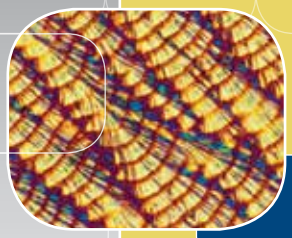


Frontier® DUO™

Esco Frontier Duo™ Laboratory Fume Hood, Model EFD-4B_. (Shown with optional base cabinet)

Laboratory Fume Hoods

Introduction

The Esco Frontier Duo Fume Hood offers a solution representing design and engineering innovations that are at the forefront of fume hood technology, providing superior containment of noxious chemical fumes at a broad range of face velocities while addressing worker comfort through ergonomic design. Work zone baffles and aerodynamic airfoil are designed with computational fluid dynamics to enhance safety.

Superstructure

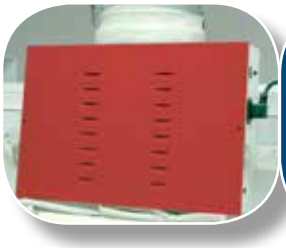
- Rugged dual-wall construction allows service fixture remote controls and electrical outlets to be mounted outside the work zone within easy reach.
- Fabricated of electrogalvanized steel (zinc coated to prevent rusting even if the powder coat is abraded, and phosphated for better adhesion of the powder coating).
- Epoxy-polyester hybrid Isocide™ antimicrobial powder coating provides long term chemical, abrasion and weathering resistance.
- State-of-the-art baffle system constructed of phenolic resin laminates delivers maximum containment by ensuring airflow uniformity throughout the main chamber.
- Corrosion-resistant epoxy powder-coated electrogalvanized steel airfoil safely ventilates fumes generated towards the front of the hood for superior operator protection.
- Standard vertical rising fail safe counterbalanced sash constructed of safety glass maximizes operator safety. The safety mechanism causes sash to tilt and lock if a cable snaps.
- Dished work top provides spill retention and is constructed of phenolic resin, a highly corrosion-resistant material.
- 1 remote-control gas fixture and 1 remote-control water fixture (with high quality PP drip cup) are provided with every hood. Additional services should be ordered separately.
- 4 electrical outlets are provided with every hood (total rating 5A). Additional outlets should be ordered separately (specify amperes required).

Aesthetics and Ergonomics Design

- Perfect Pitch Profile - The gentle pitch of the hood enhances visibility and enables users to work further into the hood without strain.
- The angled front is also an aesthetic feature that positions your laboratory for the 21st century.
- Complementary color scheme (neutral white with blue accents) blends the hood with any casework, metal or wood.
- Hood lighting is pre-wired. Lighting is electronically ballasted, energy efficient, instant start. Typical light intensity on work surface is >780 lux (>72 foot candles) in zero ambient conditions.
- Color temperature is tuned to provide a gentle, bright (but not harsh) and comfortable work environment for the user.

Serviceability

- Removable front panel enables easy access to lighting and other electrical components mounted above the hood work chamber.



Electrical panel is located at the front to allow easy servicing.

Safety Certified and Tested

All Esco fume hoods are manufactured for the most demanding laboratory applications.

- Independently tested and certified by Invent, UK to meet the requirement of the ANSI/ASHRAE 110-1995 Standard.
- Hoods are ASHRAE tested on the production line on a sampling basis (industry exclusive).
- Sash is clearly labeled with all operating instructions and illustrations.

Accessories and Options

Esco offers a variety of options and accessories to meet application requirements.

- Additional services and electrical outlets.
- Fully configurable optional Esco Sentinel Microprocessor control provides a continuous display of face velocity. The alarm system will alarm should the face velocity within the work zone fall to a low level that compromises operator safety.
- Optional motorized sash window for improved operator convenience.
- Base cabinetry is available for additional storage area in the laboratory.
- Optional distillation grids can be ordered separately for factory installation.
- Ceiling closure panels may be custom-made by Esco or supplied by our local Sales Representative.
- C-frame support stand with leveling feet (SFL-_ _0).

General Specifications, Frontier Duo Fume Hoods

Model		EFD-4_ _		EFD-5_ _		EFD-6_ _		EFD-8_ _	
Nominal size		1.2 meters (4')		1.5 meters (5')		1.8 meters (6')		2.4 meters (8')	
External Dimensions (W x D x H)		1200 x 792.7 x 1500 mm 47.2" x 31.1" x 59.0"		1500 x 792.7 x 1500 mm 59.0" x 31.1" x 59.0"		1800 x 792.7 x 1500 mm 70.9" x 31.1" x 59.0"		2400 x 792.7 x 1500 mm 94.5" x 31.1" x 59.0"	
Internal Work Area, Dimensions (W x D x H)		1000 x 591.5 x 1259 mm 39.4" x 23.2" x 49.6"		1300 x 591.5 x 1259 mm 51.2" x 23.2" x 49.6"		1600 x 591.5 x 1259 mm 63" x 23.2" x 49.6"		2200 x 591.5 x 1259 mm 86.6" x 23.2" x 49.6"	
Maximum Sash Opening		550 mm (21.7")							
Exhaust Volume/ Static Pressure Required Face Velocity of 0.5m/s (100 fpm) at Full Open Sash		1296 cmh @ 70 Pa 763 cfm @ 0.28" WG		1400 cmh @ 75 Pa 824 cfm @ 0.30" WG		1543 cmh @ 86 Pa 908 cfm @ 0.34" WG		2372 cmh @ 80 Pa 1396 cfm @ 0.32" WG	
Exhaust Outlet Diameter		305 mm (12")							
Number of Exhaust Collars		1		1		1		2	
Flourescent Light Intensity		800 Lux (74.3 foot candles)							
Construction	External Side Walls and Front Panel	Oven-baked epoxy powder-coated EG steel							
	Internal Liner and Baffle System	Esco Resinate phenolic resin laminates							
Power Consumption		25W (Fluorescent Lighting Only) / 60W (Fluorescent Lighting and Microprocessor Control System)							
Electrical*	220-240V, AC, 50/60 Hz, 1Ø	EFD-4A8	EFD-4B8	EFD-5A8	EFD-5B8	EFD-6A8	EFD-6B8	EFD-8A8	EFD-8B8
	Cabinet Full Load Amps (FLA)	10 A	1 A	10 A	1 A	10 A	1 A	10 A	1 A
	Cabinet BTU**	205	341	341	341	341	341	410	341
	110-120V, AC, 50/60 Hz, 1Ø	EFD-4A9	EFD-4B9	EFD-5A9	EFD-5B9	EFD-6A9	EFD-6B9	EFD-8A9	EFD-8B9
	Cabinet Full Load Amps (FLA)	10 A	1 A	10 A	1 A	10 A	1 A	10 A	1 A
	Cabinet BTU**	205	341	341	341	341	341	410	341
Controller		Choose from the following controller configuration codes when ordering (e.g. EFD-4A3, for Rocker Switches) A: Rocker Switches B: Sentinel™ Microprocessor control							
Net Weight		157 kg (346 lbs)		181 kg (399 lbs)		205 kg (451 lbs)		283 kg (623 lbs)	
Shipping Weight		211.7 kg / 467 lbs		243 kg / 536 lbs		287.3 kg / 633 lbs		293.5 kg / 647 lbs	
Shipping Dimensions, Maximum (W x D x H)		1300 x 950 x 1940 mm 51.2" x 37.4" x 76.4"		1600 x 950 x 1940 mm 63.0" x 37.4" x 76.4"		1950 x 950 x 1940 mm 76.8" x 37.4" x 76.4"		2500 x 950 x 1940 mm 98.4" x 37.4" x 76.4"	

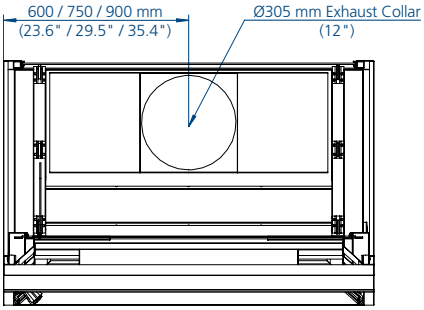
** The maximum rating of all the electrical outlets combined is 5 Amp. Please contact Esco if you need electrical outlets with higher capacity.*
*** Cabinet BTU = Cabinet nominal power x 3.41214*

General Specifications, Base Cabinet for Frontier Duo Fume Hoods

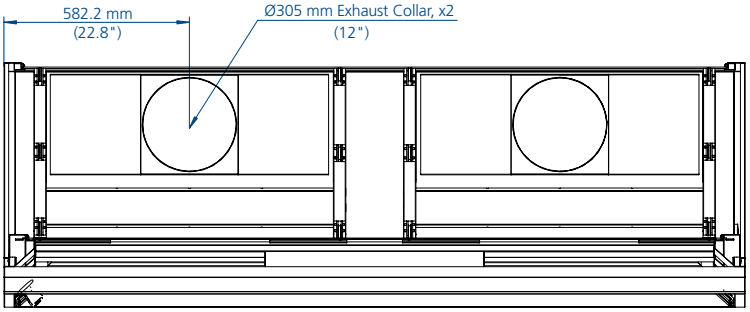
Model	EBD-4A0	EBD-5A0	EBD-6A0	EBD-8A0
Nominal size	1.2 meters (4')	1.5 meters (5')	1.8 meters (6')	2.4 meters (8')
External Dimensions (W x D x H)	1200 x 770 x 860 mm 47.2" x 30.3" x 33.8"	1500 x 770 x 860 mm 59.0" x 30.3" x 33.8"	1800 x 770 x 860 mm 70.9" x 30.3" x 33.8"	1200 x 770 x 860 mm 94.5" x 30.3" x 33.8"
Net Weight	76 kg (168 lbs)	82 kg (181 lbs)	98 kg (216 lbs)	136 kg (300 lbs)
Shipping Weight	109 kg / 240 lbs	145kg / 319.7 lbs	206.7 kg / 456 lbs	235.6 kg / 519 lbs
Shipping Dimensions, Maximum (W x D x H)	1350 x 750 x 1100 mm 53.1" x 29.5" x 43.3"	1600 x 750 x 1100 mm 63.0" x 29.5" x 43.3"	1950 x 750 x 1100 mm 76.8" x 29.5" x 43.3"	2500 x 780 x 1100 mm 98.4" x 30.7" x 43.3"

Model EFD (B-Series) Frontier Duo Fume Hood Technical Specifications

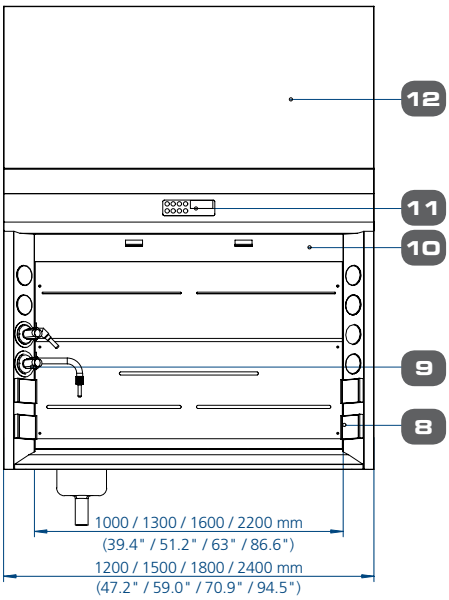
Top View (for EFD-4, EFD-5, EFD-6)



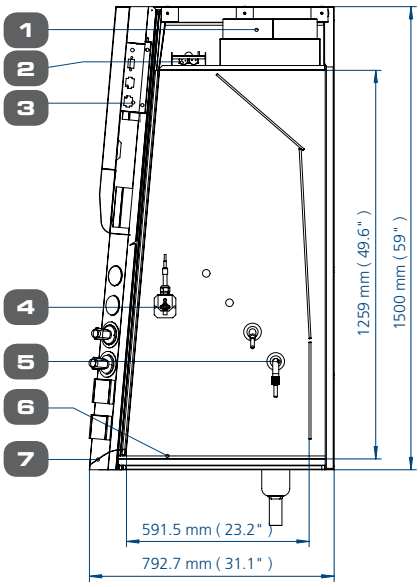
Top View (for EFD-8)



Front View



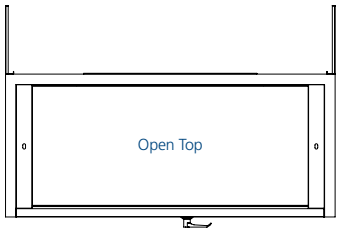
Side View



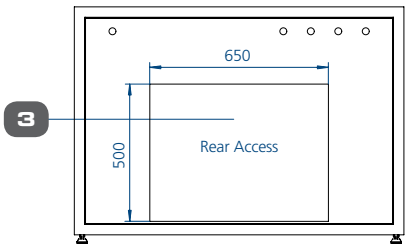
1. *Exhaust collar*
2. *Fluorescent lamp*
3. *Electrical panel*
4. *Airflow sensor (optional)*
5. *Service fixture outlet*
6. *Dished work top*
7. *Ergonomic airfoil*
8. *Electrical outlet*
9. *Service fixture remote control*
10. *Sash window*
11. *Sentinel microprocessor control system (optional)*
12. *Removable front panel*

Model EBD Base Cabinet for Frontier Duo Fume Hood Technical Specifications

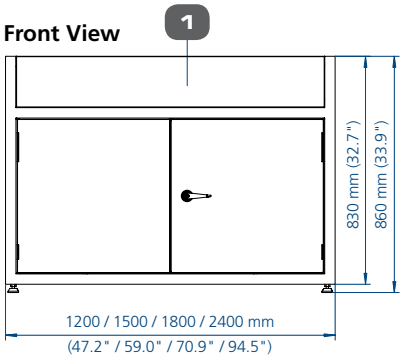
Top View



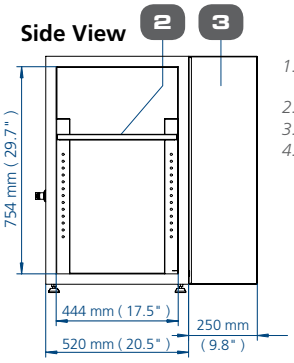
Rear View



Front View



Side View



1. *Removable Front Panel*
2. *Adjustable Shelf*
3. *Side Filler Panel*
4. *Rear Access for plumbing*

Fume Hood Installation Requirements

- Proper location (refer to Esco recommendations)
- Exhaust system capable of delivering airflow and pressure drop requirements
  - Exhaust ductwork and connection accessories
  - Exhaust blower (or building exhaust system)
  - Contactor (if applicable)
  - Means of adjusting exhaust flow (damper or frequency inverter)
- Sufficient laboratory supply air
- Base cabinet or other means of support
- Plumbing and electrical hook-up
- Unless otherwise specified, items and services specified above are not provided by Esco

ART Equipment
Biological Safety Cabinets
CO_2 Incubators
Compounding Pharmacy Equipment
Containment / Pharma Products
Ductless Fume Hoods
Lab Animal Research Products
Laboratory Fume Hoods
Laboratory Ovens and Incubators
Laminar Flow Clean Benches
PCR Cabinets
PCR Thermal Cyclers
Powder Weighing Balance Enclosures
Ultra-low Freezers

Since 1978, Esco has emerged as a leader in the development of controlled environment, laboratory and pharmaceutical equipment solutions. Products sold in more than 100 countries include biological safety cabinets, compounding pharmacy equipment, containment / pharma products, ductless fume hoods, in vitro fertilization workstations, lab animal research products, laboratory fume hoods, laboratory ovens and incubators, laminar flow clean benches and PCR products and instrumentation. With the most extensive product line in the industry, Esco has passed more tests, in more languages, for more certifications, throughout more countries than any biosafety cabinet manufacturer in the world. Esco remains dedicated to delivering innovative solutions for the clinical, life science, research and industrial laboratory community. www.escoglobal.com.

Life Science • Chemical Research • Assisted Reproductive Technology (ART) • Pharmaceutical Equipment • General Equipment

ESCO®

WORLD CLASS. WORLDWIDE.

Esco Technologies, Inc. • 2940 Turnpike Drive, Units 15-16 • Hatboro, PA 19040, USA
Toll-Free USA and Canada 877-479-3726 • Tel 215-441-9661 • Fax 215-441-9660
us.escoglobal.com • usa@escoglobal.com

Esco Micro Pte. Ltd. • 21 Changi South Street 1 • Singapore 486 777
Tel +65 6542 0833 • Fax +65 6542 6920 • mail@escoglobal.com
www.escoglobal.com

Esco Global Offices | Beijing, China | Chengdu, China | Kuala Lumpur, Malaysia | Manama, Bahrain | Guangzhou, China | Hanoi, Vietnam | Melaka, Malaysia | Mumbai, India | Philadelphia, PA, USA | Salisbury, UK | Shanghai, China | Seoul, Korea | Delhi, India | Osaka, Japan | Manila, Philippines | Midrand, South Africa | Jakarta, Indonesia | Singapore

escoglobal.com LIVE SUPPORT | ISOCIDE™

901.0035_Fumehood_EFD_Sellsheet_A4_vD_24-Jan-2013
Esco can accept no responsibility for possible errors in catalogues, brochures and other printed materials. Esco reserves the right to alter its products and specifications without notice. All trademarks and logotypes in this material are the property of Esco and the respective companies.

Esco Micro Pte Ltd Cert. No. 65176

PT Esco Bintan Indonesia Cert. No. 651334