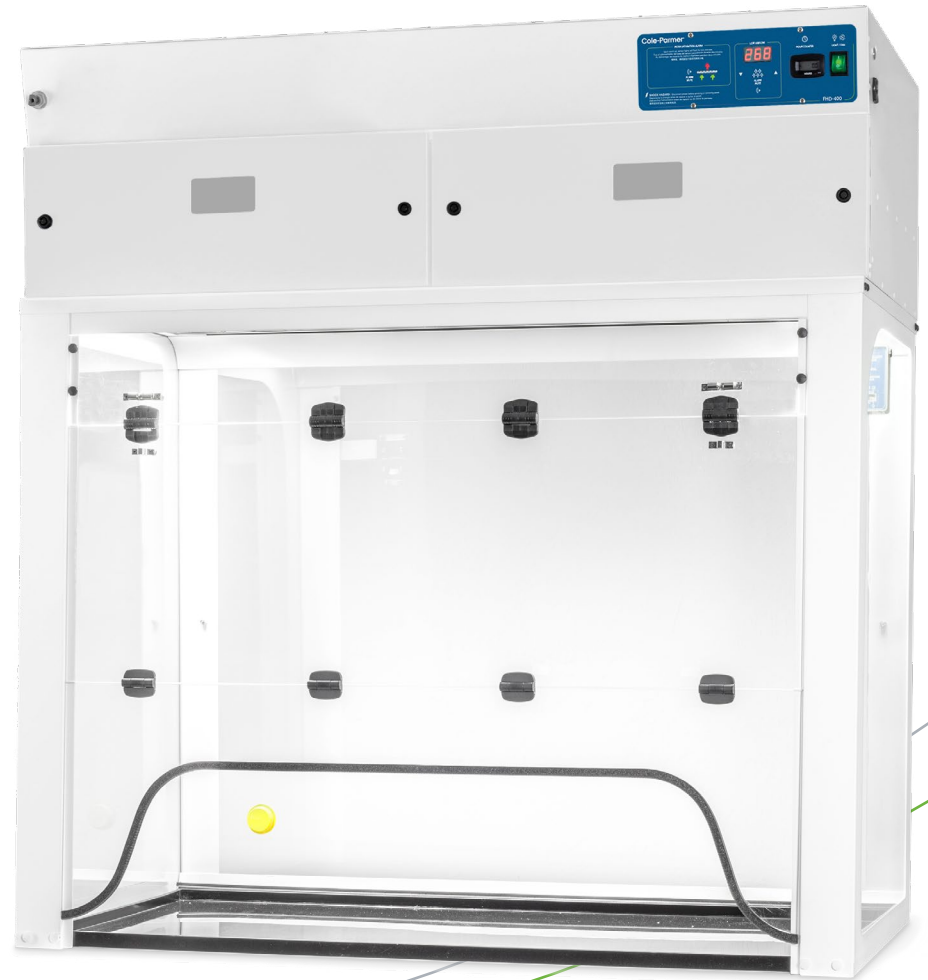


## Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400 Series

- Premium features and high performance for demanding applications



# Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400 Series

## Introduction

Advanced FHD-400 Series ductless fume hoods are designed to protect the user and the environment from hazardous vapors generated on the work surface.



37–118 watt<sup>1</sup>

*The single EC blower motor assures lower cost of ownership in one of the world's most energy efficient ductless*

## Applications

Using innovative filtration technology, the FHD-400 Series creates a safe work environment over the widest range of applications in the industry.

Compounding \ Balance Enclosures, Microscopes and Robotic Equipment \ Forensics \ Histology \ Educational \ Microscopy \ Mobile and Classroom Demonstrations \ Pharmaceutical \ Powder Fingerprinting \ Powder Weighing \ Sample Prep Work \ Soldering \ Solvent Cleaning and Welding \ Veterinary \ Dental



## Key features

- High operator protection to fume and particle hazards.
- Improved clamping eliminates bypass leakage.
- Filter blockage alarm.
- Polypropylene work surface (stainless steel optional).
- High capacity filters for more demanding applications.

## Performance advantages

### The Eco-Friendly Choice

Advanced carbon filtration technology offers a safe, high performance alternative to conventional ducted fume hoods for a broad range of applications.

**Environmental Benefits.** Cole-Parmer® ductless fume hoods isolate and trap chemical vapors to prevent ecological impact through release into the environment.

**Versatile.** Each filtration system is selected for its specific application. Carbon filters are available in many configurations for use with vapors of organic solvents, acids and formaldehyde. HEPA/ULPA filters can be added for biological safety.

**Easy to Install.** The ductless fume hood is self-contained and does not require venting to the outside. Many units are portable and may be moved with minimal downtime and without filter changes. Set-up, operation, and filter maintenance are straightforward.

**Energy Efficient.** Because filtered air is returned to the room, no demands are required of the facility HVAC capacity for make-up air.

**Cost Effective.** Facility ductwork, HVAC and construction costs are eliminated.

**Safe to Use.** Cabinet airflow and face velocity protect users from incidental exposures to fumes.

**Self-Testing.** (select models) Electronic airflow monitoring assures continuous safety. An electronic gas sensor monitors carbon filter performance.



*Advanced FHD-400 Series ductless fume hood*

# Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400 Series



## Design Features

- A.** Filter I.D. Window: A convenient, strategically placed front cover window shows the installed filter part number and installation date to encourage timely filter replacement.
- B.** Control Panel: Electronic controls and displays include switches for the blower and filter blockage alarm.
- C.** Filter Blockage Alarm: Continuously monitors filter loading and alerts user when service is needed.
- D.** Air Velometer: An analog air velocity meter is positioned in the user's field of vision.
- E.** Steel Support Frame: The chemical resistant epoxy coated steel frame adds mechanical strength.
- F.** Hinged Front Sash: When closed, the cabinet sash protects the contents from inadvertent external contact and better isolates the air within. The sash is easy to open and close.
- G.** Work Surface: The internal work surface can be fitted with an optional polypropylene or stainless steel tray; see accessories.
- H.** Pass Through Ports: Electrical cords and cables are safely routed into the cabinet through ports on the back.
- I.** Electrostatic Pre-Filter: The electrostatic pre-filter is accessible from inside the chamber and 91% effective down to 1-3 microns.
- J.** Filter Door Key: Filter access keys prevent unauthorized removal or accidental exposure to dirty filters.
- K.** Dynamic Filtration Chamber: The dynamic filter chamber prevents any possible leakage of contaminated air by pressurizing the fan plenum (positive air) and depressuring the filter compartment (negative air).

- L.** Internal Manual Speed Controller: Authorized personnel may set the EC motor speed as desired.
- M.** Stand: Optional mobile cart with locking casters.
- N.** Safety Filter: The optional carbon or HEPA/ULPA safety filter adds an additional layer of protection.
- O.** Air Sampling Port: A filtered air sampling port allows manual filter monitoring.
- P.** Track & Wheel System: The filter glides in on a wheel and track system, then clamps tightly against the filter gasket to prevent filter tears and maintain filter integrity.

## Additional Features

**360 Degree Visibility:** Clear acrylic back and side panels allow ambient illumination into the chamber and provide users with an unobstructed view of its contents.



39 watt<sup>1</sup> FHD-400, shown with optional stainless steel spill tray and mobile cart.

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# Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400 Series

Each Cole-Parmer fume hood includes features expressed through sound design and certified quality construction. Options and accessories add functional performance to meet specific applications.

## Performance

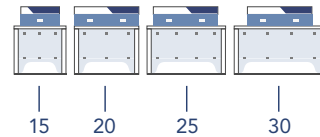
The Cole-Parmer filters offers a range of options for high performance protection.

- Filter configuration permits a customized combination of filter media for a broad range of chemical families and biological agents if required.
- A high capacity air handling system delivers face velocity of 100 fpm.

## Design

Professional quality Cole-Parmer fume hoods comply with current technical and safety regulations. The cabinet frame and work surfaces, comprised of industrial components, are durable and chemically resistant.

The Cole-Parmer filter assembly is easy to access, easy to change, plus a unique filter clamping design eliminates bypass leakage outside the cabinet.



## Selection

Advanced products are available in 7 standard sizes, in metal or polypropylene construction, totaling 14 standard models.

## Reliability

Internal systems are isolated from fumes, extending product life.



FHD-400 Control Panel



**Energy-efficient EC blowers** promote long life and dependable performance of FHD-400 Advanced fume hoods.

# Cole-Parmer® Advanced Ductless Fume Hoods - FHD-400 Series

## Filtration

At the heart of the HD-400 product line is innovative filtration technology. The Filtration System consists of a pre-filter, main activated carbon or HEPA/ULPA filter and safety activated carbon or HEPA/ULPA filter. The system permits a customized combination of filter media and configuration for chemical and physical adsorption specific to each application need.

The Cole-Parmer **carbon filtration technique** is based on enhanced, activated carbon particle formulations from specially selected, naturally occurring raw material that is superior to wood or other organic sources. The carbon is treated to attain the proper porosity and aggregate surface area and to react with several ranges of aerosolized chemicals moved through the filter by an air handling blower.

## Filter Configuration

The FHD-400 Series feature permits one or more filtration options to be combined to meet a wider range of multiple-use applications.

The FHD-400 Series can be equipped with a single activated carbon main filter or with a stacked configuration which combines two main filters, each activated to adsorb one or more specific vapors or family of vapors. For safety against particulates, an optional HEPA or ULPA can also be added. When used with a HEPA/ULPA filter, the ductless fume hood may be applied as a Class I Biological Safety Cabinet.

The carbon filter is sized to fit the specified product model number and configured to optimize airflow across 100% of the filter surface area. The self-contained assembly maximizes filter efficiency, prolongs filter life, optimizes diffusion and saturation and improves user safety.

- P.** Electrostatic Pre-Filter: Protects the main filters from aerosols, mists, dust and particulates.
- C.** Activated Carbon Main Filter: A single, blended, or stacked filter configuration.
- H.** HEPA/ULPA Filter, Optional: Both HEPA and ULPA filters use micro-glass fiber media designed to capture fine particles and biologicals. Both filters can capture particles smaller than the micron size for which they are tested. HEPA and ULPA filter efficiencies are

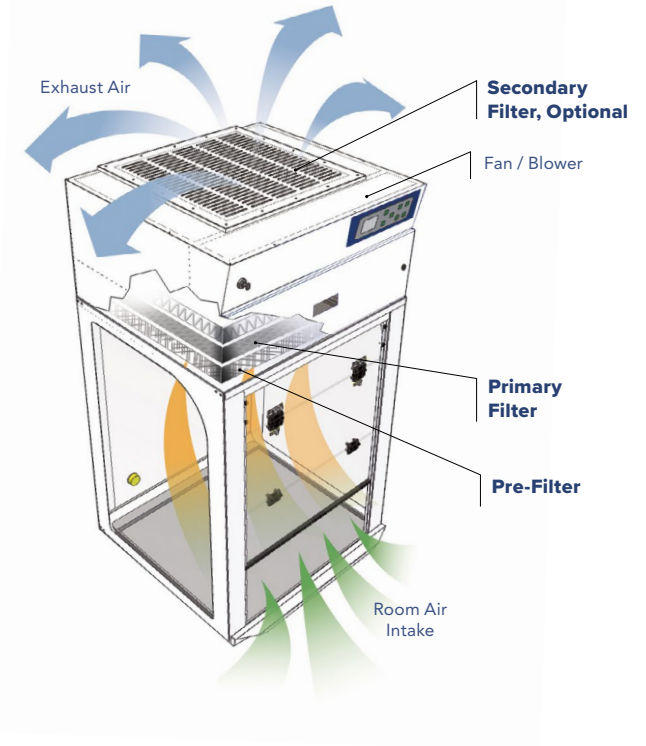
## Airflow

The FHD-400 Series ductless fume hood maintains a constant face velocity of 100 fpm in compliance with USA and international standards for safety and performance. Contaminated air is pulled through the Multiplex filtration system; clean air is returned to the room.

**The main filters** are easy to replace and install. The filter clamps tightly against the filter gasket to prevent filter bypass and maintain filter integrity.

**⚠ The pre-filter** may be replaced while unit is in operation.

**The safety filter** is easy to replace and enhances filter capacity of the hood.



FILTRATION SYSTEM, SUMMARY

Application	Chemical	Powder/ Biological	Chemical & Powder	Chemical within Cleanroom
<b>Secondary/ Stacked Filter, Optional</b>	C	H	H or C	H
<b>Primary Filter</b>	C	H	H C	H C
<b>Pre-Filter</b>	P	P	P	P

# Cole-Parmer® General Application Ductless Fume Hoods Specifications

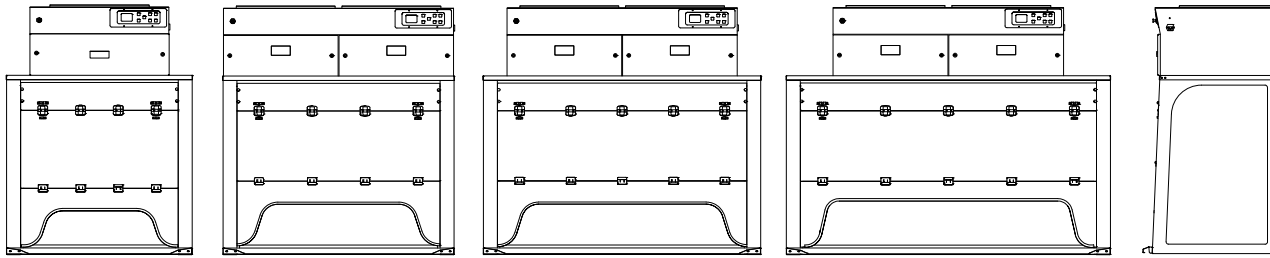
FHD-400: 78902-20

FHD-400: 78902-22

FHD-400: 78902-24

FHD-400: 78902-26

Side View



Model	Dimensions			Weight (LBS/KG)	
	Internal Height	External (W × D × H)	Shipping (W × D × H)	Net	Ship

**Tall Models**

<b>78902-20</b> <b>78902-21</b>	38" / 965 mm	39" × 27.375" × 53" / 991 × 695 × 1346 mm	40" × 50" × 42" / 1016 × 1270 × 1067 mm	143 / 65	250 / 113
<b>78902-22</b> <b>78902-23</b>	38" / 965 mm	49" × 27.375" × 53" / 1245 × 695 × 1346 mm	55" × 60" × 42" / 1397 × 1524 × 1067 mm	216 / 98	325 / 147
<b>78902-24</b> <b>78902-25</b>	38" / 965 mm	59" × 27.375" × 53" / 1499 × 695 × 1346 mm	40" × 67" × 42" / 1016 × 1702 × 1067 mm	235 / 106	350 / 159
<b>78902-26</b> <b>78902-27</b>	38" / 965 mm	69" × 27.375" × 53" / 1753 × 695 × 1346 mm	40" × 80" × 42" / 1016 × 2032 × 1067 mm	315 / 143	400 / 181

# Cole-Parmer® General Application Ductless Fume Hoods Specifications

## Product Specifications

Filtration	78902-35	78902-36	78902-37	78902-38
Face Velocity	100 fpm	100 fpm	100 fpm	100 fpm
Finish	<... White epoxy coated steel frame and head unit. Clear sides and back panel. Polypropylene spill tray. ...>			
Blower	<... EC blower. ...>			
Controls	<... Main On/Off. ...>			
Electrical	<... 120V, 60Hz or 230V, 50Hz voltages available. Specify when ordering. Other voltage options available. ...>			
Monitoring	<... Filter blockage alarm, standard. ...>			

### Efficiency

Power Consumption <sup>2</sup>	39 watt	59 watt	60 watt	67 watt
Lighting	<... LED. ...>			

## Filter Summary\*

Model	Description
78902-35	The most widely used filter in the range, primarily for solvent, organic and alcohol removal.
78902-36	Designed to neutralize volatile inorganic acid vapors.
78902-38	Designed to oxidize formaldehyde and glutaraldehyde fumes; It is widely used in hospital pathology laboratories.
78902-37 HEPA	Powders and particulates.

\*Other formulas may be available.

## Filter Specifications

Model	78902-35	78902-36	78902-37	78902-38
Safety Filter, Optional*	(1)	(2)	(2)	(2)
Primary Filter(s)*	(1)	(2)	(2)	(2)
Pre-Filter*	(1)	(2)	(2)	(2)

# Cole-Parmer® Ductless Fume Hoods Warranty, Standards & Compliance

## Standards and compliance

Quality Management Systems	ISO 9001:2015
Electrical Safety	UL-C-61010-1 CAN/CSA C22.2 61010-1-12 EN 61010-1:2010 CE Mark UL Certification pending or not available for Models P30 and P40, or models equipped with optional Monitair controller.
OSHA, Occupational Safety and Health Administration	OSHA Standard -29 CFR, Safety and Health Regulations for General Industry, 1910.1450: Occupational exposure to hazardous chemicals in laboratories. Part B, definition, laboratory type hood. Please consult your Safety Officer and/or Industrial Hygienist.
Environment	ISO 14001:2015 ENERGY STAR® Partner

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