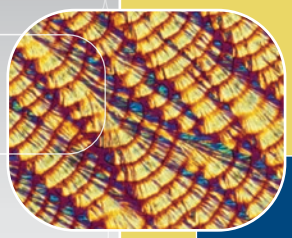


# Ascent™ Opti Formax

## Formalin Dispensing Ductless Fume Hood

*Esco Formalin Dispensing Ductless Fume Hood, Model SPF-4A_*

### Introduction

Formalin is widely used as a disinfectant, antiseptic and a fixative for histology. Due to its high volatility, formalin has a strong, irritating odor that causes discomfort to the user. Laboratory applications involving this noxious chemical can now be accomplished safely and economically with Esco Ascent™ Opti Formax. This ductless fume hood is capable of removing noxious odor and has a built-in formalin dispensing unit.

### Designed for Enhanced Usability and Efficiency

The Ascent™ Opti Formax is designed specifically to provide the operator with a high level of usability, comfort and visibility.

- 13° angled front sash ergonomically allows users to work further into the hood without strain, eliminating operator fatigue and increasing productivity.
- Transparent frameless acrylic front window and sides provide a high degree of visibility and operator comfort..
- Ergonomic oval-shaped apertures for hands in the front window allows for maximum reach within the work zone while providing the operator with extra protection from any possible chemical spillage.
- Curved front edge minimizes airflow turbulence and improves user comfort.
- Electronic ballast for the fluorescent lighting provides zero-flicker with increased energy efficiency, reliability and service life with a lower heat output.
- Pass-through for electrical and service connections on the back wall of the unit provide convenient access to power sources and other fixtures.
- Built-in swan-neck formalin fixture that can be remotely controlled by a foot pedal.

### Enhanced Filtration System

Esco's Nanocarb™ activated carbon filters are constructed in order to ensure maximum filter efficiency, retention capacity and operator protection. Esco's research scientists and engineers, working in consultation with world-leading authorities on adsorption science, have developed the following set of unique technologies:

- Optimized retention capacity.
- Generously sized filters with more activated carbon by weight retain more chemicals and last longer.
- Proprietary computer modelling software to predict application suitability, filter saturation capacity, and efficiency for single and multiple compounds.
- Quick-change out filter clamping mechanism allows filter replacements to be carried out with minimal tools; even filter clamping (perimeter, not point force) prevents leaks from occurring.
- Diffusion technology to ensure even filter loading and better airflow uniformity.
- Optional sensing technology (VOC sensor) is available as an aid to predict filter breakthrough and warn the user to change the filters.

### Highest Quality Construction

- Industrial-grade main body constructed of electro-galvanized steel: with an abrasion resistant white oven-baked powder-coated finish.
- Esco Isocide™ antimicrobial surface on all painted surfaces minimizes surface contamination.
- Permanently lubricated direct drive centrifugal fan(s); energy efficient external rotor motor type design reduces operating costs; extremely low noise and vibration levels due to proprietary construction and mounting technology.
- Industry exclusive baffle design for improved containment and efficient removal of chemical fumes from the work zone.

### Options and Accessories

The Formax is available with a number of options and accessories to meet your needs. These include:

- Transparent rear wall
- Base Cabinet with caster wheels
- Volatile Organic Compounds (VOC) sensor
- Fixtures


### Sentinel™ Silver Microprocessor Control, Alarm, Monitoring System

Esco's Sentinel™ Silver Microprocessor control systems supervises operation of all hood functions. The user-friendly microprocessor control system is fully configurable according to operator's requirements and comes equipped with a number of enhanced features to promote cabinet usability.

- Continuous monitoring of hood airflow is displayed on a bright, easy-to read LCD panel.
- Audible and visual alarms for low airflow.
- An integrated, temperature-compensated, true airflow velocity sensor provides an accurate airflow reading despite room temperature fluctuation.
- An administrator-controlled PIN (Personal Identification Number) can be set to restrict access to main menu.
- The airflow alarm can be activated or deactivated depending on user preference and nature of the work.

## Guide to Models

S P F - _ _ _

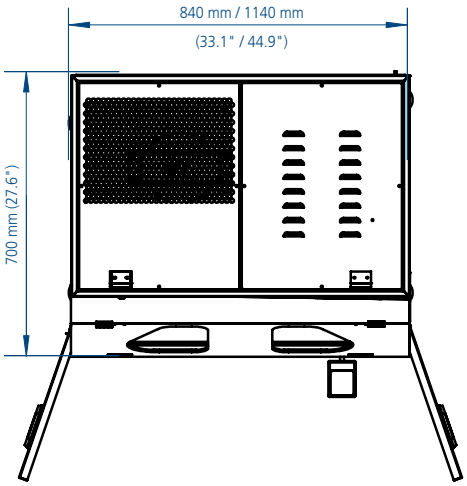
| External Width | Code | Back Wall Construction | Code | Electrical Rating | Code |
|---|---|---|---|---|---|
| 33.1" (3 ft) | 3 | EG steel | A | 220-240 VAC, 50 Hz | 1 |
| 44.9" (4 ft) | 4 | Acrylic (transparent back wall) | B | 115 VAC, 60 Hz | 2 |
| | | | | 220-240 VAC, 60 Hz | 3 |

## General Specifications

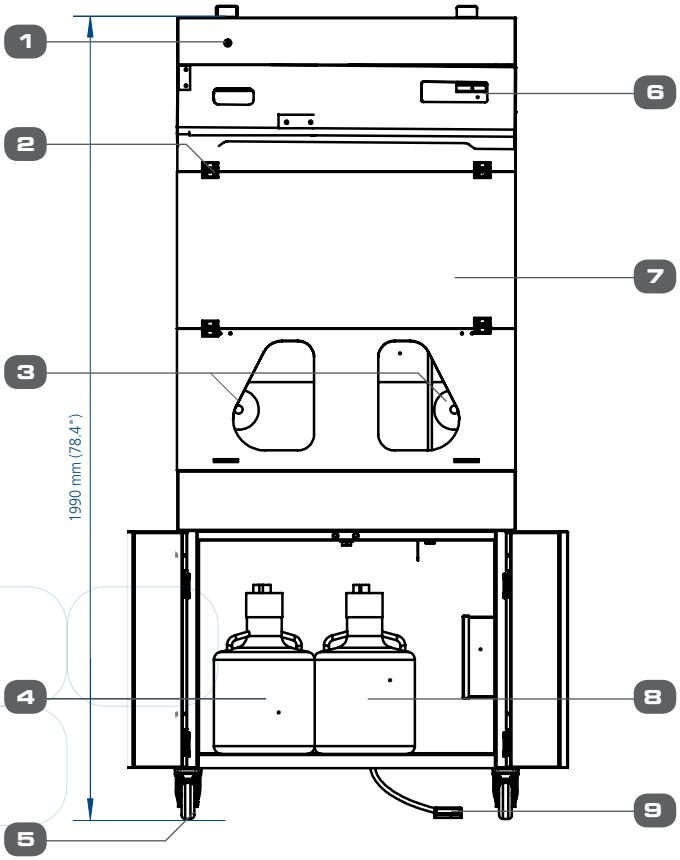
| | | | | | |
|---|---|---|---|---|---|
| Model | 220-240 VAC, 50 Hz | SPF-3A1 2040217 | SPF-3B1 2040219 | SPF -4A1 2040221 | SPF -4B1 2040223 |
| | 115 VAC, 60 Hz | SPF-3A2 2040218 | SPF-3B2 2040220 | SPF -4A2 2040222 | SPF -4B2 2040224 |
| | 220-240 VAC, 60 Hz | SPF-3A3 2040276 | SPF-3B3 2040277 | SPF -4A3 2040278 | SPF -4B3 2040279 |
| Nominal Size | | 0.9 meter (3') | | 1.2 meter (4') | |
| External Dimensions* (W x D x H) | | 840 x 700 x 1125 mm (33.1" x 27.6" x 44.3") | | 1140 x 700 x 1125 mm (44.9" x 27.6" x 44.3") | |
| Internal Dimensions (W x D x H) | | 820 x 651 x 829 mm (32.3" x 25.6" x 32.6") | | 1116 x 651 x 829 mm (43.9" x 25.6" x 32.6") | |
| Cabinet Construction | Side Walls | 9.5 mm Acrylic Glass | | | |
| | Rear Wall | Powder Coated EG Steel | Transparent Acrylic Glass | Powder Coated EG Steel | Transparent Acrylic Glass |
| | Main Body | 1.2 mm 18 gauge electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder coated finish | | | |
| Sash Specification | Work Top | 1.5 mm 16 gauge stainless, type 304 with 4B finish | | | |
| | Sash Material | 6 mm Acrylic Glass | | | |
| | Sash Configuration | Hinged, with arm ports | | | |
| | Sloping | 13° | | | |
| Filtration System | Pre-filter | Disposable, non-washable polyester fiber, 85% arrestance, EU3 rated | | | |
| | Main Filter | Activated Carbon for Formalin and Aldehyde, Code F | | | |
| | Numbers of Filters | 1 | | 2 | |
| Base Cabinet | Dimension (W x D x H) | 840 x 700 x 860 mm (33.1" x 27.6" x 33.9") | | 1140 x 700 x 860 mm (44.9" x 27.6" x 33.9") | |
| | Main Body | Electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder coated finish | | | |
| Fluorescent Light Intensity | | 350 Lux (28 foot-candles) at work surface level | | | |
| Pass-Through for Electrical Connections | | 2 | | | |
| Control System | | Esco Sentinel™ Silver Microprocessor Controller | | | |
| Net Weight | | 195 Kg (430 lbs) | | 253 Kg (558 lbs) | |
| Shipping Weight* | | 235 Kg (518 lbs) | | 275 Kg (606 lbs) | |
| Shipping Dimensions, Maximum (W x D x H)* | | 1050 x 1100 x 2170 mm (41.3" x 43.3" x 85.4") | | 1300 x 1100 x 2190 mm (51.2" x 43.3" x 86.2") | |
| Shipping Volume, Maximum* | | 2.5 $m^3$ (88.3 $ft^3$) | | 3.13 $m^3$ (110.5 $ft^3$) | |

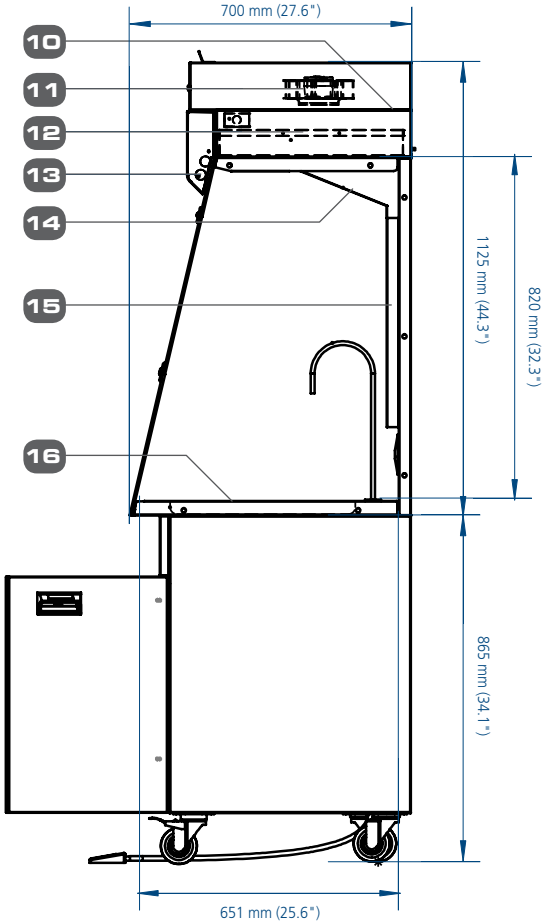
**Ductless fume hood includes base cabinet*

## Model SPF, Ascent™ Opti Formax Ductless Fume Hood Engineering Drawing, 0.9 to 1.2 m (3 ft to 4 ft width models)




1. *Sample Port*
2. *Spring-loaded Hinge*
3. *Pass-through Ports (for electrical connections)*
4. *Waste Formalin Container*
5. *Caster Wheel*
6. *Sentinel™ Silver Microprocessor Control System*
7. *E.G. Steel Back Wall (SPF-_A_ model) Transparent Back Wall (SPF-_B_ model)*
8. *Fresh Formalin Container*
9. *Foot Switch*
10. *Electrical Panel*
11. *Fan*
12. *Activated Carbon Filter*
13. *Fluorescent Lamps*
14. *Baffle*
15. *Stainless Steel Work Top*




| | |
|---|---|
| **Formaldehyde 10%** | LDPE / HDPE at 20C°-50C° show little or no damage after 30 days of constant exposure. |
| **Formaldehyde 40%** | LDPE / HDPE at 20C°-50C° show little or no damage after 30 days of constant exposure. |

*Source: http://www.calpaclab.com/chemical-compatibility-charts/*

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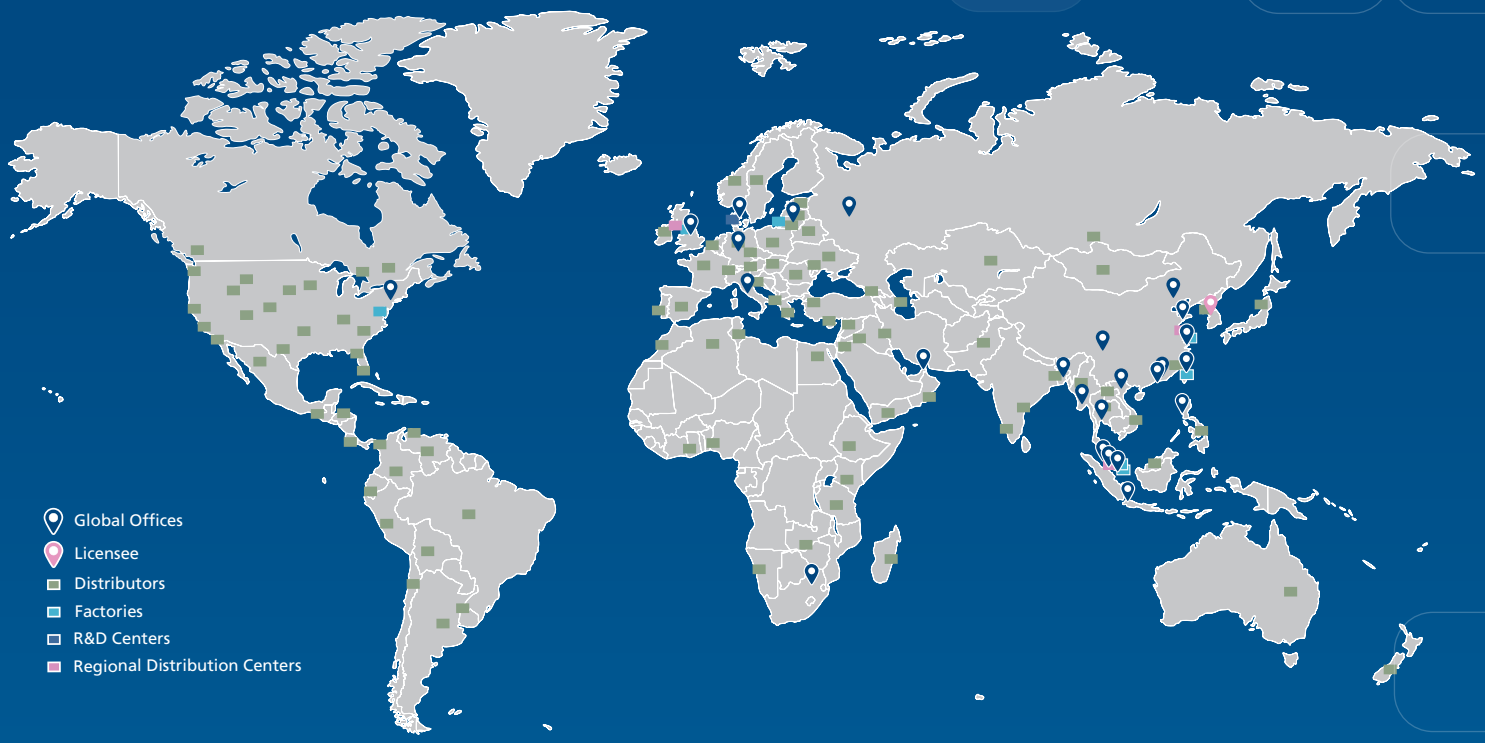


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