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(763) 712-8717

Labculture® G4

Class II Type B2 Biological Safety Cabinets

The Most Advanced, Energy-efficient, Safe, and Ergonomic Biosafety Cabinet in the World

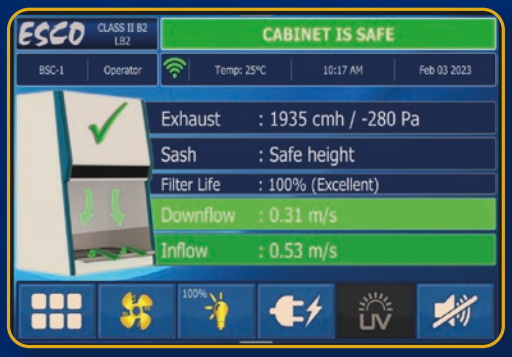
LABCULTURE® G4 (LB2 G4) CLASS II TYPE B2 CABINET,

Airflow Sensor

- *Monitors real-time airflow for safety*
- *Alert the user if airflow is insufficient*

USB Port and Zero Volt Relay Contact

- *USB Port to send operational information to Building Management System (BMS)*
- *Zero Volt Relay Contact to turn ON/OFF exhaust blower and signal the building alarm*



Centurion 7" Capacitive Touchscreen Controller

- *Displays all safety information on one large screen*
- *Shows cabinet parameters with intuitive 3D illustration*
- *Easy to use menu, similar to Smart Phone Apps*
- *Large buttons, easy to operate when wearing gloves*
- *Self-guidance to users to deal with specific situations*
- *Centered and angled down for easy reach and viewing*
- *Optional: 21 CFR Part 11 Compliance*

Single Piece Wall

- *Easy to reach service fixtures and electrical outlets on sidewalls*
- *Large radius corners for easy cleaning*

User-friendly Work Tray

- *Largest useable area in the market*
- *Recessed to contain spillage*
- *Sloped perimeter for easy cleaning*
- *Large, easy to clean tray handle*

Raised Arm Rest

- *Prevent grille blocking*
- *Comfortable working posture*
- *Durable stainless steel construction*

Esco Labculture® G4 Class II Type B2 Biosafety Cabinet
Available in 3 feet, 4 feet, 5 feet, and 6 feet models.

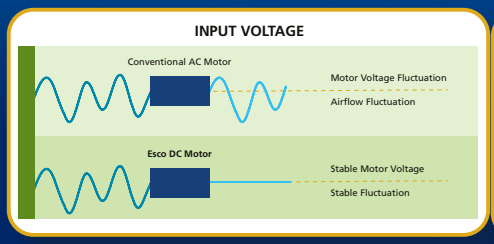
Ergonomic Work Zone

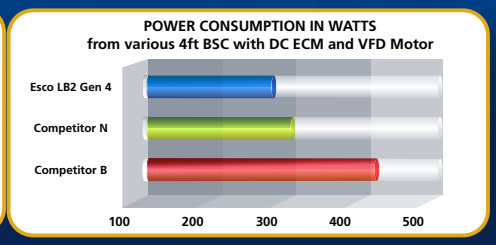
- *10° angle to optimize user comfort, reduce glare, and maximize reach into the work area*
- *Brightly illuminated with >1200 lux (111 ft. cd)*
- *Industry-leading dimmable LED for optimum work comfort*
- *Airtight seal port for cable/tube exit protected by a negative pressure side wall*

FEATURING ADVANCED TOUCHSCREEN CONTROLLER

Energy-efficient DC ECM Blower

- *The leading energy efficient Class II Type B2 Biosafety Cabinet in the world with 70% energy savings compared to AC motor*
- *Stable airflow despite building voltage fluctuations and filter loading*





Advance Filtration System

- *10x Filtration efficiency of HEPA filter*
- *Creates ISO Class 3 work zone instead of Industry-standard ISO Class 5*
- *Same 10 years filter life and replacement cost as HEPA filters*

Dimmable LED

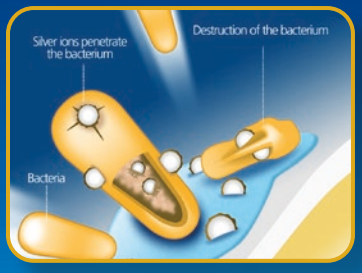
- *Save energy and optimize work comfort*

Tray Support Beams

- *Support work tray evenly for less vibration*
- *Cleaning holder to easily wipe the drain pan*

ISOCIDE™ Powder Coat

- *Silver-ion impregnated powder coat*
- *Inhibits microbial growth to improve safety*
- *Prevents the plenum from becoming biohazard landfill*



Certification

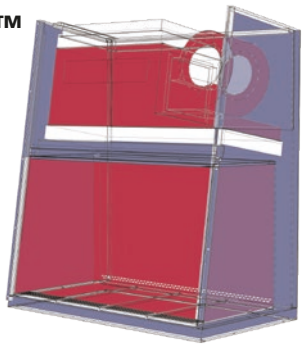
	Performance	Air Quality	Filtration	Electrical Safety
Standards Compliance	NSF / ANSI 49, USA	ISO 14644.1, Class 3, Worldwide US Fed Std 209E, Class 1 USA JIS B9920, Class 3, Japan	EN-1822 (H14), Europe IEST-RP-CC001, USA	UL 61010-1 3rd Ed, USA CSA22.2, No.1010-192, Canada

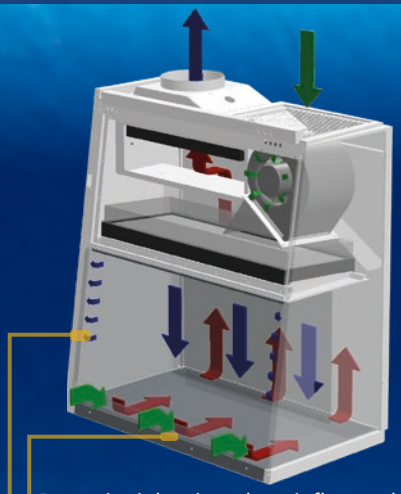
Dynamic Chamber™

- *Blower plenum and side walls are surrounded by negative pressure*
- *Prevent contaminants from escaping outside*

Positive Pressure

Negative Pressure

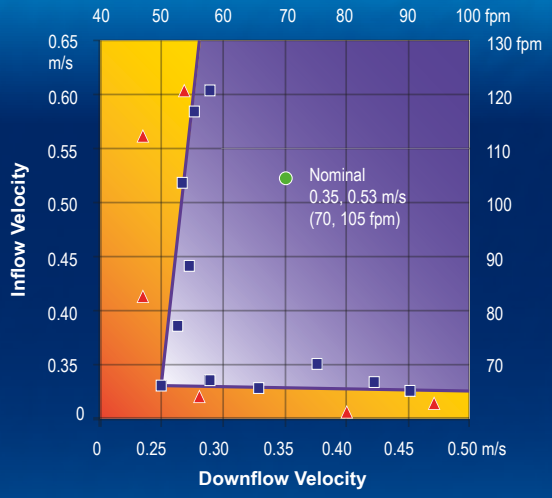




Cabinet Filtration System

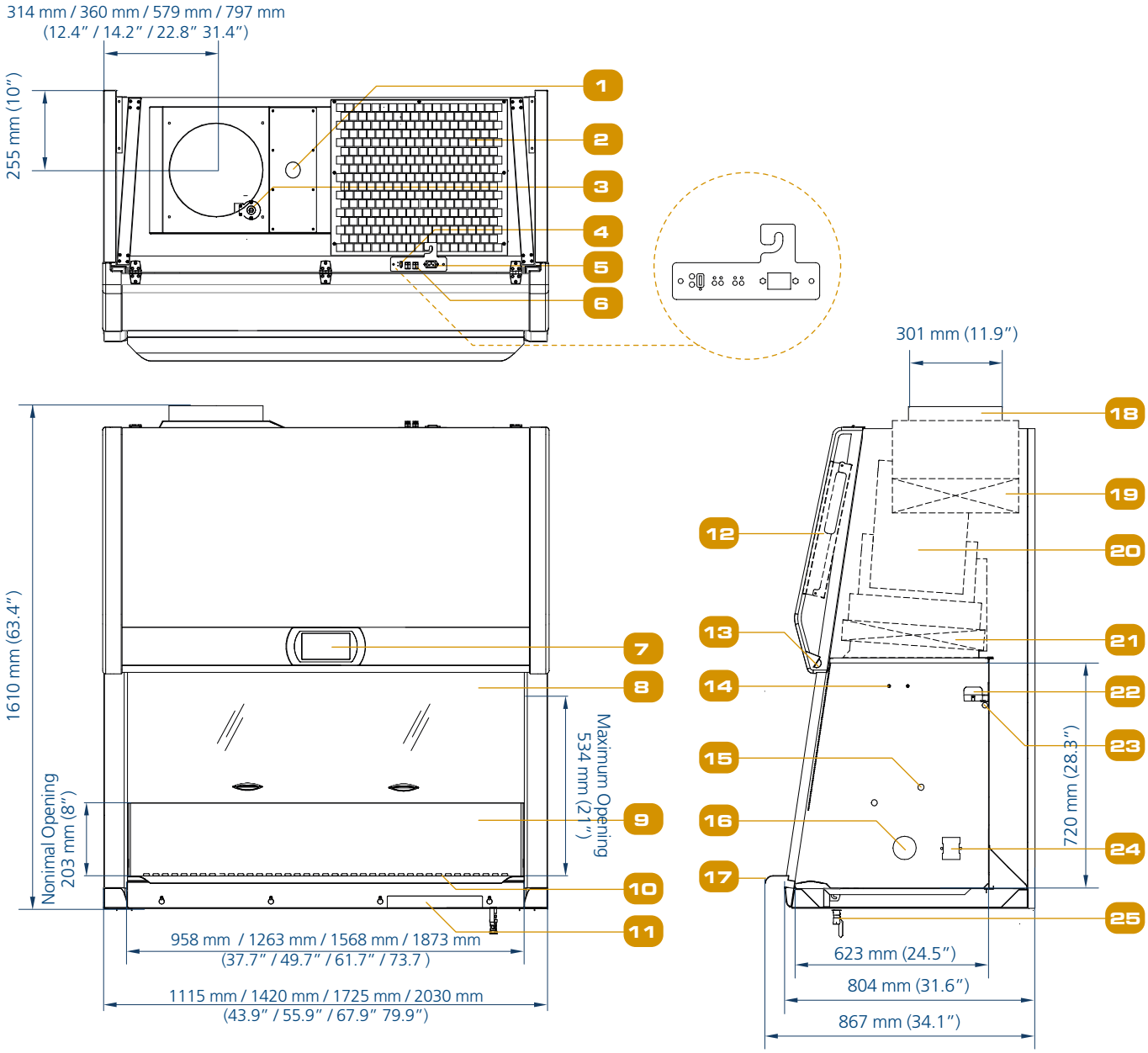
- Ambient air is pulled through the front grille to prevent contamination of the work surface and work product. The inflow does not mix with the clean air within the cabinet work zone.
- Ambient air is taken in through a pre-filter at the top of the cabinet, and passes through the downflow ULPA filter, entering the work zone as laminar flow. The uniform, non-turbulent air stream protects against cross contamination within and throughout the work area.
- Near the work surface, the downflow air stream splits with a portion moving toward the front air grille, and the remainder moving to the rear air grille. A small portion of the ULPA filtered downflow enters the intake perforations at the side capture zones at a higher velocity (small blue arrows).
- A combination of inflow and downflow air streams forms an air barrier that prevents contaminated room air from entering the work zone, and prevents work surface emissions from escaping the work zone. The downflow combined with the inflow air enters the common air plenum.
- All air in the common plenum is HEPA-filtered and exhausted via a dedicated ducting system to the external environment.
- Fail-safe system ensures that in case of exhaust failure, the cabinet's main fan automatically shuts down to ensure safety to the user

The Performance Envelope Concept



- Nominal Airflow
- Personnel / Product Protection
- Area of Personnel / Product Protection
- No Personnel / Product Protection
- Area of no Personnel / Product Protection

Engineering Drawing



1. *VHP In Provision*
2. *Pre-filter*
3. *Exhaust Airflow Sensor*
4. *USB Port*
5. *Power Inlet*
6. *Zero Voltage Relay Contact*
7. *Centurion 7" Touch Screen Controllet*
8. *Sash Glass*
9. *Single-piece Stainless Steel Backwall*
10. *Stainless Steel Work Tray*
11. *Data Plate*
12. *Electrical Panel*
13. *Dimmable LED Lamp*
14. *IV Bar Retrofit Kit Provision*
15. *Service Fixture Retrofit Kit provision*
16. *Cable Port*
17. *Stainless Steel Armrest*
18. *Exhaust Collar*
19. *Exhaust Filter*
20. *DC ECM Blower*
21. *Downflow Filter*
22. *Downflow Sensor*
23. *UV Lamp Provision*
24. *Electrical outlet*
25. *Drain Valve (optional)*

Options and Accessories

LB4-G4		3 feet	4 feet	5 feet	6 feet
Anti-blowback Valve 12 inches	EG Powder Coated	ABBV-12P 5170353			
	304 Stainless Steel	ABBV-12X 5170355			
UV Lamp		UV-15A 5170251	UV-30A 5170255		
IV Bar		IV-955 5170276	IV-1260 5170277	IV-1565 5170278	IV-1870 5170279
Electrical Outlet	Direct Mounted	EO-HC 5170035			
	GFCI	EO-GFCI 5170071			
Service Fixtures	EU SF-Gas-40 mm and Solenoid Valve	SF-1G40 5170002			
	EU SF-Vacuum-40 mm	SF-1V40 5170003			
	EU SF-Air-40 mm	SF-1A40 5170006			
	EU SF-Nitrogen-40 mm	SF-1N40 5170011			
	EU SF-Water-40 mm	SF-1W40 5170017			
	US SF-Universal-0 mm	SF-2U40 5170018			
	Copper Piping for SF	CU-Pipe 5170026			
Support Stand		STA-3A0 5131340	STA-4A0 5131341	STA-5A0 5131427	STA-6A0 5131389
Pipette Storage Shelf		STAINLESS STEEL PIPETTE STORAGE SHELF 5260327			
Arm Rest Padding		MEWREST 5170127			
Foot Rest		FT-REST 5170492			
Laboratory Chair		ME-LD-AR360 1150006			
IQOQ Protocol		IQOQ 9010179			


ABBV-_


UV-_A-L


IV-_


EO-H_


EO-GFCI


SF-1_


SF-2U_


STA-_


Pipette Storage Shelf


MEWREST


FT-REST


ME-LD-AR360


IQOQ

Class II Type B2 Biological Safety Cabinets (203 mm / 8" Opening)

TECHNICAL SPECIFICATIONS						
Labculture® Class II Type B2	Stainless Steel Side Walls	220-240 VAC, 50/60 Hz	**LB2-3B8 G4 2011682**	**LB2-4B8 G4 2011684**	**LB2-5B8 G4 2011686**	**LB2-6B8 G4 2011688**
		110-130 VAC, 50/60 Hz	**LB2-3B9 G4 2011683**	**LB2-4B9 G4 2011685**	**LB2-5B9 G4 2011687**	**LB2-6B9 G4 2011689**
Nominal Size			0.9 meter (3')	1.2 meter (4')	1.5 meter (5')	1.8 meter (6')
External Dimensions* (W x D x H)	Without Optional Base Stand		1115 x 867 x 1610 mm (43.9" x 34.1" x 63.4")	1420 x 867 x 1610 mm (55.9" x 34.1" x 63.4")	1725 x 867 x 1610 mm (67.9" x 34.1" x 63.4")	2030 x 867 x 1610 mm (79.9" x 34.1" x 63.4")
Internal Dimensions (W x D x H)			958 x 623 x 720 mm (37.7" x 24.5" x 28.3")	1263 x 623 x 720 mm (49.7" x 24.5" x 28.3")	1568 x 623 x 720 mm (61.7" x 24.5" x 28.3")	1873 x 623 x 720 mm (73.7" x 24.5" x 28.3")
Usable Work Area			0.45 m² (4.8 sq.ft.)	0.62 m² (6.7 sq.ft.)	0.76 m² (8.2 sq.ft.)	0.93 m² (10.0 sq.ft.)
Tested opening			203 mm (8")			
Maximum Sash Opening			534 mm (21")			
Average Airflow Velocity	Inflow		0.53 m/s (105 fpm)			
	Downflow		0.31 m/s (60 fpm)			
Airflow Volume	Inflow		376 m³/h (223 cfm)	493 m³/h (292 cfm)	608 m³/h (361 cfm)	724 m³/h (429 cfm)
	Downflow		628 m³/h (363 cfm)	822 m³/h (476 cfm)	1016 m³/h (588 cfm)	1210 m³/h (700 cfm)
	CBV Exhaust Air Volume**		1127 m³/h (658 cfm)	1476 m³/h (862 cfm)	1824 m³/h (1065 cfm)	2173 m³/h (1269 cfm)
	Minimum Exhaust Static Pressure		400 Pa / 1.6 in H20	375 Pa / 1.5 in H20	375 Pa / 1.5 in H20	400 Pa / 1.6 in H20
	CBV Exhaust Static Pressure**		575 Pa / 2.3 in H20	550 Pa / 2.2 in H20	550 Pa / 2.2 in H20	575 Pa / 2.3 in H20
Supply ULPA Filter Typycal Efficiency			99.999% efficiency at 0.3-0.1 microns			
Exhaust HEPA Filter Typical Efficiency			≥99.99% at 0.3 microns			
Sound Emission (dBA)*	NSF / ANSI 49		57 dBA	58 dBA	59 dBA	60 dBA
	EN 12469		54 dBA	55 dBA	56 dBA	57 dBA
Light Intensity	LED Lamp Intensity		>1200 Lux (>93 foot-candles)			
	Optional UV Lamp		253.7 nm			
Electrical Requirements	Nominal Power Consumption		166 W	189 W	229 W	252 W
	Heat Load		566 BTU/Hr	645 BTU/Hr	781 BTU/Hr	860 BTU/Hr
	Full Load Amps		10 Ampere			
Cabinet Construction	Main Body		Electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish, 1.5 mm (0.06") / 16 gauge thick			
	Work Zone		Stainless steel Type 304 with No.4 finish, 1.5 mm (0.06") / 16 gauge thick			
Net Weight			279 Kg (615 lbs)	317 Kg (699 lbs)	359 Kg (791 lbs)	438 Kg (966 lbs)
Shipping Weight			318 Kg (703 lbs)	370 Kg (814 lbs)	402 Kg (886 lbs)	491 kg (1083 lbs)
Shipping Dimensions, Maximum (W x D x H)			1210 x 950 x 1950 mm (47.6" x 37.4" x 76.8")	1520 x 950 x 1950 mm (59.8" x 37.4" x 76.8")	1900 x 950 x 1950 mm (74.8" x 37.4" x 76.8")	2150 x 950 x 1950 mm (84.7" x 37.4" x 76.8")
Shipping Volume Dimensions (W x D x H)			2.24 m³ (79.1 cu.ft.)	2.82 m³ (99.6 cu.ft.)	3.52 m³ (124.3 cu.ft.)	3.98 m³ (140.6 cu.ft.)

Disclaimer: Technical Specifications may be subjected to further changes without further notice.
**Electrical power consumption is an measurement of new unit with clean filter operated within nominal setpoint. Result per unit may vary.*
***This Concurrent Balance Value (CBV) Exhaust Volume (per Pitot Duct Traverse) and Static Pressure at cabinet exhaust connection should be used when sizing the HVAC exhaust and supply.*