

Packaging - Processing

Bid on Equipment

1-847-683-7720

www.bid-on-equipment.com

Controlled Environment
Equipment Solutions
for the Lab



Forma® Class II Biological Safety Cabinets
Forma Laminar Airflow Workstations

Analyze • Detect • Measure • Control™

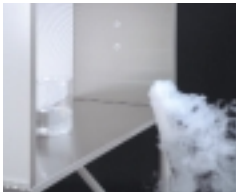
Thermo
ELECTRON CORPORATION

The Forma Advantage: Protection, Performance, Convenience...

You're always seeking an advantage—the protection of a safe environment in which to handle moderate to high risk microorganisms (biosafety level 1, 2, or 3 agents) for cell culturing, sample analysis, diagnostic procedures, or preparation of therapeutic agents; high quality equipment that will withstand the rigors of lab use and perform reliably day after day; comfort and convenience that make your work life easier and more productive. Thermo Electron Corporation provides the advantage. The Forma Advantage.

For decades, researchers worldwide have trusted and valued controlled environment laboratory equipment that bears the Forma product name: the number one selling cell culture incubator in the world, high performance -86C freezers, and a comprehensive solution for your biosafety and laminar airflow cabinet needs.

Forma Class II Biological Safety Cabinets and Laminar Airflow Workstations are trusted worldwide for their solid construction and **dependability** while providing **maximum protection** at an affordable price.



Carefully directed, laminar airflow is key to **optimum cabinet performance.**

Biosafety cabinet certifiers have noticed the consistency of our cabinets' airflow. That stable, balanced airflow is the result of reliable design and quality construction that produce a precisely controlled Class 100 or better environment.

Our laminar airflow workstations (clean benches) are designed to prevent "backwashing." Contaminated outside air will not drift back into the workstation's work area, ensuring product protection.

Added **convenience** of standard features and a variety of accessories allow you to **simplify** daily use and routine procedures. Large sash openings on biosafety cabinets increase your mobility and depth of reach into the work area. Under-cabinet drawers help you organize your work area by providing local storage for pipettes, gloves, etc.

BREADTH OF PRODUCTS

You can trust our biosafety and laminar airflow cabinets to provide the reliable protection you depend on everyday.

- Class II, A1 Biosafety Cabinets . . .4
- Class II, A2 Biosafety Cabinets . . .8
- Class II, B2 Biosafety Cabinets . . .10
- Laminar Airflow Benchtops14
- Laminar Airflow Consoles16



...for Peace of Mind and a Workstation Tailored to Your Needs



VARIETY OF ACCESSORIES

Thermo helps you create an organized, complete biosafety cabinet or laminar airflow workstation tailored to your work requirements and comfort needs (Class II, A2 Biosafety Cabinet shown).

Accessories for Biological Safety Cabinets12
 Accessories for Laminar Airflow Workstations18

A1 Consoles: A Practical Choice

The Class II, A1 console cabinet is a practical choice when a clean air environment and **product, personnel, and environment protection** are required for working with agents assigned to biosafety levels 1, 2, or 3 in the absence of volatile toxic chemicals and volatile radionuclides.



Reliable Protection, Convenient Setup and Use

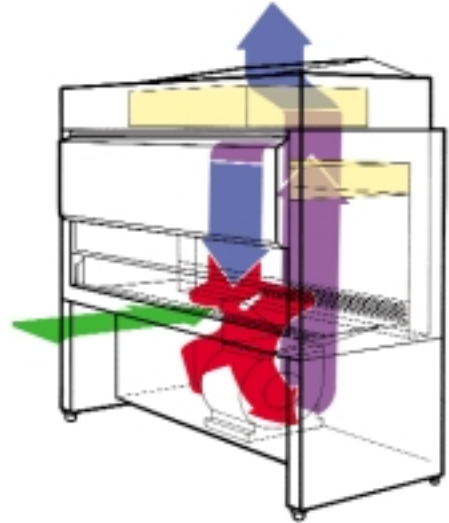
- Low overall height permits **easy passage through doorways** and **accommodates sites with limited ceiling height**.
- For **additional product and personnel protection**, unique, patented Vortex Channels create high velocity air at the window corners to move turbulent air into the return air system, **reducing the risk of particulates escaping from or entering the cabinet work area**.

- Large 10" (25.4cm) sash opening **enhances your mobility and depth of reach** into the work area, while still providing maximum protection.
- UV interlock provides **additional safety by prohibiting UV light operation unless the sash is fully closed**.

Carefully Directed Airflow

Airflow descends from the top of the cabinet through a supply HEPA filter. As this vertical airstream approaches the work surface, the airflow splits. Approximately 50% is drawn into the cabinet's rear intake grille, and the rest meets ambient room air at the front intake grille.

The air is drawn into a negative pressure plenum under the work area by the blower located in the cabinet's base. The blower pushes the air into a positive pressure plenum and forces it to the top of the cabinet. The pressurized air is split, with 30% vented through the exhaust HEPA filter and 70% recirculated through the supply HEPA filter.



- Ambient Air
- HEPA Filter
- Contaminated Air (positive pressure)
- Contaminated Air (negative pressure)
- HEPA Filtered Air

AIRFLOW

Inflow velocity – 75 FPM minimum
 70% – recirculated within the cabinet
 30% – exhausted

U.S. Patents held include 5,295,902 and 5,380,244.

A1 Console Specifications

Models

4 Ft. Console	1200 (1201)
6 Ft. Console	1214 (1205)

Work Area

Width - 1200 (1201) . . .	46.5" (118.1cm)
Width - 1214 (1205) . . .	70.5" (179.1cm)
Height	25.3" (64.3cm)
F-B	25.0" (63.5cm)
Sash Opening	10.0" (25.4cm)

Exterior Dimensions

Width - 1200 (1201) . . .	51.5" (130.8cm)
Width - 1214 (1205) . . .	75.5" (191.8cm)
Height	79.1" (200.9cm), height is with levelers in minimum position, add 3.0" (7.6cm) for exhaust grille
F-B	34.7" (88.1cm), deduct 3.7" (9.4cm) for light canopy

Electrical, Plug, Breaker, & Motor

1200	115V, 60 Hz, 13.6 FLA
1214	115V, 60 Hz, 14.7 FLA
1201	230V, 50 Hz, 9.6 FLA
1205	230V, 50 Hz, 10.0 FLA
115V	NEMA 5-20P Plug
230V	CEE 7/7 Plug
Breaker Requirement . .	1200/1214: 20 Amp
	1201/1205: 15 Amp
Motor	3/4 HP

Exhaust Requirements

1200 (1201)	242-274 CFM*
1214 (1205)	391-440 CFM*
Canopy Exhaust (opt.) . .	Add 30% to exhaust CFM
Connection	8.0" (20.3cm) diameter duct connection, 0.25" w.g. psi drop at the connection

Service Valves

1200 (1201)	1, right side
1214 (1205)	2, 1 on each sidewall

Additional Plugged Penetrations

1200 (1201)	3, 1 on right and 2 on left sidewall
1214 (1205)	2, 1 on each sidewall

Outlets

120V	2 GFIC protected duplex, 1 on each sidewall
230V	2, 1 on each sidewall

Unit Heat Load

1200 (1201)	3150 BTUH (920 Watts)
1214	3050 BTUH (890 Watts)
1205	3600 BTUH (1,060 Watts)

Weight

Net	
1200 (1201)	604 lbs. (274.0 kg)
1214 (1205)	770 lbs. (349.3 kg)
Shipping (Motor)	
1200 (1201)	730 lbs. (331.1 kg)
1214 (1205)	945 lbs. (428.6 kg)

All units are UL Listed to United States and Canadian requirements and NSF Listed.
*Cubic Feet per Minute (CFM) is based on the Direct Airflow Method, under clean conditions.



A1 Benchtop: Ideal When Lab Space is Limited

The Class II, A1 benchtop cabinet's small footprint provides 2.9 sq. ft. (0.3 sq. m) of work area while requiring only 5.4 sq. ft. (0.5 sq. m) of valuable lab space.



When space is limited, the Model 1118 is a practical choice when a clean air environment and **product, personnel, and environment protection** are required for working with agents assigned to biosafety levels 1, 2, or 3 in the absence of volatile toxic chemicals and volatile radionuclides.

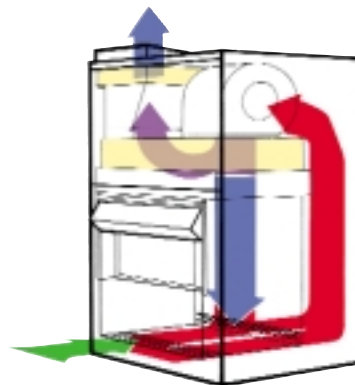
Dependable Protection, Easy to Use

- Unit has a recessed, hinged, front window of 0.25" (0.6cm) thick laminated safety glass with a 10.0" (25.4cm) access opening that **enhances your mobility and depth of reach** into the work area.
- Interior work area and tray are constructed of heavy-gauge, corrosion-resistant, type 304 stainless steel for **easy cleaning**.
- Voltage Compensating Speed Control ensures that the motor receives constant voltage when the power line voltage fluctuates, providing stable airflow and **increasing laboratory, product, and personnel safety**.
- Internal damper for balancing airflow is easily adjusted from within the work area and **eliminates the need to decontaminate the unit before adjustment**.
- Optional exhaust transition allows the cabinet to be vented externally. A facility exhaust blower is required.

Carefully Directed Airflow

Airflow descends from the top of the cabinet through a supply HEPA filter. As this vertical airstream approaches the work surface, the airflow splits. Approximately 50% is drawn into the cabinet's rear intake grille, and the rest meets ambient room air at the front intake grille.

The air is then drawn into a plenum surrounding the work area by the blower located in the top of the cabinet. The blower pushes the air into a positive pressure plenum. The pressurized air is split, with 30% vented through the exhaust HEPA filter and the remaining 70% recirculated through the supply HEPA filter.



- Ambient Air
- HEPA Filter
- Contaminated Air (positive pressure)
- Contaminated Air (negative pressure)
- HEPA Filtered Air

A1 BENCHTOP AIRFLOW

Inflow velocity – 75 FPM minimum
70% – recirculated within the cabinet
30% – exhausted
Added protection – positive pressure plenum is surrounded by negative pressure

A1 Benchtop Specifications

Model

2 Ft. Benchtop 1118

Work Area

Width 22.5" (57.2cm)
 Height 26.5" (67.3cm)
 F-B 19.5" (49.5cm)
 Sash Opening 10.0" (25.4cm)

Exterior Dimensions

Width 28.5" (72.4cm)
 Height 58.5" (148.6cm)
 F-B 27.5" (69.9cm), deduct
 2.0" (5.1cm) from F-B for
 light canopy

Electrical, Plug, Breaker, & Motor

1118 115V, 60 Hz, 6.7 FLA
 115V Two NEMA 5-15P Plugs
 Breaker Requirement . . 15 Amp
 Motor 1/3 HP

Exhaust Requirements

1118 136-151 CFM*
 Canopy Exhaust (opt.) . Add 30% to exhaust CFM
 Connection 8.0" (20.3cm) diameter
 duct connection, 0.25" w.g.
 psi drop at the connection

Service Valve

1118 1, left side

Additional Plugged Penetration

1118 1, left side

Outlets

115V 1, on the control panel

Unit Heat Load

115V 2500 BTUH (740 Watts)

Weight

Net 302 lbs. (137.0 kg)
 Shipping (Motor) 368 lbs. (166.9 kg)

220V, 50 Hz Model 1119 is available upon request (not UL Listed).

*Cubic Feet per Minute (CFM) is based on the Direct Airflow Method, under clean conditions.



Optional Fixed Height Modular Stand

Stock No.	Description
191386	30.0"H (76.2cm)
191387	36.0"H (91.4cm)



Height	Minimum Height (Leveler In)		Maximum Height (Leveler Out)	
	No. 191386	No. 191387	No. 191386	No. 191387
Stand Height	25.5" (64.8cm)	31.5" (80.0cm)	26.8" (68.1cm)	32.8" (83.3cm)
Work Surface Height	28.3" (71.9cm)	34.3" (87.1cm)	29.6" (75.2cm)	35.6" (90.4cm)
Total Height of Cabinet with Stand	84.0" (213.4cm)	90.0" (228.6cm)	85.3" (216.7cm)	91.3" (231.9cm)

A2 Benchtops: Flexible Use

The Class II, A2 cabinet is a popular choice when a clean air environment and **enhanced product, personnel, and environment protection** are required for working with agents assigned to biosafety levels 1, 2, or 3.

The cabinet may be vented directly into the lab in the absence of volatile toxic chemicals and volatile radionuclides. If connected to a properly functioning exhaust canopy, an A2 cabinet is suitable for work with minute quantities of volatile toxic chemicals and tracer amounts of radionuclides when required as an adjunct to microbiological studies.



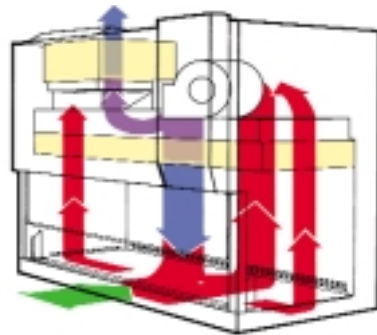
Greater Protection, Larger Work Area

- Frameless glass window ensures a clear, **unobstructed view** of the work area.
- Large 10.0" (25.4cm) sash opening **enhances your mobility and depth of reach** into the work area, while still providing maximum protection.
- The 49.0" (124.5cm) wide work area is 3.0" (7.6cm) larger than other major competitors', providing **additional work space for your research**.
- For **additional product and personnel protection**, unique, patented Vortex Channels create high velocity air at the window corners to move turbulent air into the return air system, **reducing the risk of particulates escaping from or entering the cabinet work area**.
- A 3/4 HP blower/motor provides enough reserve airflow capacity that our cabinet can accept up to a 230% increase in filter resistance and still meet NSF recommended airflow specifications, **extending filter life and reducing maintenance costs**.
- **UV interlock** provides **additional safety** by prohibiting UV light operation unless the sash is fully closed.

Directed Airflow for a Sterile Work Area

Airflow descends from the top of the cabinet through a supply HEPA filter. As this vertical airstream approaches the work surface the airflow splits. Approximately 50% is drawn into the cabinet's rear intake grille, and the rest meets ambient room air at the front intake grille.

The air is then drawn into a plenum surrounding the work area by the blower located in the top of the cabinet. The blower pushes the air into a positive pressure plenum. The pressurized air is split, with 30% vented through the exhaust HEPA filter and the remaining 70% recirculated through the supply HEPA filter.



- Ambient Air
- HEPA Filter
- Contaminated Air (positive pressure)
- Contaminated Air (negative pressure)
- HEPA Filtered Air

A2 BENCHTOP AIRFLOW

Inflow velocity – 100 FPM minimum
70% – recirculated within the cabinet
30% – exhausted
Added protection – positive pressure plenum is surrounded by negative pressure

A2 Benchtop Specifications

Models

4 Ft. Benchtop 1284 (1285)
6 Ft. Benchtop 1286 (1287)

Work Area

Width - 1284 (1285) . . . 49.0" (124.5cm)
Width - 1286 (1287) . . . 73.0" (185.4cm)
Height 28.4" (72.1cm)
F-B 22.7" (57.7cm)
Sash Opening 10.0" (25.4cm)

Exterior Dimensions

Width - 1284 (1285) . . . 54.0" (137.2cm)
Width - 1286 (1287) . . . 78.0" (198.1cm)
Height 64.0" (162.6cm), add 3.0"
(7.6cm) for exhaust grille
F-B* 32.5" (82.6cm)

Electrical, Plug, Breaker, & Motor

1284 115V, 60 Hz, 13.5 FLA
1286 115V, 60 Hz, 13.8 FLA
1285 230V, 50 Hz, 9.6 FLA
1287 230V, 50 Hz, 7.5 FLA
115V NEMA 5-20P Plug
230V CEE 7/7 Plug
Breaker Requirement . . 1284/1286: 20 Amp
1285/1287: 15 Amp
Motor 3/4 HP

Exhaust Requirements

1284 (1285) 357-391 CFM**
1286 (1287) 530-580 CFM**

Exhaust Requirements (continued)

Canopy Exhaust (opt.) . Add 30% to exhaust CFM
Connection 8.0" (20.3 cm) diameter
duct connection, 0.25" w.g.
psi drop at the connection

Service Valves

1284 (1285) 1, right sidewall
1286 (1287) 2, 1 on each sidewall

Additional Plugged Penetrations

1284 (1285) 3, 1 on right and 2 on left
sidewall
1286 (1287) 2, 1 on each sidewall

Outlets

115V 2 GFCI protected duplex,
1 on each sidewall
230V 2, 1 on each sidewall

Unit Heat Load

1284 2830 BTUH (830 Watts)
1285 3770 BTUH (1,110 Watts)
1286 (1287) 3600 BTUH (1,060 Watts)

Weight

Net
1284 (1285) 538 lbs. (244.0 kg)
1286 (1287) 720 lbs. (326.6 kg)
Shipping (Motor)
1284 (1285) 735 lbs. (333.4 kg)
1286 (1287) 940 lbs. (426.4 kg)

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

*Remove light canopy, dress and control panels, and window channel for 28.0" (71.1cm) F-B.

**Cubic Feet per Minute (CFM) is based on the Direct Airflow Method, under clean conditions.



Optional Adjustable Modular Stand

Stand is designed in accordance with American Disabilities Act (ADA) guidelines. Work surface height is adjustable in 1.0" (2.5cm) increments.

Stock No.	Description
191550	For 4 Ft. A2 Units
191551	For 6 Ft. A2 Units
191684	Caster Dolly

An optional **hydraulic crank-up stand** is available. Refer to the *Accessories for Biological Safety Cabinets* section for details about that stand, drawer assemblies, etc.



Height	Minimum Height (Leveler In)	Maximum Height (Leveler Out)
Stand Height	23.4" (59.4cm)	32.7" (83.1cm)
Work Surface Height	26.5" (67.3cm)	35.8" (90.9cm)
Total Height of Cabinet with Stand*	90.4" (229.6cm)	99.7" (253.2cm)

*Recommended minimum clearance is 5.0" (12.7cm) additional above the unit for certification (based on Direct Airflow Method).

B2 Benchtops: The Ultimate Safeguard

The Class II, B2 cabinet provides a clean air environment with **maximum product, personnel, and environment protection** from agents assigned to biosafety levels 1, 2, or 3. Total exhaust makes the B2 ideal for work when volatile toxic chemicals and radionuclides are required as an adjunct to microbiological studies.



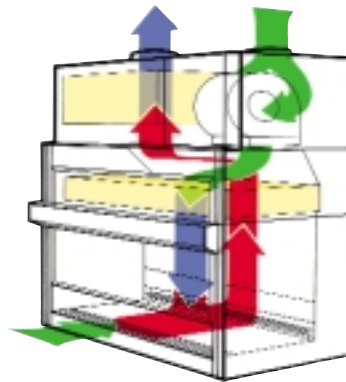
Maximum Protection, Customer Conveniences

- Cabinet's 12.0" (30.5cm) supply air intake and exhaust ducts include adjustable, zero leak dampers for **easy, convenient connection to your in-house systems**.
- Service valves can be **plumbed from the side or rear of the cabinet for convenience**, and **all maintenance procedures can be performed from the front** of the unit.
- Pressure differential switch continuously monitors the exhaust pressure for safety. In the event of inadequate exhaust, the pressure switch interrupts power to the supply blower/motor, **preventing contaminated air from blowing onto you or into the lab**.
- Exhaust failure alarm includes normally open, normally closed, and common remote alarm contacts to provide an output signal for **remote monitoring capabilities via your in-house central alarm systems**.

Total Exhaust, Total Safety

Room air is pulled into the cabinet by the blower and pushed through the supply HEPA filter, providing clean unidirectional air onto the work surface.

Approximately 50% of this work area air exits through the rear grille. The remaining 50% meets room air and is pulled into the front intake grille, providing a protective barrier. The divided downflow and inflow air then combines and is pulled up the rear plenum through the exhaust HEPA filter by the facility exhaust system.



- Ambient Air
- HEPA Filter
- Contaminated Air (negative pressure)
- HEPA Filtered Air

B2 BENCHTOP AIRFLOW

Inflow velocity – 100 FPM minimum
 0% – recirculated within the cabinet
 100% – exhausted
 Maximum protection – unique design eliminates positive pressure contaminated plenum

U.S. Patent held is 5,380,244.

B2 Benchtop Specifications

Models

4 Ft. Benchtop	1148
6 Ft. Benchtop	1168

Work Area

Width - 1148.	46.5" (118.1cm)
Width - 1168.	70.5" (179.1cm)
Height	25.3" (64.3cm)
F-B	25.0" (63.5cm)
Sash Opening.	8.0" (20.3cm)

Exterior Dimensions

Width - 1148.	50.5" (128.3cm)
Width - 1168.	74.5" (189.2cm)
Height	69.8" (177.3cm)
F-B	35.6" (90.4cm), deduct 3.5" (8.9cm) for light canopy

Electrical, Plug, Breaker, & Motor

1148.	115V, 60 Hz, 6.0 FLA
1168.	115V, 60 Hz, 10.0 FLA
115V.	Two NEMA 5-15P Plugs
Breaker Requirement . . .	15 Amp
Motor	1148: 1/3 HP
	1168: 1/2 HP

Exhaust Requirements*

1148.	836-945 CFM
1168.	1,165-1,332 CFM

Exhaust Requirements (continued)

Connection	12.0" (30.5cm) diameter duct connection, 1.5" to 2.0" w.g. psi drop at the connection
----------------------	---

Service Valves

1148.	1, right sidewall
1168.	2, 1 on each sidewall

Additional Plugged Penetrations

1148.	3, 1 on right and 2 on left sidewall
1168.	2, 1 on each sidewall

Outlets

115V.	2 duplex, 1 on each side wall
---------------	-------------------------------

Unit Heat Load

1148.	370 BTUH (110 Watts)
1168.	590 BTUH (170 Watts)

Weight

Net	
1148	604 lbs. (274.0 kg)
1168	904 lbs. (410.1 kg)
Shipping (Motor)	
1148	750 lbs. (340.2 kg)
1168	1,100 lbs. (499.0 kg)

Both units are UL Listed to Canadian requirements and NSF Listed.

220V, 50 Hz 4 ft. Model 1149 and 6 ft. Model 1169 are available upon request (not UL or NSF Listed).

*Units require large volumes of supply and exhaust air, critical to the proper operation of the Class II, B2 cabinets. It is your responsibility to supply the correct volumes of make-up air. Cubic Feet per Minute (CFM) is based on a Pitot tube in the exhaust duct, under clean conditions.



Optional Adjustable Modular Stand

Stand is designed in accordance with American Disabilities Act (ADA) guidelines. Work surface height is adjustable in 1.0" (2.5cm) increments.

Stock No.	Description
191580	For 4 Ft. B2 Units
191581	For 6 Ft. B2 Units

Refer to the *Accessories for Biological Safety Cabinets* section for information about drawer assemblies, etc.



Height	Minimum Height (Leveler In)	Maximum Height (Leveler Out)
Stand Height	23.4" (59.4cm)	32.7" (83.1cm)
Work Surface Height	26.5" (67.3cm)	35.8" (90.9cm)
Total Height of Cabinet with Stand*	93.2" (236.7cm)	102.5" (260.4cm)

*Includes the height of the exhaust duct

Our biosafety cabinet accessories allow you to create a complete workstation that provides comfort and convenience as well as functionality. All accessories are **customer installed unless noted otherwise**.

Hydraulic Crank-Up Stand for A2 Benchtops

Vertical travel range is 7.0" (17.8cm). Levelers include 1.3" (3.3cm) of adjustment. Handle folds out of the way for convenience and safety.

Stock No.	Description
191518	For 4 Ft. A2 Units
191519	For 6 Ft. A2 Units



Ultraviolet (UV) Lights



UV Light Assemblies

Stock No.	Description
191418	15 Watt UV Light for 2 Ft. A1 Model 1118
191419	30 Watt UV Light for 4 and 6 Ft. A1, A2, and B2 Units

Portable UV Lights

Stock No.	Description
191069	15 Watt Portable UV Light for 2 Ft. A1 Model 1118
191070	30 Watt Portable UV Light for 4 and 6 Ft. A1, A2, and B2 Units

Height	Minimum Height (Leveler In)	Maximum Height (Leveler Out)
Stand Height	24.6" (62.5cm)	32.8" (83.3cm)
Work Surface Height	27.6" (70.1cm)	35.8" (90.9cm)
Total Height of Cabinet with Stand*	91.6" (232.7cm)	99.8" (253.5cm)

*Recommended minimum clearance is 5.0" (12.7cm) additional above the unit for certification (based on the Direct Airflow Method).

Drawers for A2 and B2 Benchtop Biosafety Cabinets

Stock No.	Description		Description
191494	Left Side, 4 Drawers for Adjustable Modular Stand (A2 and B2 units), 9.0"W x 18.0"H x 21.5"F-B (22.9cm x 45.7cm x 54.6cm)	191524	Left Side, 2 Drawers for Hydraulic Crank-Up Stand Only (A2 units), 9.0"W x 10.1"H x 21.5"F-B (22.9cm x 25.7cm x 54.6cm)
191495	Right Side, 3 Drawers for Hydraulic Crank-Up or Adjustable Modular Stand (A2 and B2 units), 9.0"W x 18.0"H x 21.5"F-B (22.9cm x 45.7cm x 54.6cm)	191591	Roller Base for Drawer Assembly, adds 3.0" (7.6cm) to the drawer assembly height, 9.4"W x 3.6"H x 21.9"F-B (23.9cm x 9.1cm x 55.6cm)



Exhaust Transitions

Exhaust transitions with an 8.0" (20.3cm) diameter duct and zero leak damper allow you to vent your cabinet to the outside environment.



Stock No.	Description
191217	Canopy Style Exhaust Transition without Damper for 2 Ft. A1 Model 1118
191478	Canopy Style Exhaust Transition with Zero Leak Damper for A1 Consoles
191782	Canopy Style Exhaust Transition with Zero Leak Damper for A2 Units

Low Airflow Alarms

Alarms include NO, NC, and COM dry contacts.



Stock No.	Description
191168	120V, 50/60 Hz Low Airflow Alarm
191380	230V, 50/60 Hz Low Airflow Alarm

IV Rods (complete with 4 hangers each)



Stock No.	Description
191190	IV Bag Hanger
191571	4 Ft. Rod
191572	6 Ft. Rod
191576	2 Ft. Rod

Thru-Wall Port, and Service Valve and Piping Kits

Stock No.	Description
191140	Extra Thru-Wall Port for All A1 and B2 Units, specify left or right sidewall mount, factory installed
191275	Service Valve Kit for All Units, side mounted
191597	Service Valve Kit for A2 Units (used with No. 191620)
191620	Universal Piping Option for A2 Units, factory installed
800045	Rear Piping Kit for A1 Consoles and B2 Benchtops, includes street elbow and spacer

ULPA Filters, factory installed

Stock No.	Description
760190	Supply and Exhaust ULPA Filters for 4 Ft. A1 Consoles
760191	Supply and Exhaust ULPA Filters for 6 Ft. A1 Consoles
760192	Supply and Exhaust ULPA Filters for 4 Ft. A2 Units
760193	Supply and Exhaust ULPA Filters for 6 Ft. A2 Units
760197	Supply and Exhaust ULPA Filters for 4 Ft. B2 Units

Additional Accessories

Stock No.	Description
191056	Ground Fault Interrupt (GFI) Duplex Receptacle for B2 Units
191127	Adjustable Footrest
191416	Locking Caster Set for A1 Consoles, adds 3.3" (8.4cm) to max. cabinet height
191486	Lab Chair with Arms, meets Class 1,000 clean air specifications
191487	Lab Chair without Arms, meets Class 1,000 clean air specifications
191496	ADA Control Panel for A2 Units, factory installed
191509	Armrest for 4 Ft. A2 Units
191512	Armrest for 6 Ft. A2 Units
6001284	IQ/OO for Models 1148, 1168, 1200, 1214, 1284, and 1286



Laminar Airflow Benchtops: Product Protection

Our horizontal laminar airflow benchtop workstations, often referred to as *clean benches*, create clean air for operations requiring a particle-free environment. These units **meet requirements of Federal Standard 209E for Class 100 (M 3.5) clean air**.



Designed for Safety

The workstation's design allows high velocity laminar air to travel across the work surface and past the operator. When various sized objects are placed within the work area, the airflow does not permit "backwashing" (i.e., contaminated outside air will not drift back into the work environment).

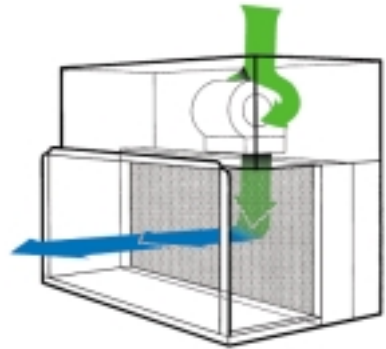
- All interior surfaces of the work area align with the edge of the HEPA filter media to provide true laminar airflow, **preventing "picture framing" and backwashing of contaminated air and ensuring your product's safety.**

- Work surface and sidewalls are constructed of 16 gauge Type 304 stainless steel for **durability and easy cleaning.**
- Blower/motor automatically **compensates for filter loading between annual certifications.**
- Blower/motor switch, light switch, accessory receptacle, and receptacle for an optional UV light are **located conveniently on the control panel.**
- Built-in spill guard at the back of the work area protects the HEPA filter from spilled liquids, **preventing filter damage and premature replacement.**
- Units can be factory modified with reverse airflow to accommodate centrifuges, automated samplers, and other aerosol producing equipment. Contact our Custom Products Department.

Carefully Directed Airflow

Intake air passes through a 1.0" (2.5cm) fiberglass prefilter. The blower/motor unit moves the air through a zero-probed, HEPA filter rated at 99.99% efficient for 0.3 micron particulates.

The HEPA filtered air is then directed horizontally across the work surface. Positive pressure, unidirectional laminar airflow prevents any inflow of room air contaminants onto the work surface.



- Ambient Air
- HEPA Filtered Air

LAMINAR AIRFLOW BENCHTOPS

Designed for lab procedures associated with the manipulation of non-hazardous materials, while maintaining a high quality environment of Class 100 (M 3.5) HEPA filtered air within the work area

Laminar Airflow Benchtop Specifications

Models

3 Ft. Benchtop	1839 (1840)
4 Ft. Benchtop	1845 (1846)/1849 (1851)
6 Ft. Benchtop	1828 (1829)

Work Area

Width - 1839 (1840)	34.5" (87.6cm)
Width - 1845 (1846)/ 1849 (1851)	46.5" (118.1cm)
Width - 1828 (1829)	70.5" (179.1cm)
Height - 1839 (1840)/ 1849 (1851)	28.4" (72.1cm)
Height - 1845 (1846)	34.4" (87.4cm)
F-B	19.1" (48.5cm)

Exterior Dimensions

Width - 1839 (1840)	37.0" (94.0cm)
Width - 1845 (1846)/ 1849 (1851)	49.2" (125.0cm)
Width - 1828 (1829)	73.2" (185.9cm)
Height - 1839 (1840)	49.1" (124.7cm)
Height - 1845 (1846)	59.1" (150.1cm)
Height - 1849 (1851)	53.1" (134.9cm)
Height - 1828 (1829)	54.1" (137.4cm)
F-B	34.0" (86.4cm)

Electrical, Plug, Breaker, & Motor

1839	120V, 60 Hz, 7.0 FLA
1845/1828	120V, 60 Hz, 12.0 FLA
1849	120V, 60 Hz, 9.0 FLA
1840/1851	220V, 50 Hz, 9.0 FLA
1846/1829	220V, 50 Hz, 11.0 FLA

Electrical, Plug, Breaker, & Motor (continued)

120V	NEMA 5-15P Hospital Grade Plug
220V	CEE 7/7 Plug
Breaker Requirement	15 Amp
Motor	1839 (1840)/1849 (1851): 1/3 HP 1845 (1846)/1828 (1829): 1/2 HP

Penetrations

All Models 4, 2 on each sidewall

Unit Heat Load

1839	2750 BTUH (810 Watts)
1840/1851	6760 BTUH (1,980 Watts)
1845/1828	4910 BTUH (1,440 Watts)
1846/1829	8260 BTUH (2,420 Watts)
1849	3680 BTUH (1,080 Watts)

Weight

Net	
1839 (1840)	190 lbs. (86.2 kg)
1845 (1846)/ 1849 (1851)	325 lbs. (147.4 kg)
1828 (1829)	430 lbs. (195.0 kg)
Shipping (Motor)	
1839 (1840)	290 lbs. (131.5 kg)
1845	420 lbs. (190.5 kg)
1846	440 lbs. (199.6 kg)
1849 (1851)	400 lbs. (181.4 kg)
1828 (1829)	530 lbs. (240.4 kg)

120V units are UL Listed to Canadian requirements. 220V, 50 Hz units and custom units are not UL Listed.



Optional Modular Stand

Stock No.	Description
191400	30.0"H (76.2cm) for 3 Ft. Units
191402	30.0"H (76.2cm) for 4 Ft. Units
191398	30.0"H (76.2cm) for 6 Ft. Units
191401	36.0"H (91.4cm) for 3 Ft. Units
191403	36.0"H (91.4cm) for 4 Ft. Units
191399	36.0"H (91.4cm) for 6 Ft. Units



Model	Total Cabinet Height With 30.0" Stand		Total Cabinet Height With 36.0" Stand	
	Minimum Ht.*	Maximum Ht.**	Minimum Ht.*	Maximum Ht.**
1839 (1840) - 3 Ft.	77.6" (197.1cm)	78.9" (200.4cm)	83.6" (212.3cm)	84.9" (215.6cm)
1845 (1846) - 4 Ft.	87.6" (222.5cm)	88.9" (225.8cm)	93.6" (237.7cm)	94.9" (241.0cm)
1849 (1851) - 4 Ft.	81.6" (207.3cm)	82.9" (210.6cm)	87.6" (222.5cm)	88.9" (225.8cm)
1828 (1829) - 6 Ft.	82.6" (209.8cm)	83.9" (213.1cm)	88.6" (225.0cm)	89.9" (228.3cm)

*Minimum height = levelers in; minimum height to the work surface is 29.4" (74.7cm) for the 30.0" stand and 35.4" (89.9cm) for the 36.0" stand

**Maximum height = levelers out; maximum height to the work surface is 30.7" (78.0cm) for the 30.0" stand and 36.7" (93.2cm) for the 36.0" stand

Laminar Airflow Consoles: Product Protection in Easy-to-Install, One-Piece Construction

Our horizontal laminar airflow console workstations, often referred to as *clean benches*, create clean air for operations requiring a particle-free environment. These units **meet requirements of Federal Standard 209E for Class 100 (M 3.5) clean air.**



Designed for Safety

The workstation's design allows high velocity laminar air to travel across the work surface and past the operator. When various sized objects are placed within the work area, the airflow does not permit "backwashing" (i.e., contaminated outside air will not drift back into the work environment).

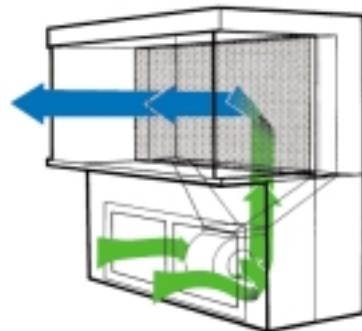
- Low overall height permits **easy passage through doorways** and **accommodates sites where ceiling height is limited.**

- All interior surfaces of the work area align with the edge of the HEPA filter media to provide true laminar airflow, **preventing "picture framing" and backwashing of contaminated air and ensuring your product's safety.**
- Work surface and sidewalls are constructed of 16 gauge Type 304 stainless steel for **durability and easy cleaning.**
- Blower/motor automatically **compensates for filter loading between annual certifications.**
- Blower/motor switch, light switch, accessory receptacle, and receptacle for an optional UV light are **located conveniently on the control panel.**
- Built-in spill guard at back of the work area protects the HEPA filter from spilled liquids, **preventing filter damage and premature replacement.**
- Casters provide **easy mobility** for cleaning or moving. Leveling feet are included for **stability** when positioned in a final location.
- Units can be factory modified with reverse airflow to accommodate centrifuges, automated samplers, and other aerosol producing equipment. Contact our Custom Products Department.

Carefully Directed Airflow

Intake air passes through a 1.0" (2.5cm) fiberglass prefilter. The blower/motor unit moves the air through a zero-probed, HEPA filter rated at 99.99% efficient for 0.3 micron particulates.

The HEPA filtered air is then directed horizontally across the work surface. Positive pressure, unidirectional laminar airflow prevents any inflow of room air contaminants onto the work surface.



- Ambient Air
- HEPA Filtered Air

LAMINAR AIRFLOW CONSOLES

Designed for lab procedures associated with the manipulation of non-hazardous materials, while maintaining a high quality environment of Class 100 (M 3.5) HEPA filtered air within the work area

Laminar Airflow Console Specifications

Models

4 Ft. Console	1852
5 Ft. Console	1854
6 Ft. Console	1856 (1857)

Work Area

Width - 1852	48.3" (122.7cm)
Width - 1854	60.3" (153.2cm)
Width - 1856 (1857)	72.3" (183.6cm)
Height	32.0" (81.3cm)
F-B	21.0" (53.3cm)

Exterior Dimensions

Width - 1852	52.0" (132.1cm)
Width - 1854	64.0" (162.6cm)
Width - 1856 (1857)	76.0" (194.0cm)
Height	74.6" (189.5cm)
F-B	34.0" (86.4cm)

Electrical, Plug, Breaker, & Motor

1852	120V, 60 Hz, 9.5 FLA
1854/1856	120V, 60 Hz, 12.0 FLA
1857	220V, 50 Hz, 11.0 FLA
120V	NEMA 5-15P Hospital Grade Plug
220V	CEE 7/7 Plug
Breaker Requirement	15 Amp
Motor	1852: 1/3 HP 1854/1856: 1/2 HP 1857: 3/4 HP

120V units are UL Listed to Canadian requirements. 220V, 50 Hz units and custom units are not UL Listed.

Penetrations

All Models	4, 2 on each sidewall
------------	-----------------------

Unit Heat Load

1852	3890 BTUH (1,140 Watts)
1854/1856	4910 BTUH (1,440 Watts)
1857	8260 BTUH (2,420 Watts)

Weight

Net	
1852	470 lbs. (213.2 kg)
1854	550 lbs. (249.5 kg)
1856 (1857)	610 lbs. (276.7 kg)
Shipping (Motor)	
1852	590 lbs. (267.6 kg)
1854	680 lbs. (308.4 kg)
1856	775 lbs. (351.5 kg)
1857	800 lbs. (362.9 kg)



Our laminar airflow cabinet accessories allow you to create a complete workstation that provides comfort and convenience as well as functionality. All accessories are **customer installed unless noted otherwise**.

Ultraviolet (UV) Lights



UV Light Assemblies

Stock No.	Description
191075	15 Watt UV Light for 3 Ft. Model 1839
191481	15 Watt UV Light for 3 Ft. Model 1840
191076	30 Watt UV Light for 4, 5, and 6 Ft. Units

Portable UV Lights

Stock No.	Description
191069	15 Watt Portable UV Light for 3 Ft. Model 1839
191070	30 Watt Portable UV Light for 4, 5, and 6 Ft. 120V Units

IV Rods (complete with 4 hangers each)



Stock No.	Description
191057	Rod for All Benchtops (Model 1828 (1829) requires 2)
191121	Rod for 5 Ft. Console Model 1854
191227	Rod for 6 Ft. Console Model 1856 (1857)
191228	Rod for 4 Ft. Console Model 1852

Portable Microscope Stand

Stand fits inside the workstation yet is independent of the cabinet. Table surface is free from vibration and protected by Class 100 (M 3.5) HEPA filtered air.

Stock No.	Description
191586	18.0" x 18.0" (45.7cm x 45.7cm) Stainless Steel Platform, height is adjustable from 32.0" to 41.0" (81.3cm to 104.1cm) in 1.0" (2.5cm) increments

Receptacles with Cover(s), factory installed

Stock No.	Description
191109	120V NEMA 5-15R Ground Fault Circuit Interrupter (GFCI) Duplex Receptacle, right side
191110	120V Sidewall Mounted NEMA 5-15R Duplex Receptacle, right side

Additional Accessories

Stock No.	Description
191009	Plexiglas® Side Panel for Consoles, factory installed
191253	Service Valve Kit
191055	Magnehelic Pressure Gauge, factory installed
191236	Storage Bin Kit for Consoles, attaches beneath the work surface
191127	Adjustable Footrest
191486	Lab Chair with Arms, meets Class 1,000 clean air specifications
191487	Lab Chair without Arms, meets Class 1,000 clean air specifications

