

ESCO
SCIENTIFIC



Labculture® G4

Class II Type A2 Biological Safety Cabinets

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

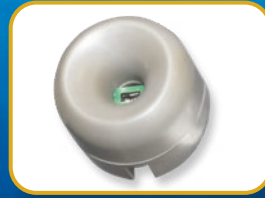


LABCULTURE® G4 (LA2 G4) CLASS II TYPE A2 BIOSAFETY



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



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



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



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

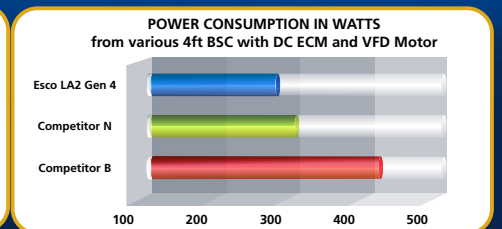
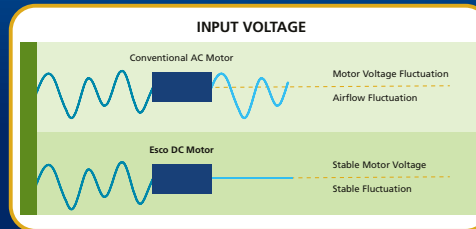


Esco Labculture® G4 Class II Type A2 Biosafety Cabinet
Available in 3 feet, 4 feet, 5 feet, and 6 feet models.

CABINET, FEATURING ADVANCED TOUCHSCREEN CONTROLLER

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%



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

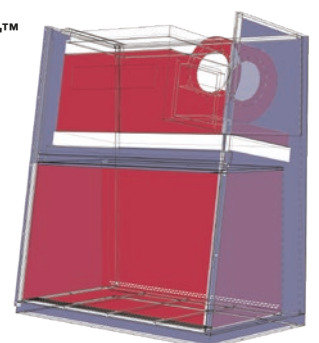
Certification

	Performance	Air Quality	Filtration	Electrical Safety
Standards Compliance	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

Dynamic Chamber™

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

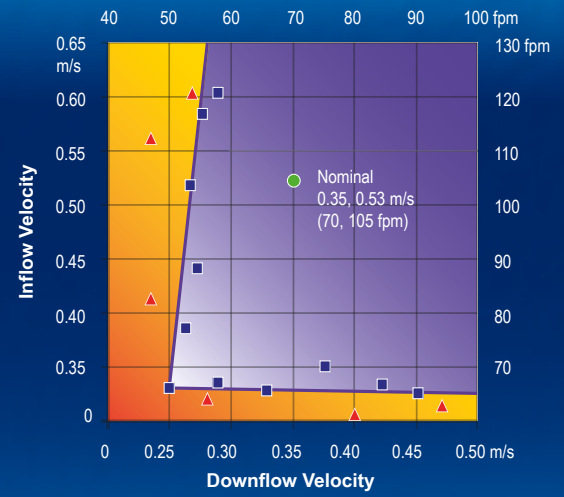
- Positive Pressure
- Negative Pressure



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.

The Performance Envelope Concept

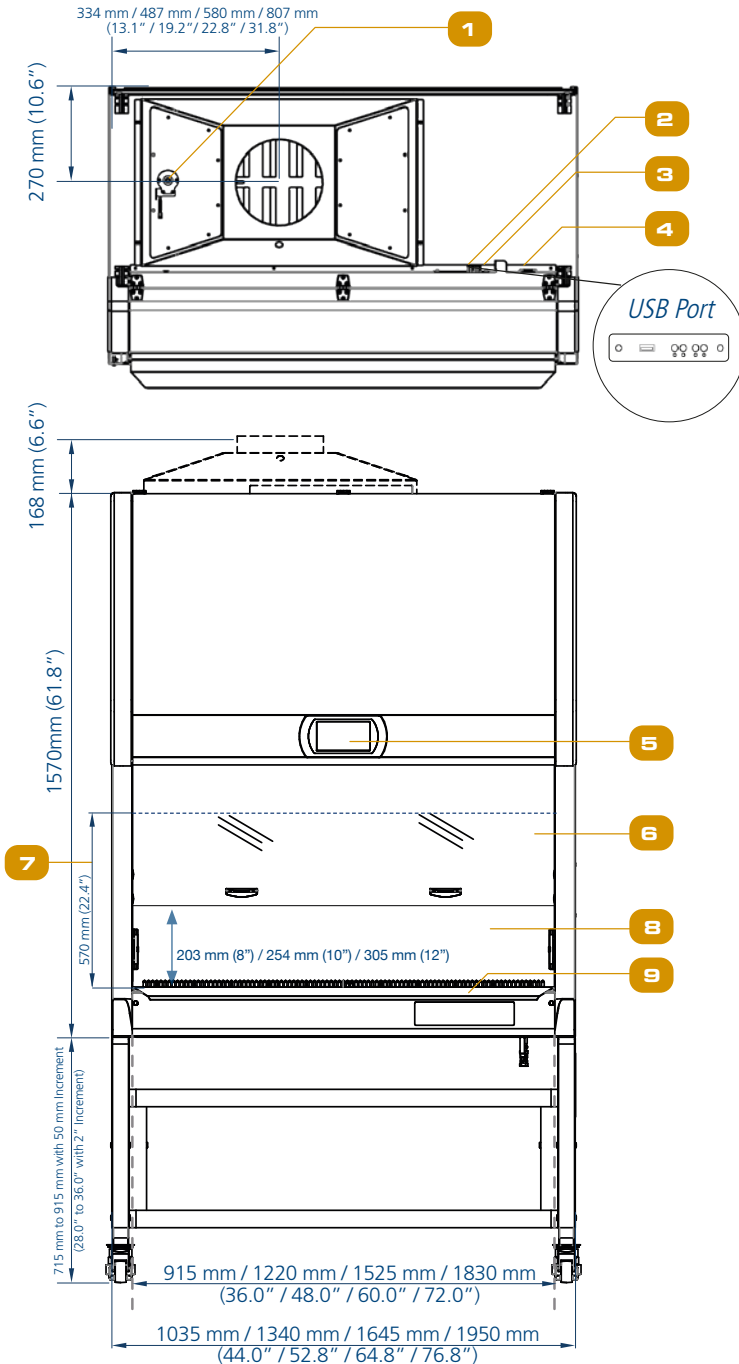


- Nominal Airflow
- Personnel / Product Protection
- Area of Personnel / Product Protection
- ▲ No Personnel / Product Protection
- Area of no Personnel / Product Protection

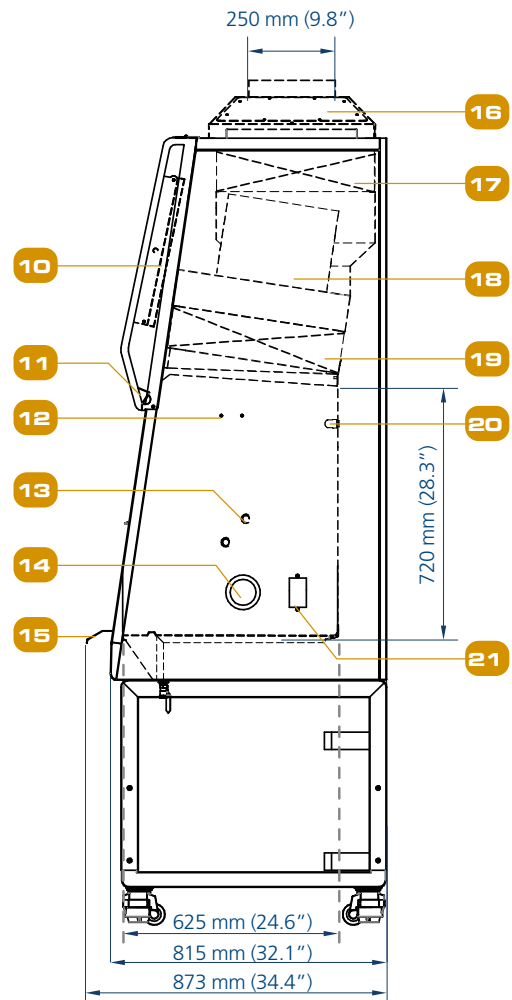
Dynamic air barrier, where inflow and downflow converge
Side capture zones

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

Engineering Drawing



- Exhaust sensor
- USB Port
- Zero Volt Relay Contact
- Power Inlet
- Centurion Touchscreen Controller
- 10° Angled Sash 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
- Service Fixture Retrofit Kit Provision
- Cable Port
- Stainless Steel Arm Rest
- Exhaust Collar (optional)
- Exhaust Filter
- DC ECM Blower
- Downflow Filter
- UV Lamp Provision
- Electrical Outlet Provision



TECHNICAL SPECIFICATIONS

Labculture® Class II		Stainless Steel Side Walls		220-240 VAC, 50/60 Hz		220-240 VAC, 50/60 Hz	
				LA2-3S8 G4 8" 2011666	LA2-4S8 G4 8" 2011668	LA2-5S8 G4 8" 2011670	LA2-6S8 G4 8" 2011672
Nominal Size		110-130 VAC, 50/60 Hz		LA2-3S8 G4 10" 2011682	LA2-4S8 G4 10" 2011684	LA2-5S8 G4 10" 2011686	LA2-6S8 G4 10" 2011688
				LA2-3S8 G4 12" 2011714	LA2-4S8 G4 12" 2011716	LA2-5S8 G4 12" 2011718	LA2-6S8 G4 12" 2011720
External Dimensions* (W x D x H)		Without Arm Rest		LA2-3S9 G4 8" 2011667	LA2-4S9 G4 8" 2011669	LA2-5S9 G4 8" 2011671	LA2-6S9 G4 8" 2011673
				LA2-3S9 G4 10" 2011683	LA2-4S9 G4 10" 2011685	LA2-5S9 G4 10" 2011687	LA2-6S9 G4 10" 2011689
Internal Dimensions (W x D x H)		With Arm Rest		LA2-3S9 G4 12" 2011715	LA2-4S9 G4 12" 2011717	LA2-5S9 G4 12" 2011719	LA2-6S9 G4 12" 2011721
				Usable Work Area		0.9 meter (3')	1.2 meter (4')
Sash opening		Available in 203 mm (8"), 254 mm (10"), and 305 mm (12")					
Maximum Sash Opening		570 mm (22.4")					
Average Airflow Velocity	Inflow	203 mm (8")	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	
		254 mm (10")	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	
		305 mm (12")	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	0.53 m/s (105 fpm)	
	Downflow	203 mm (8")	0.30 m/s (60 fpm)	0.30 m/s (60 fpm)	0.30 m/s (60 fpm)	0.30 m/s (60 fpm)	
		254 mm (10")	0.33 m/s (65 fpm)	0.30 m/s (60 fpm)	0.33 m/s (65 fpm)	0.30 m/s (60 fpm)	
		305 mm (12")	0.35 m/s (70 fpm)	0.30 m/s (60 fpm)	0.35 m/s (70 fpm)	0.35 m/s (70 fpm)	
Airflow Volume	Inflow	203 mm (8")	356 m³/h (210 cfm)	473 m³/h (280 cfm)	593 m³/h (350 cfm)	709 m³/h (420 cfm)	
		254 mm (10")	446 m³/h (263 cfm)	591 m³/h (350 cfm)	741 m³/h (438 cfm)	887 m³/h (525 cfm)	
		305 mm (12")	535 m³/h (315 cfm)	710 m³/h (420 cfm)	890 m³/h (525 cfm)	1065 m³/h (629 cfm)	
	Downflow	203 mm (8")	581 m³/h (345 cfm)	771 m³/h (461 cfm)	967 m³/h (567 cfm)	1156 m³/h (691 cfm)	
		254 mm (10")	639 m³/h (374 cfm)	848 m³/h (499 cfm)	1063 m³/h (624 cfm)	1272 m³/h (748 cfm)	
		305 mm (12")	678 m³/h (397 cfm)	771 m³/h (461 cfm)	1128 m³/h (662 cfm)	1349 m³/h (794 cfm)	
	Exhaust	203 mm (8")	356 m³/h (210 cfm)	473 m³/h (280 cfm)	593 m³/h (350 cfm)	709 m³/h (420 cfm)	
		254 mm (10")	446 m³/h (263 cfm)	591 m³/h (350 cfm)	741 m³/h (438 cfm)	887 m³/h (525 cfm)	
		305 mm (12")	535 m³/h (315 cfm)	710 m³/h (420 cfm)	890 m³/h (525 cfm)	1065 m³/h (630 cfm)	
Static Pressure for Optional Thimble Exhaust Collar (Measured 360mm / 14" from the top of exhaust collar)		203 mm (8")	15-25 Pa	25-35 Pa	20-30 Pa	40-50 Pa	
		254 mm (10")	20-30 Pa	35-45 Pa	25-35 Pa	55-65 Pa	
		305 mm (12")	25-35 Pa	45-55 Pa	40-50 Pa	65-75 Pa	
Required Exhaust with Optional Thimble Exhaust Collar		203 mm (8")	390 m³/h (230 cfm)	529 m³/h (311 cfm)	622 m³/h (366 cfm)	780 m³/h (459 cfm)	
		254 mm (10")	480 m³/h (283 cfm)	637 m³/h (375 cfm)	770 m³/h (453 cfm)	944 m³/h (556 cfm)	
		305 mm (12")	569 m³/h (335 cfm)	756 m³/h (445 cfm)	921 m³/h (542 cfm)	1133 m³/h (667 cfm)	
ULPA Filter Typical Efficiency		≥99.999% for particle size between 0.1 to 0.3 microns					
Sound Emission (dBA)*	NSF / ANSI 49	203 mm (8")	57	57	60	63	
		254 mm (10")	60	59	63	63.3	
		305 mm (12")	62	60	65	65.9	
Light Intensity		> 1200 lux (111 ft. cd)					
Electrical**	Nominal power (Watt) (8)	203 mm (8")	160	190	350	366	
		254 mm (10")	195	201	374	420	
		305 mm (12")	228	236	455	550	
	Nominal power (Watt) (9)	203 mm (8")	163	193	355	372	
		254 mm (10")	203	205	380	431	
		305 mm (12")	232	240	460	537	
	Heat Load (BTU/hr) (8)	203 mm (8")	546	648	1194	1249	
		254 mm (10")	665	686	1276	1433	
		305 mm (12")	778	805	1553	1877	
	Heat Load (BTU/hr) (9)	203 mm (8")	556	659	1211	1269	
		254 mm (10")	693	699	1297	1471	
		305 mm (12")	792	819	1570	1832	
	Full Load Amps (8) exclude 5A EO	203 mm (8")	6 A		10 A		
		254 mm (10")	6 A		10 A		
		305 mm (12")	6 A		10 A		
Full Load Amps (9) exclude 5A EO	203 mm (8")	10 A		16 A			
	254 mm (10")	10 A		16 A			
	305 mm (12")	10 A		16 A			
Optional Outlets FLA		5A					

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

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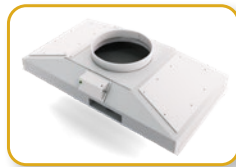
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Cabinet Construction	Main body	Electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish, 1.5 mm (0.06") / 16 gauge thick				
	Work Zone	Stainless steel type 304 with no.4 finish, 1.5 mm (0.06") / 16 gauge thick				
Net Weight		243 Kg (536 lbs)	287 Kg (633 lbs)	381 Kg (840 lbs)	400 kg (882 lbs)	
Shipping Weight		292 Kg (644 lbs)	350 Kg (772 lbs)	439 Kg (968 lbs)	506 kg (1116 lbs)	
Shipping Dimensions, Maximum (W x D x H)		1185 x 890 x 1900 mm (46.7" x 35.0" x 74.8")	1490 x 890 x 1900 mm (58.7" x 35.0" x 74.8")	1795 x 890 x 1900 mm (70.7" x 35.0" x 74.8")	2100 x 890 x 1900 mm (82.7" x 35.0" x 74.8")	
Shipping Volume Dimensions (W x D x H)		2.00 m³ (cu.ft.)	2.5 m³ (cu.ft.)	3.00 m³ (cu.ft.)	3.6 m³ (cu.ft.)	

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 and Solenoid Valve	SF-1G20 (5170410)			
	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)			
Support Stand (705 to 915 mm with 50 mm increment / 28.0" to 36.0" with 2" increment, combination of caster wheels and leveling feet)		STA-3A0 5131340	STA-4A0 5131341	STA-5A0 5131427	STA-6A0 5131389
Pipette Storage Shelf		5260327			
Arm Rest Padding		MEWREST (5170127)			
Foot Rest		FT-REST (5170492)			
Laboratory Chair		ME-LD-AR360 (1150006)			
IQ OQ Protocol		9010179			



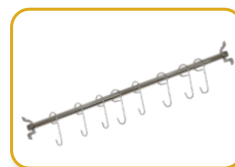
ABBV_



ECO-F-LA2-4 G4



UV_A-L



IV_



EO-H_



EO-GFCI



SF-1_



SF-2U_



STA_



Pipette Storage Shelf



MEWREST



FT-REST



ME-LD-AR360



IQOQ

ESCO

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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

ESCO Healthcare

"Discovery to Delivery"



ESCO PHARMA

ESCO TaPestle

ESCO VACCIXCELL

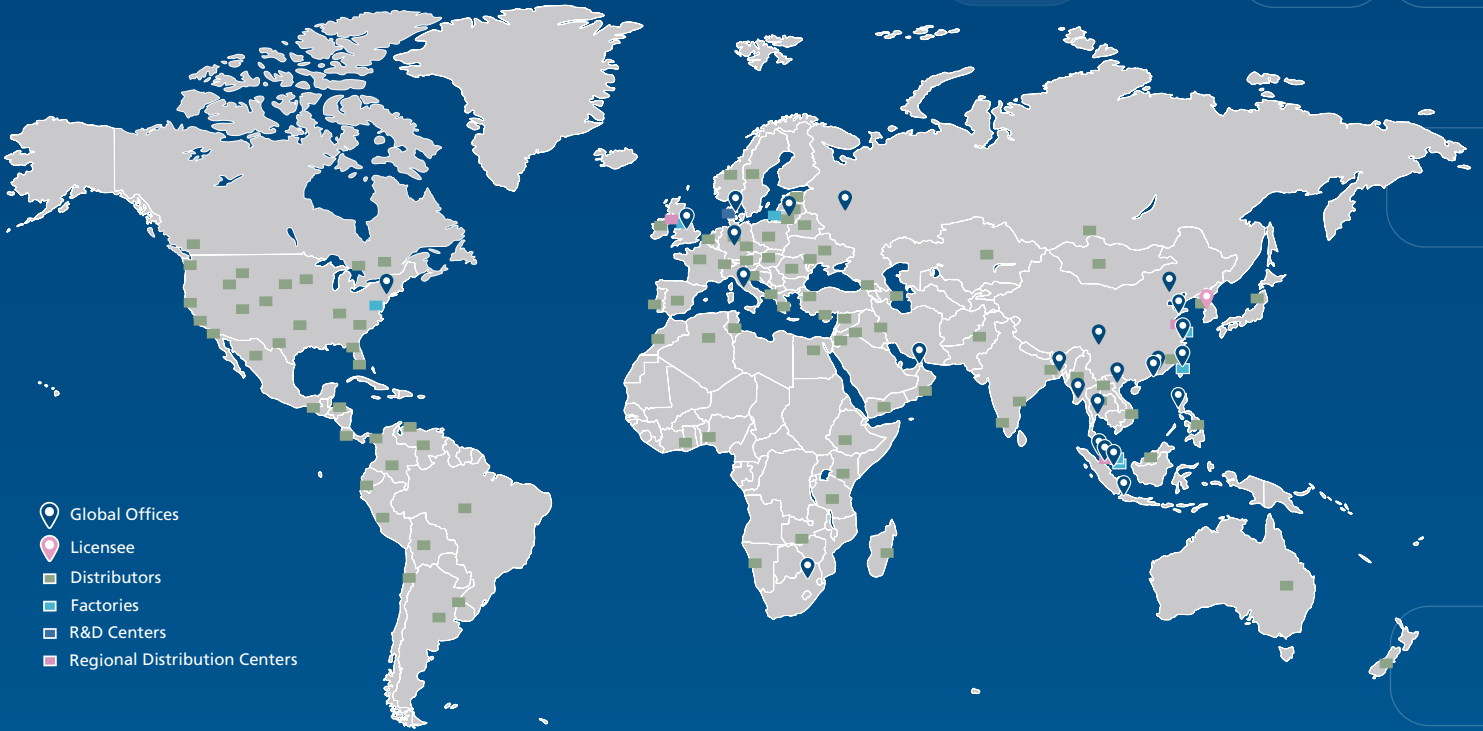
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