

Introduction

BioPass™ Pass Through is floor standing airtight transfer chamber with onboard ventilation and integrated atomized or vaporized hydrogen peroxide (AHP/VHP, H₂O₂) based bio-decontamination system designed for passing large equipment into a ISO Class 5 cleanroom in an aseptic manner.

BioPass[™] Pass Through provides a flush threshold enclosure to allow materials to be wheeled into the enclosure with minimum effort. Full stainless steel assembly in compliance with cGMP's design requirements.

Application

- Hospital
- Food, Beverages & Confectionary
- Manufacturing Facilities
- Veterinary Surgeries
- Dentist
- Primary Healthcare Facilities
- Pharmaceutical Industry

Intergrated Biodecontamination System

Esco Healthcare has developed an effective hydrogen peroxide based biodecontamination system capable of achieving a log 6 reduction in bio-burden. The spore log reduction has been validated by biological indicator challenge using biological indicator stainless steel ribbons populated with Geobacillus stearothermophilus spores.



Sterilant







30% Hydrogen Peroxide



(AHP Cycle) 4 bar ± 10% Air Injection Pressure Air Injection Flow Rate 32 lpm ± 10% Injection Time 30 sec – 20 mins **Dwell Time** 15 – 45 mins Aeration Time 20 - 90 mins **Total Decontamination** 30 mins - 2 hrs 10 – 150 mL Sterilant Used in One Cycle Sterilant Injection Flow Rate 200 – 1000 μL/sec

GENERAL SPECIFICATIONS

Standard Features

• The interior and cleanroom side face is made of 316L stainless steel with a smooth interior and coved corners to ensure easy cleaning and biodecontamination.

The interior surface is polished to 0.8 Ra µm or better, and external surfaces are exposed to cleanrooms 1.2 Ra µm or better. The cleanroom wall interface allows a flush finish with the surface for cleanliness

• Chamber doors are constructed with an integrated FDA-approved silicone inflatable seal around the perimeter.

Doors shall give >90° opening for full access.

Interlocking doors

Ensures that both side doors cannot be opened simultaneously and prevents the sterile unloading doors from opening until bio-decontamination is completed.

· Direct reading pressure gauges

Both sides of the pass-through are equipped with these indicators to display the chamber pressure.

• Integrated with the Esco BioVap™ bio-decontamination system, featuring a touchscreen HMI/PLC interface

Enables intuitive operation and cycle monitoring with password protection and comprehensive data logging. Provides cycle report selection via ticket roll printer or PDF file through the HMI. Equipped with an on-board catalytic converter, allowing safe air recirculation back into the room, supported by an interlocked H₂O₂ safety sensor for eliminating the need for costly HVAC ducting.

Accessories

H₂O₂ Monitoring System - (One per Biopass Needed)

To ensure the concentration of hydrogen peroxide inside the chamber and to confirm end of aeration

- AHP Systems: Install a low-level sensor
- VHP Systems: Use both low-level and high-level sensors

Room H₂0, sensor

Remote Catalytic Converter

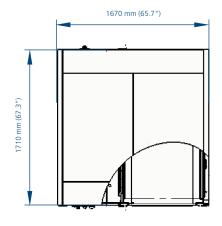
Allows aeration of the system and operation without the need for site ducting. The system can be exhausted to the room following aeration.

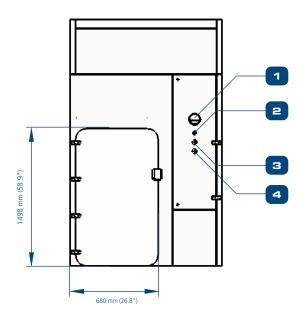


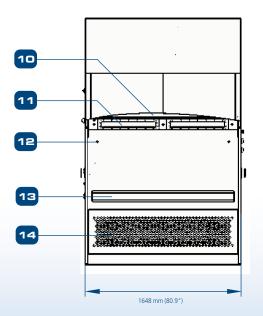
STANDARD INTERNAL DIMENSIONS						
W x D x H (mm)	700 x 700 x 700 mm	800 x 800 x 800 mm	900 x 900 x 900 mm	1000 x 1000 x 1000 mm	1200 x 1200 x 1200 mm	
W x D x H (in)	27.6" x 27.6" x 27.6"	31.5" x 31.5" x 31.5"	35.5"x 35.5" x 35.5"	39.4" x 39.4" x 39.4"	47.3" x 47.3" x 47.3"	
$W \times D \times H$ (ft)	2.30' x 2.30' x 2.30'	2.63' x 2.63' x 2.63'	2.96' x 2.96' x 2.96'	3.3′ x 3.3′ x 3.3′	3.94' x 3.94' x 3.94'	

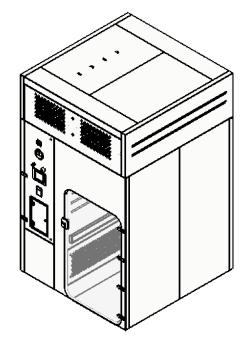


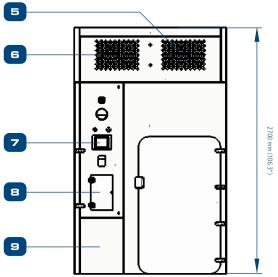
Engineering Drawing











- 1. Chamber Pressure Gauge
- 2. Emergency Stop
- 3. Door Button
- 4 Door Availability Indicator
- 5. Inlet Filter
- 6. Exhaust Filter
- 7. HMI Display
- 8. VHP Bottle Loader
- 9. Technical Housing
- 10. Supply HEPA Filter
- 11. Chamber Light Assembly
- 12. Safety Egress Button
- 13. Bumper Rails
- 14. Exhaust HEPA Filter

		GENERAL SPECIFICATIONS		
Air Classification		ISO Class 5 as per ISO-14644-1 (Grade A as per EU GMP)		
	During normal operation	Single Pass		
Airflow Pattern	During his description	Recirculatory (During gassing and dwelling)		
	During biodecontamination	Single Pass (During aeration)		
Operating Pressure		+50Pa with respect to ambient environment		
Leak Tightness		The acceptable leakage rate of the chamber will be no greater than 10 ⁻² /h, Refer to ISO 10648-2, Class 3 Containment Enclosure.		
Lighting		≥600 lux		
Noise Level		≤75 dBA		
Temperature		Monitored (not controlled)		
Humidity		Monitored (not controlled)		
	Pre-Filter	G4		
Filtration Elements	Supply Filter	HEPA (H14) filter with typical efficiency of ≥ 99.995% at MPPS		
	Exhaust Filter			
Biodecontamination		BioVap™ (Hydrogen peroxide-based) capable of achieving a minimum of log 6 reduction in spore forming micro-organisms validated using a BI challenge validation		

ESCO LIFESCIENCES GROUP NETWORK 42 Locations in 24 Countries All Over the World





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