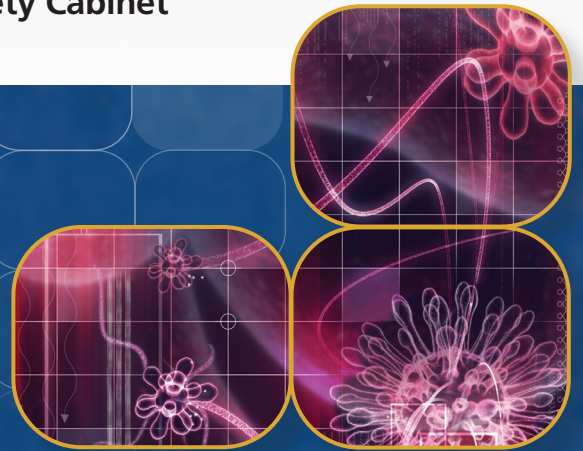




*Labculture Class II, Type B1
Biosafety Cabinet, Model LB1-4B1-E.*

Labculture®

Class II, Type B1 Biological Safety Cabinets
The Energy-Efficient, Safe, and Ergonomic Biosafety Cabinet



ESCO
SCIENTIFIC



Welcome to Esco

Esco's Vision is to provide enabling technologies for scientific discoveries to make human lives healthier and safer.

The Esco Lifesciences Group is committed to deliver innovative solutions for the clinical, life sciences, research, industrial, laboratory, pharmaceutical, and IVF community. With the most extensive product line in the industry, Esco have passed a number of international standards and certifications. Esco represents innovation and forward-thinking designs, that are of the highest standard quality since 1978.

Availability and Accessibility. Esco has headquarters in Singapore, Indonesia, and Philippines, with manufacturing facilities are located in Asia and Europe. Research and Development (R&D) is conducted worldwide spanning the US, Europe and Asia. Sales, services and marketing subsidiaries are located in 42 major markets including US, UK, Japan, China and India. Esco regional distribution centers are located in Singapore, Malaysia, Thailand, Vietnam, Myanmar, Indonesia, Philippines, Bangladesh, Hong Kong, Taiwan, South Korea, China, Japan, India, UAE, Central and South Africa, Denmark, Germany, Italy, Lithuania, Russia, United Kingdom, and USA. Because of our worldwide presence, you can be sure that Esco is within your reach.

High Quality, Reliable, and Dependable. Esco products are of high quality, reliable, and dependable; assuring customers of research accuracy. Cross functional teams from Esco Production, R&D, Quality Assurance, and Senior Management, are regularly assembled to review and implement areas for improvement.

Esco Cares for Your Safety. Esco focuses on providing safety not just for your samples but also for you and the environment.

Esco Cares for Your Comfort. Building ergonomic designs and reducing noise levels of the units ensures comfort for our users.

Esco Cares for the Environment. One in every four of Esco's employees is involved in R&D and a number of them evaluate new components and/or designs to produce energy efficient equipment. Being GREEN is more than just modifying parts used to produce a new energy efficient technology, it is also embodied in the every aspect of the company.

Customer Service and Support. Our service does not stop once purchase has been done. Esco gives on-time customer service and offers end-user seminars, service training, preventive maintenance, and provides educational materials and informative videos.

As Esco takes the opportunity to respond to the world's needs, we aim not only to contribute in the advancement of scientific discoveries but also in making the world a safer, healthier, and better place to live in.

Labculture®

LB1 Class II Type B1 • Biological Safety Cabinets

Products and Application

Laboratory Equipment

Sample Handling and Preparation

- Class I Biological Safety Cabinets
- Class II Biological Safety Cabinets
- Class II Type A2 Biological Safety Cabinets
- Class II Type B1 Biological Safety Cabinets
- Class II Type B2 Biological Safety Cabinets
- Class III Biological Safety Cabinets
- Horizontal Laminar Flow Cabinets
- Vertical Laminar Flow Cabinets
- Laboratory Animal Research Workstations
- Laboratory Centrifuges

Sample Cultivation

- CO₂ Incubators, Direct Heat Air-Jacketed
- CO₂ Incubators with Cooling System
- CO₂ Incubators with High Heat Sterilization
- Laboratory Shakers

Amplification and Detection

- Conventional Thermal Cyclers
- Microplate Shakers
- PCR Cabinets

Sample Storage & Sample Protection Solutions

- Ultra-low Temperature Freezers
- Lab Refrigerators and Freezers
- Sample Database Management Software
- Intelligent Remote Monitoring Application Protocol
- Remote Monitoring, Datalogging, Programming Software
- Wireless Monitoring System

Chemical Research

- Ducted Fume Hoods
- Ductless Fume Hoods
- Filtered Storage Cabinets
- Powder Weighing Balance Enclosure
- Exhaust Blowers
- Fume Hood Airflow Monitor

General Equipment

Laboratory Thermostatic Products

- Forced Convection Laboratory Oven
- Forced Convection Laboratory Incubator
- Natural Convection Laboratory Incubator
- Refrigerated Laboratory Incubator

Medical / IVF Equipment

Controlled Embryo Handling

- Esco Multi-Zone ART Workstation
- Esco Multi-Zone ART Workstation Class II
- AVT Anti-Vibration Table
- Semi-Closed Environment (SCE) IVF

Safe Embryo Culture

- MIRI® Multiroom Incubator
- MIRI® II Multiroom Incubator
- Mini MIRI® Humidified Incubator
- Mini MIRI® Dry Incubator
- CelCulture® CO₂ Incubator

Innovative Time-Lapse Imaging

- MIRI® Time-Lapse Incubator

Accurate Quality Control

- MIRI® GA Gas and Temperature Validation Unit

Unique Consumables

- CultureCoin®

Healthcare

Esco Pharma Products

Airflow Containment

- BioBooth™
- Ceiling Laminar Airflow (CLAF)
- Cytoculture® Cytotoxic Safety Cabinet
- Pharmacon™ Downflow Booth
- Esco Garment Storage Cabinet
- Esco Glassware Hoods
- Laminar Flow Horizontal/Vertical Trolley (LFH/VT)
- Laminar Flow Straddle Units
- Evidence Drying Cabinet

Isolation Containment

- Advanced Processing Platform Isolator (APPI)
- Aseptic Containment Isolator (ACTI)
- Blood Cell Labelling Isolator
- Streamline® Closed Restricted Access Barrier System (SLC-RABS)
- Containment Barrier Isolator (CBI)
 - CBI-Unidirectional (CBI-U)
 - CBI-Turbulent (CBI-T)
 - CBI-Class III Biosafety Cabinet (CBI-III)
 - CBI-Convertible Class III/Class I Biosafety Cabinet (CBI-H)
- Isoclean® Healthcare Platform Isolator (HPI)
 - HPI-G3-Without Filter Below Work Zone
 - HPI-G3-With Filter Below Work Zone
 - HPI-Inflatable Seal (HPI-IS)
- General Processing Platform Isolator
 - GPPI-Inflatable Seal (GPPI-IS)
 - GPPI-Static Seal (GPPI-SS)
- Streamline® Compounding Isolator
 - SCI - Isolator Configuration
 - SCI - Class III Biosafety Cabinet (SCI-III)
- Technetium Dispensing Isolator
- Turbulent Flow Aseptic Isolator (TFAI)
- Weighing and Dispensing Containment Isolator (WDCI)

Cross Contamination Facility Integrated Barrier

- BioPass™ Pass Through
- Cleanroom Air Showers
- Dynamic Pass Boxes/ Dynamic Floor Laminar Hatches
- Infinity® Air Shower Pass Box
- Esco Sputum Booth
- Infinity® Pass Boxes
- Infinity® Cleanroom Transfer Hatch
- Soft Capsule® Soft Wall Cleanroom

Ventilation Containment

- Ventilated Balance Enclosure

Esco VacciXcell Products

Bioreactors and Fermenters

- CelXrocker™
- CelCradle™
- CelShaker™
- CelCradle™ X
- CelCradle Semi-Automated Harvesting System™ (CCX-SAH)
- BioXcell™
- StirCradle™
- StirCradle™ PRO
- TideXcell™
- TideXcell™ Harvesting System (TXLHS)
- VXL™ Hybrid Bioreactor

Cell Culture Monitoring, Media and Consumables

- Super Plus™
- Plus™ Vero
- Plus™ MDCK
- Plus™ MDCK II
- BioNOC™ II macrocarriers
- GlucCell™ Glucose Monitoring System
- CVD Kit

Filling Line Equipment

- Filling Line Isolators
- cRabs (close restricted access barriers)
- oRabs (open restricted access barriers)

Integrated Solutions

- Cell Processing Isolator
- Cell Processing Center

Esco TaPestle Rx Products

Pharmacy Compounding Solutions

- Compounding Pharmacy Isolators (SCI, HPI, CBI, GPPI)
- Safety Cabinets and Enclosures (CYT, Class II BSC, VBE, LFC)
- Aseptic Filling Systems

Radiopharmacy Equipment Solutions

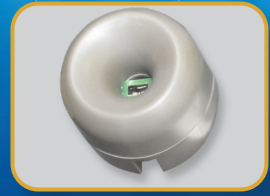
- Radioisotope Fume Hood
- Lead-lined Biosafety Cabinet
- Technetium Dispensing Isolator
- Blood Cell Labeling Isolator
- GMP-compliant Radioisotope Dispensing Isolator

LABCULTURE® CLASS II TYPE B1 (LB1) BIOSAFETY CABINETS



RS 232 Port and Zero Volt Relay Contact

- RS 232 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



Airflow Sensor

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



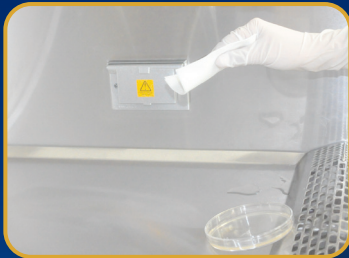
Sentinel Gold Microprocessor Controller

- Displays all safety information on one screen
- Centered and angled down for easy reach & viewing
- Selectable Quickstart mode for fast operation



Single Piece Wall

- Large radius for easy cleaning
- Side-mounted electrical outlets and staggered service fixtures, for easy reach



Single Piece Work Tray

- Recessed to contain spillage
- Curved grill to prevent blockage



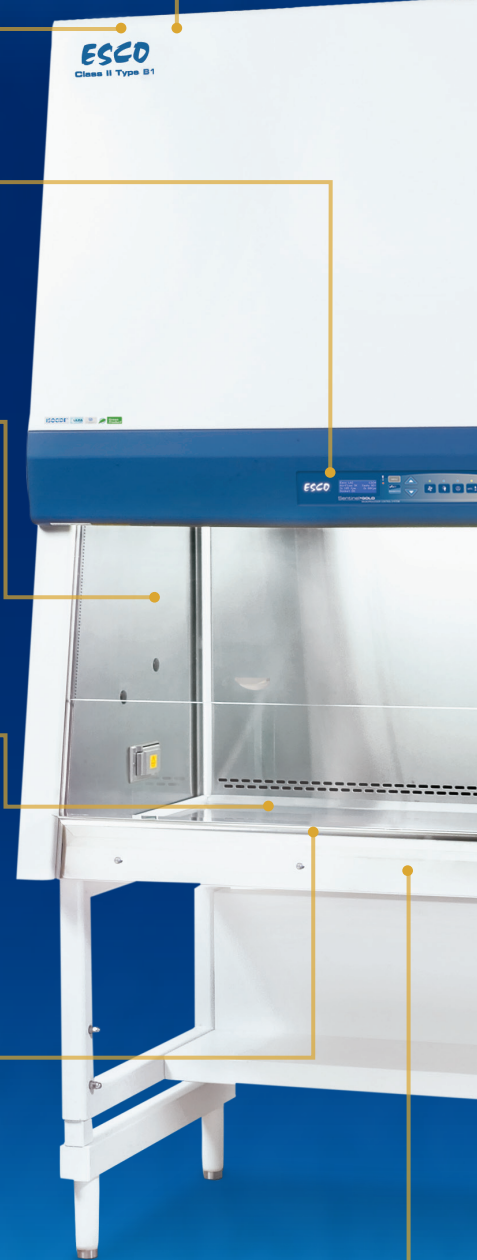
Raised Arm Rest

- Helps prevent grille blocking
- Comfortable working posture



Angled Drain Pan

- Easy to clean
- Does not harbor contaminants



Available in 1.2 meter (4 ft)
Shown with optional telescoping stand.

S, FEATURING ADVANCED MICROPROCESSOR CONTROLLER

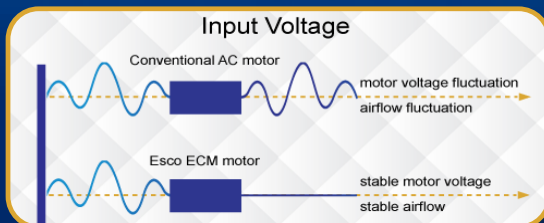


Pressure Switch

- Temperature independent
- Fast response

Energy Efficient ECM Motor

- Powered by latest generation ECM motor **MADE IN USA**, that is more efficient than legacy ECM and VFD motors
- 70% Energy savings compared to AC motor
- Stable airflow, despite building voltage fluctuations & filter loading
- Night Setback mode to further reduce power consumption by 60%

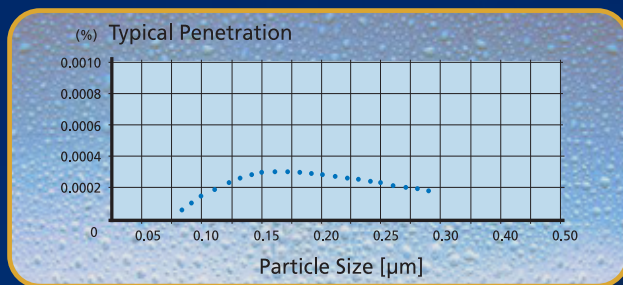


ULPA Downflow Filter

- 10x Filtration efficiency of HEPA filter
- Creates ISO Class 3 work zone instead of industry-standard ISO Class 5

Esco cabinets use ULPA filters (per IEST-RP-CC001.3) / H14 per EN 1822 instead of H13 HEPA filters used on many BSCs in the market.

HEPA filters only offer 99.99% typical efficiency at 0.3 micron, while ULPA filters provide 99.999% typical efficiency for particle sizes of 0.1 to 0.3 micron.

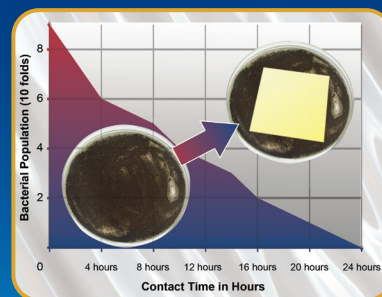


Dynamic Chamber

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

ISOCIDE™ Powder Coat

- Silver-ion impregnated powder coat
- Inhibit microbial growth to improve safety



| | Biosafety Cabinets | Air Quality | Filtration | Electrical Safety |
|----------------------|--------------------|--|---|---|
| Standards Compliance | NSF / ANSI 49, USA | ISO 14644.1, Class 3, Worldwide JIS B9920, Class 3, Japan JIS BS5295, Class 3, Japan US Fed Std 209E, Class 1 USA | EN-1822, Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA | UL-C-61010A-1, USA CSA22.2, No.1010-192, Canada EN-61010-1, Europe IEC61010-1, Worldwide |

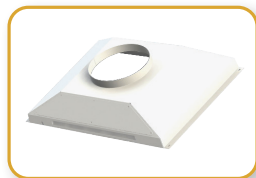
General Specifications, Labculture® Class II Type B1, Biological Safety Cabinet

| Model | | LB1-4B1-E 2011249 | LB1-4B2-E 2010694 |
|--|---|--|----------------------|
| Nominal Size | | 1.2 meter (4') | |
| External Dimensions (W x D x H) | Without Base Stand | 1420 x 927 x 1540 mm (55.9" x 36.5" x 60.6") | |
| | With Optional Base Stand, 710 mm (28") type | 1420 x 927 x 2250 mm (55.9" x 36.5" x 88.6") | |
| Internal Work Area, Dimensions (W x D x H) | | 1270 x 623 x 715 mm (55.9" x 36.5" x 60.6") | |
| Internal Work Area, Space | | 0.59 m ² (6.4 sq. ft) | |
| Tested Opening | | 203 mm (8.0") | |
| Average Airflow Velocity | Inflow | 0.53 m/s (105 fpm) | |
| | Downflow | 0.30 m/s (60 fpm) | |
| Airflow Volume | Certification Exhaust Volume | 493 m ³ /h (290 cfm) | |
| | Certification Exhaust Static Pressure for Clean Filter | 196 Pa (0.78 in H ₂ O) | |
| | CBV Exhaust Air Volume for HVAC Sizing | 552 m ³ /h (325 cfm) | |
| | CBV Exhaust Static Pressure for HVAC Sizing | 275 Pa (1.1 in H ₂ O) | |
| ULPA Filter Typical Efficiency | Downflow | >99.999% for particle size between 0.1 to 0.3 microns, per IEST-RP-CC001.3 | |
| | Exhaust | >99.99% MPPS at 0.3 micron as per EN1822 (H-14) EU | |
| Sound Emission (Typical)* | NSF / ANSI 49 | <55 dBA | |
| LED Light Intensity at Zero Ambient | | >1400 lux (>130 foot candles) | |
| Cabinet Construction | Main Body | 1.5 mm (0.06") / 16 gauge EG steel with Isocide™ Oven-Baked Epoxy-Polyester Powder Coating | |
| | Work Zone | Single Tray: 1.5 mm (0.06") / 16 gauge, SS 304, 4B Finish. | |
| | Side Walls | 1.5 mm (0.06") / 16 gauge, SS 304, 4B Finish | |
| Electrical | Voltage rating | 220-240 VAC, 50 Hz | 110-120 VAC, 60 Hz |
| Shipping Weight | | 370 Kg (814 lbs) | |
| Shipping Dimensions | | 1520 x 1020 x 1950 mm (59.8" x 40.2" x 76.8") | |
| Shipping Volume, Maximum | | 3.02 m ³ (106.7 cu ft) | |

*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

Accessories for Labculture® Class II Type B1, Biological Safety Cabinet

| | | | |
|-------------------|--|---------------------|--------------------------|
| Exhaust Ducting | Anti-blowback Valve | EG Powder Coated | ABBV-12P 5170353 |
| | | 304 Stainless Steel | ABBV-12S 5170355 |
| | Air Tight Damper | | B2-Damper 5170104 |
| UV Lamp | | | UV-30A-L 5170255 |
| IV Bars | | | IV-1260 5170277 |
| Work Zone | Ultraviolet (UV) Lamp | | UV-30A-L 5170255 |
| | IV Bars | | IV-1565 5170279 |
| Electrical Outlet | Direct Mounted | | EO-HD 5170036 |
| 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 |
| | EU SF-Universal-40 mm | | SF-2U40 5170018 |
| Support Stands | Fixed Stand with Leveling Feet, 28" height | | SAL-4A0 Gen 2 5130134 |
| | Fixed Stand with Leveling Feet, 34" height | | SAL-4B0 Gen 2 5130175 |
| | Fixed Stand with Caster Wheels, 28" height | | SPC-4A0 Gen 2 5130152 |
| | Fixed Stand with Caster Wheels, 34" height | | SPC-4B0 Gen 2 5130166 |
| | Telescopic Stand with Leveling Feet, 1" adjustment | | STL-4A0 5130051 |
| | Telescopic Stand with Caster Wheels, 1" adjustment | | STC-4A0 5130056 |
| | Motorized Height Stand with Caster Wheels | | SPM-4A_ |



Exhaust Accessories



Germicidal UV Lamp



Electrical Outlet



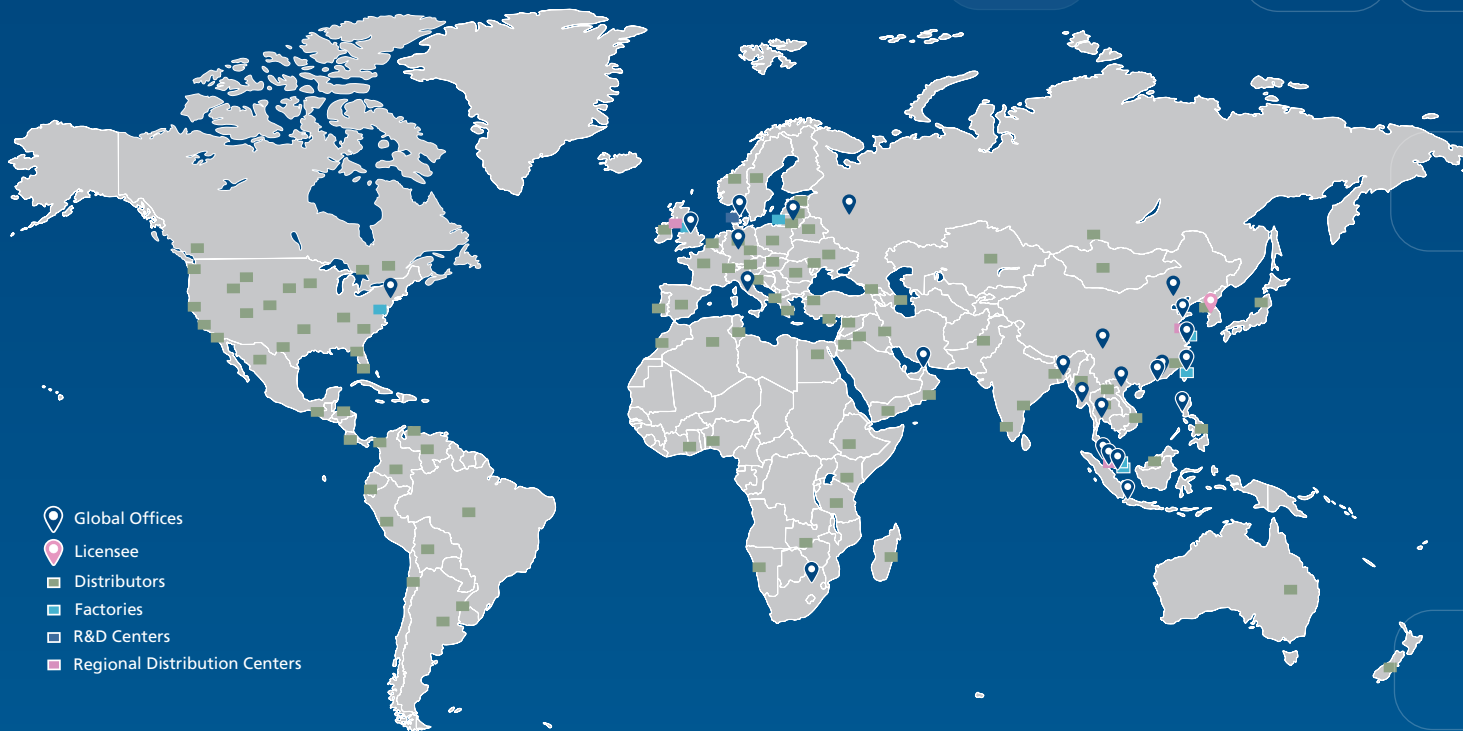
Service Fixtures



Support Stands

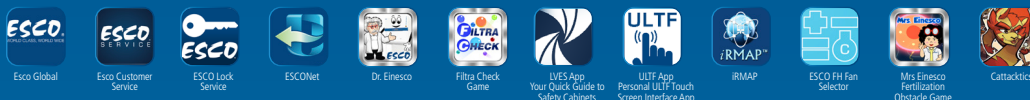
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