



Telstar CAM

Ultrafiltered Air Impulsion Modules

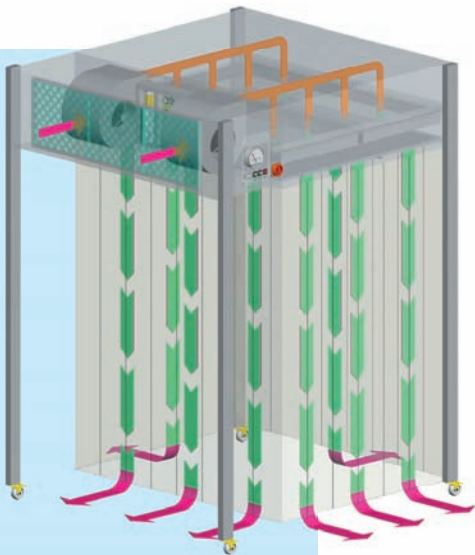


Ultrafiltered Air Impulsion Modules



During the manufacturing process of pharmaceutical products, food, cosmetics, etc. the product must be finished to obtain the maximum quality of its components. However, this quality could be compromised if the working area atmosphere is polluted: the environmental contamination can be due to the presence of particles or micro-organisms in the atmosphere.

The **TELSTAR CAM Series** ultrafiltered air impulsion modules produce enclosed working areas of clean and sterile air through a filtered laminar air flow process. The laminar flow working area should be placed in an environment with an immediate inferior degree, as per cGMP regulation.



Operating Principle

By means of the impulsion of ultrafiltered laminar flow air, a complete sweep vertical downflow of the enclosed area is achieved in the module. The air is displaced from the ceiling to the ground with a parallel flow pattern and uniform output, which drags away all the polluting particles and expels them under the curtains to the outside.

The ultrafiltered air creates an overpressure with regard to the exterior air, ensuring that contaminating particles can not penetrate the enclosed area.



Get the right protection in all the transfer way

The mobile wireless Telstar trolleys allow product transfers in sterile conditions of ISO 5 class level (EN ISO 14644-1).

Horizontal or vertical laminar flow fully customized units for product or environment protection.

It will be sized for every specific requested capacity in terms of both sample quantity and autonomy time.

Design Features

The ultrafiltered flow impulsion area is protected with a perforated plate in anodised aluminium (SS or PLF screen as option) which blows and distributes the air in a downward laminar flow path to the working area.

The working area is enclosed with transparent plastic strip curtains to provide easy access and excellent process visibility. It is illuminated by fluorescent lamps with protectors.

The frame can be made of epoxy powder coated zinc steel or stainless steel AISI 304L/316L for high resistance and durability.

The equipment is fitted with two stages of filtration:

- G-3 synthetic fibre pre-filters of efficiency equivalent to $\leq 80\%$ EN 779 gravimetric, re-usable by aspiration.
- H-14 high-efficiency absolute HEPA 99,995% (MPPS-EN1822) filters, obtaining easily a clean flow area ISO-5 (EN ISO 14644-1).

The HEPA filters are placed on the cabinet ceiling. Below the filters is located a microperforated plate that protect them and that helps keeping an homogeneous air velocity in the whole laminar flow area.

The double aspiration centrifugal fans result in a low noise level (≤ 65 dBA) and reduced vibration.

The control panel can be placed in the module or installed remotely to enable better access. It includes a differential pressure gauge, time counter, HEPA filters clogging alarm, lighting and flow switches.

Options and Special Design

- Stainless steel AISI 304L or 316L frame.
- Stainless steel or PLF air flow distribution screen.
- Remoted sited control panel.
- Support legs with or without locked castors.
- Aspiration grid placed below for levelling with a false ceiling.
- Automatic velocity control.
- Delivery in several pieces.
- Modules equipped to be adapted to filling or packaging machines for pharmaceutical or food products.
- Horizontal laminar flow modules with laterals.
- Modules prepared to be integrated in the ceiling of a clean room.
- Modules with special shapes to be adapted to protected zones.
- Units with batteries allowing a safe transportation of trolleys.
- PLF air distribution screens or stainless steel grilles.
- IQ/OQ protocols.



T drop fluorescent lights



Strip curtains



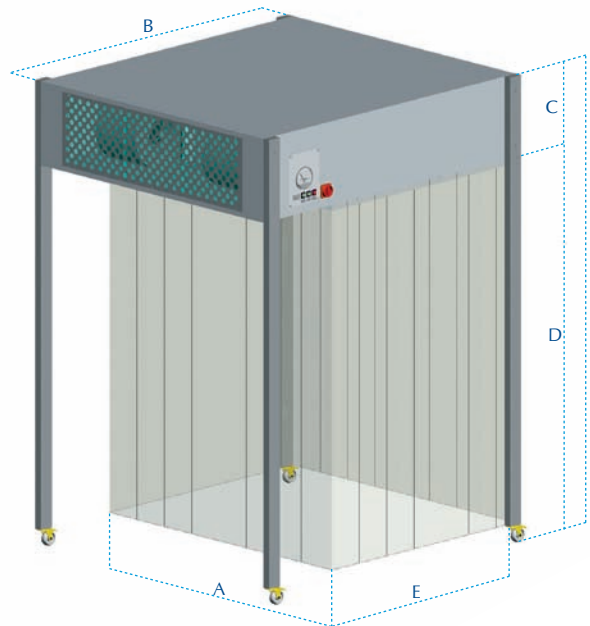
PLF air distribution screen



Control panel

Technical Data

FEATURES	UNIT.	CAM 1000-V	CAM 2000-V	CAM 2600-V	CAM 3200-V	CAM 4000-V	CAM 4500-V	CAM 6500-V	
Total air flow	m ³ /h	1.350	2.400	3.100	3.750	4.600	5.500	7.500	
Air flow velocity	m/s	0,40							
Power	kW	1,2	1,2	2,3	2,3	2,5	3,5	4,5	
Weight	Kg	150	180	250	300	320	350	450	
Voltage		230 V-50 Hz							400 V-50 Hz
Filters		HEPA H-14 efficiency >99,995% MPPS EN-1822 (99,999 DOP)							
Fans		High efficiency centrifugal type							
Lighting level	lux	> 650							
Noise level	dBA	< 65				< 70			
Dimensions	A	mm	713	1.933	1.628	1.323	1.628	1.933	3.211
	B	mm	1.873	1.415	1.893	2.523	2.523	2.523	2.178
	C	mm	550	550	550	550	550	550	550
	D	mm	2.100	2.100	2.100	2.150	2.150	2.150	2.150
	E	mm	1.323	865	1.343	1.973	1.973	1.973	1.628
	F	mm	2.650	2.650	2.650	2.700	2.700	2.700	2.700



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ISO 9001: Certified Company

BR-CAM- EN-0113

Telstar reserves the right to improvements and specification changes without notice.

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