 8:30 to 18:30

METALLIC RADIANT CEILING: PPD 5%



AIR SPEED < 10 cm/sec.



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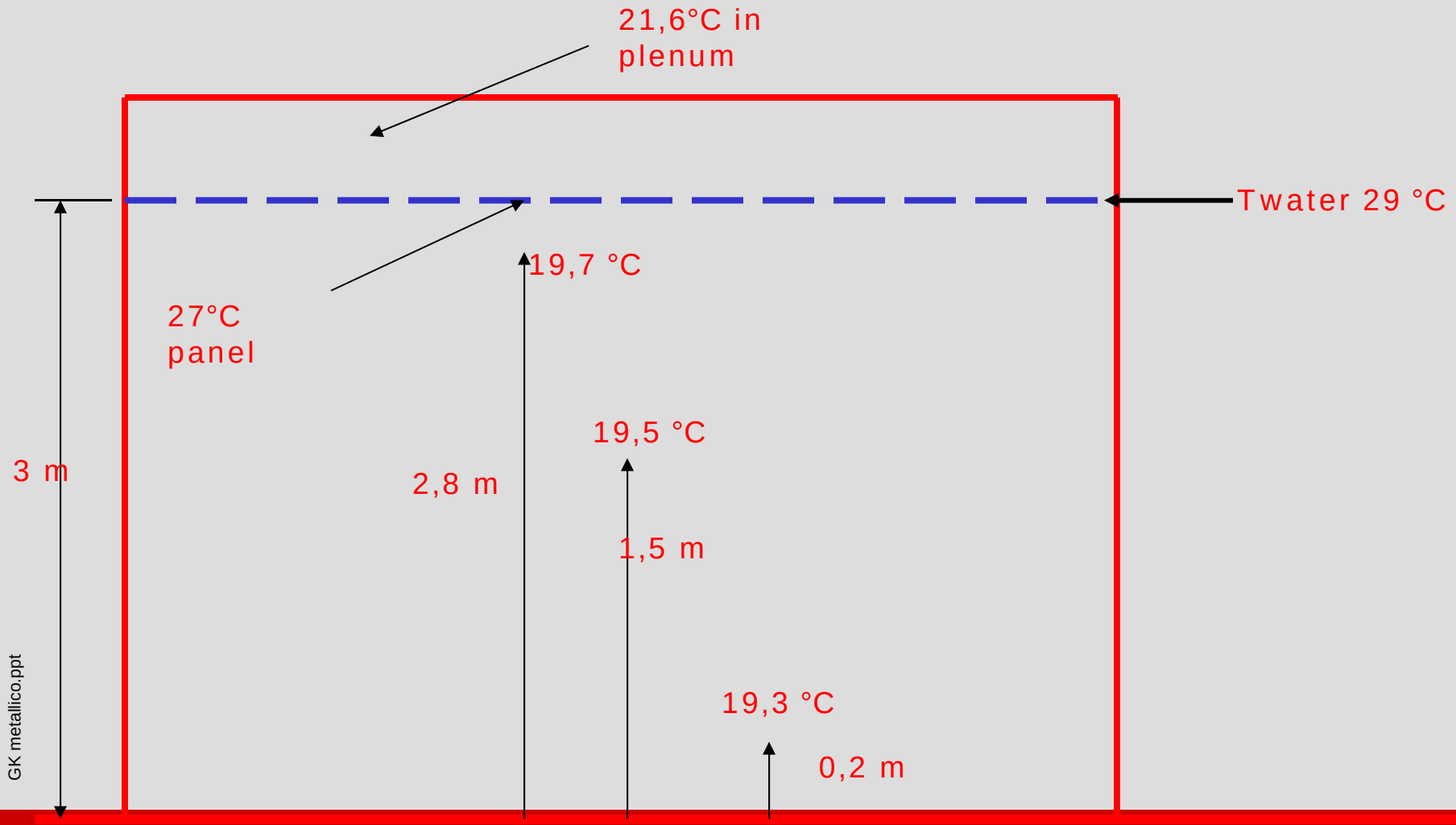
TEMPERATURE TEST (Heating)



OTHER ADVANTAGES

Ease of installation

-Structure assembled with screws, standard hanging systems

-Push fittings (RC) installed without tools

Flexible system

-Different zones control

-Flexible hydraulic system

-Possibility to change internal walls

High thermal output

-Aluminium plates

-Plates directly fixed onto the structure

-Direct flow of water in plates

Possibility to save space

-The space into the rooms becomes 100% avaiable

-Traditional systems do not allow the use of complete area

THE

SYSTEM WORKING:

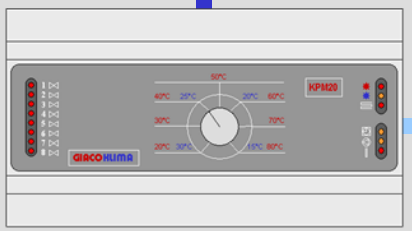
PRINCIPLES AND CONTROLS

GIACOKLIMA BUS SYSTEM

Controller (master)

- The system collects the data (temperature and relative umidity)
- The delivery temperature is chosen according to the room conditions in order to grant the maximum power output avoiding condensation

Primary bus



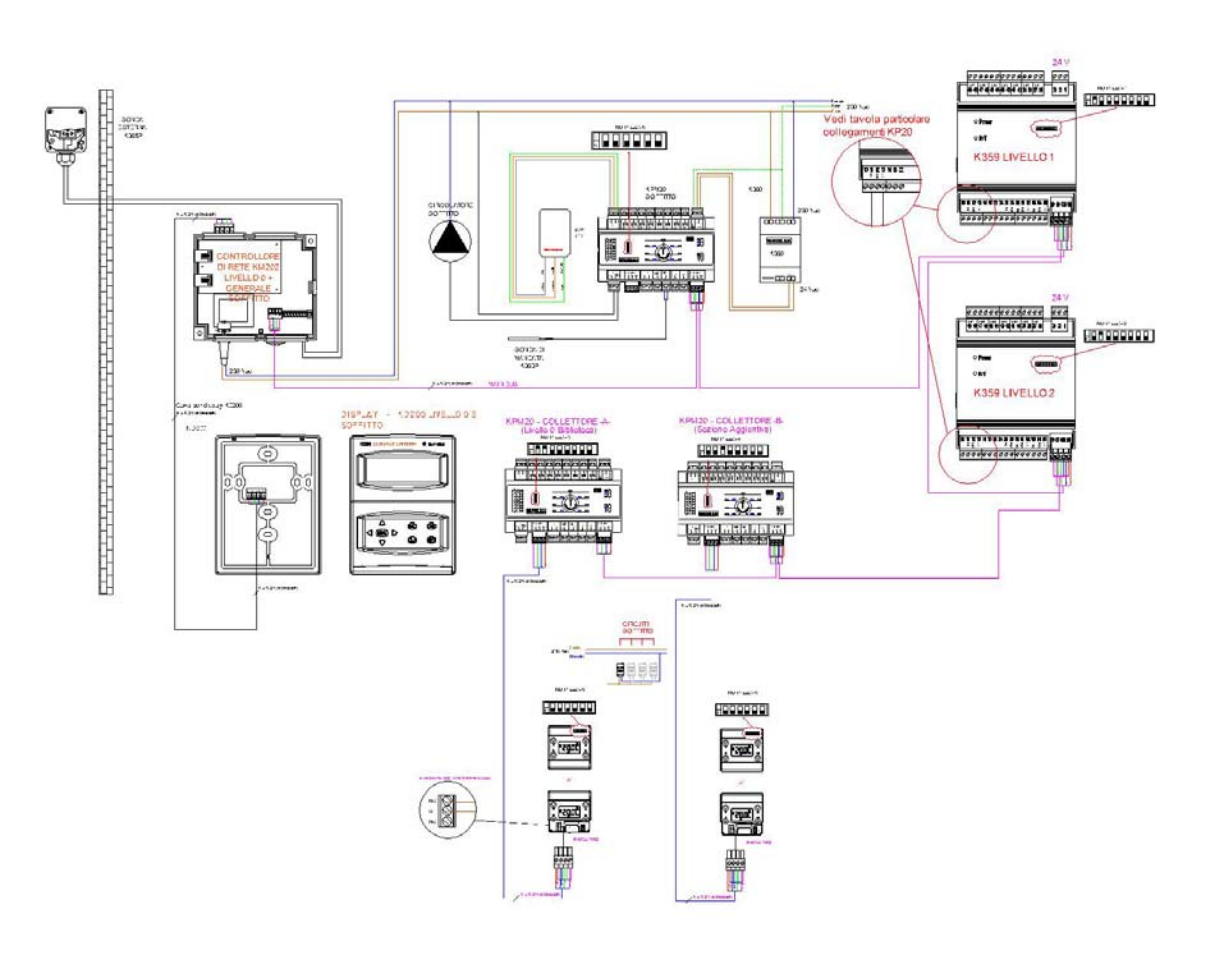
I/O Unit (slave)

Secondary bus

- - - - - -

K481 #1 **K481 #2** **K481 #3** **K481 #8**

PROJECT: ELECTRIC WIRING



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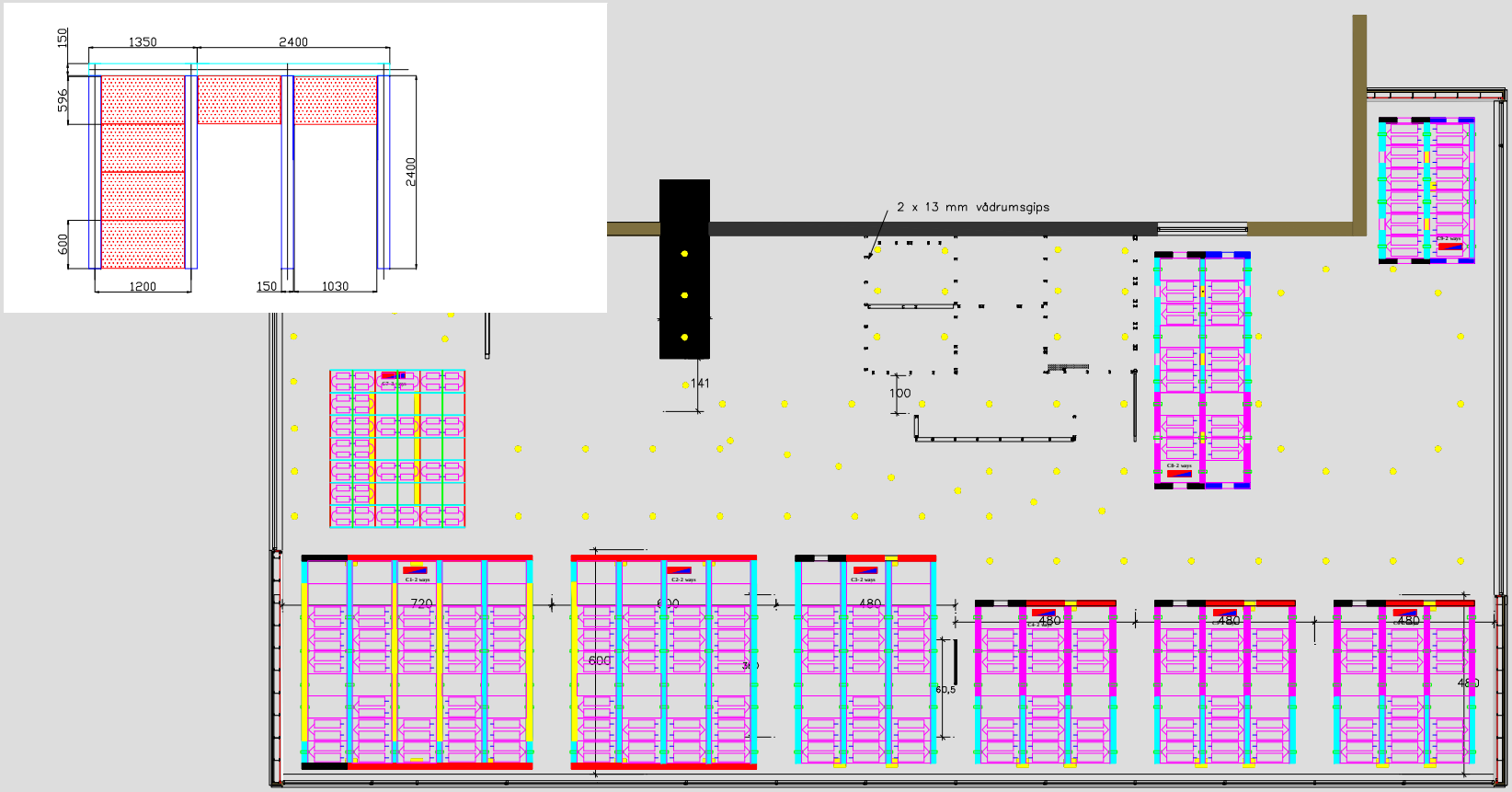
HOW TO INSTALL AND DESIGN A CEILING SYSTEM:

HENNING JENSEN BUILDING



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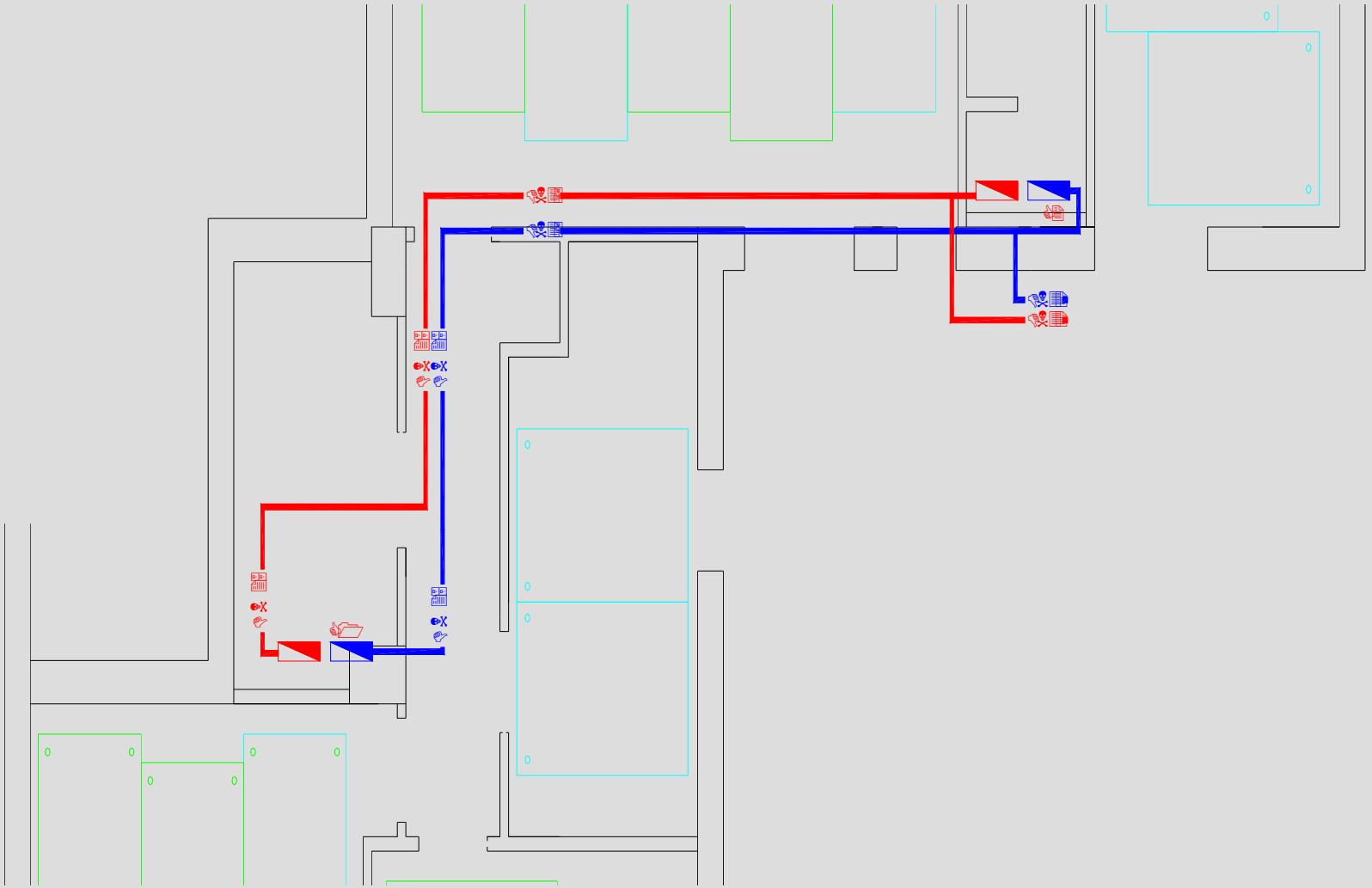
EXAMPLE MANIFOLD DISTRIBUTION



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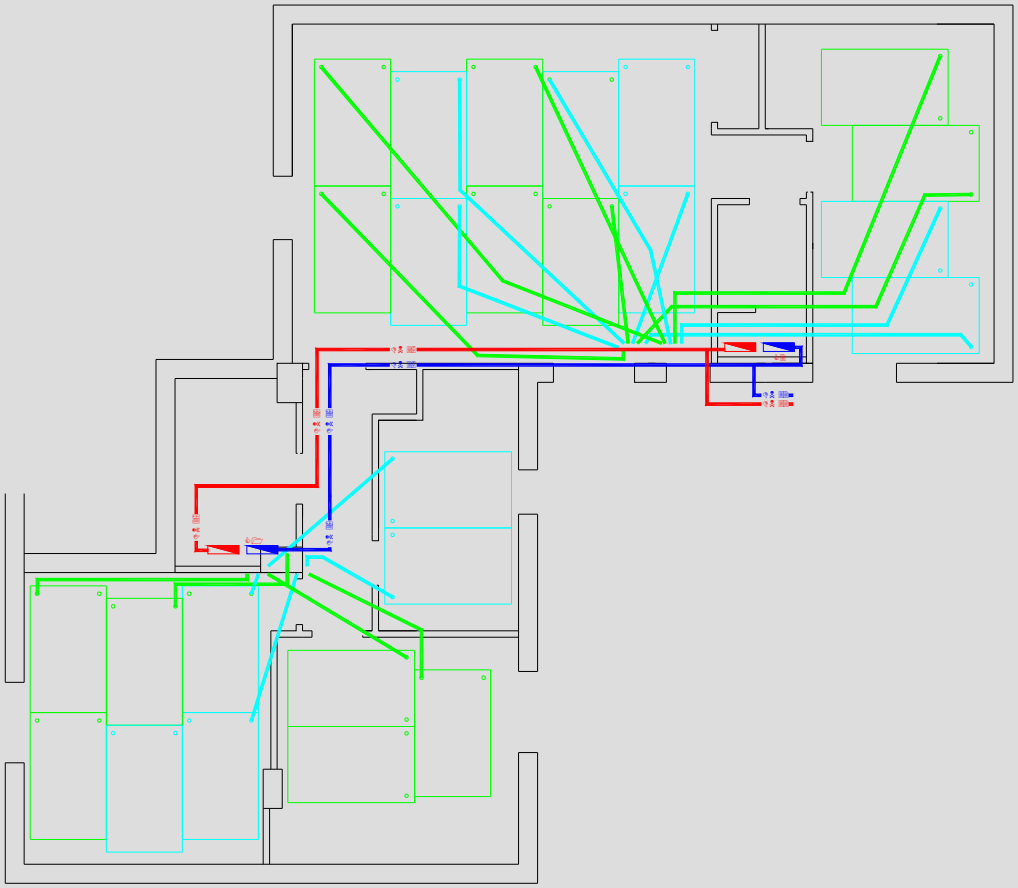
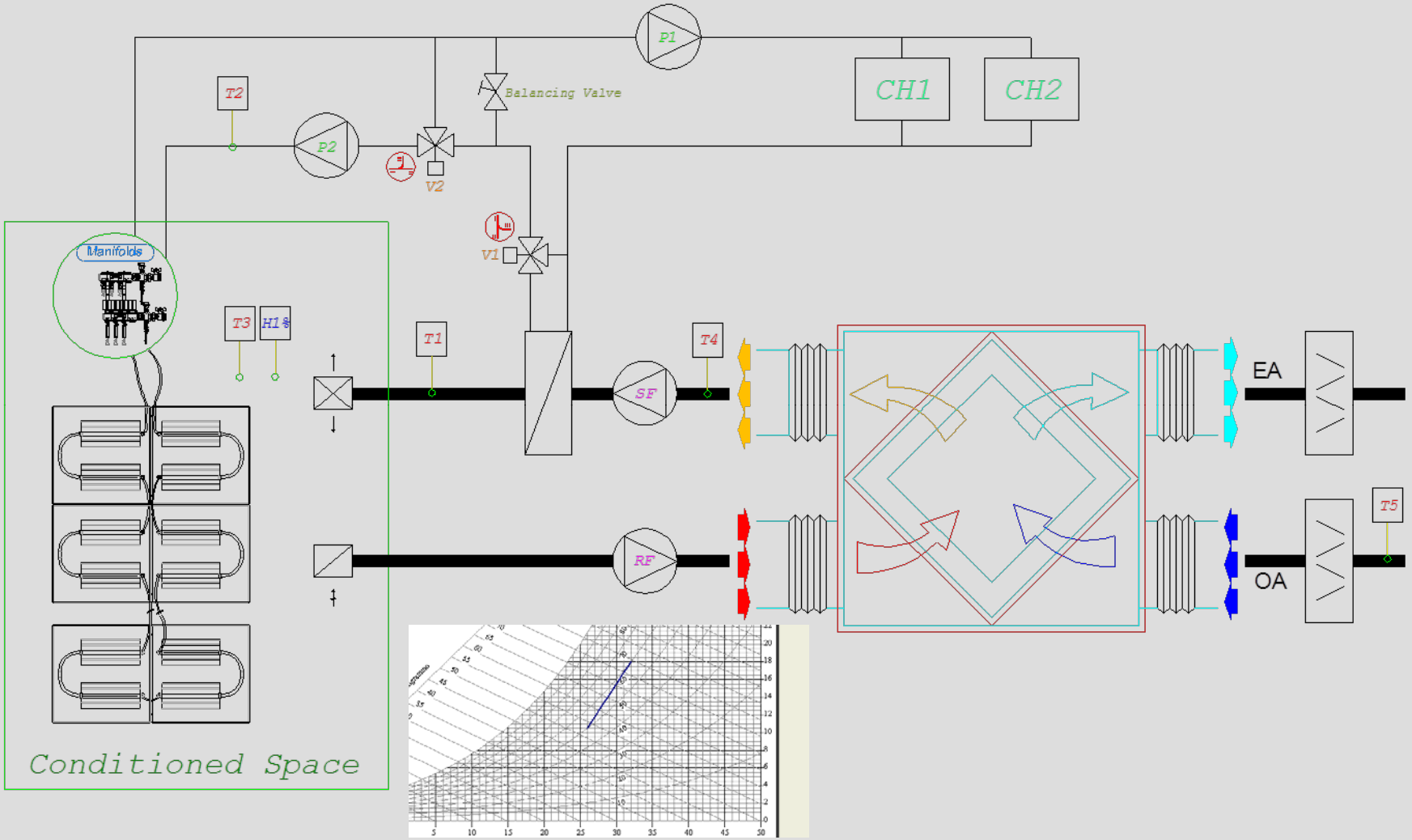
CONNECTION TO MANIFOLDS

(Different colours different circuits)



COOLING: SMALL AIR HANDLING UNIT TO CONTROL HUMIDITY



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