



Thermo Scientific Forma 1400 Series
Class II, Type A2 Biological Safety Cabinet

**Innovative design for a brighter, quieter,
more comfortable environment**



With its angled front, transparent glass sidewalls, and low noise level (<61 dBA), the Thermo Scientific Forma 1400 Series ensures maximum operator comfort.

Redefining the Standard For Ergonomics and Safety

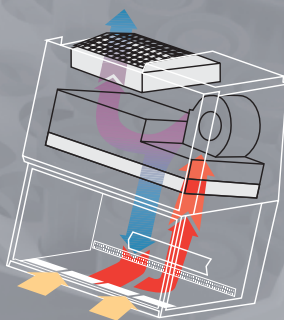
If you're working with hazardous or potentially dangerous biological materials, you can't afford to compromise on safety.

Physical stress can lead to mistakes, which is often overlooked in safety cabinet design. The Thermo Scientific Forma 1400 Series biological safety cabinet virtually eliminates these risks. Our Forma 1400 Series combines superior ergonomics and a technologically advanced design, providing you with the most comfortable and safest working environment available.

Forma 1400 Series

BIOLOGICAL SAFETY CABINET

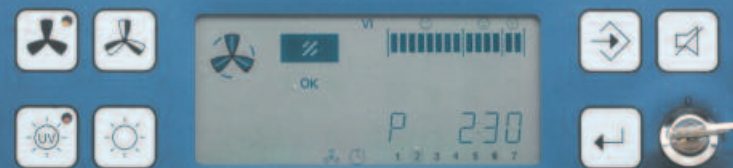
An NSF-certified Class II, Type A2 biological safety cabinet that provides uniform downflow. ▶



The armrest enhances user comfort during extended work sessions. ▶



The graphical display panel provides a constant read-out of airflow performance. ▶



Creating the Perfect Environment For Safe, Routine Operation

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 the sound level to less than half the level of comparable biological safety cabinets, and is 6 dBA lower than the NSF requirement.

Best-in-Class for Comfort

- The ergonomic angled front improves the posture of head, neck, shoulder, back and arms. This comfortable, relaxed working position effectively eliminates 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.
- Noise levels are reduced to less than half the level of comparable biological safety cabinets allowing you to work for longer periods without the usual distraction and fatigue caused by blower noise.
- Cabinet height can be positioned at the proper level using a stationary stand, or it can be adjusted quickly to a range of positions with the electric motor-driven stand.

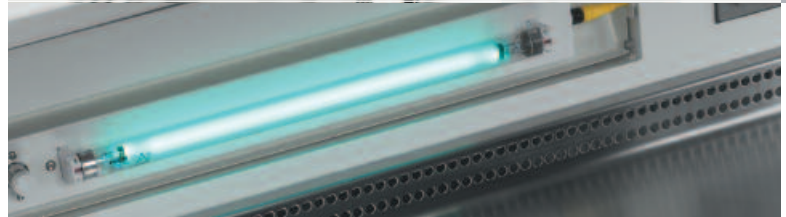
Hinged-cabinet front and sliding sash make it easy to reach all interior surfaces for easy and thorough cleaning. ▶



The UV light is mounted just above the work surface for maximum effectiveness. Timed UV extends the life of the bulb.

Users can program the duration of light activation from 1 minute to 24 hours to provide the desired decontamination cycle.

A standard bulb lasts for 2500 hours. If you use the bulb one time per day, five days per week, at one hour per day, you will be able to use one bulb for 9.6 years. In a standard cabinet without timed UV, when the bulb is left on overnight — it will only last about eight months.



Enhanced Safety

- The motorized sash automatically stops at the safe working height of 8 or 10 inches, depending on model.
- Our Forma 1400 Series ensures operator safety through a built-in microprocessor-based controller that continuously monitors and maintains 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 disabled unless the sliding sash is fully closed.

Greater Convenience

- Push-button sash operation allows easy, one-hand opening and closing – especially convenient on 6-foot cabinets where the weight of the front window sash can be cumbersome. 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.
- An intuitive user interface enables easy programming of all key functions, including UV timer, auto-start and alarms.
- Available in 4-foot and 6-foot widths, the Forma 1400 Series can accommodate a variety of application and space requirements.

Technologically Advanced

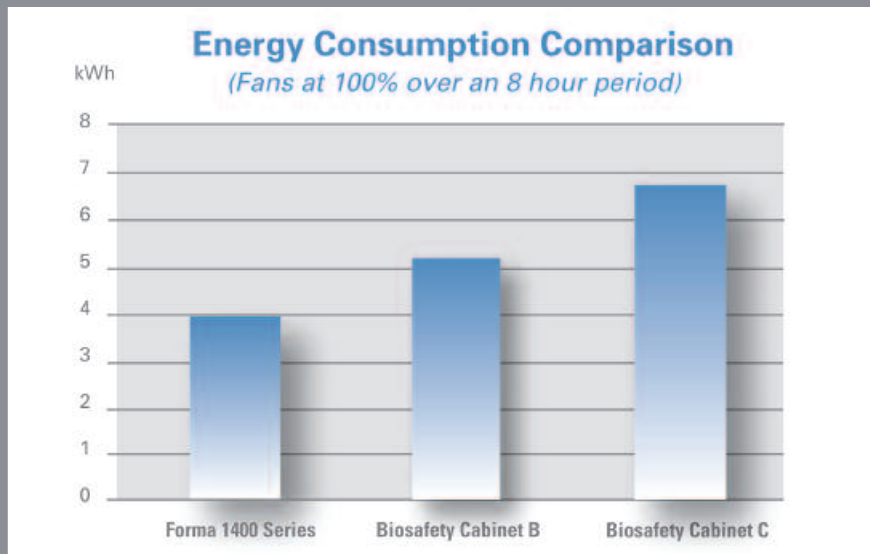
The Thermo Scientific Forma 1400 Series advanced motor technology operates 50% more efficiently than the standard induction type, for

lower power consumption and reduced heat emissions that result in operational cost savings and longer unit life.

It features half-speed motor operation to conserve energy, and airflow volume reduction during periods of non-use that extends the HEPA filter life.

Energy Savings

The Forma 1400 Series consumes less energy than competitive models.



Reducing overall energy usage —

is critical for a cost efficient laboratory. With significantly lower energy consumption and heat emission than traditional cabinets, energy usage and lab air conditioning costs are significantly reduced.

**Based on internal performance data*



The Thermo Scientific Forma 1400 Series provides a **constant read-out of airflow conditions** to ensure operator safety. A microprocessor-based 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.

Motorized sliding sash ensures that the window is set to a safe working height every time you use it, a feature that cannot be guaranteed by manually operated windows. The hinged front facilitates cleaning of the sash interior.

Ergonomic angled front improves operator comfort by ensuring correct posture.

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

Adjustable electronic support stand accommodates a variety of users comfortably.

Glass sidewalls and painted backwall provide a brighter, more open-feeling environment. This feature is an added benefit to facilitate training.

Accessorize your cabinet to meet your specific needs:

Manually Adjustable Support Stand

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

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. Located just above the intake grill, it also prevents operators from accidentally blocking the grill with their lab coat sleeves.

Exhaust Transition

A canopy-style exhaust transition with a zero leak damper is available for research using minute quantities of volatile toxic chemicals or trace amounts of radionuclide vapors, in conformance with NSF/ANSI - 49.

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 minute to 24 hours, to provide the desired decontamination cycle.

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 the 4-foot and 6-foot cabinets. Each stainless steel section is 12 inches wide, and sections are easily removed for cleaning and autoclaving.

A Brighter, Quieter, More Comfortable Environment

The Thermo Scientific 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

Nowhere is comfort and safety more essential than when working with hazardous materials in a biological safety cabinet. Operating in cramped conditions can make even the simplest procedure not just difficult and time-consuming – but often hazardous. The Forma 1400 Series’ ergonomically-advanced design and sophisticated controls provide maximum operator comfort and safety.

Environmental Security

The Forma 1400 Series meets all NSF 49 standard requirements for Class II, Type 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.

Thermo Scientific 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 support stand)		
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	50 - 60	50 - 60
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	745
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.

Thermo Scientific Forma 1400 Series Class II, Type A2 Biological Safety Cabinet

	4-Foot Model	6-Foot Model
Description		
Forma 1400 Series, Class II, Type A2, BSC 115V, 60 Hz with 8-inch sash opening	1448	1468
Forma 1400 Series, Class II, TSC 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 8-inch diameter, 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 (Cabinet accommodates up to 4 valves) (CI)		
GAS	191928	191928
AIR	191926	191926
VACUUM	191927	191927
CO ₂	191939	191939
N ₂	191938	191938
He	191940	191940
External controls, (Relay) provides interlock between cabinet power "on" switch and exhaust roof blower (QI)	191868	191868
Foot switch to open/close motorized sash (FI)	191866	191866
Foot Switch to open/close motorized sash (QI)	191913	191913
Floor anchoring brackets for manual or electric stands (CI)	191922	191922
Minihelic gauge, mounted in center of rear wall (FI)	191865	191909
Certification Document	2961284	2961284

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

CI = Customer Installed FI = Factory Installed QI = Qualified Personnel Installed

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

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