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LIFESCIENCES GROUP



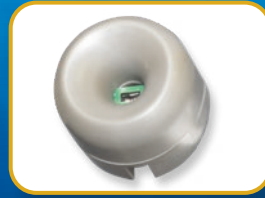
Labculture® G4

Class II Biological Safety Cabinets

*The Most Certified 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, RJ45, and Zero Volt Relay Contact

- USB Port / RJ45 to send operational information to Building Management System (BMS)
- Zero Volt Relay Contact to turn ON/OFF exhaust blower and signal the building alarm



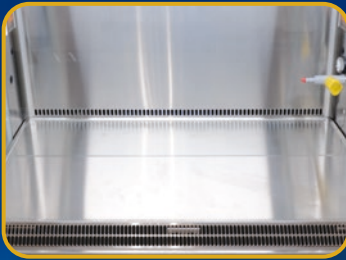
Centurion 7" Capacitive Touchscreen Controller

- 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



Motorized Window

- Aerosol tight window seal
- Window automatically stops at safe operating height
- Conveniently move the window by fingertip



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
- 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

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

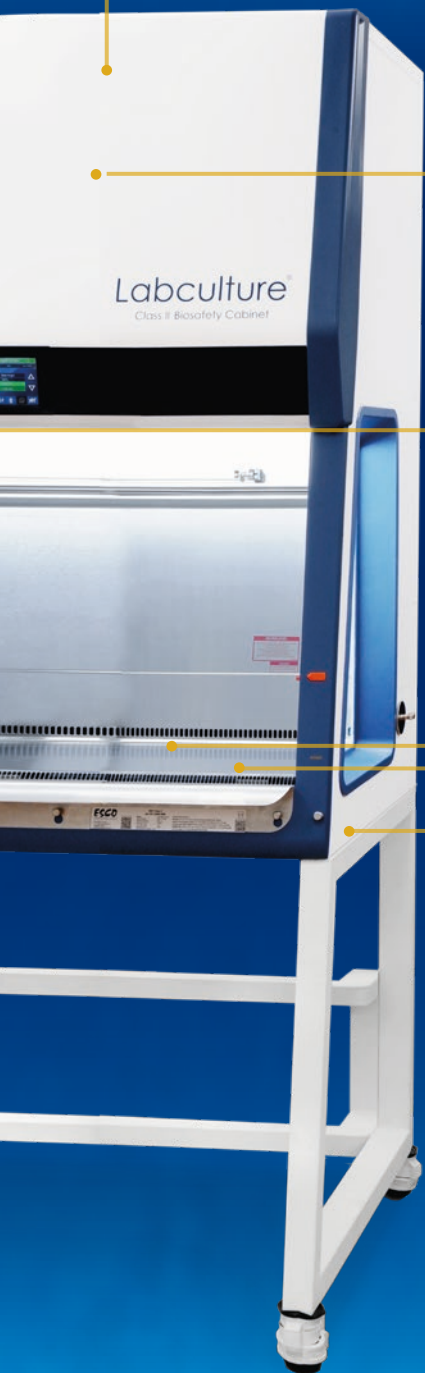
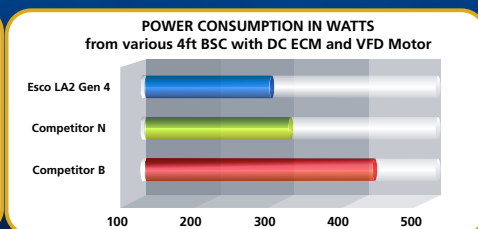
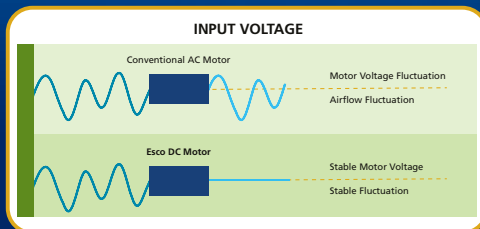


ESCO Labculture® Plus G4 Class II Biosafety Cabinet
Available in 3 feet, 4 feet, 5 feet, and 6 feet models.

CABINET, FEATURING ADVANCED TOUCHSCREEN CONTROLLER

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



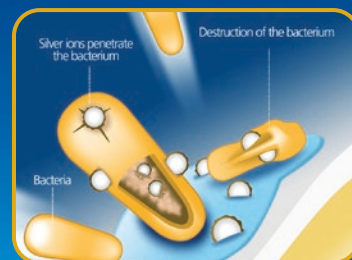
Removable Paper Catch

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



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

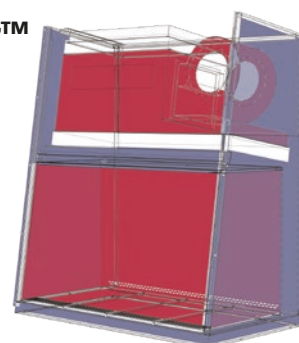
Certification

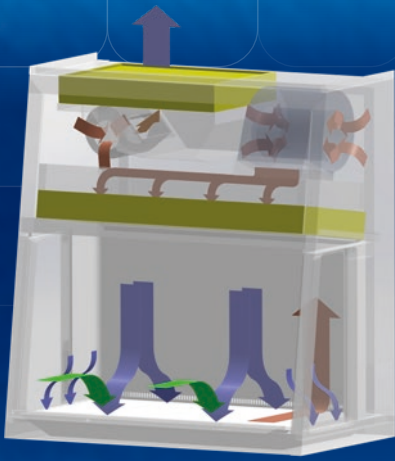
	Performance	Air Quality	Filtration	Electrical Safety
Standards Compliance	EN 12469, TUV Nord, Germany	ISO 14644.1, Class 3, Worldwide, US Fed Std 209E, Class 1 USA, JIS B9920, Class 3, Japan	EN-1822 (H14), Europe, IEST-RP-CC001, USA	EN-61010-1, Europe, IEC61010-1, Worldwide

Dynamic Chamber™

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

- Positive Pressure
- Negative Pressure

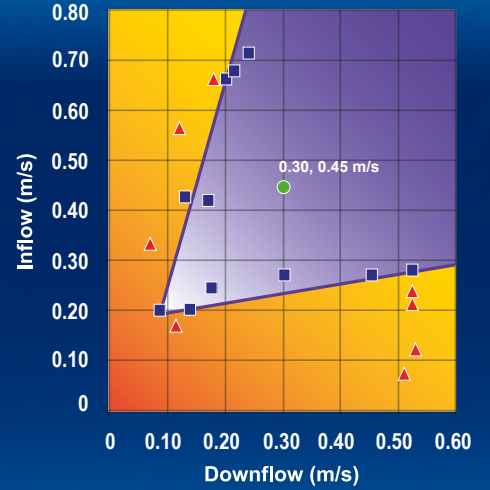




Cabinet Filtration System

- 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 1/3 of the air in the common plenum is exhausted through the ULPA filter to the room. The remaining 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.

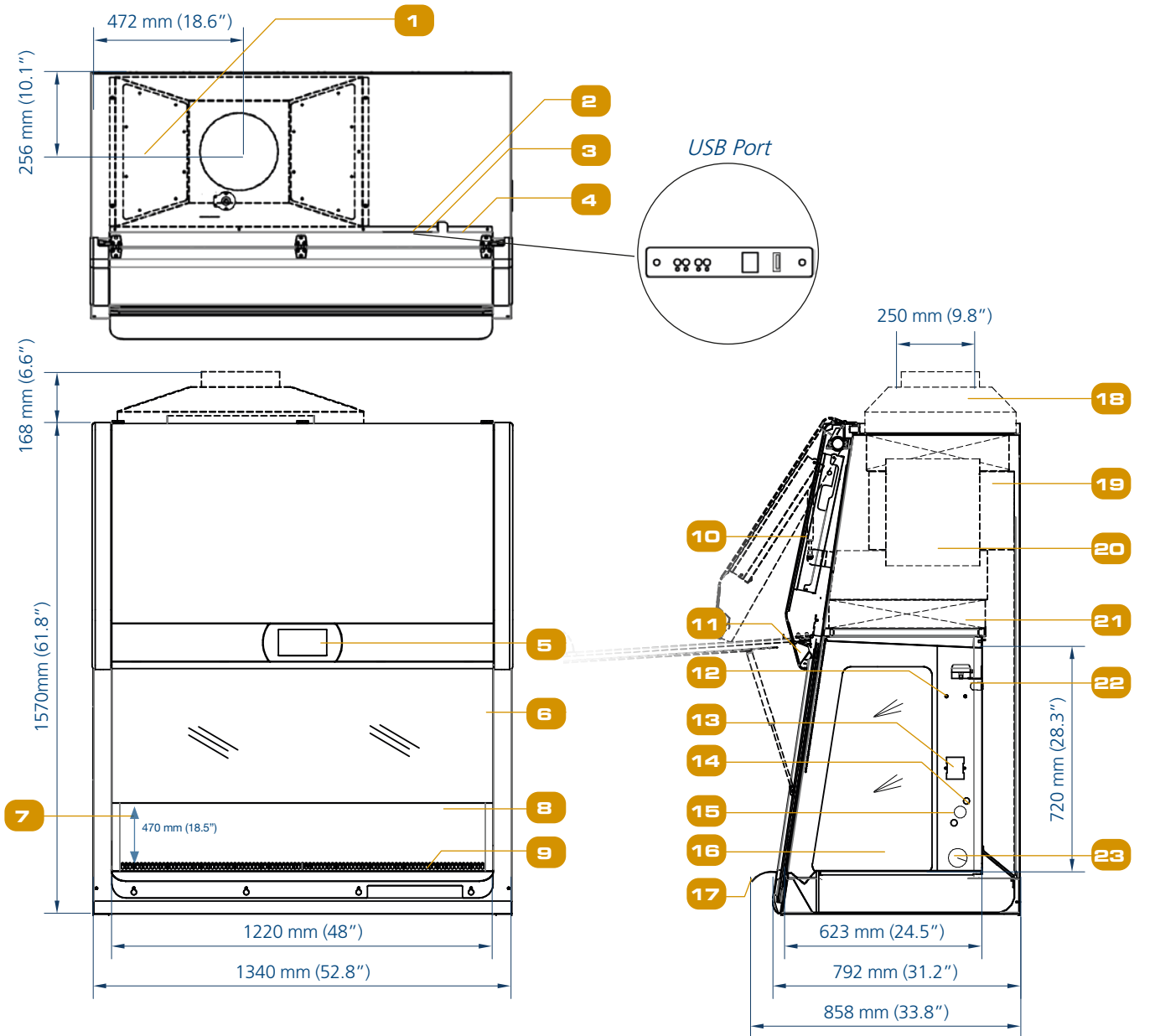
Performance Envelope Test of LA2-EU



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

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

Engineering Drawing



- Exhaust Airflow Sensor
- USB Port
- Zero Volt Relay Contact
- Power Inlet
- Centurion Touchscreen Controller
- Angled Sash Glass Window

- Max. Sash Opening
- Single-piece Stainless Steel Back Wall
- Single-piece Stainless Steel Work Tray
- Electrical Panel
- Dimmable LED Lamp
- IV Bar Retrofit Kit Provision

- Electrical Outlet Provision
- Service Fixture Retrofit Kit Provision
- VHP Port In (Optional)
- Tempered Side Glass
- Stainless Steel Arm Rest
- Exhaust Collar (optional)

- Exhaust Filter
- DC-ECM Blower
- Downflow Filter
- UV Lamp Provision
- Cable Port (right side only)

Options and Accessories

Anti-blowback Valve 10 inches	304 Stainless Steel	ABBV-10S 5170354			
Exhaust Collar		ECO-F-LA2-3-G4 5171097	ECO-F-LA2-4-G4 5171098	ECO-F-LA2-5-G4 5171099	ECO-F-LA2-6-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-HC 5170035			
	GFCI	EO-GFCI 5170071			
Service Fixtures	EU SF-Gas-20 mm	SF-1G20 5170410			
	Solenoid Valve	SOLENOID GAS VALVE 230 VAC 5070086			
	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 28" Height	SPEU-3A0 5131343	SPEU-4A0 5131344	SPEU-5A0 5131455	SPEU-6A0 5131456
	Support Stand 36" Height	SPEU-3B0 5131457	SPEU-4B0 5131458	SPEU-5B0 5131459	SPEU-6B0 5131460
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



EO-GFCI



SF-1



SF-2U



STA-



Pipette Storage Shelf



MEWREST



FT-REST



ME-LD-AR360



IQOQ

TECHNICAL SPECIFICATIONS

Labculture® Class II 220-240 VAC, 50/60 Hz		Glass Side Walls	LA2-3E8-EU G4 2011682	LA2-4E8-EU G4 2011684	LA2-5E8-EU G4 2011686	LA2-6E8-EU G4 2011688
		Stainless Steel Side Walls	LA2-3S8-EU G4 2011683	LA2-4S8-EU G4 2011685	LA2-5S8-EU G4 2011687	LA2-6S8-EU 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		1035 x 858 x 1570 mm (40.7" x 33.8" x 61.8")	1340 x 858 x 1570 mm (52.8" x 33.8" x 61.8")	1645 x 858 x 1570 mm (64.7" x 33.8" x 61.8")	1950 x 858 x 1570 mm (76.8" x 33.8" x 61.8")
Internal Dimensions (W x D x H)			915 x 623 x 720 mm (36.0" x 24.5" x 28.3")	1220 x 623 x 720 mm (48.0" x 24.5" x 28.3")	1525 x 623 x 720 mm (60.0" x 24.5" x 28.3")	1830 x 623 x 720 mm (72.0" x 24.5" x 28.3")
Usable Work Area			0.45 m ² (4.8 sq.ft.)	Area: 0.62 m ² (6.7 sq.ft.)	0.76 m ² (8.2 sq.ft.)	0.93 m ² (10.0 sq.ft.)
Sash opening		200 mm (8")				
Maximum Sash Opening		470 mm (18.5")				
Average Airflow Velocity	Inflow	0.45 m/s (88.5 fpm)				
	Downflow	0.32 m/s (63 fpm)				
ULPA Filter Typical Efficiency		99.999% efficiency at 0.3 to 0.1 µm				
Sound Emission (dBA)*			54.8	55.0	57.5	58.0
Light Intensity	Fluorescent Lamp Intensity	>1000 Lux (>93 foot-candles)				
	Optional UV Lamp	253.7 nm				
Electrical Requirements	Nominal Power Consumption			178 W	285 W	315 W
	Heat Load			607 BTU/Hr	972 BTU/Hr	1075 BTU/Hr
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			
	Work Zone	E Series	UV absorbing tempered glass, 6 mm (0.2"), colorless and transparent			
		S Series	1.5 mm (0.06") 16 gauge stainless steel, type 304, with 4B finish			
Net Weight			300 Kg (661 lbs)	330 Kg (727.5 lbs)	370 Kg (816 lbs)	460 Kg (1014 lbs)
Shipping Weight						
Shipping Dimensions, Maximum (W x D x H)						
Shipping Volume Dimensions (W x D x H)						

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

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Improving Lives through Science

ESCO
SCIENTIFIC



- Animal Research Workstation
- Biological Safety Cabinet
- CO₂ 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
- Powder Weighing Balance Enclosure
- Thermal Cycler
- Ultra-low Temperature Freezer

ESCO
MEDICAL



- Time-Lapse Incubator
- Benchtop Incubator
- ART Workstation
- CO₂ Incubator
- Anti-Vibration Table
- Gas Analyser

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Healthcare |  "Discovery to Delivery"



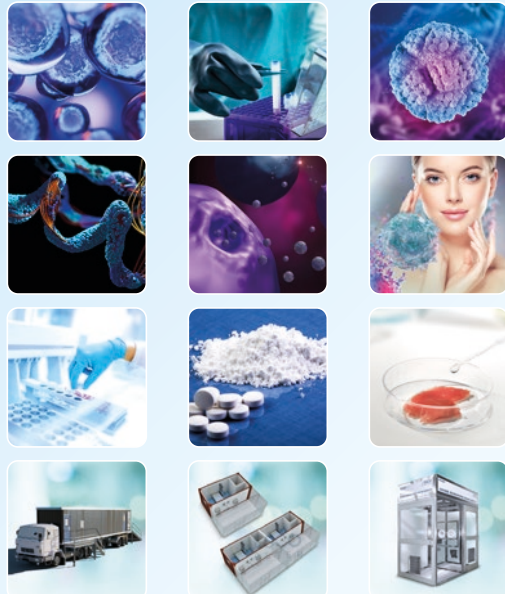
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PHARMA

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ESCO
VACCI XCELL
ADVANCED SCIENTIFIC EQUIPMENT

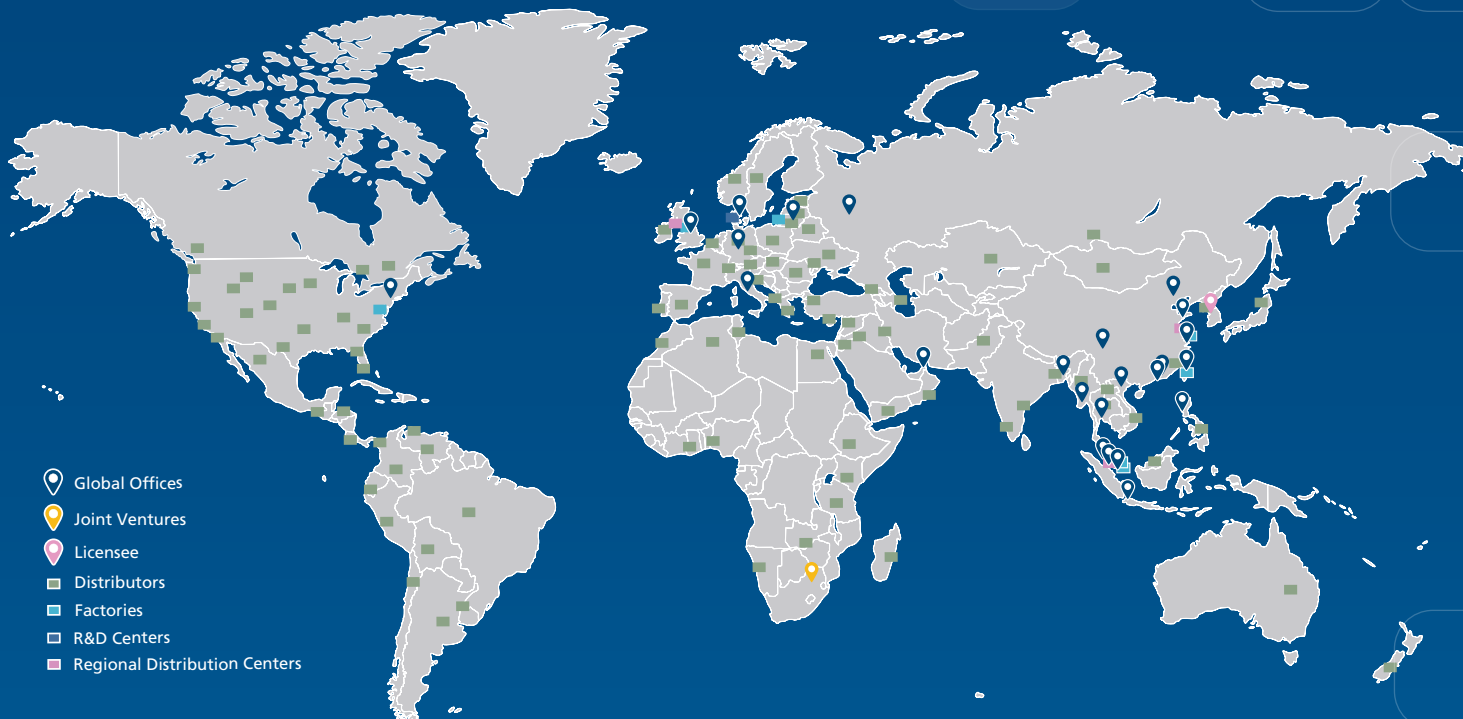
Pharmaceutical Manufacturing, Pharmacy Compounding,
and Bioprocessing Tools

ESCO
ASTER



CRDMO Services

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