

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231 Ангарск (3955)60-70-56 Архангельск (8182)63-90-72 Астрахань (8512)99-46-04 Барнаул (3852)73-04-60 Белгород (4722)40-23-64 Благовещенск (4162)22-76-07 Брянск (4832)59-03-52 Владивосток (423)249-28-31 Владикавказ (8672)28-90-48 Владимир (4922)49-43-18 Волгоград (844)278-03-48 Вологда (8172)26-41-59 Воронеж (473)204-51-73 Екатеринбург (343)384-55-89 Иваново (4932)77-34-06 Ижевск (3412)26-03-58 Иркутск (395)279-98-46 Казань (843)206-01-48

Калининград (4012)72-03-81 Калуга (4842)92-23-67 Кемерово (3842)65-04-62 Киров (8332)68-02-04 Коломна (4966)23-41-49 Кострома (4942)77-07-48 Краснодар (861)203-40-90 Красноярск (391)204-63-61 Курск (4712)77-13-04 Курган (3522)50-90-47 Липецк (4742)52-20-81 Магнитогорск (3519)55-03-13 Москва (495)268-04-70 Мурманск (8152)59-64-93 Набережные Челны (8552)20-53-41 Нижний Новгород (831)429-08-12 Новокузнецк (3843)20-46-81 Ноябрьск (3496)41-32-12 Новосибирск (383)227-86-73

Омск (3812)21-46-40 Орел (4862)44-53-42 Оренбург (3532)37-68-04 Пенза (8412)22-31-16 Петрозаводск (8142)55-98-37 Псков (8112)59-10-37 Пермь (342)205-81-47 Ростов-на-Дону (863)308-18-15 Рязань (4912)46-61-64 Самара (846)206-03-16 Саранск (8342)22-96-24 Санкт-Петербург (812)309-46-40 Саратов (845)249-38-78 Севастополь (8692)22-31-93 Симферополь (3652)67-13-56 Смоленск (4812)29-41-54 Сочи (862)225-72-31 Ставрополь (8652)20-65-13 Сургут (3462)77-98-35

Сыктывкар (8212)25-95-17 Тамбов (4752)50-40-97 Тверь (4822)63-31-35 Тольятти (8482)63-91-07 Томск (3822)98-41-53 Тула (4872)33-79-87 Тюмень (3452)66-21-18 Ульяновск (8422)24-23-59 Улан-Удэ (3012)59-97-51 Уфа (347)229-48-12 Хабаровск (4212)92-98-04 Чебоксары (8352)28-53-07 Челябинск (351)202-03-61 Череповец (8202)49-02-64 Чита (3022)38-34-83 Якутск (4112)23-90-97 Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

Introduction

Air Showers are self contained chambers installed at entrances to cleanrooms and other controlled environments. They minimize particulate matter entering or exiting the clean space. Personnel and materials entering or exiting the controlled environment are "scrubbed" by high velocity ULPA-filtered air jets with velocities of 18-30 m/s (3,543 - 5,906 fpm) Contaminated air is then drawn through the base within the unit, filtered and recirculated.

Esco is the pioneering company for the construction of air showers with different applications on areas in the micro-electronics, semiconductors, pharmaceutical, spray painting, laboratory animal research and food markets.

Cleanroom Applications: The greatest source of particulate contamination in a cleanroom is the operator. Air showers are installed between change areas and the cleanroom. The air shower augments the cleanroom operating protocol by reminding the operators that they are entering a controlled environment.

Pharmaceutical and Lab Animal Research Applications: Air showers maintain the cleanliness of the pharmaceutical production and laboratory animal breeding areas. It can also minimize egress of hazardous substances and allergens exiting the controlled environment.

Main Features

- High velocity shower jets running at 18-30 m/s to ensure efficient scrubbing action to remove particulate matter.
- Operating modes can be programmed in the field.
- Microprocessor controller supervises all functions.
- Mini-pleated ULPA filtration achieves > 99.9999% typical efficiency at 0.3 micron particles.
- A disposable pre-filter with 85% arrestance extends the life of the main filter.
- An emergency stop button is mounted on both sides of the shower.
- Indicator lights mounted on both sides of the exterior of the air shower to regulate traffic flow, in and out of the cleanroom.
- Permanently lubricated direct drive centrifugal blowers used in conjunction with stainless steel air nozzles.

EAS, Cleanroom Air Shower Series Comparison Chart		
Model	Airflow	Door
EAS (A-Series)	Single Sided	Single leaf
EAS (B-Series)	Double Sided	Single leaf
EAS (C-Series)	Double Sided	Double leaf

See the Specification Chart for more details



Air Shower Operating Sequences

Unlike conventional air showers which are delivered with a fixed operating sequence, the Esco Air Shower's operating sequence may be selected from three pre-programmed sequences:







One-Way

Personnel may enter the controlled environment but not exit through the air shower. At the idle state, the clean side door is locked while the grey side is unlocked. This mode of operation is useful for controlling traffic patterns in and out of the controlled environment.

Two-Way One-Way

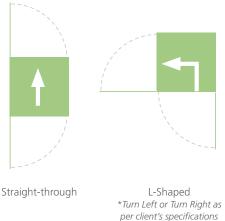
Personnel may enter or exit the controlled environment through the air shower. The air shower program is able to detect if the person is entering or exiting the controlled environment via door sensors and a time-sequenced control.

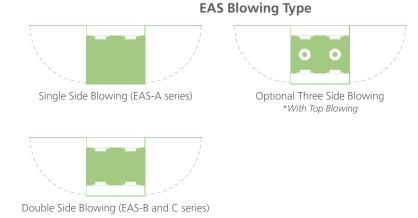
Two-Way

Personnel may enter or exit the controlled environment through the air shower. In both directions the air shower is activated. This mode of operation is useful in pharmaceutical and lab animal research applications to prevent the egress of hazardous substances and allergens from the controlled environment.











German made ebm-papst® permanently lubrocated centrifugal motor/blowers with external rotor designs. 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.



ESCO



ULPA Filtration System

ULPA filter(s) provide 99.9999% typical efficiency for particle sizes of 0.1 to 0.3 microns.



Light Indicator and Emergency Switch

Indicator lamps indicate if doors are locked or unlocked, thereby regulating the flow of personnel in and out of the air shower.

Emergency buttons mounted on both external faces of the shower unlock all doors instantly.



4

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

Esco Cleanroom Air Shower Model EAS-2C_.

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Key Features

- Esco Air Shower filters meet the IEST-RP-CC001.3 recommended practice for HEPA performance (USA), and EN 1822 for H14 performance (EU).
- The automatic reset feature unlocks the doors preventing accidental lock-outs in cases when an operator opens the air shower without actually entering.
- In case of a power failure, all doors are unlocked automatically, and the settings are retained
- A disposable pre-filter with 85% arrestance extends the life of the main filter.
- The air shower is constructed of electro-galvanised steel sheets with an abrasion-resistant oven-baked powder coated finish.
- Each air shower is individually factory tested for safety and performance in accordance with international standards.
- Robust construction qualifies the air shower for the most demanding applications. The air shower is carefully assembled and readily installed and operated when shipped.
- Each unit is shipped with a documentation outlining the tests undertaken and its individual results.
- All electrical components are UL listed / recognised.
- The Air Shower is warranted for one year excluding consumable parts and accessories.



FastTrack models are available for shipment within 1 week from order placement, from Esco Singapore, to destinations around the world. The following models are available under this program: EAS-1A1 & EAS-1B1.



General Specifications, Cleanroom Air Shower, Model EAS (A-Series) Note to customer: Insert electrical voltage number into last model number digit _ when ordering. EAS-3A Model EAS-1A EAS-2A 1260 x 1000 x 2050 mm 49.7" x 39.4" x 80.7" 1260 x 2000 x 2050 mm 49.7" x 78.7" x 80.7" 1260 x 3000 x 2050 mm 49.7" x 118.1" x 80.7" External Dimensions (W x D x H) 790 x 920 x 1930 mm 790 x 1920 x 1930 mm 790 x 2920 x 1930 mm Internal Work Area, Dimensions (W x D x H) 31.1" x 36.2" x 76.0" 31.1" x 75.6" x 76.0" 31.1" x 115" x 76.0" Clear Door Opening (WxH) 715 x 1835 mm Air Change (18-30 m/s) 137-227/Hr 131-218/Hr 129-215/Hr Initial Airflow Velocity 18-30 m/s (3,543 - 5,906 fpm) **Number of Nozzles** 6 18 12 Air Shower Duration Factory set at 12 seconds (adjustable) Persons Per Cycle 1 2-3 4 8-12 Personnel Flow (Persons / Min.) Above figures based on: Total Cycle Time of 16 seconds (12 seconds of Air Shower + 4 seconds for buffer time / personnel entrance and exit) Main Filter: >99.9999% at 0.3 μm Pre-Filter: Arrestance 85%, efficiency 20% Main Filter: ULPA filter Pre-Filter: Disposable and non-washable polyester fibers 17 W x 2 17 W x 4 17 W x 6 Air Shower Construction 1.5 mm/ 0.06"/18 electro-galvanised steel / White oven-baked epoxy powder-coated finish Max. Power Consumption Current, BTY/Hr 245 W, 1.2 A, 500 BTU/ Hr 490 W, 2.4 A, 1000 BTU/ Hr 735 W, 3.5 A, 1499 BTU/ Hr **During Operation** 113 W, 0.5 A, 231 BTU/ Hr 226 W, 1 A, 461 BTU/ Hr 339 W, 1.5 A, 692 BTU/ Hr **During Standby** 220-240V, AC, 50Hz, 1Ø EAS-1A1 EAS-2A1 EAS-3A1 110-130V, AC, 60Hz, 1Ø EAS-1A2 EAS-2A2 EAS-3A2 220-240V, AC, 60Hz, 1Ø EAS-1A3 EAS-2A3 EAS-3A3 **Gross Weight** 390 kg (858 lbs) 660 kg (1,452 lbs) 980 kg (2,156 lbs) 1450 x 1250 x 2152 mm 1450 x 1250 x 2152 mm Assembled (W \times D \times H) N/A 57.1" x 49.2" x 84.7" 57.1" x 49.2" x 84.7" 1450 x 1250 x 2152 mm 1450 x 1250 x 2152 mm Pallet A N/A 57.1" x 49.2" x 84.7" 57.1" x 49.2" x 84.7" 1450 x 1250 x 2152 mm 1450 x 1250 x 2152 mm Module Form Pallet B N/A Shipping Dimensions, $(W \times D \times H)$ 57.1" x 49.2" x 84.7 57.1" x 49.2" x 84.7 1450 x 1250 x 2152 mm

Esco Cleanroom Air Showers, Modes of Shipment, Model EAS-2A_

Pallet C

Pallet A

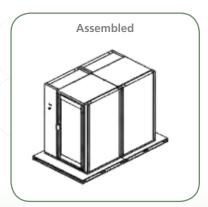
Pallet B

Unassembled $(W \times D \times H)$

Assembled

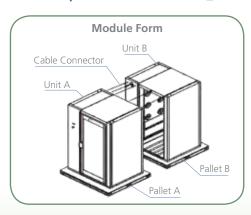
Module Form

Unassembled



Shipping Volume,

Maximum



N/A

2100 x 1300 x 778 mm

82.7" x 51.2" x 30.6"

N/A

3.90 m3 (138 cu.ft.)

N/A

2.12 m3 (75 cu.ft.)

N/A

2100 x 1300 x 924 mm

82.7" x 51.2" x 36.4"

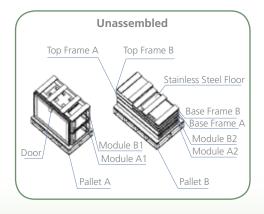
2100 x 1300 x 632 mm

82.7" x 51.2" x 24.9"

7.80 m3 (276 cu.ft.)

7.80 m3 (276 cu.ft.)

4.24 m3 (150 cu.ft.)



57.1" x 49.2" x 84.7"

2100 x 1300 x 1296 mm

82.7" x 51.2" x 51.0"

2100 x 1300 x 781 mm

82.7" x 51.2" x 30.7"

N/A

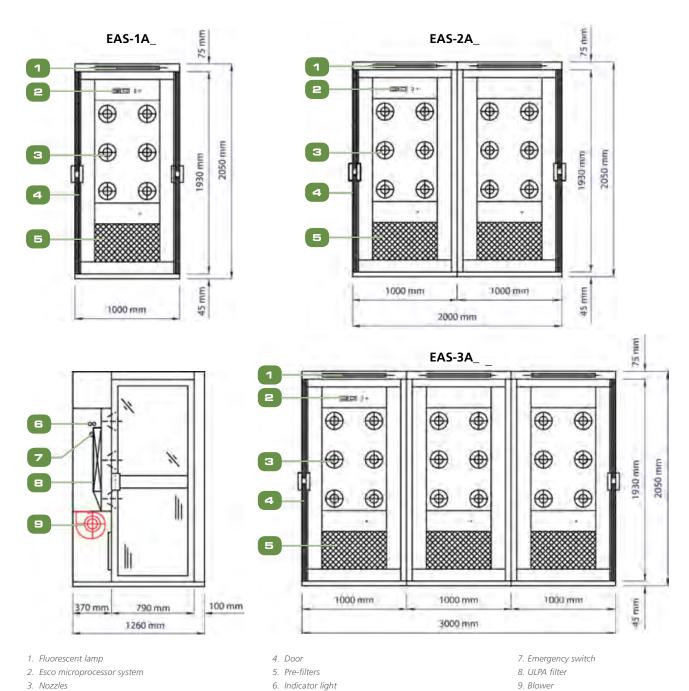
11.70 m3 (414 cu.ft.)

5.66 m3 (200 cu.ft.)

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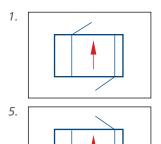
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Model EAS (A-Series) Cleanroom Air Shower Technical Specifications

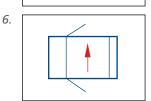


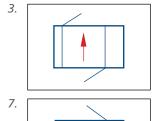
Model EAS (A-Series), Door Direction

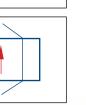
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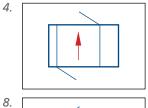


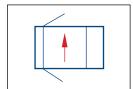
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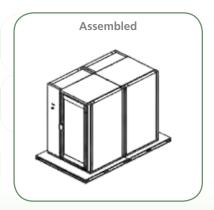


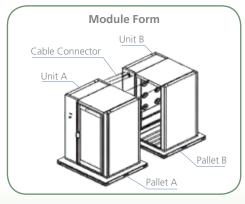


General Specifications, Cleanroom Air Shower, Model EAS (B-Series)* Note to customer: Insert electrical voltage number into last model number digit _ when ordering. Model EAS-1B EAS-2B EAS-3B 1530 x 1000 x 2050 mm 1530 x 2000 x 2050 mm 1530 x 3000 x 2050 mm External Dimensions (W x D x H) 60.2" x 39.4" x 80.7 60.2" x 78.7" x 80.7 60.2" x 118.1" x 80.7' 790 x 2920 x 1930 mm 31.1" x 115" x 76.0" 790 x 920 x 1930 mm 790 x 1920 x 1930 mm 31.1" x 36.2" x 76.0" 31.1" x 75.6" x 76.0" Clear Door Opening (WxH) 715 x 1835 mm 258-429/Hr Air Change (18-30 m/s) 273-454/Hr 261-435/Hr 18-30 m/s (3,543 - 5,906 fpm) 12 24 36 Factory set at 12 seconds (adjustable) 1 4 Personnel Flow (Persons / Min.) Above figures based on: Total Cycle Time of 16 seconds (12 seconds of Air Shower + 4 seconds for buffer time / personnel entrance and exit) Main Filter: >99.9999% at 0.3 μm Pre-Filter: Arrestance 85%, efficiency 20% Main Filter: ULPA filter Pre-Filter: Disposable and non-washable polyester fibers 17 W x 2 17 W x 4 17 W x 6 Air Shower Construction 1.5 mm/ 0.06"/18 electro-galvanised steel / White oven-baked epoxy powder-coated finish Max. Power Consumption Current, 500 W, 2.3 A, 1020 BTU/ Hr 1000 W, 4.6 A, 2040 BTU/ Hr 1500 W, 7 A, 3060 BTU/ Hr **During Operation During Standby** 162 W, 0.7 A, 330 BTU/ Hr 200 W, 1 A, 408 BTU/ Hr 250 W, 1.1 A, 510 BTU/ Hr 220-240V, AC, 50Hz, 1Ø EAS-1B1 EAS-2B1 EAS-3B1 FAS-1B2 FAS-2B2 FAS-3B2 110-130V, AC, 60Hz, 1Ø 220-240V, AC, 60Hz, 1Ø EAS-1B3 EAS-2B3 EAS-3B3 **Gross Weight** 450 kg (990 lbs) 820 kg (1808 lbs) 1250 kg (2750 lbs) 1750 x 1250 x 2152 mm 1750 x 2500 x 2152 mm Assembled (W x D x H) N/A 68.9" x 49.2" x 84.7 68.9" x 98.4" x 84.7" 1750 x 1250 x 2152 mm 68.9" x 49.2" x 84.7" 1750 x 1250 x 2152 mm 68.9" x 49.2" x 84.7" Pallet A N/A Module Form 1750 x 1250 x 2152 mm 1750 x 1250 x 2152 mm Pallet B N/A $(W \times D \times H)$ 68.9" x 49.2" x 84.7" 68.9" x 49.2" x 84.7" Maximum (W x D x H)³ 1750 x 1250 x 2152 mm Pallet C N/A N/A 68.9" x 49.2" x 84.7 2100 x 1300 x 1048 mm 82.7" x 51.2" x 41.3" 2100 x 1300 x 1296 mm 2100 x 1300 x 1668 mm Pallet A 82.7" x 51.2" x 51.0" 82.7" x 51.2" x 65.7 Unassembled 2100 x 1300 x 1219 mm 82.7" x 51.2" x 48.0" $(W \times D \times H)$ 2100 x 1300 x 800 mm Pallet B N/A 82.7" x 51.2" x 31.5" Assembled 4.70 m³ (166 cu.ft.) 9.40 m³ (333 cu.ft.) N/A Shipping Volume, Maximum

Esco Cleanroom Air Showers, Modes of Shipment, Model EAS-2B_

Module Form Unassembled



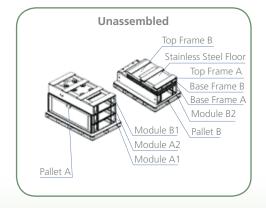


N/A

2.83 m³ (100 cu.ft.)

9.40 m³ (333 cu.ft.)

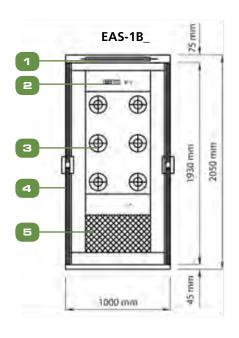
5.71 m³ (202 cu.ft.)

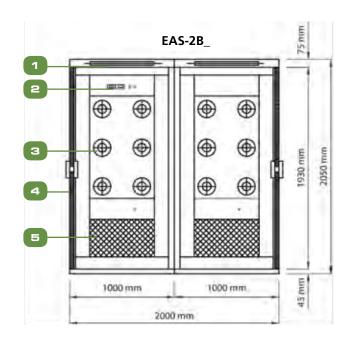


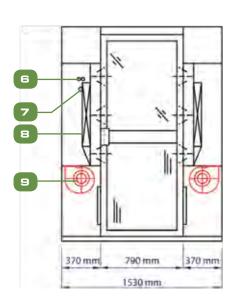
14.10 m³ (499 cu.ft.)

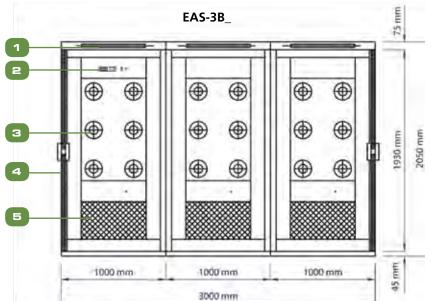
7.87 m³ (279 cu.ft.)

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- 1. Fluorescent lamp
- 2. Esco microprocessor system
- 3. Nozzles

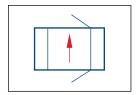
- 4. Door
- 5. Pre-filters
- 6. Indicator light

- 7. Emergency switch
- 8. ULPA filter
- 9. Blower

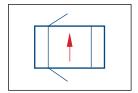
Model EAS (B-Series), Door Direction

(Factory Configured. Choose One When Ordering.)

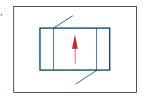
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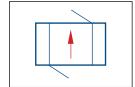
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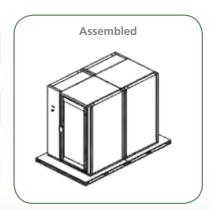
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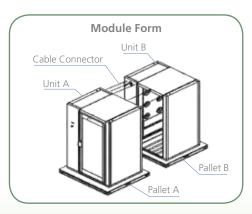


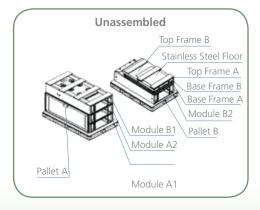


General Specifications, Cleanroom Air Shower, Model EAS (C-Series)* Note to customer: Insert electrical voltage number into last model number digit _ when ordering. Model EAS-2C EAS-3C 2330 x 2000 x 2050 mm 2330 x 3000 x 2050 mm External Dimensions (W x D x H) 91.7" x 78.7" x 80.7" 91.7" x 118.1" x 80.7" 1590 x 1920 x 1930 mm 1590 x 2920 x 1930 mm Internal Work Area, Dimensions (W x D x H) 62.6" x 75.6" x 76.0" 62.6" x 115" x 76.0" Clear Door Opening (WxH) 1515 x 1835 mm Air Change (18-30 m/s) 130-216/Hr 128-214/Hr 18-30 m/s (3,543 - 5,906 fpm) 24 36 Air Shower Duration Factory set at 12 seconds (adjustable) Persons Per Cycle 2-3 4-6 8-12 15-23 Personnel Flow (Persons / Min.) Above figures based on: Total Cycle Time of 16 seconds (12 seconds of Air Shower + 4 seconds for buffer time / personnel entrance and exit) Main Filter: >99.9999% at 0.3 μm Pre-Filter: Arrestance 85%, efficiency 20% Main Filter: ULPA filter Pre-Filter: Disposable and non-washable polyester fibers 17 W x 8 17 W x 12 1.5 mm/ 0.06 "/18 electro-galvanised steel / White oven-baked epoxy powder-coated finish Max. Power Consumption Current, 1000 W, 2.3 A, 1020 BTU/ Hr 1500 W, 7 A, 3060 BTU/ Hr **During Operation** 162 W, 0.7 A, 330 BTU/ Hr 250 W, 1.1 A, 510 BTU/ Hr **During Standby** 220-240V, AC, 50Hz, 1Ø EAS-2C1 EAS-3C1 110-130V, AC, 60Hz, 1Ø FAS-2C2 FAS-3C2 Electrical EAS-2C3 EAS-3C3 220-240V, AC, 60Hz, 1Ø **Gross Weight** 910 kg (2006 lbs) 1660 kg (3660 lbs) 2500 x 2500 x 2232 mm N/A Assembled (W \times D \times H) 98.4" x 98.4" x 87.9" 2500 x 1250 x 2232 mm 98.4" x 49.2" x 87.9" 2500 x 1250 x 2232 mm 98.4" x 49.2" x 87.9" Pallet A 2500 x 1250 x 2232 mm 2500 x 1250 x 2232 mm Module Form Pallet B $(W \times D \times H)$ 98.4" x 49.2" x 87.9" 98.4" x 49.2" x 87.9" Shipping Dimensions, Maximum (W x D x H)* 2500 x 1250 x 2232 mm Pallet C N/A 98.4" x 49.2" x 87.9" 2100 x 1300 x 1296 mm 2100 x 1300 x 1668 mm Pallet A 82.7" x 51.2" x 51.0" 82.7" x 51.2" x 65.7 Unassembled $(W \times D \times H)$ 2100 x 1300 x 1219 mm 82.7" x 51.2" x 48.0" 2100 x 1300 x 800 mm Pallet B 82.7" x 51.2" x 31.5" Assembled 13.94 m³ (493 cu.ft.) N/A Shipping Volume, Maximum 13.94 m³ (493 cu.ft.) 20.91 m³ (740 cu.ft.) Module Form 5.71 m³ (202 cu.ft.) 7.87 m³ (279 cu.ft.) Unassembled

Esco Cleanroom Air Showers, Modes of Shipment, Model EAS-2C_

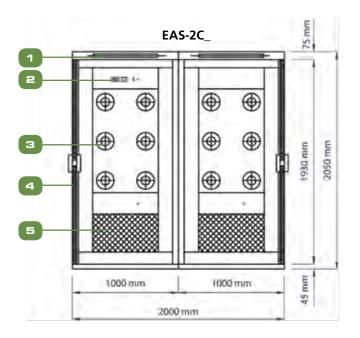


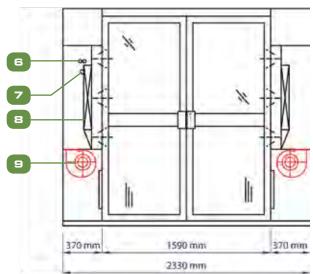


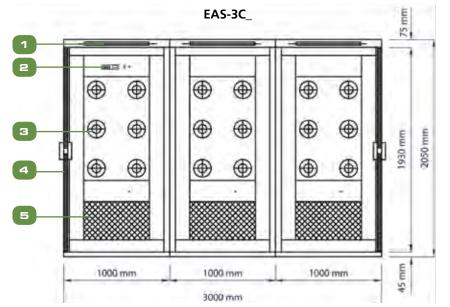


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Model EAS (C-Series) Cleanroom Air Shower Technical Specifications

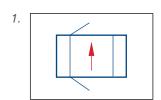


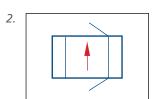




- 1. Fluorescent lamp
- 2. Esco microprocessor system
- 3. Nozzles
- 4. Door
- 5. Pre-filters
- 6. Indicator light
- 7. Emergency switch
- 8. ULPA filter
- 9. Blower

Model EAS (C-Series), Door Direction (Factory Configured. Choose One When Ordering.)









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По вопросам продаж и поддержки обращайтесь:

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