

## SterilGARD® e3 Class II, Type A2 Biological Safety Cabinet, Vertical Flow, 220 V, 50/60 Hz Model

### PERFORMANCE

1. Manufacturer shall provide a certified copy of the personnel, product, and cross-contamination (biological) tests, equivalent to or more demanding than as specified in NSF International Standard 49, performed on the unit selected from the corresponding statistical sample. Tests may be witnessed by a representative of the purchaser.
2. Cabinet shall have momentum air curtain downflow velocity profile - a higher velocity of downflow behind the viewscreen relative to downflow velocity over the work surface - for added personnel and product protection.
3. High-velocity return air slots shall be located at each end of the front access opening. These slots help to prevent contaminated air from being drawn into the work area along the edges of the side wall and from escaping the work area to the ambient environment.
4. High-velocity return air slots shall also be located behind the viewscreen on the top edge for enhanced containment and product protection.
5. Cabinet shall be capable of automatically handling a 300% minimum increase in filter loading without reducing total air delivery by more than 10%. Test data to verify these capabilities shall be available upon request.
6. Intake velocity through the front access opening shall be minimum of 105 FPM. Standard opening for all models is 203 mm; 254 mm and 305 mm openings are also available for all models.
7. Each unit, before shipping, shall have a complete physical test to assure cabinet meets Class II requirements. A copy of this test will be provided with the operator's manual shipped with the unit.
8. The unit shall have standard HEPA filters for a protection effectiveness of 99.99% on 0.3 micron size particles by DOP test. Filters shall be serviceable from front of cabinet.
9. The cabinet shall have a low flow mode (ReadySAFE™), which is active when the viewscreen is closed. This mode of operation shall reduce energy consumption by at least 50% and still meet the product and personnel protection testing requirements of NSF/ANSI 49. Particle testing while the cabinet is in this mode shall exceed the requirements for ISO Class 5 conditions for 0.3 micron particles. A connection shall be provided for indicating the ReadySAFE™ status to the facility building management system.

### CONSTRUCTION

1. The vertical sliding viewscreen shall be slanted at an angle of 10° from vertical, capable of moving to a fully closed position during shutdown periods.
2. Viewscreen shall be constructed of 6.35 mm UV-resistant laminated safety plate glass, with a maximum opening of 508 mm for equipment loading.
3. All biologically contaminated ducts, plenums, and work area side walls shall be permanent metal construction and maintained under negative pressure or enclosed within a negative-pressure zone.
4. Interior work area shall be 697 mm high.
5. Cabinet shall have Baker's exclusive UniPressure™ Preflow Plenum, designed to provide more uniform airflow to the supply filter.
6. Supply and exhaust filters shall be front-loading.
7. A telescoping plenum assembly shall be provided to allow the filters to be directly clamped to the plenum against a closed-cell neoprene gasket. Plenum applies force to full perimeter of filters, rather than point force.
8. Unit shall have an audible alarm and a flashing LED to indicate when the sliding viewscreen is in an unsafe position. An alarm mute switch shall be provided on the front-mounted cabinet control panel to allow the operator to mute the alarm tone for brief adjustments. The alarm shall automatically reactivate after 5 minutes if the viewscreen remains in an unsafe position. Cabinet shall have capability of indicating a power loss at the panel with visual and audible alarms.
9. Cabinet exterior construction: seal panels and dress panels of 16-gauge cold-rolled steel, powder coated finish, painted PermaWhite™.
10. Cabinet interior (work area) construction: one-piece, 16-gauge, Type 304 stainless steel, with a smooth, 11 mm radius between rear and side walls, and easily cleanable, radiused corners on the work surface tray.
11. Work area side walls and rear wall to be one-piece construction. A straight back wall shall be provided to maximize work area and easily accommodate laboratory equipment.
12. Cabinet shall be double-wall construction with negative-pressure airflow between the walls, from drain pan to top, surrounding the sides and back of work area and cable port.
13. Bottom of access opening shall be aerodynamic airflow design directing airflow into the front grille to improve access opening containment capability and bypass armrest.

14. Cabinet shall have a unitized drain pan with 11 mm radius on all sides and a fully removable work surface and work surface supports to facilitate cleaning.
15. Cabinet shall be equipped with a stainless steel ball valve to allow safe and effective draining of spills.
16. Stainless steel air diffuser and filter protector provided in work area. Filter protector on top of cabinet is cold-rolled steel with powder coat finish.
17. Externally adjustable internal damper shall be provided to compensate for changing resistance of exhaust and supply filters during certification.
18. One petcock and one plugged penetration are provided as standard on the right side wall. Left side wall is prepunched for optional/additional plumbing connections.
19. All external plumbing connections to the petcocks shall be made through the bottom or back of the cabinet and not the sides, allowing zero clearance between the unit and the building walls or equipment to its right and left.
20. The unit has 3 optional stands available, including one with telescoping legs that allow the work surface height to be set from 664 mm to 981 mm, a stand with casters, or a stand with an electric hydraulic lift.
21. Viewscreen guide design shall be a counterweighted pulley system allowing ease of movement up and down.

### ELECTRICAL

1. Complete unit shall be listed as certified by Underwriters Laboratory (cULus) for electrical, fire, and personal safety.
2. Cabinet shall have a microprocessor-based control system with an easy-to-clean membrane control panel mounted on the front of the cabinet.
3. Cabinet shall have adjustable timers for fluorescent lights, outlets and optional UV lights. Timers operate in 15-minute intervals.
4. Work area shall be provided with two GFCI-protected duplex outlets, with drip-proof covers and shall be protected by a self-resetting circuit breaker.
5. A single 4 m power cord and plug (listed for the destination country) shall be provided for electrical power source.
6. If equipped with optional UV light, includes a shutoff safety feature when the viewscreen is raised.
7. The unit shall have electronic ballasts for UV and fluorescent lighting to provide longer life and lower heat output.
8. Cabinet shall have an externally mounted fluorescent light fixture with electronic ballasts producing an average of 100 foot-candles illumination at work surface.