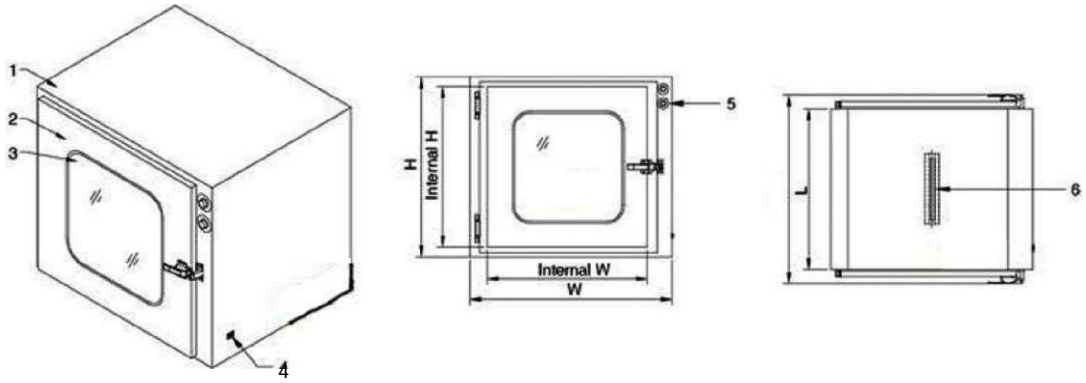
TECHNOLOGY DESIGN & INNOVATION



WHAT DYNAMIC PASS BOX ?

A dynamic pass box, also known as an active pass box or mechanical pass box, is a specialized equipment used in controlled environments, particularly in cleanrooms, to facilitate the transfer of materials or equipment between different areas while maintaining the cleanliness and integrity of the controlled envi:ronment.

Unlike static pass boxes, which rely on interlocking doors and manual operation, dynamic pass boxes incorporate mechanical features to enhance their functionality and efficiency. Dynamic pass boxes are particularly useful in situations where frequent material transfer is required, and maintaining a strict barrier between cleanroom areas is crucial to prevent contamination. Key features of dynamic pass box may include:

l. Mechanical Airflow System: Dynamic pass boxcs are equipped with mechanical airflow systems that ensure a constant flow of clean air inside the pass box during material transfer. This helps prevent the ingress of contaminants and maintains a higher level of cleanliness.

2. High-Efficiency Particulate Air (HEPA) Filters: These pass boxes are equipped with HEPA filters to capture and remove airborne particles, ensuring that the air inside the pass box remains free from contaminants.

3. Automatic Door Operation: Dynamic pass boxes often have automatic door mechanisms, which reduce the need for manual handling. The doors can be operated using sensors or push-button controls, further minimizing the risk of cross-contamination.

4. UV-C Sterilization (Optional): Some dynamic pass boxes may include UV-C lights to provide additional sterilization of the materials or equipment being transferred, further enhancing contamination control. Here's how a dynamic pass box typically works:

l. The operator places the material or equipment to be transferred inside the dynamic pass box from one side of the cleanroom.

2. The dynamic pass box's airflow system creates a unidirectional airflow, moving from the clean side to the dirty side (or vice versa) through the HEPA filters, effectively preventing contaminants from entering the cleanroom environment.

3. The operator initiates the door closure and transfer process either through sensors or push-button controls.
4. Once the door on one side is closed and locked, the dynamic pass box automatically initiates the opening of the door on the other side, allowing the operator to retrieve the material or equipment in the adjacent cleanroom area. 5. After the transfer is complete, the doors close and lock automatically, and the dynamic pass box continues to maintain a clean environment inside.

Dynamic pass boxes are particularly beneficial in cleanroom operations that require frequent and rapid material transtu• while adhering to stringent cleanliness and contamination control protocols. They play a crucial role in preventing cross-contamination and maintaining the desired cleanliness levels in controlled environments.

CLEAN ROOM EQUIPMENTS

DYNAMIC PASS BOX

Dynamic Pass Box can be specified as a cubicle box fitted between two classified areas or material passing with HEPA filtered air. On both the sides of the dynamic box, there are interlocked doors present that prevents from getting air contaminated. With the help of the magnetic lock, the door gets open and close when the button is been pressed. Dynamic Pass Xox contains a UV light, that determines the closing and opening of doors. When the UV light is ON that means door is closed otherwise when it is OFF then the door is open.

FEATURES

o Design acc. to GMP Guidelines easy to clean and to disinfect O Doubled Skin Cabinet with Doors and Toughened Glass O Cabinet Fabricated in SS 304/316 Structure o Re-Circulated Filtration System o Electro Magnetic interlocking System o HEPA filter H14 filter for supply air and exhaust air o El-J-6 Grade Pre-filter With 304 Flange

MAO O Air velocity: 0.45 ± 0.05 mps (90 ± 20FPM) Below Six Inch of Grill

O Magnehelic Differential pressure gauge o Centrifugal type Air blower with Speed Variable

O Measuring system for pressure differential and volume flow or air velocity (if required) o Pre-Installed White and UV Germicidal Light o Feather Touch controller for Blower/Light/Pressure Display o DOP Port/Atmospheric Nozzles o Sound

Level Minimum 65db On Scale o Power Supply Single Phase 220V 50 Hz

OPTIONAL ACCESSORIES

o Digital Pressure Gauge with Alarm
Hour Metre o Support Stand for mounting the Pass Box

APPLICATIONS

o Medical implant o Electronic industry
o Pharmaceutical industry o Food processing industry
o Educational institution o Chemical research laboratories
O Vaccine manufacturers O Semiconductor production

DYNAMIC PASS BOX

TECHNICIAL & SPECIFICATION

Model Design type	CPBMOO Dynamic	CPBS-IOO S-100 Static / Passive
Internal Dimension	600mm x 600mmx 600mm or Customization	600mm x 600mmx 600mm or Customization
MOC	Stainless Steel 304 or CRCA Powder Coated	Stainless steel 304 or CRCA Powder Coated
Lights	LED tube light	LED tube light
Air system	Motor-blower with suspension arrangement	
Filters	Pre filter (95% down to 5 micron)	
	HEPAfilter (99.97%)	
	Protected by SS grills	
Door	Two side doors	Two side doors
	Glass window	Glass window
	SS handles & SS hinges	SS handles & SS hinges
	Electromagnetic Interlocking system	Electromagnetic Interlocking system

Standard Fittings	UV light	UV light
	Light indicators for door	Light indicators for door
	SS Handles & SS hinges	SS Handles & SS hinges
	On / Off Switch for blower	
Power supply	220 volts / 50 Hz	220 volts/ 50
Optional	MOCSS 304 Grade	MOC 304 Grade
	Differential Pressure Gauge	
	DO P Test Port	
	Flange	
	Test certificates	
	Calibration certificate	
	Mechanical door interlocking	
	Door buzzer	
	UV light hour meter