

# Frontier<sup>®</sup> ACID DIGESTION™

## Acid Digestion Fume Hood

### Introduction

Esco Frontier Acid Digestion Fume Hood is designed to be used when performing acid digestion applications. This fume hood is not meant for perchloric acid applications.

This specialized fume hood can be built with unplasticised polyvinylchloride (u-PVC) or polypropylene (PP) internal surfaces (including the work surface) and a polycarbonate sash window. Acid digestion applications use very concentrated acids. Therefore u-PVC / PP interior liner is utilized due to its superior chemical resistance. Polycarbonate sash is used as glass is easily etched by hydrofluoric acid, a common acid used in such applications.

### Superstructure

- Tri-wall construction for maximum robustness.
- U-PVC / PP internal chamber.
- Chain and Sprocket Sash support system.
- Hood lighting is pre-wired. Lighting is electronically ballasted, energy efficient, instant start. Typical light intensity on work surface is >1076 lux in zero ambient conditions.
- U-PVC exhaust collar ensures superior chemical resistance.

### Safety Features

- Shaping vanes increase airflow “sweep” at the critical area at the sidewall to improve containment, especially when laboratory personnel walk past in front of the hood.
- Sash is made from polycarbonate to prevent hydrofluoric acid fume etching.
- Sash stop limits sash movement beyond 457mm (18.0”), ‘encouraging’ user to work at safe positions.
- When sash is raised above 457mm (18.0”), it will automatically and gently fall back to the safe level (Esco’s creep-down mechanism) unless held in place. This allows the sash to be raised tem-

porarily to the full open position for set up of equipment and apparatus in hood, while enforcing regular operation of the hood with lowered sash.

- The sash creep-down mechanism can only be disabled with a key. This permits the laboratory manager or safety officer to restrict operations at sash openings above 457 mm (18.0”).
- Sash key lock allows laboratory manager to restrict access to the fume hood.
- The sash can also be locked down in the fully closed position with the key, in the event of a fume hood fault, facility shutdown, or, simply to restrict access to equipment set up in the hood.
- Hot zone baffle system rapidly draws contaminants out of the fume hood work zone in a single pass displacement of air. With this feature, Thermal Heat Relief is quickly achieved.
- Aerodynamic foil entry provides maximum airflow to “sweep” the critical boundary layer near the work surface level to reduce turbulence and eliminate backflow.
- Ergonomic sash handle gently directs air into the hood without sacrificing visibility.

### Serviceability

- U-PVC / PP 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.
- Internal access panels on side walls facilitate access to plumbing connections for service especially when hoods are installed next to each other.
- Removable front panel facilitates easy access to lighting and other electrical components mounted above the hood chamber.



Esco Frontier Acid Digestion Fume Hood,  
Model EFQ-5UDCVW-8

## Safety Certified and Tested

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

- Each Frontier Acid Digestion Fume Hood is tested to comply with ASHRAE 110:1995 and EN14175-3 standards.
- 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.
- Base cabinetry is available for worktop requirements and additional storage area in the laboratory.

## Warranty

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

Guide to Models											
EFQ - 4 U D C V W - 8											
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>	u-PVC	<b>C</b>	Vertical	<b>V</b>	Esco White	<b>W</b>	230V, AC, 50/60Hz	<b>8</b>
1525 mm (60.0")	<b>5U</b>			Polypropylene	<b>P</b>	Combination	<b>C</b>			110-120V, AC, 50/60Hz	<b>9</b>
1830 mm (72.0")	<b>6U</b>										
2440 mm (96.0")	<b>8U</b>										

\* Combination Sash not available for EFQ-8UDC\_W-\_ model.

## General Specifications, Frontier Acid Digestion Fume Hoods

Model	EFQ-4UD_ _W-8	EFQ-5UD_ _W-_	EFQ-6UD_ _W-_	EFQ-8UD_ _W-_		
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)	1220 x 900 x 1644 mm 48.0" x 35.4" x 64.7"	1525 x 900 x 1644 mm 60.0" x 35.4" x 64.7"	1830 x 900 x 1644 mm 72.0" x 35.4" x 64.7"	2440 x 900 x 1644 mm 96.0" x 35.4" x 64.7"		
Internal Dimensions (W x D x H)	996 x 672 x 1240 mm 39.2" x 26.5" x 48.8"	1301 x 672 x 1240 mm 51.2" x 26.5" x 48.8"	1606 x 672 x 1240 mm 63.2" x 26.5" x 48.8"	2216 x 672 x 1240 mm 87.2" x 26.5" x 48.8"		
Maximum Sash Opening	740 mm (29.1")					
Exhaust Volume/Static Pressure Required	Face Velocity	Sash Opening				
	0.3 m/s (60 fpm)	Design Opening: 457 mm (18.0")	542 cmh @ 7 Pa 319 cfm @ 0.03" WG	705 cmh @ 9 Pa 415 cfm @ 0.04" WG	867 cmh @ 12 Pa 510 cfm @ 0.05" WG	1192 cmh @ 8 Pa 702 cfm @ 0.03" WG
	0.4 m/s (80 fpm)	Design Opening: 457 mm (18.0")	723 cmh @ 13 Pa 425 cfm @ 0.05" WG	939 cmh @ 17 Pa 553 cfm @ 0.07" WG	1156 cmh @ 20 Pa 681 cfm @ 0.09" WG	1590 cmh @ 14 Pa 936 cfm @ 0.06" WG
	0.5 m/s (100 fpm)	Design Opening: 457 mm (18.0")	903 cmh @ 20 Pa 532 cfm @ 0.09" WG	1174 cmh @ 26 Pa 691 cfm @ 0.11" WG	1445 cmh @ 28 Pa 851 cfm @ 0.12" WG	1987 cmh @ 22 Pa 1170 cfm @ 0.09" WG
	0.3 m/s (60 fpm)	Full Open: 736 mm (29.0")	642 cmh @ 13 Pa 378 cfm @ 0.06" WG	834 cmh @ 17 Pa 491 cfm @ 0.07" WG	1027 cmh @ 22 Pa 605 cfm @ 0.09" WG	1412 cmh @ 14 Pa 831 cfm @ 0.06" WG
	0.4 m/s (80 fpm)	Full Open: 736 mm (29.0")	856 cmh @ 23 Pa 504 cfm @ 0.10" WG	1113 cmh @ 30 Pa 655 cfm @ 0.13" WG	1369 cmh @ 39 Pa 806 cfm @ 0.17" WG	1883 cmh @ 25 Pa 1108 cfm @ 0.11" WG
0.5 m/s (100 fpm)	Full Open: 736 mm (29.0")	1070 cmh @ 36 Pa 630 cfm @ 0.15" WG	1391 cmh @ 47 Pa 819 cfm @ 0.20" WG	1712 cmh @ 61 Pa 1008 cfm @ 0.26" WG	2354 cmh @ 40 Pa 1385 cfm @ 0.17" WG	
Exhaust Outlet Diameter	305 mm (12.0")					
Number of Exhaust Collars	1	1	1	2		

\* When sash is in full open position, total height of fume hood is 1644 mm (64.7"). Please ensure sufficient ceiling height clearance is available.

## General Specifications, Base Cabinet for Frontier Acid Digestion Fume Hoods

Model*	EBA-4UDG-0 / EBA-4UDG-8	EBA-5UDG-0 / EBA-5UDG-8	EBA-6UDG-0 / EBA-6UDG-8	EBA-8UDG-0 / EBA-8UDG-8
Nominal Size	1220 mm (24")	1525 mm (60.0")	1830 mm (72")	2440 mm (96")
External Dimensions (W x D x H)	1220 x 849 x 915 mm 48.0" x 33.4" x 36.0"	1525 x 849 x 915 mm 60.0" x 33.4" x 36.0"	1830 x 849 x 915 mm 72" x 33.4" x 36.0"	2440 x 849 x 915 mm 96" x 33.4" x 36.0"
Net Weight	76 kg (167 lbs)	115 kg (253 lbs)	140 kg (309 lbs)	160 kg (353 lbs)
Shipping Weight	80 kg (176 lbs)	121 kg (267 lbs)	140 kg (309 lbs)	160 kg (353 lbs)
Shipping Dimensions, maximum (W x D x H)	1350 x 750 x 1150 mm 53.1" x 29.5" x 45.3"	1650 x 750 x 1150 mm 65.0" x 29.5" x 45.3"	1950 x 750 x 1150 mm 76.8" x 29.5" x 45.3"	2590 x 1020 x 1100 mm 102.0" x 40.2" x 43.3"

\* Model EBA-\_\_\_-0 is standard base cabinet without MCB/ELCB

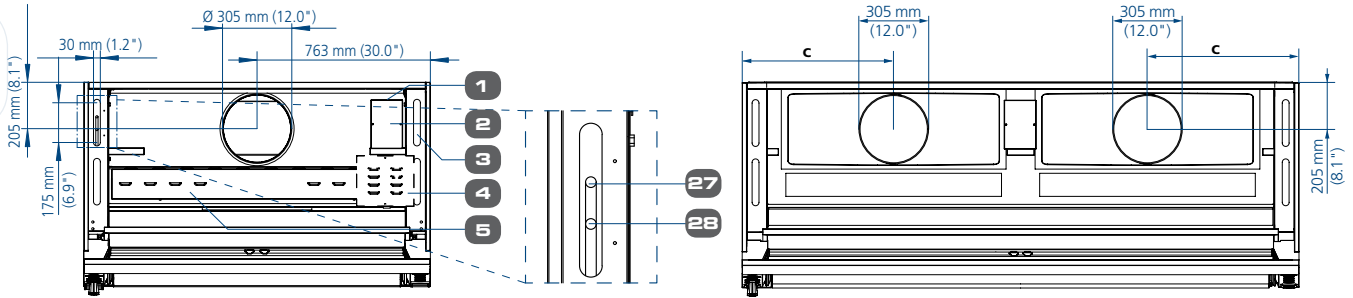
Model EBA-\_\_\_-8 is with MCB/ELCB protection and only applicable for 230VAC, 50/60Hz units. MCB/ELCB panel is always mounted on the top right hand corner of base cabinet set.

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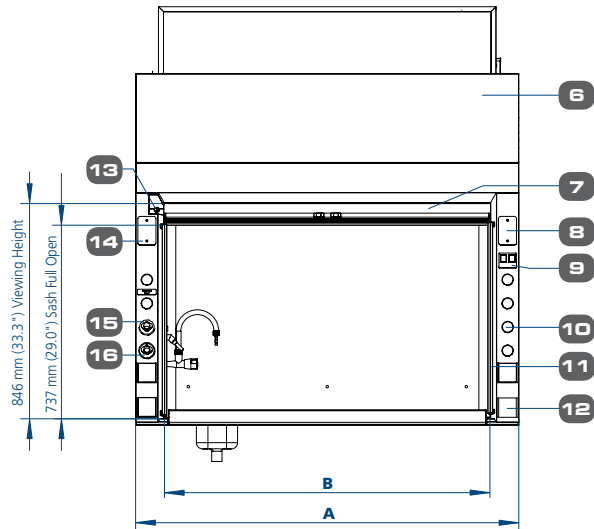
Fume Hood • Frontier Acid Digestion Fume Hood

# Model EFQ, Frontier Acid Digestion Fume Hood Technical Specifications

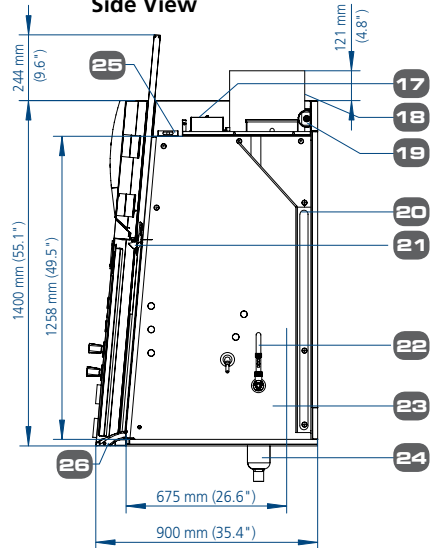
## Top view



## Front View



## Side View



1. Power Inlet
2. Electrical junction box
3. Service fixture pass thru
4. Airflow alarm electronics module (only if optional Sentinel XL Airflow Alarm installed)
5. Light box
6. Curved removable front panel
7. Polycarbonate sash material and plastic frame
8. Provision for airflow alarm (Sentinel XL)
9. Light and fan switch
10. Provision for additional service
11. Shaped side vane
12. Electrical outlet(s)
13. Sash keylock (lock sash at fully open and fully close)
14. Provision for additional outlets
15. Gas fixture remote
16. Cold water fixture remote
17. Energy-efficient T5 Fluorescent light
18. Fiberglass exhaust collar
19. Chain drive sash, chain and axle
20. Hot Zone Baffles™ minimize roll, Removable
21. Aerodynamic full length sash handle
22. Enhanz™ service fixture, powder coat finished CW (Cold Water) 1 set, gas(Gas) 1 set
23. White u-PVC / PP internal liner
24. Drainage system with 2" BSPT or NPT (for proper installation usually connected to bottle trap 2" BSPT or NPT)
25. Functionally robust Bypass™ (minimizes contaminants behind sash)
26. Flush airfoil, hinged for cleaning, spillage containment 0.4 Litres/0.1 gallons
27. Cold water inlet pipe
28. Gas inlet pipe

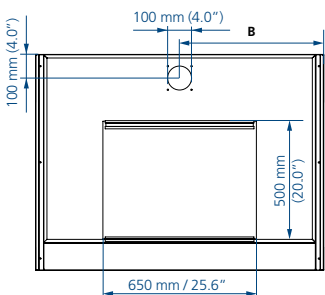
Fume Hood Dimensional Data			
Model	A	B	C
EFQ-4UD_W	1220 mm (48.0")	996 mm (39.0")	610 mm (24.0")
EFQ-5UD_W	1525 mm (60.0")	1301 mm (51.0")	762.5 mm (30.0")
EFQ-6UD_W	1830 mm (72.0")	1606 mm (63.0")	915 mm (36.0")
EFQ-8UD_W	2440 mm (96.0")	2216 mm (87.0")	664 mm (26.0")

**Fume Hood Installation Requirements**

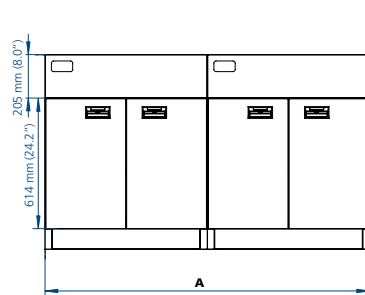
- Proper location (refer to Esco recommendations)
- Exhaust system capable of delivering airflow and pressure drop requirements
  - Exhaust ductwork and connection accessories
  - Exhaust blower (or building exhaust system)
  - Contactor (if applicable)
  - Means of adjusting exhaust flow (damper or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

# Model EBA, Technical Specifications of Base Cabinet for Frontier Acid Digestion Fume Hood

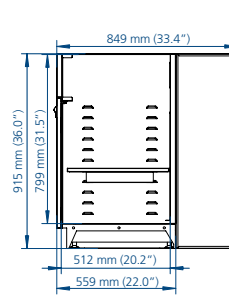
## Top View



## 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")	458 mm (18.0")
EBA-8UDG-0 / EBA-8UDG-8	2440 mm (96.0")	610 mm (24.0")



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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  
[www.escoglobal.com](http://www.escoglobal.com) • [usa@escoglobal.com](mailto: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](mailto:mail@escoglobal.com)  
[www.escoglobal.com](http://www.escoglobal.com)

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