

Innovation For Creativity

metal ceilings and facades



MADE IN ITALY
MANUFACTURING
QUALITY • DESIGN

AIR certified

certified for air permeability
by Treviso Technology Laboratory
in compliance with the ASME MCF-14M:1995
UNI EN ISO 5167-1 1997/A1:2000.
Patent number: 102016000108127



PRODUCT TYPE

600x600 mm
other dimension on request
Clip-in Matrox panels
Right or 45° bevelled edge
Shaped edges to apply air-tight gasket

PANELS MATERIALS

Steel 5/10 | 8/10
Stainless steel 5/10 | 6/10
Aluminium 6/10 | 8/10

HIDDEN STRUCTURE

Matrox

ANTI-SEISMIC EQUIPMENTS

Antiseismic Kit for:
≤ 1,2 m plenum | > 1,2 m high plenum

HANGERS

Spring hook hanger | Nonius
Suspensions to evaluate according to
the load at m², to the project features
and antiseismic requirements.

COLOURS AND FINISHING

Standard pre-painted white | silver
RAL / NCS coatings | Plain surface
Sublimation | Digital printing
Antimicrobial treatment (Defence H⁺)

WALL ANGLES

"C" 25x33x18 mm profile with
"omega" spring and air-tight
gasket to be applied on site

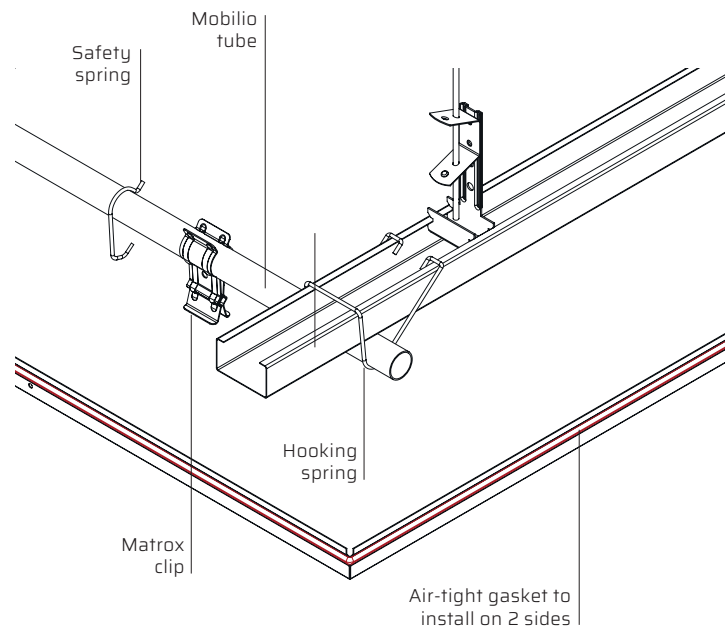
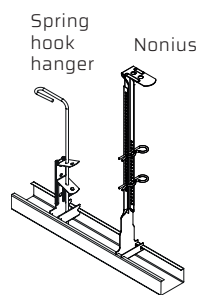
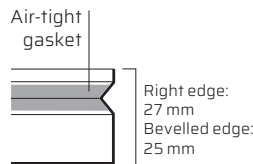
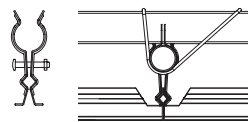
ACCESSORIES

ATE_TAUROS/N IP65
integrated lighting by Atena Lux

Product range: HOSPITAL CEILING

MATROX AIR-TIGHT

MATROX



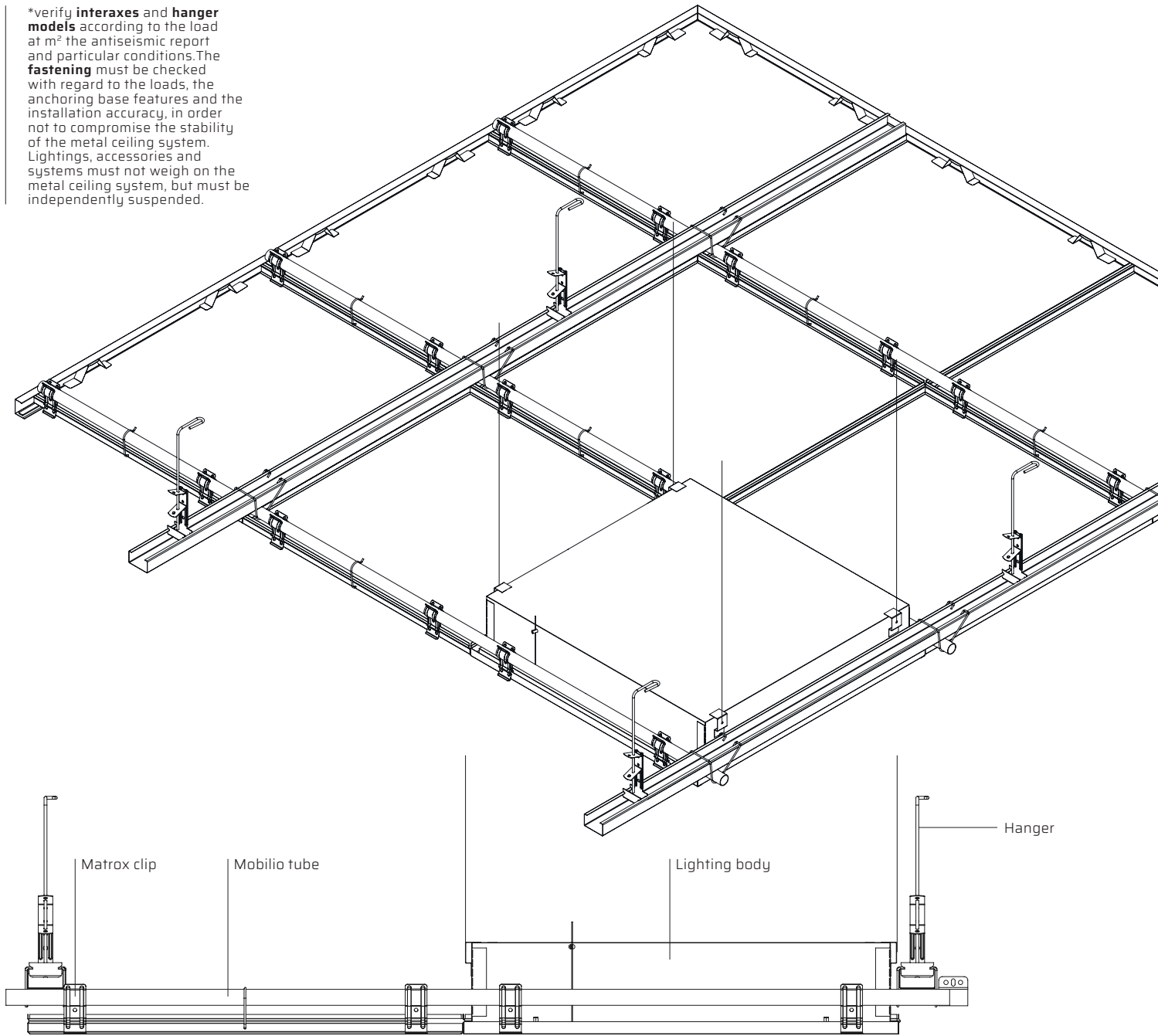
MATERIAL AND WEIGHT

PANEL MATERIAL METAL CEILING WEIGHT PER Kg/m²

PANEL MATERIAL	PAN.	STR.	LAMP	U.M.
STEEL 5/10	4,60	1,50	10	kg/m ²
STEEL 6/10	5,52	1,50	10	kg/m ²
STEEL 8/10	7,36	1,50	10	kg/m ²
ALUMINIUM 6/10	1,94	1,50	10	kg/m ²
ALUMINIUM 8/10	2,58	1,50	10	kg/m ²

*verify **interaxes** and **hanger models** according to the load at m² the antiseismic report and particular conditions. The **fastening** must be checked with regard to the loads, the anchoring base features and the installation accuracy, in order not to compromise the stability of the metal ceiling system. Lightings, accessories and systems must not weigh on the metal ceiling system, but must be independently suspended.

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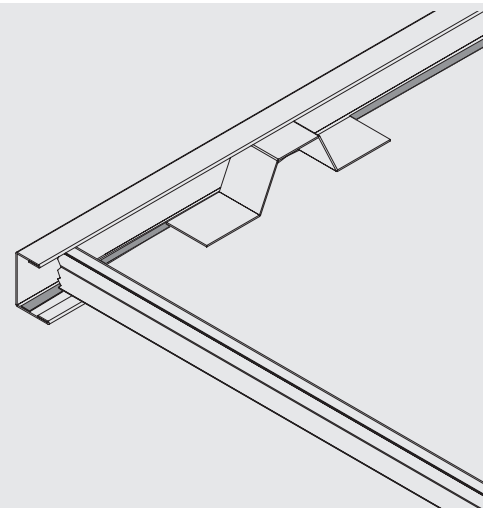
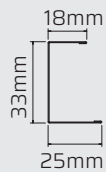


COMPONENT INCIDENCES

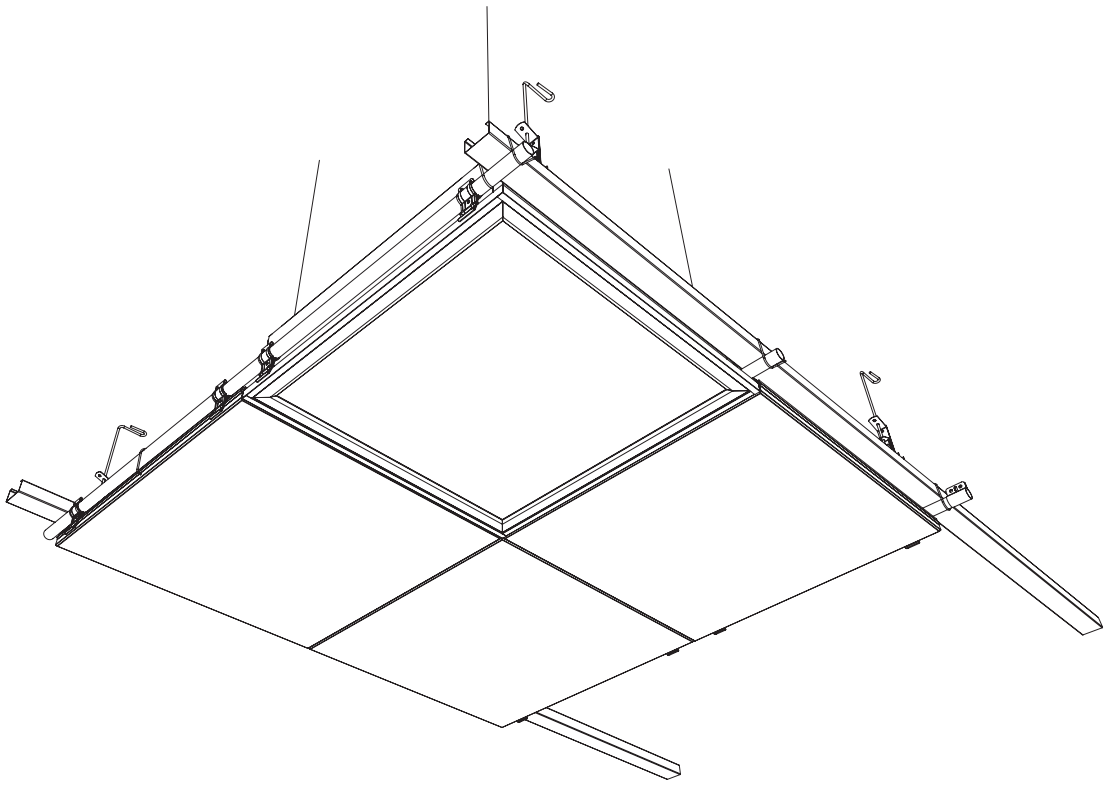
ID	DESCRIPTION	INCIDENCE*
1	AIR TIGHT MATROX PANEL	2,78 pcs/sqm
2	CARRIER	0,85 lm/sqm
3	CARRIER JOINT	0,22 pcs/sqm
4	HANGER	1 pcs/sqm
5	MOBILIO TUBE	1,70 lm/sqm
6	MOBILIO JOINT	0,45 pcs/sqm
7	HOOKING SPRING	3 pcs/sqm
8	MATROX CLIP	6 pcs/sqm
9	SAFETY SPRING	3 pcs/sqm
10	WALL ANGLES	1 lm/sqm
11	OMEGA SPRING	5,55 pcs/sqm

WALL ANGLE

"C" wall angle with air-tight spring and perimeter gasket.

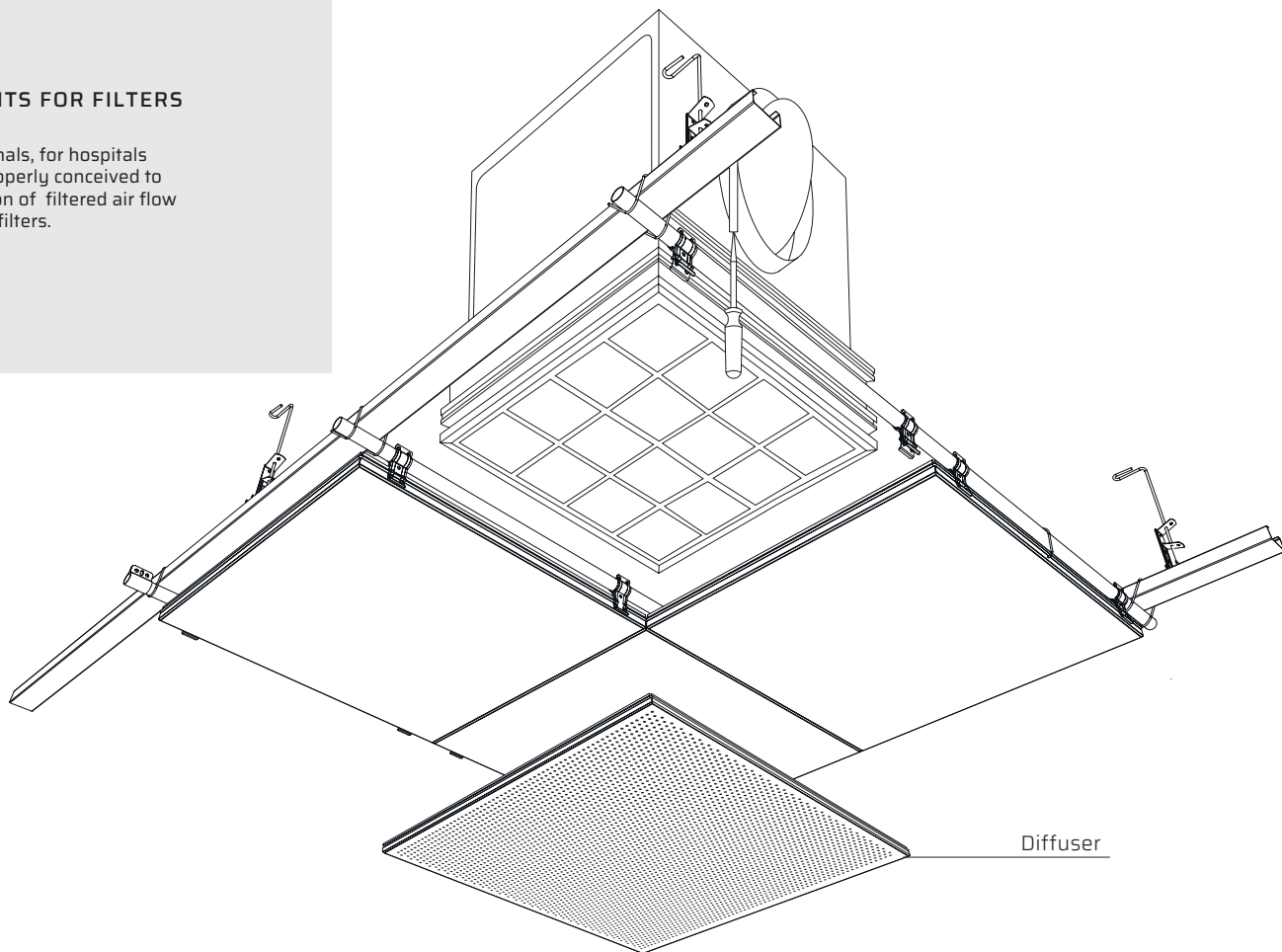


* Component incidences 600x600mm model

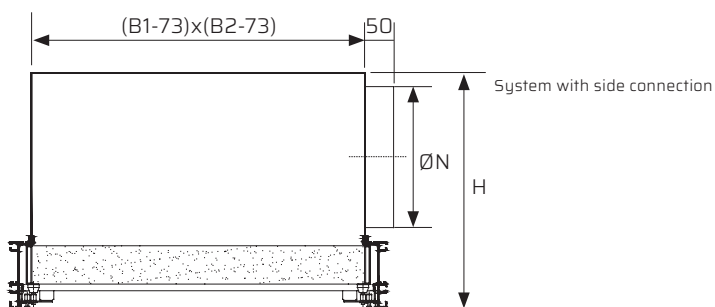


TERMINAL UNITS FOR FILTERS

The filtering terminals, for hospitals application, are properly conceived to control the diffusion of filtered air flow through absolute filters.



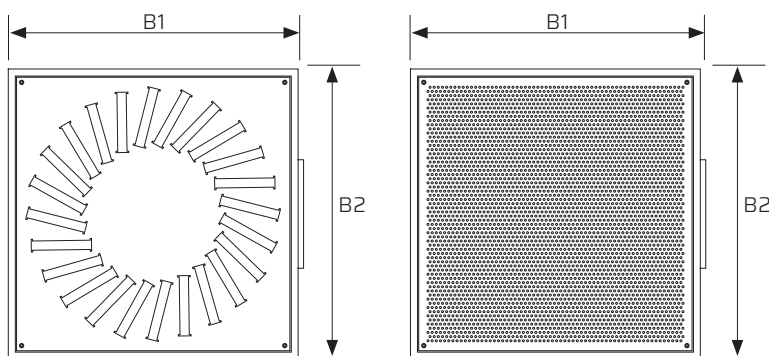
SYSTEM WITH LATERAL AIR DUCT CONNECTION



Made up of extruded aluminum frame which houses the absolute filter, the diffuser plate and the plenum, the filtering terminals for MATROX AIR TIGHT are perfectly integrated into the metal ceiling without altering the sealing features, creating an aesthetic unicum with the system.

Plenum with lateral connection, equipped with two sockets for DOP / Δp differential pressure probe. Matrox diffuser in the same material of panel with sealing gasket to install on site. Installation and dismounting as Matrox panels. Use tie rods to suspend the terminal without filter.

SUPPLY AND RETURN AIR DIFFUSER



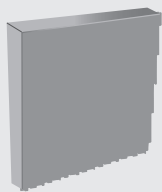
S430 Swirl diffusers
Air outlet

S460 Diffuser with perforated screen
For air intake

TERMINAL UNITS FEATURES

FILTER DIMENSIONS (mm)	305x305x68	457x457x68
EXTERNAL DIMENSIONS B1xB2xH (mm)	365x365x320	517x517x420
PANELS DIMENSIONS Nominal (mm)	600x600	600x600
HOLE DIAMETER ØN (mm)	160	250
NOMINAL CAPACITY (m ³ /h)	150	340
MAX CAPACITY (m ³ /h)	270	600

ABSOLUTE FILTER FOR LAMINAR FLOW



Filters for absolute filtration of low turbulence laminar flows in controlled contamination environments. Extruded aluminum frame and filter in water-repellent fire-retardant glass microfiber, separators in heat-sealed wire and protective screen in painted steel on both sides. Two-component polyurethane sealant with one-piece cast polyurethane gasket. Filters fixing to the filter holder frame with seal through elastometer and mechanical tightening

Each filter is equipped with an individual test certificate. Filtration Class:

H14 | weighted mean efficiency: >99,999 (EN 1822)

U15 | weighted mean efficiency: >99,9999 (EN 1822)

FIELDS OF USE

MAXIMUM TEMPERATURE	80°C	ΔP _f FINAL RECOMMENDED	600 Pa
RELATIVE HUMIDITY	100%	ΔP _f MAXIMUM	1000 Pa

TERMINAL UNITS FEATURES WITH FILTERS

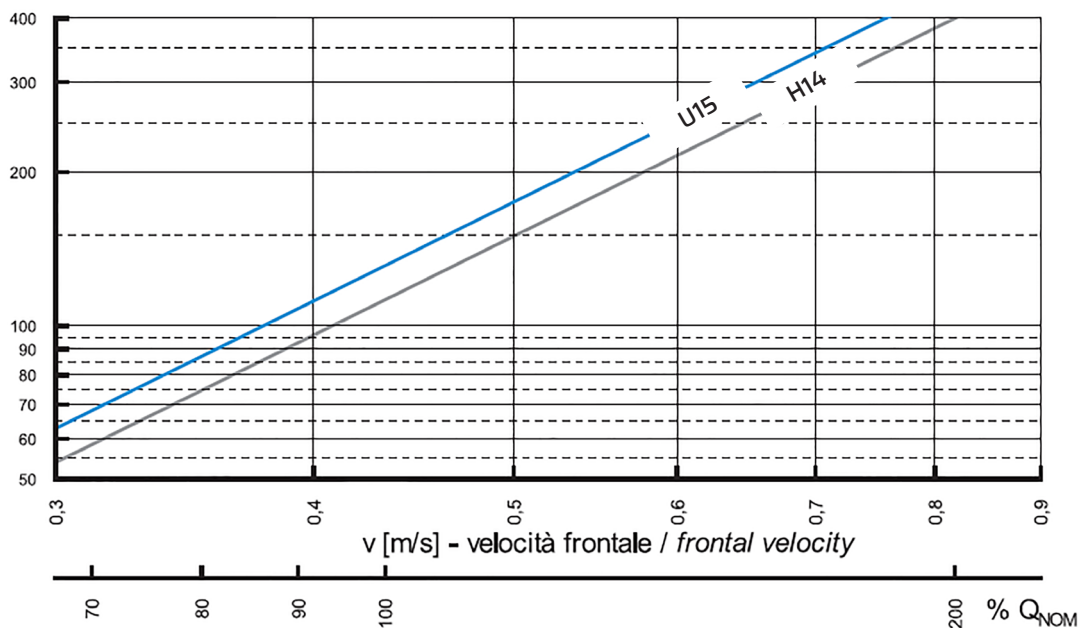
SYSTEM CODE	TERMINAL UNIT* BxBxH	FILTER CLASS	FEATURES OF THE SYSTEM WITH FILTER			
			Maximum S. AIR FLOW RATE m ³ /h	PRESSURE LOSS (Pa)	FILTER SURFACE m ²	EFFICIENCY %
-	305x305x68	H14	150	120	2,7	>99,999
-	457x457x68	H14	335	120	6,2	>99,999
-	305x305x68	U15	150	140	2,7	>99,9999
-	457x457x68	U15	335	140	6,2	>99,9999

The pressure drops are equal to the filter pressure drops added to the diffuser ones. To replace the filter, consider the recommended final pressure drop measurable through the pressure probes installed on the terminal board.

PRESSURE DROP

V (m/s) frontal speed
Q_{NOM} (m³/h) frontal speed
ΔP (Pa) Pressure drop

Consider the characteristic curve of the filters, intended as a clean filter to evaluate the pressure drops (Δp) as a function of the front speed (V) or the percentage of flow rate compared to the nominal one (Q_{NOM}).



AIR TIGHT

AIR TIGHT MATROX ceiling was tested by the t2i Laboratory - trasferimento tecnologico e innovazione s.c. a r.l. according to ASME MFC-14M | UNI EN ISO 5167-1 using a computerized semi-automatic control and a measurement system which determines both the air flow rate using differential pressure devices and the pressure level inside the test chamber.



TRASFERIMENTO TECNOLOGICO
INNOVAZIONE
SISTEMA CAMERALE VENETO

TERMINAL UNITS FEATURES WITH FILTERS

In the tests carried out, the system was subjected to positive and negative pressure equal to 50 | 100 | 150 | 200 Pa. In the test conditions the air-tight Matrox system obtained the following results.

POSITIVE PRESSURE	TOTAL LOSSES	LOSSES ON TOTAL SURFACE	NEGATIVE PRESSURE	TOTAL LOSSES	LOSSES ON TOTAL SURFACE
Pa	m ³ /h	m ³ /hm ²	Pa	m ³ /h	m ³ /hm ²
50	10,2	4,66	-50	9,6	4,38
100	15,8	7,21	-100	15,4	7,03
150	20,4	9,31	-150	19,2	8,77
200	24,5	11,19	-200	22,7	10,36

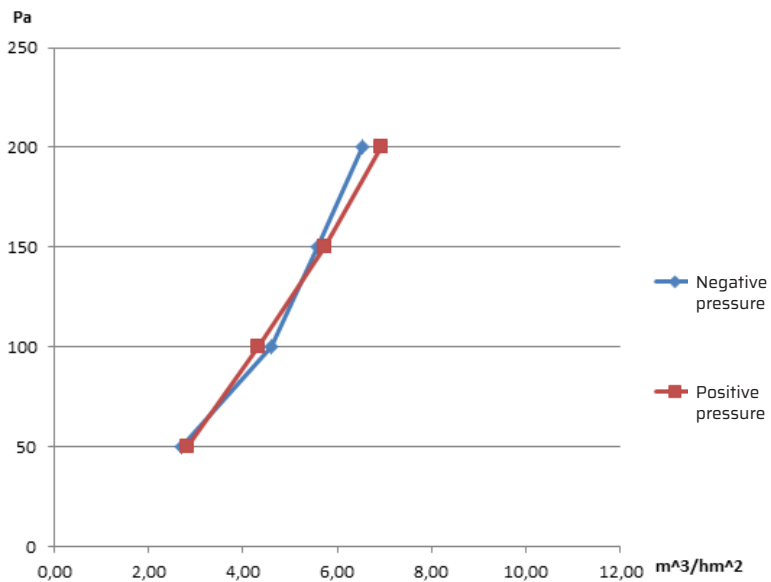
ASME MFC-14M

fluid flow measurement using small diameter precision orifice meters.











UNI EN ISO 5167-1

flow rate measurement using differential pressure devices inserted in ducts with a full circular section.






TEST REPORT N° 119/13



TECHNICAL PERFORMANCES







	FLEXION RESISTANCE	Maximum span mm 1200 - 1 Class EN13964
	CORROSION RESISTANCE	Galvanized steel products: C2 Class Pre-painted galvanized steel products: C3 Class Post-painted galvanized steel products: C4 Class Pre/post-painted aluminium products: C5 Class
	(RH%) RELATIVE HUMIDITY RESISTANCE	Galvanized steel products: ≤ 90% Pre/post-painted galvanized steel products: > 90% Stainless steel and aluminium products: > 90
	COLOR STABILITY	In compliance with technical tolerances standard. Test according to the ΔE - CIELab method. ISO 7724-2 (3)
	FIRE REACTION UNI EN 13501-1	A1 Class
	METAL CEILING MAXIMUM LOAD	15 kg/m ²
	DURABILITY OF OF PAINTED ITEMS	C Class EN13964
	DURABILITY OF GALVANIZED ITEMS	B Class EN13964
	LIGHT REFLECTION	Smooth glossy white: up to 85% ISO 7724-2 (3)
	ACOUSTICS	Information in "Acoustic Performance"

HEALTHCARE

	CLEANING ⁽¹⁾	Wet cloth with warm water and neutral non-abrasive detergents.		AIR TIGHT	With reference to ASME MCF-14M UNI EN ISO 5167-1 Certified by t2i Laboratory Trasferimento Tecnologico e Innovazione s.c.a.r.l.
	RESISTANCE TO MOLD ⁽⁴⁾	Products "Defence H"		DISINFECTION IDONEITY ⁽²⁾	"Defence 4H" galvanised post-painted steel products only. VDI2083 P.17; ISO 4628-1; ISO2812-1 - Fraunhofer institute - Stuttgart
	ANTIMICROBIAL PROPERTIES ⁽³⁾ ISO 22916	Products "Defence 1H" in galv. pre-painted steel : Products "Defence 2H" in pre-painted aluminum: Products "Defence 3H 4H" in alu. /galv. st. post-paint:			action > 99% action >99% action >99%

(1): For environments with low risk of contamination. Clean the metal ceiling with a dry method before using water; the metal ceiling can be washed with high pressure water if all gaps are sealed with high resistance silicone. (2): Frequent cleaning with diluted disinfectants containing active agents such as formalin, hydrogen peroxide, sulfuric acid, phosphoric acid, hydrochloric acid, isopropanol, sodium hydroxide and sodium hypochlorite. (3): Information about the tested bacterial spectrum available on request. (4): Pre and post-painted steel and aluminum products are naturally resistant to mold due to the chemical and physical material features. The products maintain the declared performance features if properly cleaned and maintained.

SUSTAINABILITY

	RELEASE OF DANGEROUS SUBSTANCES*	None CAM 2.4.1.3 EN13964		FORMALDEHYDE*	E1 Class CAM 2.3.5.5
	DISASSEMBLY*	Steel Aluminium 100% recyclable CAM 2.4.1.1		MATERIAL DEMOLITION AND REMOVAL*	Non hazardous waste in compliance with CAM 2.5.1.
	RECYCLED PRODUCT CONTENT*	CAM 2.4.1.8 compliance		GREEN BUILDING	Requirements: LEED (BREEAM and ITACA for cross-section aspects)

* Data declaration as required by the ISO 14021 standard

WARRANTY

The warranty, covers the manufacturing products defects. Except as provided in the specific warranty extensions, the warranty period is one year from delivery of goods. Any complaints must be communicated in accordance with the sales terms and conditions. Metal ceilings system components have been conceived for this purpose only, any other use is considered improper.

CLEANING, MAINTENANCE AND REMOVAL INSTRUCTIONS

Cleaning and maintenance require some attention and care even though are easy to make and don't take much time. It is necessary to use warm water and neutral and non-abrasive detergents. It is recommended to clean the metal ceiling by dry-cleaning before proceeding with water. 24 Syncro Evo and Syncro XL Air-Tight can be washed with high pressure water if sealed with silicone. Metal ceilings made in antimicrobial post painted galvanised steel "Defence H4" tested for chemical resistance by Fraunhofer Institut di Stuggart, can be cleaned frequently with diluted disinfectants containing active agents such as formalin, hydrogen peroxide, sulfuric acid, phosphoric acid, hydrochloric acid, isopropanol, sodium hydroxide and sodium hypochlorite. Metal ceilings maintenance usually refers to: placement, alignment or replacement of damaged or broken modules (panels, staves, baffles, open cells) which can be also removed for restoration or maintenance of the system below. In order to ensure an excellent results, the maintenance work must be carried out by specialised workers trained with technical data sheets about setting, removal and maintenance of the metal ceilings. Using inadequate tools can damage the bearing structure, causing adherence loss or even accidental modules fall. All the maintenance intervention must follow the technical data sheet instructions or specific information when provided and every diversity has to be promptly reported. Each worker charged with maintenance operation must carefully remove the modules, perform the intervention and do not alter the metal ceiling structure, the hanging system and the connection between these elements. When the maintenance is over, modules must be installed again, checking that these are well hooked or positioned if they are lay-in/on on a visible structure and that the flatness of the assembly is guaranteed. Any difference in level is caused by wrong installation and, for this reason, the system must be quickly controlled.

STORAGE MODE

Materials shall be maintained in good condition from purchase to installation. Materials must be stored in a closed, clean and dry site, not under direct light. Materials provided with protective films must be transported and stored in proper environmental conditions, i.e.: temperature 10 to 30°C, relative humidity 40 to 75%RH. Within three (3) months of delivery and in any case before installation, the protective films must be removed. Products are protected with resistant packaging under normal handling. Please handle packages with care to avoid shocks and inappropriate handling that might damage what is provided. The manual handling must be carried out with caution and in compliance with safety regulations at work. For carriage of packaged products on pallets, provide a mechanical transport to avoid damages or risks resulting from inadequate transport.

SUSTANABILITY AND SAFETY

All metal ceilings ITALIAN SELECTION are made with products that do not release dangerous substances into the environment including formaldehyde. Coating and / or sublimation are free from Volatile Organic Compounds (VOC). The products will be recyclable and as a whole manufactured using recycling processes materials, the recycled material percentage is calculated for each type of product, in compliance with CAM requirements and declared according to the ISO 14021 standard. The metal ceiling systems contribute to getting credits for the certification of building design, construction and sustainable and efficient management according to the LEED protocol and to the BREEAM and ITACA cross-cutting aspects.

FASTENERS

IFC supplies the hangers and accessories such as screws, washers and nuts to connect the elements of its own supply only. Lightings, accessories and systems must not weigh on the metal ceiling system, but must be independently suspended. The fastening must be checked with regard to the loads, the anchoring base features and the installation accuracy, in order not to compromise the stability of the metal ceiling system.

ANTISEISMIC EQUIPEMENTS

According to the NTC 2018, when the non-structural element is assembled on site: structure designer is in charge of identifying the request, the supplier and / or installer is in charge of providing elements and connection systems of adequate capacity, the project manager is in charge of verifying the accuracy of installation". Therefore it is necessary to communicate to IFC the stresses acting on the false ceiling (seismic acceleration, wind load,..) in order to allow a proper calculation of the single elements. For more information on IFC's anti-seismic systems, contact the reference sales offices. The documentation on the site is for example only. (NTC 2018 § 7.2.3-7.2.4).

NORMATIVE REQUIREMENTS

IFC LTD is maker and sole distributor in Israel and Palestinian territories.

“Italian selection” products are manufactured in Italy by the selected Italian maker Atena S.p.A.

The Italian company has adopted a quality management system in compliance with the UNI EN ISO 9001 standard.

All “Italian selection” metal ceilings are produced for indoor applications, in compliance with Technical Standards for Construction NTC 2018 and relative circular requirements, the Minimum Environmental Criteria CAM (Ministerial Decree 11 October 2017), the specific technical standards applicable UNI EN 13964 and 14195. Each product has its own DOP (CE Declaration of Performance) according to the European Law for construction products 305/2011.

The performance properties declared in D.o.P. Declarations of Performance provided by the manufacturer are guarantees, if the metal ceilings are installed in the environment conditions for which it has been conceived and the recommended maintenance is executed.

Precisely, metal ceilings are non-structural construction elements therefore they must be properly sized in order to withstand with adequate safety against all actions that can stress the building, such as, but not limited to, earthquakes, winds, thermal expansion, humidity, etc., in relation to the installation site, the building use and the project technical features. Check with IFC technical department the specific environmental conditions to which the product will be subjected, in order to choose the most suitable materials for the installation site.

In the case of outdoor installation, the metal ceilings are not covered by an harmonized technical standard, therefore they are not subject to the regulation 305/2011. They are in any case subjected to the NTC 2018 and to the safety checks of civil constructions, and must be properly sized according to the installation site environmental conditions, to the structural features and to the project specifications.

The products are sold to the customer together with guarantees and technical sheets, with instructions for transport, unloading, storage, handling, installation and maintenance, supplied by the manufacturer, verified and approved by IFC.

Independently by information, suggestions, advices and technical opinions exchanged between the parts, during pre-agreement negotiations IFC will supply the products only according to the orders received and the technical drawings/projects attached, having no responsibility on what is not indicated in the order, in the technical drawings or in the project.

All rights are reserved and subject to industrial protection. All data provided and illustrated are indicative and can be changed at any time according to the business needs and the production processes.

The information contained in this following sheet must to be considered updated at the date of writing. Changes in product performance occurred after that date may affect the accuracy of the data sheet: it is compulsory for users to make sure to have the latest version of this sheet.



Italian selection products



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