ESCO LIFESCIENCES

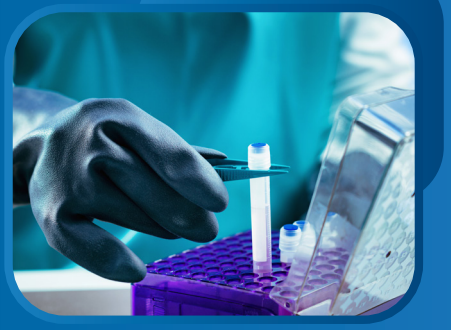
Labculture® Plus LA2 EU-E G4

Labculture® Plus LA2 EU-S G4

Labculture® PLUS G4

Class II Biological Safety Cabinets

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



LABCULTURE® PLUS G4 (LA2-EU G4) CLASS II BIOSAFETY

Airflow Sensor

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

USB Port

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

Zero Volt Relay Contact

- Free Relay Contact
- Exhaust Free Relay Contact

Centurion 7" Capacitive Touchscreen Controller

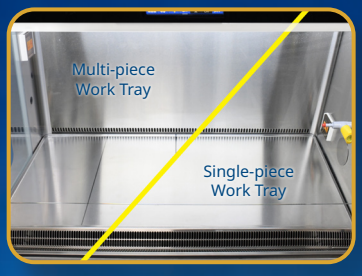
- Displays all safety information on one large screen
- Shows cabinet parameters with intuitive 3D illustration
- Easy to use menu, similar to Smart Phone Apps
- Large buttons, easy to operate when wearing gloves
- Self-guidance to users to deal with specific situations
- Centered and angled down for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

Motorized Window

- Aerosol tight window seal
- Window automatically stops at safe operating height
- Conveniently move the window by fingertip
- Tiltable Sash for easy glass cleaning

Unique Stainless Steel and Glass Hybrid Wall (E-Series)

- Large corner radius for easy cleaning
- Easy to reach service fixture and outlets
- Stainless steel side wall is available (S-Series)
- Hole-free side glass for increased safety



User-friendly Work Tray

- Largest useable area in the market
- Available in two variants:
  - Single-piece, recessed work tray to contain spillage (S-series)
  - Autoclavable, multi-piece work tray (E-series)
- Sloped perimeter for easy cleaning
- Easy-to-lift tray
  - Large, easy-to-clean tray handles (S-series)
  - Seamless hole to lift a tray segment (E-series)
- V-shaped grill allowing efficient inflow

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 >1200 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® Plus G4 Class II Biosafety Cabinet
Available in 0.9 m, 1.2 m, 1.5 m, and 1.8 m models.

EN12469

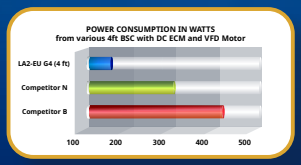
Certified by TÜV NORD, Germany for compliance to DIN EN 12469

CABINET, FEATURING ADVANCED TOUCHSCREEN CONTROLLER

Power Inlet Socket

Dual Energy-efficient DC ECM Blower

- The leading energy efficient Class II 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%



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

Airtight Window

- Aerosol-tight sash window seal for additional protection when the cabinet is in working mode and to assist decontamination when the window is fully closed.

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

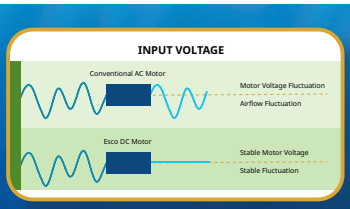
- 3" Port with ¼" hole on rubber membrane inside
- Surrounded by negative pressure
- Allows cables and tubes to exit with fully closed sash

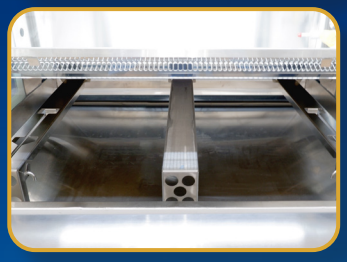
Removable Tray Support Beams

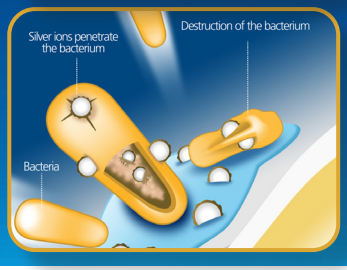
- Support work tray evenly for less vibration
- Tray props to easily clean the drain pan

ISOCIDE™ Powder Coat

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







Certification

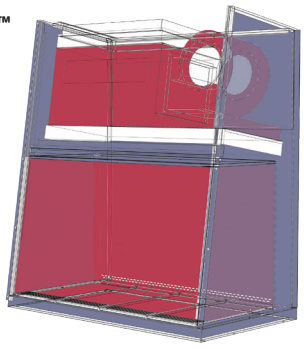
	Performance	Air Quality	Filtration	Electrical Safety	Electrical Safety
Standards Compliance	EN 12469, TUV Nord, Germany	ISO 14644.1, Class 3, Worldwide, US Fed Std 209E, Class 1 USA JIS B9920, Class 3, Japan	EN-1822 (H14), Europe IEST-RP-CC001, USA	EN-61010-1, Europe IEC61010-1, Worldwide	EN-61010-1, Europe IEC61010-1, Worldwide

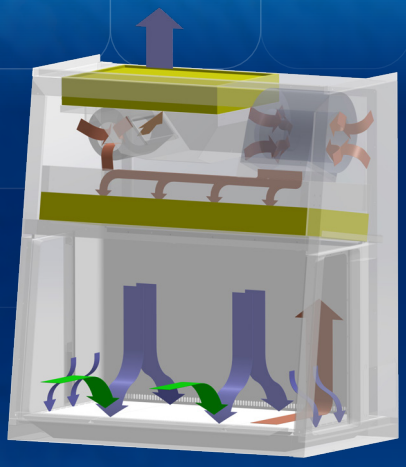
Dynamic Chamber™

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

Positive Pressure

Negative Pressure



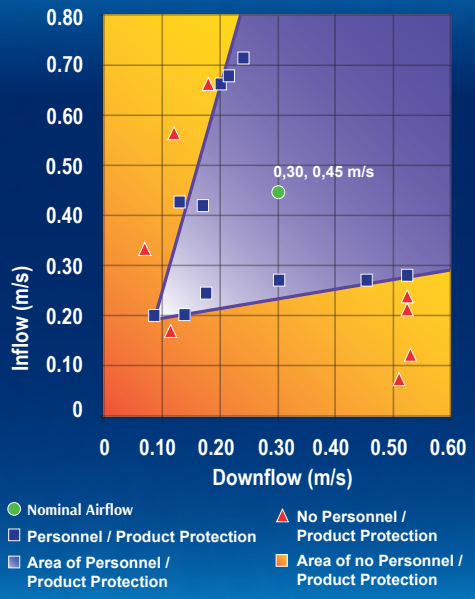


- H14-filtered air
- Unfiltered / potentially contaminated air
- Room air / Inflow air

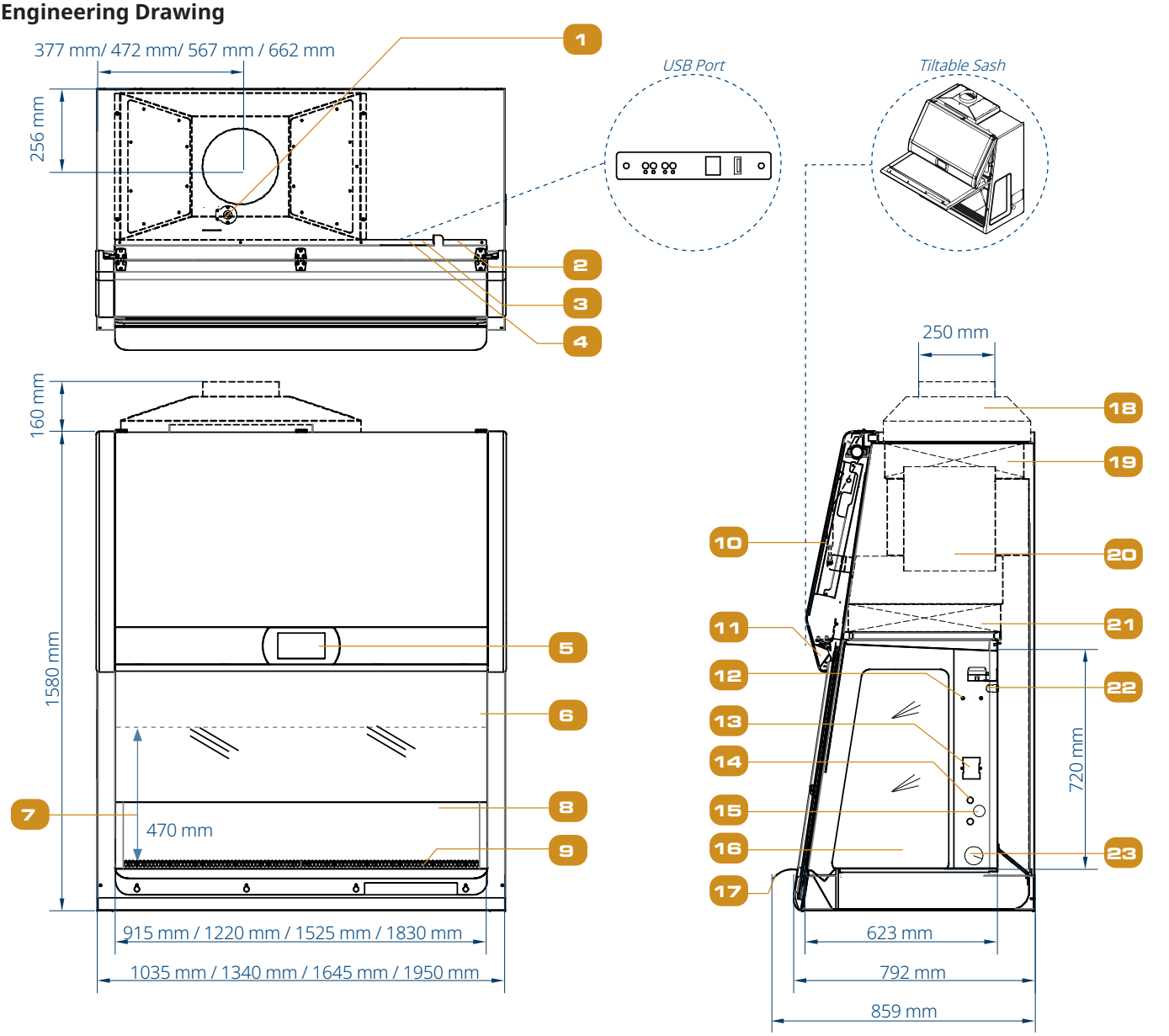
Cabinet Filtration System

- 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 ⅓ of the air in the common plenum is exhausted through the ULPA filter to the room. The remaining ⅔ 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 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.

Performance Envelope Test of LA2-EU G4



Engineering Drawing



1. Exhaust Airflow Sensor
2. Power Inlet
3. Zero Volt Relay Contact
4. USB Port
5. Centurion Touchscreen Controller
6. Angled Sash Glass Window
7. Maximum Sash Opening
8. Single-piece Stainless Steel Back Wall
9. Single-piece Stainless Steel Work Tray for S-series and Multi piece Satinless Steel work tray for E-series
10. Electrical Panel
11. Dimmable LED Lamp
12. IV Bar Retrofit Kit Provision
13. Electrical Outlet Provision
14. Service Fixture Retrofit Kit Provision
15. VHP Port In (Optional)
16. Stainless steel side wall for S-series and Glas side wall for E-series
17. Stainless Steel Arm Rest
18. Exhaust Collar (optional)
19. Exhaust Filter
20. DC-ECM blowers
21. Downflow Filter
22. UV Lamp Provision
23. Cable Port (right side only)

TECHNICAL SPECIFICATIONS

Labculture® Plus Class II 220-240 VAC, 50/60 Hz	Glass Side Walls	**LA2-3E8-EU G4 2011742**	**LA2-4E8-EU G4 2011743**	**LA2-5E8-EU G4 2011744**	**LA2-6E8-EU G4 2011745**
	Stainless Steel Side Walls	**LA2-3S8-EU G4 2011738**	**LA2-4S8-EU G4 2011739**	**LA2-5S8-EU G4 2011740**	**LA2-6S8-EU G4 2011741**
Nominal Size		0.9 meter	1.2 meter	1.5 meter	1.8 meter
External Dimensions (W x D x H)	Without Optional Base Stand	1035 x 859 x 1580 mm	1340 x 859 x 1580 mm	1645 x 859 x 1580 mm	1950 x 859 x 1580 mm
Internal Dimensions (W x D x H)		915 x 623 x 720 mm	1220 x 623 x 720 mm	1525 x 623 x 720 mm	1830 x 623 x 720 mm
Usable Work Area		0.45 m^2	0.62 m^2	0.76 m^2	0.93 m^2
Sash opening		200 mm			
Maximum Sash Opening		470 mm			
Average Airflow Velocity	Inflow	0.45 m/s			
	Downflow	0.32 m/s			
Average Airflow Volume	Inflow/Exhaust without ducting	298 m^3/h	395 m^3/h	496 m^3/h	593 m^3/h
	Downflow	620 m^3/h	822 m^3/h	1031 m^3/h	1233 m^3/h
	Required Exhaust with Optional Thimble Exhaust Collar	320 m^3/h	554 m^3/h	692 m^3/h	830 m^3/h
	Static Pressure for Optional Thimble Exhaust Collar	29 Pa	38 Pa	44 Pa	50 Pa
Advanced filtration system		*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*		54.8 dBA	55.0 dBA	57.5 dBA	58.0 dBA
Light Intensity	LED Lamp	>1000 Lux (>93 ft-cd)			
	UV Lamp wave length	253.7 nm			
Electrical Requirements**	Nominal Power Consumption	167 W	178 W	285 W	315 W
	Heat Load	570 BTU/ Hr	607 BTU/ Hr	972 BTU/ Hr	1075 BTU/ Hr
	Full Load Amps	10 A, 3 m cable for BSC and outlets			
Cabinet Construction	Main body	Electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish,1.5 mm / 16 gauge thick			
	Work Zone	Stainless steel Type 304 with No.4 finish,1.5 mm / 16 gauge thick			
	Side Walls – E Series	UV absorbing tempered glass, 6 mm, colorless and transparent			
	Side Walls – S Series	1.5 mm 16 gauge stainless steel, type 304, with 4B finish			
	Sash Window	UV-absorbing tempered glass, 6 mm, colorless and transparent			
Net Weight		274 kg	330 kg	370 kg	460 kg
Shipping Weight		302 kg	365 kg	450 kg	489 kg
Shipping Dimensions, Maximum (W x D x H)		1300 x 960 x 2120 mm	1520 x 960 x 2120 mm	1950 x 960 x 2120 mm	2200 x 960 x 2120 mm
Shipping Volume Dimensions (W x D x H)		2.3 m^3	2.8 m^3	3.5 m^3	4.0 m^3

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 a measurement of new unit with clean filter operated within nominal setpoint. Result per unit may vary.*

Options and Accessories

Anti-blowback Valve	EG Powder Coated	ABBV-10P 5170352	ABBV-10P 5170352	ABBV-10P 5170352	ABBV-10P 5170352
	304 Stainless Steel	ABBV-10S 5170354	ABBV-10S 5170354	ABBV-10S 5170354	ABBV-10S 5170354
Exhaust Collar		ECO-F-LA2EU-3FT G4 517186	ECO-F-LA2EU-4FT G4 517187	ECO-F-LA2EU-5FT G4 517188	ECO-F-LA2EU-6FT G4 517189
Top Box with VHP Out		Top Box, LA2-3-EU G4 with VHP-Out 5171302	Top Box, LA2-4-EU G4 with VHP-Out 5171303	Top Box, LA2-5-EU G4 with VHP-Out 5171304	Top Box, LA2-6-EU G4 with VHP-Out 5171305
Exhaust Collar with VHP Out Port		ECO-LA2-3-EU G4 with VHP-Out 5171311	ECO-LA2-3-EU G4 with VHP-Out 5171312	ECO-LA2-3-EU G4 with VHP-Out 5171313	ECO-LA2-3-EU G4 with VHP-Out 5171314
VHP In Port		VHP-IN Port 5170552	VHP-IN Port 5170552	VHP-IN Port 5170552	VHP-IN Port 5170552
Manual Volumetric Exhaust Damper		B2-Damper 5170104	B2-Damper 5170104	B2-Damper 5170104	B2-Damper 5170104
UV Lamp		UV-15A-L 5170251	UV-30A-L 5170255	UV-30A-L 5170255	UV-30A-L 5170255
IV Bar		IV-910 5170499	IV-1215 5170231	IV-1520 5170500	IV-1825 5170501
Prefilter		PF-41 5090061	PF-42 5090062	PF-43 5090063	PF-44 5090064
Electrical Outlet	Direct Mounted	EO-HC 5170035			
Service Fixtures	EU SF-Gas-20 mm	SF-1G20 5170410			
	Solenoid Valve	SOLENOID VALVE FITTING FOR LA2-EU 5075239			
	EU SF-Vacuum-20 mm	SF-1V20 5170457			
	EU SF-Air-20 mm	SF-1A20 5170502			
	EU SF-Nitrogen-20 mm	SF-1N20 5170503			
	EU SF-Water-20 mm	SF-1W20 5170458			
	US SF-Universal-20 mm	SF-2U22 5170504			
	Copper Piping for SF	CU-Pipe 5170026			
SPEU-A & SPEU-B	Support Stand 71 cm Height	SPEU-3A0 5131343	SPEU-4A0 5131344	SPEU-5A0 5131455	SPEU-6A0 5131456
	Support Stand 91 cm Height	SPEU-3B0 5131457	SPEU-4B0 5131458	SPEU-5B0 5131459	SPEU-6B0 5131460
Stainless Steel Pipette Storage Shelf		5260327			
Arm Rest Padding		MEWREST 5170127			
Foot Rest		FT-REST 5170492			
Laboratory Chair		ME-LD-AR360 1150006			
IQ OQ Protocol		9010179			

ABBV-_

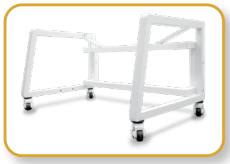
UV-_A-L

IV-_

EO-H_

SF-1_

SF-2U_



SPEU-_

SS Pipette Storage Shelf

MEWREST

FT-REST

ME-LD-AR360

IQOQ

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Improving Lives Through Science

DIRECT MANUFACTURER

- Animal Research Workstation
- Biosafety Safety Cabinet
- CO_2 Incubator
- Ducted Fume Hood
- Ductless Fume Hood
- Filtered Storage Cabinet
- Laboratory Centrifuge
- Laboratory Oven and Incubator
- Laboratory Refrigerator and Freezer
- Laboratory Shaker
- Laminar Flow Cabinet
- PCR Cabinet
- PCR Thermal Cycler
- Powder Weighing Balance Enclosure
- Ultra-low Temperature Freezer

ESCO®
LIFESCIENCES

- Airflow Containment
- Cross-Contamination Facility Integrated Barrier
- Isolation Containment
- Ventilation Containment
- Radiopharmacy
- Adherent Cell Bioreactors
- Adherent Automated Cell Harvesting System
- Cell Culture Monitoring Tools
- Single-use Consumables for Bioprocessing

ESCO®
MEDICAL

- Time-Lapse Incubator
- Benchtop Incubator
- ART Workstation
- CO_2 Incubator
- Anti-Vibration Table
- Gas Analyser

ESCO®
ASTER

CRDMO Services

www.escolifesciences.com

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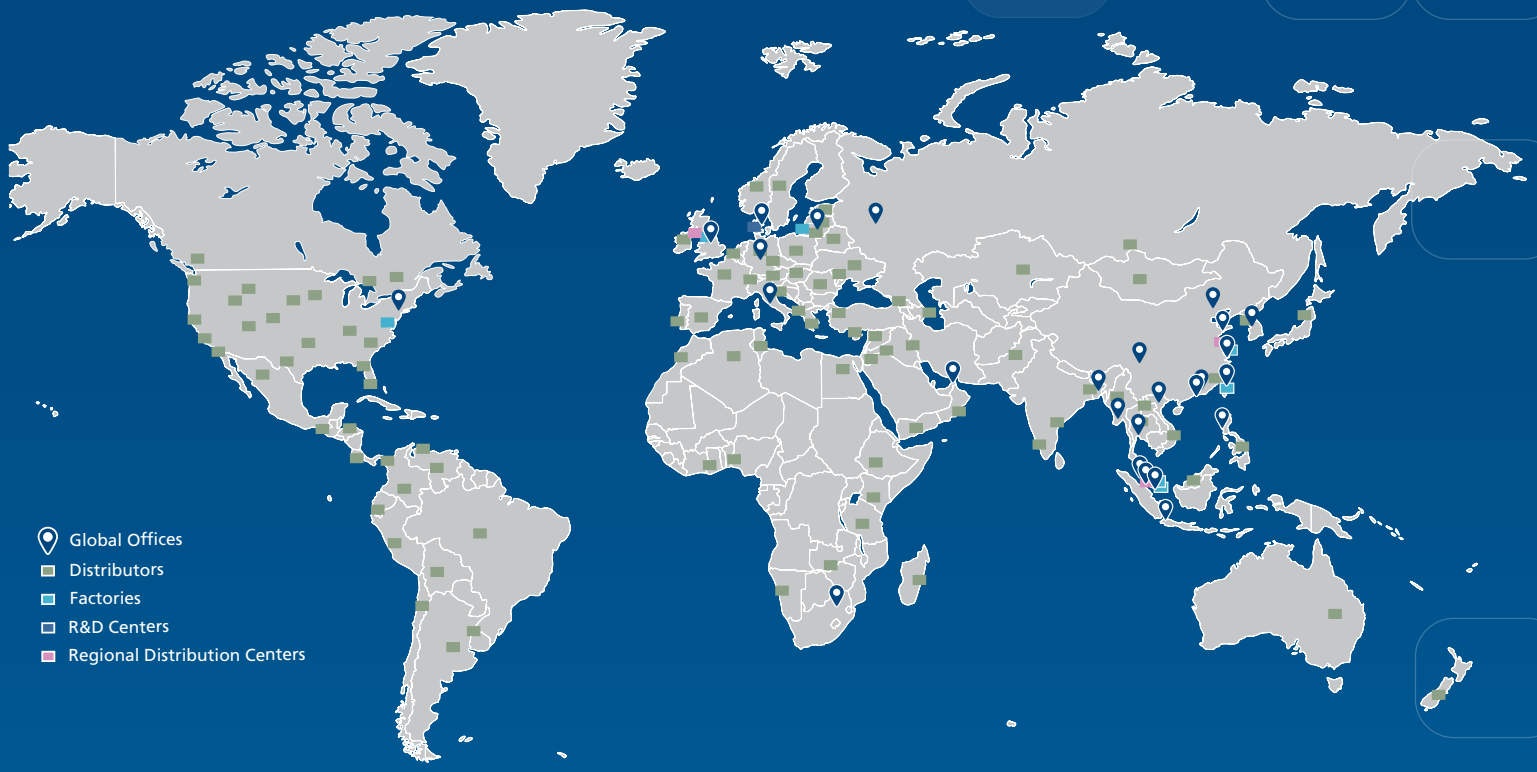
42 LOCATIONS IN 21 COUNTRIES ALL OVER THE WORLD



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ESCO LIFESCIENCES GROUP

Esco Micro Pte. Ltd. • 19 Changi South Street 1 • Singapore 486779
Tel +65 6542 0833 • mail@escolifesciences.com
www.escolifesciences.com

Esco Technologies, Inc. • 903 Sheehy Drive, Suite F, Horsham, PA 19044, USA
Tel: +1 215-441-9661 • eti.admin@escolifesciences.com

Esco Lifesciences Group Offices: Bangladesh | China | Denmark | Germany | Hong Kong | India | Indonesia | Italy | Japan | Lithuania | Malaysia | Myanmar | Philippines | Russia | Singapore | South Africa | South Korea | Taiwan | Thailand | UAE | UK | USA | Vietnam

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