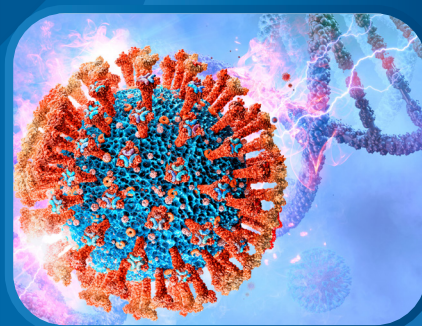




# Labculture® G4

## Class II Type A2 Biological Safety Cabinets

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



# LABCULTURE® G4 (LA2 G4) CLASS II TYPE A2 BIOSAFETY



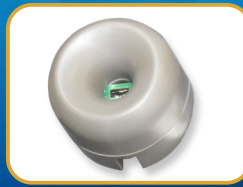
## USB Port

- Export Data Logging
- Software Update
- Wired data transaction to BMS



## Zero Volt Relay Contact

- Free Relay Contact
- Exhaust Free Relay Contact



## Airflow Sensor

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



## 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
- Wired data transaction to BMS



## 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
- Work tray holder for drain pan cleaning



## Raised Arm Rest

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



## Ergonomic Work Zone

- 10° angle to optimize user comfort, reduce glare, and maximize reach into the work area
- Brightly illuminated with >1111 lux
- Industry-leading dimmable LED for optimum work comfort
- Airtight seal port for cable/tube exit protected by a negative pressure side wall



*Esco Labculture® G4 Class II Type A2 Biosafety Cabinet  
Available in 3 feet, 4 feet, 5 feet, and 6 feet models.*



# CABINET, FEATURING ADVANCED TOUCHSCREEN CONTROLLER

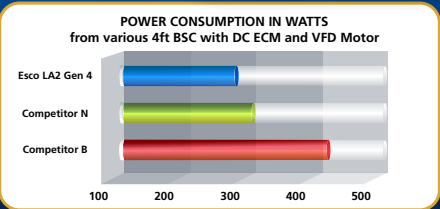
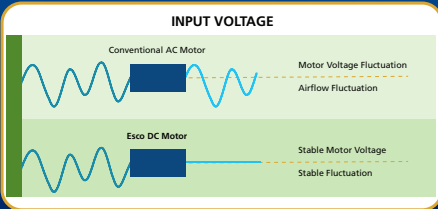


## Power Inlet socket

- Easy to install with plug and play design

## Energy-efficient DC ECM Blower

- The leading energy efficient Class II Type A2 Biosafety Cabinet in the world with 70% energy savings compared to AC motor
- Stable airflow despite building voltage fluctuations and filter loading
- Standby mode to further reduce power consumption by 80%



Labculture  
Class II Type A2 Biosafety Cabinet

## Advanced ULPA 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

Note:  
• 99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA  
• 99.999% at MPPS, H14 as per EN 1822 EU



## Dimmable LED

- Save energy and optimize work comfort



## Removable Paper Catch

- Prevent objects from being pulled into blower plenum
- Removable for easy cleaning
- Optional pre-filter can be fitted



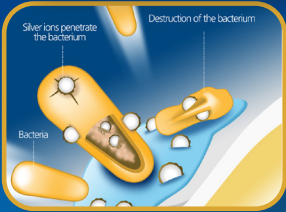
## User Modified Pass-Through / Cable Port

- 3" Port with 1/4" hole on rubber membrane inside
- Surrounded by negative pressure
- Allows cables and tubes to exit with fully closed sash



## 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

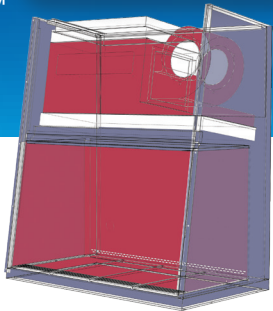
## Certification

	Performance	Air Quality	Filtration	Electrical Safety	Electromagnetic Compatibility (EMC)
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 IEC61010-1, Worldwide	EN IEC 61326-1 Group 1 / Class A

## Dynamic Chamber™

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

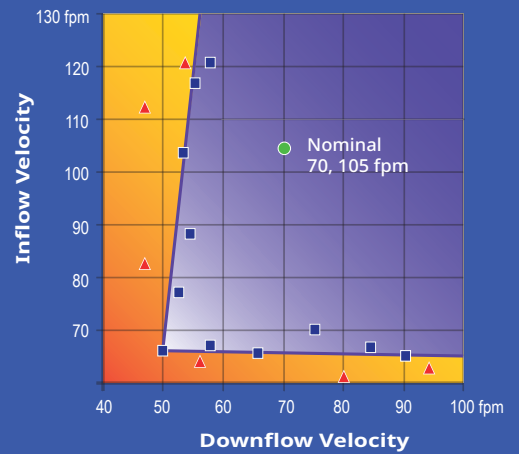
Positive Pressure  
Negative Pressure



## Cabinet Filtration System

- Ambient air is pulled through front grille to create inflow, without going into the work surface. Inflow is joined by half of the downflow, to create front air curtain that is fine-tuned to create a large performance envelope. The combined air stream travels through the back air column towards the blower.
- Approximately  $\frac{1}{3}$  of the air in the common plenum is exhausted through the ULPA filter to the room. The remaining  $\frac{2}{3}$  of the air is passed through the downflow ULPA filter and into the work area as a vertical laminar flow air to create ISO Class 3 work surface and prevents cross contamination.
- Near the work surface, the downflow splits. About half goes to the front grille, and half goes to the rear grille. A small portion enters the side capture zones to prevent dead air corners (small blue arrows).
- The design was optimized to give large performance envelope, that provides operator and product protection at wide Inflow and Downflow variation from the Nominal point.

## The Performance Envelope Concept



Dynamic air barrier, where inflow and downflow converge

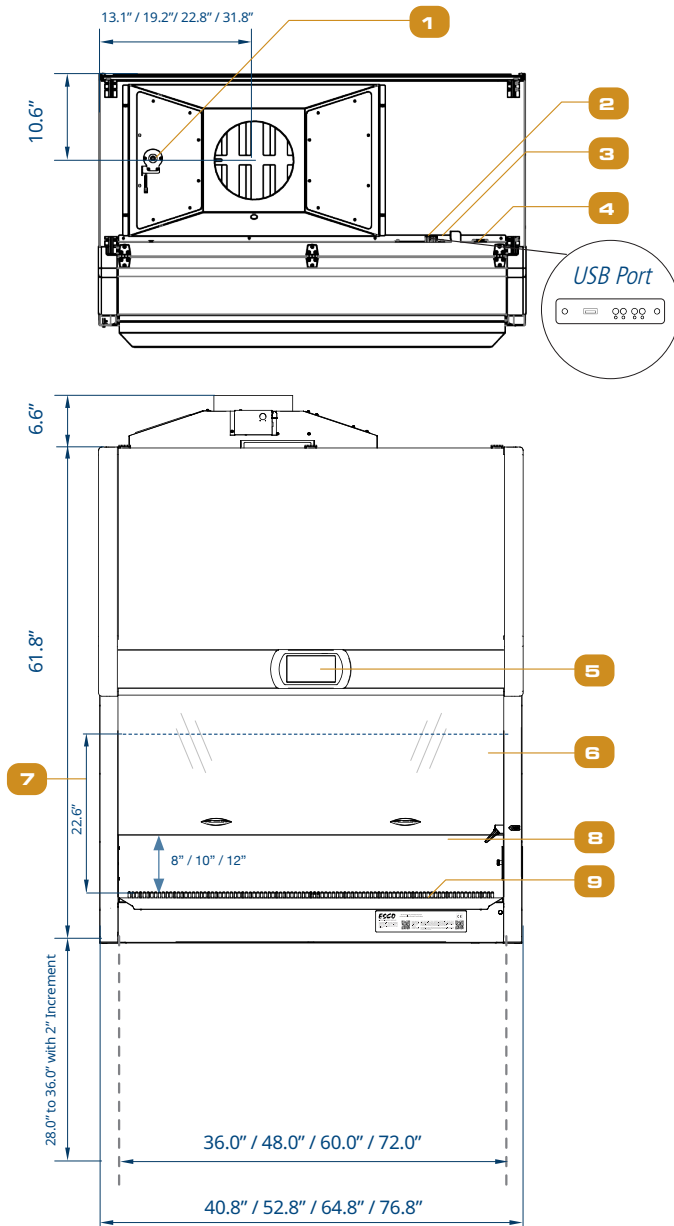
Side capture zones

ULPA-filtered air

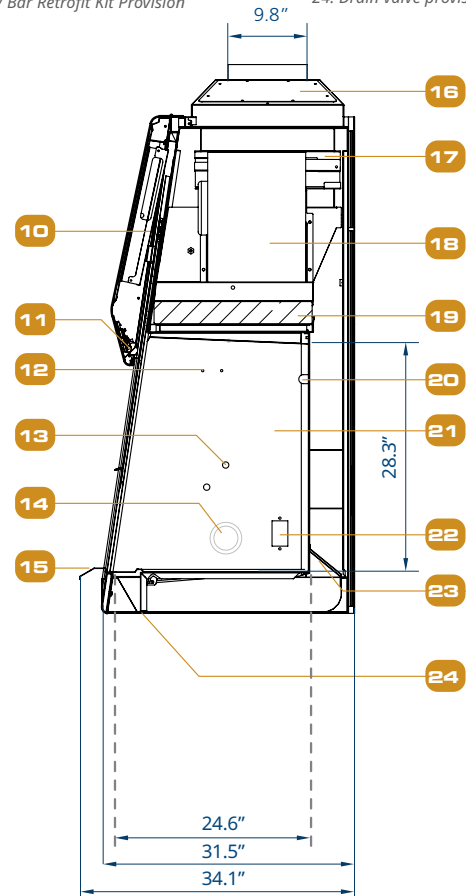
Unfiltered / potentially contaminated air

Room air / Inflow air

## Engineering Drawing



- Exhaust sensor
- USB Port
- Zero Volt Relay Contact
- Power Inlet (1 for 3-4 ft, 2 for 5-6 ft)
- Centurion Touchscreen Controller
- 10° Angled Sash Window
- Maximum Sash Opening
- Single-piece Stainless Steel Back Wall
- Single tray for S-series and Multi tray for E-series
- Electrical Panel
- Dimmable LED Lamp
- IV Bar Retrofit Kit Provision
- Service Fixture-2U
- Cable Port (NSF Approved)
- Stainless Steel Arm Rest
- Exhaust Collar (optional)
- Exhaust Filter
- DC ECM Blower
- Downflow Filter
- UV Lamp Provision
- Stainless steel side walls for S-series and Glass side walls for E-series
- Duplex GFCI Outlets (1L/1R), total max 5A
- Paper catch
- Drain valve provision



## TECHNICAL SPECIFICATIONS

Labculture® Class II	Stainless Steel Side Walls	110-130 VAC, 50/60 Hz	LA2-3S9 G4 10" 2011683	LA2-4S9 G4 10" 2011685	LA2-5S9 G4 10" 2011687	LA2-6S9 G4 10" 2011689
Nominal Size			3'	4'	5'	6'
External Dimensions (W x D x H)	Without Arm Rest		41" x 32" x 62"	53" x 32" x 62"	65" x 32" x 62"	77" x 32" x 62"
	With Arm Rest		41" x 34" x 62"	53" x 34" x 62"	65" x 34" x 62"	77" 34" x 62"
Internal Dimensions (W x D x H)			36" x 25" x 28.3"	48" x 25" x 28.3"	60" x 25" x 28.3"	72" x 25" x 28.3"
Usable Work Area			5 sq.ft	7 sq. ft	9 sq.ft	10 sq.ft
Sash opening			10" sash opening (optional for 8" and 12")			
Maximum Sash Opening			23"			
Average Airflow Velocity	Inflow	10"	105 fpm			
	Downflow	10"	65 fpm	60 fpm	65 fpm	60 fpm
Airflow Volume	Inflow	10"	263 cfm	350 cfm	438 cfm	525 cfm
	Downflow	10"	374 cfm	499 cfm	624 cfm	748 cfm
	Exhaust	10"	263 cfm	350 cfm	438 cfm	525 cfm
Additional Static Pressure for Optional Thimble Exhaust Collar (Measured 360mm or 14" from the top of exhaust collar)		10"	20-30 Pa	35-45 Pa	25-35 Pa	55-65 Pa
Required Exhaust with Optional Thimble Exhaust Collar		10"	283 cfm	375 cfm	453 cfm	556 cfm
ULPA Filter Typical Efficiency			>99.999% at 0.1 to 0.3 micron, ULPA as per IEST-RP-CC001.3 USA >99.999% at MPPS, H14 as per EN 1822 EU			
Sound Emission (dBA)*	NSF / ANSI 49	10"	60	59	63	63.3
LED Lamp Light Intensity			≥ 92 ft-cd			
Electrical Rating (9)** 110-130 VAC 50/60Hz	Nominal power (Watt)	10"	203	205	380	421
	Heat Load (BTU/hr)	10"	693	699	1297	1471
	Full Load Amps exclude 5A EO	10"	15 A, 1 NEMA 5-15, 10ft cable for BSC and Outlets		15 A, 1 NEMA 5-15, 10ft cable, for BSC	
	Optional Outlets FLA				5 A, 1 NEMA 5-15, 10ft cable, for Outlets	
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			
	Sash Window		6 mm UV-absorbing Tempered Glass			
Net Weight			536 lbs	633 lbs	840 lbs	882 lbs
Shipping Weight			644 lbs	772 lbs	968 lbs	1116 lbs
Shipping Dimensions, Maximum (W x D x H)			46.7" x 37.4" x 83.5"	58.7" x 37.4" x 83.5"	76.8" x 37.4" x 83.5"	86.6" x 37.4" x 83.5"
Shipping Volume			81 cu.ft	106 cu.ft	138 cu.ft	155 cu.ft

Disclaimer: Technical Specifications may be subjected to further changes without prior notice.

\*Noise reading in open field condition / anechoic chamber. Noise reading in normal room varies by room size, layout, and background noise, but may reach roughly 3-4 dBA above these values.

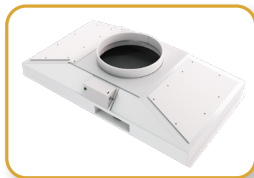
\*\*Electrical power consumption is an measurement of new unit with clean filter operated within nominal setpoint. Result per unit may vary.

## Options and Accessories

Anti-blowback Valve 10 inches	EG Powder-Coated	ANTI-BLOW BACK VALVE 10" ABBV-10P 5170352			
	304 Stainless Steel	ANTI-BLOW BACK VALVE 10" ABBV-10S 5170354			
Exhaust Collar		ECO-F1-LA2/AC2/LR2/ AR-3FT G4 5171097	ECO-F1-LA2/AC2/LR2/ AR2/VA2-4FT G4 5171098	ECO-F1-LA2/AC2/LR2/ AR2-5FT G4 5171099	ECO-F1-LA2/AC2/LR2/ AR2/VA2-6FT G4 5171100
UV Lamp		UV-15A (5170251)	UV-30A (5170255)		
IV Bar		IV-910 (5170499)	IV-1215 (5170231)	IV-1520 (5170500)	IV-1825 (5170501)
Electrical Outlet	Direct Mounted	EO-H_			
	GFCI	EO-GFCI (5170071)			
Service Fixtures	US SF-Universal-22 mm	SF-2U22 (5170504)			
	Copper Piping for SF	CU-Pipe (5170026)			
Support Stand Height of 28" to 36" with 2" increment, combination of caster wheels and leveling feet		STA-3A0 5131340	STA-4A0 5131341	STA-5A0 5131427	STA-6A0 5131389
Stainless Steel Pipette Storage Shelf		5260327			
Arm Rest Padding		MEWREST (5170127)			
Foot Rest		FT-REST (5170073)			
Laboratory Chair		ME-LD-AR360 (1150006)			
IQOQ Protocol		9010179			



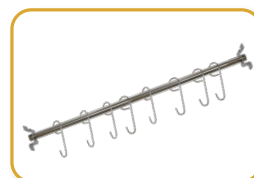
SEISMIC BRACKET



ECO-F-LA2-4 G4



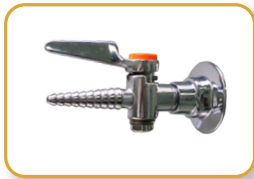
UV\_A-L



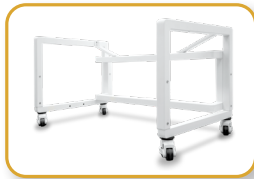
IV\_



EO-GFCI



SF-2U\_



STA\_



SPML



SPMC



SS Pipette Storage Shelf



MEWREST



FT-REST



ME-LD-AR360



IQOQ



## Life Science Tools



Biological Safety Cabinet



Laminar Flow Cabinet



Animal Workstation



CO<sub>2</sub>/O<sub>2</sub> Incubators

## Chemical Research



Ducted Fume Hoods



Ductless Fume Hoods



USP 797 / 800  
Compliant Isolators



Powder Containment  
Workstations

## Pharma Compounding

## Medical (IVF)



Multi-room Incubators



Time-Lapse Incubators



IVF Workstations



PCR Workstations

## PCR

## Bioprocessing

## Pharmaceutical



Bioreactors



cGMP and Filling Line Isolators



Air Shower and Pass Boxes



Downflow Booths

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