



NEW!



TUV NORD

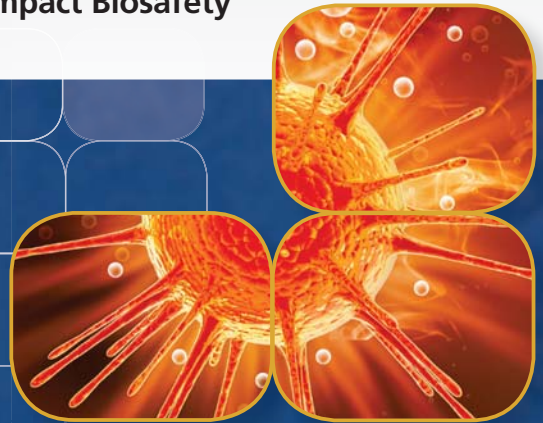
EN 12469

*Airstream Class II, Biosafety Cabinet,
Model AC2-4E8-TU*

Airstream® PLUS

Class II Biological Safety Cabinets

The World's Leading Energy Efficient, Quiet, and Compact Biosafety Cabinet. TÜV NORD Certified to EN 12469



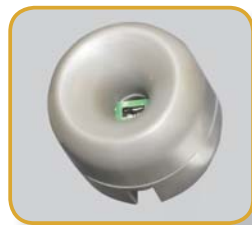
ESCO

WORLD CLASS. WORLDWIDE.



Voltage Free Relay Contact

- Zero volt exhaust and alarm contact



Airflow Sensor

- Monitors real-time airflow for safety
- Alert the user if airflow is insufficient
- High-end Accusense sensor made by Degree C



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



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



Divided Work Tray

- Easy to lift and clean
- Single-piece recessed tray is available (S-Series)



Raised Arm Rest

- Helps prevent grille blocking
- Comfortable working posture



Removable Paper Catch

- Easy to clean
- Optional pre-filter can be fitted

Available in 1.2, 1.5 and 1.8 meter width (4' 5" and 6')



EN12469



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

Airstream® PLUS

Biological Safety Cabinets • Class II Biological Safety Cabinets

RS 232 Serial Interface Port

- Send operational information to Building Management System (BMS)

Optional RS485 Port

- Send operational information to Esco Voyager or Building Management System (BMS)

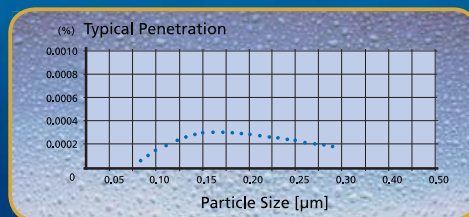
DUAL Energy Efficient DC ECM Motor

- The most energy efficient Class II Biosafety Cabinet in the world
- 70% Energy savings compared to AC motor
- Stable airflow, despite building voltage fluctuations & filter loading
- Standby mode to further reduce power consumption by 60%



H14 / Optional U15 Filter

- H14 Filter with efficiency of 99.999%
- U 15 Filter with efficiency of 99.9999% (10x filtration efficiency of H14 filter)
- Creates ISO Class 3 work zone instead of industry-standard ISO Class 5



LED Lamp

- Energy efficient
- Last 4x longer than fluorescent lamp
- Brighter than fluorescent lamp



ISOCIDE™ Powder Coat

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



Optional Hydrogen Peroxide Injection Port

- Easily connect to VHP/HPV Generator
- Combined with sealed front window for easy decontamination



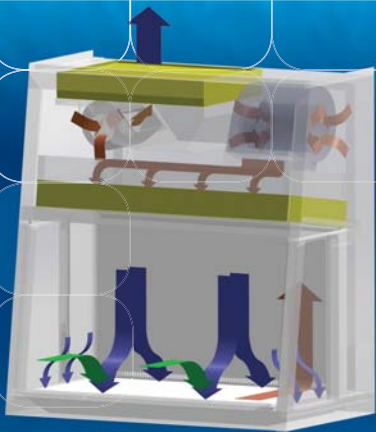
Angled Drain Pan

- Easy to clean
- Does not harbor contaminants



	Biosafety Cabinet	Air Quality	Filtration	Electrical Safety
Standards Compliance	DIN EN 12469, Europe SANS 12469, South Africa	ISO 14644.1 Class 3, Worldwide JIS B9920 Class 3, Japan JIS BS5295, Class 3, Japan	EN-1822 (H14), Europe IEST-RP-CC001.3, USA IEST-RP-CC007, USA IEST-RP-CC034.1, USA	IEC 61010-1, Worldwide EN 61010-1, Europe UL 61010-1, USA CAN / CSA-22.2, No.61010-1

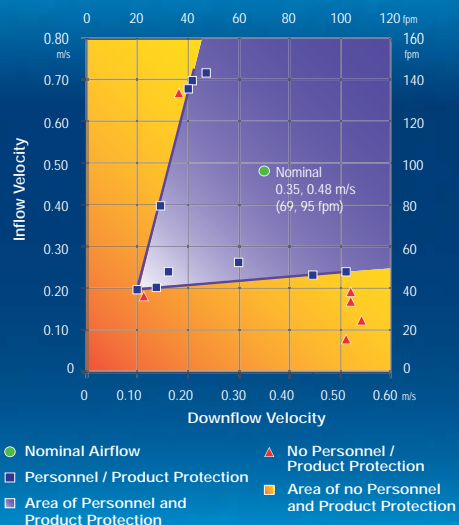
Cabinet Filtration System



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

- 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 AC2-TU



LCD simultaneously displays time, airflow & sash status, inflow and downflow velocities, and status remarks.

Multi Language: English, French, German, Spanish, Italian.

Diagnostics button, to easily check the cabinet operating parameters and assist servicing.

Large touchpad control buttons provide good tactile feedback.

Color coded LED: green for fan; blue for lights and outlets; and orange for UV lamp.

Programmable UV light timer extends UV lamp life.



4

AC2 Cabinets Save Money and Environment

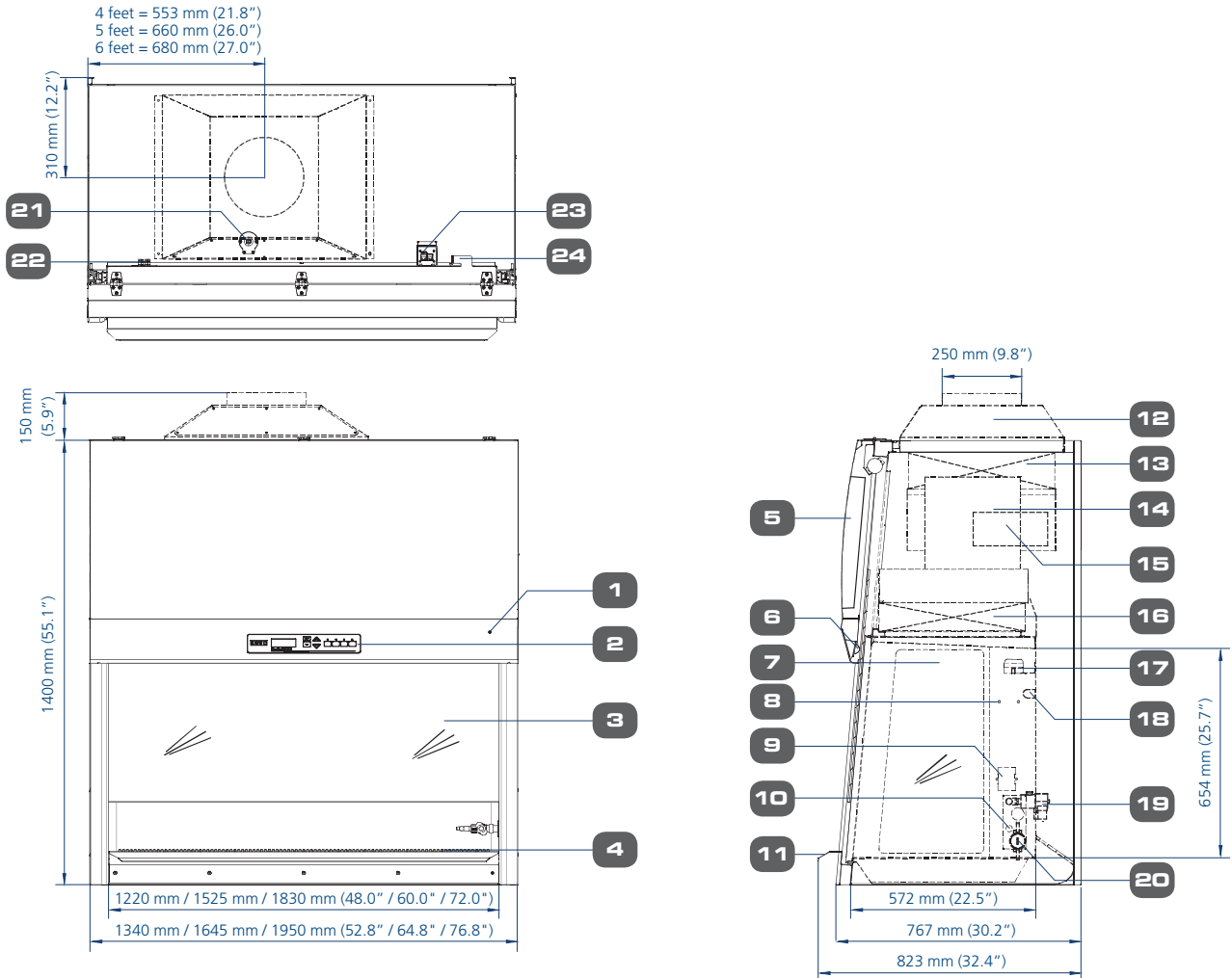


Description	AC2-4S_-TU with DC ECM blower	Typical BSC with AC Blower	Savings	Units
Instantaneous Power	200	800	600	Watt
Hours of Operation in a year		2000		Hours
Energy	400	1600	1200	kWh
Energy cost in USA at \$ 0.10 / kWh	40	160	120	USD
Energy cost in EU at € 0.20 / kWh	80	320	240	Euro
CO ₂ released in USA at 1 lbs / kWh	400	1600	1200	lbs
CO ₂ emission in EU at 0.35 Kg / kWh	140	560	420	Kg

Airstream® PLUS

Biological Safety Cabinets • Class II Biological Safety Cabinets

Model AC2-TU Biological Safety Cabinet Technical Specifications



- | | |
|--|---|
| 1. Key Switch | 13. Exhaust H14 Filter (Optional U15) |
| 2. Esco Sentinel™ Gold Microprocessor Control System | 14. DC-ECM Downflow Blower |
| 3. Laminated Glass Motorized Sliding Sash Window | 15. DC ECM Exhaust Blower |
| 4. Stainless Steel Multi-piece Work Tray | 16. Downflow H14 Filter (U15 is Optional) |
| 5. Electrical Panel | 17. Downflow Sensor |
| 6. Energy Efficient LED Lamps | 18. UV Lamp Provision |
| 7. Hole-free, Easy to Clean Side Tempered Glass | 19. Optional Solenoid Valve |
| 8. IV Bar Retrofit Kit Provision | 20. Optional Steris VHP / Bioquell HPV Port |
| 9. Standard Electrical Outlet Retrofit Kit Provision | 21. Exhaust Sensor |
| 10. Service Fixture Retrofit Kit Provision | 22. Voltage Free Relay Contact |
| 11. Stainless Steel Arm Rest | 23. RS 232 Serial Interface Port |
| 12. Exhaust Collar (Optional) | (Optional RS 485 Communication Port) |
| | 24. Power Inlet |

Comprehensive Performance Testing At Esco



Every Airstream Plus AC2-TU model manufactured by Esco is individually tested, documented by serial number and validated with the following test methods:

- Inflow and downflow velocity
- PAO aerosol challenge for filter integrity
- Airflow pattern visualization
- Electrical safety to IEC61010-1
- Additional KI-Discus containment and microbiological testing are performed on statistical sampling basis.



TECHNICAL SPECIFICATIONS

Glass Side: 220-240 VAC, 50/60 Hz		AC2-4E8-TU	AC2-5E8-TU	AC2-6E8-TU
Stainless Steel Side: 220-240 VAC, 50/60 Hz		AC2-4S8-TU	AC2-5S8-TU	AC2-6S8-TU
Nominal Size		4 ft / 1.2 m	5 ft / 1.5 m	6 ft / 1.8 m
External Dimensions (W x D x H)	Width	1340 mm (52.8")	1645 mm (64.8")	1950 mm (76.8")
	Depth without arm rest	767 mm (30.2")		
	Depth with arm rest	823 mm (32.4")		
Height		1400 mm (55.1")		
Gross Internal Dimensions (W x D x H)	Width	1220 mm (48")	1525 mm (60")	1830 mm (72")
	Depth	580 mm (22.8")		
	Height	654 mm (25.7")		
Usable Work Area		0.56 m ² (6.1 sq.ft.)	0.71 m ² (7.63 sq.ft.)	0.86 m ² (9.2 sq.ft.)
Tested Opening		175 mm (7")		
Average Airflow Velocity	Inflow	0.48 m/s (95 fpm)		
	Downflow	0.35 m/s (69 fpm)		
Airflow Volume	Inflow	369 cmh (217 cfm)	461 cmh (271 cfm)	553 cmh (325 cfm)
	Downflow	861 cmh (506 cfm)	1076 cmh (633 cfm)	1291 cmh (759 cfm)
	Exhaust	369 cmh (217 cfm)	461 cmh (271 cfm)	553 cmh (325 cfm)
	Required Exhaust With Optional Thimble Exhaust Collar	554 cmh (326 cfm)	692 cmh (407 cfm)	830 cmh (488 cfm)
	Static Pressure For Optional Thimble Exhaust Collar	38 Pa / 0.12 in H ₂ O	44 Pa / 0.14 in H ₂ O	50 Pa / 0.18 in H ₂ O
ULPA Filter Typical Efficiency		>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 EN 12469*		51.7	53.4	54.8
Fluorescent Lamp Intensity		1562 lux (145 fc)	1510 lux (140 fc)	1450 lux (134 fc)
Cabinet Construction	Main body	1.2 mm (0.05") 18 gauge electro-galvanized steel with white oven-baked epoxy-polyester Isocide™ antimicrobial powder-coated finish		
	Work Zone	1.5 mm (0.06") 16 gauge stainless steel, type 304, with 4B finish		
	Side Walls (E Series)	UV absorbing tempered glass, 6 mm (0.2"), colorless and transparent 1.5 mm (0.06") 16 gauge stainless steel, type 304, with 4B finish		
	Side Walls (S Series)	1.5 mm (0.06") 16 gauge stainless steel, type 304, with 4B finish		
Electrical	Cabinet Full Load Amps (FLA)	10	10.3	11
	Heat Load (BTU / Hr)	682	785	938
Nominal Power Consumption (W)		200	230	275
Net Weight **		236 Kg (520 lbs)	293 Kg (645 lbs)	351 Kg (773 lbs)
Shipping Weight **		260 Kg (573 lbs)	331 Kg (729 lbs)	403 Kg (888 lbs)
Shipping Dimensions, Maximum (W x D x H) mm**		1450 x 880 x 1760	1720 x 880 x 1760	2050 x 880 x 1760
Shipping Volume, Maximum **		2.25 m ³	2.66 m ³	3.17 m ³

* 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.

** Cabinet only, excludes optional stand.

Accessories for AC2-TU Biological Safety Cabinets

Cabinet	Glass Side Wall	AC2-4E8-TU 2011005	AC2-5E8-TU 2010981	AC2-3E8-TU 2011007
	Stainless Steel Side Wall	AC2-4S8-TU 2010749	AC2-5S8-TU 2010980	AC2-6S8-TU 2010943
Exhaust Ducting	Anti-blowback Valve 10"	ABBV-10P 5170352		
	Tri-safe Exhaust Collar with Alarm	TEM-4 2010606		
	Thimble Exhaust Collar	ECO-AC24-TU 5170623	ECO-AC25-TU 5170624	ECO-AC26-TU 5170625
	Exhaust Damper	B2-DAMPER 5170352		
	VHP In Port (Ø 1")	VHP-IN PORT 5170552		
Hydrogen Peroxide Decontamination Kit	VHP Out Top Box for Cabinet WITH Exhaust Collar Installed (Ø 1")	VHP-ECO/OUT 5170615	VHP-ECO/OUT 5170616	VHP-ECO/OUT 5170617
	VHP Out Top Box for Cabinet WITHOUT Exhaust Collar Installed (Ø 1")	VHP OUT TOP BOX 4ft 5170612	VHP OUT TOP BOX 5ft 5170613	VHP OUT TOP BOX 6ft 5170614
Work Zone	UV Lamp	UV-30A-L 5170255		
	IV Bar	IV-1215 5170231	IV-1520 5170500	IV-1825 5170501
	Multiple Piece Tray Option (for AC2-S-TU)	SDT-AC2-4E-TU 5020830	SDT-AC2-5E-TU 5020976	SDT-AC2-6E-TU 5020828
	Single Piece Tray Option (for AC2-E-TU)	SGT-AC2-4S-TU 5020973	SGT-AC2-5S-TU 5020978	SGT-AC2-6S-TU 5020981
Electrical Outlet	Direct Mounted	EO-H_		
Service Fixtures	EU SF-Gas-20 mm	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		
	EU SF-Universal-22 mm	SF-2U22 5170504		
Support Stands, Ships Flat	Fixed Stand with Leveling Feet, 28" height	SAL-4A0 Gen 2 5130134	SAL-5A0 Gen 2 5130171	SAL-6A0 Gen 2 5130172
	Fixed Stand with Leveling Feet, 34" height	SAL-4B0 Gen 2 5130175	SAL-5B0 Gen 2 5130176	SAL-6B0 Gen 2 5130177
	Fixed Stand with Caster Wheels, 28" height	SPC-4A0 Gen 2 5130152	SPC-5A0 Gen 2 5130162	SPC-6A0 Gen 2 5130154
	Fixed Stand with Caster Wheels, 34" height	SPC-4B0 Gen 2 5130166	SPC-5B0 Gen 2 5130167	SPC-6B0 Gen 2 5130168
	Telescopic Stand with Leveling Feet, 1" adjustment	STL-4A0 5130051	STL-5A0 5130052	STL-6A0 5130053
	Telescopic Stand with Caster Wheels, 1" adjustment	STC-4A0 5130056	STC-5A0 5130057	STC-6A0 5130058
	Motorized height Stand with Caster Wheels	SPM-4A_	SPM-5A_	SPM-6A_
Misc	IQ OQ Protocol	9010179		



ABBV-10P



TEM-4



ECO-AC2-_TU



B2-DAMPER



VHP-IN PORT



VHP-ECO/OUT



VHP OUT TOP BOX



UV-_A-L



IV-_



SF-1_



SF-2U



Electrical Outlet Direct Mounted



SDT-AC2-_E



SPC-_A0 Gen2



SAL-_A0 Gen2



STC-_A0

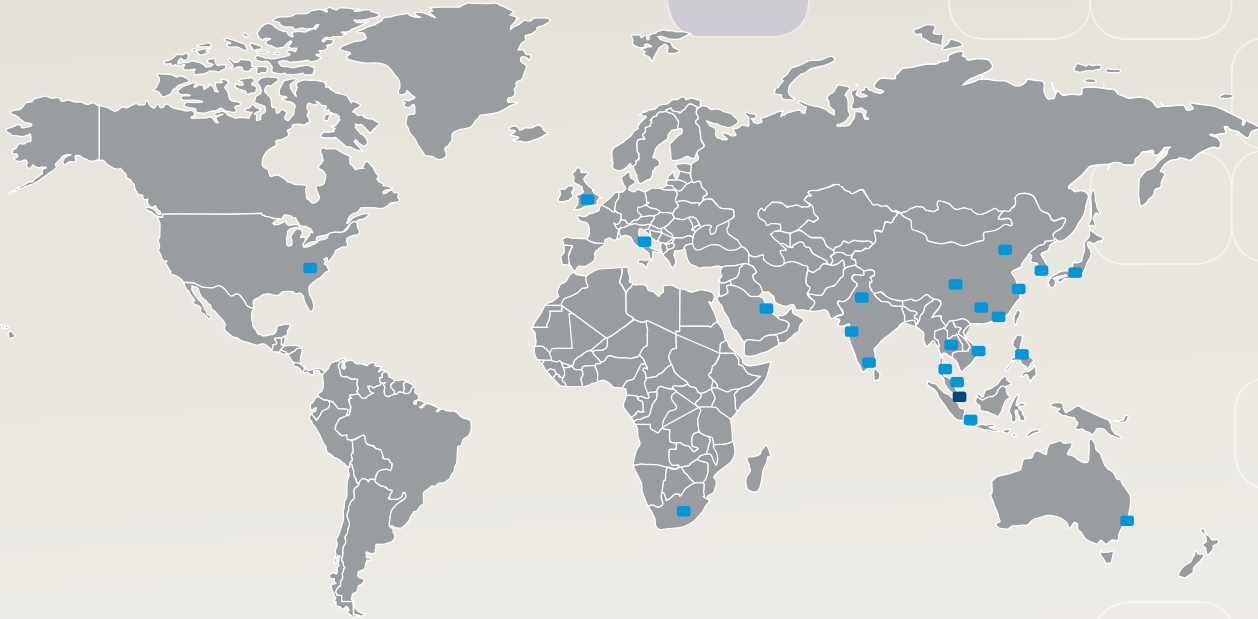


SPM-_A2



IQ OQ

ESCO GLOBAL NETWORK



- ART Equipment
- Biological Safety Cabinets
- CO₂ Incubators
- Cold Storage
- Compounding Pharmacy Equipment
- Containment / Pharma Products
- Ductless Fume Hoods
- Lab Animal Research Products
- Laboratory Fume Hoods
- Laboratory Incubators
- Laboratory Ovens
- Laminar Flow Cabinets
- Laboratory Freeze Dryers
- PCR Cabinets
- PCR Thermal Cyclers
- Powder Weighing Balance Enclosures

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Life Science • Chemical Research • Assisted Reproductive Technology (ART) • Pharmaceutical Equipment • General Equipment

ESCO

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