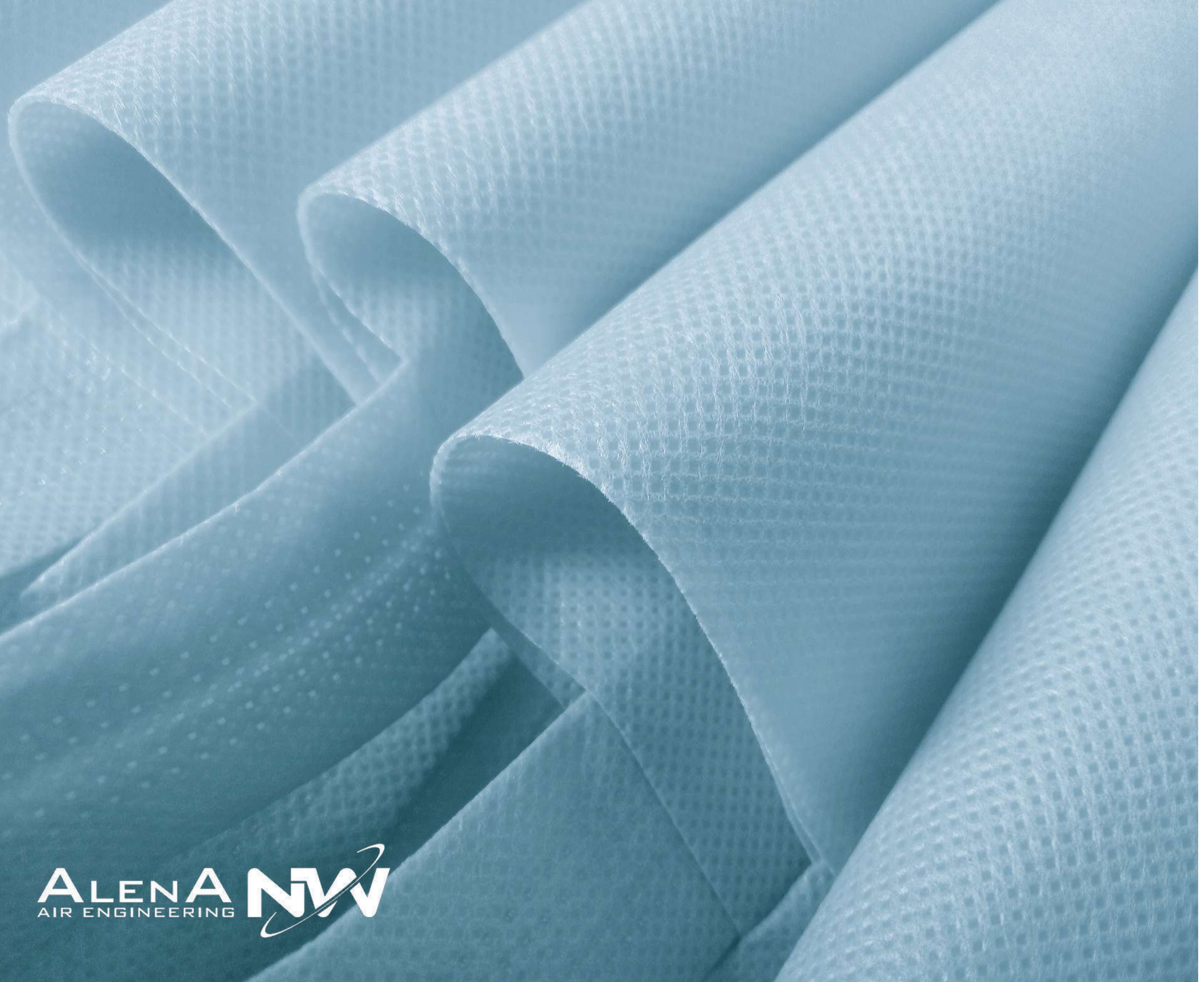


ALENA AIR ENGINEERING

aeris

BUREAU VERITAS Certification

NON WOVEN

D I V I S I O N

GROUP

www.aerisgroup.it

Aeris

INDUSTRIAL DIVISION

www.aerisepc.it

Aeris - Mazziniici

TEXTILE DIVISION

www.aerisepc.it

Aeris - Alena NW

NONWOVEN DIVISION

www.aerisepc.it

Edenya

EVAPORATIVE COOLING DIVISION

www.edenya.it

Our mission

Innovation and continuous business **growth**, together with **motivation**, bring a breath of fresh air: these are the shared values of all the companies in our group!

Our team of experts studies and designes the systems, **meeting all the needs and goals of our customers.**

PROGRESS - INNOVATION - VISION - SUCCESS - IDEAS - INSPIRATION - CREATIVITY - GROWTH

Your partner for

- Keeping T and Rh constant
- Granting clean and healty air
- Saving energy
- Saving water
- Reducing maintenance costs
- Tailor made solutions

Aeris experience in

HVAC
Air Humidification and Balancing
Heat Recovery
Filtration
Cooling
Energy Saving
Audits and Efficiency Planning

Our goals and their benefits

Dust **filtration,** fibres **separation,** maintain **constant temperature** and **humidity**, guarantee the correct **balancing** of air flows, **recover heat** released from furnaces or other production machines.

Benefits

Every production line must be equipped with highly efficient **filtration, humidification and air treatment systems** to ensure the quality of the product, optimal performance of production machines, and **health and safety** of the workplaces.
Saving energy, reducing water consuption for humidification and heat recovery are our goals to increase the competitiveness of our customers.

Aeris: focused on Nonwoven

SPUNLACE

AIRLAID

SPUNBOND

AIRLAY

ADL

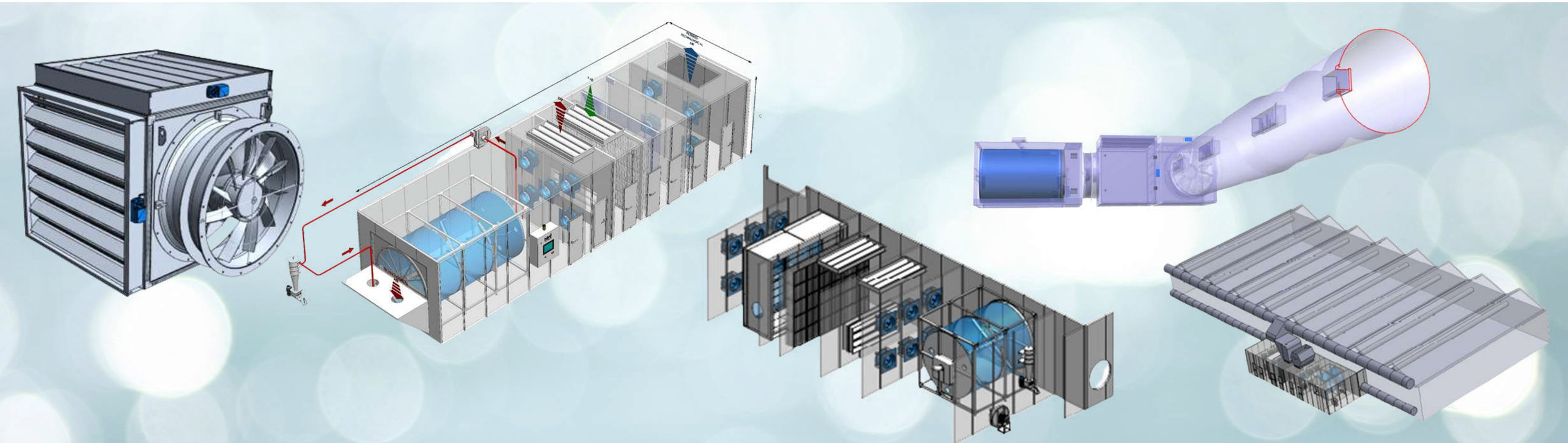
NEEDLE PUNCH

HYGIENIC

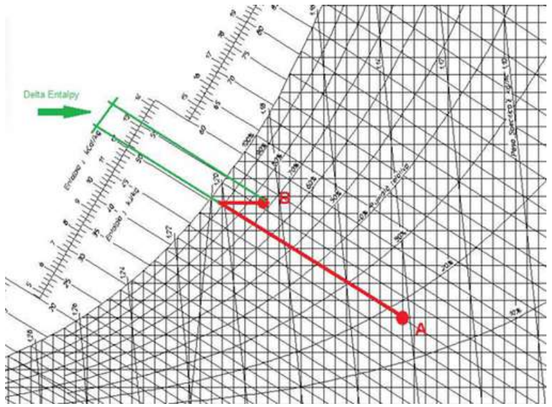
RECYCLING

Humidification and filtration

- Plant design in conformity with the **UNI EN 16798-3: 2018 – ex UNI EN 13779 Directive**
- **Erp2018 system conformity** - Eco Friendly Design
- Conformity with **VDI 6022** for the humidification system IHS®



HVAC System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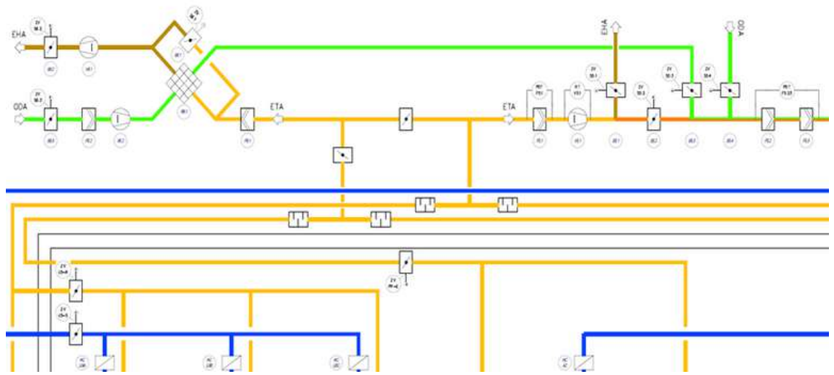
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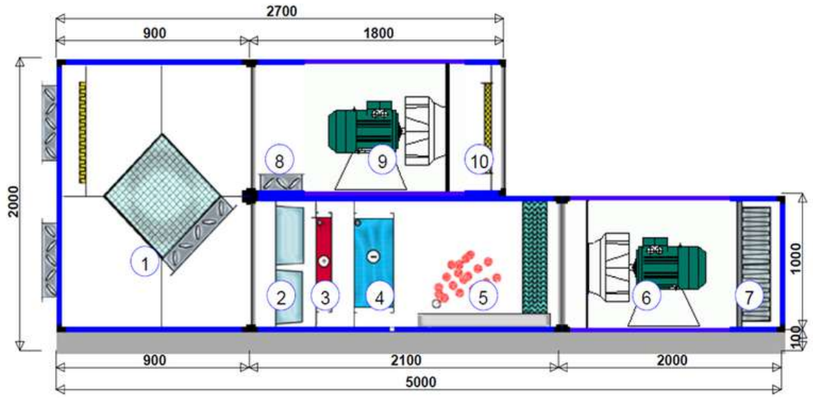
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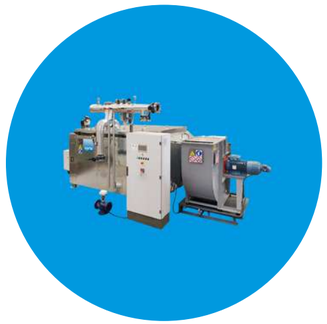
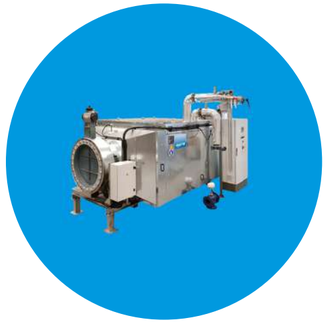
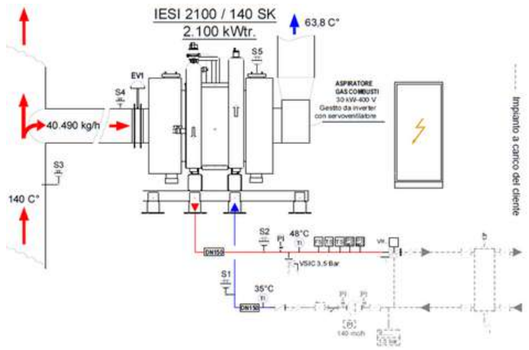
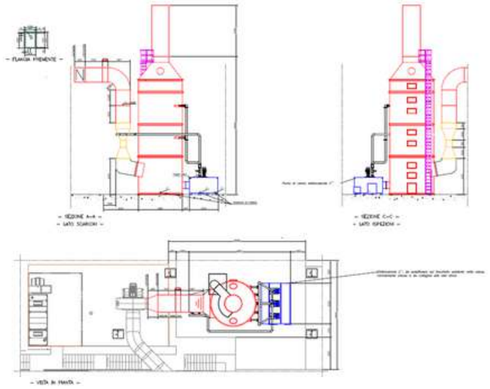


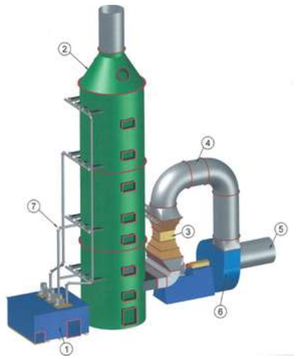


Heat recovery system - HRS

HRS is a modular system designed to recover the thermal energy from overheated air or combustion gases which are usually exhausted into the atmosphere by production processes.







Wet scrubber system - AWS

AWS are tailor made designed to reduce the concentration of dust and acid micropollutants present in the exhaustions of a lot industrial process.


I S S

IHS

EUROPEAN PROJECT

Induction
Humidification
System

Inductive Humidification System (IHS) assuring important efficiency, value and cost savings to the industry.

This project received funding from the Horizon 2020 research and innovation Programme of the European Union under grant agreement n° 811349.

Efficient solutions

We are one of the only 1.000 companies worldwide to have received from **"SOLAR IMPULSE EFFICIENT SOLUTIONS"**, an entity of the European Community for sustainability, the **EUROPEAN GREEN LABEL**, another added value for our customers' audits.

THIS PROJECT HAS RECEIVED FUNDING FROM THE EUROPEAN UNION'S HORIZON 2020 RESEARCH AND INNOVATION PROGRAMME UNDER GRANT AGREEMENT NO. 811349

IHS Induction Humidification System

COP_H - Coefficient of Performance: > 40
SE_H - Supersaturation Efficiency: 100%
H_2O - Water saving: 65%
ES_H - Energy saving: 80%
PATENT IT 102018000007680

SOLAR IMPULSE EFFICIENT SOLUTION LABEL

IHS® & IHS®ds

Induction Humidification System & Dual Stage

CHOOSING IHS® MEANS:

- Reduce water consumption of more than 60%
- Reduce energy consumption of more than 40%
- Remove bacteria and mucilage creation risks
- Remove corrosion problems
- Remove any condensations risks
- Reduce plant sizes from 25% up to 40%

IHS®

Induction Humidification System

Special diffusers

The use of special diffusers with laminar flow allows that the water is finely nebulized directly in the ambient and captured by an important flow of air recalled by the inductive ducts.

Water evaporation

Already at one meter distance from the diffusers and under normal department load conditions, the water is completely evaporated and absorbed by the ambient, with levels of over-saturation never obtained before and, for the first time, with completely dry air distribution ducts.

Water pressurization

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

Induction

Each duct is sized for an inductive factor equal to 10/1, induction which brings the air in continuous circulation in the department to a value 10 times higher than what is conveyed through the supply air fans.

IHS®ds

Dual Stage Induction Humidification System

The system

The system includes a ramp of nozzles feed with reverse osmosis water, UV lamps, solenoid valves for pressure control, high pressure piping, discharge valves and humidification Pads.

Water pressurization

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

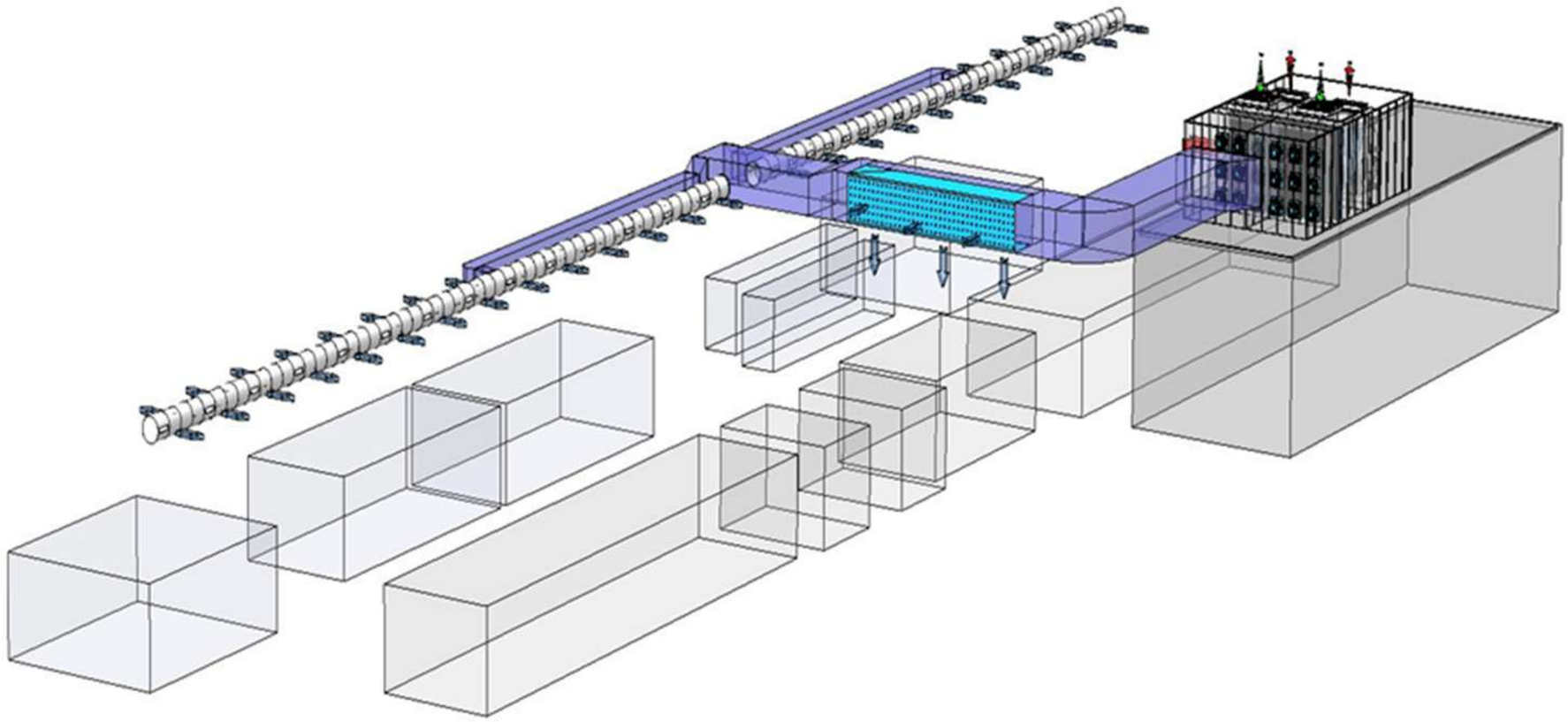
The process

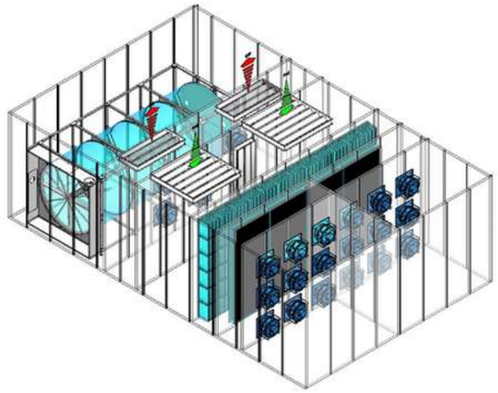
Two stages of humidification, combining the micro-spray technology with the evaporative effect; to achieve a level of performance currently unique in the aeraulic sector.

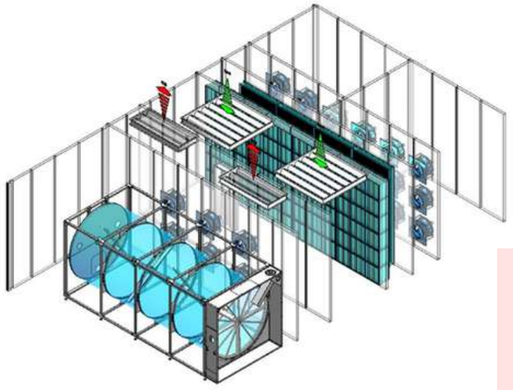
The structure

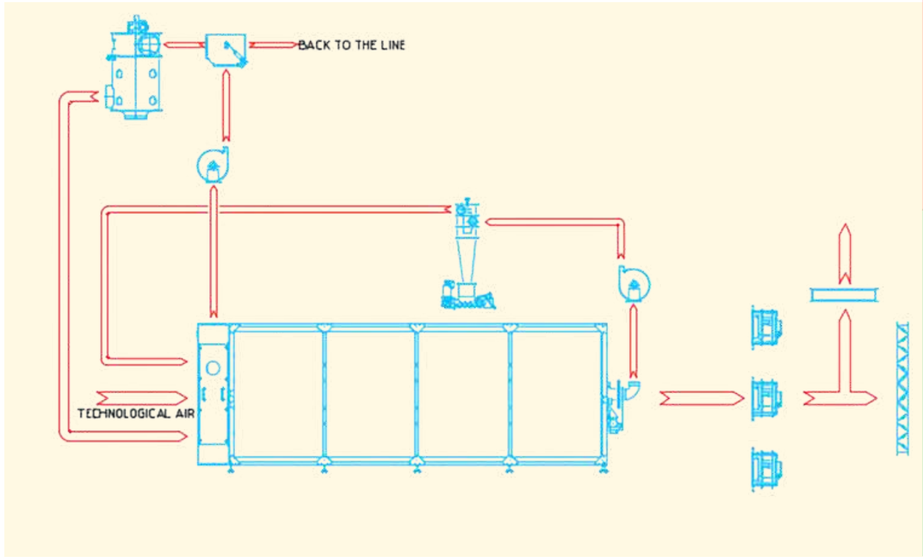
The prefabricated structure to contain IHS®ds system, also entirely made of stainless steel, is completely free of points of possible water stagnation

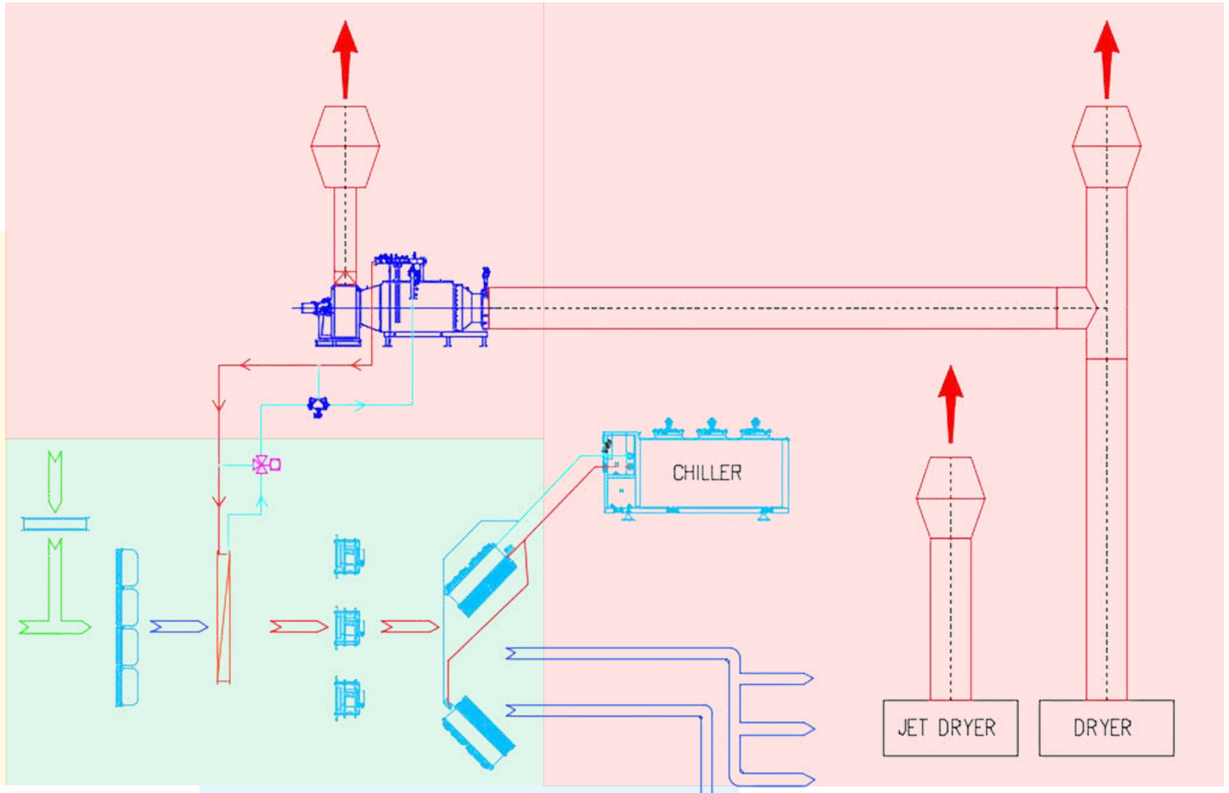
NonWoven Line

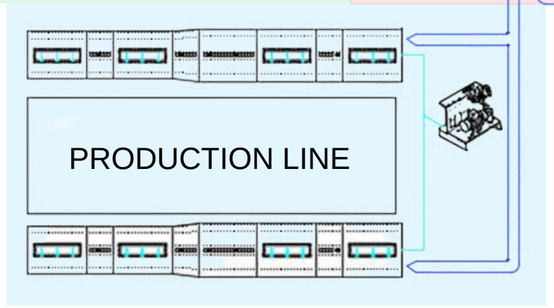







BACK TO THE LINE
TECHNOLOGICAL AIR


CHILLER
JET DRYER
DRYER

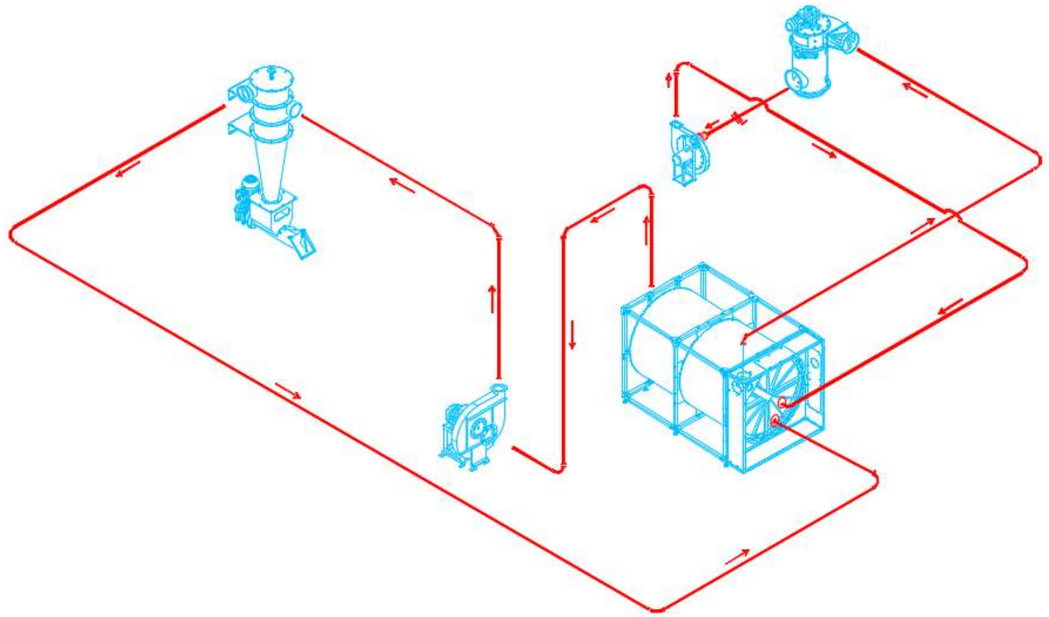

PRODUCTION LINE

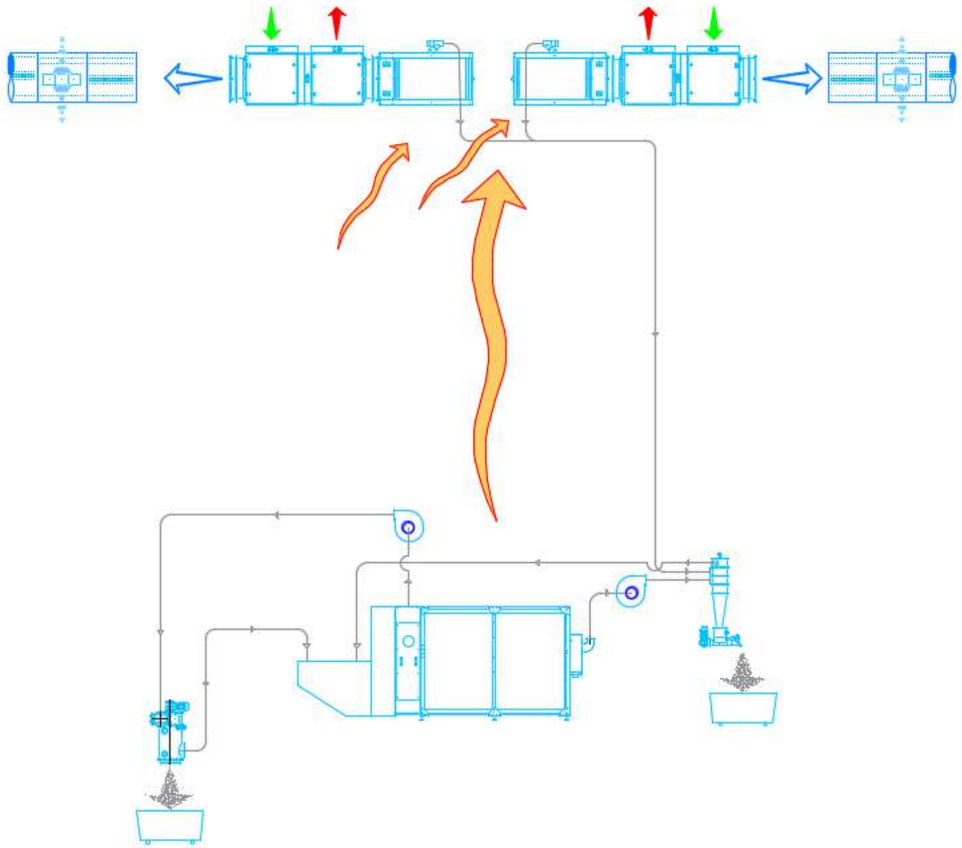

GRUNDFOS

Recycling

Valuable material from so called "waste"...
it is always possible!

To treat the big amount of dust and fibres generated by those process it is necessary an **efficient filtration and waste recovery system**.

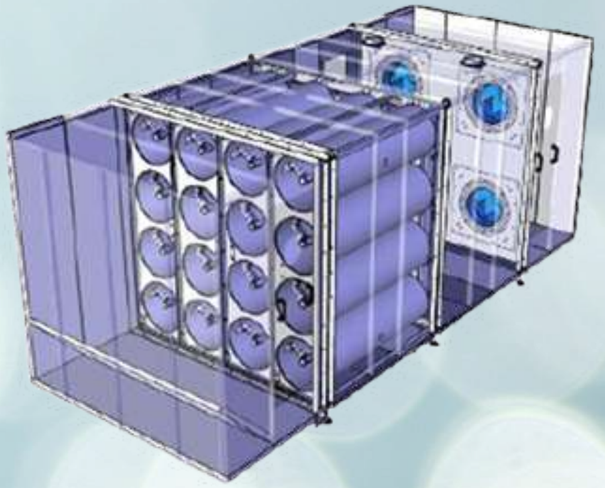


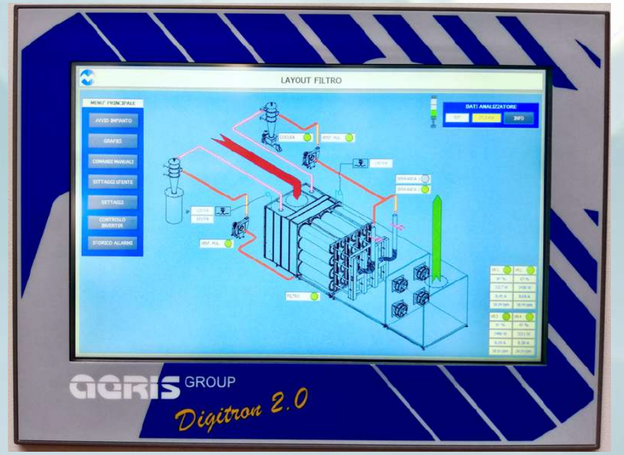


Efficiency for the hygienic market

READY TO RUN FILTER **VDF16**

Versadrums VDF16 is a modular equipment, made by a set of filtering drums with airflow from inside to outside that keeps the filtration chamber clean.
The wide filtration surfaces and the efficient regeneration system allows the installation of filter media with **filtration efficiency > 99,99%** as per HEPA E10 type, with total absence of maintenance.
VDF is always completed by a ventilating section with **automatic stabilization of the operating pressure**.





VDF16

Filtration efficiency

>99,99% in only one stage of filtration

Energy consumption

up to 60% less of any other filtration unit available in the market

Exhaust dust concentration

0,2 mg/Nmc never obtained before with only one stage of filtration

Maintenance cost & line stops

zero maintenance costs and line stops

Advantages

CLEAN FILTER CHAMBER

since air flows from inside to outside

INTERVAL CLEANING

continuous, contolled selective interval cleaning - no pressure fluctuations

CERTIFIED FILTER

media for long service life

ENERGY-SAVING

operation due to low pressure drops

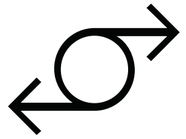
COMPACT DESIGN

CLEAN AIR SIDE

all drive elements on the clean air side

PREASSEMBLED AND TESTED

ready to run



COMPLETE RECIRCULATION

of the wasted sucked material without interferring with the formation drum

Case history

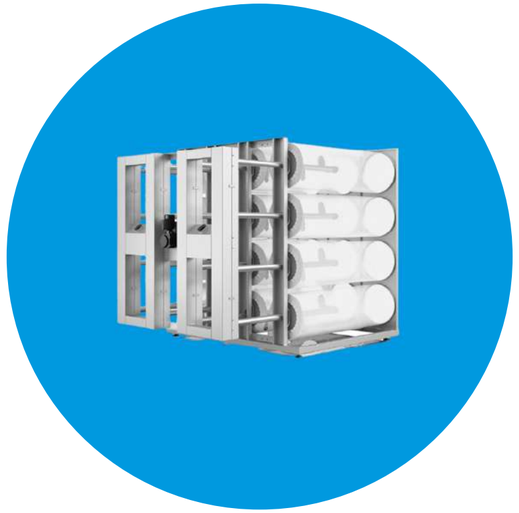
After two years of running test by one of our italian customer on his Adult Diaper production line

Type: 2 drops medium extra B4x30
Production speed: 200 pcs/min
Production waste: 1,2 gr/pcs
Aeris launching its new filtration system for disposable - **VDF16**

Here under a comparative chart with other filtration working by the same Customer

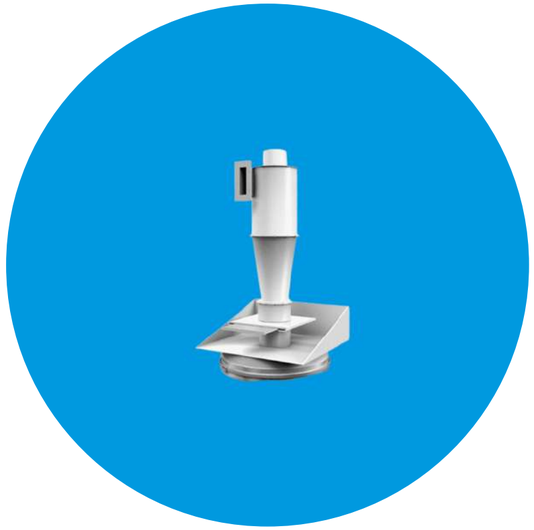
MANUFACTURER	AERIS	COMPETITOR 1 Italy	COMPETITOR 2 Italy	COMPETITOR 3 Usa
Filter type	VDF16	Drum filter	Drum filter	Drum filter + Hepa
Normalized Air Volume capacity	40.000 m3/h	40.000 m3/h	40.000 m3/h	40.000 m3/h
Absorbed power	<10,0 kW	94,0 kW	72,0 kW	102,0 kW
Quantity possessed dust (*)	15,3 kg/h	8,0 kg/h	11,4 kg/h	6,4 kg/h
Exhaust dust concentration (*)	0,2 mg/Nmc	1,6 mg/Nmc	3,4 mg/Nmc	0,4 mg/Nmc
Stage of filtration	1	2	1	3

(*) Analysis executed by Proveco Lab (Vicenza - Italy)



Versadrum filter VDF

• Clean filter chamber since air flows from the inside to the outside
• Long service life of filter media
• Filter media defined for filtration efficiency as per EN779:2012 maximum efficiency F7
• Energy-saving operation due to low pressure drops
• Very compact design
• All drive elements on the clean air side
• Filter media easy to change

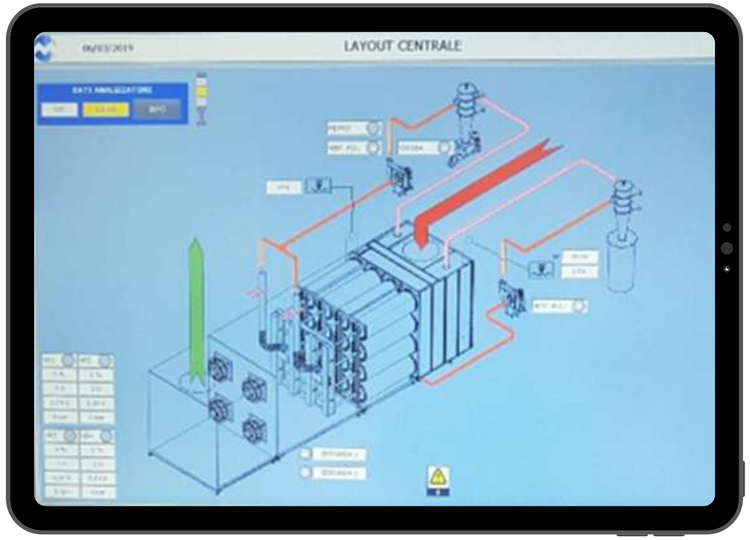


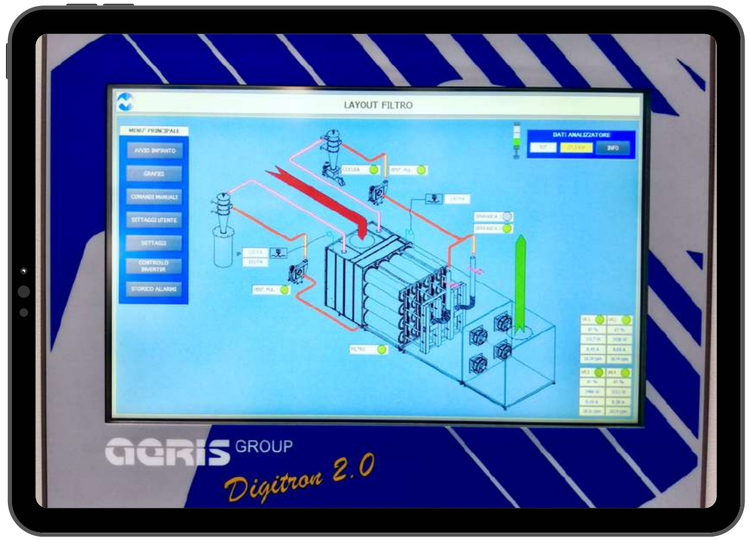
Cyclone

• No rotating or moving parts, ensuring maintenance free operation
• Easy separation of fine and finest particles
• High separation efficiency
• Exact adaptation to any air volume due to an extensive variety of available sizes, with capacity starting from 300 m3/h to 20.000 m3/h

Plug fan

• Space reduction;
• Energy saving of approx 30%/year compared to a centrifugal fan
• High efficiency with recovery of the dynamic pression
• Permanent magnets motors IE5 with driver on board
• Adjustable capacity depending on the real needs; which means reduction of power consumption
• Low noise level and easy maintenance





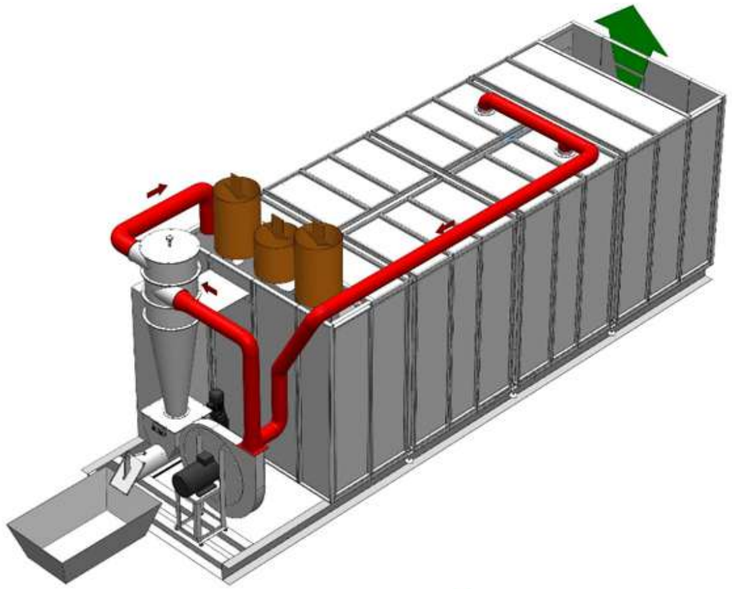
Software Digitron 2 Vario

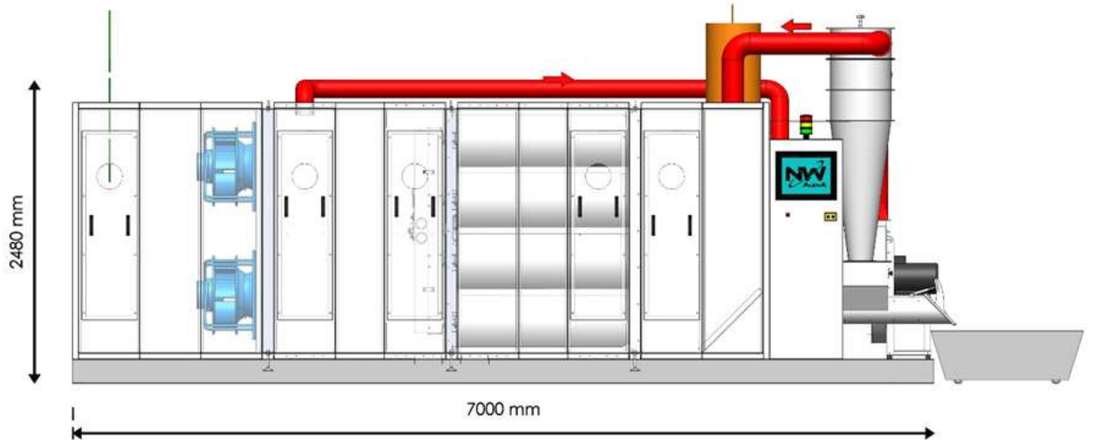
• System based on Siemens S7 platform

• Open platform that makes the complete system Industry 4.0 ready

• A self-adjusting system that always guarantees the correct operation with minimum energy consumption.

• Free of charge remote control from Aeris Technical dpt.

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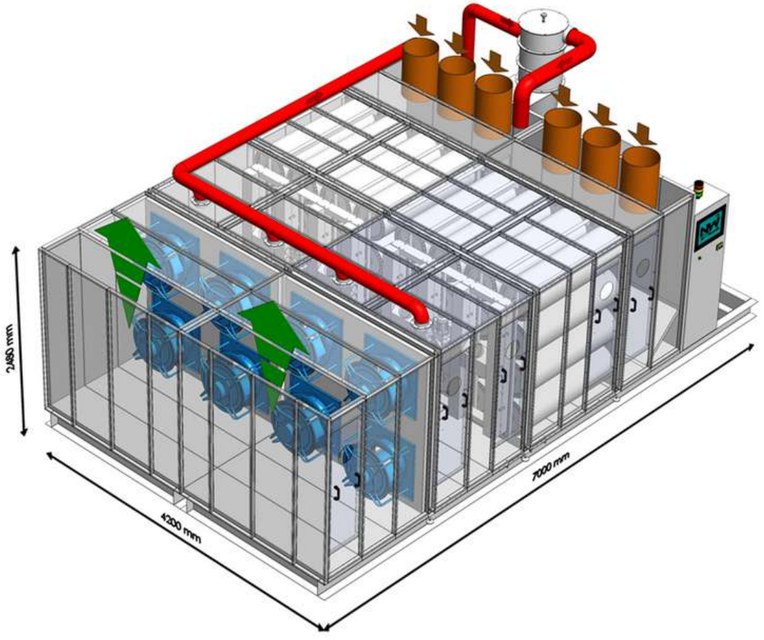
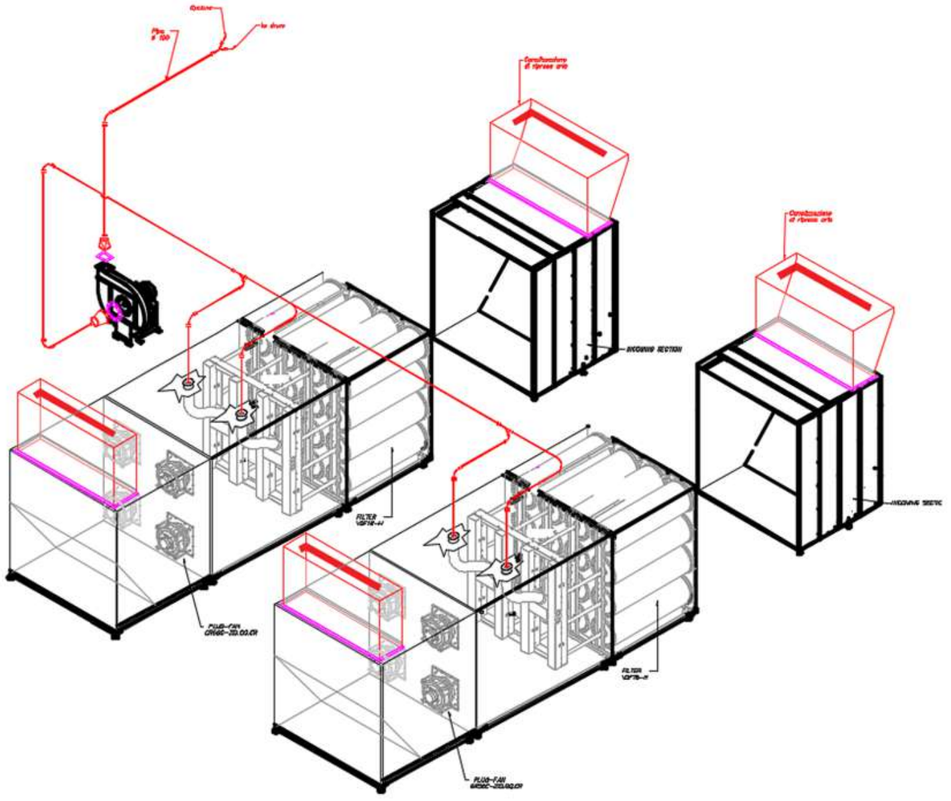
7000 mm


2480 mm
4200 mm
7000 mm



VDF Unit

VDF 16

Some of our installation

ADL Line

Needle Punch Line

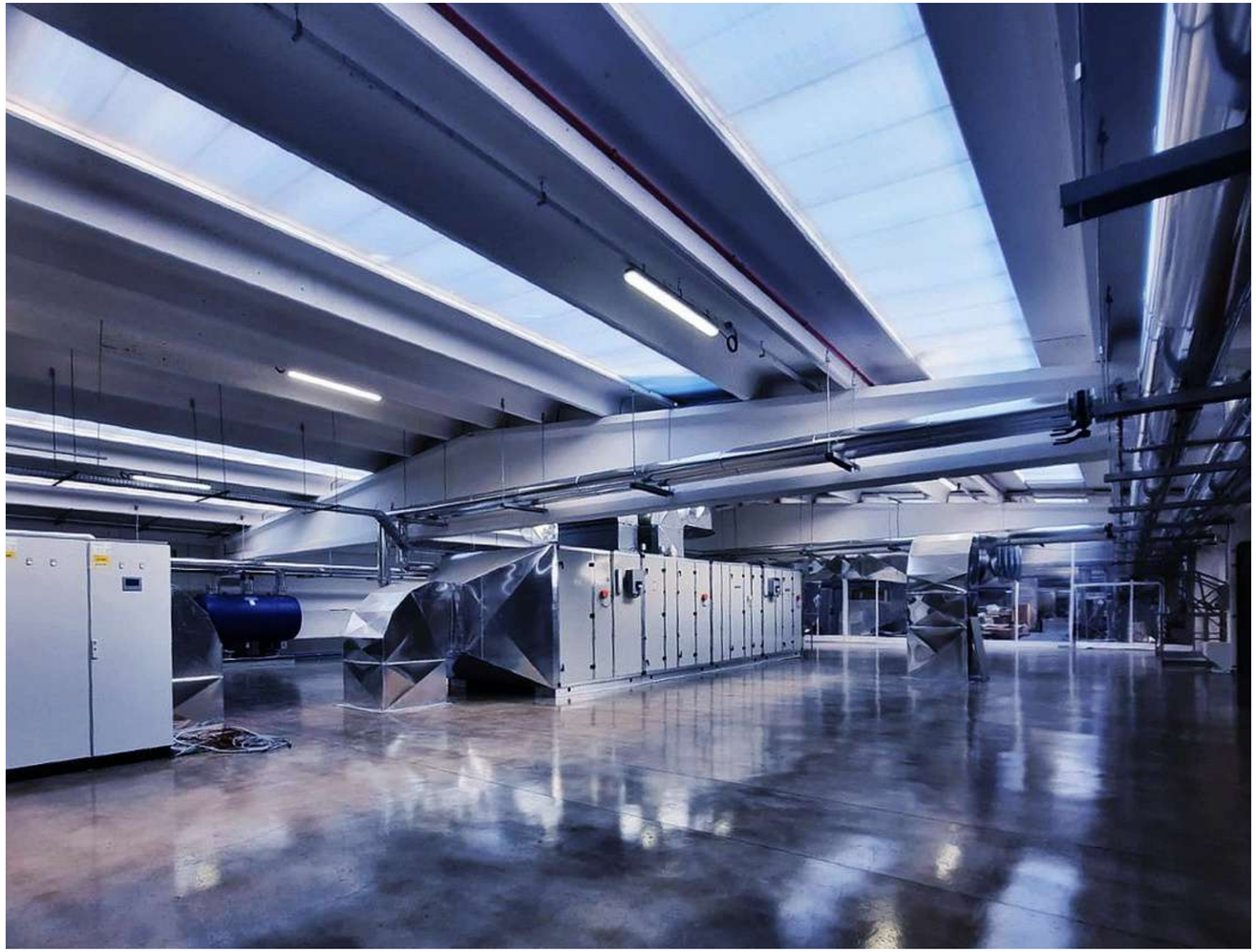
Airlay Line

Spunlace Line

Plug Fans

AHU

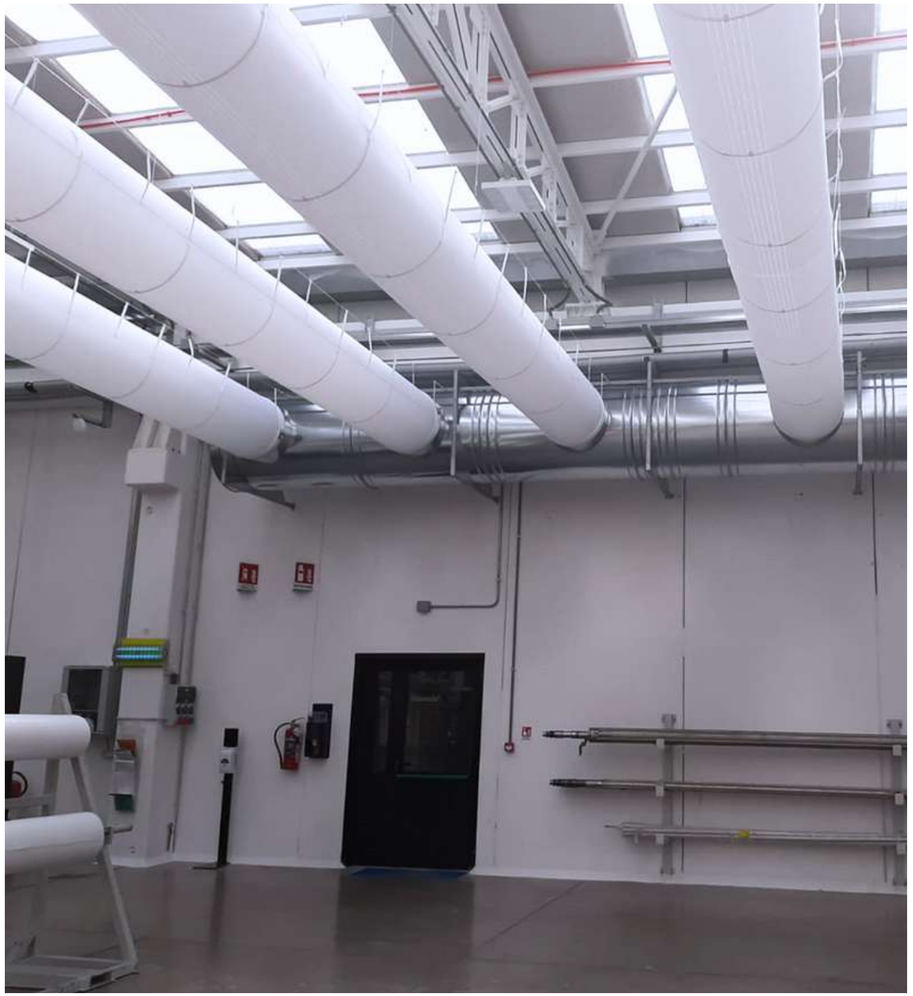
AHU



IHS® Humidification

IHS®ds Humidification

Textile Diffusers



Scrubber

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Note