



Technology of Tomorrow[®]

Cleanroom Air Showers

EINDEC SINGAPORE PTE LTD



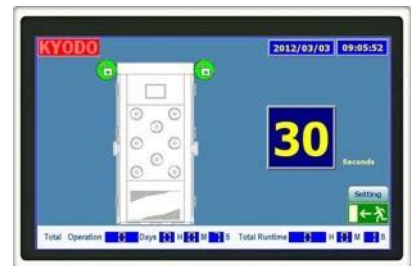
AIR SHOWER

The biggest contaminant in cleanroom is the fine particles attached to clothing, footwear and materials. Air shower helps to remove such fine particles by using air jet to blow at cleanroom clothing and materials before entering a cleanroom.

KYODO air showers are available in a variety of customized sizes and configurations to suit your specific application.

FEATURES

- The system is fully programmable via touch screen.
- An administrator PIN can be set to restrict access to air shower settings.
- Operating modes can be programmed on site.
- Microprocessor controller supervises all functions.
- High velocity shower jets in excess of 23 m/s ensure effectiveness in removing particles.
- Mini-pleated HEPA filtration achieves > 99.99% efficiency at 0.3 micron particles.
- ULPA filter is available on request.
- Interlocking system ensure proper contamination control.
- Permanently lubricated direct drive centrifugal blowers are used in conjunction with stainless steel air nozzles.



TYPE IDENTIFICATION

AS - 0810 - S F

- F: SUS FLOORING
- A: AUTO DOOR
- C: CEILING AIR JETTING
- L: SPECIAL WALKWAY
- M: DOUBLE-LEAF DOOR
- R: FLOOR RETURN
- T: TUNNEL SYSTEM

- S: SINGLE SIDE JETTING
- D: DOUBLE SIDE JETTING

08: EFFECTIVE WIDTH : 800 mm
10: EFFECTIVE LENGTH: 1000 mm

AIR SHOWER

AIR SHOWER

TOUCH SCREEN

Programmable microprocessor control system includes a PLC controller with touch screen display.

The touch screen displays total shower usage, countdown timer, cycle progress and operational status. A 24 hour clock displays local time.



HEPA FILTER

HEPA filters provide 99.99% typical efficiency for particle sizes of 0.3 microns.



SUS NOZZLES

An array of stainless steel nozzles direct high-velocity jets within the chamber.



DOOR

Heavy-duty, durable aluminium framed door assemblies are constructed with glass windows permitting visibility.

BLOWER

Motors selected for energy efficiency, compact design, and flat profile. Completely integrated assembly optimizes motor cooling.

All rotating parts balanced for smooth, quiet, vibration-free operation.



SUS FLOORING

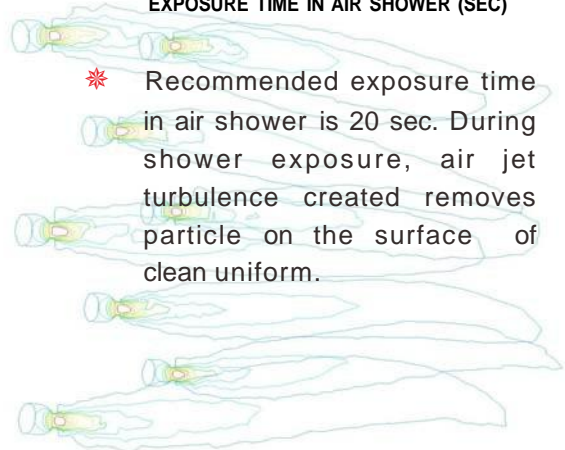
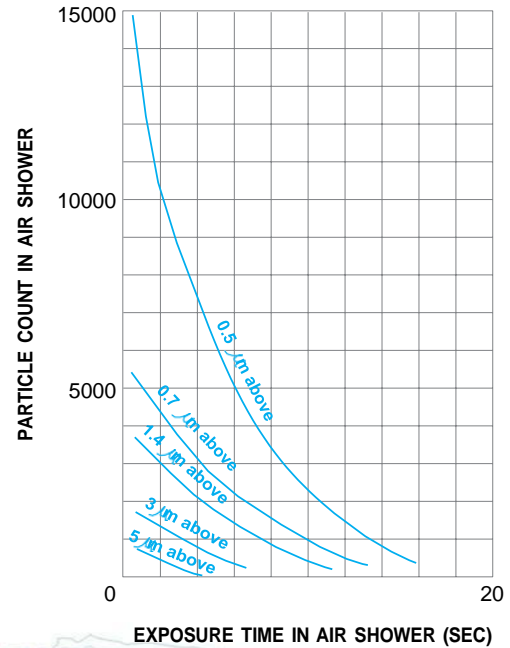
The flooring is constructed of reinforced stainless steel.

AIR SHOWER

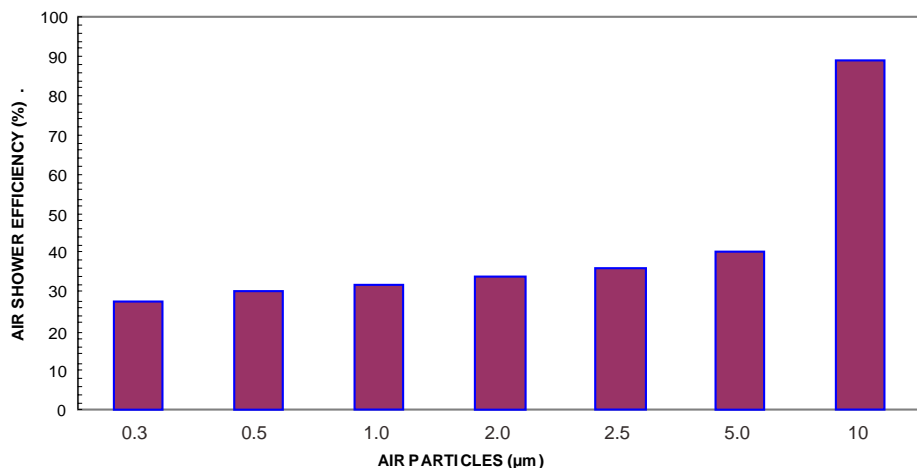
AIR SHOWER EFFICIENCY TEST:

- ① Prepare brand new cleanroom garments for the operator.
- ② The operator suits up and enters a class ISO5 (ISO 14644-1) (FED Standard 209E: class 100) clean booth with sealed enclosure.
- ③ The operator performs a series of standardized physical movements in order to induce the generation of particles in the clean booth, for a specific duration.
- ④ Measure the particle count levels of the clean booth. This count is the baseline level.
- ⑤ The operator suits up using another brand new garment from the same batch.
- ⑥ The operator proceeds into the air shower under testing, for a shower cycle.
- ⑦ The operator exits the air shower and proceeds into the clean booth. Repeat step 3.
- ⑧ Particle count levels are measured, and compared against the baseline. The overall efficacy of the air shower under test and shower cycle is calculated. Shower cleaning efficiency at various particle sizes is also characterized.
- ⑨ Repeat the above steps and gather sufficient data.

PARTICLES REMOVAL IN CLEAN AIR SHOWER



AIR SHOWER EFFICIENCY



AIR SHOWER

PERSONNEL AIR SHOWER SPECIFICATION

ITEM	AS-0810SF	AS-0820SF	AS-0810DF	AS-0820DF
AIR VOLUME	9 m ³ /Min	18 m ³ /Min	18 m ³ /Min	36 m ³ /Min
JET SPEED	23 m/s and ABOVE			
HEPA FILTER EFFICIENCY	99.99% OR MORE AT 0.3 μm PARTICLE (STANDARD: EN 1822)			
PRE FILTER	NON-WOVEN			
CONSTRUCTION	CASING: STEEL SHEET METAL			
	FLOOR: STAINLESS STEEL PLATE			
	DOOR: ALUMINUM HALF-GLAZE MANUAL SWING			
FINISHING	POWDER BAKED EPOXY FINISHING			
NO. OF JET NOZZLES	8	16		32
NO. OF BLOWERS	1	2		4
OPERATION	AIR JET (AUTO/MANUAL) SW, LIGHTING SWITCH, JETTING TIMER			
POWER SUPPLY	AC, 1 PH, 230V, 50/60 Hz			
LIGHT FITTING	20W x 1	20W x 2	20W x 1	20W x 2
POWER CONSUMPTION (APPROX.)	450W	880W	845W	1650W
WEIGHT (APPROX.)	200Kg	400Kg	250Kg	500Kg



TUNNEL SYSTEM



SPECIAL WALK "S" WAY TYPE



CONVEYOR TYPE



CARGO USE TYPE



SPECIAL WALK "L" WAY TYPE

*Custom-built dimensions & specifications are also acceptable.

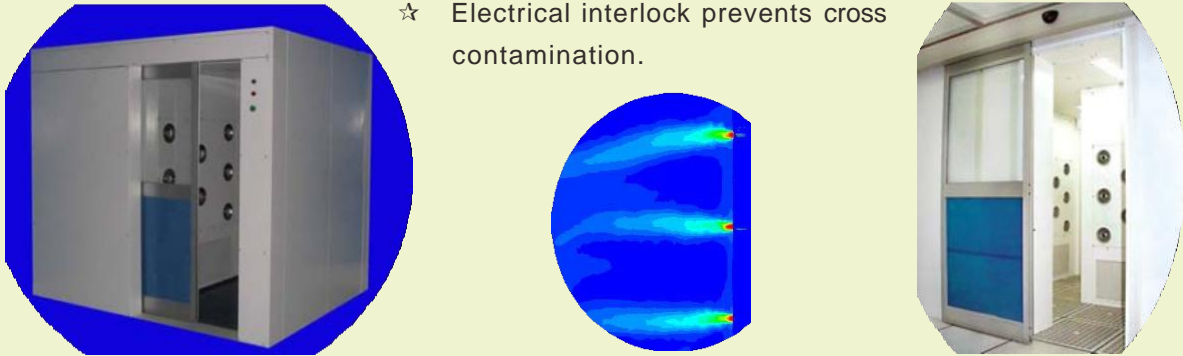
AIR SHOWER

CUSTOM-BUILT DIMENSIONS & SPECIFICATIONS ARE ALSO ACCEPTABLE

KYODO Air showers are available in a variety of sizes and shapes to provide a cleaning system to meet your specific application.

AUTO-DOOR AIR SHOWER

- ☆ Smooth and safe door operation.
- ☆ Electrical interlock prevents cross contamination.



ROLL-UP AIR SHOWER

- ☆ Roll-up door Includes viewing window design eliminates door clearance requirements.
- ☆ Smooth and safe rapid door operation.
- ☆ Electrical interlock prevents cross contamination.

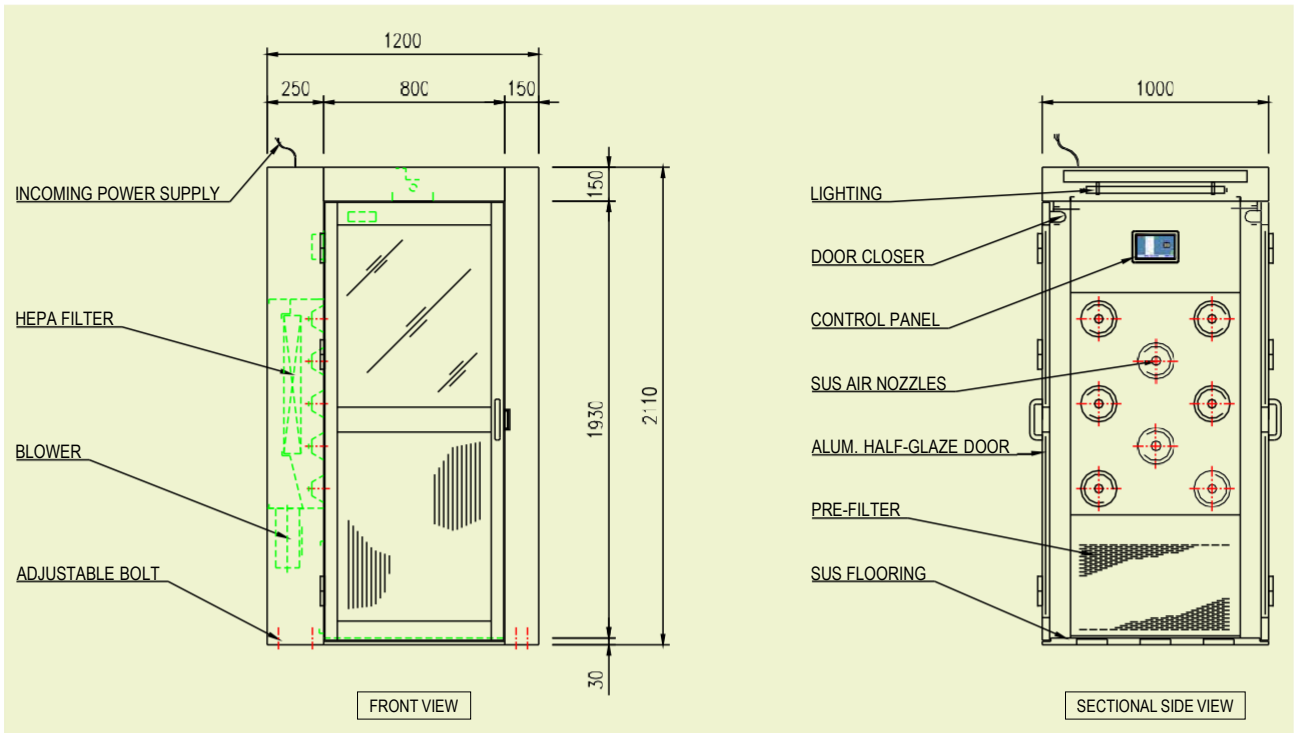


AIR SHOWER WITH PNEUMATIC LIFT

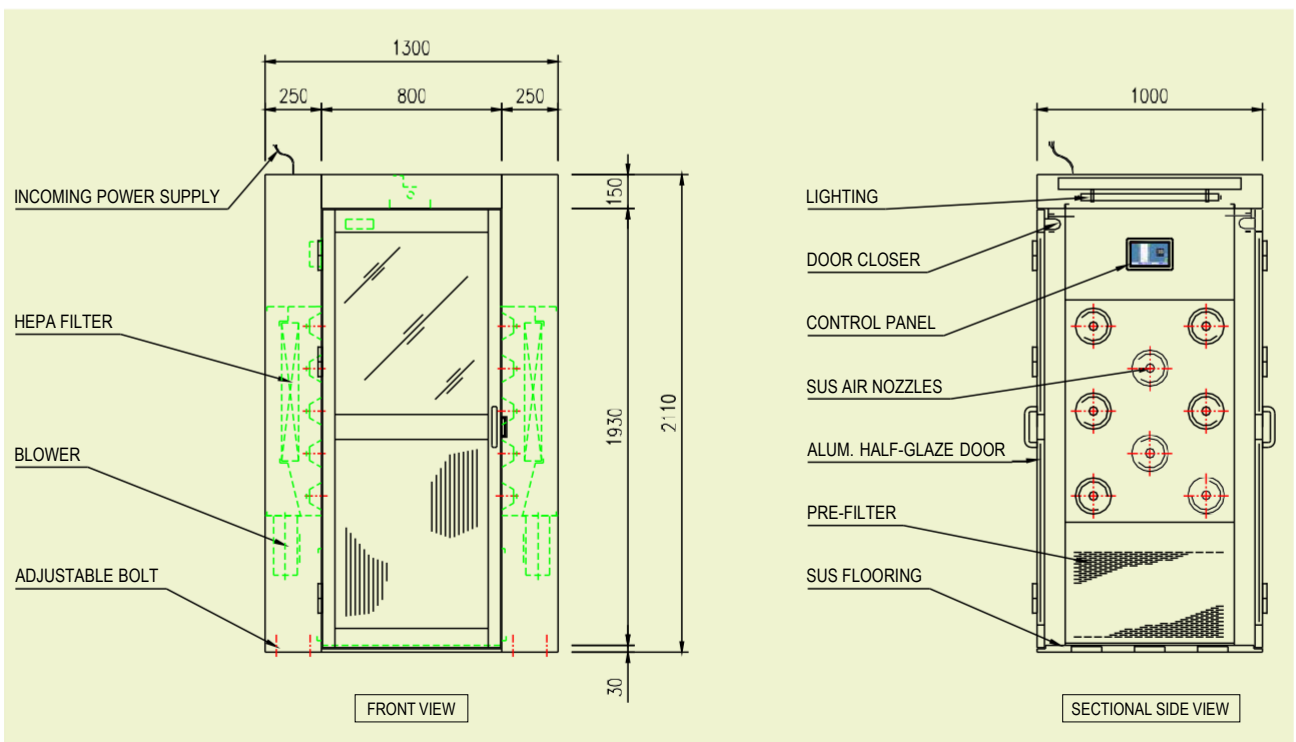


AIR SHOWER

AS - 0810 SF



AS - 0810 DF

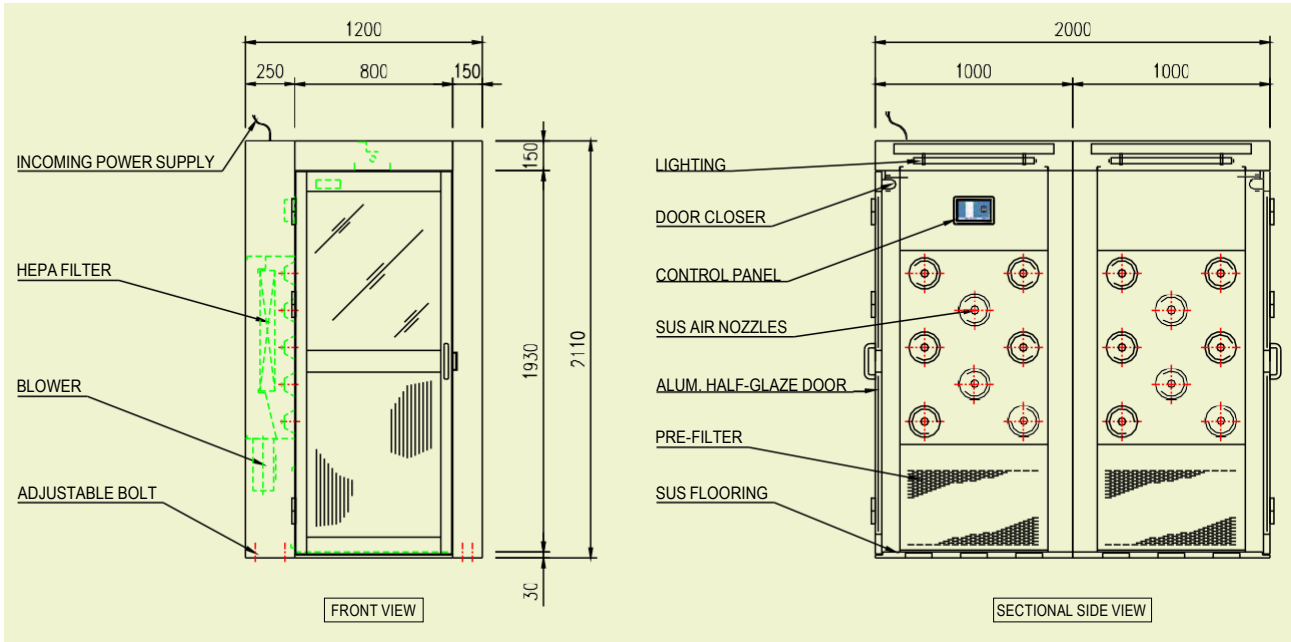


AIR SHOWER DOOR DIRECTION

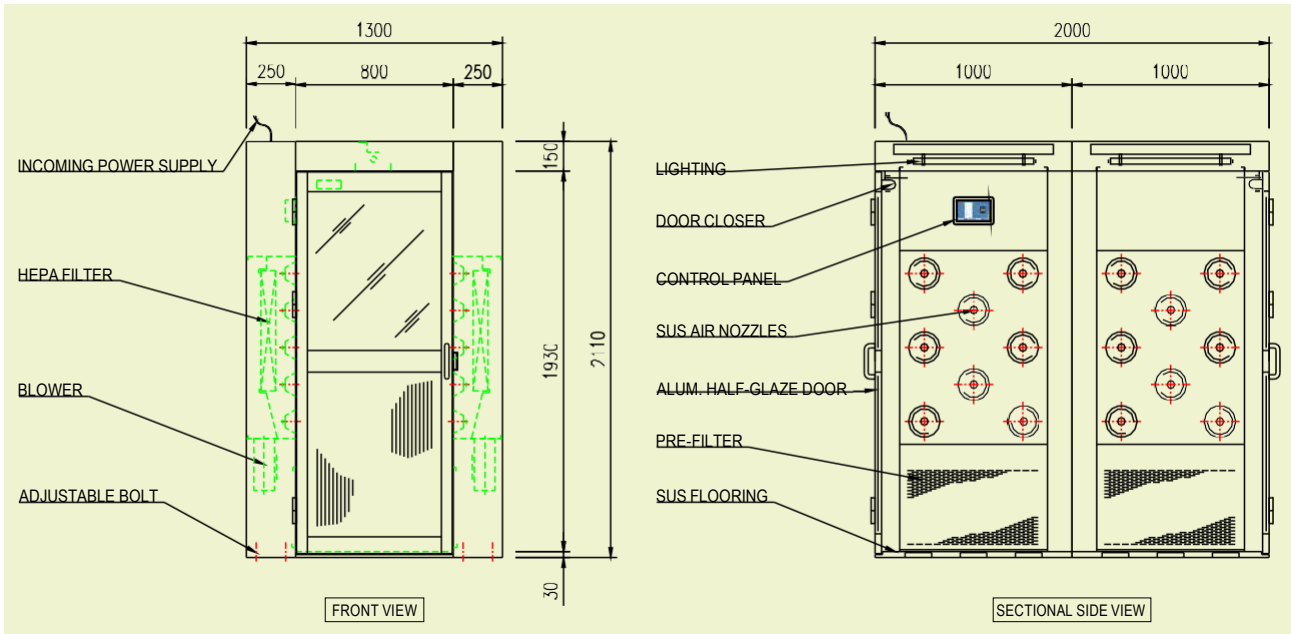


AIR SHOWER

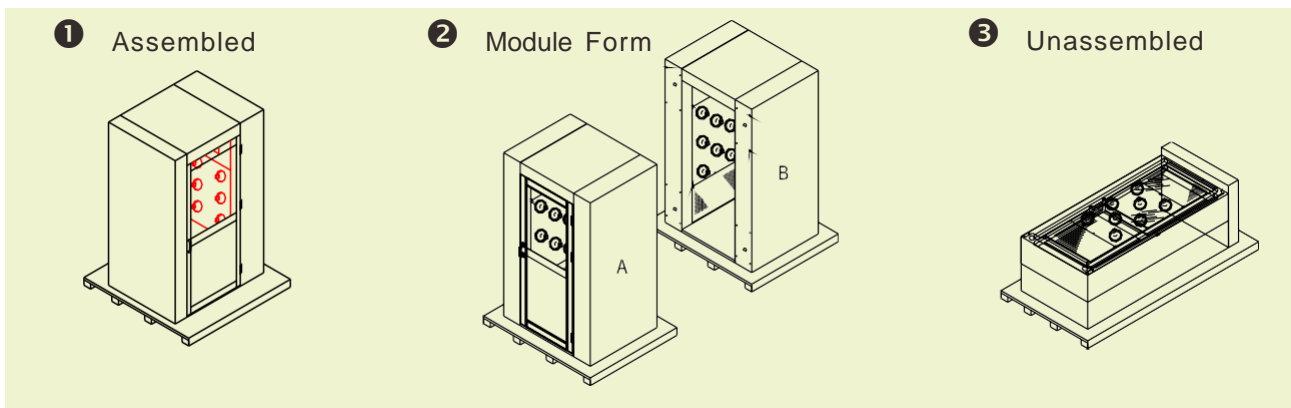
AS - 0820 SF



AS - 0820 DF

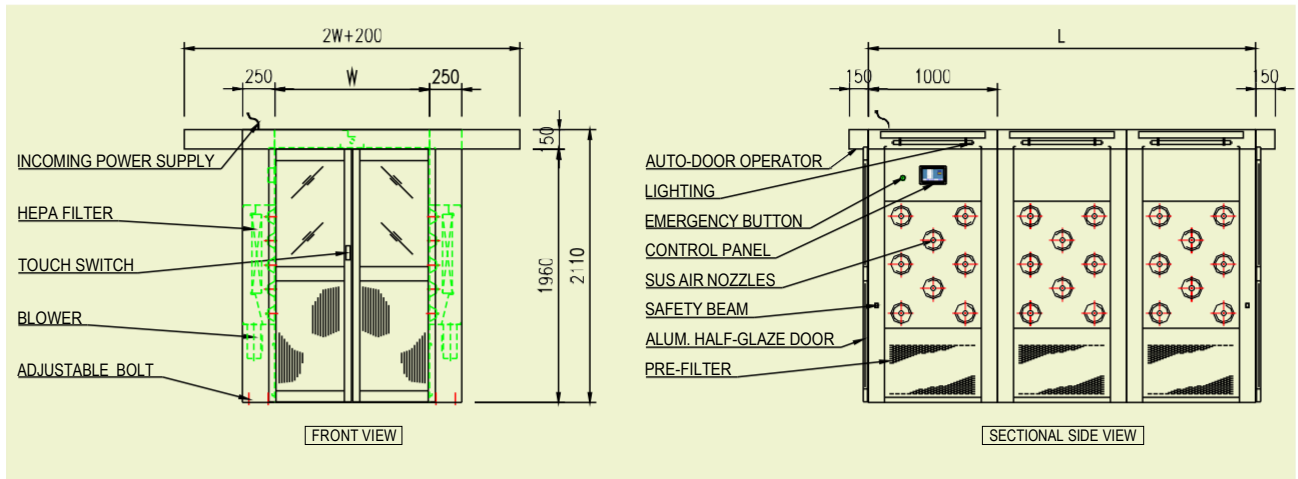


AIR SHOWER PACKING

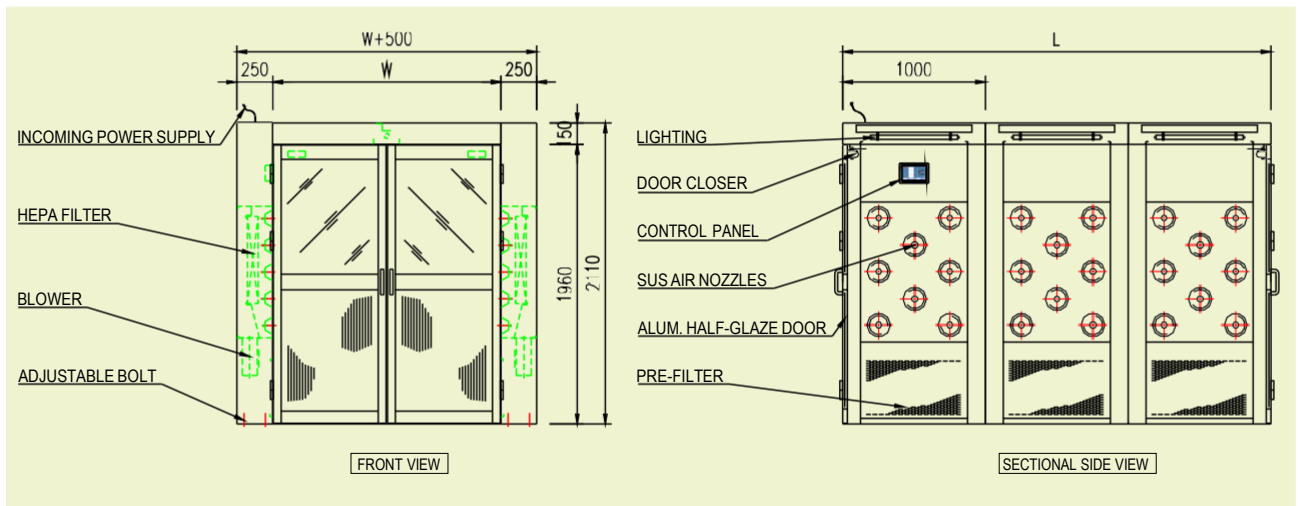


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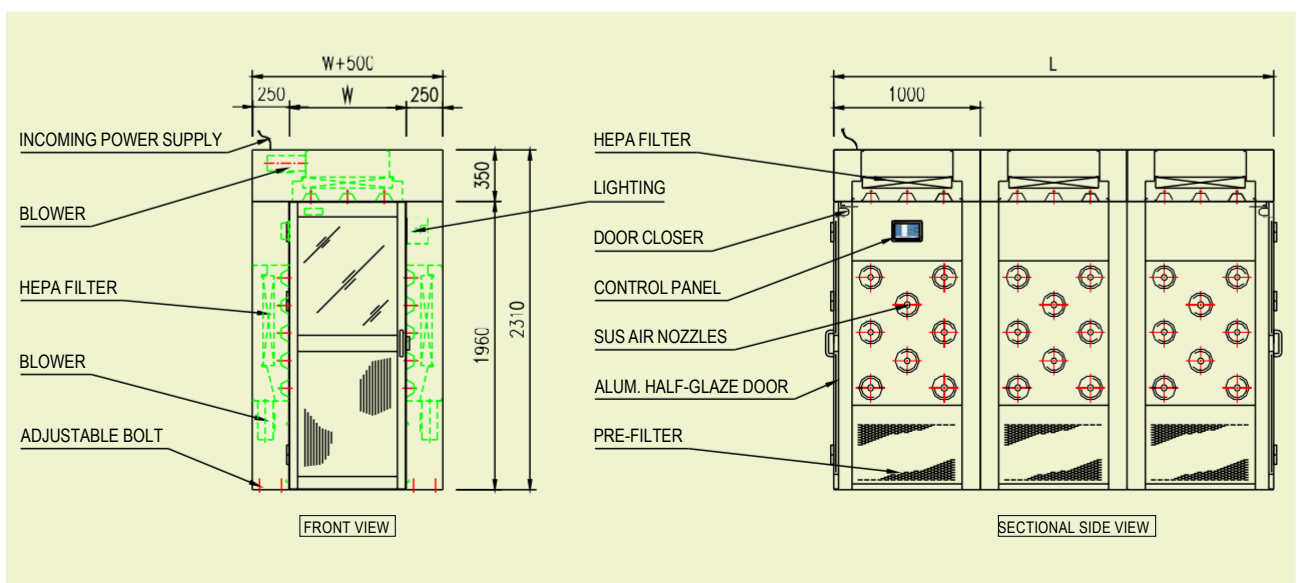
AUTO SLIDING DOOR AIR SHOWER



DOUBLE-LEAF SWING DOOR AIR SHOWER



CEILING JETTING AIR SHOWER



*Custom-built dimensions & specifications are also acceptable.



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