



Biological safety cabinets

# Where innovation meets experience

**Thermo Scientific 1500 Series Class II, Type A2  
Biological Safety Cabinet  
Made in USA**

# Transforming safety and comfort

## Enhanced protection, convenience, and comfort



The Thermo Scientific™ 1500 Series Class II, Type A2 biological safety cabinets combine protection, energy efficiency and user convenience for today's modern laboratory. The cabinet is designed to offer effective personal and product protection against biological hazards and contamination.

Discover compelling enhancements in all 4Cs: Containment, Comfort, Convenience, and Cost Effectiveness.



### Containment

- Dual blower and pressure sensor system enables a higher degree of personal and product protection compared to the traditional, single blower biological safety cabinet design<sup>1</sup>
- Thermo Scientific™ SmartFlow™ Plus real-time technology pressure sensors automates airflow compensation
- Digital Airflow Verification (DAVe™ Plus) alerts user to out-of-tolerance airflows that could compromise product and operator protection
- H14 HEPA filters remove airborne contaminants with 99.995% efficiency at the most penetrating particle size (MPPS)



### Comfort

- Ergonomically designed tactile window mechanism offers controlled resistance, helping to ensure precise and effortless elevation to the optimal working height for the sash window
- LED lighting for a brighter work environment
- 10° sloped front for comfort and ergonomics
- Spacious work area with comfortable armrests



### Convenience

- Intuitive 7" touchscreen interface to support real-time alarm and performance monitoring
- Thermo Scientific™ SmartClean front window design enhances accessibility for easier cleaning of the work area
- Thermo Scientific™ SmartPort™ design provides contained passage of tubing and cables into the work area
- Programmable UV light enables timed disinfection cycle run



### Cost efficiency

- DC motors offer low energy consumption
- Night Stand-by Mode reduces energy consumption by approximately 60% during low usage periods

1. Compare with Smart note "Why is a dual blower system better than a single blower system?", Dec 2023 <https://assets.thermofisher.com/TFS-Assets/LED/Specification-Sheets/D02597.pdf>



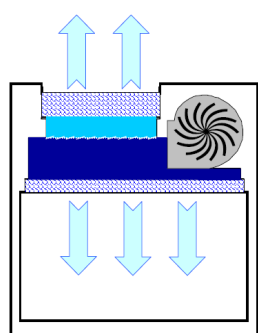
# Smart protection technologies

## Total compensation is no compensation

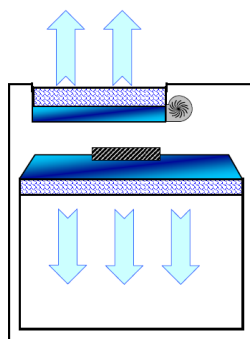
Cabinets with single fans and manually operated balancing dampers only maintain total flow (inflow + downflow) and are unable to address the balance of inflow and downflow.

## SmartFlow Plus - independent compensation

The Thermo Scientific design with separate downflow and exhaust fans allows the cabinet to individually monitor and control each flow enabling better maintenance of the balance. Avoidance of the mechanical damper has the additional benefit of greater energy efficiency.



Single fan/damper



Separate downflow/exhaust

## DAVe Plus - Digital Airflow Verification Plus

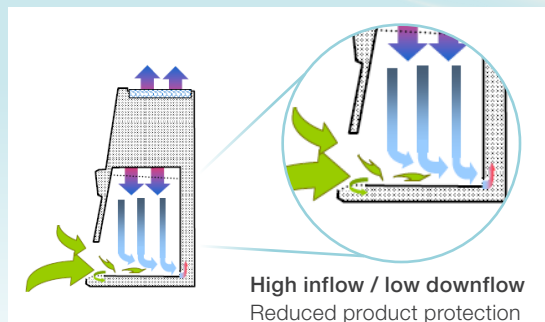
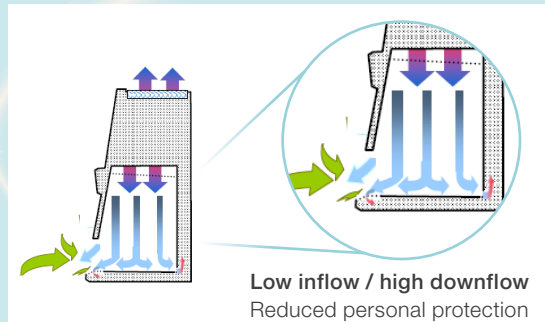
Independent pressure sensors detect changes in pressure across the exhaust and downflow plenums. An alarm signals when a significant change in inflow/exhaust or downflow occurs to alert the user. Alarm events are displayed on the touchscreen and recorded in the event log.

## Negative pressure within side walls

Negative pressure between the inner and outer side walls provide additional protection as any material moving into or out of the cabinet through user modified passthroughs or other openings are captured and pulled through the filters.

## Balanced airflow

While each BSC has defined ranges for inflow and downflow velocities, it is the balance of inflow and downflow that enables the critical air barrier to prevent airborne contaminants from the laboratory from reaching the BSC work area and hazardous biological agents from escaping and endangering the user and environment.



# 7" touchscreen for operation information

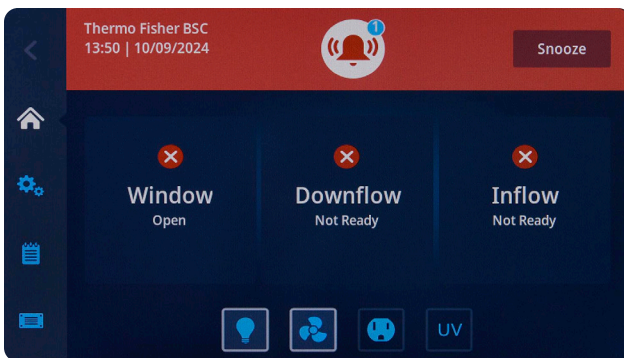
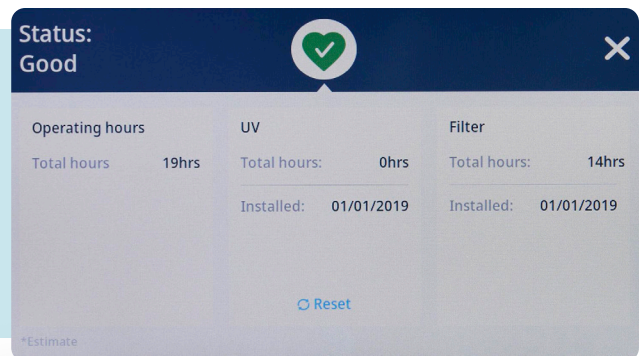
## Product status, analysis and UV light programming

The new touchscreen offers more than just a display; it shows the health status of the cabinet and provides essential data. With easy-to-understand icons like the heart and bell, and color indicators in green, yellow, and red, monitoring and receiving alerts about your cabinet's condition is simple. Additionally, you can easily program the UV light to turn on when needed to help optimize hygiene and efficiency.



**At-a-glance confidence:** With the green heart icon ('Health Status Good') displayed on top, users can see that the cabinet is operating correctly. This icon confirms that the glass sash is properly positioned and both downflow and inflow air speeds are at optimal levels, helping to ensure a safe working environment.

**Instant access to vital information:** Tap the green heart icon to view the cabinet's health status, including total operating hours, UV work hours and bulb install date, and filter running time and install date.



**Advanced safety alerts:** Clear visual and audible alarm to inform the operator if the downflow, inflow, or other parameters are not at operational settings and operator is at risk of exposure to biohazardous materials.

**Tailored to your needs:** easily program UV disinfection through the intuitive touch screen interface. Customize the time, and duration of the UV cycle to fit your schedule. Need the UV to start after your workday ends? We've got you covered! Enjoy peace of mind with seamless, programmable disinfection (only applicable on units with UV option).





# Advanced features for enhanced user comfort



**7" touchscreen interface**

**1-piece grade 304 stainless steel or Thermo Scientific™ SmartCoat interior**

**SmartPort convenience**

**Sloping front sash**

**8" or 10" front opening**

**Standard flat worksurface or optional indented worksurface**

**Optional hanging shelf**

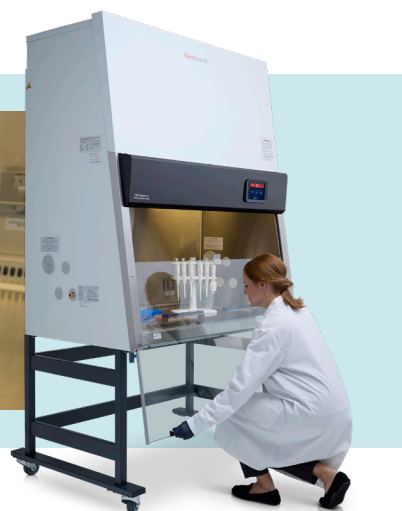
**3 different stand options\***

**Optional Thermo Scientific™ Ergolign saddle stool**

\*Image includes the manual adjustable stand

## Thermo Scientific™ SmartClean window design

Our innovative window design allows operators to lower the window past the front grill, providing easy access to clean hard-to-reach inner surfaces and behind the window.



## Specifications

Size/nominal width			3 foot (0.9 m)	4 foot (1.2 m)
Dimensions	Exterior dimensions W x H x D	mm/in	1000 x 1568 x 805 / 39.4 x 61.8 x 31.7	1300 x 1568 x 805 / 51.2 x 61.8 x 31.7
	Interior dimensions W x H x D	mm/in	900 x 780 x 630 / 35.4 x 30.7 x 24.8	1200 x 780 x 630 / 47.2 x 30.7 x 24.8
	Shipping dimensions <sup>1</sup> W x H x D	mm/in	1372 x 1727 x 1168 54 x 68 x 46	1575 x 1727 x 1168 62 x 68 x 46
	Working height of front window	mm/in	Choice of 203 mm (8 inches) or 254 mm (10 inches)	
	Maximum opening height of front window	mm/in	432 mm (17 inches)	
Weight	Net weight	kg/lbs	169 (372)	193 (426)
	Shipping weight <sup>1</sup>	kg/lbs	262 (577)	297 (654)
Electrical data	Voltage	V	Choice of 120 or 230	
	Frequency	Hz	50 / 60	
Filter specification			H14 HEPA EN 1822, 99.995% @ MPPS	
Certification			NSF/ANSI 49, cULus, CE	
Ergonomics	Lighting Power	fc (lx)	80-110 (850-1200)	90-120 (950-1300)
	SmartPort		Two 3 inch (80 mm) diameter user-modified pass-through cable ports, one on each side wall	
	Receptacles	120 V	2 GFI protected duplex - left and right side	
		230 V	2 single receptacles - left and right side	
	Service Valves		Up to 6 total (3 on each side wall)	
8-inch (203 mm) front opening	Sound pressure level	dB (A)	≤ 65	≤ 65
	Energy consumption, operating set point <sup>2</sup>	W	150	180
	Energy Night Standby <sup>3</sup>	W	70	70
	Heat output operating <sup>2</sup>	BTU/hr	512	614
	Heat output Night Standby <sup>3</sup>	BTU/hr	239	239
	Exhaust/inflow air volume	cfm (m <sup>3</sup> /h)	207 (351)	276 (468)
	Exhaust volume, thimble ducted <sup>4</sup>	cfm (m <sup>3</sup> /h)	270 (460)	360 (610)
10-inch (254 mm) front opening	Sound pressure level	dB (A)	≤ 65	≤ 65
	Energy consumption, operating set point <sup>3</sup>	W	170	190
	Energy consumption, night set-back mode	W	70	70
	Heat output, operating mode (non-vented)	BTU/hr	580	648
	Heat output, night set-back mode (lights off, non-vented)	BTU/hr	239	239
	Exhaust/inflow air volume	cfm (m <sup>3</sup> /h)	258 (439)	344 (585)
	Exhaust volume, thimble ducted	cfm (m <sup>3</sup> /h)	335 (570)	445 (760)

<sup>1</sup> Export packaging dimensions and weight upon request

<sup>2</sup> Clean filters, fans operating at nominal set point, interior lighting activated on 120 V unit

<sup>3</sup> On 120 V unit.

<sup>4</sup> Negative static pressure for thimble units is typically 0.25 inches water gauge or 62 Pa. (Per NSF/ANSI 49-2022)

## Specifications

Size/nominal width			6 foot (1.8 m)
Dimensions	Exterior dimensions W x H x D	mm/in	1900 x 1568 x 805 / 74.8 x 61.8 x 31.7
	Interior dimensions W x H x D	mm/in	1800 x 780 x 630 / 70.9 x 30.7 x 24.8
	Shipping dimensions <sup>1</sup> W x H x D	mm/in	2261 x 1727 x 1168 89 x 68 x 46
	Working height of front window	mm/in	Choice of 203 mm (8 inches) or 254 mm (10 inches)
	Maximum opening height of front window	mm/in	432 mm (17 inches)
Weight	Net weight	kg/lbs	272 / 599
	Shipping weight <sup>1</sup>	kg/lbs	400 (880)
Electrical data	Voltage	V	Choice of 120 or 230
	Frequency	Hz	50 / 60
Filter specification			H14 HEPA EN 1822, 99.995% @ MPPS
Certification			NSF/ANSI 49, cULus, CE
Ergonomics	Lighting Power	fc (lx)	90-120 (950-1300)
	SmartPort		Two 3 inch (80 mm) diameter user-modified pass-through cable ports, one on each side wall
	Receptacles	120 V	2 GFI protected duplex - left and right side
		230 V	2 single receptacles - left and right side
	Service Valves		Up to 6 total (3 on each side wall)
8-inch (203 mm) front opening	Sound pressure level	dB (A)	≤ 65
	Energy consumption, operating set point <sup>2</sup>	W	360
	Energy night Standby <sup>3</sup>	W	120
	Heat output operating <sup>2</sup>	BTU/hr	1228
	Heat output Night Standby <sup>3</sup>	BTU/hr	410
	Exhaust/inflow air volume	cfm (m <sup>3</sup> /h)	413 (702)
	Exhaust volume, thimble ducted <sup>4</sup>	cfm (m <sup>3</sup> /h)	540 (910)
10-inch (254 mm) front opening	Sound pressure level	dB (A)	≤ 65
	Energy consumption, operating set point <sup>3</sup>	W	335
	Energy consumption, night set-back mode	W	120
	Heat output, operating mode (non-vented)	BTU/hr	1143
	Heat output, night set-back mode (lights off, non-vented)	BTU/hr	410
	Exhaust/inflow air volume	cfm (m <sup>3</sup> /h)	517 (878)
	Exhaust volume, thimble ducted	cfm (m <sup>3</sup> /h)	670 (1140)

<sup>1</sup> Export packaging dimensions and weight upon request

<sup>2</sup> Clean filters, fans operating at nominal set point, interior lighting activated on 120V unit

<sup>3</sup> On 120V unit.

<sup>4</sup> Negative static pressure for thimbled units is typically 0.25 inches water gauge or 62 Pa. (Per NSF/ANSI 49-2022)

## Ordering information

Voltage		Width	Window opening	
			8"	10"
120V	<b>Bundle package</b>			
	1500 Series Class II, Type A2 BSC (120 V) with UV light, armrests, manual adjustable stand and <b>SmartCoat interior</b>	3' (0.9 m)	1540A2	1521A2
		4' (1.2 m)	1595A2	1585A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1597A2	1587A2
	1500 Series Class II, Type A2 BSC (120 V) with UV light, armrests, manual adjustable stand and <b>Stainless Steel interior</b>	3' (0.9 m)	1542A2	1523A2
		4' (1.2 m)	1535A2	1575A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1537A2	1577A2
	<b>Cabinet Only</b>			
	1500 Series Class II, Type A2 BSC (120 V) cabinet with <b>SmartCoat interior</b>	3' (0.9 m)	1539A2	1520A2
		4' (1.2 m)	1525A2	1555A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1527A2	1557A2
	1500 Series Class II, Type A2 BSC (120 V) cabinet with <b>Stainless Steel interior</b>	3' (0.9 m)	1541A2	1522A2
		4' (1.2 m)	1505A2	1545A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1507A2	1547A2

Voltage		Width	Window opening	
			8"	10"
230V	<b>Bundle package</b>			
	1500 Series Class II, Type A2 BSC (230 V) with UV light, armrests, manual adjustable stand and <b>SmartCoat interior</b>	3' (0.9 m)	1591A2	1531A2
		4' (1.2 m)	1596A2	1586A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1598A2	1588A2
	1500 Series Class II, Type A2 BSC (230 V) with UV light, armrests, manual adjustable stand and <b>Stainless Steel interior</b>	3' (0.9 m)	1593A2	1533A2
		4' (1.2 m)	1536A2	1576A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1538A2	1578A2
	<b>Cabinet Only</b>			
	1500 Series Class II, Type A2 BSC (230 V) cabinet with <b>SmartCoat interior</b>	3' (0.9 m)	1590A2	1530A2
		4' (1.2 m)	1526A2	1544A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1528A2	1549A2
	1500 Series Class II, Type A2 BSC (230 V) cabinet with <b>Stainless Steel interior</b>	3' (0.9 m)	1592A2	1532A2
		4' (1.2 m)	1506A2	1554A2
		5' (1.5 m)	*	*
		6' (1.8 m)	1508A2	1559A2

Country Configuration	China	1910282
	Hong Kong/ASEAN	1910280

\*5' (1.5 m) options available soon. Contact Thermo Fisher Scientific for details.



## Field-installed accessories

Accessory	Description	Cat. No.
Manual adjustable stand	Manual adjustable stand for 3' cabinet. Provides work surface height of 30 to 38 inches adjustable in 2 inch increments	1911580
	Manual adjustable stand for 4' cabinet. Provides work surface height of 30 to 38 inches adjustable in 2 inch increments	1911578
	Manual adjustable stand for 6' cabinet. Provides work surface height of 30 to 38 inches adjustable in 2 inch increments	1911579
Electric adjustable stand	Electrically adjustable stand for 3' cabinet. Height adjustable from 750 mm to 950 mm with 3 memory-settings (120/230 V).	50117449
	Electrically adjustable stand for 4' cabinet. Height adjustable from 750 mm to 950 mm with 3 memory-settings (120/230 V).	50109314
	Electrically adjustable stand for 6' cabinet. Height adjustable from 750 mm to 950 mm with 3 memory-settings (120/230 V).	50109325
Fixed height stand with caster	Fixed stand (32.5 inches) with rolling caster for 3' cabinet.	1911584
	Fixed stand (32.5 inches) with rolling caster for 4' cabinet	1911582
	Fixed stand (32.5 inches) with rolling caster for 6' cabinet.	1911583
Thimble exhaust transitions	Thimble duct exhaust transition for 3' (0.9 m), 4' (1.2 m) cabinets	1911505
	Thimble duct exhaust transition for 6' (1.8 m) cabinet	1911506
	Exhaust alarm	1910185
User convenience equipment	Interior tubing retainer clips (6 per kit)	1910083
	Hanging shelf for base stand	1910179
	Stainless steel armrest (set of two)	1911313
	Stainless steel armrest with pad (set of two)	1911590
	Gel replacement pad (set of two)	50156437
	Adjustable footrest	191127
	Replacement SmartPort grommets (4 per kit)	1910112
	Media access port grommet (6 per kit)	1911408
	Ergolign Saddle Stool, 23 inch to 30.5 inch adjustable seat height	ERG-CR-2330
	Hanging bar with set of 6 hooks	1911413
	Hanging bar with set of 12 hooks	1911312
Alternate drain valve	Stainless steel ball valve (replaces standard non-corrosive PVC drain valve)	249098
	Combustible gas valve (side wall)	1911308
Sidewall utilities	Non-combustible gas valve (side wall)	1911309
	Vacuum valve (side wall)	1911310
	Water valve (side wall)	1911311
Anchoring bracket	Floor anchoring bracket	1911320
	Top bracket	1911703
	Base (lower) bracket	1911700
Rear cover kits*	3' rear cover kit	1911556
	4' rear cover kit	1911557
	6' rear cover kit	1911559
Indented work tray	3' indented work tray	1911673
	4' indented work tray	1911674
	6' indented work tray	1911676
Other	Twist lock power cord	350236

## Universal piping/factory-installed accessories

Accessory	Description	Cat. No.
Universal piping for 3'	Right both	1911560
	Right top	1911568
	Left both	1911561
	Left top	1911569
Universal piping for 4'	Right both	1911564
	Right top	1911570
	Left both	1911566
	Left top	1911571
Universal piping for 6'	Right both	1911565
	Right top	1911574
	Left both	1911567
	Left top	1911575
Universal piping for all models	Right bottom	1911576
	Left bottom	1911577
Universal Piping Utilities	Combustible gas valve	1911304
	Non-combustible gas valve	1911305
	Vacuum valve	1911306
	Water valve	1911307

\*Electric stands cannot be used with bottom universal piping option



Manual adjustable stand



Electric adjustable stand



Fixed height stand with castor



Ergolign saddle stool



Indented work tray



Rear cover kit

 Learn more at [thermofisher.com/1500a2-usa](https://thermofisher.com/1500a2-usa)

**thermo** scientific

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