aeris



INDUSTRIAL AIR SOLUTIONS

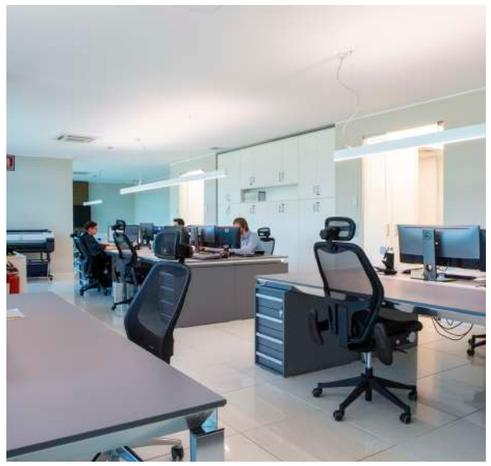
Innovation – Efficiency – Sustainability


aeris

WELCOME TO AERIS

AERIS is an Italian company with over 30 years of experience in the industrial plant engineering sector. Active in international markets, we grow alongside our clients and partners, driven by innovation, quality, and service. From design to the construction of systems for every air treatment need, we are the go-to partner for companies focused on efficiency and sustainability









The **technical know-how** of highly specialized professionals with many years of experience in air engineering, combined with the innovative strength of a modern company operating on an international scale, form the foundation for the development and continuous growth of our business.

This operational approach has enabled us to become an EPC contractor capable of understanding and meeting all the needs of our customers.

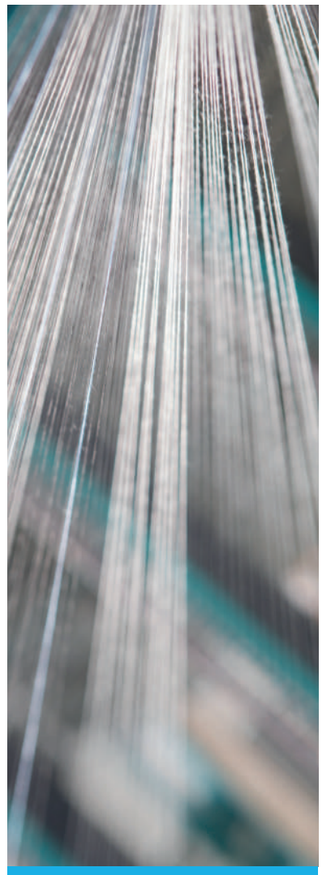




CORPORATE



INDUSTRIAL DIVISION



TEXTILE DIVISION



NONWOVEN DIVISION

aeris

mazzinilci TEXTILE AIR SOLUTIONS

ALENA AIR ENGINEERING NW

MISSION & VISION

MISSION

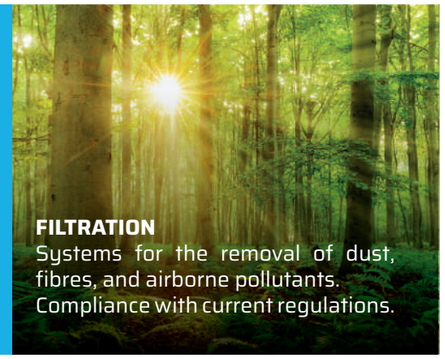
We design and build innovative systems for air treatment and climate control in industrial environments, offering tailor-made solutions that enhance well-being, productivity, and safety, with constant attention to energy efficiency, sustainability, and regulatory compliance.

VISION

To become recognized leaders in industrial air engineering solutions, anticipating market needs and generating sustainable value for clients, partners, and stakeholders. We aim to drive the sector's growth through continuous innovation, specialized expertise, and a vision focused on responsible development and business competitiveness.

CORPORATE

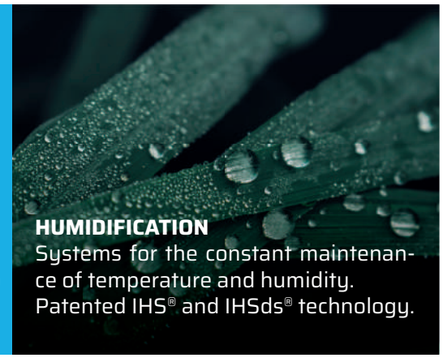
AERIS YOUR PARTNER FOR



FILTRATION
Systems for the removal of dust, fibres, and airborne pollutants.
Compliance with current regulations.



AIR CONDITIONING
Precise control of temperature and humidity parameters.
Solutions for environmental comfort and production processes.



HUMIDIFICATION
Systems for the constant maintenance of temperature and humidity.
Patented IHS® and IHSds® technology.

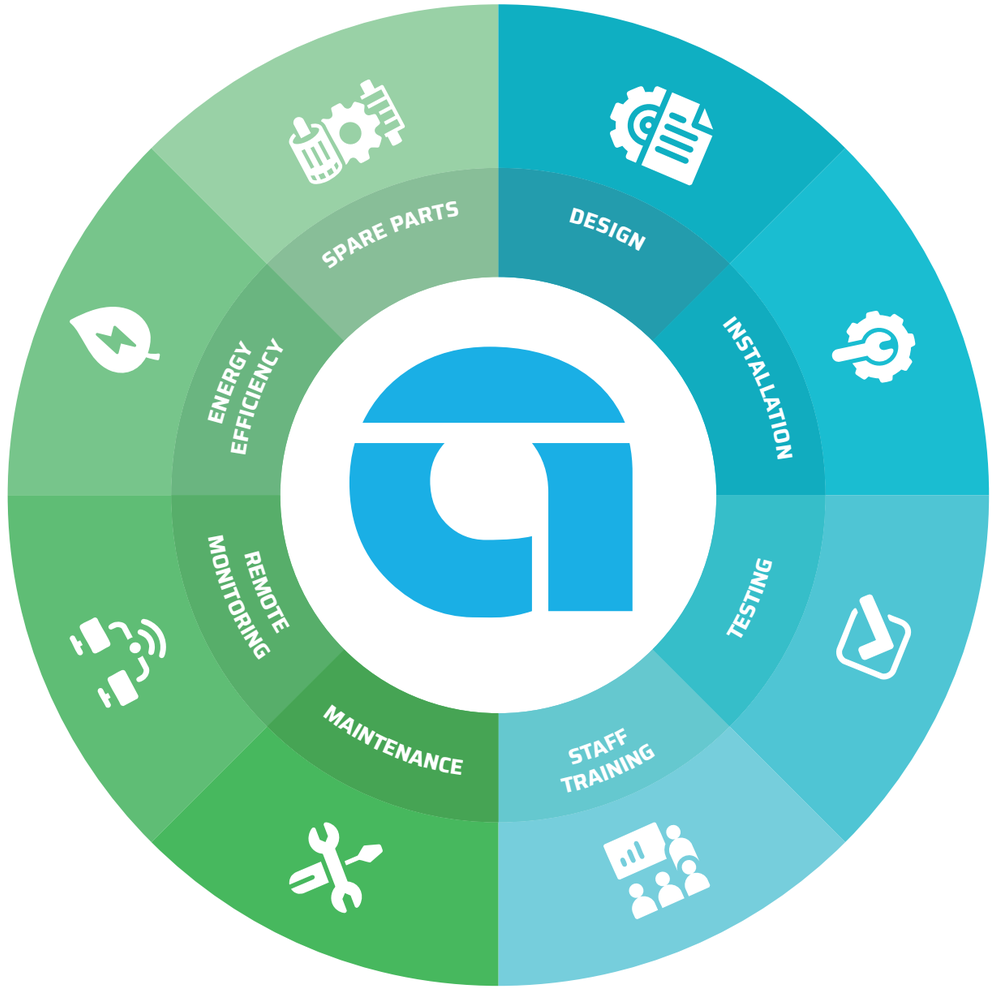


ENERGY EFFICIENCY
Heat recovery and intelligent consumption management: sustainable solutions with high energy efficiency for the green economy.



EVAPORATIVE COOLING
Natural evaporative cooling with fixed or mobile units, without refrigerant gases: the ideal solution to reduce thermal stress in industrial environments.

OUR SERVICES



CORPORATE

CORPORATE

AIR FOR EVERY INDUSTRIAL ENVIRONMENT



PAPER CONVERTING



CHEMICAL



CARPENTRY



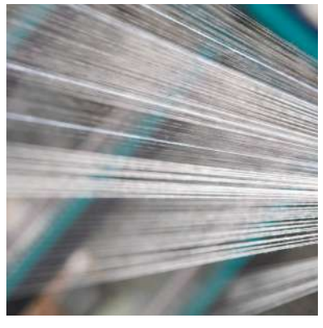
MECHANICAL



MILLING



PET FOOD



TEXTILE



NONWOVEN FABRIC



FOUNDRY & FORGING



RUBBER & PLASTIC



METALWORKING



NAUTICAL



OIL & GAS



PAINTING

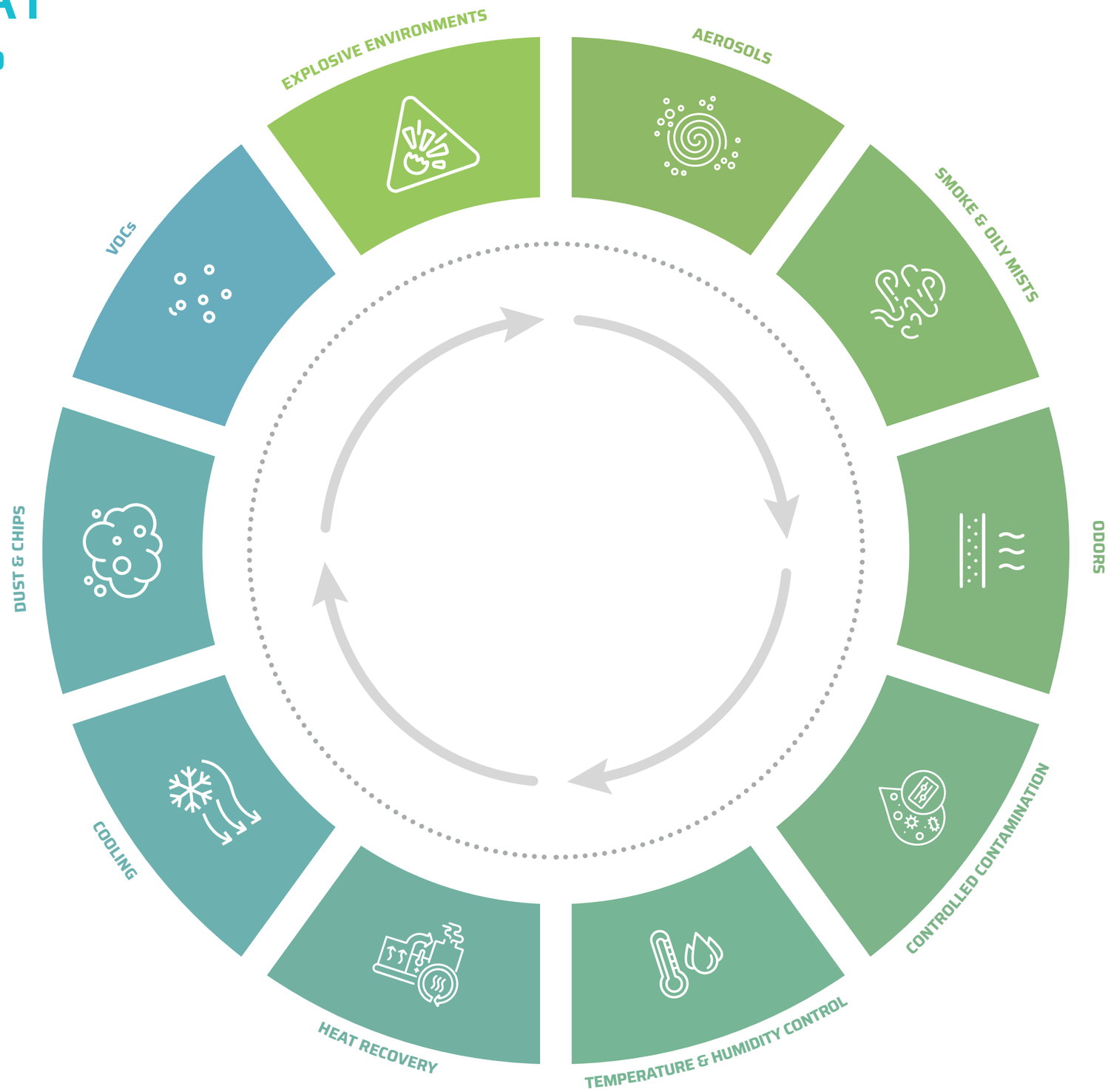


OTHER APPLICATION



INDUSTRIAL

WE TREAT AIR 360°



The choice of the most suitable treatment depends on the specific needs of the industrial process, considering factors such as the nature of the dust, the temperature of the gases, and the operating conditions.

Proper design and maintenance ensure high performance and compliance with current regulations on industrial emissions.

Every Aeris system can be customized to meet specific industrial requirements, guaranteeing safety, efficiency, and regulatory compliance

INDUSTRIAL

BAG OR SLEEVE FILTERS

Pollutant
Dust
Chips
VOCs
Welding fumes







CARTRIDGE FILTERS

Pollutant
Dust
Chips
VOCs
Welding fumes







INDUSTRIAL

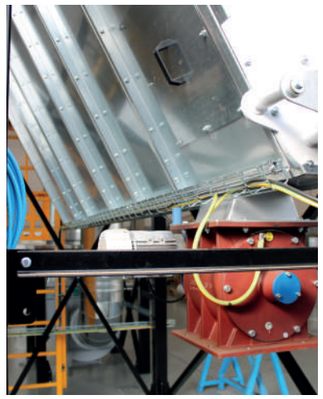
FILTERS FOR SPECIAL AND HEAVY-DUTY APPLICATIONS





Application: Cutting suction in the steel sector

FILTERS FOR EXPLOSIVE ENVIRONMENTS



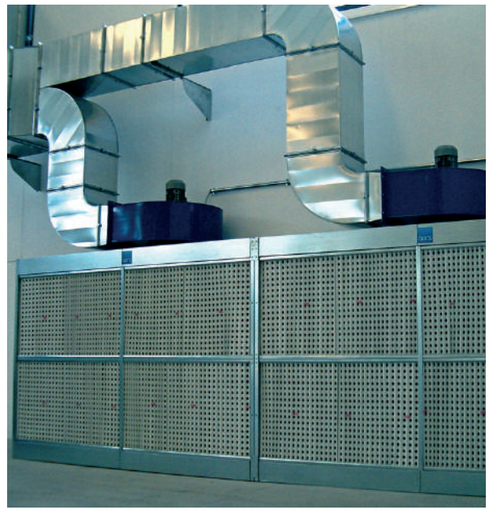


Application: Suction of waste in paper processing

PAINTING AND GRINDING BOOTHS

Pollutant
Paint overspray
Dust









INDUSTRIAL

FILTERS FOR OILY FUMES AND MISTS

Pollutant
Oily mists
Emulsions from the machine





ACTIVATED CARBON FILTERS AND SCRUBBERS

Pollutant
VOCs
Odors and fumes









INDUSTRIAL

CLEAN ROOM

Application
Controlled contamination environments, compliant with ISO 14644-1 classifications, designed to ensure optimal conditions for sensitive processes. Each installation is custom-developed and integrated with high-efficiency systems for climate control, filtration, and environmental monitoring.







HVAC

Application:
Ventilation
Temperature & humidity control
Pressurization of production departments
Balancing exhausts









HEAT RECOVERY SYSTEM

Application
Sectors with high energy consumption – enabling heat recovery from emissions, making it available as hot water or air that can be used in other processes or for burners preheating.

AIR / WATER





AIR / AIR





OTHER APPLICATIONS









INDUSTRIAL

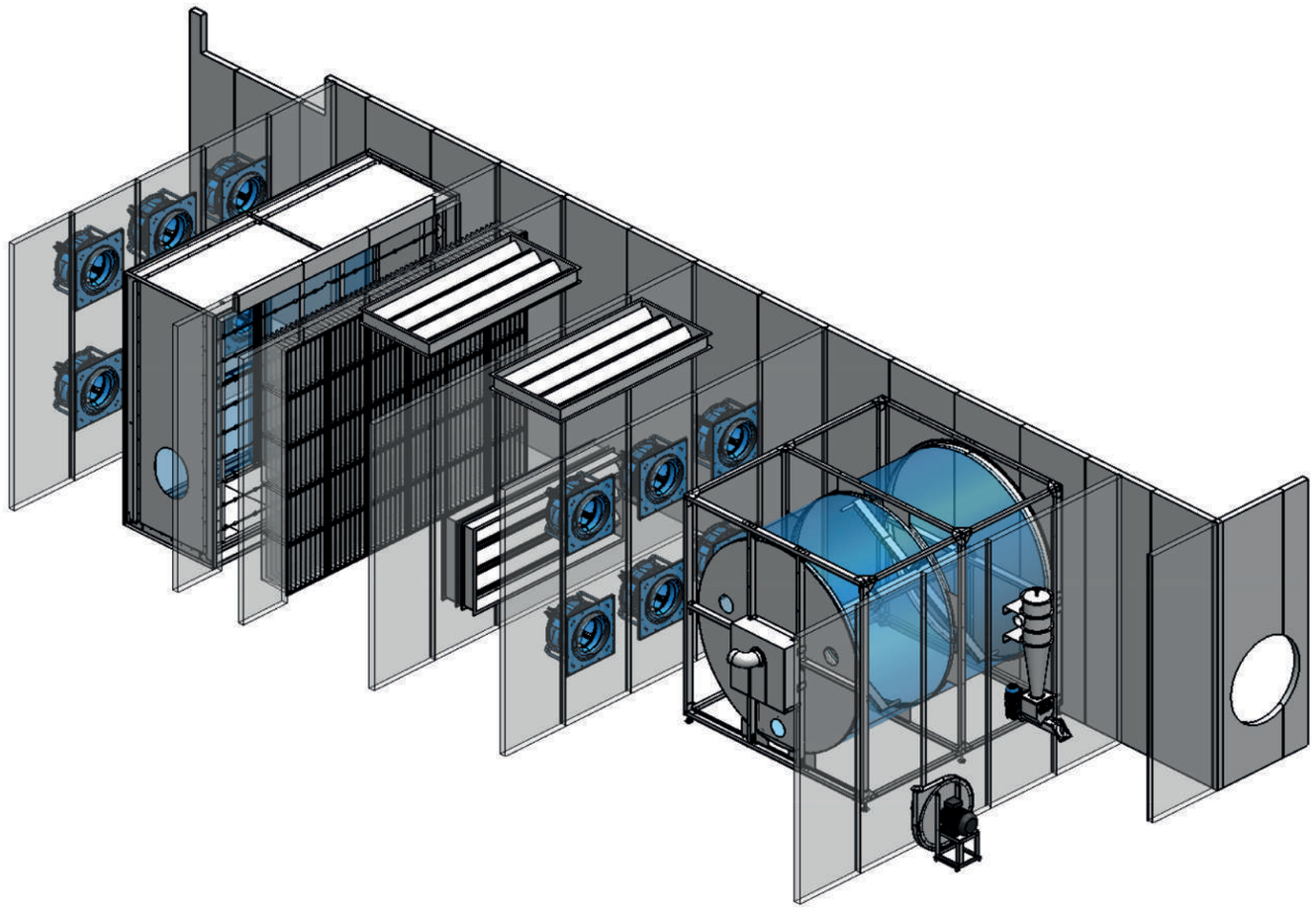


TEXTILE

AERIS:
TEXTILE FOCUS

REQUIREMENTS

- Constant temperature and humidity
- Removal of fibres, dust, and microparticles
- Optimization of production processes



AERIS SOLUTIONS

- Traditional humidification systems and patented IHS® technology
- Fibres and dust filtration
- Scraps management and recovery
- HRS heat recovery for energy savings
- Ventilation systems and flow balancing

BENEFITS

- Consistent product quality
- Optimal performance of production lines
- Improved comfort and safety for operators
- Reduction of waste and operating costs
- Energy and water efficiency

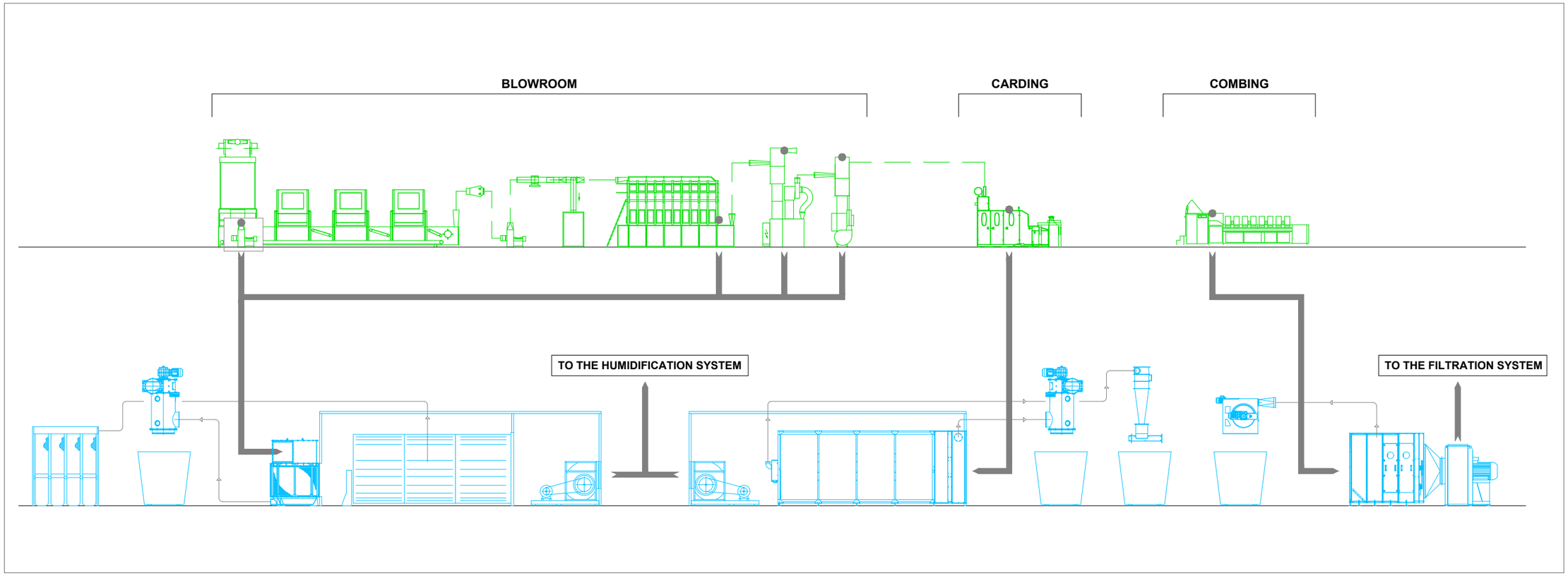
PLANT DESIGN COMPLIANT WITH

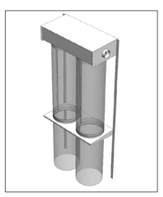
- UNI EN 16798-3:2018 – formerly UNI EN 13779
- Erp2018 - Eco Friendly Design
- VDI 6022 for the IHS® humidification system

TEXTILE

TEXTILE

TYPICAL FLOW DIAGRAM FIBER AND DUST SEPARATION

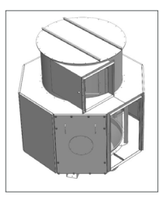




Dust Bag



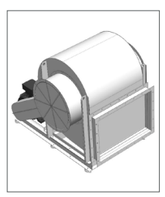
Compactor



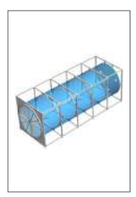
Pre-Separator



Rotary Filter



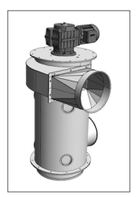
Centrifugal Fan



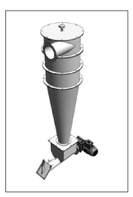
Drum Filter



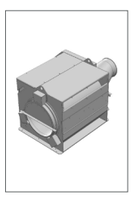
Pre-Filter



Compactor



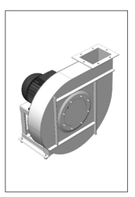
Cyclone



Condenser



Pre-Filter



Centrifugal Fan

TEXTILE

COMPONENTS HIGHLIGHT

01



Pllenum for pipe inlet

02



Pre-filter

03



Pre-separator

04



Compactors

05



Condenser

06



Rotary filter

07



Drum filter

08



Dust bag

09



Cyclones

10



Centrifugal fan

11



Electrical panel & PLC



SOME OF
OUR PROJECTS









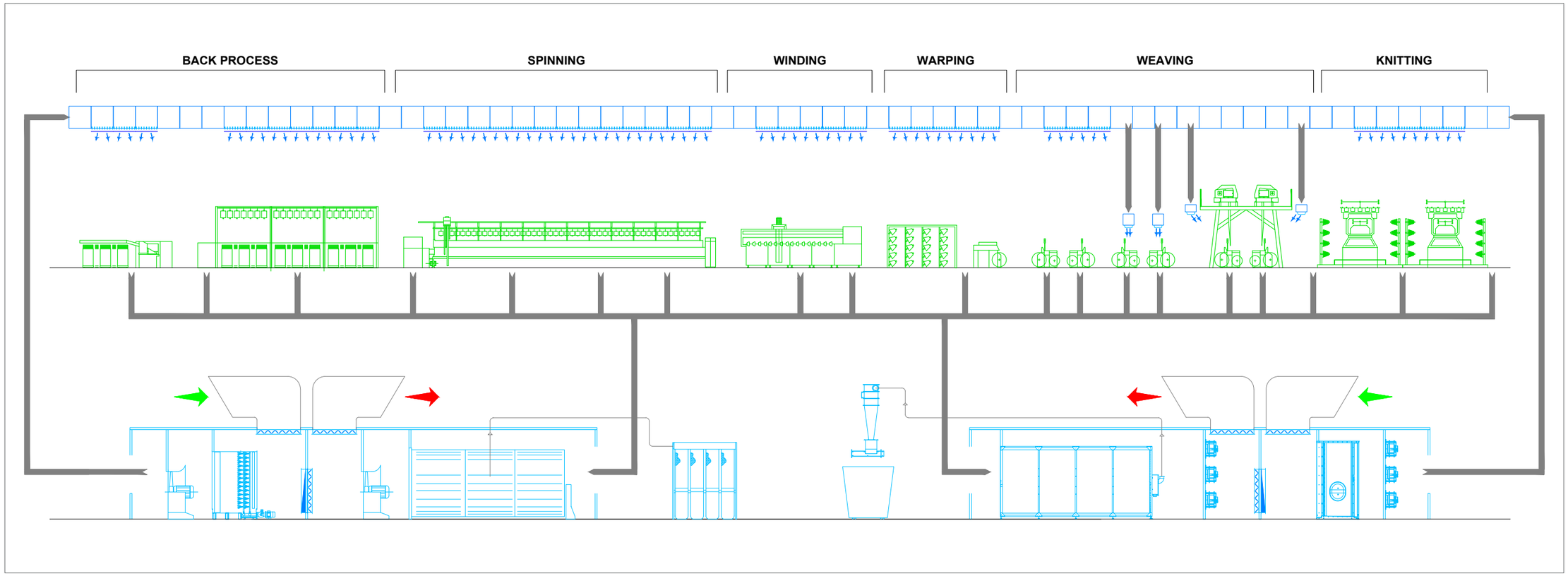


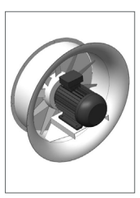


TEXTILE

TEXTILE

TYPICAL FLOW DIAGRAM HUMIDIFICATION

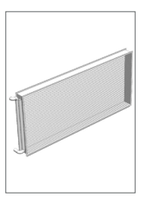




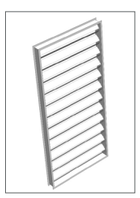
Axial Fan



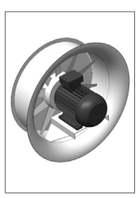
Air Washer



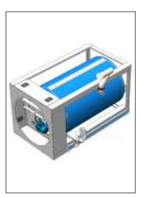
Coil



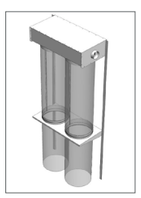
Dampers



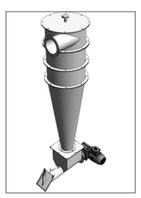
Axial Fan



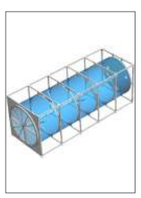
Rotary Filter



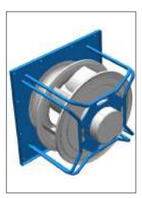
Dust Bag



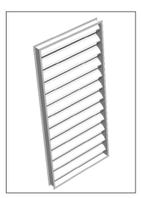
Cyclone



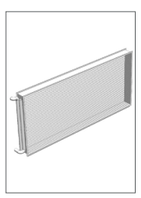
Drum Filter



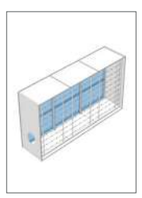
Plug Fan



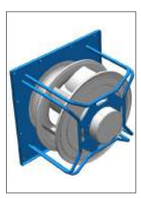
Dampers



Coil



IHS® Saturator



Plug fan

TEXTILE

COMPONENTS HIGHLIGHT

01



Rotary filter

02



Drum filter

03



Dust bag

04



Cyclone

05



Axial fan

06



Plug fan

07



Dampers & coil

08



IHSds® Saturator

09



Air Washer

10



Axial fan

11



Plug fan

12



Electrical panel & PLC





SOME OF
OUR PROJECTS



















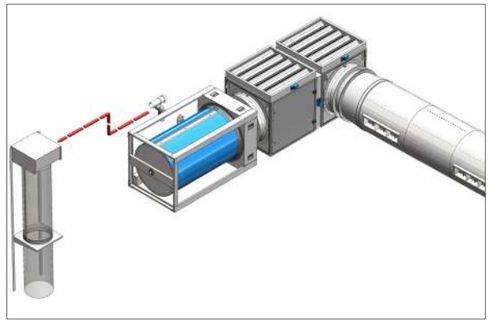


TEXTILE

CEILING-MOUNTED UNITS SUPRAII - IHS®

Units designed to create air conditioning systems that are both simple and advanced, equipped with high-efficiency variable-capacity IE5 brushless motors, featuring an integrated driver compatible with the one used to operate the pump in the IHS® system.















TEXTILE

HEAT RECOVERY SYSTEM

AIR / WATER





AIR / AIR





HRS is a modular system designed to recover thermal energy from overheated air or combustion gases, typically released into the atmosphere by production processes such as dryers or ovens, cogeneration plants, steam boilers, or generators.

- Significant reduction in production costs
- High energy savings, allowing for a very fast return on investment
- Easy maintenance
- Can be installed on existing lines/machines
- Extremely compact design

SCRUBBER ABATEMENT

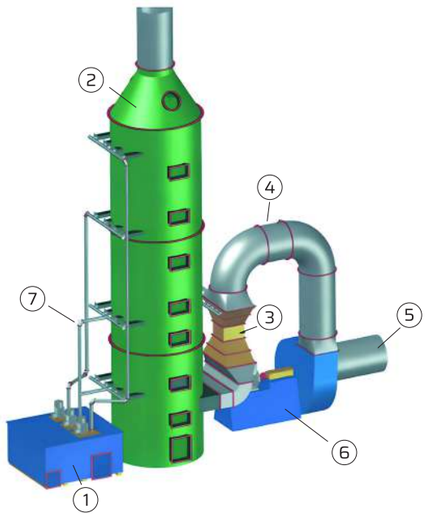






Wet scrubbers are used to remove contaminants such as dust, fumes, and gases from air or other gas streams using water.

1) Washing liquid collection tank
2) Washing tower
3) Venturi
4) Venturi / Fan duct
5) Suction duct
6) Fan
7) Washing spray pipework



TEXTILE

OTHER APPLICATIONS

DIGITAL PRINTING





SYNTHETIC FIBERS







VENTILATION





EVAPORATIVE COOLING





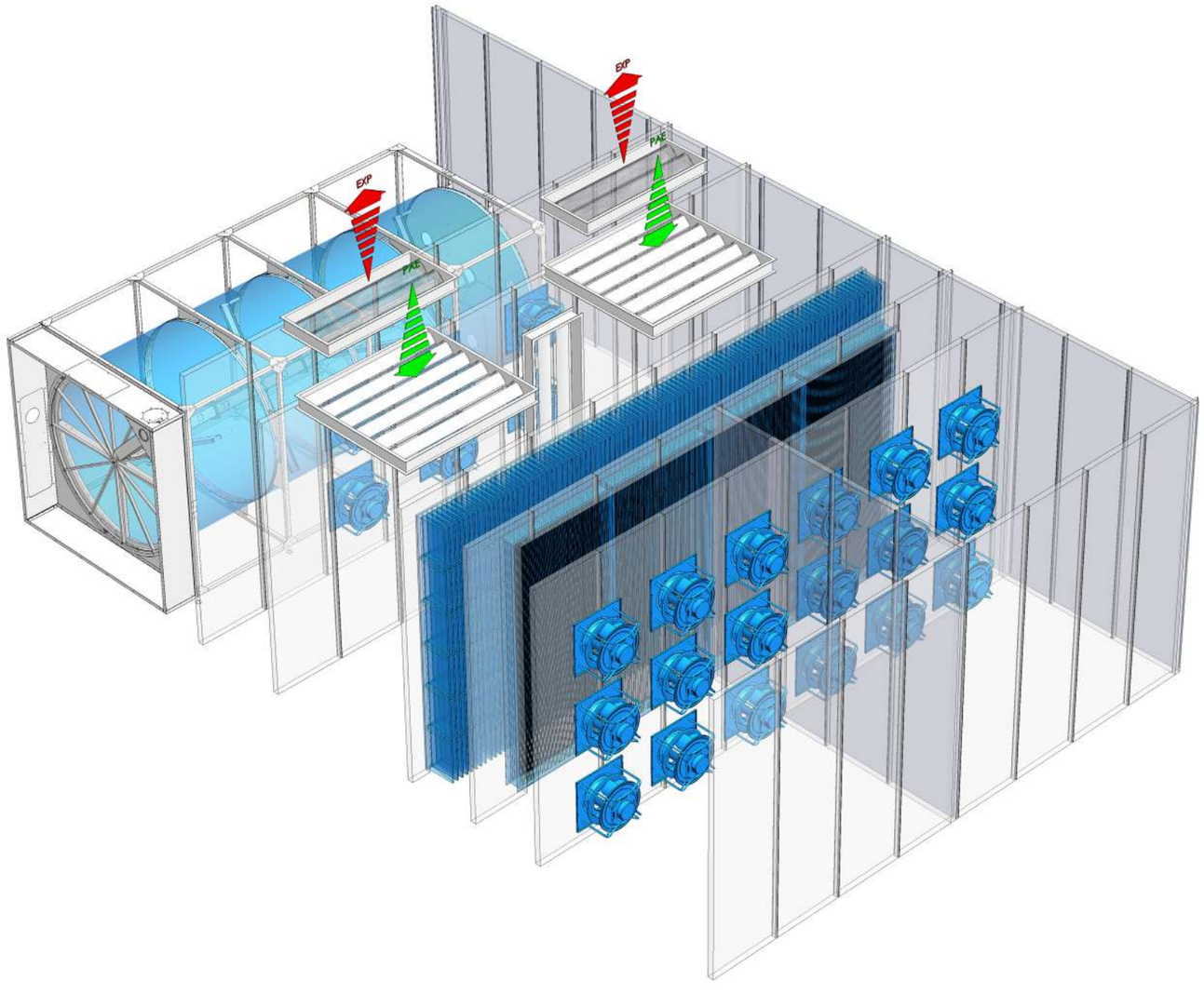
TEXTILE

NONWOVEN

AERIS:
NONWOVEN FOCUS

REQUIREMENTS

- Constant temperature and humidity
- Removal of fibers, dust, and microparticles
- Optimization of production processes



AERIS SOLUTIONS

- Traditional humidification systems and patented IHS® technology
- Fibres and dust filtration
- Scraps management and recovery
- HRS heat recovery for energy savings
- Ventilation systems and flow balancing

BENEFITS

- Consistent product quality
- Optimal performance of production lines
- Improved comfort and safety for operators
- Reduction of waste and operating costs
- Energy and water efficiency

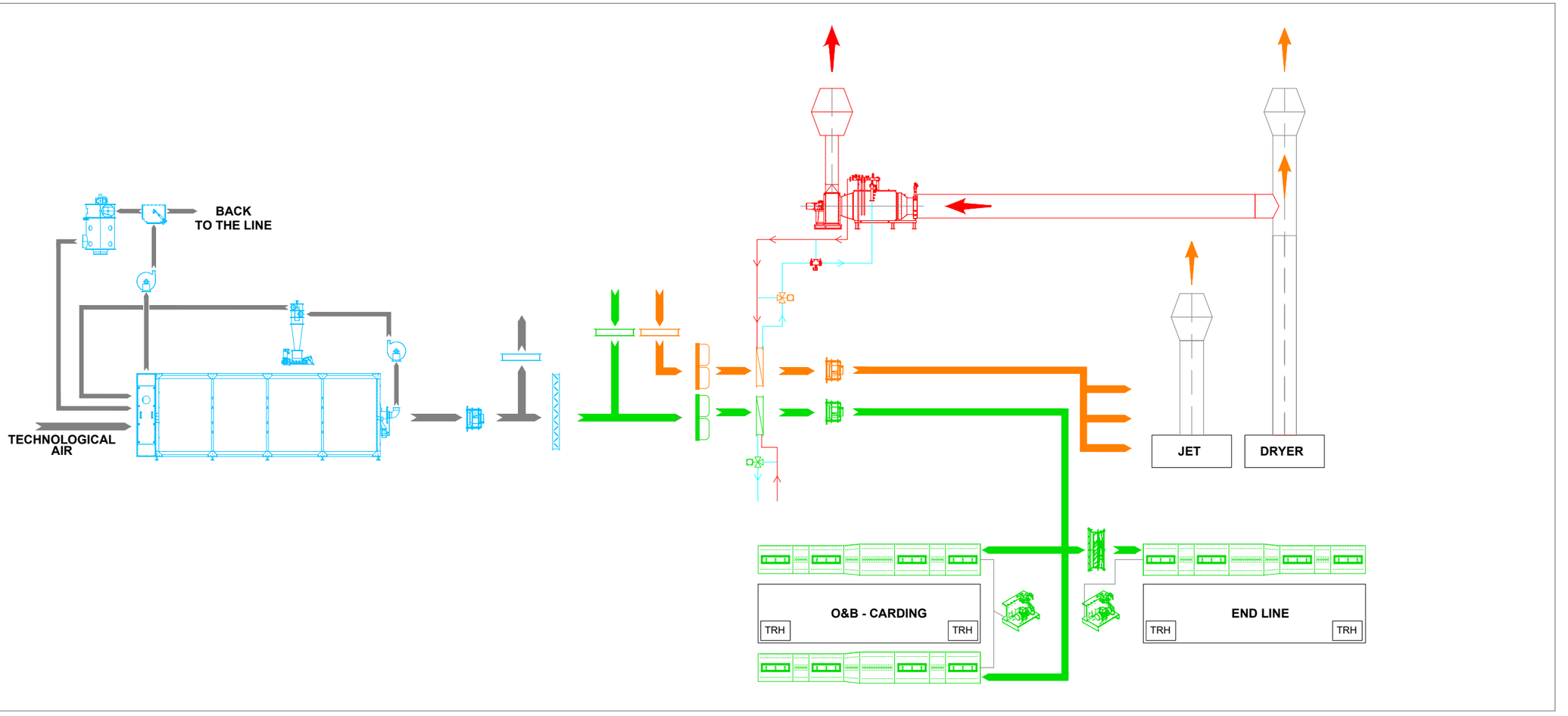
PLANT DESIGN COMPLIANT WITH

- UNI EN 16798-3:2018 – formerly UNI EN 13779
- Erp2018 - Eco Friendly Design
- VDI 6022 for the IHS® humidification system

NONWOVEN

NONWOVEN

POSSIBLE STEPS OF INTERVENTION



Basic solution – only process air filtration and recirculation

Standard solution – process air filtration and humidification

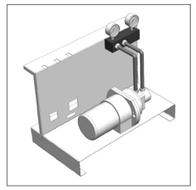
Complete solution – process air filtration, humidification, and balancing of air exhaust from Jet & Dryer

Air-Water Heat Recovery System

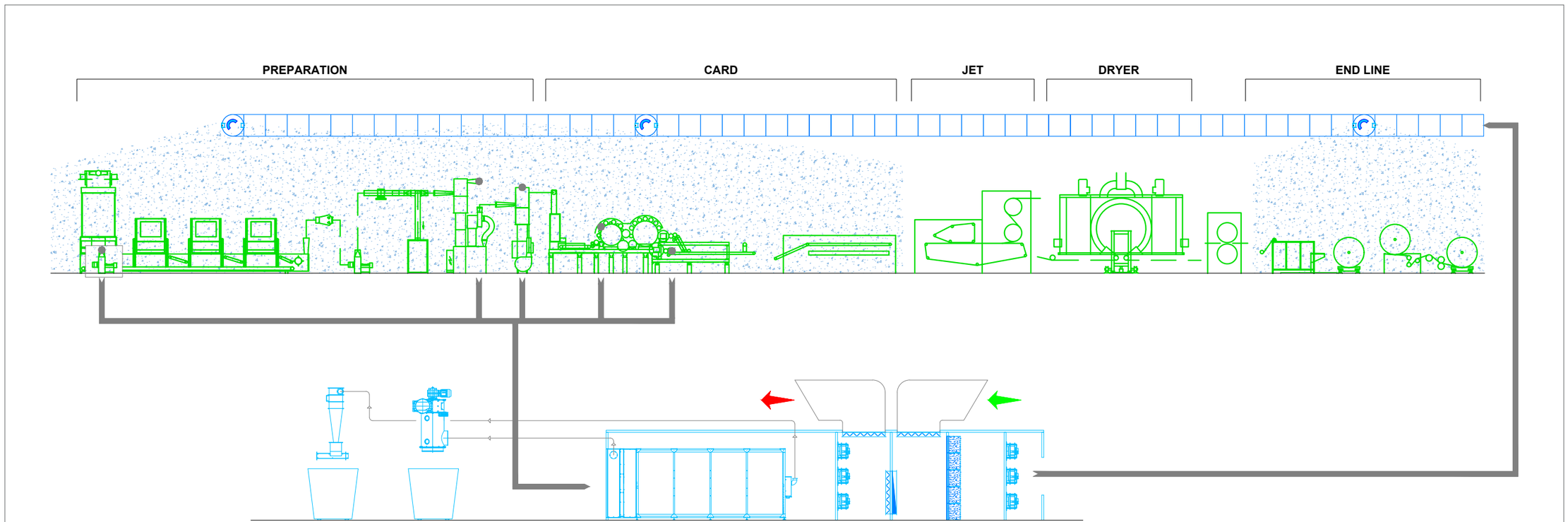
TYPICAL FLOW DIAGRAM

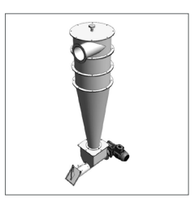


IHS® Duct

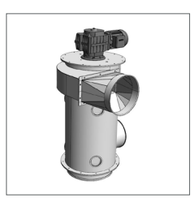


IHS® Pump





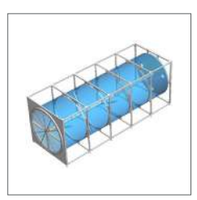
Cyclone



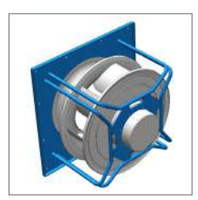
Compactor



Pre-filter



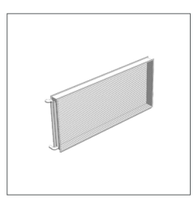
Drum filter



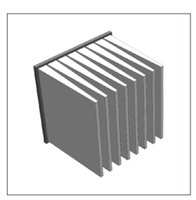
Plug fan



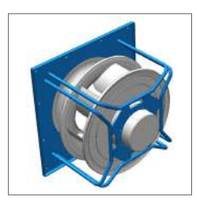
Dampers



Coil



Static filters



Plug fan



Prefabricated cabin

NONWOVEN

COMPONENTS HIGHLIGHT

NONWOVEN

01



Plenum for pipe inlet

02



Pre-filter

03



Compactors & cyclones

04



Drum filter

05



Plug fan

06



Dampers

07



Static filters

08



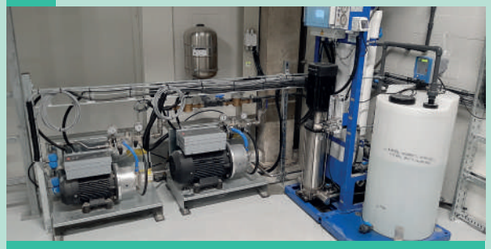
Plug fan

09



Electrical panel & PLC

10



Pumps & osmosis

11



IHS®



SOME OF OUR PROJECTS







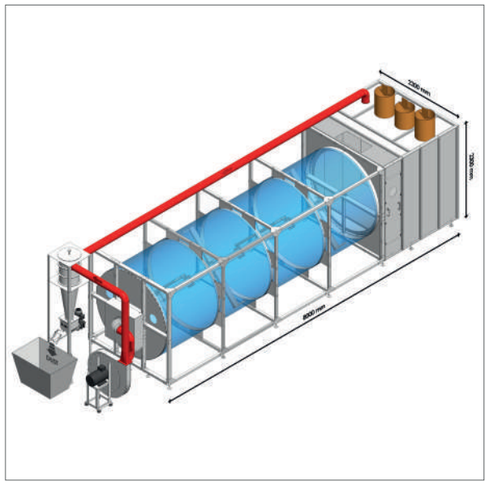






NONWOVEN

SPECIAL PROJECTS

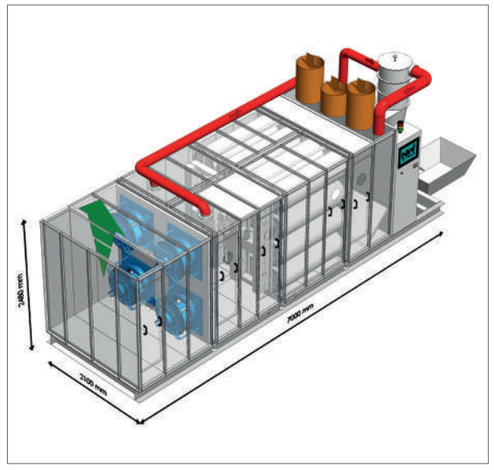






Solution with filter without cabin, with total recirculation of the filtered air into the environment

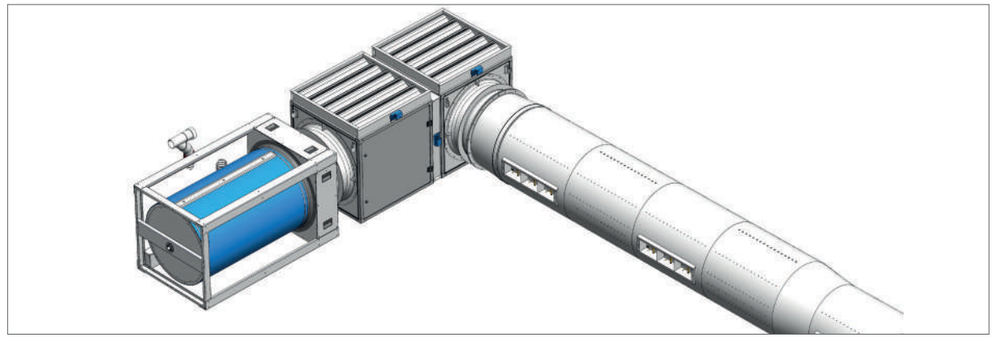




Solution with VDF16 multidrum filter

Can be combined with SUPRAII ceiling-mounted air handling units featuring patented IHS® humidification technology







NONWOVEN

HEAT RECOVERY SYSTEM

AIR / WATER





AIR / AIR





HRS is a modular system designed to recover thermal energy from overheated air or combustion gases, typically released into the atmosphere by production processes such as dryers or ovens, cogeneration plants, steam boilers, or generators.

- Significant reduction in production costs
- High energy savings, allowing for a very fast return on investment
- Easy maintenance
- Can be installed on existing lines/machines
- Extremely compact design

VENTILATION





EVAPORATIVE COOLING





NONWOVEN

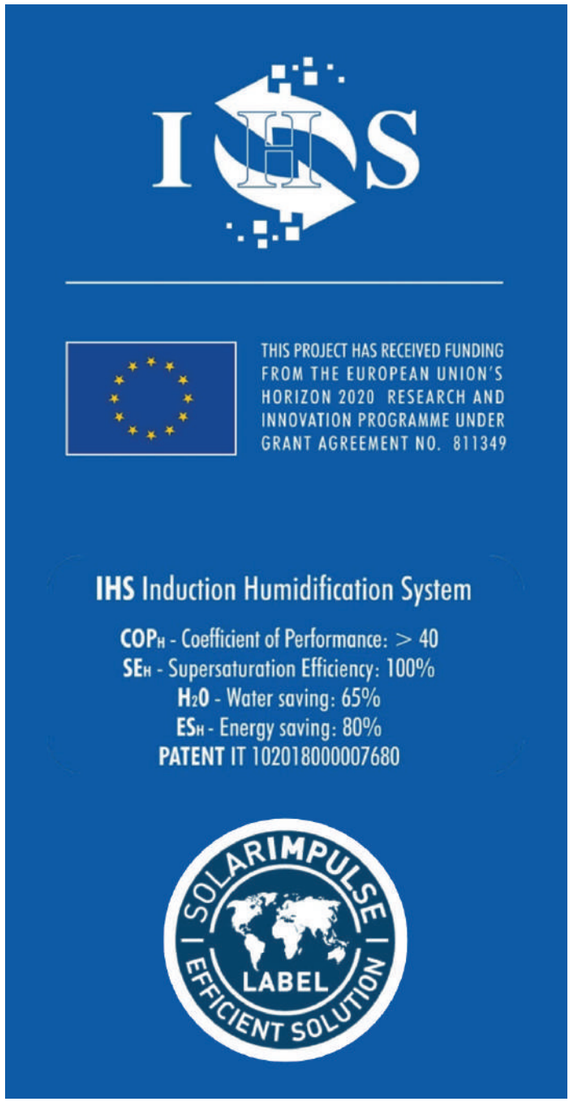


IHS®
INDUCTION HUMIDIFICATION SYSTEM

The IHS® induction humidification system ensures significant savings in terms of efficiency and operating costs for the industry.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 811349





Efficient Solutions
We are one of only 1,000 companies worldwide to have received the EUROPEAN GREEN LABEL from SOLAR IMPULSE EFFICIENT SOLUTIONS, a European Community body for sustainability — an additional value for our clients' audits.

CHOOSING IHS® MEANS:

- Reducing water consumption by more than 60%
- Reducing energy consumption by more than 40%
- Eliminating any risk of bacterial growth and slime formation
- Eliminating any possibility of corrosion
- Avoiding any risk of condensation
- Reducing system size by 25% to 40%

HUMIDIFICATION

IHS® INDUCTION HUMIDIFICATION SYSTEM

SPECIAL DIFFUSERS
The use of special laminar flow diffusers allows for fine nebulization of water directly into the environment and its capture by a significant airflow drawn by the induction ducts.

WATER PRESSURIZATION
Water pressurization is carried out by a high-pressure pump with a frame made entirely of AISI 316 stainless steel, cooled by the humidification water itself, and completely maintenance-free.



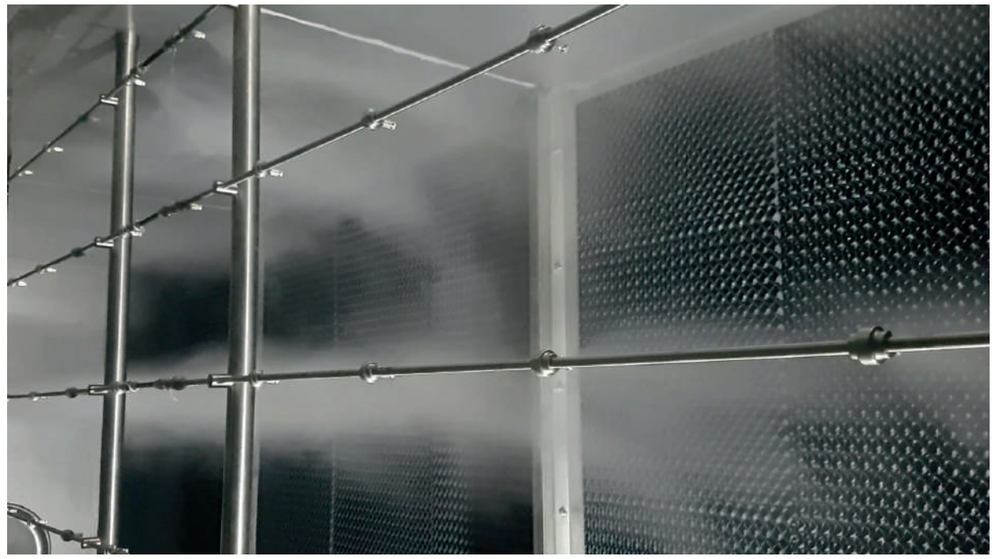
WATER EVAPORATION
Already at one meter from the diffusers and under normal operating conditions, the water is completely evaporated and absorbed by the environment, achieving oversaturation levels never reached before and, for the first time, with completely dry air distribution ducts.

INDUCTION
Each duct is sized for an induction factor of 10:1, which results in continuous air circulation in the area at a value 10 times higher than that conveyed through the supply fans.

IHS®DS DUAL STAGE INDUCTION HUMIDIFICATION SYSTEM

THE SYSTEM
The system includes a feed nozzle manifold with reverse osmosis water, UV lamps, solenoid valves for pressure control, high-pressure piping, drain valves, and a humidification pad.

WATER PRESSURIZATION
Water pressurization is carried out by a high-pressure pump with a frame made entirely of AISI 316 stainless steel, cooled by the humidification water itself, and completely maintenance-free.

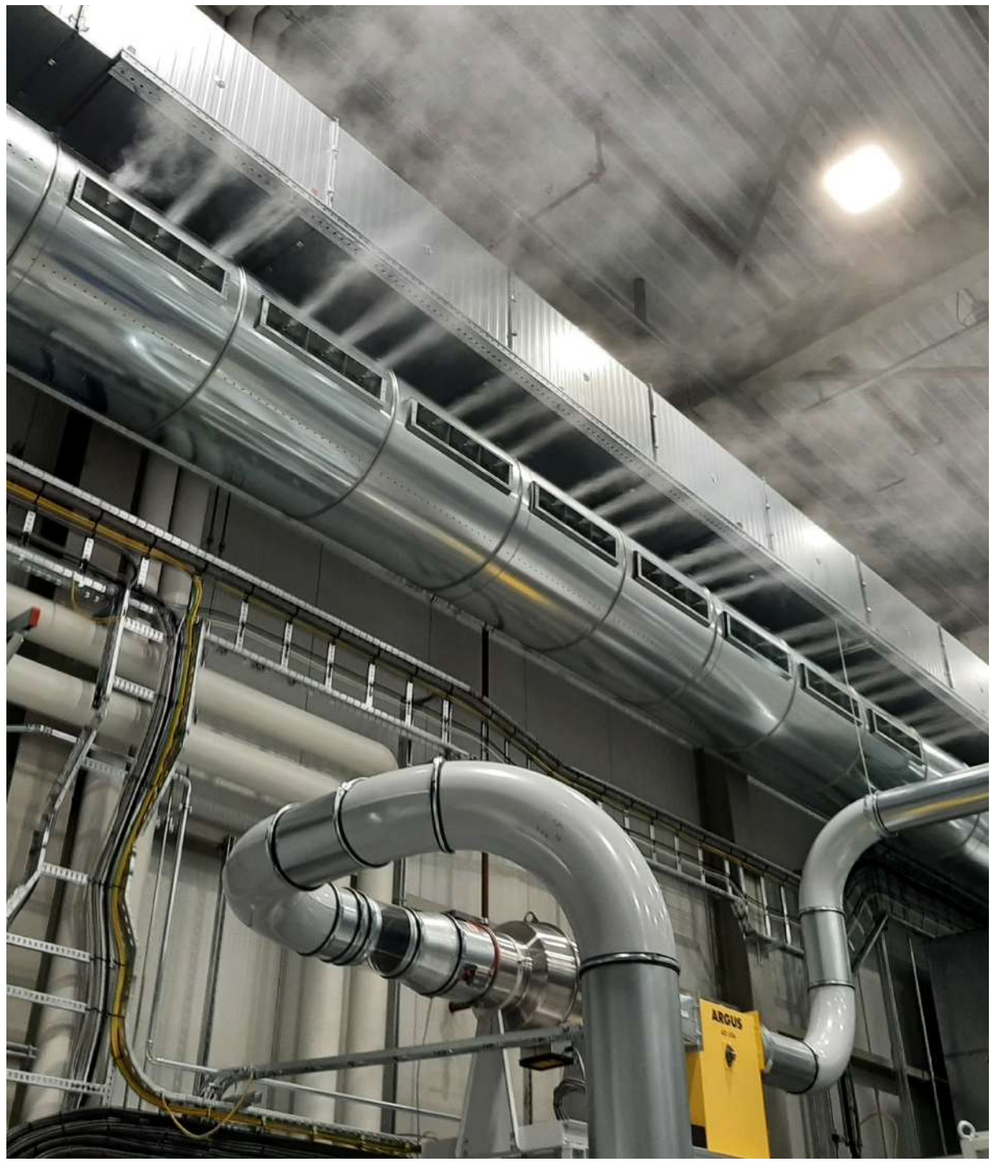


THE PROCESS
A two-stage humidification process, combining micro-spray technology with the evaporative effect to achieve a level of performance currently unique in the air handling sector.

THE STRUCTURE
The prefabricated structure housing the IHS system, also made entirely of stainless steel, is completely free of any potential water stagnation points.

HUMIDIFICATION

SOME OF OUR PROJECTS







HUMIDIFICATION



EVAPORATIVE COOLING

A COMPLETELY NATURAL PROCESS AT INDUSTRY SERVICE

BE COOL BE GREEN

OPERATION

Modular units that cool environments through the process of evaporation.
Hot outside air passes through honeycomb panels moistened with water, releasing its heat before being introduced into the indoor environment as cooled air.
A temperature drop of up to 10°C can be achieved with low investment and operating costs.

Adiabatic coolers create comfort in all types of artisanal and industrial spaces, regardless of size.
They provide continuous air exchange and can be installed in the hottest areas.
They ensure worker comfort and improve safety



WHY CHOOSE OUR PRODUCTS?



INNOVATIVE

They use a natural principle.

ECO-FRIENDLY

They do not use polluting refrigerant gases.

COST-EFFECTIVE

They have very low operating costs.

EFFICIENT

They continuously renew outdoor air, cooling it by up to 10°C with low energy consumption.

HEALTHY

They do not use polluting refrigerant gases.

SIMPLE AND SAFE

They feature a simple and intuitive user interface

EVAPORATIVE COOLING

PERFORMANCE TABLE

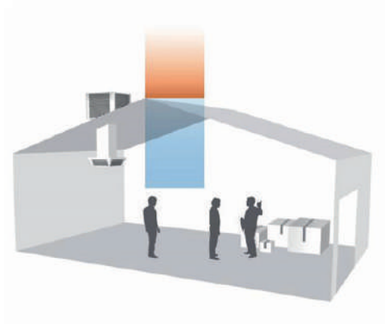


Temperature	Relative Humidity %					
°C	**10**	**20**	**30**	**40**	**50**	**60**
15	6.2	7.2	8.5	9.5	10.6	11.6
20	9.8	11.2	12.7	13.7	15.1	16.1
25	13.1	14.8	16.2	17.9	19.1	20.1
30	16.2	18.3	19.9	21.8	23.3	24.8
35	19.5	21.9	23.9	25.9	27.8	29.5
40	22.8	25.3	27.9	29.9	32.1	33.6
45	25.5	28.8	31.7	34.1	-	-

TYPES OF INSTALLATION

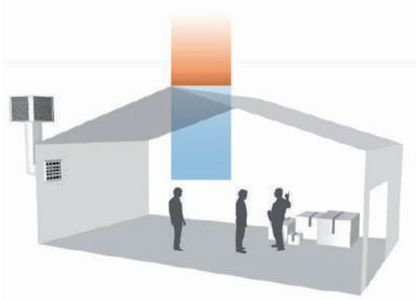
Installation on the roof, air supply from below.
Connection ducts: 560 x 560 mm.
4-way room diffuser





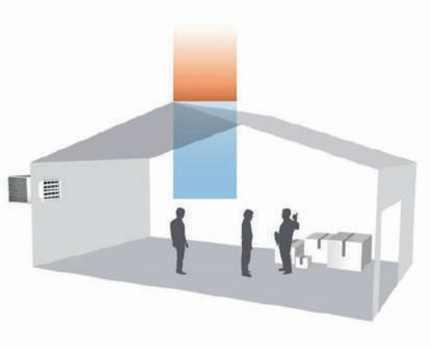
Facade installation, air supply from below.
Connection ducts: 560 x 560 mm.
Room diffuser with automatic swing.





Wall installation, side air supply.
Connection ducts: 560 x 560 mm.
Room diffuser with automatic swing.





EVAPORATIVE COOLING

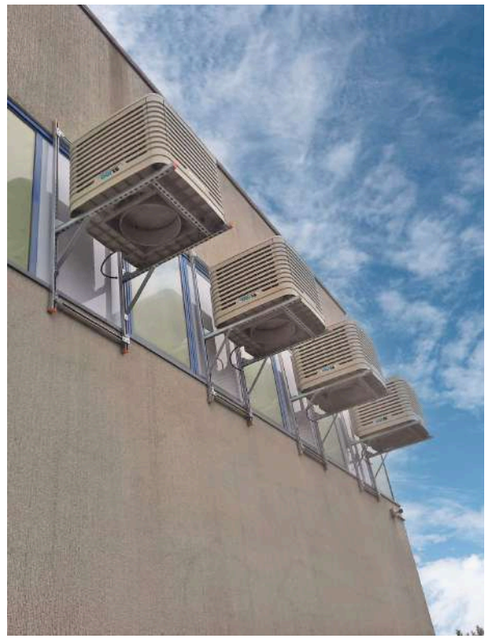
SOME OF
OUR PROJECTS













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