

# AIRCLEAN

## HYGIENIC UNITS FOR FOOD INDUSTRY



### INTRODUCTION

Hygiene is a top priority in food processing. In this respect, food safety is a subject that is attracting particular media attention today, causing consumer anxiety, and the authorities have clearly identified this as a **priority**.

According to European legislation, food safety must be guaranteed by means of **prevention**, and to this end the hygienic design of food equipment is compulsory under European Community law.

If the necessary precautions are not taken at the design stage, particular bacteriological contamination may occur within the air handling units, which can then be spread through the ducts to the various rooms, with consequent

damage to human health or directly to the products being processed.

Expensive cleaning activities are therefore necessary inside the aeration systems, which also slow down the production process. These maintenance and cleaning costs quickly exceed the investment cost of the air handling unit.

In order to avoid all of this, in full compliance with the guidelines on hygienic design, the air handling units of the **AIRCLEAN** series have been developed.



## CERTIFICATIONS

Good air quality means good quality of life.

Certification in accordance with VDI 6022 ensures that the unit complies with the most stringent hygiene requirements in the industry.

It also ensures that the supply air does not contain pathogenic spores or hazardous substances for the entire service life of the system, with a better indoor climate and optimal well-being and performance.

Materials certified according to VDI 6022 are subjected to extensive testing to ensure that they do not facilitate the growth of bacteria or fungi and are also tested for the release of hazardous substances.

Finally, the **AIRCLEAN** units are easy to clean because the surfaces are sealed and can withstand approved cleaning agents and disinfection methods.

This series has been designed specifically for applications in the food industry and for production processes where a very high degree of cleanliness is required.

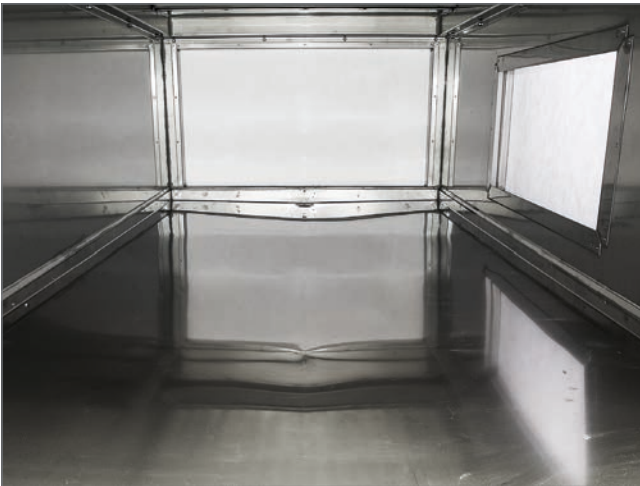
It also represents the state of the art among the specific units for the food sector, and is suitable for use with high temperature differences between the air inside and outside, excellent sound reduction and absence of thermal bridges.



## MAIN CHARACTERISTICS

### DESCRIPTION

Air handling unit **COMPLETELY SANITIZED** suitable for process air treatment. AIR CLEAN units can be easily subjected to cleaning cycles and complete hygiene in every single part. The unit is therefore free of areas of potential risk of contamination by pathogens, they have been designed for the needs of the food industry, designed according to the procedures of HYGENIC DESIGN and certified, placing themselves at the highest levels in the category of this segment of units.



HYGIENICAL INTERNAL PART

### STRUCTURAL WORK

Screws in stainless steel AISI 304 or AISI 316, with special insert housed in the stainless steel frame.

Structural work and infills in AISI 304 stainless steel designed and built so as not to have protrusions, sharp edges or inaccessible corners in which dirt could accumulate.

The internal corners are connected with a radius that allows easy cleaning and disinfection.



STAINLESS STEEL STRUCTURAL WORK

### STRUCTURE

Monobloc or multi-module structure, made of 15/10 thick press-folded profiles in AISI 304 or 316 stainless steel, coupled by screws of the same material to 53 mm thick thermal break sandwich panels.

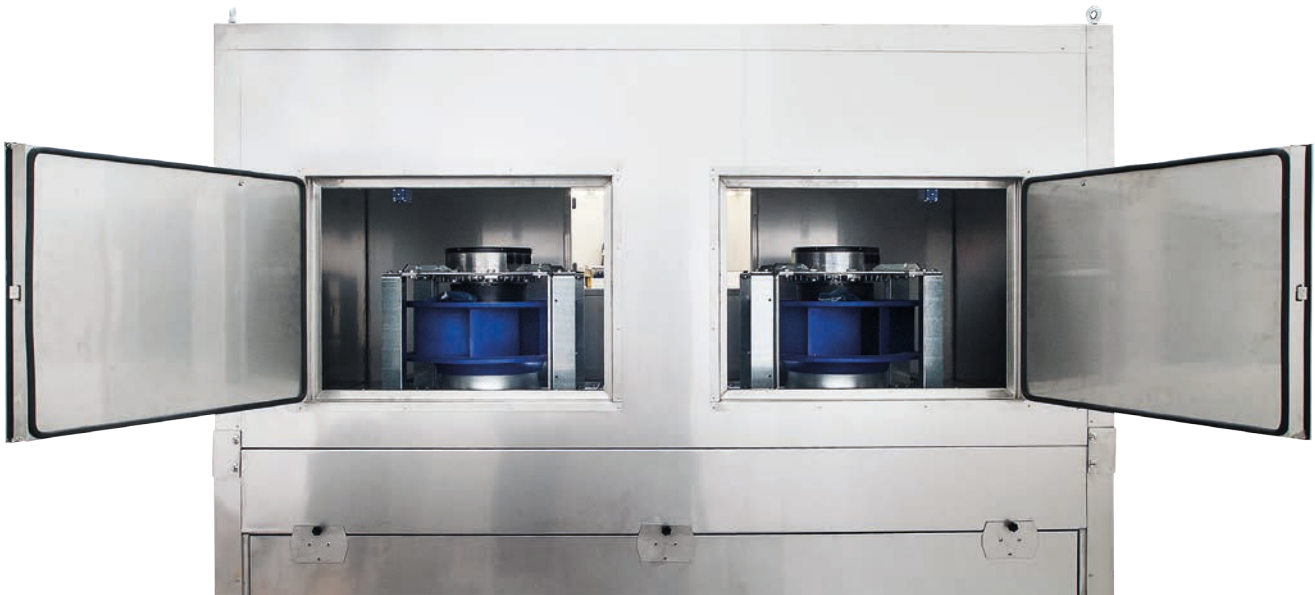
Absence of sharp edges inside the unit and internal corners connected with a wide radius to avoid stagnation of dirt and thus facilitate cleaning operations and achieve an excellent level of hygiene.

Possibility of choosing the EXTERNAL metal sheet among:

- pre-painted white galvanised steel (RAL 9010);
- AISI 304 or AISI 316 stainless steel;
- aluminium sheet with magnesium.

Possibility of choosing the INTERNAL structural work between:

- AISI 304 or AISI 316 stainless steel.





## MAIN CHARACTERISTICS

### PANELS

Sandwich panels **53 mm** thick made with an inner shell in stainless steel sheet AISI 304/316 with thermal insulation in isocyanate injected at high density ( $40 \text{ kg/m}^3$ ) and outer sheet of any sheet metal. An EPDM gasket is placed between the internal and external sheet metal of the sandwich panel to guarantee the thermal break of the panel. Absence of thermal bridges.



DETAIL OF THE PANEL

### BASE FRAME

The **BASE FRAME** is made of thick stainless steel (minimum 20/10 mm) with variable height to allow the realization of the siphon of adequate height to the pressures at stake, with the possibility of adding the adjustable in height or fixed feet, in stainless steel AISI 304 as well.



BASE FRAME WITH FIXED FEET

### COMPONENTS

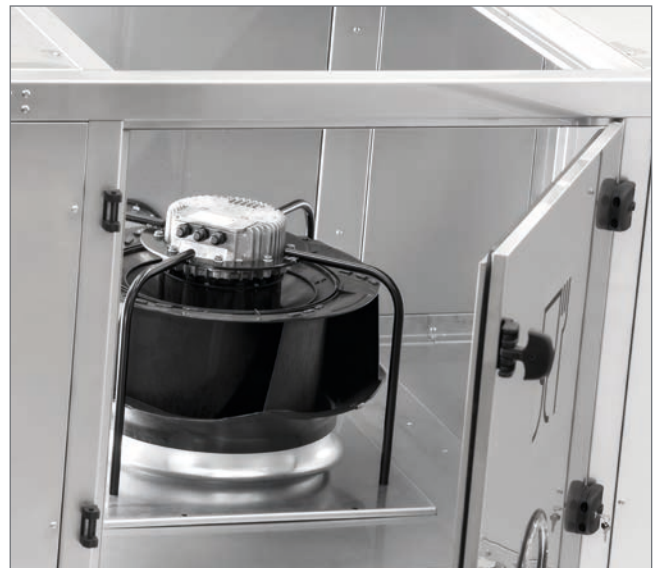
**SLOPED DRAIN PANS** in stainless steel AISI 304 TIG-welded on the bottom of the unit for complete drainage of condensation and hygienic detergents. They are positioned under the heat treatments and they have an inclination towards the side condensation discharge. Draining bottom panels and drain pipe are in correspondence with all the other sections of the unit.



SLOPED DRAIN PANS

Inspection **DOORS** completely recessed in the structure of the unit, of such dimensions as to allow easy access to all internal areas (for checks and/or maintenance) as well as to allow the disassembly and extraction of fans, coils, filters.

Installation on board of **ACCESSORIES** such as pressure switches and differential pressure gauges, flow meters, temperature probes and cable glands.



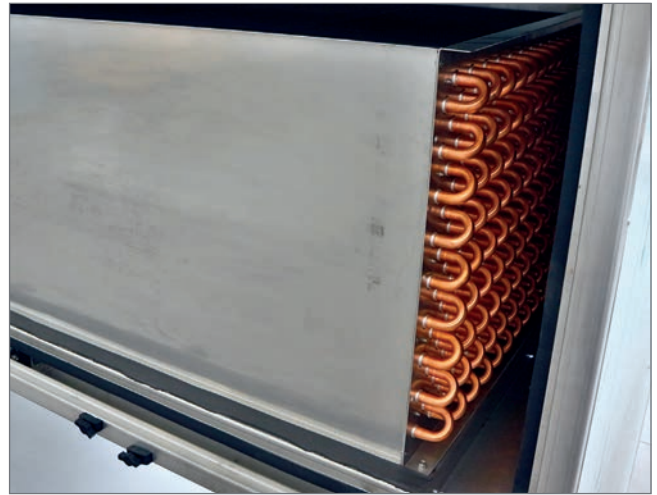
INSPECTABLE COMPONENTS

## MAIN CHARACTERISTICS



AIRTIGHT DAMPERS

**DAMPERS** with airtight gaskets in closed position (L4).



EXTRACTABLE COILS

**COILS** of any type (glycol water, direct expansion, steam) and combination of materials.



BAG FILTERS

Possibility of adopting **FILTER SYSTEMS** of various efficiency classes (panel filters, soft and rigid bag filters, absolute filters) on AISI 304 stainless steel counterframes.



PLUG-FANS

Radial **FANS** with directly coupled motor.

### MAINTENANCE

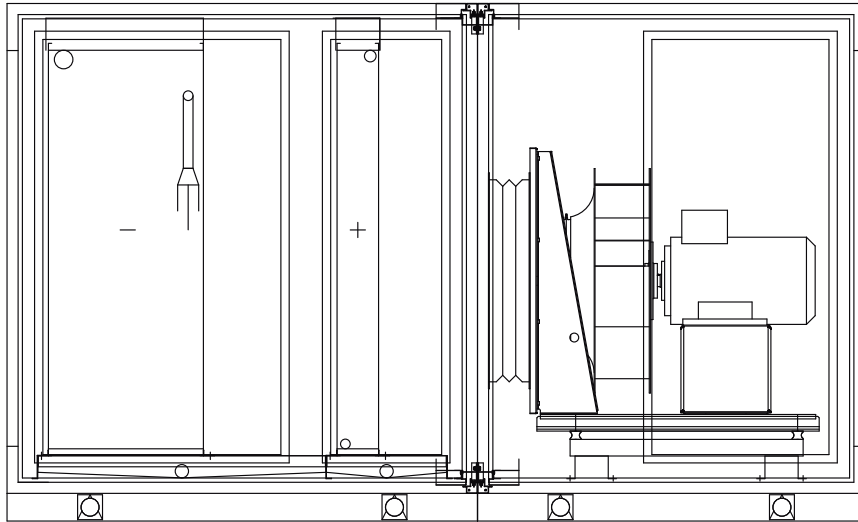
Accessibility to all internal components, such as batteries, filters, fans and/or internal compartments, for cleaning and/or washing, guaranteed by the possibility of disassembly of all the external panels regardless of the internal component.



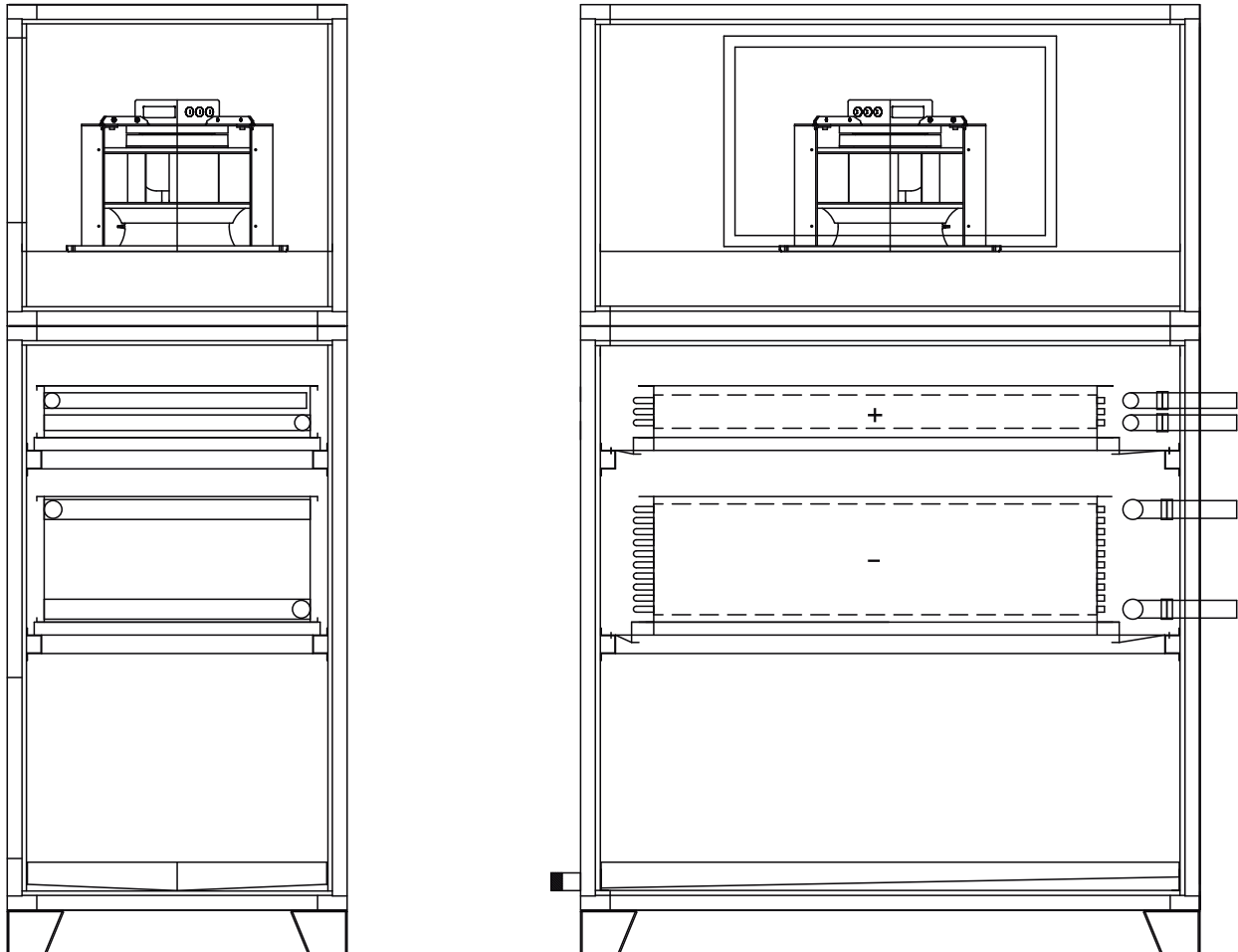
EASY ACCESS TO ALL THE COMPONENTS

## CONFIGURATION AND TYPOLOGY

AHUs can be configured with a monobloc structure or divided into several sections to facilitate transport and facilitate the customer in handling and positioning on site, with horizontal (H) or vertical (V) configuration.



HORIZONTAL CONFIGURATION (H)



VERTICAL CONFIGURATION (V)