

Frontier® ACID DIGESTION™

Acid Digestion Fume Hood



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

Introduction

Esco Frontier® Acid Digestion™ Fume Hood is designed to handle concentrated acids at high temperatures. This specialized fume hood can be built with unplasticized polyvinylchloride (u-PVC) or polypropylene (PP) internal surfaces which are known for its superior chemical resistance. Sash is made of polycarbonate material to prevent etching caused by Hydrofluoric Acid.

Superstructure

- Tri-wall construction for maximum robustness.
- U-PVC / PP internal chamber.
- Chain and Sprocket Sash support system.
- Energy-efficient hood lighting through a pre-wired, electronic ballast. Typical light intensity on work surface is 930 lux in zero ambient condition.
- U-PVC exhaust collar ensures superior chemical resistance.
- Standard service fixtures included: 1 remote-controlled water fixture, 1 remote-controlled gas fixture and 1 Polypropylene drip cup.
- Four (4) single electrical outlets with splash-proof cover are provided.

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 stop feature limits movement beyond 457 mm (18") to maintain a safe working condition for the user.
- When sash is raised above 457 mm (18"), Esco's creep down mechanism automatically and gently returns the sash down to a safe level.
- Sash key lock feature allows laboratory managers to restrict access to the fume hood.
- Hot zone baffle system rapidly draws contaminants out of the fume hood's work zone, thereby, facilitating quick thermal heat relief.
- Aerodynamic airfoil design aids in the efficient flow of air towards the hood. It also helps reduce turbulence and eliminate back flow.
- 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.
- Accessible panels on the side walls facilitate plumbing connections while removable front panel facilitates easy access to lighting and other electrical components.

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.
- UL1805 Listed
- Sash is clearly labeled with all operating instructions and illustrations.

Accessories and Options

- Esco offers a variety of options and accessories such as: Sentinel™ XL Airflow Alarm Kit, distillation grids, drip cups and ventilation kits.
- Additional service fixtures and electrical outlets may be installed.
- 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.

This type of fume hood is not suitable for Perchloric Acid applications. A built-in wash down system is required for applications involving Perchloric Acid (see Esco Frontier Perchloric Acid Fume Hood brochure).

Guide to Models

EFQ - - - - - - - - - - - -

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

* Combination Sash not available for EFQ-8UDC_W-_ model.

General Specifications, Frontier® Acid Digestion™ Fume Hoods

Model		EFQ-4UDCCW-8 2090239				EFQ-5UDCCW-8 2090245				EFQ-6UDCCW-8 2090212				EFQ-8UDCVW-8 2040191							
		220-240 VAC, 50-60 Hz, 1Ø	EFQ-4UDPCW-8 2090030				EFQ-5UDPCW-8 2090022				EFQ-6UDPCW-8 2090031				EFQ-8UDPCW-8 2090037						
110-120 VAC, 50-60 Hz, 1Ø	EFQ-4UDCVW-8 2090066				EFQ-5UDCVW-8 2090246				EFQ-6UDCVW-8 2090264				EFQ-8UDCVW-8 2090038								
	EFQ-4UDPVW-8 2090035				EFQ-5UDPVW-8 2090036				EFQ-6UDPVW-8 2090037				EFQ-8UDPVW-8 2090038								
	EFQ-4UDCCW-9 2090201				EFQ-5UDCCW-9 2090534				EFQ-6UDCCW-9 2090535				EFQ-8UDCVW-9 2090327								
	EFQ-4UDPCW-9 2090538				EFQ-5UDPCW-9 2090539				EFQ-6UDPCW-9 2090540				EFQ-8UDCVW-9 2090327								
EFQ-4UDCVW-9 2090050				EFQ-5UDCVW-9 2090536				EFQ-6UDCVW-9 2090537				EFQ-8UDCVW-9 2090537									
EFQ-4UDPVW-9 2090328				EFQ-5UDPVW-9 2090541				EFQ-6UDPVW-9 2090270				EFQ-8UDPVW-9 2090542									
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 1400 mm (96.1" x 35.4" x 55.1")					
		With Exhaust Collar		1220 x 900 x 1460 mm (48.0" x 35.4" x 57.5")				1525 x 900 x 1460 mm (60.0" x 35.4" x 57.5")				1830 x 900 x 1460 mm (72.0" x 35.4" x 57.5")				2440 x 900 x 1460 mm (96.1" x 35.4" x 57.5")					
		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 675 x 1230 mm (39.2" x 26.6" x 48.4")				1301 x 675 x 1230 mm (51.2" x 26.6" x 48.4")				1606 x 675 x 1230 mm (63.2" x 26.6" x 48.4")				2216 x 675 x 1230 mm (96.1" x 26.6" x 48.4")							
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)				705 cmh at 9 Pa (415 cfm at 0.04" WG)				867 cmh at 12 Pa (510 cfm at 0.05" WG)				1192 cmh at 8 Pa (702 cfm at 0.03" WG)			
		0.4 m/s (80 fpm)				722 cmh at 13 Pa (425 cfm at 0.05" WG)				940 cmh at 17 Pa (553 cfm at 0.07" WG)				1156 cmh at 20 Pa (681 cfm at 0.09" WG)				1590 cmh at 14 Pa (936 cfm at 0.06" WG)			
		0.5 m/s (100 fpm)				904 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		Vertical or Combination				Vertical only															
Number of Exhaust Collars		1				2															
Fluorescent Lamp Intensity		930 lux (86.3 foot-candles)				915 lux (85 foot-candles)				886 lux (886 foot-candles)				931 lux (86.5 foot-candles)							
Construction		Main Body		Electrogalvanized steel with Epoxy-polyester hybrid Isocide™ powder coating																	
		Internal Liner		u-PVC				u-PVC				u-PVC				u-PVC					
		Worktop		u-PVC or Polypropylene																	
Sash Specification		Sash Material		Polycarbonate																	
		Sash Configuration		Vertical or Combination																	
		Sloping		5°																	
		Maximum Sash Opening		740 mm (29.1")																	
Electrical		Cabinet Full Load Amps (FLA)		32 A																	
		Cabinet Nominal Power		100 W (lighting only)																	
Shipping Weight*		263 Kg (580 lbs)				314 Kg (692 lbs)				363 Kg (800 lbs)				472 Kg (1041 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.

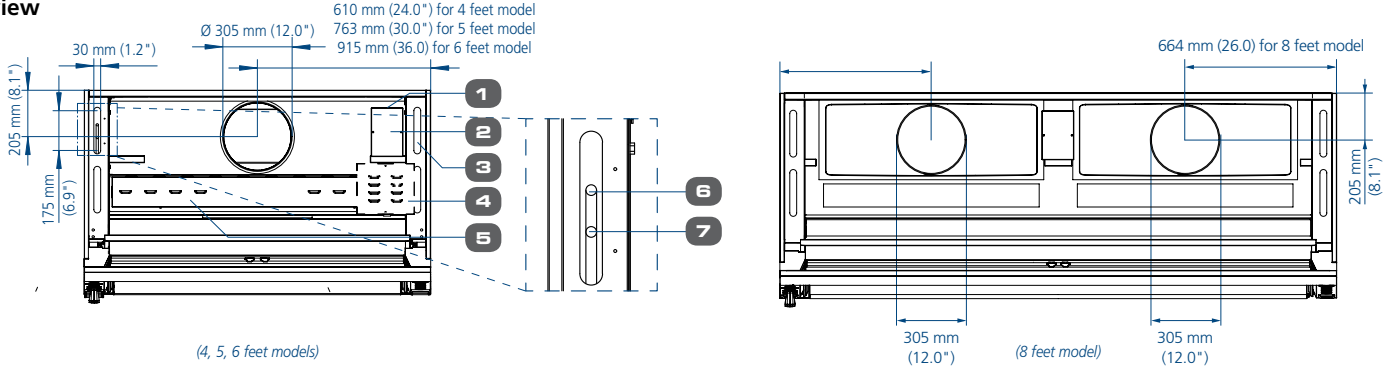
General Specifications, Base Cabinets for Frontier® Acid Digestion™ Fume Hoods

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")	

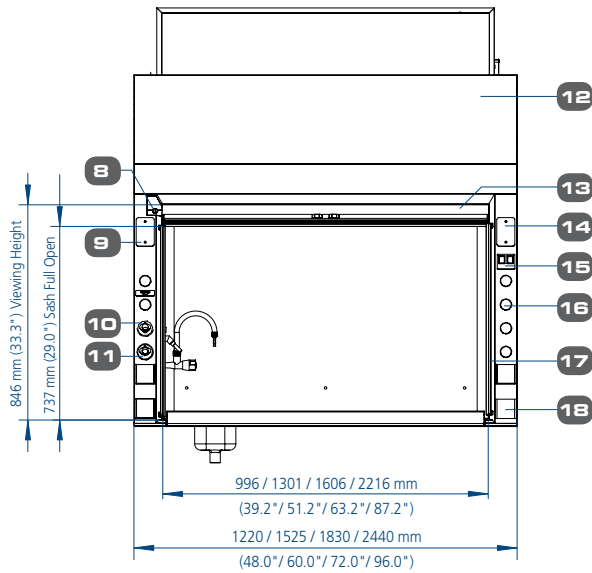
*Model EBA-_UDG-0 is standard base cabinet without MCB/ELCB (MCB/ELCB panel is always mounted on the top right hand corner of base cabinet set)
Model EBA-_UDG-8 is with MCB/ELCB protection and only applicable for 230 VAC, 50/60 Hz units.

Model EFQ, Frontier® Acid Digestion™ Fume Hood Engineering Drawing

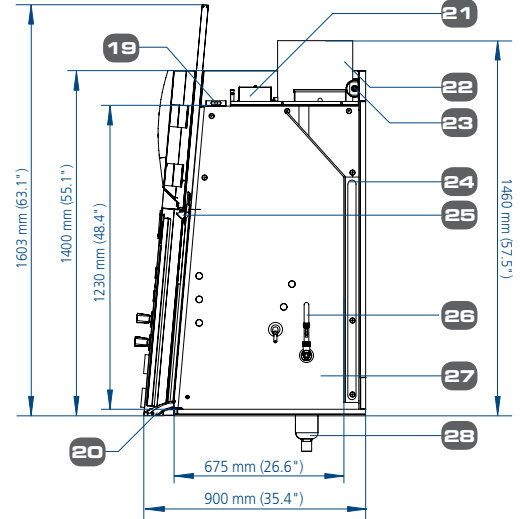
Top View



Front View

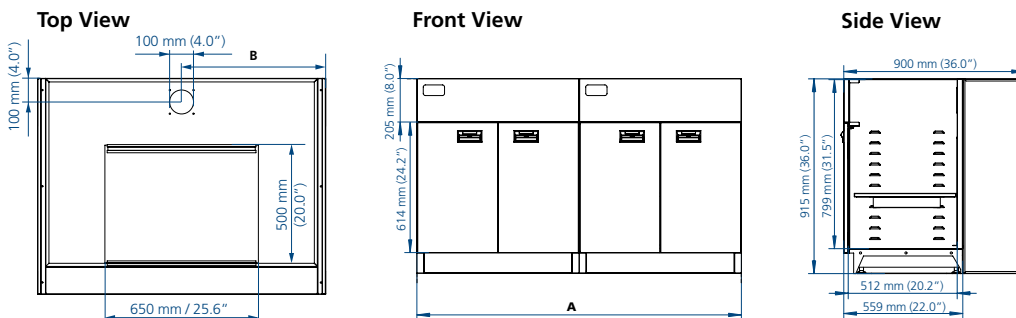


Side View



- | | | |
|--|--|---|
| 1. Power Inlet | 12. Curved removable front panel | 22. Fiberglass exhaust collar |
| 2. Electrical junction box | 13. Polycarbonate sash material with plastic frame | 23. Chain drive sash, chain and axle |
| 3. Service fixture pass-throughs | 14. Provision for Sentinel™ XL Airflow Alarm | 24. Removable Hot Zone Baffles™ |
| 4. Airflow alarm electronics module (only if optional Sentinel™ XL Airflow Alarm is installed) | 15. Light and fan switch | 25. Sash handle |
| 5. Light box | 16. Provision for additional service fixtures | 26. Enhance™: 1 set Cold Water Fixture, 1 set Gas Fixture |
| 6. Cold water inlet pipe | 17. Shaped side vanes | 27. White u-PVC / PP internal liner |
| 7. Gas inlet pipe | 18. Electrical outlet(s) | 28. Drip Cup |
| 8. Sash keylock (lock sash at fully open and fully close) | 19. Robust Bypass™ | |
| 9. Provision for additional outlets | 20. Flush airfoil | |
| 10. Gas fixture remote | 21. T5 Fluorescent Light | |
| 11. Cold water fixture remote | | |

Model EBA, Engineering Drawing of Base Cabinet for Frontier® Acid Digestion™ Fume Hood



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")

*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.

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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.

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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 Technologies, Inc. • 903 Sheehy Drive, Suite F, Horsham, PA 19044, USA
Toll-Free USA and Canada 1-877-479-3726 • Tel 215-441-9661 • Fax 484-698-7757
eti.sales@escoglobal.com • www.escolifesciences.us

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