

PROCLEAN

HYGIENIC UNITS FOR THE FOOD INDUSTRY



INTRODUCTION

The use of AISI 304 steel as a construction material for air handling units for food use has historically been the industry standard, but not because it is perfectly suited to this task; in fact, in systems where air is conveyed it is actually a compromise choice, because of its vulnerability to corrosion, elevate weight, the difficulty of controlling air leakages, and the high thermal transmittance factor.

The construction of composite air handling units has developed quite recently and has become necessary to provide the market with products with significantly superior

characteristics, in terms of corrosion resistance, to the traditional units in AISI 304, but with much lower costs than those in AISI 316.

The use of glass fibre-reinforced polymers, on the other hand, allows the construction of lighter, more energy-efficient units, perfect for applications in the food industry. The **PROCLEAN** series air handling units are specifically designed for this purpose; they are built with a self-supporting glass fibre-reinforced polymer monocoque structure and they are **COMPLETELY SANITIZED** and easily subjected to cleaning cycles and complete sanitization in every single part.



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 promote the growth of bacteria or fungi and are also tested for the release of hazardous substances.

PROCLEAN units are designed to guarantee extreme flexibility and total adaptation to the user's technical premises and are developed with either vertical or horizontal layouts.

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.

They are also easy to clean, as the surfaces are sealed and can withstand approved cleaning agents and disinfection methods.



MAIN CHARACTERISTICS

STRUCTURE

The structure of the unit is made of sandwich panels in glass fibre-reinforced polymers formed by impregnation of polyester resins and pressing with the vacuum technique, catalysis without the contribution of thermal accelerations (cold).

In this way, all the structural reinforcements provided are of the same nature as the panel and do not constitute a thermal bridge. The panels are made of polyurethane sheets enclosed by 25/10 P.R.F.V. laminates.

The total thickness of the panel is **53 mm**. Polyurethane foams (density 34/35 kg/mc) expanded with gases not harmful to the atmosphere (pentane cycle).

Internal and external surfaces of sandwich panels made of plastic laminates, with a totally smooth surface, formulated with isophthalic gelcoats suitable for food use.



COMPONENTS DETAIL

The external perimeter profiles are made of satinized AISI304 stainless steel.

Rounded internal edges to ensure a high standard of hygiene. Internal floors sloped towards the drains to avoid water stagnation.

Inserts for fixing internal components in aluminium alloy which does not give rise to rust drawing. Internal partitions and bulkheads in AISI 304 stainless steel.

The structure of the unit has been designed to ensure very high resistance to the use of detergents even acid or alkaline based.

BASE FRAME

The hot-dip galvanised steel **BASE FRAME** is made up of 2 IPE 160 beams + UPN 80 supports for the coils + IPE 160 or UPN140 supports for the fans.

COMPONENTS

Internal platform of the central unit has the function of a condensate collection pan of the full section, draining type to avoid water stagnation.



DRAINING FLOOR

The inspection **DOORS** can be of variable quantity and size according to the needs of internal hygiene and inspection for maintenance. Doors adjusted to the structure with grey rubber sealing gasket (4 plates).

Closing **HANDLES** and hinges in AISI 304 stainless steel.



HANDLE DETAIL

MAIN CHARACTERISTICS

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



DAMPERS WITH AIRTIGHT GASKETS

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



BAG FILTERS

COILS of any type (water-glycol, direct expansion, steam) and combination of materials (stainless steel, copper tubes, aluminum, copper, stainless steel fins, with cataphoresis treatment...) with frames in stainless steel AISI 304.



SPECIAL TREATMENT COILS

PLUG-FANS treated with epoxy coating.



PLUG-FANS