



● ● ● ● ● Infectious Disease Diagnostic Sampling Booth™ (IDDSB™)



Ensuring Personnel & Environment protection from secondary and tertiary infection by a validated containment system to reduce droplet nuclei

Introduction

Esco's Infectious Disease Diagnostic Sampling Booth™ (IDDSB™) controls exposure risk to harmful aerosols/airborne diseases by providing containment using airflow to capture and exhaust out aerosols from sputum expectoration, handling, sampling, or swabbing of asymptomatic carriers, patients under investigation that have some form of COVID-19 symptoms which are borderline to other infectious diseases, COVID-19 positive patients. The booth provides both operator/patient and environmental protection.

Four (4) IDDSB™ units can come in a 20ft container equipped with a BSL laboratory inside for integrated swabbing and storage of samples. These can work in conjunction with Severe Acute Respiratory Infection (SARI) - Treatment Centers or other solutions like mobile diagnostic laboratories, and other containment facilities.

Key Features:

- ISO Class 5 air cleanliness (as per ISO 14644-1)
- Inflatable Sealed doors
 - with on-board compressor
- Negative pressure keeps aerosol contained in booth with options for:
 - Single Pass booth
- Pressure-tested
- Manual glove leak tester (GLT)
- CCTV Mount
- Shelves:
 - Inside the booth
 - Outside the booth
- Closed Bag-out port for collecting Diagnostic samples
- Intercom

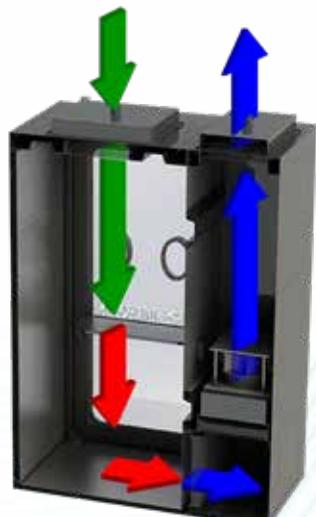
- LED lighting
- UV Lamp for overnight internal environment disinfection
 - * operators may choose to validate as well if UV-C lighting can provide a way to disinfect PPE for reusage; operators to develop own protocols.
- Sound and Light alarms
- Optional Esco Mobile BioVap™ or Esco BioAtom Disinfection Gun
- Optional Esco Misting Personnel Disinfectant Booth
- Optional handheld heat sealer for sealing diagnostic samples
- Ergonomic glove port system for swabbing test

Material of Construction

- Infectious Disease Diagnostic Sampling Booth (IDDSB) can be made of:
 - External Electrogalvanized powder coated steel with internal SS 316L
 - *Not pressure tested to BSL3, only carcass is pressure tested
 - Full stainless steel unit with external SS 304 and internal SS 316L construction

Filtration System

- Room air is taken from the top of the booth through a G4 pre-filter, resulting to containment by air entrainment which will entrain droplet nuclei and sweep it below the personnel breathing zone.
- Air will then be pulled downwards to the two HEPA (H14) exhaust filters located at the side of the unit before purging it all through the carbon filter located at the top of the booth.



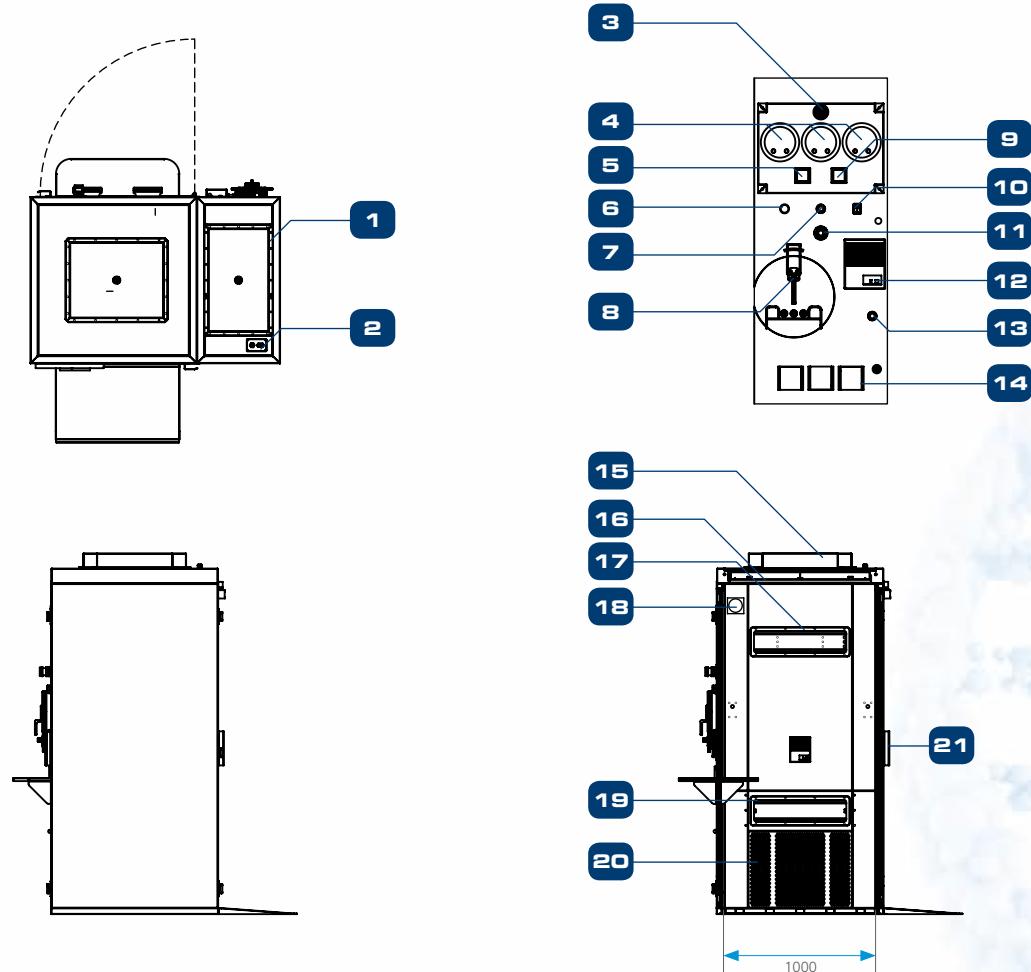
Filtration Package

- Pre-Filter: A disposable G4 pre-filter with 85% arrestance and efficiency of 20% extends the life of the main filter.
- Pre-exhaust Filter: Two HEPA (H14) filters and one carbon filter providing 99.999% filtration efficiency against 0.3micron sized particles.

Warranty

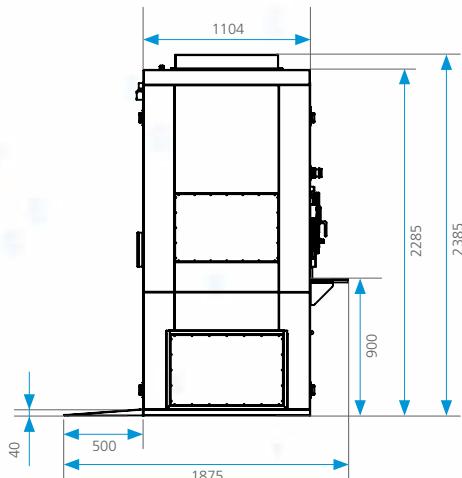
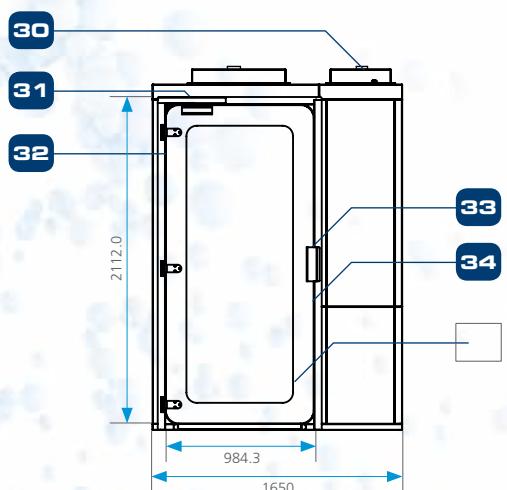
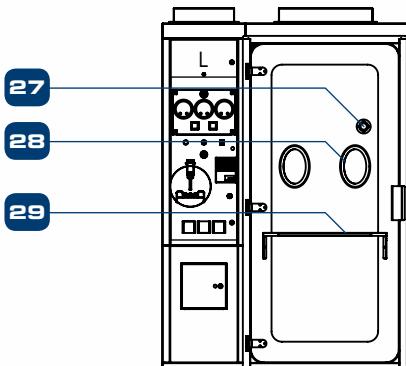
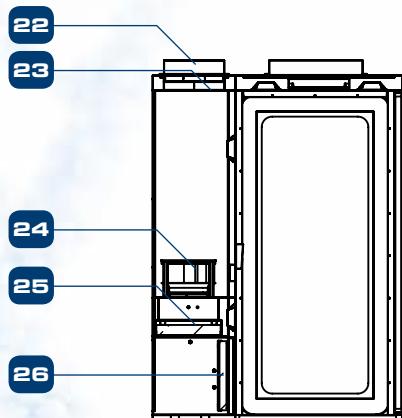
1 year warranty (excluding consumables). Consumables are ballast, LED, and filters. The warranty will cover all other parts including the blower, speed controller, electrical main board, and microprocessor.

During the period of warranty, any repair, modification, testing and commissioning performed by any unauthorized party other than Esco Service Team shall void the warranty of the unit.



INFECTIOUS DISEASE DIAGNOSTIC SAMPLING BOOTH (IDDSB-1P1O)

Model		Booth Variants	Material of Construction	Room Size	Usage	Voltage
IDDSB	-	1 - Stand-alone: polyclinics, secondary and tertiary hospitals	P External: Powder coated steel Internal: SS316L	1 External Height: 2.3m	I Indoors	1 220-240V, AC, 50Hz
		2 - Width fits into mobile laboratories	S External: SS304 Internal: SS316L	2 External Height: 1.95m	O Outdoors	2 110-130V, AC, 60Hz
		3 - Mass screening fits into 10ft container		3 External Dimensions: Bigger		3 220-240V, AC, 60Hz
						7 100VAC, 50/60Hz
						8 220-240VAC, 50/60Hz
						9 110-130VAC, 60Hz



1. Decontamination Hood
2. 20 Amp Isolator
3. Light And Sound Alarm
4. Photohelic Gauges:
1st Stage Exhaust Filter
2nd Stage Exhaust Filter
Chamber Pressure Gauge
5. UV Countdown Timer
6. UV Switch with interlock
(when doors are open UV
light switches off)
7. UV Indicator Orange Light
Push Button

8. Glove Leak Tester
9. Purging Timer
10. Light & Blower Switch
11. Door Open Panic Button
12. Intercom
13. Door Seal Deflate (Patient
Door)
14. 3X Electrical Outlet
15. G4 Pre-Filter
16. Diffuser
17. LED Lamp

18. CCTV Provision
*Client to procure own CCTV
19. UV Lamp
20. Exhaust Grille
21. U-Shape SS Door Handle
22. Hood For Decontamination
23. Carbon Filter
24. Centrifugal Blower
25. H14 Filter 2nd Stage Exhaust
26. H14 Filter 1st Stage Exhaust
27. Bag Liner For Specimen
28. Glove Ports For Swabbing

29. Stainless Steel Shelving
(Outside and Inside)
30. Supply and outlet ports to
Esco BioVap or client existing
mobile biodecon system
31. Door Closer w/ Slider
32. Healthworker Side Door
(Emergency)
33. Door Handle
34. Inflatable Seal Doors
35. Polycarbonate Door Visors

SAMPLING BOOTH NOMENCLATURE

- 3 - M - B - C

	Glove Port Position		Pressure Decay Testing		Personal Misting		BioVap Option		Customization	
Hz, 1Ø	1	Sitting	A	For external powder coated only carcass is pressure decay tested in factory.	M	Yes	B	With BioVap Nozzles Non-Integrated unit	NIL	Standard
Hz, 1Ø	2	1.65 average height	B	For full SS booth - tested to BSL 3 standards	N	None	I	With BioVap Nozzles Integrated unit	C	Customized
Hz, 1Ø	3	1.80 average height					N	Without BioVap Nozzles		
0Hz	4	Sitting - wheelchair - 1.65 average height (4gloveports)								
/60Hz	5	Sitting - wheelchair - 1.80 average height (4gloveports)								
0Hz										



Four (4) Infectious Disease Diagnostic Sampling Booth™ (IDDSB™) units in 20ft containers equipped with a fully integrated BSL laboratory inside for swabbing and storage of diagnostic samples.



Esco is committed to flatten the curve of the COVID-19 pandemic through its 'trace, test, and treat' platform which promotes worldwide eradication of the virus.

In its trace stage, Esco designed and created two COVID-19 booths: **Infectious Disease Diagnostic Sampling Booth™** (IDDSB™) and the **Mass Screening Swab Booth™** (MSSB™). The IDDSB™ is a pressure-tested booth that can be integrated with a hydrogen peroxide biodecontamination system for the main

purpose of mass testing symptomatic person under investigation (PUI) and person under monitoring (PUM) with COVID-19 like symptoms, it can also be used for repeat testing of COVID-19 positive patients, including sputum/ lavage (saliva), thus ensuring protection of the HCW and the environment. On the other-hand, MSSB™ is a non-pressure decay tested booth designed to diagnose asymptomatic person under investigation (PUI) and person under monitoring (PUM) in a short span of time while eliminating the risk of front-liners contracting the virus.

With the booths' programmed pressurization (MSSB™: +ve for HCW and -ve for PUI booth; and for IDDSB™: -ve), strict airflow regime, and partnered with stringent SOPs, Esco guarantees a safe and efficient mass testing in each community to trace and diagnose all asymptomatic carriers and Person Under Investigation with COVID-19 like symptoms, to prevent further spread of the virus.

GENERAL SPECIFICATION

Model	Infectious Disease Diagnostic Sampling Booth	
Nominal Size	1650 mm	
External Dimension (W x D x H)	1650 x 1875 x 2385 mm	
Internal Work Area Dimension (W x D x H)	984.3 x 1000 x 2145mm	
Cabinet Construction	Main Body	Stainless Steel Grade 316 L / Electrogalvanized steel coated with ISOCIDE™ antimicrobial coating Sheetmetal
	Floor	Stainless Steel Grade 316 L / SS304
	Door	Stainless Steel Grade 316 L / Electrogalvanized steel coated with ISOCIDE™ antimicrobial coating Sheetmetal
Power Consumption	Contact Esco for more information	
Cabinet Full Load Amps (FLA)	Contact Esco for more information	
LED Lamp Intensity	Contact Esco for more information	
Net Weight	Contact Esco for more information	
Shipping Weight	Contact Esco for more information	
Shipping Dimension, Maximum (W x D x H)	Contact Esco for more information	



Esco Aster Pte. Ltd.

#02-09 Block 67 Ayer Rajah Crescent
Singapore 139950 • Tel +65 6251 9361
mail@escoaster.com • www.escoaster.com

Esco Micro Pte. Ltd.

21 Changi South Street 1, Singapore 486777
Tel +65 6542 0833 • Fax +65 6542 6920
mail@escoglobal.com • www.escoglobal.com



Esco Global Offices:

Bangladesh | China | Denmark | Germany | Hong Kong | Indonesia | Italy | Japan | Lithuania | Malaysia | Philippines
Russia | Singapore | South Africa | South Korea | Taiwan | Thailand | UAE | UK | USA | Vietnam