



HYGIENIC
AIR QUALITY EXPERT



LAMINAR AIR FLOW CEILINGS
SINGLE SPEED / DOUBLE SPEED

Laminair air FLOW CEILING

SINGLE SPEED

The range of ATA laminar air flow ceilings ensures efficient protection against contamination which can occur during invasive acts and caused by airborne dead or living particles.

The ceilings are available in square, rectangular, octagonal or circular shapes in order to suit any room layout and answer specific requirements to create a clean zone around the patient, medical staff and medical devices. Our laminar flow ceilings are mainly used with our Clinicair Air Handling Unit, but can be also adapted to any type of products from a different brand.

This system is dedicated to operating theatres in order to meet ISO 5 standard (complying with EN ISO 14644-1) as well as to pharmaceutical industry. It helps fight cross contamination and hospital borne infections.

We have developed two ranges, in order to meet with all country regulations:

- NFS 90-351 Range:

rectangular, square, octagonal ceilings (on demand)

- DIN 1946:

rectangular, circular, octagonal ceilings



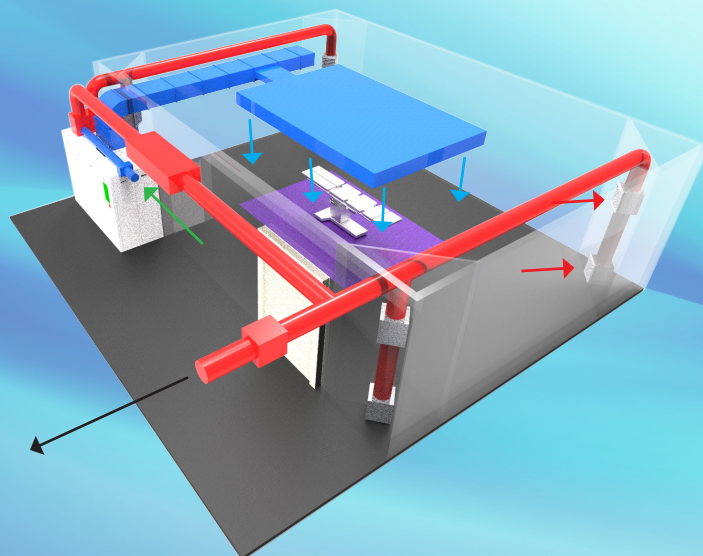
ADVANTAGES

- The ceilings are available in different shapes and meet with NFS90-351 – DIN 1946 European standards.
- Easy installation and filters replacement.
- Simple fixation system.
- Adaptable with all types of Air Handling Unit (see Clinicair range).

example: CLINICAIR® 3
with laminar air flow ceiling

Air speed: 0.25 m/s to 0.50 m/s

- Air Supply
- Air Intake
- Fresh Air
- Extraction



TECHNICAL CHARACTERISTICS

NFS - 90 - 351 Range

L x W mm	Airflow m3 @ 0.25m/s	Filtration area	Height mm			Height mm			Number of filters
			150	280	300	350	400	450	
1263x1310	1350	1,49 m ²	■	■	■	X	X	X	2
1263x1960	1675	1,86 m ²	■	■	■	X	X	X	4
1263x2269	2000	2,23 m ²	■	■	■	X	X	X	4
1959x1959	2680	2,98 m ²	■	■	■	X	X	X	6
1959x2525	3690	4,1 m ²	■	■	■	X	X	X	6
2200x3000	3680	4,09 m ²	■	■	■	X	X	X	8
2421x3179	4690	5,21 m ²	■	■	■	X	X	X	8
2612x2569	5020	5,58 m ²	■	■	■	X	X	X	10
3000x3179	6700	7,44 m ²	■	■	■	X	X	X	10
3000x4000	8040	8,93 m ²	■	■	■	X	X	X	10
3600x3600	8040	8,93 m ²	■	■	■	X	X	X	14

X horizontal filter integrated to LAF, air diffusion through metal grill or stretch fabric

* 70 mm thickness for 350 mm height and above - initial pressure drop 100 Pa @ 0.25m/s

□ air diffusion through stretch fabric, sideways filtration

- Frame made of 15/10 electro galvanized metal sheet with epoxy RAL 9010 or stainless steel (AISI 304L or AISI 316L).
- Air diffusion through metal grill or stretch fabric.
- Lateral duct connections.
- H14 (HEPA) filtration (ULPA 15 optional).
- Metal lateral apron to stop induction (height 100 mm) with epoxy paint (transparent apron optional).
- Central passage for the surgical light.
- Pressure tap to measure pressure drop.
- Possibility to add the Bioxygen system: bactericide, fungicide, virucide action (option).

DIN 1946 range

		Rectangular			Round							Octogonal					
		1.4x2.4	1.6x2.4	1.8x2.4	ø 2.2	ø 2.4	ø 2.8	ø 3.0	ø 3.2	ø 3.5	ø 3.8	2.4x2.4	2.8x2.8	3.0x3.0	3.2x3.2	3.5x3.5	3.8x3.8
Zone Type Dimmensions	L	2.506	2.506	2.506	2.306	2.506	2.906	3.106	3.306	3.606	3.906	2.506	2.906	3.106	3.306	3.606	3.906
	I	1.506	1.706	1.906								2.506	2.906	3.106	3.306	3.606	3.906
	h	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420	420
Airflow (m3/h @ 0.25m/s)		3.025	3.460	3.890	3.420	4.070	5.550	6.360	7.250	8.660	10.200	4.490	5.830	6.560	7.500	8.950	10.920
Filtration surface (m2)		2,6	3,1	3,5	3,1	3,8	5,3	6,2	7,0	8,6	10,2	4,2	5,7	6,4	7,4	8,9	10,9
Number of filters		3	3	3	3	3	4	5	6	7	8	4	5	5	6	7	8
initial pressure loss (Pa)		140	160	175	160	185	185	175	165	170	175	155	160	180	170	175	185

- Metallic frame made of stainless steel aluminum with Epoxy Ral 9010 white paint.
- Air diffusion through double stretch fabric.
- Lateral duct connections.
- H13 (HEPA) filtration.
- Transparent anti-induction lateral apron.
- Central passage for the surgical light.
- Pressure tap to measure pressure drop.
- LED or standard lighting.

LAMINAIR AIR FLOW CEILING

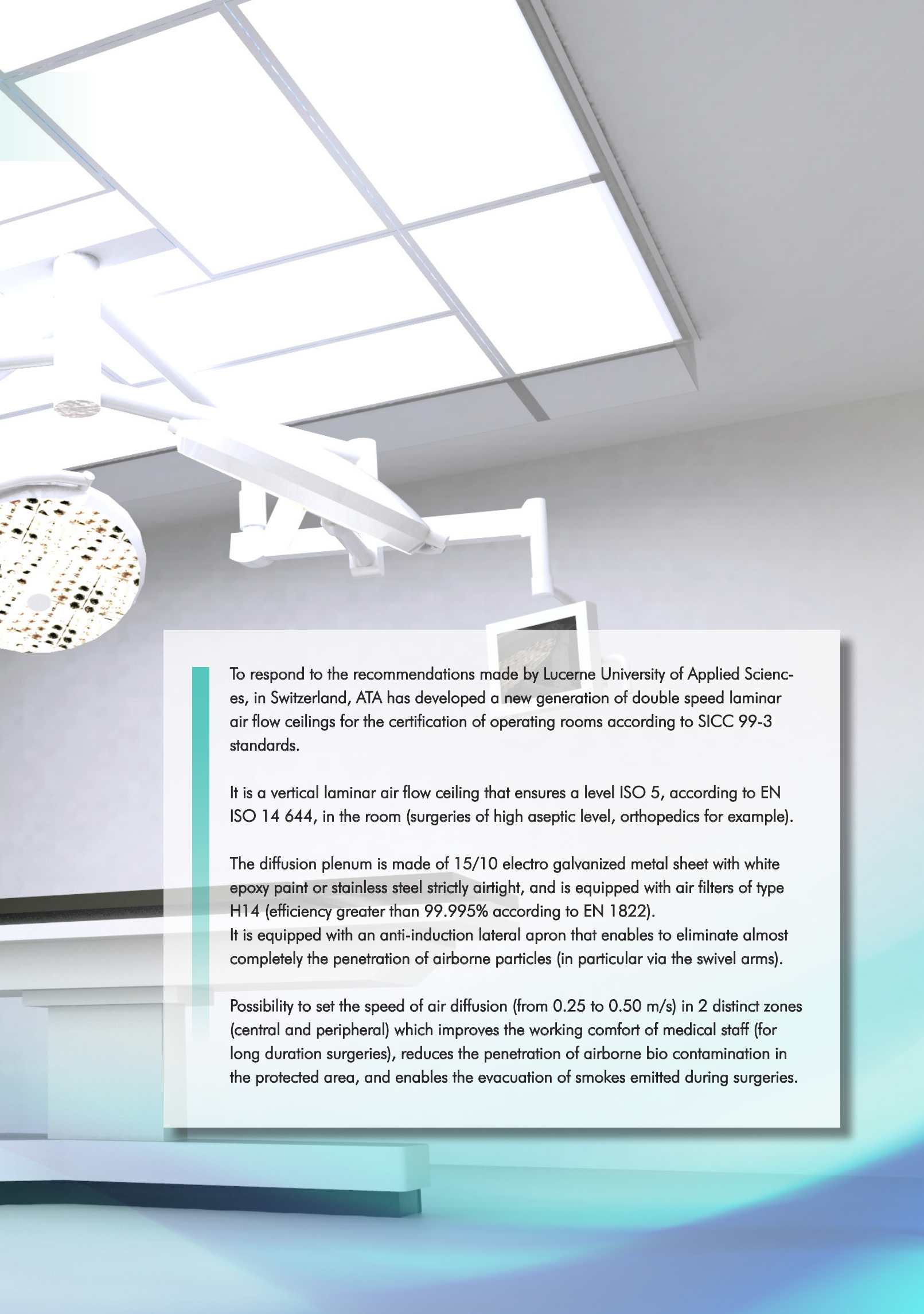
DOUBLE SPEED

The requirements in terms of asepsis have strongly changed in the last few years. This is particularly due to the improvement of aeraulics techniques in general and to the improvement of components and air treatment installations. The criteria of operating room aeraulics equipment certification have therefore been adjusted consequently.

It is suggested to use a ventilation system of type unidirectional with a differential air flow rather than mixing turbulent ventilation.

The ultra-cleanliness of the air maintains guaranteed even if the medical team bends over the patient or move inside or outside the protected area.

The results obtained during particle counting measurements near the wound are, in terms of asepsis, far better with a differential air flow than with turbulent ventilation.



To respond to the recommendations made by Lucerne University of Applied Sciences, in Switzerland, ATA has developed a new generation of double speed laminar air flow ceilings for the certification of operating rooms according to SICC 99-3 standards.

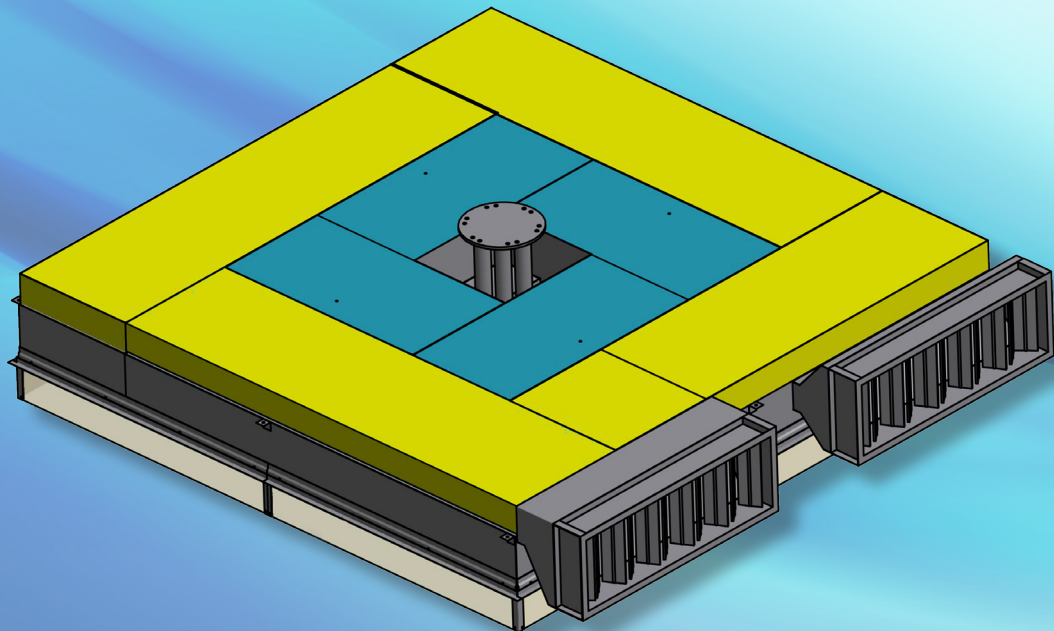
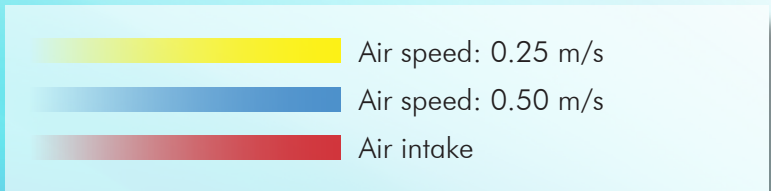
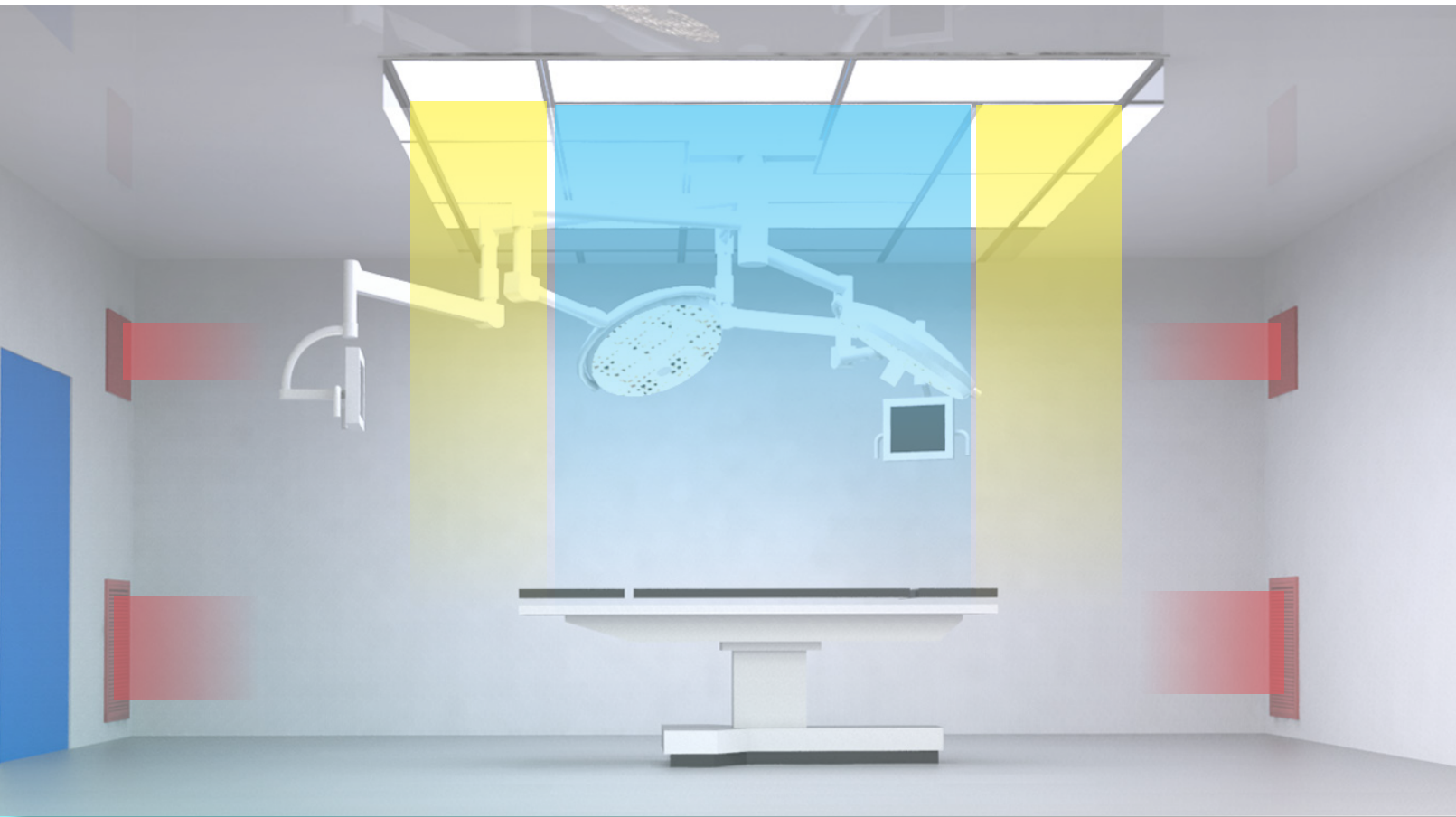
It is a vertical laminar air flow ceiling that ensures a level ISO 5, according to EN ISO 14 644, in the room (surgeries of high aseptic level, orthopedics for example).

The diffusion plenum is made of 15/10 electro galvanized metal sheet with white epoxy paint or stainless steel strictly airtight, and is equipped with air filters of type H14 (efficiency greater than 99.995% according to EN 1822).

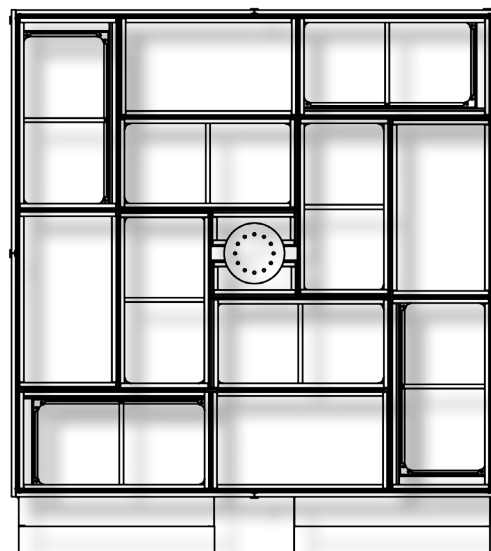
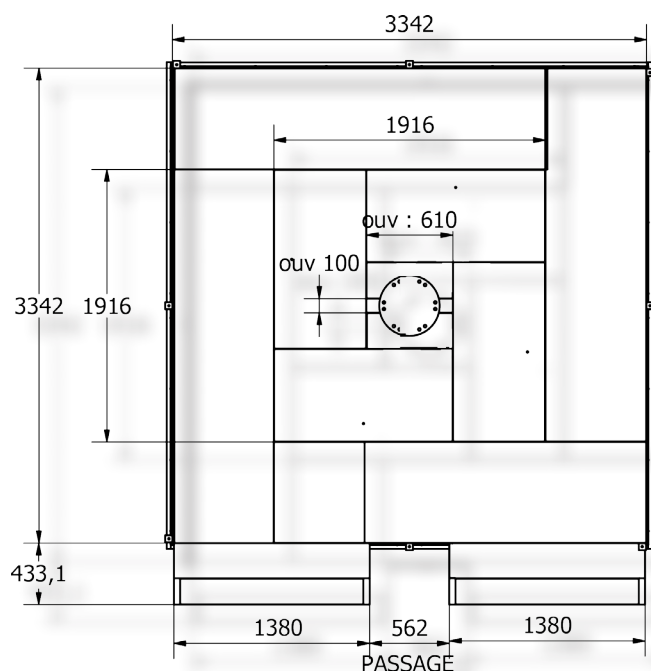
It is equipped with an anti-induction lateral apron that enables to eliminate almost completely the penetration of airborne particles (in particular via the swivel arms).

Possibility to set the speed of air diffusion (from 0.25 to 0.50 m/s) in 2 distinct zones (central and peripheral) which improves the working comfort of medical staff (for long duration surgeries), reduces the penetration of airborne bio contamination in the protected area, and enables the evacuation of smokes emitted during surgeries.

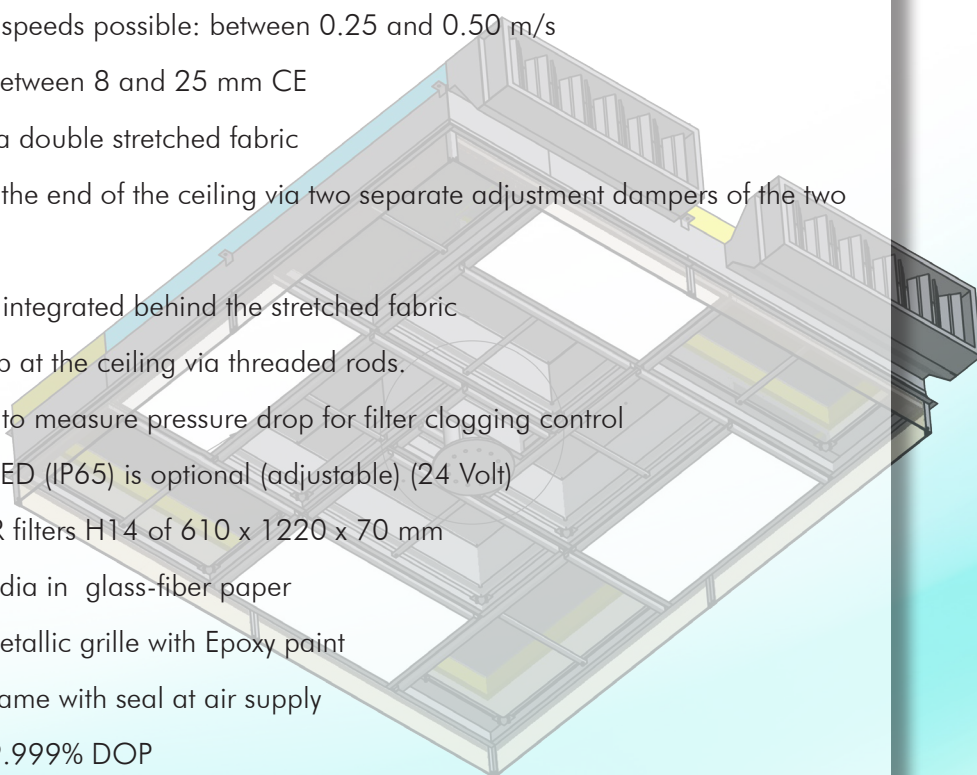
WORKING PRINCIPLE



TECHNICAL CHARACTERISTICS



- Two air flow speeds possible: between 0.25 and 0.50 m/s
- Pressure loss between 8 and 25 mm CE
- Air supply via double stretched fabric
- Air intake at the end of the ceiling via two separate adjustment dampers of the two supply zones
- LED lighting integrated behind the stretched fabric
- Fastening tab at the ceiling via threaded rods.
- DOP socket to measure pressure drop for filter clogging control
- Lighting by LED (IP65) is optional (adjustable) (24 Volt)
- 12 x LAMAIR filters H14 of 610 x 1220 x 70 mm
- Filtration media in glass-fiber paper
- Protection metallic grille with Epoxy paint
- Aluminum frame with seal at air supply
- Efficiency 99.999% DOP
- Dimensions: 3342 x 3342 x 500 mm.



THE ATA COMMITMENT

In order to obtain suitable air quality it is important to take into account the specificities of the area and the objectives in terms of particulate and bacteriological cleanliness class, and to define the following parameters:

- Air diffusion method,
- Filtration efficiency,
- Air flow rates and conditions (temperature and humidity) at the air supply, air intake, fresh air and outgoing air,
- Noise level allowing users to work in comfortable conditions.

Despite the fact that various individual approaches exist as to the choice of air handling units to be installed, everyone agrees that only the performant “hygienic” equipment will be efficient in eradication of microorganisms (bacteria, viruses, mold, yeast...) using inert air particles to move around and develop.

ATA is an Expert in Air Quality who will provide you with:

- an objective recommendation as to the solution to implement,
- a strong commitment to select performant hygienic equipment,
- an assistance of a qualified technician in equipment commissioning,
- a technical training (ATA is an approved training center),
- a remote assistance to provide problem-free operation.

Distributor

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