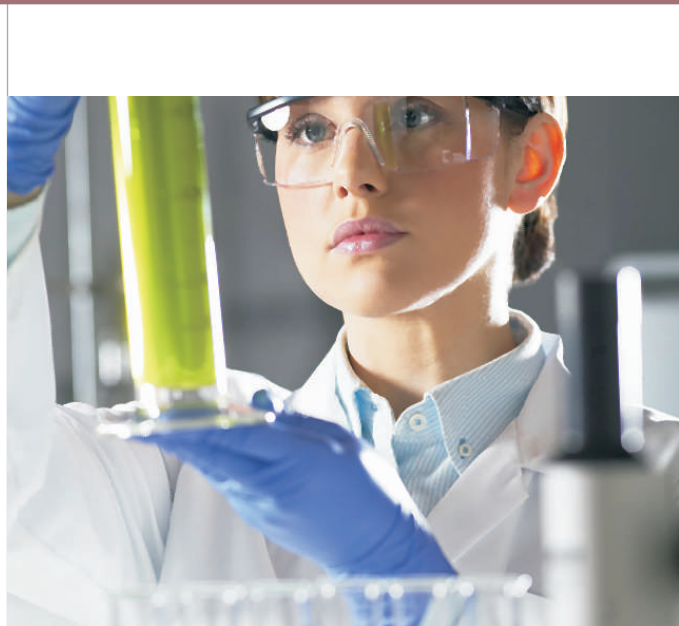




Weiber Biosafety cabinets
Class II A-2





Models:

- ACM-41203-LS



Weiber Biosafety cabinets Class II A-2 (Model ACM-41203 LS) are the most economical and viable solution for small and medium level laboratories . This is an ideal solution for protection of samples and environment. The principle of operation involves using a fan mounted in the top of the cabinet to draw a curtain of sterile air over the products that are being handled. The air is then drawn underneath the work surface and back up to the top of the cabinet where it passes through the HEPA filters. The air that is exhausted is made up by air being drawn into the front of the cabinet underneath the work surface. The air being drawn in acts as a barrier to potentially contaminated air coming back out to the operator. Our system comprises of the latest double ultra low air penetration filters with typical efficiency of 99.999% which is better than the conventional high efficiency particulate air filtration ensuring the maximum user , product and environmental protection. The system adhere to most strict quality norms and comply to the latest European standards for microbiological safety cabinet.



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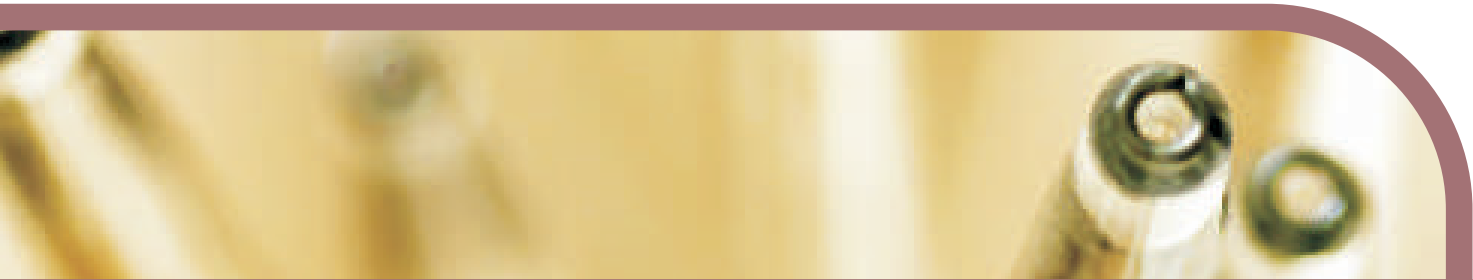
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Features:

- System meets the performance requirements of NSF/ANSI 49.
- Ergonomic User Friendly Design

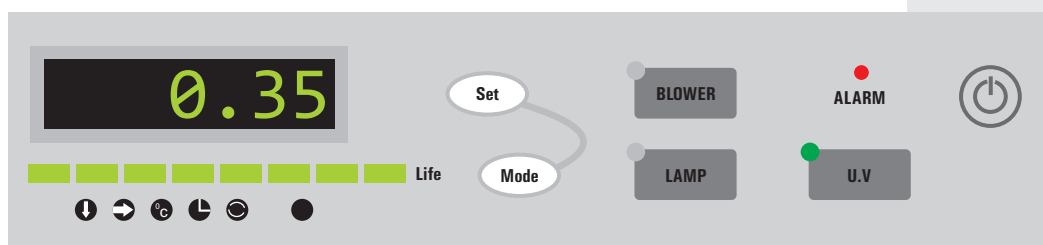
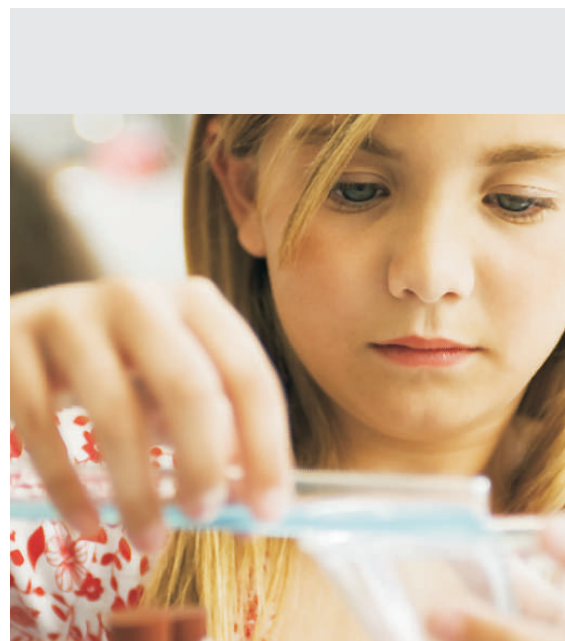




- Fumigated as per NSF norms
- 30% exhaust and 70% recycled ventilation
- Work area surrounded by negative pressure, double wall plenums for protection
- Supply and exhaust 99.99% efficient ULPA filters(0.1-0.2 μ m)
- Self-adjusting motor technology dramatically improves energy efficiency, decreases cabinet vibration, and extends filter life without sacrificing performance.
- Microprocessor with filter clogging automatic compensation guarantees a precise volume of air as required
- Aerodynamic designed airflow grille maintains safety by preventing blockage
- Laminated safety glass provides protection from explosion, breakage and UV
- Window opens to 20cm \pm 5mm working height with predefined locking device.
- A window interlock prevents the UV lamp from operating if the sash is open.
- Timed UV light option reduces risk of sample contamination and lower bulb replacement cost



- Electronic security lock that requires code to operate the cabinet
- Ergonomically angled window sloped at 10° for better comfort
- Frameless sash window offers an unobstructed view and easier to clean With optional PVC armrest, lab technicians can continuously work comfortably
- Large front-panel display provides constant readout of down flow and inflow velocities, chamber temperature and filter usage status.
- 304 stainless steel interior and removable, seamless surface with lift out knobs
- Equipped with 3 independent openings for water, vacuum and gas tap, and 2 water-proof power sockets.
- Adjustable stands available with manual adjustment for convenient working positions





- Quiet operation enables a comfortable working environment
- Air Velocity from the supply filter is 55 to 65 FPM with no single point outside the 20% of average range measured in a horizontal plane defined by 4 inches (102mm) above the bottom edge of window.
- Sound level no more than 60 dbA measured 15 inches above the work tray and 12 inches in front of viewing window.

Fluorescent lighting are mounted externally providing more than 1000 lux on the work surface. The electronic ballast is provided with automatic reset.

CONTROLS

Control & Display Panel

Panel indicates information on downflow and inflow velocity, filter life, pressure, temperature and system status, with



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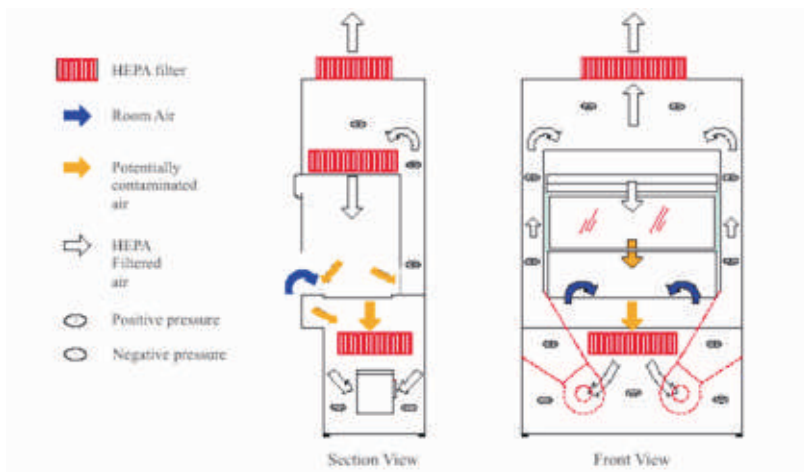
Technical Specification:

Mode	Model ACM-42103 - Class II Type A-2
Operating Temperature(?)	10~50
Operating Relative Humidity (RH)	≤95%(25°C)
Atmospheric Pressure (Pa)	80~105
Collection Efficiency of Main Filter (%)	≥99.999(Particle of 0.1~0.2μm)
Collection Efficiency of Exhaust Filter (%)	≥99.999(Particle of 0.3μm)
Average Air Inflow Velocity (m/s)	0.53 + 0.025
Average Air Downflow Velocity (m/s)	0.25~0.5
Downflow Velocity Control Precision	0.35 + 0.025
Velocity Resolving Power (m/s)	0.1
Differential Pressure Indicating Range (Pa)	0-500
Differential Pressure Indicating Precision	±1%
Constant Negative Pressure in the Workroom (Pa)	> 120
Noise Pressure(dB)(A)	<67
Vibration Peak Mesial Magnitude	≤5
Illumination Level	≥1000
Control System	Microprocessor
Filter Performance (HEPA)	>0.3 μm at 99.999% output air quality class 1000
Filter Performance (ULPA)	>0.1 0-.2 μm at 99.999% output air quality class 10
Filter Life Display	LED/LCD Strip Display
Main Filter	Manual/Motorized HEPA/ULPA
Exhaust Filter	Manual/Motorized HEPA/ULPA



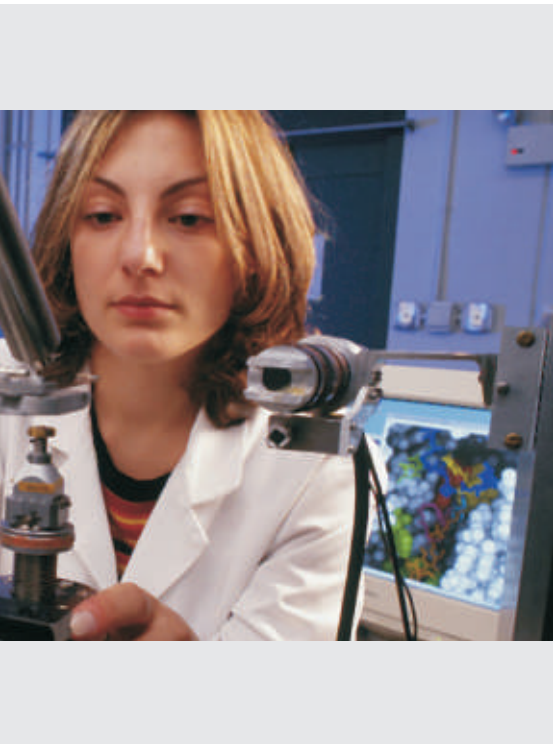
Models				
Mode	ACM-42103 (A)	ACM-42103 (B)	ACM-42103 (B)	ACM-42103 (B)
Workroom (W*D*H) (mm)	900*600*678	1200*600*678	1500*600*678	1800*600*678
Exterior Dimension (W*D*H) (mm)	1070*805*2270	1360*805*2270	1680*805*2270	1980*805*2270
Net Weight (kg)	190	220	265	310
Power (W)	1000	950	1000	1100
Voltage	AC 220- 230 V 50/60Hz AC supply			





- Ambient air is pulled through the perforations located towards the work zone front to prevent contamination of the work surface and work product. The inflow does not mix with the clean air within the cabinet work zone. Inflow air travels through a return path toward the common air plenum (blower plenum) at the top of the cabinet.
- Approximately 35% of the air in the common plenum is exhausted through the ULPA filter to the room. The remaining 65% of the air is passed through the downflow ULPA filter and into the work area as a vertical laminar flow air stream bathing the work surface in clean air.
- The uniform, non-turbulent air stream protects against cross contamination within and throughout the work area.





- Near the work surface, the down flow air stream splits with a portion moving toward the front air grille, and the remainder moving to the rear air grille. A small portion of the ULPA filtered downflow enters the intake perforations at the side capture zones at a higher velocity (small blue arrows).
- A combination of inflow and down flow air streams forms an air barrier that prevents contaminated room air from entering the work zone, and prevents work surface emissions from escaping the work zone.
- Air returns to the common air plenum where the 35% exhaust and 65% recirculation process is continued.
- Cabinet air may be re circulated back into the laboratory or ducted out of the building by means of a "thimble" connection (i.e., a small opening around the cabinet exhaust filter housing) whereby the balance of the cabinet is not disturbed by fluctuations in the building exhaust system. The thimble must be designed to allow for proper certification of the cabinet (i.e., provide access to permit scan testing of the HEPA filter).
- Maintain a minimum average face velocity of 0.5 m/s (100 ft/min).
- Have ducts and plenums under negative pressure.
- Is suitable for work with minute quantities of volatile toxic chemicals and trace amounts of radionuclides.





Certifications

- CE
- Quality Management Standard ISO 9001:2008
- Environmental Management Standard
ISO 14001:2008
- Quality management standard Medical Directives
ISO 13485:2003

OPTIMUM USAGES

Installation and Certification

The air curtain at the front of the cabinet is fragile and can easily be disrupted by people walking parallel to it, by open windows, air supply registers or laboratory equipment that creates air movement (e.g., vacuum pumps, centrifuges). Bio safety cabinets should be installed in accordance with the requirements outlined in the Canadian Standards Association (CSA) Biological Containment Cabinets (Class I and II): Installation and Field Testing(8). They should be located away from high traffic areas, doors and air supply/exhaust grilles that may interrupt airflow patterns. A minimum unobstructed distance of 40 cm should be provided between the exhaust outlet on top of the cabinet and any overhead obstructions.





Whenever possible, a 30 cm clearance should be provided on each side of the cabinet to allow for maintenance access. For ducted cabinets, blowers on the exhaust system should be located at the terminal end of the ductwork; failure of exhaust flow should signal an alarm to the user. To prevent pressurization of the cabinet, an interlock system should be installed to prevent the cabinet blower from operating whenever the exhaust flow is insufficient; an anti-backflow device to prevent reverse airflow through the HEPA filter may be required.

Continuous operation of Bio safety cabinets helps to control dust levels and other airborne particulates in the laboratory. If BIO SAFETY CABINETS s are operated only when needed in order to conserve energy, the balancing of laboratory room air must be considered. In some cases, room exhaust is balanced to include the air exhausted through ducted BIO SAFETY CABINETS s, and these cabinets must not be turned off.

The provision of natural gas to BIO SAFETY CABINETS s is not recommended. Open flames in the BIO SAFETY CABINETS create turbulence, disrupt airflow patterns and can damage the HEPA filter(1). When suitable alternatives (e.g., disposable sterile loops, micro-incinerators) are not possible, touch-plate

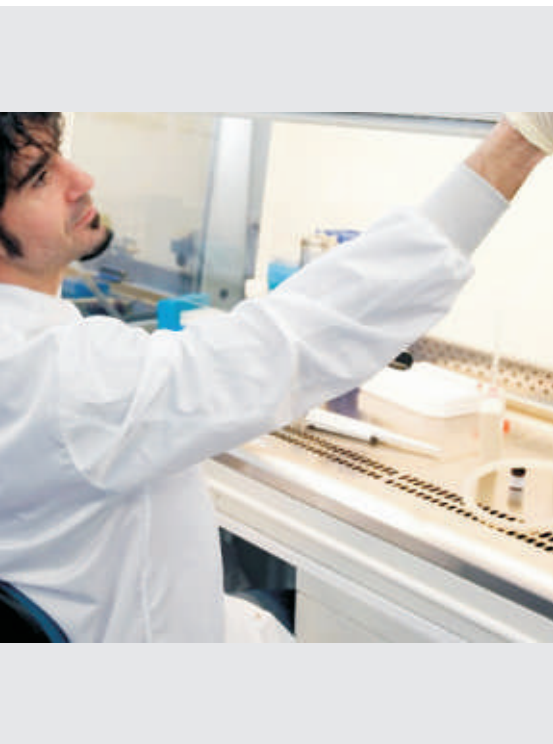




microburners that have a pilot light to provide a flame on demand may be used.

The correct operation of BIO SAFETY CABINETS s must be verified before they are used and then annually, and after any repairs or relocation, in accordance with the field tests outlined in CSA Z316.3-95 or annex F of NSF 49. Moving a cabinet can cause damage to the HEPA filter and its seals. These tests include the downward velocity profile, the work access face velocity, the HEPA filter leak test and the airflow smoke patterns. Measuring and testing equipment must be calibrated and maintained in accordance with the CSA standard. A copy of the certification report must be provided to the user and kept on file. A label indicating the date of certification, the date of the next certification, to what standard the tests were performed and the name of the certifier should be affixed to the exterior of the cabinet. On-site field testing must be performed by experienced qualified individuals. The NSF accreditation program for BIO SAFETY CABINETS certifiers provides a list of individuals who have demonstrated their competence by means of written and practical examinations administered by the NSF(9). Whenever possible, it is recommended that NSF-accredited field certifiers be used.





USE OF THE CABINET

Follow these start-up procedures when preparing for work in the BIO SAFETY CABINETS :

1. Turn off UV lights if in use and ensure that the sash is in the appropriate position.
2. Turn on fluorescent light and cabinet blower, if off.
3. Check the air intake and exhaust grilles for obstructions.
4. If the cabinet is equipped with an alarm, test the alarm and switch it to the "on" position.
5. Confirm inward airflow by holding a tissue at the middle of the edge of the viewing panel and ensuring that it is drawn in.
6. Disinfect the interior surfaces with a suitable, noncorrosive disinfectant.
7. Assemble all materials required for the procedure and load them into the cabinet; do not obstruct the air grilles; the working surface may be lined with absorbent paper with plastic backing; segregate "clean" items from "contaminated" items.
8. Wait 5 minutes to purge airborne contaminants from the work area.



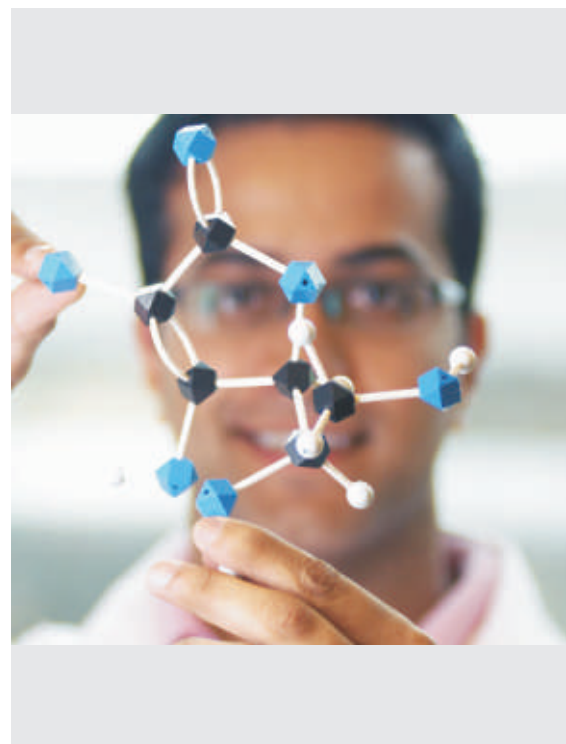


Follow these procedures for working in the biosafety cabinets

1. Don protective clothing and gloves as appropriate.
2. Perform operations as far to the rear of the work area as possible.
3. Avoid movement of materials or excessive movement of hands and arms through the front access opening during use; when you do enter or exit the cabinet, do so from straight on; allow the cabinet to stabilize before resuming work.
4. Keep discarded, contaminated material to the rear of the cabinet; do not discard materials in containers outside of the cabinet.
5. Do not work with open flames inside the cabinet.
6. If there is a spill during use, surface decontaminate all objects in the cabinet; disinfect the working area of the cabinet while it is still in operation (do not turn the cabinet off).

Follow these procedures upon completion of the work in biosafety cabinets.

1. Allow the cabinet to run for 5 minutes with no activity.
2. Close or cover open containers before removing them from the cabinet.





3. Surface disinfect objects in contact with contaminated material before removal from the cabinet.
4. Remove contaminated gloves and dispose of them as appropriate; wash hands.
5. Don clean gloves, and ensure that all materials are placed into biohazard bags within the cabinet.
6. Using a suitable non-corrosive disinfectant (e.g., 70% ethanol), disinfect interior surfaces of cabinet; periodically remove the work surface and disinfect the area beneath it (including the catch pan) and wipe the surface of the UV light with disinfectant.
7. Turn off the fluorescent light and cabinet blower when appropriate (some cabinets must be left on at all times; if you are unsure, check with your cabinet certifier, safety officer or building maintenance personnel).
8. Turn on the UV light if appropriate (do not turn on when people are working close by); UV must be tested to ensure that it is emitting a germicidal wavelength (ask your cabinet certifier to perform this test).





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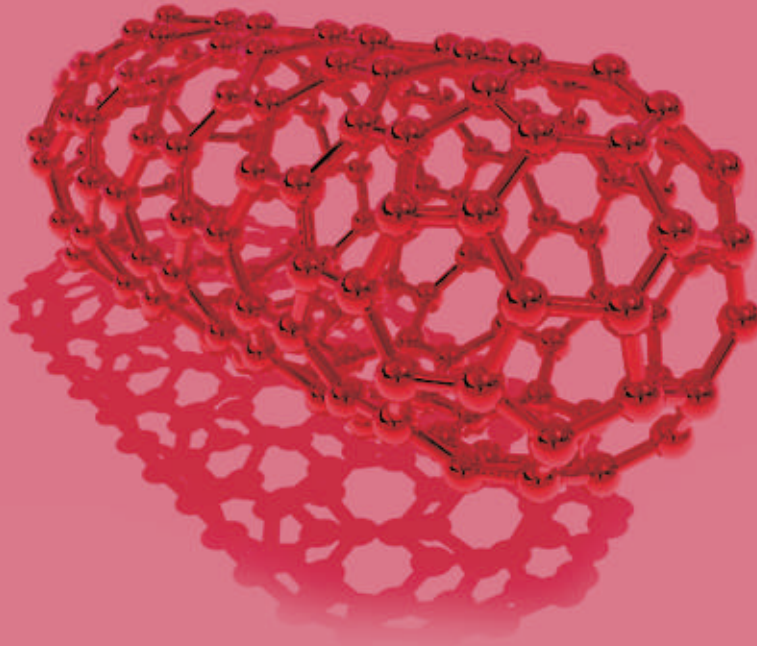
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ACMAS TECHNOCRACY PVT. LTD.

SALES OFFICE (INDIA)

312-313, Vardhman Capital Mall, L.S.C. 10, GulabiBagh, Delhi-110052, INDIA

Tel: 0091-11-23646703, 23643054

(M) +91-9313971681 | Email: india@acmasindia.com

SALES OFFICE (HONG KONG)

Unit D 28 11/f Wing Tat Comm, Bldg 97, Bonham Strand East, Sheung Wan, HONG KONG (PRC).

Tel: 0086-13929598046 | 0086-18922303099

Email: hk@acmasindia.com

SHOWROOM

141, Rai Industrial Estate, Rai, Sonapat, Haryana-131029, INDIA

Tel: 0091-0-9312219738 (M) +91-9717741167

Email: info@acmasindia.com

SALES OFFICE (RUSSIA)

Inmed Trade Street, Ozerkovsky Embankment, Unit No 50 Straine-1, Off-502, Moscow, RUSSIA

Tel: 0049-79592345 | Email: russia@acmasindia.com