

**Forma® 1400 Series
Class II, Type A2
Biological Safety Cabinet**

Superior Ergonomics, Uncompromising Safety

Redefining the Standard in Ergonomics and Safety

If you're working with hazardous or potentially hazardous biological materials, you can't afford to compromise on safety. However, many other biological safety cabinets in the market require that you do just that, with poor, cramped design resulting in physical strain and fatigue.

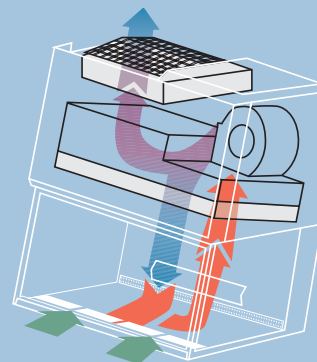
And physical stress can lead to mistakes where even the simplest pipetting procedure can become a major risk.

Thermo Electron's new Forma 1400 Series biological safety cabinet virtually eliminates these risks. Based on almost 40 years of R&D experience, we've created a superb Class II, Type A2 biological safety

cabinet that combines superior ergonomics and a technologically advanced design, providing you with the quietest, most comfortable and safest working environment available.

The Quietest Cabinet Available

A difference of 3 dBA is equivalent to a 50% decrease in sound level. At just 61 dBA, the Forma 1400 Series reduces sound level to less than half the level of comparable biological safety cabinets. This allows you to work for longer periods without the usual fatigue caused by blower noise.



Creating the perfect environment for safe, routine operation

The Forma 1400 Series virtually eliminates compromises in biosafety work. By improving operator comfort, the Forma 1400 Series seeks to eliminate errors and potential hazards caused by difficult working conditions and accelerated fatigue.

The Forma 1400 Series also keeps the room temperature at a comfortable level due to its advanced motor technology that reduces power consumption by at least 50%.

◀ **With its angled front, transparent glass side walls, and low noise level (<61 dBA), the Forma 1400 Series ensures maximum operator comfort.**

More comfort

- The ergonomic angled front improves the posture of head, neck, shoulder, back and arms. This comfortable, relaxed working position effectively abolishes stress and strain and associated muscular-skeletal disorders during extended working procedures.
- Transparent glass side walls and a coated back wall ensure a bigger, brighter work area by reducing harsh reflections and glare. Allowing more natural light into the chamber means visibility is improved and operator eye strain reduced.
- Noise levels are reduced to less than half the level of comparable biological safety cabinets. Operating at less than 61 dBA, the Forma 1400 Series reduces noise-related headaches and stress and makes it easier to communicate with colleagues.
- Cabinet height can be positioned at the proper level on a stationary stand, or it can be adjusted quickly to a range of positions with the motor-driven electric stand.





The Forma 1400 Series' hinged cabinet front and sliding sash makes it easy to reach all interior surfaces for easy and thorough cleaning.

◀ The Forma 1400 Series is an NSF-certified Class II, A2 biological safety cabinet that provides uniform downflow.



Enhanced safety

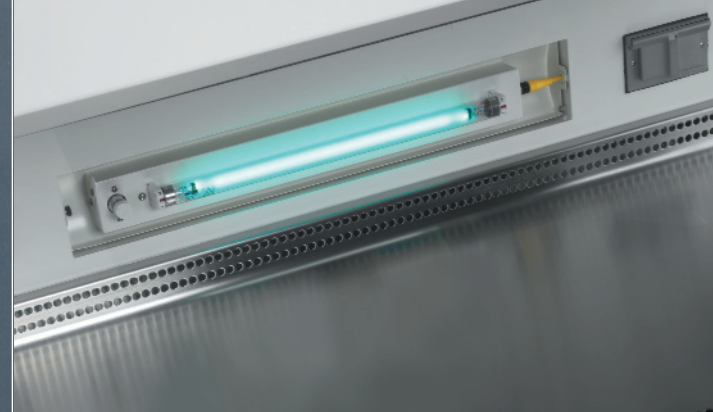
- The motorized sash automatically stops at the safe working height of 8 or 10 inches (depending on model).
- The Forma 1400 Series ensures operator safety through a built-in microprocessor controller that continuously monitors airflow performance and displays the read-out as a highly visible real-time bar graph.
- In the event of an unsafe condition, both audible and visual alarms are provided.
- UV operation is prevented unless the sliding slash is fully closed.

Greater convenience

- Push-button sash operation allows easy, one hand opening and closing – especially convenient on 6-foot cabinets. The optional foot switch allows operators to open the cabinet when their hands are full.
- The hinged cabinet front allows the inner surface of the sash to be easily and thoroughly cleaned, while rounded corners facilitate thorough, effective cleaning of the work area.
- Cabinet choices include a 10-inch opening for easier access, or 8-inch opening for lowest sound level (<61 dBA).
- An intuitive user interface enables programming of all key functions, including UV timer, auto-start and alarms.

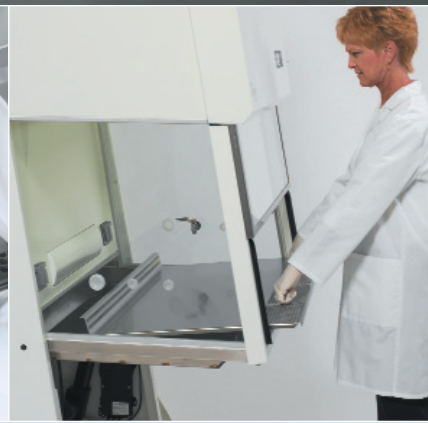
Technologically advanced

- The Forma 1400 Series' unique advanced motor technology reduces power consumption by at least 50% compared to cabinets with standard induction-type motors.
- Half-speed motor operation conserves energy, and by reducing airflow volume during periods of non-use, extends HEPA filter life.
- The optional UV light with programmable timer is mounted directly above the work surface. This makes decontamination more effective, reduces decontamination time and prolongs bulb life.
- Available in 4-foot and 6-foot nominal widths, the Forma 1400 Series can accommodate a variety of application and space requirements.



The built-in microprocessor controller ensures operator safety. The graphical display panel (shown above) provides a constant read-out of airflow performance.

The armrest (shown right) enhances user comfort during extended work sessions.



Accessorize your cabinet to meet your specific needs

Adjustable support stand

The support stand can be adjusted in 1-inch increments to provide work surface heights from 30 to 36 inches. Adjustable feet ensure a level surface.

Electric support stand

The optional motor-driven stand allows push-button adjustment of the work surface height from 28 to 36 inches to provide the most comfortable position for each individual.

Armrest

The armrest enhances user comfort during extended work sessions, supporting an ergonomic posture. Sitting just above the intake grill, it also prevents operators from accidentally blocking the grill with their lab coat sleeves.

Exhaust transition

For researchers working with minute quantities of volatile toxic chemicals and trace amounts of radionuclide, vapors or odors, an exhaust transition with a zero leak damper is available. Designed to NSF standard 49, this connects the Forma 1400 Series to an external exhaust system.

UV light

The optional UV light is mounted just above the work surface for optimum effectiveness. The user can program the duration of light activation from 1 min to 24 hrs, to provide the desired decontamination cycle. When not in use, the UV lamp flips back into the rear wall, avoiding any turbulence in the laminar airflow stream.

Foot switch

A convenient foot switch is available to operate the motorized front sash when the researcher's hands are full.

Divided table top

A sectional work surface is available as an option for both 4-foot and 6-foot cabinets. Each stainless steel section is 12 inches wide, and sections are easily removed for cleaning and autoclaving.

New levels of comfort and safety

The Forma 1400 Series is a cutting-edge biological safety cabinet, combining advanced features and an innovative design to provide maximum support for your most critical biological safety requirements:

- Operator comfort and safety
- Sample integrity/
- Environmental security

Operator Comfort and Safety

Nowhere is comfort more essential than in biosafety work. Operating in cramped conditions can make even the simplest procedure not just difficult and time-consuming – but often truly hazardous. The Forma 1400 Series' ergonomically advanced design and sophisticated controls ensure maximum operator comfort and safety.

Sample Integrity

Effective decontamination combined with ease of cleaning ensure uncompromising sample integrity. Even the busiest laboratories with constantly changing operators and tasks will find the Forma 1400 Series virtually eliminates these concerns.

Environmental Security

The Forma 1400 Series meets all NSF 49 standard requirements for Class II, A2 biological safety cabinets. For researchers working with minute quantities of volatile toxic chemicals and trace amounts of radionuclide vapors or odors, an exhaust transition with zero leak damper is available.

The Forma 1400 Series' advanced motor technology operates 50% more efficiently than a standard induction type, resulting in lower power consumption, reduced heat emissions, longer life and operational cost savings.

Ergonomic angled front improves operator comfort by ensuring correct posture.

Motorized sliding sash simplifies opening and closing and stops automatically at a safe working height. The hinged front facilitates cleaning of the sash interior.

The Forma 1400 Series provides a constant read-out of airflow conditions to ensure operator safety. A micro-processor controller continuously monitors and displays both down-flow and inflow air velocities. A bar graph indicates filter load and allows for timely filter change scheduling. Visual and audible alarms warn the operator of potential hazards.

Optional UV light is mounted very close to the work surface, ensuring highly effective irradiation and decontamination. When not in use, it flips into the back wall to eliminate any airflow disturbance.

Increased working area and enhanced, non-glare illumination through glass side walls improve the overall working environment.



Packaging - Processing

Bid on Equipment

1-847-683-7720

www.bid-on-equipment.com



Forma 1400 Series Class II, Type A2 Biological Safety Cabinet Specifications

Specifications	4-Foot Model	6-Foot Model
Model number	1440 (10-inch sash opening) 1448 (8-inch sash opening)	1460 (10-inch sash opening) 1468 (8-inch sash opening)
External dimension (with 30-inch work surface height)		
D x W x H inches	35.3 x 52.8 x 86.0	35.3 x 76.4 x 86.0
D x W x H mm	897 x 1341 x 2184	897 x 1941 x 2184
Internal dimension		
D x W x H (front/rear) inches	22.9 x 47.3 x 27.6/24.7	22.9 x 70.9 x 27.6/24.7
D x W x H (front/rear) mm	582 x 1200 x 701/627	582 x 1800 x 701/627
Weight, lbs. (Kg)	496 (225)	661 (300)
Spillage containment, Gal. (Liter)	15 (57)	23 (87)
Exhaust volume, CFM*	328-361 (Model 1440) 263-289 (Model 1448)	493-543 (Model 1460) 394-434 (Model 1468)
Exhaust duct connection	8-inch	8-inch
Air velocity, inflow, FPM	100 – 110	100 – 110
Air velocity, downflow, FPM	55 nominal	Model 1460 – 55 nominal Model 1468 – 50 nominal
Noise level, 10-inch sash opening	<63 dBA	<65 dBA
Noise level, 8-inch sash opening	<61 dBA	<63 dBA
Light intensity, foot candle (Lux)	> 111 (>1200)	> 111 (>1200)
Supply voltage/frequency	115 volts, 60 Hz	115 volts, 60 Hz
Power consumption, Watts	482	800
Supply Amp Circuitry	20 Amps	20 Amps
Electrical plug	NEMA 5-20P	NEMA 5-20P
Outlets (2)	GFCI protected duplex 120V (7 Amps total)	GFCI protected duplex 120V (7 Amps total)

*Add 30% to CFM values if using an exhaust transition with the cabinet.

Ordering Information	4-Foot Model	6-Foot Model
Catalog Numbers		
Forma 1400 Series, Class II, A2, BSC 115V, 60 Hz with 8-inch sash opening	1448	1468
Forma 1400 Series, Class II, A2, BSC 115V, 60 Hz with 10-inch sash opening	1440	1460
Options and Accessories*		
Adjustable height stand, 30 inch to 36 inch (CI)	191850	191851
Electrically operated adjustable height stand, 28 inch to 36 inch (CI)	191852	191853
UV Light (CI)	191854	191855
Armrest (CI)	191857	191858
Exhaust transition with zero leak damper (CI)	191859	191860
Divided table top (4-Foot: 4 sections, 6-Foot: 6 sections) (FI)	191863	191864
IV Rod (CI)	191861	191862
Utility service valve: Gas, Air, Vac, includes flex fitting (one supplied standard; accommodates 3 additional valves) (CI)	191856	191856
External controls, (Relay) provides interlock between cabinet power "on" switch and exhaust roof blower (FI)	191868	191868
Foot switch to open/close motorized sash (CI)	191866	191866
Minihelic gauge, mounted in center of rear wall (FI)	191865	191865

*All accessories listed are for the Forma 1400 Series biological safety cabinet only.

CI = Customer Installed

FI = Factory Installed

All models are UL Listed to United States and Canadian requirements and NSF Listed.



©2005 Thermo Electron Corporation. All rights reserved. Forma is a registered trademark of Thermo Electron Corporation. Specifications, terms, and pricing are subject to change. Not all products are available in all countries. Please consult your local representative for details.

North America: USA +1-866-984-3766, Canada +1-905-332-2000

Europe: Belgium +32 2 482 30 30, Denmark +45 48 16 62 00, Finland +358 9 329 100, France +33 2 28 03 20 00, Germany/Austria/Switzerland +49 6103 4081012, Italy +39-02-2511141, Netherlands +31 76 571 4440,

Russia/CIS +7 095 755 9045, Spain/Portugal +34 93 2233154, Sweden +46 8 742 03 90, UK/Ireland +44 870 609 9203
Asia: India +91 22 2778 1101, Japan +81 45 453 9220, China +86 21 5465 7588, Other Asian countries +852 2885 4613

Countries not listed: + 33 2 28 03 20 00

**Packaging - Processing
Bid on Equipment**
1-847-683-7720
www.bid-on-equipment.com

Thermo
ELECTRON CORPORATION

BRO-LSPF1400-0605