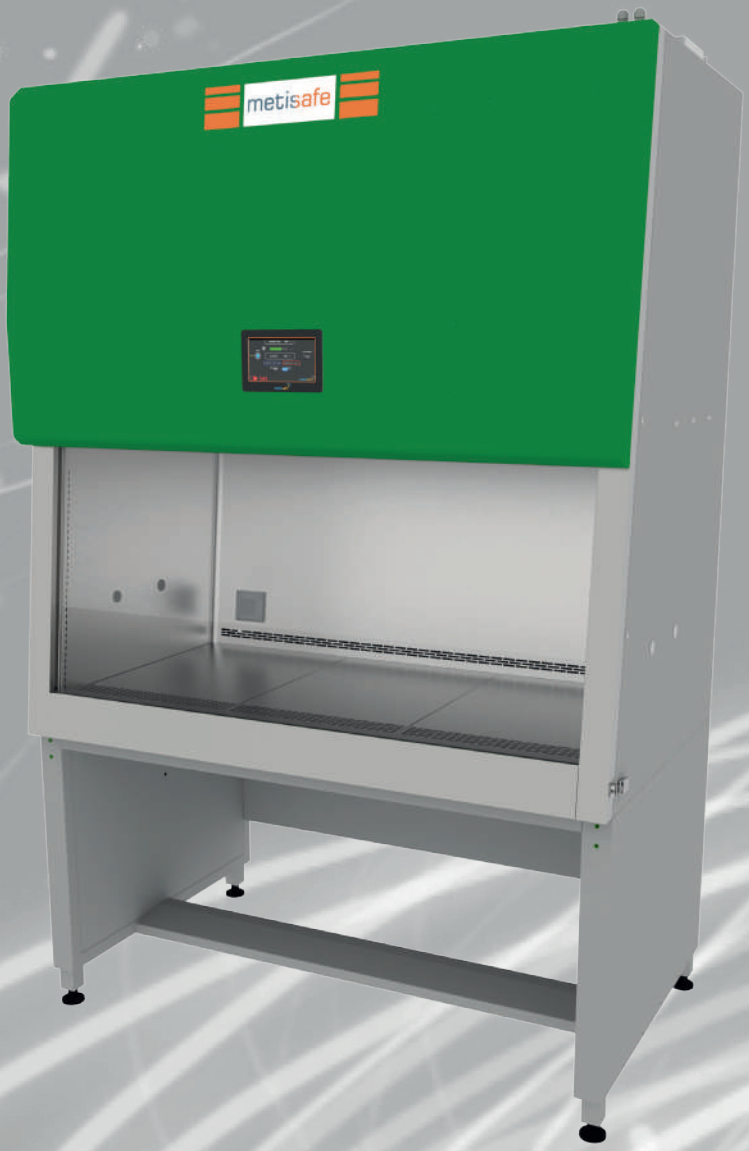
metisafe
CLEANROOM & BIOSAFETY



CLASS II TYPE A BIOLOGICAL SAFETY CABINET E SERIES

- Above Standards Biosafety
- GMP Compliant Operator
- Privileged Quality Detailsc
- Superior User Comfort
- Integrable Extra Functions

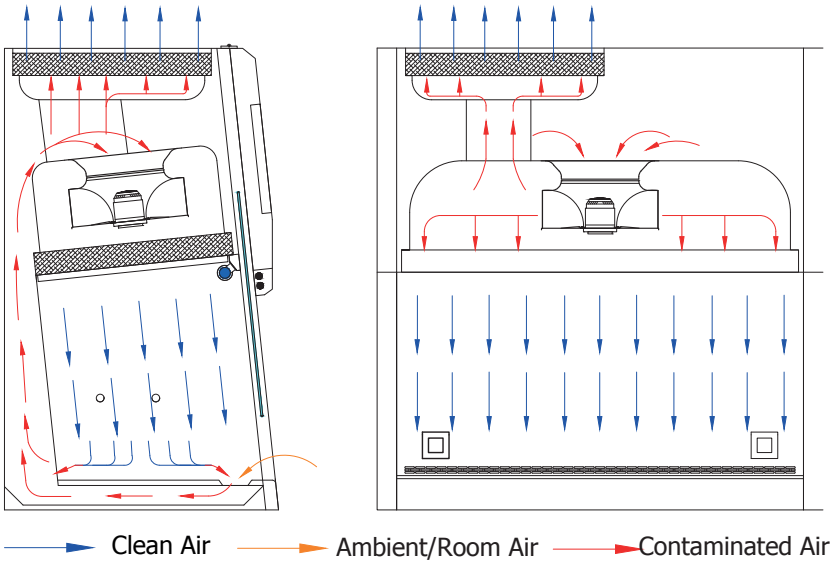
EN12469

ISO 14644

CE

“Class II Biological Safety Cabinets (BGK) are devices that work with the principle of air circulation, particle filtration and keeping the air barrier area under negative pressure”

AIR FLOW DIAGRAM



Metisafe® biological safety cabinets recirculate 70% (-/+5%) of the device’s total air. After passing through the main HEPA/ULPA filter, the clean air flows down to the work chamber. The 30% (-/+5%) of the total air is exhausted out of the cabin after passing through the exhaust HEPA filter at the top of the device. The indoor environment’s intaken air is passed through the air grills in the front section of the workbench and directed to the fan unit. Those air barriers prevent the reach of dirty indoor air into the workbench. Both intaken and recirculated total air inside the device is collected in the fan section. Then it passes through the pre-filter (optional), main HEPA filter and laminarizator, and protects the work material by providing ISO-5 cleanliness class laminar airflow. The primary air barrier occurs in the work chamber and the negative plenum structure surrounding it. The air in the cabin is prevented from reaching the user, including possible accidents,and a zero leakage work station is provided.

- Homogenous and cruise control airflow
- Advanced filter compensation system keeping steady air velocity under increased filter resistance
- Negative plenum Fan Filter Unit suitable for non-stop operation
- Auto setup avaliable motorized sash window
- Homogenous illumination
- Timer controlled effective disinfection by UV Lamp
- D.O.P. test ports

Main Body and Design Features

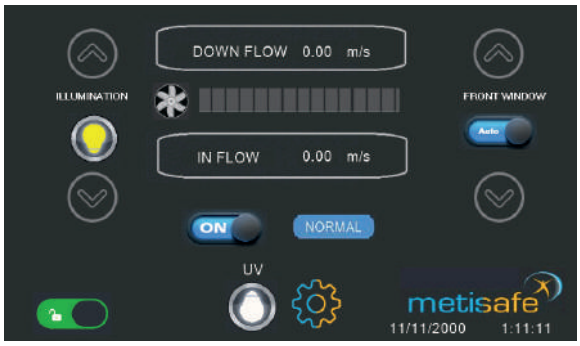
- Main body from antibacterial wet painted coated on steel
- <7° angle back sloped front panel for work comfort and increased working chamber vision
- 36° openable front panel for easy working chamber cleaning
- Electronic control & electrical parts are protected by isolating from work chamber
- UV resistant glass

MICROPROCESSOR CONTROL UNIT

Color Screen Touch Control Panel: Password protected user interface, Device on/off button, Standby/Normal modes operation indicator, Motorized front window level adjustment and one-button automatic front window level adjustment, UV and illumination lamp On/Off buttons, Lux Adjustable Illumination, Automatic switch to Standby mode and UV lamp operation when the windshield is closed, User interface password change, Password protected technical service maintenance/calibration, Date and time information, Cabinet information page

Audio-Visual Warning System: Audible visual alarm button and temporary mute, Improper front window position warning, Improper air velocity warning, Filter and UV lamp replacement warning, Technical service maintenance warning, Fan error warning

Wide Information Display: Downflow/Inflow Air velocity rate, Fan working capacity, Fan working diagram, UV lamp timer setting, Cabinet, UV and illumination running times



Control panel main display screen

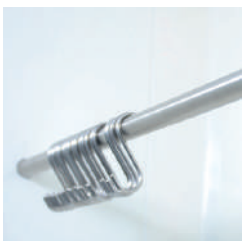
Control unit isolated from the contaminated area and easily intervened from outside the cabin

Removable or sterilizable sectioned stainless steel worktop

Plenum cast desing creates negative pressure around contaminated workarea and ensures zero leakage

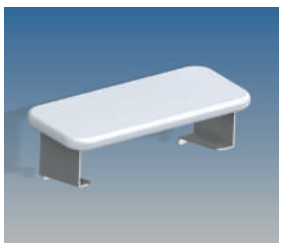
CAT #	OPTIONALS
MOP. FWS	Front Window Motion Safety System
MOP.HTS	Humidity/Temperature Sensor
MOP.RES	Remote Access
MOP.CFL	Carbon Filter
MOP.FLT.EU4	Pre-Filter
MOP.CFL.EU4	Active Carbon Impregnated Pre-Filter
MOP.FLT.ULP	ULPA Filter
MOP.MIE	Microscope Entegration
MOP.PMS	Particle Measure System
MOP.BWT	Precision Balance with Vibration Damping Weighing Table
MOP.WCS	Working Cabinet Suspension Apparatus
MOP.MDS	Manual Decontamination System
MOP.SDS	Semi-Automatic Decontamination
MOP.CCP	Canopy Connection
MOP.PPR0	Process Parameter Recording System

CAT #	ACCESSORIES
MAC.HAS	Height Adjustable Support Stand
MAC.WSS	Wheeled Support Stand
MAC.UVC	Portable Germicidal UV Lamp
MAC.MIS	Microbiological Air Sampling Apparatous
MAC.ASA	Arm Support Apparatus
MAC.UPS	Uninrerruptible Power Supply (UPS)
MAC.ADH	Acrobat Document Holder
MAC.AMH	Acrobat Monitor Holder
MAC.INC	Incinerator
MAC.DID	Disinfection Dispenser
MAC.ECM	Document/Equipment Cleaning Module
MAC.VLF	Service Valves
MAC.FOS	Foot Stand



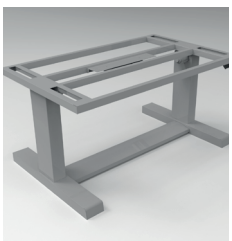
Working Cabinet Suspension Apparatus (IV Bar)

Incinerator

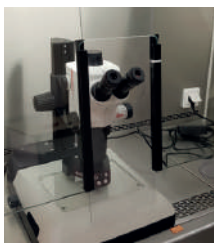


Arm Support Apparatous

Services Valves

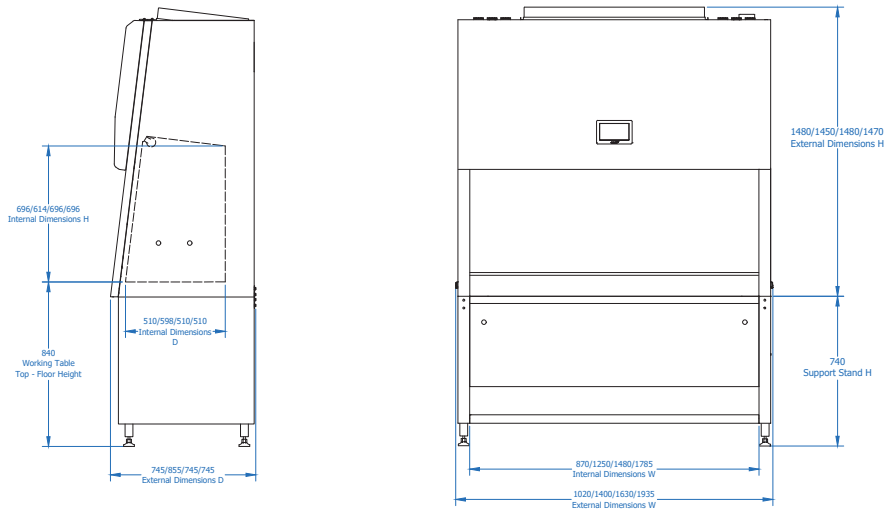


Height Adjustable Support Stand



Microscope Integration

E SERIES METISAFE CLASS II TYPE A BIOLOGICAL SAFETY CABINET TECHNICAL DRAWING



METISAFE E SERIES CLASS II TYPE A2 BSC TECHNICAL SPECIFICATIONS					
Model		**MSC-IIA-E90**	**MSC-IIA-E120**	**MSC-IIA-E150**	**MSC-IIA-E180**
DIMENSION AND WEIGHT					
Internal Dimensions (W x D x H) mm		870 x 510 x 696	1250 x 598 x 614	1480 x 510 x 696	1785 x 510 x 696
Outer Dimensions (W x D x H) mm		1020 x 745 x 1480	1400 x 855 x 1450	1630 x 745 x 1480	1935 x 745 x 1470
Support Stand Dimensions (W x D x H) mm		997 x 695 x 740	1370 x 803 x 740	1602 x 695 x 740	1907 x 695 x 740
Working Table Height (mm)		840 mm			
Cabinet Height (kg)		200	260	280	310
Support Stand Weight (kg)		30	40	40	46
Packaged Total Weight (With Support Stand) (kg)		270	368	337	375
Pack/ Palette Dimensions (With Support Stand) (W x L x H) mm		1120 x 1000 x 1790	1470 x 1100 x 1850	1740 x 1000 x 1830	2030 x 1000 x 1830
HEPA FILTER and AIRFLOW DYNAMICS					
Airflow Velocity	**Inflow**	≥ 0.40 m/s			
	Downflow	0.25 - 0.50 m/s			
Filters (EN 1822)	**Main Filter**	H14 HEPA, 0,3 µm paticle %99.995 < filtration efficiency			
	Exhaust Filter	H14 HEPA, 0,3 µm paticle %99.995 < filtration efficiency			
Working Area Cleaning Class	**EN ISO 14644-3**	< ISO 5			
	US FED 209E	< Class 100			
ENERGY					
Energy Consumption 230 VAC- 50Hz	**Fan Filter Unit**	180 W	230 W	320 W	320 W
	Illumination	18 W	36 W	36 W	36 W
	UV Lamp	18 W	30 W	36 W	36 W
	Electrical Socket Power / Current	2x1150 W / 2x5 A			
Total Power / Current		2516 W / 10.9 A	2596 W / 11.3 A	2692 W / 11.7 A	2692 W / 11.7 A
Power Consumption Under Normal Operating Conditions (Illumination and Fan Motor)		198 W	266 W	356 W	356 W
ERGONOMICS and COMFORT					
Front Window Aperture	**Standard-Preset**	200 ± 10mm			
	Max. Height	440 ± 10mm			
Noise Level		≤ 65 dB			
Illumination		≥ 750 Lux			
WORKING AREA					
Working Table	**Standard**	304 Stainless Steel			
	Optional	316 Stainless Steel			
Front Window Thickness		≥ 6 mm			
QUALITY and CERTIFICATION					
CE, ISO9001-2015 Quality Management Certificate, Biological Safety Cabinets EN12469, ISO14644 Cleanroom Class Compatibility, EN61010 Electric and Electronic Safety Compatibility, Accredited Testing Institution Validation Guarantee in case the installation is opareted by Metisafe® Certified Technical Personnel					

Dimension and Weight

HEPA

Energy Productivity

Ergonomics and Comfort

Working Area

metisafe
CLEANROOM & BIOSAFETY

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