innova

OKKI

Preventing the heat,
cure the cold

The heat pump for the largest environments

The innovative heat pump system for winter and summer air conditioning of production buildings.


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OKKI

Heat pumps for cooling and heating of warehouses, production areas and warehouses.

Today, large rooms are usually heated with boilers and unit heaters - inefficient, noisy, complex and expensive to install fossil fuel systems that rarely offer integration for summer cooling.

OKKI is the heat pump solution for air-conditioning large spaces during all seasons efficiently, ecologically and economically. It offers optimal user comfort while providing a quiet environment and significantly greater ease of installation than other systems.

Heating

The problem of existing solutions: air stratification

Air heating systems are widely used in industrial plants to ensure comfortable and optimal temperatures.
However, these systems can lead to air stratification problems, with negative impacts on both thermal comfort and energy efficiency:

Lack of thermal comfort

Air stratification causes a significant temperature difference between the top and bottom of the room, causing thermal discomfort for operators, with areas too hot at the top and too cold at the bottom.

Energy Inefficiency

The accumulation of warm air in the upper part of spaces requires an increase in the temperature of the heating system to reach the desired level in the work zone, generating energy waste with the lower part underheated.

Uneven heat distribution

Air stratification can cause uneven heat distribution, with areas near the ceiling warmer and those at the bottom cooler, creating potential problems in industrial activities.

Increased heating costs

Energy inefficiency and the need for high temperatures in the heating system can significantly raise energy costs.

Environmental impact

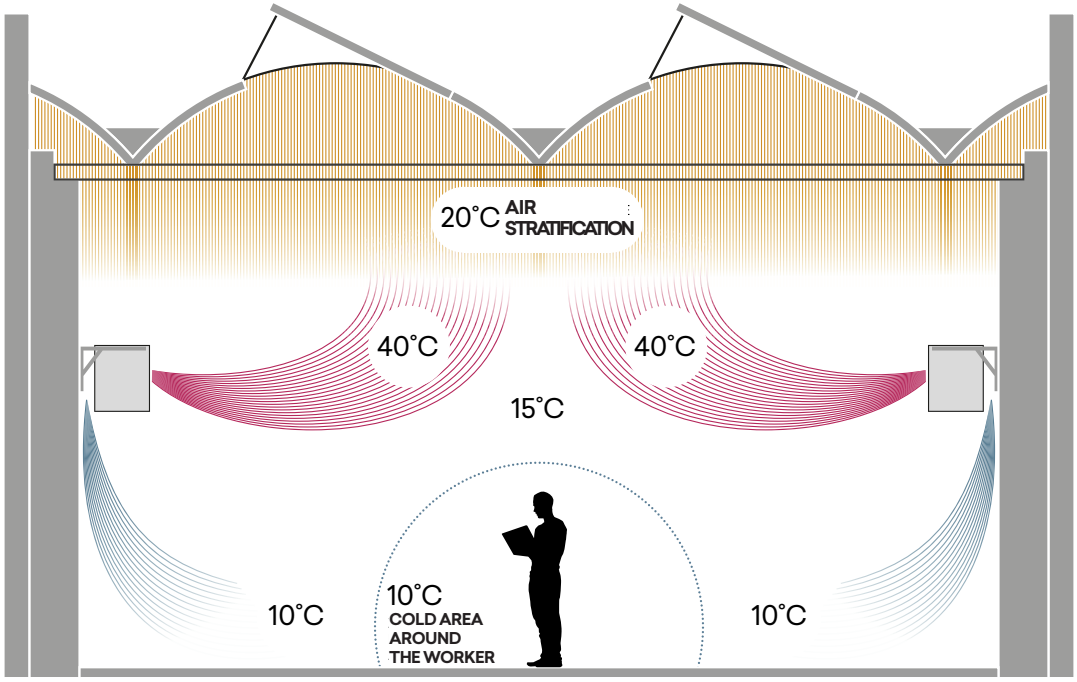
Inefficiency due to air stratification can increase energy consumption, contributing to increased greenhouse gas emissions, especially if the energy comes from nonrenewable sources.

ENERGY FROM FOSSIL FUEL

HIGH HEAT LOSS THERMAL

HEATING ONLY

Existing Solution



Air stratification

Air stratification occurs when warm air generated by the heating system accumulates at the top of the room, while cold air remains at the bottom. This phenomenon is the natural result of the tendency of the warmer, lighter air to rise upward, while the cooler, denser air remains downward.

Heating

The solution:
OKKI's Smart Jet system

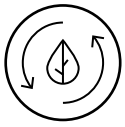
Through the combination of a heat pump operated by a state-of-the-art Inverter, EC Brushless supply fans and the motorized nozzles of the Smart Jet system, OKKI ensures optimal comfort in the area of interest, preventing any kind of heat loss. The movement dynamics of the nozzles adapt according to the temperature of the air input, preventing stratification and ensuring an ideal temperature exclusively in the occupied area.

The operation of OKKI consists of three key phases:

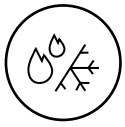
Pre-heating
Upon startup, the Smart Jet system directs the nozzles to a horizontal position. This prevents air, still not adequately warm, from being directed directly at people.

Rapid Heating
Once OKKI delivers air at the ideal temperature, power is maximized and the nozzles directed downward, ensuring rapid heating of the occupied area.

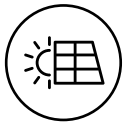
Maintenance with Air Blade Effect
Once the temperature in the occupied area has reached the desired level of comfort, OKKI finely modulates the power output. At this stage, the Smart Jet system, progressively orients the nozzles to a horizontal position generating an "air blade" that acts as a thermal barrier, optimizing heat distribution in the occupied area and preventing any upward dispersion.



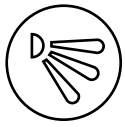
RENEWABLE ENERGY



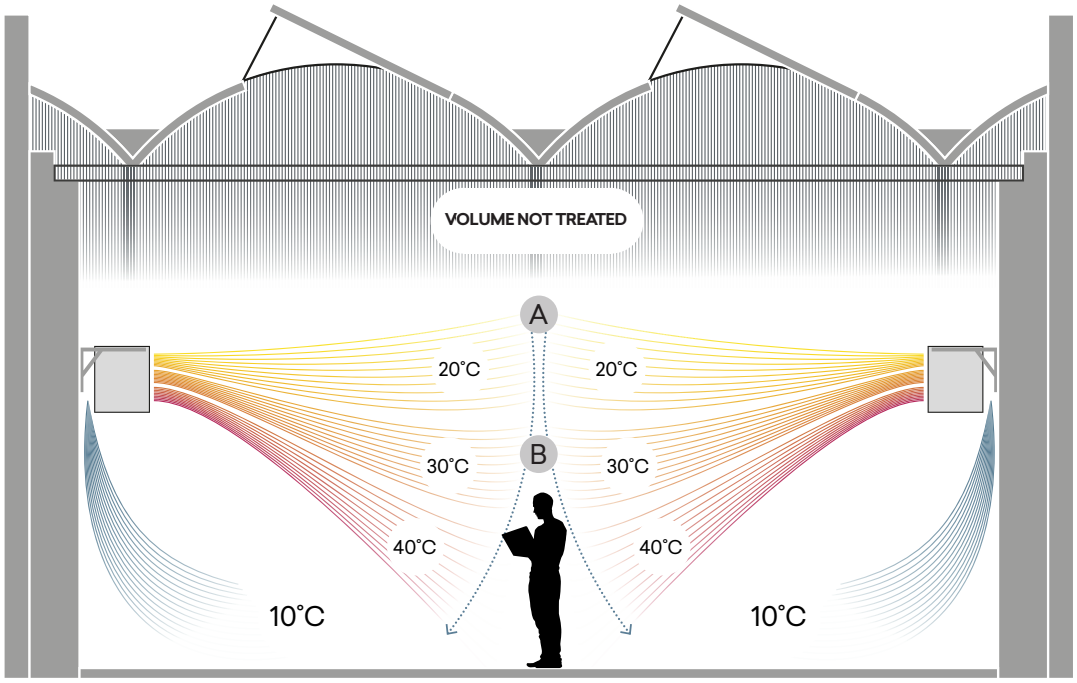
HEATING E COOLING



INTEGRATABLE WITH PHOTOVOLTAIC

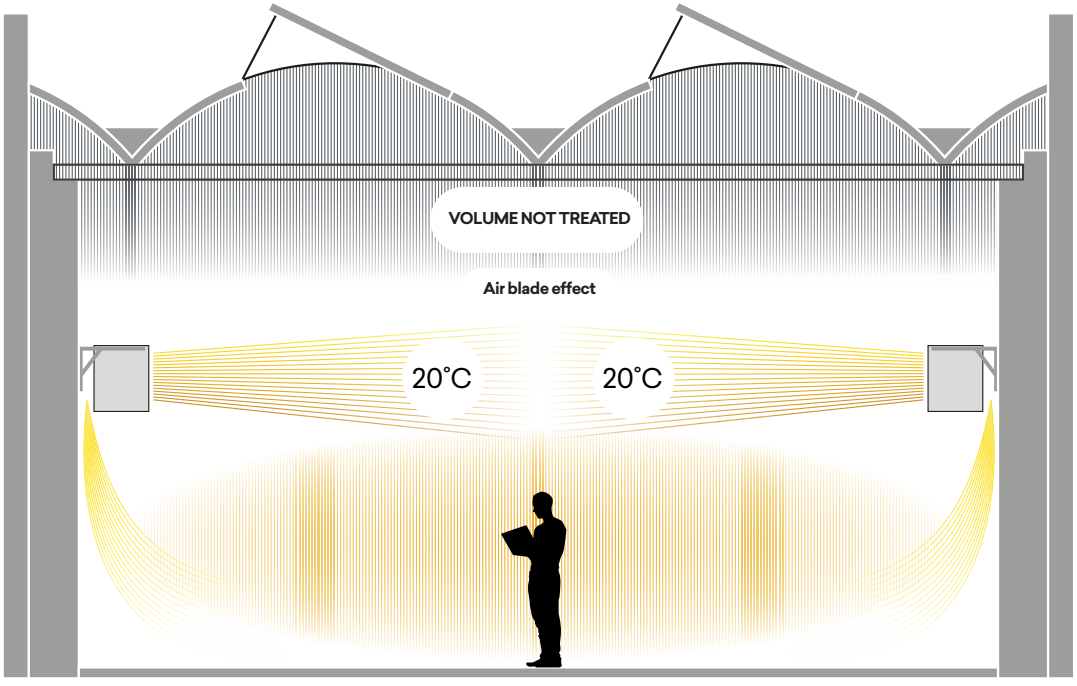


SMART JET FUNCTION



Pre-heating and Rapid Heating

A. Pre-heating
B. Rapid Heating



Maintenance with Air Blade Effect

Cooling

OKKI:
smart air conditioning for all seasons

Why limit yourself to using a heat pump only for heating when it can just as effectively cool rooms?

A modulated air-to-air cooling system offers unparalleled advantages for industrial facilities. This innovative solution not only boosts efficiency and productivity, but also contributes to comfort while reducing costs.

Advanced energy efficiency
Adapting the system to actual conditions ensures optimal energy utilization, reducing both consumption and costs.

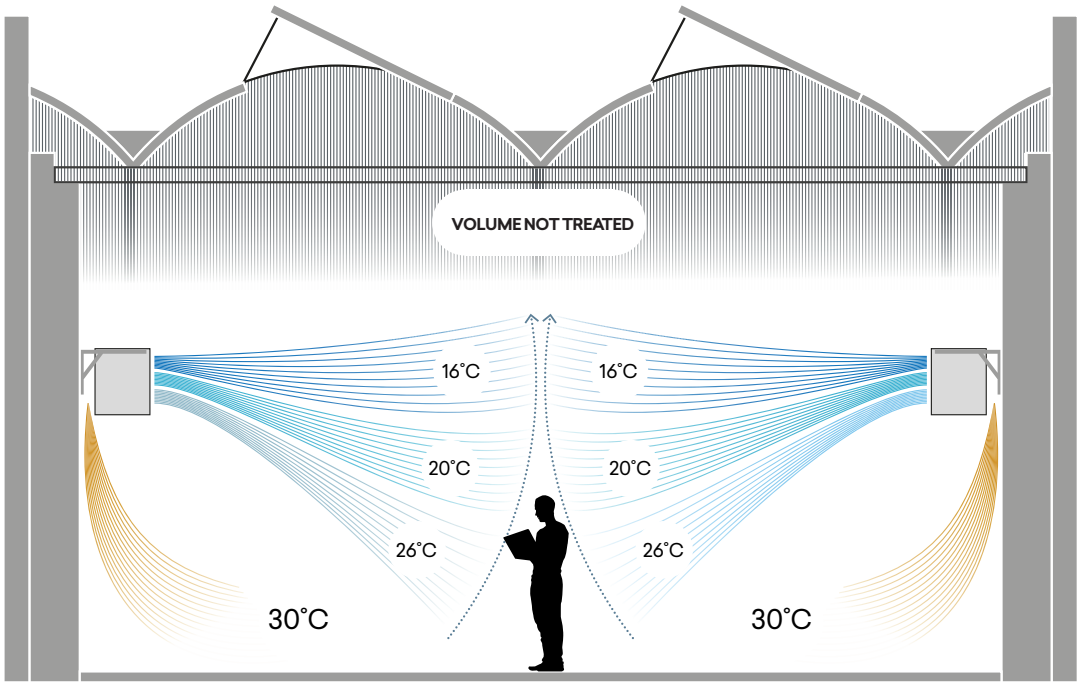
Constant thermal comfort
Temperature-dependent air modulation ensures uniform comfort, promoting a productive work environment.

Precise temperature control
Careful air modulation enables the maintenance of stable temperatures, which are essential in environments requiring specific standards.

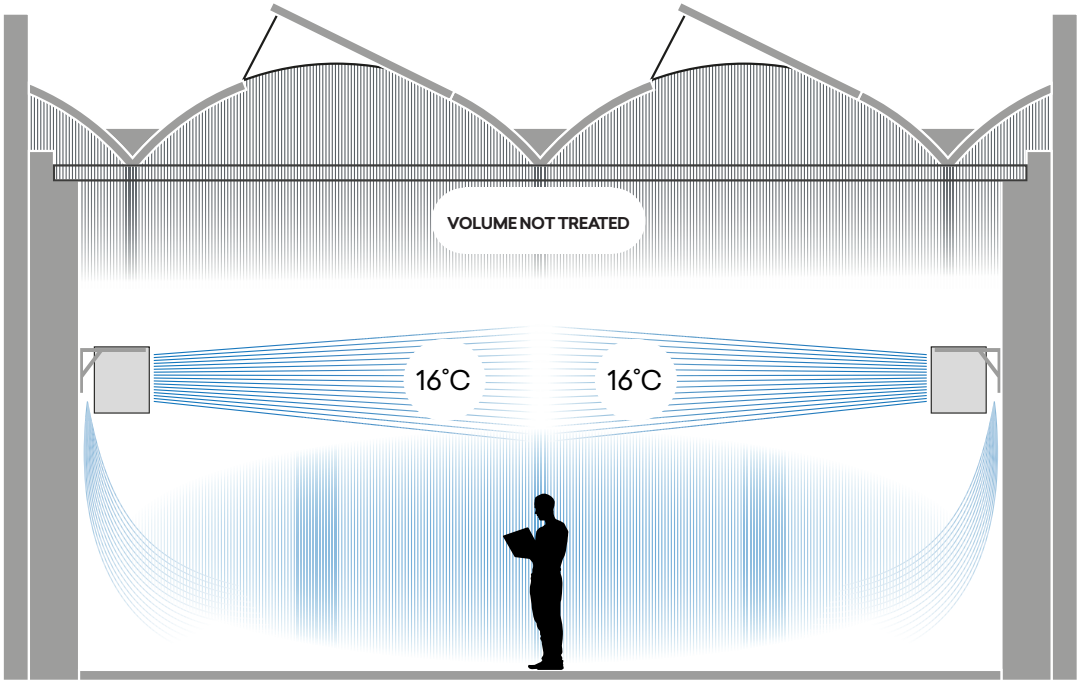
Minimization of stratification
The system distributes air evenly, avoiding temperature variations and improving both comfort and overall efficiency.

Energy Sustainability
Reducing the power required and integrating the system with photovoltaic systems generates significant long-term energy savings.

Reduction in operating costs
Lower consumption and optimized maintenance result in significant savings, which can be reinvested in the business.

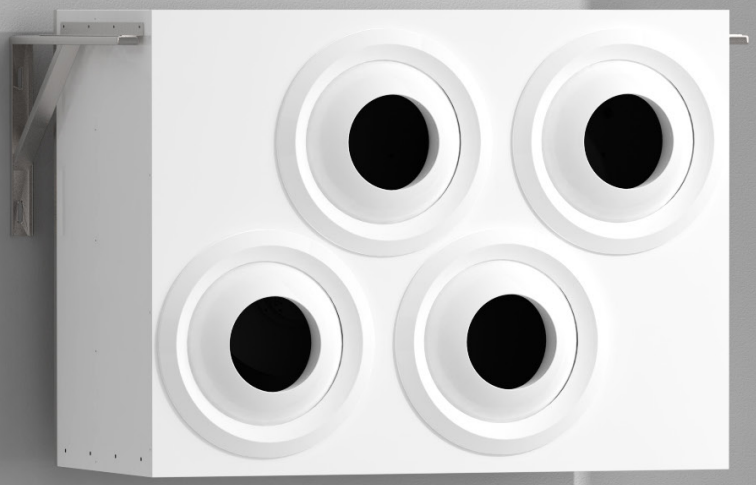


Pre-cooling and Rapid Cooling



Maintenance

OKKI



R32

COOLANT R32
Low-GWP refrigerant.

SMALL SIZE
Indoor unit with small size.

HIGH ENERGY EFFICIENCY

15-30 kW

POWER RANGE 15-30 KW

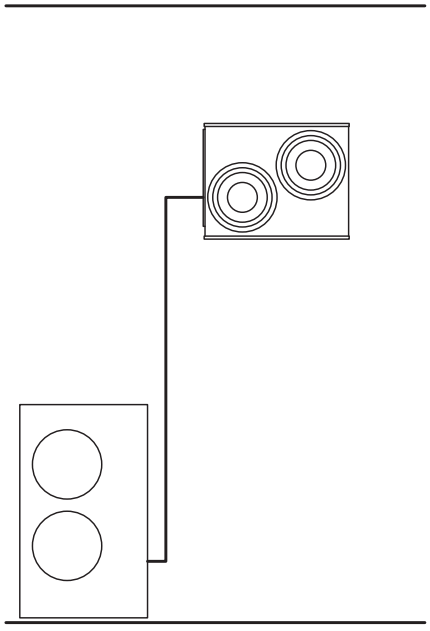
The heat pump
For large rooms.

OKKI is a system designed for large environments, such as industrial warehouses and extended spaces. A state-of-the-art solution that ensures maximum comfort and economy of use.

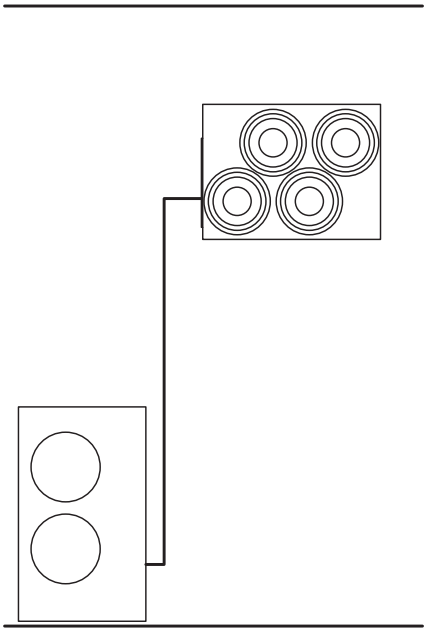
OKKI's indoor unit is equipped with the Smart Jet system:
an innovative system with motorized and self-directing nozzles that autonomously and independently adjust air direction and temperature, preventing stratification and ensuring that the desired temperature is maintained in the occupied area.

Sizes

15 T

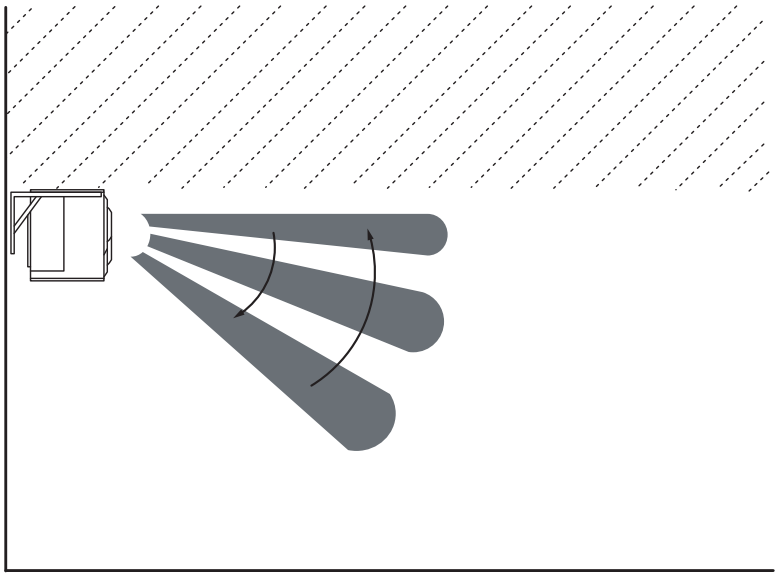


30 T



Indoor unit configurations

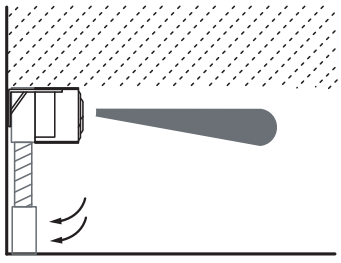
Smart Jet



Smart jet technology enables a ductless terminal, offering precise air throw control and advanced features for comfort and stratification prevention.

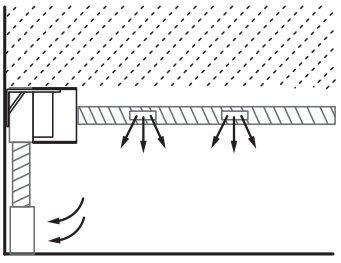
Additional configurations

Manual Jet



The Manual Jet configuration provides manual control of air direction. For installations greater than 3.5 m, displacement intake plenum is recommended.

Ducted



The Ducted configuration ensures accurate air distribution through the supply air ducting system. The use of the ducting grille accessory is required for accurate distribution.

To optimize these configurations, we recommend using the accessories ducted air intake plenum kit and floor air intake module.

Components

1 Fans

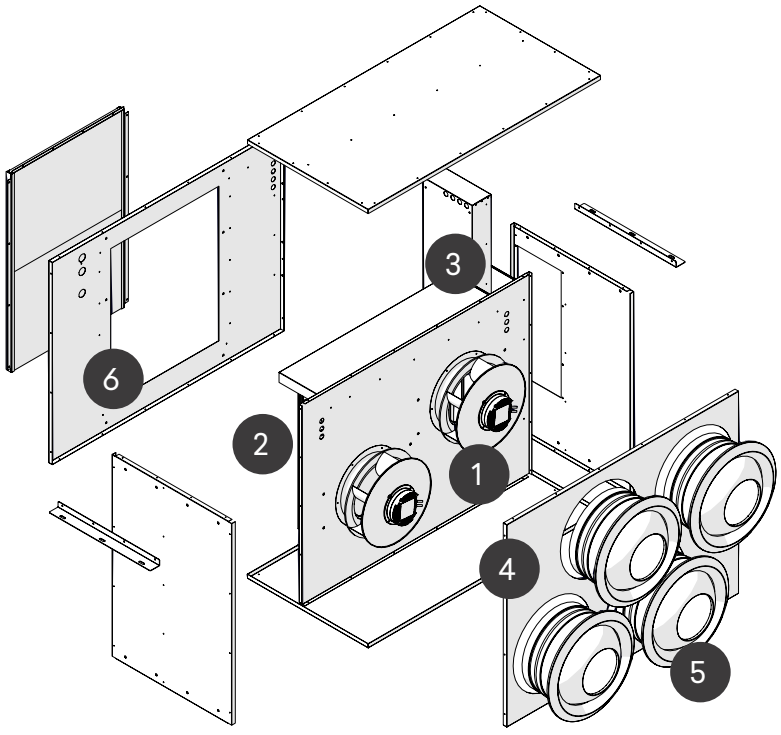
The unit is equipped with energy-efficient EC Brushless radial fans and built-in regulation that ensure optimal flow control.

2 Heat exchanger

High-performance air/air heat exchanger made of copper-aluminum material.

3 Electrical panel

Airflow-isolated electrical box with electronic control and regulation board.



4 Plate for nozzle housing

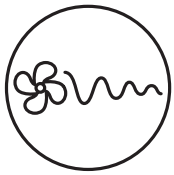
The front plate should be ordered according to the desired configuration; the unit will be delivered with the plate already mounted and, in the case of the motorized model, already wired.

5 Air supply nozzles

Motorized nozzles allow adjustment of air flow according to the temperature of the air input.

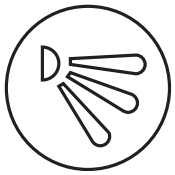
6 Air intake filters

The filters allow the unit to be protected from dirt particles and are easily replaced.



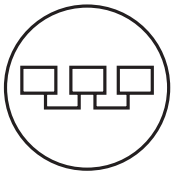
RADIAL FANS

I ventilatori centrifughi radiali con pale rovesce permettono un flusso d'aria compatto e pressioni elevate.



SMART JET FUNCTION

La funzione Smart Jet regola gli ugelli motorizzati in base alla temperatura dell'aria, distribuendo uniformemente il calore nella zona occupata, garantendo comfort personalizzato e riducendo gli sprechi energetici.

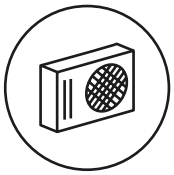


MULTIPLE INSTALLATION

OKKI's modularity allows multiple installation of units to meet even open or very large environments.

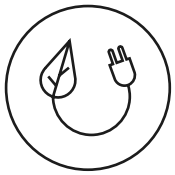
ACOUSTIC COMFORT

Quiet and efficient OKKI ensures maximum comfort of the environment with minimum noise.



OUTDOOR UNIT

The OKKI system includes an outdoor heat pump unit with low GWP (675) R32 refrigerant connected to the indoor unit through refrigerant lines.

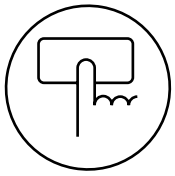


DC INVERTER

Thanks to DC Inverter technology, powers are optimized for maximum comfort with the lowest consumption and noise.

EASE OF INSTALLATION

OKKI integrates all system components for quick and easy installation. Equipped with brackets for wall mounting, it only needs connections to the outdoor unit.



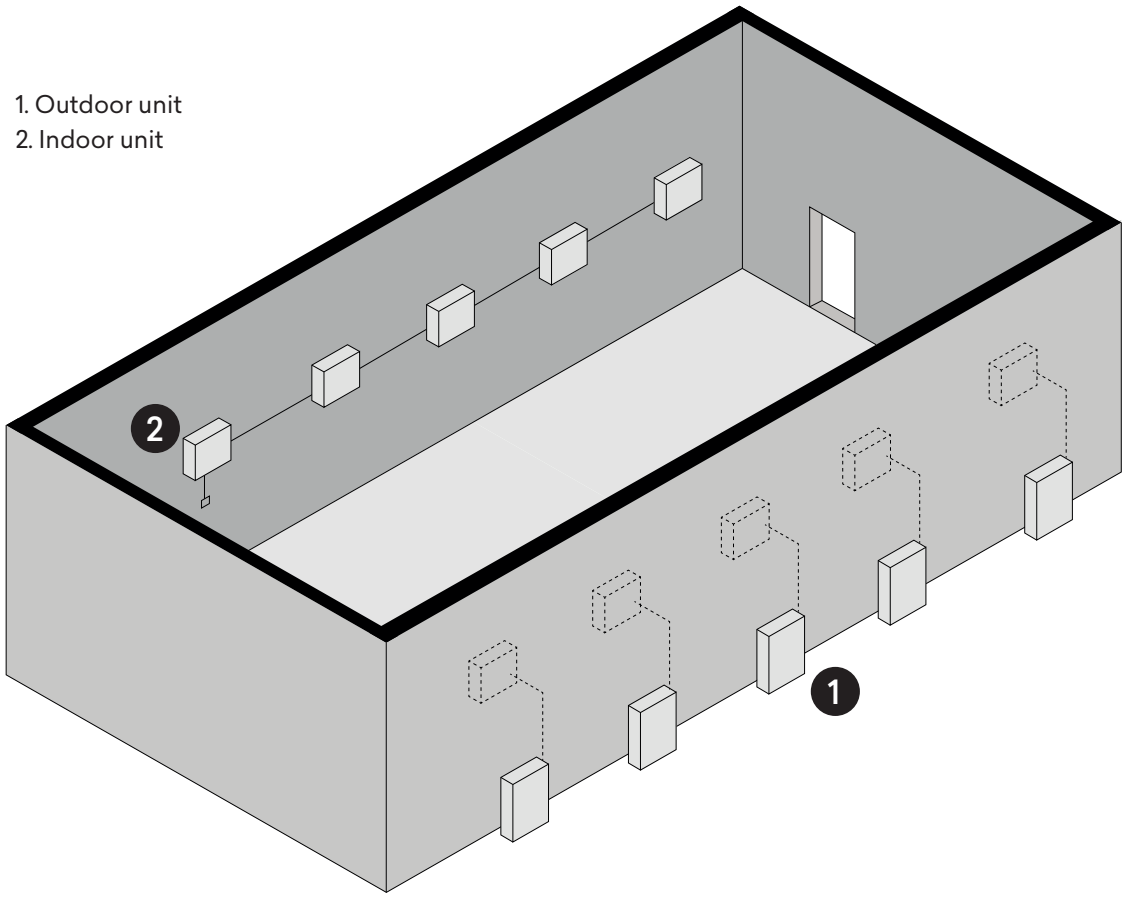
COMMANDS

Remote controls with the highest level of graphical user interface both aesthetically and functionally allow control of all functions of the unit.

An efficient modular system for maximum comfort

OKKI is a modular system that allows multiple installation of units. It includes all the necessary components for quick and easy installation, with wall mounting brackets and needing only the refrigerant connections to the indoor unit.

1. Outdoor unit
2. Indoor unit

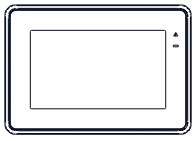


Electronic controls

Single unit configuration or multi-unit with independent management.

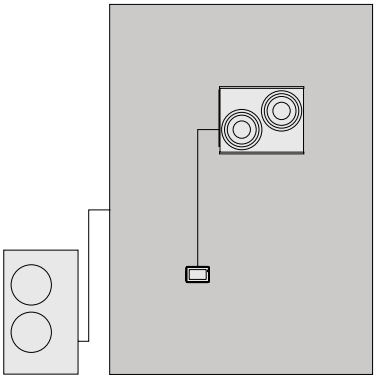
The standard unit provides for paired operation with the remote panel, which is available as an accessory. Each individual unit is connected to its own control.

ModBus



- Series connection via RS485 modbus port
- Single connection for each unit

cod:	
AHRX0012II	Digital remote control with touch screen
AHRP0681II	Recessed box for remote control installation



Configuration multi-unit.

The multi-unit configuration allows multiple units to be connected under one control, offering two connection options:

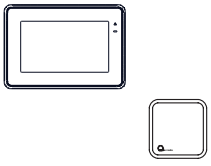
- **Modbus** - With modbus cable connection for each individual unit
- **WiFi** - With module for radio communication between units

ModBus

- Modulating speed
- Controls up to 7+1 units
- Porta RS485 modbus
- Single connection for each unit

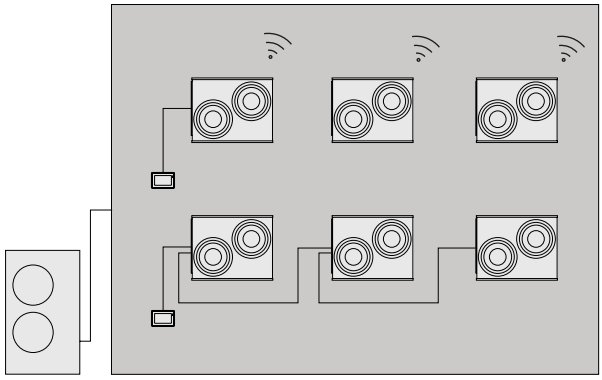
cod:
AHRX0012II
AHRP0681II

WiFi



- Maximum indoor distance with walls 50-70 m
- Controls up to 7+1 units
- Set up a WiFi module for each unit

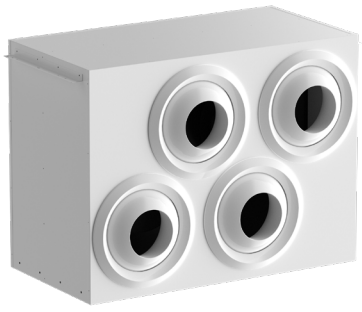
cod:
AHRX0012II
AHRX0013II
AHRP0681II



Configuration options

Configurazione Smart Jet

Smart Jet



Displaced configurations

Manual Jet

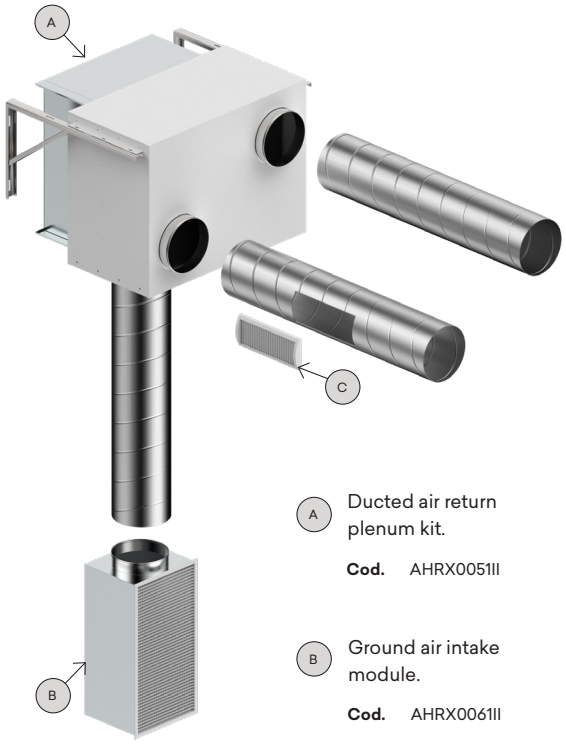
A Ducted air return plenum kit.

Cod. AHRX0052II

B Ground air intake module.

Cod. AHRX0061II

Ducted



A Ducted air return plenum kit.

Cod. AHRX0051II

B Ground air intake module.

Cod. AHRX0061II

C Duct grille for air supply.

Cod. AHRX0071II

Accessories of installation

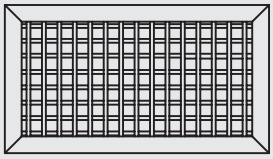
Grille from duct for air supply

Description

Duct grille for air supply for configurations with ducting. Internal dimensions only grille (bxh) 400x200 mm. Air flow rate 500 m³ /h - throw 7 m

Provide:

- 5 grids for size 15 kW
- 10 grids for size 30 kW



Codes

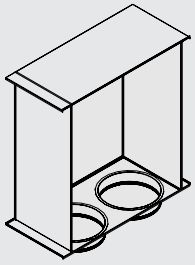
AHRX0071II For both sizes 15 and 30 kW

Ducted air return plenum kit

Description

Rear air intake module with lower connection for displacement module.
Attachments:

- size 15 kW - 1xDN 355 mm
- size 30 kW - 2xDN 355 mm



Codes

AHRX0051II by size 15 kW
AHRX0052II by size 30 kW

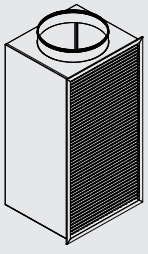
Ground air intake module

Description

Ground air intake module for dislocation supplied complete with grille and filter.

Attachments:

- size 15 kW - 1xDN 355 mm
- size 30 kW - 2xDN 355 mm



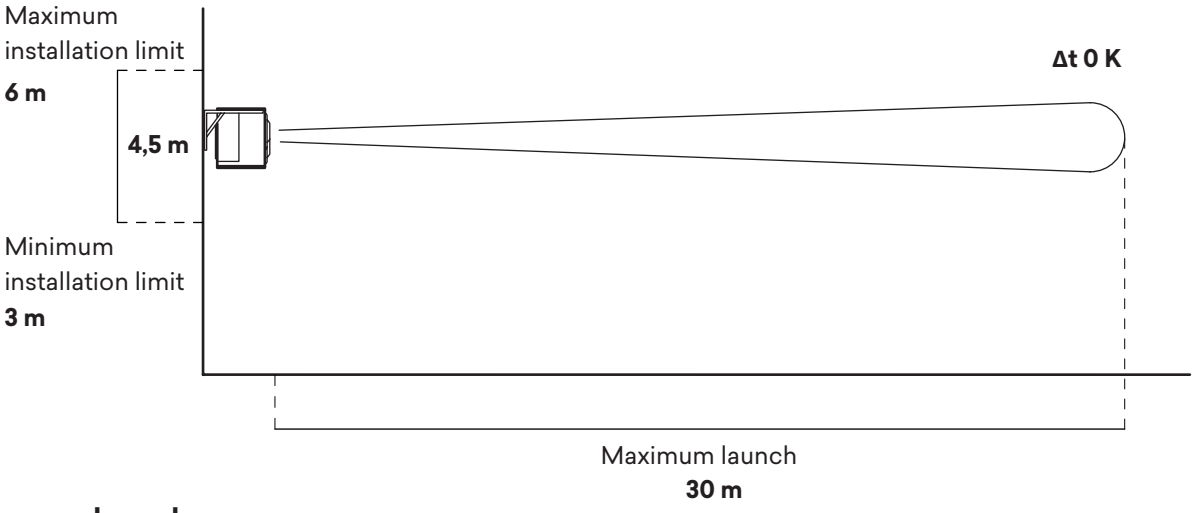
Codes

AHRX0061II by size 15 kW

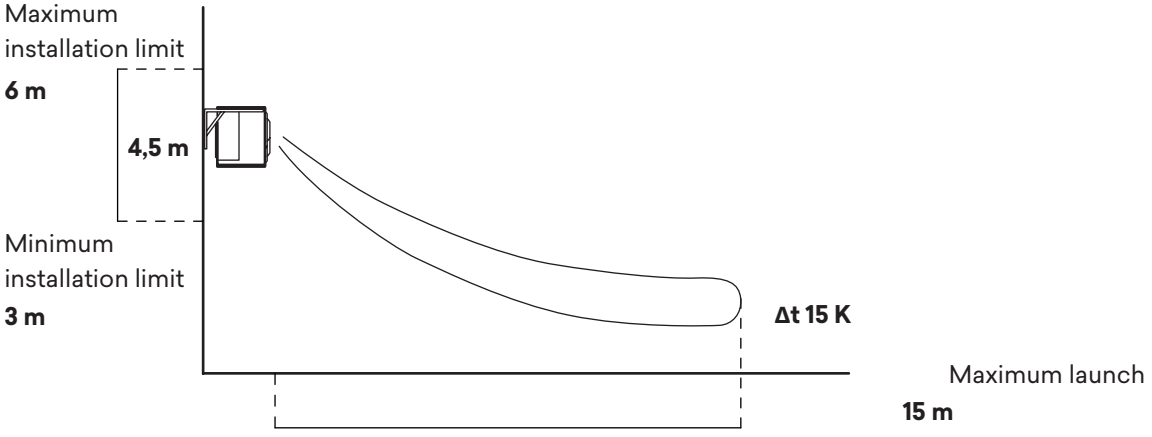
(*) The air intake accessory is to be used only for installations exceeding 3.5 m.

Indoor unit air throws

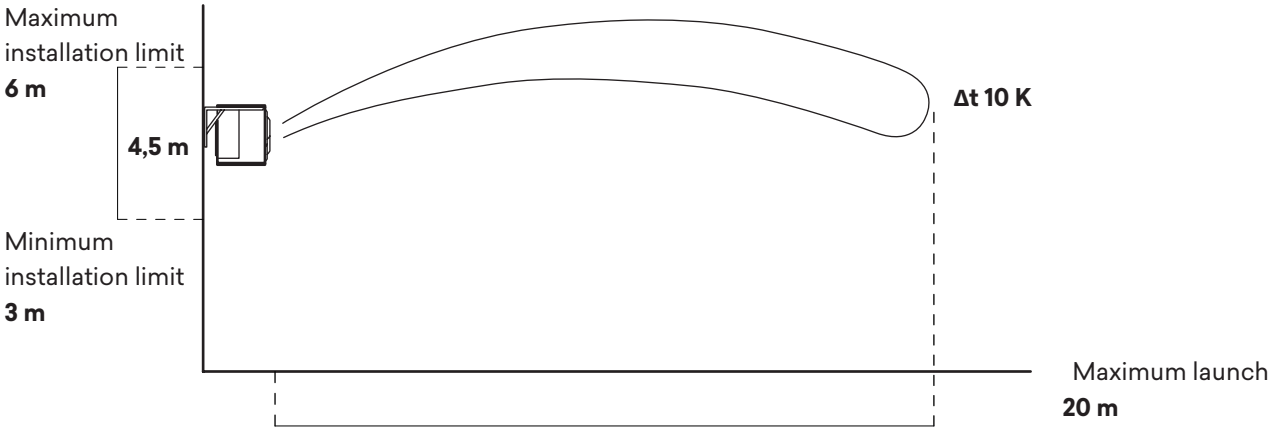
Isothermal launching



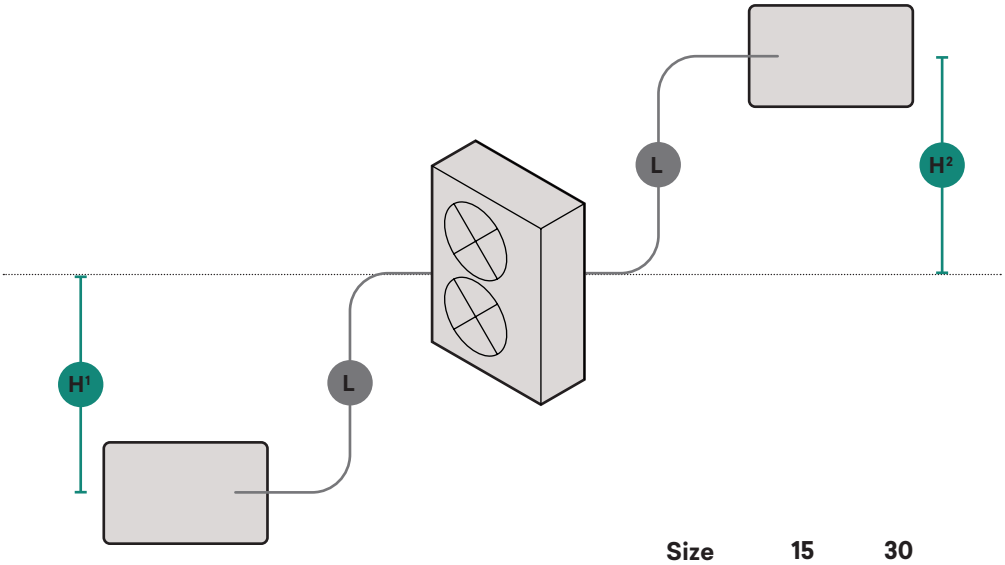
Warm-up launch



Cooling launch

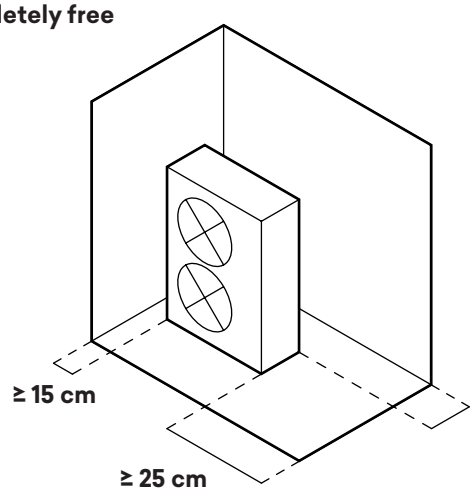


Outdoor unit

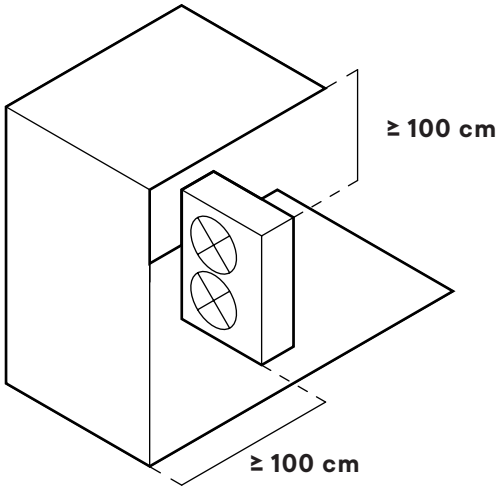


Size	15	30
L	50 m	90 m
H1	30 m	30 m
H2	15 m	30 m

Front side completely free



Free rear side



Data sheet

Model	u.m.	OKKI 15 T	OKKI 30 T
INDOOR UNIT			
HEATING PERFORMANCE (A 7/6; A 20) (1)			
Rated total power output - minimum - maximum	kW	13,40 - 3,40 - 16,00	28,00 - 5,50 - 29,00
COP (minimum - maximum) (2)		3,76 (3,03 - 5,23)	3,71 (3,05 - 5,00)
COOLING PERFORMANCE (A 35; A 27/19) (3)			
Rated total power output - minimum - maximum	kW	13,40 - 3,30 - 15,00	23,20 - 6,10 - 27,00
EER (minimum - maximum) (2)		3,26 (2,93 - 5,08)	3,24 (2,56 - 4,59)
AERAULIC PERFORMANCE			
Nominal air flow rate	m^3/h	2500	5000
Useful prevalence	Pa	170	170
SOUND LEVELS			
Radiated sound power in the channel Lw	dB (A)	60	64
Average sound pressure at 5 m Lp	dB (A)	39	42
ELECTRICAL CHARACTERISTICS			
Power supply	V/ph/Hz	230/1/50	230/1/50
Nominal absorbed power	kW	0,4	0,8
Total absorbed current	A	1,83	3,66
Degree of protection	IP	X2	X2
CONNECTIONS			
Air connections	mm	355	355
Condensate drainage connection	mm	30	30
EXTERNAL UNIT			
AERAULIC PERFORMANCE			
Maximum air flow rate in heating	m^3/h	6960	9600
Maximum air flow rate in cooling	m^3/h	7740	9600
SOUND LEVELS IN HEATING/COOLING			
Sound power transmitted to the structure Lw	dB (A)	71	82/78
Average sound pressure at 5 m Lp	dB (A)	54	63/59
COMPRESSOR			
Type		Rotary inverter	
Number	Nr.	1	1
Refrigerant type		R32	
Refrigerant quantity	kg	3,05	5,20
ELECTRICAL CHARACTERISTICS			
Power supply	V/ph/Hz	400/3/50	
Total maximum power consumption	kW	5	9
Total absorbed current	A	7,60	13,67
Degree of protection	IP	X4	X4
LIMITS			
Heating - outside air min/max	°C	-15/48	-20/24
Cooling - outside air min/max	°C	-20/24	-15/46
CONNECTIONS			
Liquid connection	“SAE	3/8	1/2
Gas connection	“SAE	5/8	1

(1) Outdoor air temperature: 7 °C b.s. and 6 °C b.u.; Room air temperature: 20 °C
(2) EER and COP rating according to EN14511.
(3) Outdoor air temperature: 35 °C b.s.; Room air temperature: 27 °C b.s. and 19 °C b.u.

Dimensional

15T

Unit
2 nozzles

MODEL		15T
L	mm	1010
P	mm	893
H	mm	802
Peso	kg	75,0

Units
Biventola

MODEL		15T
L	mm	940
P	mm	340
H	mm	1416
Peso	kg	98,0

30T

Unit
4 nozzles

MODEL		30T
L	mm	1360
P	mm	953
H	mm	1026
Peso	kg	97,0

Units
Biventola

MODEL		30T
L	mm	980
P	mm	370
H	mm	1500
Peso	kg	128,0

By replacing the old traditional generator, you have the opportunity to benefit from important economic incentives such as the Conto Termico 2.0 and the 65 percent tax deduction.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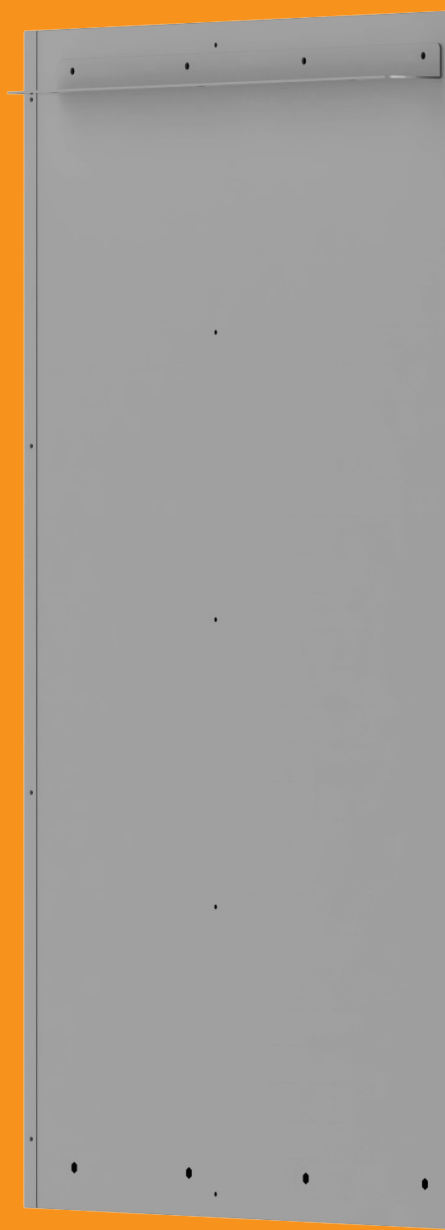

INNOVA s.r.l.
Via 1° Maggio, 8
38089 Storo (Tn)
Tel. +39 0465 670104
Fax: +39 0465 674965
info@innovaenergie.com

www.innovaenergie.com

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