



PRODUCT SPECIFICATIONS

SterilGARD® e³

Class II, Type A2

Biosafety Cabinet

MODEL

SG404, SG504, SG604

SG404-INT, SG504-INT, SG604-INT

SG404-AUS, SG604-AUS

SG404-JPN, SG504-JPN, SG604-JPN





SPECIFICATIONS	SG404	SG504	SG604
Exterior Dimensions			
Nominal Size	4' [1.20 Meters]	5' [1.50 Meters]	6' [1.80 Meters]
Foot Print (w x f-b)	53 3/4 x 30 11/16" [1,365 x 779 mm]	65 3/4 x 30 11/16" [1,670 x 779 mm]	77 3/4 x 30 11/16" [1,975 x 779 mm]
Cabinet Height	61 3/4" [1,568 mm]	61 3/4" [1,568 mm]	61 3/4" [1,568 mm]
Weights			
Weight			
Bench Model	582 lbs [264 Kg]	714 lbs [324 Kg]	771 lbs [350 Kg]
With Channel Stand	655 lbs [297 Kg]	790 lbs [358 Kg]	850 lbs [386 Kg]
With Channel Stand and Casters	665 lbs [302 kg]	800 lbs [363 Kg]	860 lbs [390 Kg]
With Hydraulic Lift	792 lbs [359 Kg]	927 lbs [420 Kg]	993 lbs [450 Kg]
Shipping Weight			
Bench Model	712 lbs [323 Kg]	864 lbs [392 Kg]	941 lbs [427 Kg]
With Channel Stand	785 lbs [356 Kg]	940 lbs [426 Kg]	1,020 lbs [463 Kg]
With Channel Stand and Casters	795 lbs [361 Kg]	950 lbs [431 Kg]	1,030 lbs [467 Kg]
With Hydraulic Lift	922 lbs [418 Kg]	1,077 lbs [489 Kg]	1,163 lbs [528Kg]
Interior Dimensions			
Interior Dimensions (w x f-b x h)	46 x 24 9/16 x 27 7/16" [1,168 x 624 x 697 mm]	58 x 24 9/16 x 27 7/16" [1,474 x 624 x 697 mm]	70 x 24 9/16 x 27 7/16" [1,778 x 624 x 697 mm]
Useable Work Surface (w x f-b)	44 x 19 5/8" [1,117 x 499 mm]	56 x 19 5/8" [1,422 x 499 mm]	68 x 19 5/8" [1,726 x 499 mm]
Exhaust and Static Pressure Requirements¹⁻⁵			
Vent to Room			
8" [203 mm] Sash ⁶	285 CFM [135 L/Sec]	355 CFM [168 L/Sec]	455 CFM [215 L/Sec]
10" [254 mm] Sash ⁶	355 CFM [168 L/Sec]	445 CFM [210 L/Sec]	545 CFM [257 L/Sec]
12" [305 mm] Sash ⁶	404 CFM [191 L/Sec]	550 CFM [260 L/Sec]	611 CFM [288 L/Sec]
ReadySafe™ Mode	205 CFM [97 L/Sec]	275 CFM [130 L/Sec]	285 CFM [135 L/Sec]
FlexAIR ⁸ CEC (Optional)			
8" [203 mm] Sash ⁶	290/663 CFM ⁷ [137/313 L/Sec]	360/750 CFM ⁷ [170/354 L/Sec]	460/845 CFM ⁷ [217/399 L/Sec]
10" [254 mm] Sash ⁶	360/701 CFM ⁷ [170/331 L/Sec]	450/820 CFM ⁷ [212/387 L/Sec]	550/945 CFM ⁷ [260/446 L/Sec]
12" [305 mm] Sash ⁶	415/871 CFM ⁷ [196/411 L/Sec]	560/850 CFM ⁷ [264/401 L/Sec]	644/1,114 CFM ⁷ [304/526 L/Sec]
ReadySafe™ Mode	Min of 210 CFM [99 L/Sec]	Min of 280 CFM [132 L/Sec]	Min of 290 CFM [136 L/Sec]
Exhaust Duct Static Pressure Minimum/Maximum			
8" [203 mm] Sash ⁶			
8" Exhaust Duct Diameter	-0.10/-0.32" W.G. [-25/- 80 Pa]	-0.15/-0.62" W.G. [-37/-154 Pa]	-0.15/-0.74" W.G. [-38/-185 Pa]



10" Exhaust Duct Diameter	-0.04/-0.17" W.G. [-10/-43 Pa]	-0.05/-0.16" W.G. [-13/-40 Pa]	-0.07/-0.18" W.G. [-18/-45 Pa]
12" Exhaust Duct Diameter	-0.03/-0.08" W.G. [-8/-20 Pa]	-0.04/-0.12" W.G. [-10/-30 Pa]	-0.06/-0.13" W.G. [-15/-33 Pa]
10" [254 mm] Sash ⁶			
8" Exhaust Duct Diameter	-0.15/-0.62" W.G. [-38/-155 Pa]	-0.18/-0.60" W.G. [-45/-149 Pa]	-0.20/-0.78" W.G. [-50/-196 Pa]
10" Exhaust Duct Diameter	-0.05/-0.18" W.G. [-13/-45 Pa]	-0.09/-0.35" W.G. [-23/-87 Pa]	-0.11/-0.24" W.G. [-28/-60 Pa]
12" Exhaust Duct Diameter	-0.04/-0.10" W.G. [-10/-25 Pa]	-0.05/-0.16" W.G. [-13/-40 Pa]	-0.09/-0.16" W.G. [-22/-40 Pa]
12" [305 mm] Sash ⁶			
8" Exhaust Duct Diameter	-0.17/-0.75" W.G. [-42/-187 Pa]	-0.22/-0.74" W.G. [-55/-184 Pa]	-0.30/-0.79" W.G. [-75/-197 Pa]
10" Exhaust Duct Diameter	-0.07/-0.30" W.G. [-17/-75 Pa]	-0.09/-0.24" W.G. [-22/-60 Pa]	-0.14/-0.36" W.G. [-35/-90 Pa]
12" Exhaust Duct Diameter	-0.05/-0.25" W.G. [-12/-62 Pa]	-0.07/-0.17" W.G. [-17/-42 Pa]	-0.11/-0.30" W.G. [-27/-75 Pa]
Performance			
Working Access Opening			
Area			
8" [203 mm] Sash ⁶	2.56 ft ²	3.22 ft ²	3.89 ft ²
10" [254 mm] Sash ⁶	3.19 ft ²	4.03 ft ²	4.86 ft ²
12" [305 mm] Sash ⁶	3.83 ft ²	4.83 ft ²	5.83 ft ²
Maximum Access Opening			
Area			
20" [203 mm] Sash ⁶	6.39 ft ²	8.05 ft ²	9.72 ft ²
Cabinet Air Recirculation/Exhaust	Class II Type A2 BSC Compliant		
Typical Noise			
8" [203 mm] Sash ⁶	61 dBA	64 dBA	65 dBA
10" [254 mm] Sash ⁶	62 dBA	65 dBA	67 dBA
12" [305 mm] Sash ⁶	65 dBA	66 dBA	67 dBA
Average Intake Airflow Velocity ¹³	105 FPM [0.51 M/Sec]	105 FPM [0.51 M/Sec]	105 FPM [0.51 M/Sec]
Average Down Flow Velocity ¹³	50 FPM [0.25 M/Sec]	50 FPM [0.25 M/Sec]	50 FPM [0.25 M/Sec]
Average Down Flow Velocity ¹³ 12" [305 mm] Sash ⁶	50 FPM [0.25 M/Sec]	48 FPM [0.25 M/Sec]	45 FPM [0.30 M/Sec]
Vibration at Worksurface Geometer Centerline ¹⁴	Less than or equal to .0002 inches (5 µm) root mean square (RMS) amplitude at frequencies between 10 and 1,000 Hz.		
Typical Motor/Blower Reserve (all Working Access Opening Heights)			
100 V	100%	100%	100%
115 V	300%	300%	300%
220 V	200%	200%	200%
Plumbing Service			
	3/8" OD Tube fitting connectors. Plumbing service is rated for 75 psig [207 kPa]		

Electrical			
Service Requirements			
100V		100 V AC, 20 A, 50/60 Hz, 1Ø, 16 A maximum useable current	
115V		115 V AC, 20 A, 60 Hz, 1Ø, 16 A maximum useable current	
220V		220 V AC, 16 A, 50/60 Hz, 1Ø, 13 A maximum useable current	
Circuit Protection			
100/115 V		Internally protected with a 250 V, 20 A circuit breaker	
220 V		Internally protected with a 250 V, 16 A circuit breaker	
Power Cord			
100 V		One 14' [4.27 M] power cord with NEMA 5-20 plug.	
115 V		One 14' [4.27 M] power cord with NEMA 5-20 plug.	
220 V		One 4 m power cord with listed plug for the destination country	
Outlets			
100 V		Two NEMA 5-15 duplex outlets. The outlets on this circuit are protected by a self-resetting circuit breaker. This breaker allows a total of 5 A on all outlets.	
115 V		Two NEMA 5/15 GFCI duplex outlets. The outlets on this circuit are protected by a self-resetting circuit breaker. This breaker allows a total of 5 A on all outlets.	
220 V		Two 220 V AC, outlets listed for use in the destination country. The outlets on this circuit are protected by self-resetting circuit breakers. The breakers allow a total of 5A on all outlets.	
Typical Electrical Operation ¹⁰			
Motor Current			
100 V			
8" [203 mm] Sash ⁶		3.8 A	4.8 A 7.2 A
10" [254 mm] Sash ⁶		4.3 A	5.2 A 9.5 A
12" [305 mm] Sash ⁶		4.9 A	6.0 A 8.2 A
115 V			
8" [203 mm] Sash ⁶		3.2 A	3.7 A 5.2 A
10" [254 mm] Sash ⁶		3.5 A	4.4 A 6.4 A
12" [305 mm] Sash ⁶		3.9 A	4.8 A 5.9A
220 V			
8" [203 mm] Sash ⁶		1.7 A	2.1 A 3.3 A
10" [254 mm] Sash ⁶		1.9 A	2.5 A 4.4 A
12" [305 mm] Sash ⁶		2.4 A	2.7 A 4.0 A
Operating Current (not including outlets)			
100 V			
8" [203 mm] Sash ⁶		4.2 A	5.4 A 7.7 A
10" [254 mm] Sash ⁶		4.7 A	5.8 A 10.0 A
12" [305 mm] Sash ⁶		5.3 A	6.6 A 8.8 A
115 V			

8" [203 mm] Sash ⁶	3.6 A	4.1 A	5.6 A
10" [254 mm] Sash ⁶	4.0 A	4.7 A	6.8 A
12" [305 mm] Sash ⁶	4.2 A	5.2 A	6.4 A
220 V			
8" [203 mm] Sash ⁶	2.1 A	2.5 A	3.7 A
10" [254 mm] Sash ⁶	2.3 A	2.9 A	4.8 A
12" [305 mm] Sash ⁶	2.8 A	4.1 A	4.5 A
Power Consumption			
100 V			
8" [203 mm] Sash ⁶	420 W	540 W	770 W
10" [254 mm] Sash ⁶	470 W	580 W	1,000 W
12" [305 mm] Sash ⁶	530 W	660 W	880 W
115 V			
8" [203 mm] Sash ⁶	414 W	472 W	644 W
10" [254 mm] Sash ⁶	460 W	541 W	782 W
12" [305 mm] Sash ⁶	483 W	598 W	736 W
220 V			
8" [203 mm] Sash ⁶	462 W	550 W	814 W
10" [254 mm] Sash ⁶	506 W	638 W	1056 W
12" [305 mm] Sash ⁶	616 W	902 W	990 W
Heat Generation			
100 V			
8" [203 mm] Sash ⁶	1,434 Btu/Hr	1,844 Btu/Hr	2,629 Btu/Hr
10" [254 mm] Sash ⁶	1,604 Btu/Hr	1,980 Btu/Hr	3,414 Btu/Hr
12" [305 mm] Sash ⁶	1809 Btu/Hr	2253 Btu/Hr	3,004 Btu/Hr
115 V			
8" [203 mm] Sash ⁶	1,413 Btu/Hr	1,612 Btu/Hr	2,199 Btu/Hr
10" [254 mm] Sash ⁶	1,570 Btu/Hr	1,845 Btu/Hr	2,670 Btu/Hr
12" [305 mm] Sash ⁶	1,649 Btu/Hr	2,042 Btu/Hr	2512 Btu/Hr
220 V			
8" [203 mm] Sash ⁶	1,577 Btu/Hr	1,877 Btu/Hr	2,779 Btu/Hr
10" [254 mm] Sash ⁶	1,728 Btu/Hr	2,178 Btu/Hr	3,606 Btu/Hr
12" [305 mm] Sash ⁶	2,103 Btu/Hr	3,079 Btu/Hr	3,380 Btu/Hr
ReadySAFE™ Current			
100/115 V			
All Sash ⁶ Heights	1.8 A	1.9A	2.1 A
220 V			
All Sash ⁶ Heights	0.9 A	1.0A	1.0 A
ReadySAFE™ PowerConsumption			
100/115 V			
All Sash ⁶ Heights	207 W	219 W	242 W
220 V			
All Sash ⁶ Heights	198 W	220 W	220 W
ReadySafe™ Heat Generation ¹¹			
100/115 V			

All Sash ⁶ Heights	706 Btu/Hr	747 Btu/Hr	826 Btu/Hr
220 V			
All Sash ⁶ Heights	675 Btu/Hr	751Btu/Hr	751 Btu/Hr
Environmental Conditions			
Use	Indoor		
Altitude	Up to 6,561’ [2,000 meters]		
Temperature Range	From 41°F [5°C] to 104°F [40°C]		
Relative Humidity	Maximum 80% for temperatures up to 88°F [31°C] decreasing linearly to 50% at 104°F [40°C]		
Voltage	Main supply ± 10% V AC		
Transient	Over voltage according to Installation category (OVERVOLTAGE CATEGORIES) II per UL/IEC61010-1, 2 nd Edition		
Pollution Degree	2		
Ergonomics			
View Screen	Sloped 10°		
Height	Adjustable stand for work surface elevations: 27” to 38 5/8” [686 mm to 981 mm]		
Armrest	16 gauge, 304 Stainless Steel with EPDM sponge that is resistant to UV light and most chemicals		
Cabinet Controls	Within easy reach sitting or standing		
Materials of Construction			
Down Flow Filter Diffuser/Protector	Stainless Steel		
Work Chamber Weldment	16 gauge, 304 Stainless Steel		
Work Surface (Including Supports)	16 gauge, 304 Stainless Steel		
All Exterior Panels	18 and 16 gauge, Carbon Steel		
Positive Pressure Supply Plenum	18 gauge, Carbon Steel		
Exhaust Plenum/Transition	16 gauge, Carbon Steel		
Stand Frame and Supports	14 gauge, Carbon Steel		
Armrest	16 gauge, 304 Stainless Steel with EPDM sponge that is resistant to UV light and most chemicals		
View Screen	1/4” [6.35 mm] thick laminated safety plate glass with stainless steel trim		
Supply and Exhaust Filters	HEPA filter media with aluminum frame		
Standard Features			
Air Pressure Monitoring	Analog pressure gauge 0 – 0.5” WG		
Armrest	Padded with EPDM sponge pad		
Auxiliary Outlet	Located on the left and right sidewalls, 5A total all outlets		
Cabinet Side-Walls	Under negative pressure		
Cable Port	Located on the right side of unit, provides easy cable access		
Down Flow Diffuser	Located below supply filter providing unidirectional air flow and a higher down flow air velocity behind the view screen		
Drain Pan	With drain valve featuring secure-able handle.		
Filters			
Exhaust	Front loading HEPA 99.99% filtration at 0.3 microns		
Supply	Front loading HEPA 99.99% filtration at 0.3 microns		

High Velocity Return Air Slots	Located at the top of view screen and each end of access opening providing additional product and personnel protection
Lighting	LED lamp, UL Type B. NOTE: Japan models use fluorescent lamp. The UV light and work area light are interlocked to prevent simultaneous operation
Maintenance Access	Electrical components, lamp, blower and filters easily accessible from the front of the cabinet
Membrane Switch Control Pad	Low voltage push button control of lights, blower, UV and outlets
Motor Speed Control	StediFLOW™
Plumbing	One petcock and one plugged penetration located on the right side
Power/Processor Fault Alarm	A visual and audible alarm indicating a power outage or microcontroller processor fault.
ReadySafe™ Mode	Reduces the total airflow and energy consumption when the cabinet is not in use. The view screen is closed and the work area lights are off during this mode.
Sash Position Alarm	Audible and visual alarm warning of unsafe view screen opening above and below marked working access height
Supply Plenum	Provides uniform airflow to supply filter
Telescoping Air Plenum	Applies clamping force to full perimeter of supply and exhaust filter
Timers	15 minute and 1 hour increment programming for work area lights, UV lights, and outlets
View Screen	Counter balanced vertically sliding, opens to 20" for moving large items in and out prior to working in the cabinet
Work Surface	One-piece stainless steel work surface
Optional Features¹²	
Air Tight Damper (ATD)	8" [203 mm] diameter in-line ATD
Auxiliary Wiring	Cabinet Monitor Wiring Package to monitor additional conditions in the unit
Cabinet Pressure Monitoring	Digital Pressure Monitor with integrated alarm function inside operator's control board
Cable Ports	Additional on the left side
Channel Stand	Adjustable legs for work surface elevations with minimum of 27" [686 mm] and maximum of 38 5/8" [981 mm]
Channel Stand with Casters	Stand includes 4" [102 mm] diameter caster wheels with locks. Work surface elevation is 31 1/2" [800 mm]
Electric Hydraulic Lift Stand	Continuously adjustable from 20" to 38 5/8". Custom upper and lower heights available.
Extra-Deep Work Surface (Not NSF or UL Listed)	10" [254 mm] additional depth.
FlexAIR® Exhaust Connection With Alarm	CEC provides an audible and visual alarm of unsafe exhaust airflow conditions.
Floor and Wall Seismic Restraints	CA OSHPD pre-approved per OPM-0064-13
IV Bar	Fixed location inside work area

Microscope View Screen (Not NSF or UL Listed)	Allows for easier use of a microscope. Can be located in center, left, or right position. Customer must fill out microscope fit test before final pricing.
Plastic Storage Bins	Add up to maximum quantity of 5
Plumbing	
Alternate Configuration	Plumbing connections can be made out of the back or to the top of either side panel
Additional Fixtures	Specify label and location(s)
Alternate Fixtures	Needle valves and greaseless needle valves Stainless steel ball valves and needle valves Remote-controlled petcock valves
Material	
Black Iron	Not NSF or UL Listed
Stainless Steel	CE mark
ULPA filters	Filtration effectivity of 99.999% for removal of most penetrating particle size (mpps) 0.1 to 0.2 microns in size.
UV Light	Operational only when viewscreen is closed. The UV light and work area light are interlocked to prevent simultaneous operation.
100V, 50/60 Hz electrical service	Not UL Listed
220V, 50/60 Hz electrical service	CE mark
Optional Packages¹²	
Animal Transfer Station (ATS) Package Not NSF listed	ATS package includes 12" working access opening, front analog pressure gauge, cable port right side, powered lift stand with two pull bars, pre-filter under the work surface, and plumbing out the back
Necropsy Unit Package Not NSF listed	Package includes 12" working access opening, front analog pressure gauge, powered lift stand with two pull bars, circular sink with faucet, high-powered rinse hose and plumbing out the back
Waste Disposal Unit Package Not NSF listed	Package includes 12" working access opening front analog pressure gauge, powered lift stand, integrated 15" diameter opening for waste disposal receptacle, flush-mounted covers top and bottom, and plumbing out the back.
SG404 & SG604 Australian Package	Package includes 8" working access opening, 230V/50Hz, 1Ø 10A maximum useable current, Two 220 V AC, outlets protected by self-resetting circuit breakers allowing for a total of 2A on all outlets
Standards and Codes	
NSF/ANSI Standard 49	8", 10" and 12" working access openings are NSF listed
UL 61010-1, Second Edition	
CAN/CSA-C22.2 No. 61010-1, 2 nd Edition	
ISO Class 5 Work Area Cleanliness	
Cleanability	
Interior Surfaces	Coved corners adjoin the work area to the rear and side walls for smooth interior surfaces
Exterior Surfaces	Perma White™ powder coated finish



- ¹ All exhaust flow rates are based on a nominal 105 FPM [0.53 M/Sec] intake velocity.
- ² With the optional air tight damper, add 0.1" W.G. [25 Pa] to the above static pressure requirements.
- ³ Water column suction is measured directly above the cabinet exhaust outlet before any dampers, elbows or other restrictions.
- ⁴ When building exhaust is off and cabinet is running.
- ⁵ Includes air entering around perimeter of view screen, and air entering the front access opening.
- ⁶ Work Access Opening Height
- ⁷ Concurrent balance value are Minimum/Maximum
- ⁸ The FlexAIR CEC is patent pending.
- ⁹ For new Cabinet with clean filters.
- ¹⁰ Values based on typical operating current, with clean filters and outlets not included.
- ¹¹ Calculated maximum based on typical operating current, outlets not included.
- ¹² Optional features are NSF and UL Listed unless otherwise noted.
- ¹³ See cabinet data plate for specific airflow requirements.
- ¹⁴ Vibration requirements for Factory Only per NSF/ANSI Standard 49