ESCO
LIFESCIENCES

Air Shower Pass Box (EAS-PB)

Clean Transfers Starts Here.





Esco Air Shower Pass Box

Contamination control is critical in cleanrooms and other controlled environments. To minimize risks, it is essential to reduce factors that can introduce contaminants, especially those related to human interaction. The Esco Air Shower Pass Box provides an effective solution for transferring materials into controlled environments without direct personnel involvement. This helps ensure safer material handling and reduces the risk of contamination.

Main Features

- Built-in air shower significantly reduces surface contamination on materials entering or exiting the controlled environment. Materials entering or exiting the controlled environment are "scrubbed" by high velocity H14 filtered air jets with velocities of 25 m/s (4921 fpm). Contaminated air is then drawn through the base within the unit, filtered and recirculated.
- An array of stainless steel nozzles direct high-velocity jets within the chamber.
- Air shower duration is adjustable. Standard factory pre-set is 12 seconds in both directions.

Air Shower Pass Box Construction

- Robust construction qualifies the air shower pass box for the most demanding controlled environment applications. The unit is fully assembled and ready to install and operate when shipped. All components are designed for maximum chemical resistance and enhanced durability for a long service life.
- Electrical interlock maintains cleanroom integrity by preventing both doors from being opened at the same time.
- The air shower is constructed of electrogalvanised steel sheets with an abrasion resistant oven-baked powder coated finish.
- The pass box base surface is constructed of perforated stainless steel, making the work zone easy to clean.
- Acrylic doors provide a clear view of the internal chamber.

Blower and Filtration Systems

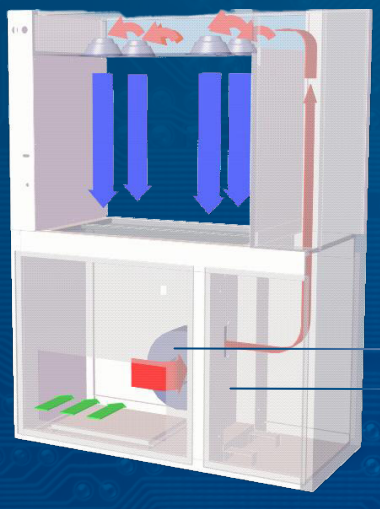
- Esco Air Shower Pass Boxes use German made ebm-papst® permanently lubricated, centrifugal motor/blowers with external rotor designs. Selected for energy efficiency, compact design, and flat profile, the completely integrated blower assembly optimizes motor cooling, with unified rotating parts and overall component balance for smooth, quiet, vibration-free operation. Weight is equally distributed to all bearings to extend bearing life.
- H14 filter(s) provide 99.995% typical efficiency for particle sizes at 0.3 microns. Esco Air Shower filters meet EN 1822 for H14 performance (EU).
- A disposable pre-filter with 90% arrestance extends the life of the main filter.

Warranty

- All Esco Air Shower Pass Boxes are covered by 1 year warranty. Contact your local Sales Representative for warranty details.

Options and Accessories

- Optional UV lamp, must be factory fitted, specify when ordering.



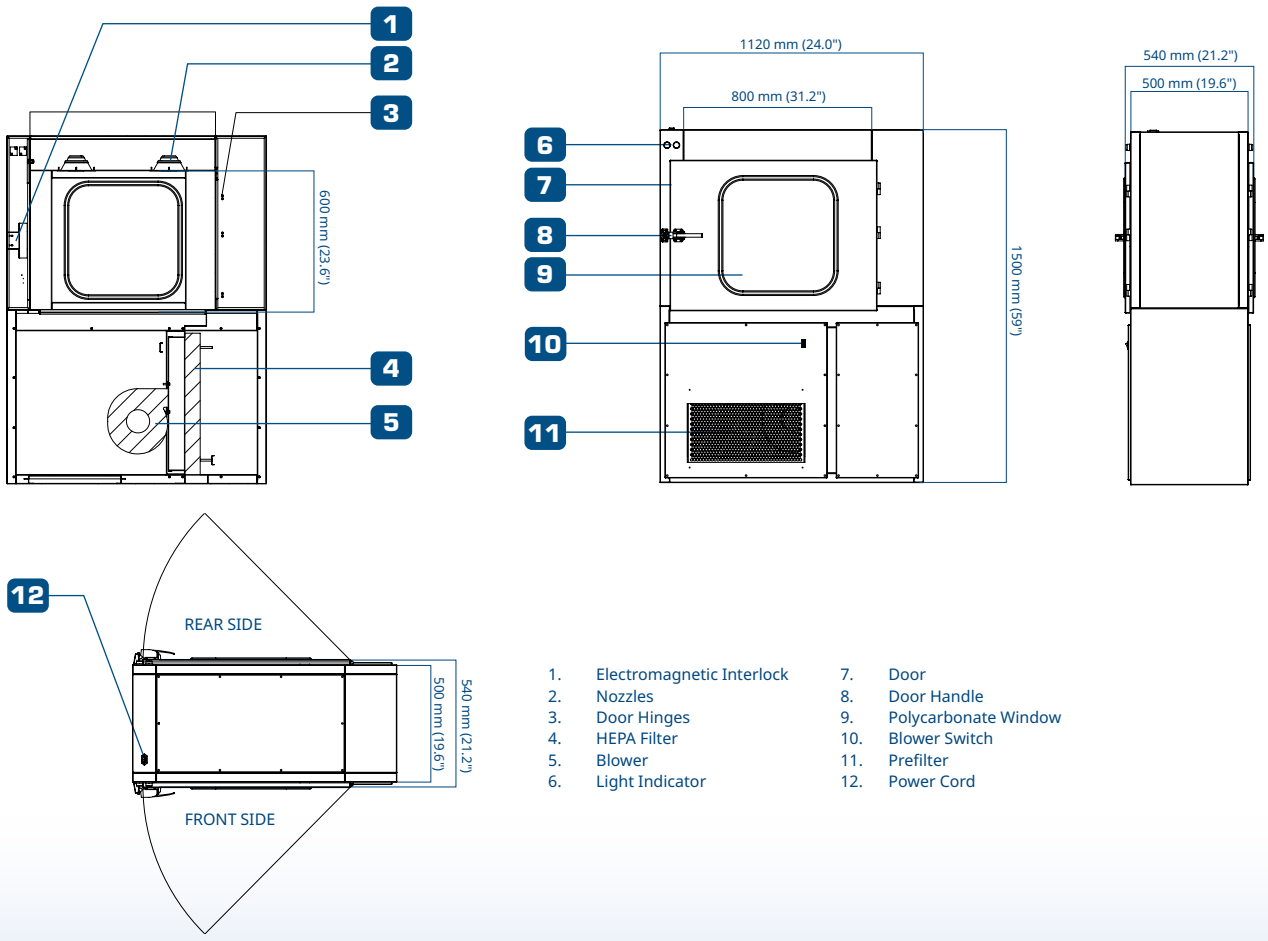
Esco Air Shower Pass Box Airflow

- Air is forced by the blower through the HEPA filter which are >99.995% efficient against particles of 0.3 microns.
- Filtered air is ejected through nozzles at high velocities into the chamber. These turbulent air streams disperse particulate matter on all surfaces.
- Dispersed particulate matter migrate with the air stream towards the lower areas in the air shower chamber.
- The air is continuously filtered and recirculated.

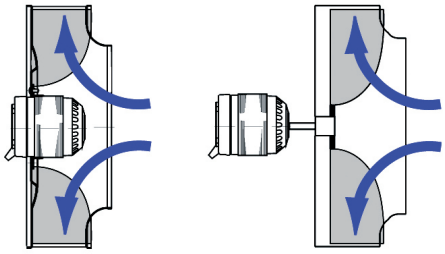
General Specifications, Air Shower Pass Box			
Model		**EAS-PB**	
Model code		EAS-PB	EAS-PB-SS
External dimensions (W x D x H)		1120 x 540 x 1500 mm (44.1" x 21.3" x 59.1")	
Internal dimensions (W x D x H)		800 x 500 x 600 mm (31.5" x 18.7" x 23.6")	
Material of Construction (MoC)	Body	Powder-coated EG Steel exterior and interior	Full stainless steel 304
	Viewing Window	Polycarbonate	
	Base	Perforated stainless steel 304 base	
Door Opening		Straight through only	
Door Lock System		Electromagnetic Interlock	
Number of nozzles		4	
Electrical	Voltage*	220 - 240 V, AC, 50 Hz, 1ø	
	Max. Power Consumption Current, BTU	250 W, 1.75 A (FLA), 853 BTU	
Filter package	Pre-filter	G4 Pre-filter, Washable non-woven polyester fibers with an arrestance ≥90% as per EN779:2012	
	Main filter	H14 HEPA Filter, Efficiency 99.995% at Most Penetrating Particle Size (MPPS) as per EN1822:2009	
Optional Accessories	UV light	✓	
Net Weight		130 kg (286 lbs)	
Shipping Weight		164.3 kg (362 lbs)	
Shipping Dimensions, Maximum (W x D x H)		1120 x 570 x 1650 mm (44.1" x 22.4" x 65")	
Shipping Volume, Maximum		1.05 m^3 (37 ft^3)	

**Additional voltage may be available; contact Esco for ordering information*

Engineering Drawing (Model : EAS-PB)



1. Electromagnetic Interlock
2. Nozzles
3. Door Hinges
4. HEPA Filter
5. Blower
6. Light Indicator
7. Door
8. Door Handle
9. Polycarbonate Window
10. Blower Switch
11. Prefilter
12. Power Cord



Esco Centrifugal Fan with External Rotor Motor (left) vs. Conventional Fan with Standard Motor (right)

- *Esco cabinets use German made ebm-papst® permanently lubricated, centrifugal motor/blowers with external rotor designs.*
- *Integrated blades narrow the profile and eliminate need for a motor shaft.*
- *Motors are selected for energy efficiency, compact design, and flat profile. The completely integrated assembly optimizes motor cooling.*
- *All rotating parts are unitized and balanced for smooth, quiet, vibration-free operation.*





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