

# Frontier® RADIOISOTOPE™

## Radioisotope Fume Hood



Esco Frontier® Radioisotope™ Fume Hood,  
Model EFI-5UD4VW-8

### Introduction

Esco Frontier® Radioisotope™ is designed to be used when handling radioactive materials. This specialized fume hood is built with stainless steel internal and work surfaces with coved, seamless welded corners for easy cleaning and decontamination.

Frontier® Radioisotope™ fume hoods have been engineered to provide maximum safety while using low level Alpha and Beta particles. In addition, these hoods provide containment performance similar to that of a high performance low flow fume hood.

### Superstructure

- Tri-wall construction for maximum robustness.
- Internal chamber constructed of stainless steel 304 with coved corners. Option to upgrade to stainless steel 316 is available.
- Chain and Sprocket Sash support system.
- Energy-efficient hood lighting through a prewired, electronic ballast.
- Reinforced work surface can hold loads of up to 15 kN/m<sup>2</sup> (2.175 lb/in<sup>2</sup>).

### Safety Features

- Shaping vanes increase airflow “sweep” at the critical area at the sidewall to improve containment, especially when laboratory personnel walk fast in front of the hood.
- Sash stop feature limits sash movement beyond 457 mm (18”) to maintain a safe working condition for the user.
- Esco’s creep down mechanism: when sash is raised above 457 mm (18”), it will automatically and gently fall back into the safe level.
- Sash key lock allows the laboratory manager to restrict access to fume hood.

- Hot zone baffle system rapidly draws contaminants out of the fume hood work zone and thermal heat relief is quickly achieved.

### Serviceability

- Stainless steel internal work zone allows for easy cleaning of all surfaces.
- Removable baffle system allows for thorough cleaning inside the hood.
- Chain and sprocket system requires minimal service.

### Safety Certified and Tested

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

- Each Frontier® Radioisotope™ Fume Hood is tested to comply with ASHRAE 110:1995 and EN14175-3 standards.
- UL1805 Listed
- Sash is clearly labeled with operating instructions and illustrations.

### Accessories and Options

- Esco offers a variety of options and accessories to meet application requirements.
- Additional service fixtures and electrical outlets.
- Base cabinetry is available for worktop requirements and additional storage area in the laboratory.

### Warranty

The Frontier® Radioisotope™ Fume Hood is warranted for 1 year excluding consumable parts and accessories. Contact your local sales representative for specific warranty details.

Guide to Models

E F I - D W -

External Width	Code	Internal Depth	Code	Internal Liner	Code	Sash Type	Code	Color Code	Code	Electrical Code	Code
1220 mm (48.0")	<b>4U</b>	900 mm (35.4")	<b>D</b>	SS 304	<b>4</b>	Vertical	<b>V</b>	Esco White	<b>W</b>	230 VAC, 50/60 Hz	<b>8</b>
1525 mm (60.0")	<b>5U</b>			SS 316 (optional)	<b>6</b>	Combination*	<b>C</b>			110-120 VAC, 50/60 Hz	<b>9</b>
1830 mm (72.0")	<b>6U</b>										
2440 mm (96.0")	<b>8U</b>										

\*Combination Sash not available for EFI-8UD\_ \_W\_ \_ model.

General Specifications, Frontier® Radioisotope™ Fume Hoods

Model	220-240 VAC, 50/60 Hz, 1ϕ		EFI-4UD4CW-8 2090081	EFI-5UD4CW-8 2090171	EFI-6UD4CW-8 2090172	EFI-8UD4VW-8 2090180
				EFI-4UD6CW-8 2090082	EFI-5UD6CW-8 2090174	
			EFI-4UD4VW-8 2090177	EFI-5UD4VW-8 2090178	EFI-6UD4VW-8 2090179	EFI-8UD6VW-8 2090184
			EFI-4UD6VW-8 2090181	EFI-5UD6VW-8 2090182	FI-6UD6VW-8 2090183	
	110-120 VAC, 50/60 Hz, 1ϕ		EFI-4UD4CW-9 2090543	EFI-5UD4CW-9 2090544	EFI-6UD4CW-9 2090545	EFI-8UD4VW-9 2090552
			EFI-4UD6CW-9 2090546	EFI-5UD6CW-9 2090547	EFI-6UD6CW-9 2090548	
			EFI-4UD4VW-9 2090549	EFI-5UD4VW-9 2090550	EFI-6UD4VW-9 2090551	EFI-8UD6VW-9 2090556
			EFI-4UD6VW-9 2090553	EFI-5UD6VW-9 2090554	EFI-6UD6VW-9 2090555	
Nominal Size			1.2 meter ( 4' )	1.5 meter ( 5' )	1.8 meter ( 6' )	2.4 meters ( 8' )
External Dimensions (W x D x H)	Fume Hood unit only		1220 x 900 x 1400 mm (48.0" x 35.4" x 55.1")	1525 x 900 x 1400 mm (60.0" x 35.4" x 55.1")	1830 x 900 x 1400 mm (72.0" x 35.4" x 55.1")	2440 x 900 x 1725 mm (96.1" x 35.4" x 67.9")
	With Exhaust Collar		1220 x 900 x 1521 mm (48.0" x 35.4" x 59.9")	1525 x 900 x 1521 mm (60.0" x 35.4" x 59.9")	1830 x 900 x 1521 mm (72.0" x 35.4" x 59.9")	2440 x 900 x 1521 mm (96.1" x 35.4" x 59.9")
	With Fully-opened Sash		1220 x 900 x 1603 mm (48.0" x 35.4" x 63.1")	1525 x 900 x 1603 mm (60.0" x 35.4" x 63.1")	1830 x 900 x 1603 mm (72.0" x 35.4" x 63.1")	2440 x 900 x 1603 mm (96.1" x 35.4" x 63.1")
Internal Dimensions (W x D x H)			996 x 753 x 1246 mm (39.2" x 29.6" x 49.1")	1301 x 753 x 1246 mm (60.2" x 29.6" x 49.1")	1606 x 753 x 1246 mm (63.2" x 29.6" x 49.1")	2216 x 753 x 1246 mm (87.2" x 29.6" x 49.1")
Exhaust Volume/ Static Pressure Required	Face Velocity	Sash Opening				
	0.3 m/s (60 fpm)	Design Opening: 457 mm (18.0")	542 cmh at 7 Pa (319 cfm at 0.03" WG)	1507 cmh at 23 Pa (887 cfm at 0.10" WG)	1855 cmh at 28 Pa (1092 cfm at 0.12" WG)	2551 cmh at 20 Pa (1501 cfm at 0.09" WG)
	0.4 m/s (80 fpm)		723 cmh at 13 Pa (425 cfm at 0.05" WG)	1884 cmh at 36 Pa (1109 cfm at 0.15" WG)	2319 cmh at 44 Pa (1365 cfm at 0.19" WG)	3189 cmh at 31 Pa (1877 cfm at 0.13" WG)
	0.5 m/s (100 fpm)		903 cmh at 20 Pa (532 cfm at 0.09" WG)	1174 cmh at 26 Pa (691 cfm at 0.11" WG)	1445 cmh at 28 Pa (851 cfm at 0.12" WG)	1987 cmh at 22 Pa (1170 cfm at 0.09" WG)
	0.3 m/s (60 fpm)	Full Open: 736 mm (29.0")	642 cmh at 13 Pa (378 cfm at 0.06" WG)	834 cmh at 17 Pa (491 cfm at 0.07" WG)	1027 cmh at 22 Pa (605 cfm at 0.09" WG)	1412 cmh at 14 Pa (831 cfm at 0.06" WG)
	0.4 m/s (80 fpm)		856 cmh at 23 Pa (504 cfm at 0.10" WG)	1113 cmh at 30 Pa (655 cfm at 0.13" WG)	1369 cmh at 39 Pa (806 cfm at 0.17" WG)	1883 cmh at 25 Pa (1108 cfm at 0.11" WG)
0.5 m/s (100 fpm)	1070 cmh at 36 Pa (630 cfm at 0.15" WG)		1391 cmh at 47 Pa (819 cfm at 0.20" WG)	1712 cmh at 61 Pa (1008 cfm at 0.26" WG)	2354 cmh at 40 Pa (1385 cfm at 0.17" WG)	
Exhaust Outlet Diameter			305 mm (12.0")			
Number of Exhaust Collars			1		2	
Fluorescent Lamp Intensity			930 lux (86.4 foot-candles)	915 lux (85.0 foot-candles)	886 lux (82.3 foot-candles)	931 lux (86.5 foot-candles)
Construction	Main Body		Electrogalvanized steel with Epoxy-polyester hybrid Isocide™ powder coating			
	Internal Liner (default)		Stainless Steel 304 (Optional upgrade to SS 316)			
	Worktop (default)		Stainless Steel 304 (Optional upgrade to SS 316)			
Sash Specifications	Sash Material		Tempered Laminated and Framed Sash Glass			
	Sash Configuration		Vertical or Combination			Vertical
	Sloping		5°			
	Maximum Sash Opening		740 mm (29.1")			
Electrical	Cabinet Full Load Amps (FLA)		32 A			
	Cabinet Nominal Power		100 W (lighting only)			
Net Weight*			218 Kg (481 lbs)	249 Kg (549 lbs)	313 Kg (690 lbs)	361 Kg (796 lbs)
Shipping Weight*			240 Kg (529 lbs)	275 Kg (606 lbs)	340 Kg (749 lbs)	390 Kg (860 lbs)
Shipping Dimension, maximum (W x D x H)*			1300 x 950 x 1940 mm (51.2" x 37.4" x 76.4")	1650 x 950 x 1940 mm (65.0" 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")

\*Fume hood unit only. Exclude base cabinet/optional stand.

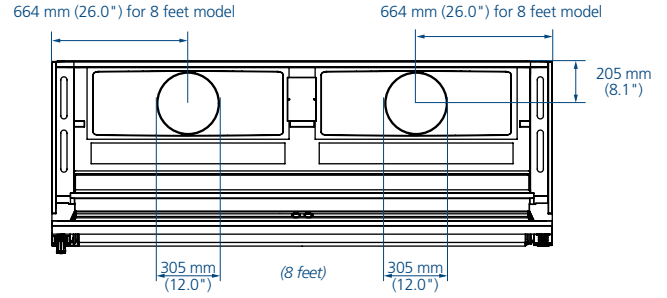
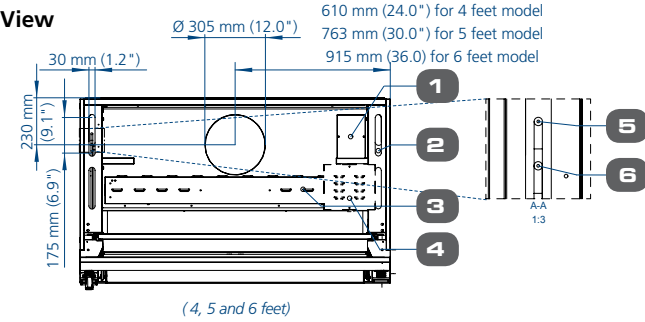
## General Specifications, Base Cabinets for Frontier® Acid Digestion™ Fume Hoods

Model*	EBA-4UDG-0 2090153	EBA-4UDG-8 2090154	EBA-5UDG-0 2090157	EBA-5UDG-8 2090158	EBA-6UDG-0 2090161	EBA-6UDG-8 2090162	EBA-8UDG-0 2090163	EBA-8UDG-8 2090167
Nominal Size	1.2 meter (4')		1.5 meter (5')		1.8 meter (6')		2.4 meters (8')	
External Dimensions (W x D x H)	1220 x 900 x 915 mm (48.0" x 35.4" x 36.0")		1525 x 900 x 915 mm (60.0" x 35.4" x 36.0")		1830 x 900 x 915 mm (72.0" x 35.4" x 36.0")		2440 x 900 x 915 mm (96.0" x 35.4" x 36.0")	
Shipping Dimension, maximum (W x D x H)	1350 x 750 x 1150 mm (53.1" x 29.5" x 45.3")		830 x 960 x 2240 mm (32.7" x 37.8" x 88.2")		1120 x 720 x 2240 mm (44.1" x 28.3" x 88.2")		1450 x 720 x 2200 (57.1" x 28.3" x 86.6")	

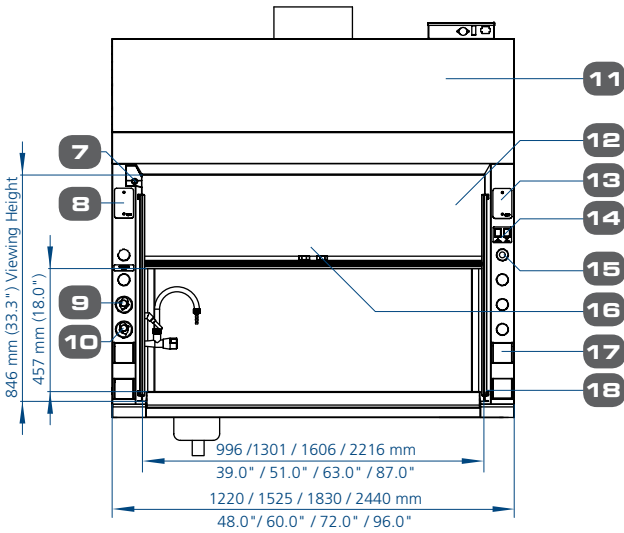
\*Model EBA-UDG-0 is standard base cabinet without MCB/ELCB (MCB/ELCB panel is always mounted on the top right hand corner of base cabinet set)  
Model EBA-UDG-8 is with MCB/ELCB protection and only applicable for 230 VAC, 50/60 Hz units.

### Model EFI, Frontier® Radioisotope™ Fume Hood Engineering Drawing

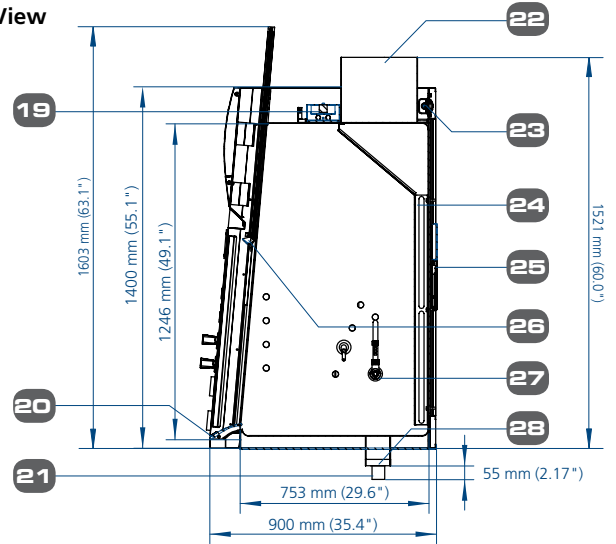
#### Top View



#### Front View



#### Side View



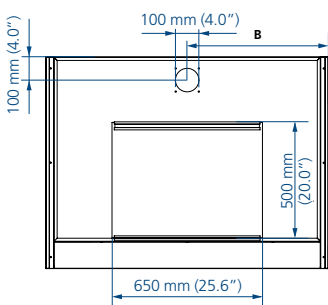
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|---|--|
| 1. Electrical Junction Box  | 15. Provision for additional service fixtures            |
| 2. Service Fixture Pass-Through   | 16. Sash stop  |
| 3. Light Box  | 17. Electrical Outlet                                    |
| 4. Airflow Alarm Electronics Module<br>(only if optional airflow alarm installed) | 18. Acela™ shaped side vanes                             |
| 5. Gas Inlet  | 19. T5 fluorescent light                                 |
| 6. Exhaust Collar   | 20. Flush Airfoil  |
| 7. Sash Key Lock  | 21. SS 304 Cupsink                                       |
| 8. Provision for Additional Outlets   | 22. Cold water Inlet                                     |
| 9. Gas Fixture Remote   | 23. Chain Drive Sash, Chain and Axle                     |
| 10. Cold Water Fixture Remote   | 24. SS304 Baffle   |
| 11. Curved Removable Front Panel  | 25. Counter Weight                                       |
| 12. Tempered Laminated and Framed Sash Glass                                      | 26. Sash Handle  |
| 13. Provision for Sentinel™ XL Airflow Alarm                                      | 27. Enhanz™; 1 set Cold Water Fixture, 1 set Gas Fixture |
| 14. Light and Fan switch  | 28. SS 304 drip cup                                      |

#### Fume Hood Installation Requirements

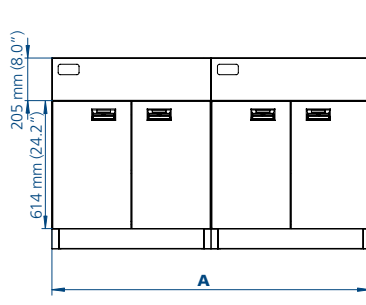
- Proper location (refer to Esco recommendations)
- Exhaust system capable of delivering airflow and pressure drop requirements
  - Exhaust ductwork and connection accessories
  - Exhaust blower (or building exhaust system)
- Contractor (if applicable)
- Means of adjusting exhaust flow (damper or frequency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

### Model EBA, Engineering Drawing of Base Cabinet for Frontier® Radioisotope™ Fume Hood

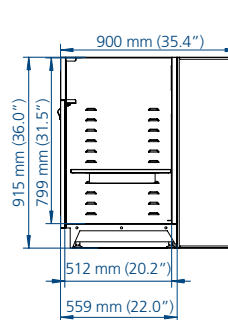
#### Top View



#### Front View



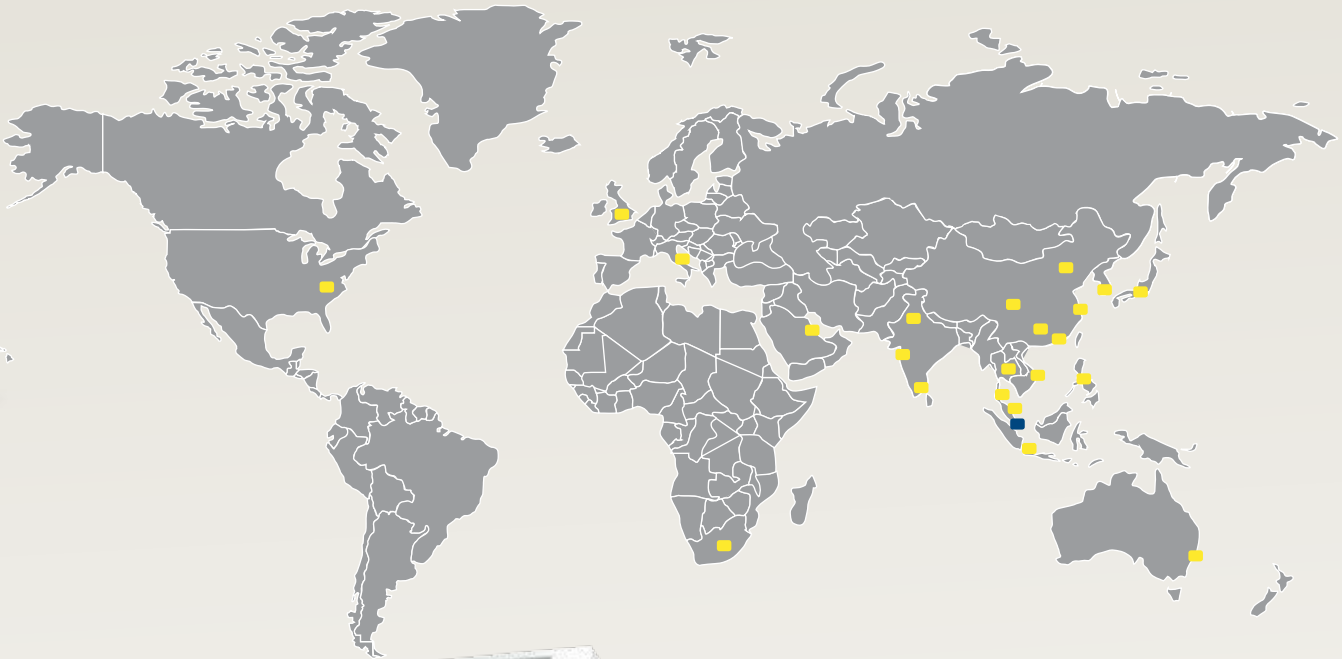
#### Side View



Model	A	B
EBA-4UDG-0 / EBA-4UDG-8	1220 mm (48.0")	610 mm (24.0")
EBA-5UDG-0 / EBA-5UDG-8	1525 mm (60.0")	381 mm (15.0")
EBA-6UDG-0 / EBA-6UDG-8	1830 mm (72.0")	457.5 mm (18.0")
EBA-8UDG-0 / EBA-8UDG-8	2440 mm (96.0")	381 mm (15.0")

\* Model EBA-UDG-0 is standard base cabinet without MCB/ELCB (MCB/ELCB panel is always mounted on the top right hand corner of base cabinet set)  
Model EBA-UDG-8 is with MCB/ELCB protection and only applicable for 230 VAC, 50/60 Hz units.

# ESCO GLOBAL NETWORK



- ART Equipment
- Biological Safety Cabinets
- CO<sub>2</sub> 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, fume hoods, ductless fume hoods, laminar flow clean benches, animal containment workstations, cytotoxic cabinets, hospital pharmacy isolators, and PCR cabinets 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](http://www.escoglobal.com).

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