ESCO
LIFESCIENCES GROUP



Model: AC2-4S_ G4

Model: AC2-4E_ G4

DOMINIQUE DUTSCHER SAS

Airstream® G4

Class II Biological Safety Cabinets

The Leading Energy-efficient, Quiet, and Ergonomic Biosafety Cabinet in the World





USB Port

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



Zero Volt Relay Contact

- Airflow fail alarm volt free relay contact
- Exhaust blower volt free relay contact



Airflow Sensor

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



Centurion Touchscreen Controller

- 7" capacitive touchscreen, intuitive to use by user with gloves
- Displays key safety information graphically on one screen
- Built-in guide to use the cabinet and respond to situations
- Centered and angled down for easy reach & viewing
- Datalogger to assist diagnostics and send info to BMS
- Optional: 21 CFR Part 11 Compliance



One-Piece Interior Wall

- Double layer side walls with negative pressure
- Easy to reach service fixtures and outlets
- Large radius corner for easy cleaning



Unique Side Walls

- Large corner radius for easy cleaning
- Glass hybrid wall is available (E-Series)
- Isocide™ coating Epoxy side wall is available (S-Series)
- Hole-free side glass for increased safety



Removable Paper Catch

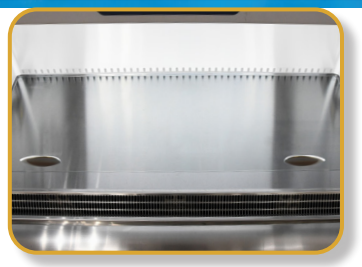
- Prolong the main filter life
- Easy to clean
- Optional pre-filter can be fitted



Raised Ergonomic Arm Rest

- Helps prevent grille blocking
- Comfortable working posture





Dished Work Tray

- Contains spillage
- Angled edge for easy cleaning
- V-shaped grille to prevent blocking
- Work tray holder underneath for seamless drain pan cleaning

EN12469

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T, FEATURING ADVANCED TOUCHSCREEN CONTROLLER

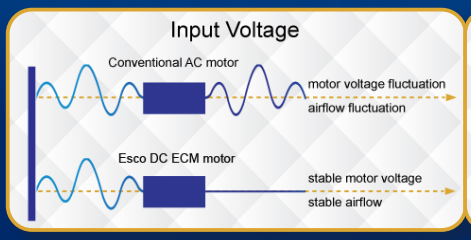


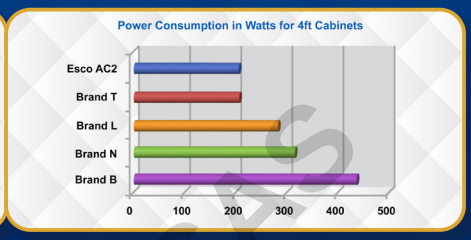
Esco Airstream® G4 Class II Biosafety Cabinet Available in 2 feet, 3 feet, 4 feet, 5 feet, and 6 feet models.

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 70%



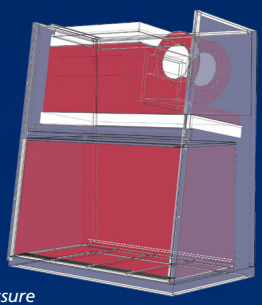


Advanced Filtration System

- Creates ISO Class 3 work zone instead of industry-standard ISO Class 5
- Long 10 years filter life for lower operating cost

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

Dynamic Chamber™



- Blower plenum and side walls are surrounded by negative pressure
- Prevents contaminants from escaping outside
- Steel plenum with Isocide™ coating, instead of flexible bag plenum, to prevent contamination leak

Positive pressure
Negative pressure

User Modified Pass-Through / Cable Port

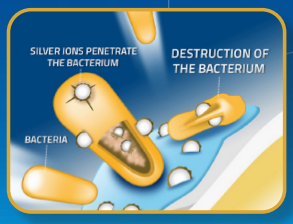


- 2 ½" (65 mm) Port with ¼" (6 mm) hole on rubber membrane inside
- Allows cables and tubes to exit with fully closed sash

Angled Sash

- 10° angled front to optimize user comfort, reduce glare and maximize reach into the work area

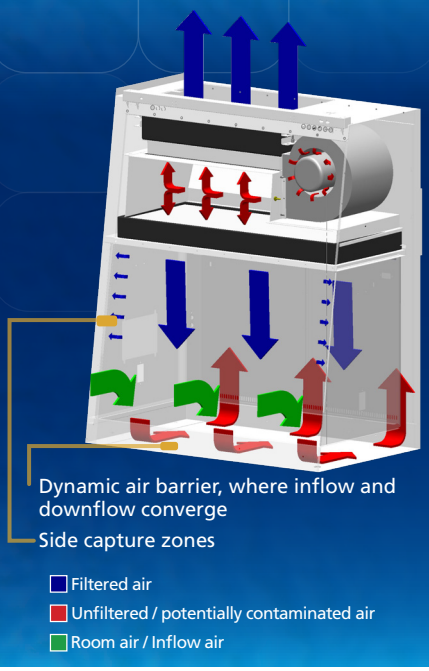
ISOCIDE™ Powder Coat



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

Standards Compliance and Certifications				
Biosafety Cabinets	**Air Quality**	**Filtration**	**Electrical Safety**	**EMC**
EN 12469	ISO 14644.1, Class 3, Worldwide, US Fed Std 209E, Class 1 USA JIS B9920, Class 3, Japan BS 5295, Class 3, UK	EN-1822 (H14), Europe IEST-RP-CC001, USA	IEC/EN 61010-1	EN IEC 61326-1 Group 1 / Class A

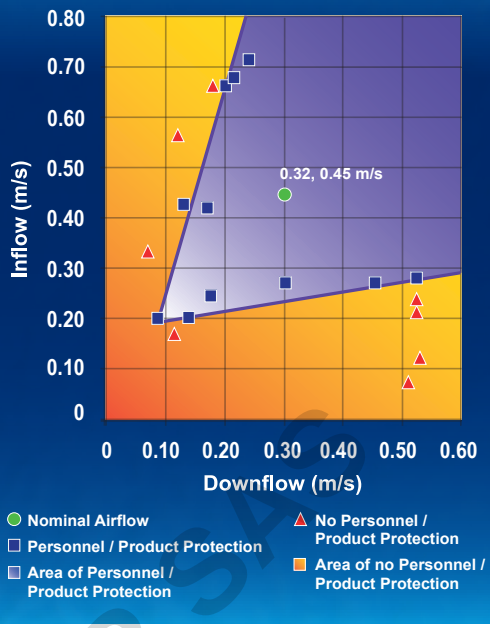
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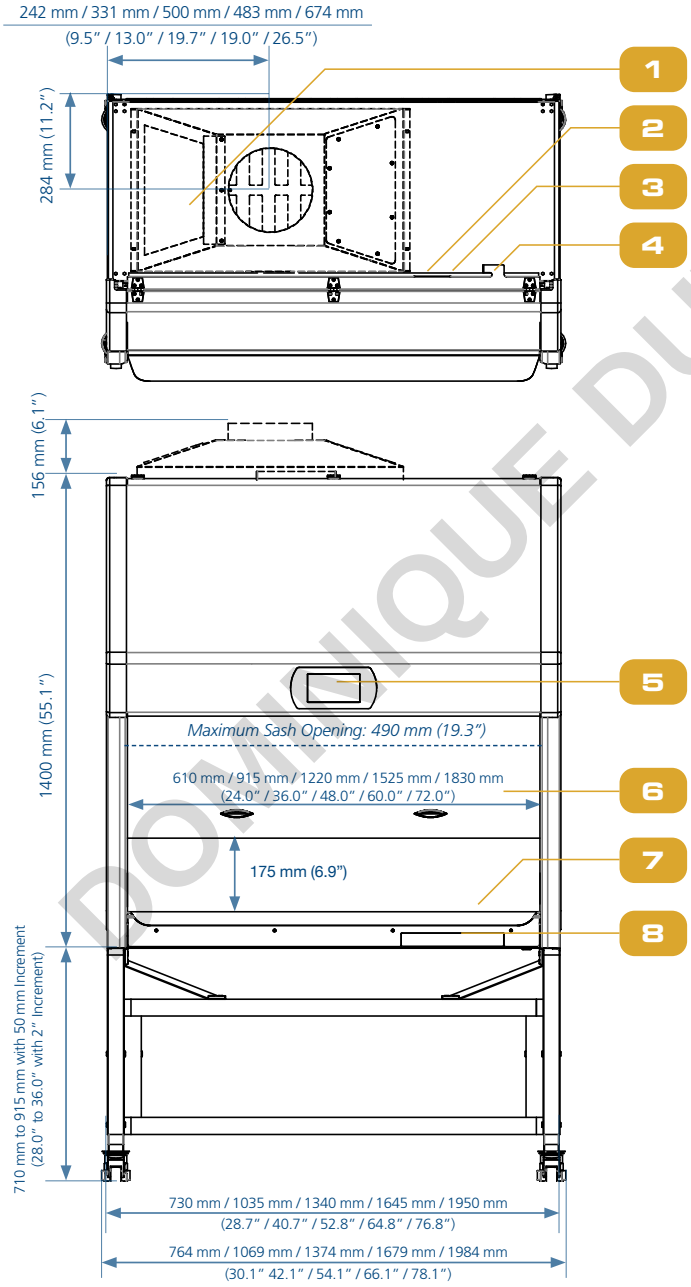
Cabinet Filtration System

- 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 filter to the room. The remaining ⅔ of the air is passed through the downflow 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.

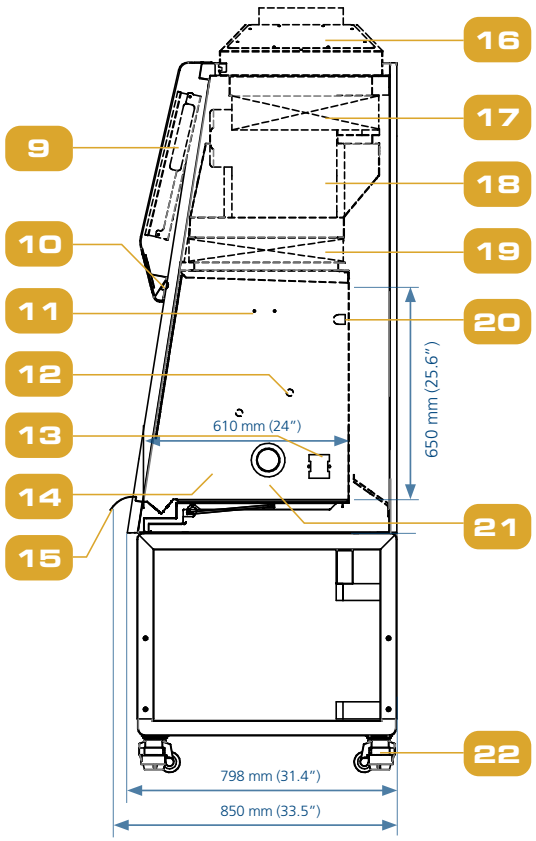
The Performance Envelope Concept



Engineering Drawing



1. *Airflow Sensor*
2. *USB Port for data transfer*
3. *Zero Volt Relay Contact (Blower & Alarm)*
4. *Power Inlet*
5. *Centurion 7" Touchscreen Control System*
6. *Tempered Glass - Sliding Sash Window*
7. *Stainless Steel Dished Work Tray*
8. *Data Plate*
9. *Electrical panel*
10. *Dimmable LED lamp*
11. *Provision for optional IV bar*
12. *Service Fixture Retrofit Kit Provision*
13. *Electrical Outlet (Max. 5 Amp Total)*
14. *Stainless Steel/Glass Side Wall.*
15. *Stainless Steel Curved Armrest*
16. *Exhaust Collar (Optional)*
17. *Exhaust Filter*
18. *ECM Blower*
19. *Downflow Filter*
20. *Provision for optional UV Lamp*
21. *Cable Port*
22. *Caster wheel – Leveling Feet Combo*



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TECHNICAL SPECIFICATIONS

S-Series *Stainless steel side walls*	**220-240 VAC, 50/60 Hz**	**AC2-2S8 G4 2011485**	**AC2-3S8 G4 2011486**	**AC2-4S8 G4 2011439**	**AC2-5S8 G4 2011487**	**AC2-6S8 G4 2011488**
E-Series *Tempered glass side walls*	**220-240 VAC, 50/60 Hz**	**AC2-2E8 G4 2011480**	**AC2-3E8 G4 2011481**	**AC2-4E8 G4 2011405**	**AC2-5E8 G4 2011483**	**AC2-6E8 G4 2011484**
Nominal Size		0.6 meter (2')	0.9 meter (3')	1.2 meter (4')	1.5 meter (5')	1.8 meter (6')
External Dimensions with armrest (W x D x H)		730 x 850 x 1400 mm (28.7" x 33.5" x 55.1")	1035 x 850 x 1400 mm (40.7" x 33.5" x 55.1")	1340 x 850 x 1400 mm (52.8" x 33.5" x 55.1")	1645 x 850 x 1400 mm (64.8" x 33.5" x 55.1")	1950 x 850 x 1400 mm (76.8" x 33.5" x 55.1")
Gross Internal Dimensions (W x D x H)		610 x 610 x 650 mm (24.0" x 24.0" x 25.6")	915 x 610 x 650 mm (36.0" x 24.0" x 25.6")	1220 x 610 x 650 mm (48.0" x 24.0" x 25.6")	1525 x 610 x 650 mm (60.0" x 24.0" x 25.6")	1830 x 610 x 650 mm (72.0" x 24.0" x 25.6")
Internal Working Area (W x D)	S-Series	589 x 496 mm	894 x 496 mm	1200 x 496 mm	1504 x 496 mm	1809 x 496 mm
	E-Series	579 x 496 mm	884 x 496 mm	1189 x 496 mm	1494 x 496 mm	1800 x 496 mm
Usable Work Area		0.3 m² (3.2 ft²)	0.45 m² (4.9 ft²)	0.6 m² (6.5 ft²)	0.75 m² (8.2 ft²)	0.9 m² (9.8 ft²)
Tested Opening		175mm (7")				
Working Opening		185mm (7.3")				
Maximum Opening		490 mm (19.3")				
Average Inflow Velocity		0.45 m/s (90 fpm)				
Average Downflow Velocity		0.32 m/s (64 fpm)				
Airflow Volume	Inflow / Exhaust Without Ducting	173 cmh (102 cfm)	259 cmh (152 cfm)	346 cmh (204 cfm)	432 cmh (254 cfm)	518 cmh (305 cfm)
	Downflow	408 cmh (240 cfm)	615 cmh (362 cfm)	815 cmh (480 cfm)	1022 cmh (602 cfm)	1223 cmh (720 cfm)
Advance 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 per EN12469*		52 dBA	49.8 dBA	50.8 dBA	53.8 dBA	55.0 dBA
Light Intensity		>1000 lux (92.9 ft candles)				
Cabinet Construction	Main Body	1.2 mm (0.05") / 18 gauge EG steel with Isocide™ oven-baked epoxy-polyester anti-microbial powder coating				
	Work Zone	1.5 mm (0.06") / 16 gauge, stainless steel 304, 4B finish				
	Side Walls	S-Series: 1.5 mm (0.06") / 16 gauge, stainless steel 304, 4B finish E-Series: UV Absorbing Tempered Safety Glass, 6 mm (¼"), transparent				
	Sash Glass Material	6 mm (¼") UV Absorbing Tempered Safety Glass				
Electrical 220-240 VAC, 50/60 Hz**	Nominal Power Consumption (W)	148	157	208	270	320
	Heat Load (BTU / Hr)	505	536	710	921	1092
	Cabinet Full Load Amps (FLA)	8A	10A			
	Standby (W)	60	66	75	85	92
	StandBy (Ampere)	0. 26	0.28	0.33	0.37	0.40
Net Weight		161 kg (355 lbs)	213 kg (470 lbs)	255 kg (562 lbs)	304 kg (670 lbs)	338 kg (745 lbs)
Shipping Weight		224 kg (494 lbs)	287 kg (633 lbs)	341 kg (752 lbs)	400 kg (882 lbs)	442 kg (974 lbs)
Shipping Dimensions, Maximum (W x D x H)		850 x 850 x 1950 mm (33.5" x 33.5" x 76.8")	1200 x 850 x 1950 mm (47.2"x 33.5" x 76.8")	1450 x 850 x 1950 mm (57.1" x 33.5" x 76.8")	1720 x 850 x 1950 mm (67.7" x 33.5" x 76.8")	2050 x 850 x 1950 mm (80.7" x 33.5" x 76.8")
Shipping Volume		1.4 m³ (49.4 f³)	2.0 m³ (70.64 f³)	2.5 m³ (88.2 f³)	3.0 m³ (105.9 f³)	3.6 m³ (127.1 f³)

Specifications are subject to change without 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 within nominal set point. Result may vary due to several independent variables.*

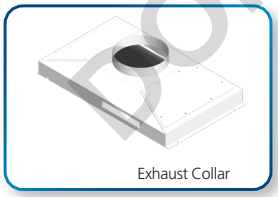
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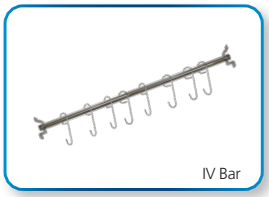
ESCO LIFESCIENCES

Options and Accessories					
Model	**AC2-2S8 G4**	**AC2-3S8 G4**	**AC2-4S8 G4**	**AC2-5S8 G4**	**AC2-6S8 G4**
	AC2-2E8 G4	**AC2-3E8 G4**	**AC2-4E8 G4**	**AC2-5E8 G4**	**AC2-6E8 G4**
UV Lamp	UV-15A-L 5170251		UV-30A-L 5170255		
IV Bar	IV-605 5170498	IV-910 5170499	IV-1215 5170231	IV-1520 5170500	IV-1825 5170501
Support Stand w/ Castors wheel and leveling feet (710 to 920 mm increment / 28.0" to 36.0" with 2" increment, combination of caster wheels and leveling feet)	STA-2A0 5131339	STA-3A0 5131340	STA-4A0 5131341	STA-5A0 5131427	STA-6A0 5131389
EU SF – 20 mm	Gas (5170410) | Air (5170502) | Water (5170458) | Vacuum (5170457) | Nitrogen (5170503)				
US SF – Universal – 22mm	SF-2U22 5170504				
Solenoid Gas Valve	SOLENOID VALVE FITTING 5075239				
Copper Piping	COPPER PIPING 5170026				
Thimble Exhaust Collar	ECO-AC2/SC2-2FT-EN G4 5171246	ECO-AC2/SC2-3FT-EN G4 5171247	ECO-AC2/SC2-4/5FT-EN G4 5171248	ECO-AC2/SC2-4/5FT-EN G4 5171248	ECO-AC2-6FT-EN G4 5171250
Anti-blowback Valve 10inch	ABBV-10P (EG material) 5170352				
	ABBV-10S (Stainless Steel material) 5170354				
Exhaust Damper	DAMPER 5170104				
Front Decon cover with VHP IN PORT	FRONT DECON COVER W/ VHP IN PORT AC2-2-G4 5171319	FRONT DECON COVER W/ VHP IN PORT AC2-3-G4 5171321	FRONT DECON COVER W/ VHP IN PORT AC2-4-G4 5171323	FRONT DECON COVER W/ VHP IN PORT AC2-5-G4 5171325	FRONT DECON COVER W/ VHP IN PORT AC2-6-G4 5171327
Top Decon cover with VHP OUT PORT	TOP DECON COVER W/ VHP OUT AC2-2-G4 5171320	TOP DECON COVER W/ VHP OUT AC2-3-G4 5171322	TOP DECON COVER W/ VHP OUT AC2-4-G4 5171324	TOP DECON COVER W/ VHP OUT AC2-5-G4 5171326	TOP DECON COVER W/ VHP OUT AC2-6-G4 5171328
TOP BOX With VHP OUT (25 mm (1") diameter)	TOP BOX W/ VHP-OUT AC2-2 G4 5171350	TOP BOX W/ VHP-OUT AC2-3 G4 5171298	TOP BOX W/ VHP-OUT AC2-4 G4 5171299		TOP BOX W/ VHP-OUT AC2-6 G4 5171301
Pre-Filter, Paper catch (Black Foam only)	PF-40 5090060	PF-41 5090061	PF-42 5090062	PF-43 5090063	PF-41 X 2 5090061
Arm Rest Padding	MEWREST 5170127				
Foot Rest	FT-REST 5170073				
IQOQ, SAT, FAT	Hardcopy 9010179 & Softcopy 9010179-A, RSR-034, RSR-020				

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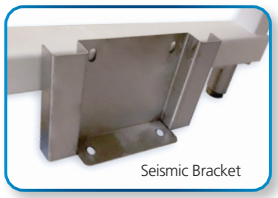
Accessories


Exhaust Collar


IV Bar


Support Stand


Arm Rest Padding


Seismic Bracket


Laboratory Chair


Foot Rest


Universal Service Fixture

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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
- Centrifuges

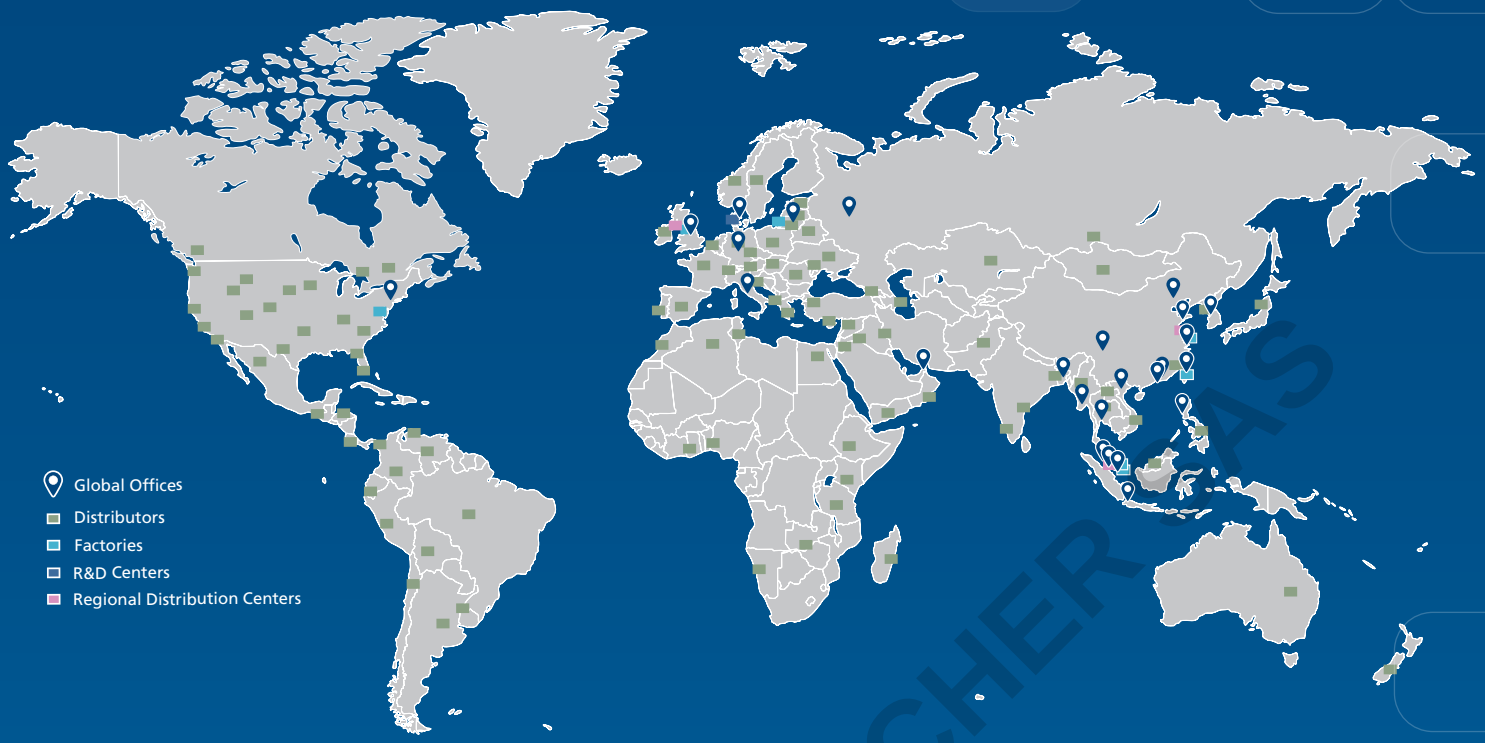
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