



## ENCORE® 2G MEDIUM LABORATORY STERILIZER SPECIFICATION/DATA SHEET

The Encore® 2G Series Laboratory/Scientific Sterilizer was specifically designed to meet the diversified and budgetary needs of our laboratory and research customers. The series provides all of the benefits of a new sterilizer with the cost savings of a remanufactured unit by using a certified used pressure vessel. The pressure vessels are thoroughly tested, refurbished to like new condition and backed by a comparable warranty as OEM's typically provide with brand new vessels. All piping and components are brand new including the state of the art control system, featuring a large user-friendly color touch-screen, configurable multi-layered password security, and data logging to a removable USB flash drive for transferring cycle reports to a personal computer. 20 user-configurable cycles including cycle name gives the user the optimal ability to configure cycles. The combination of the piping design and control functions enables the Encore® to process multiple types of loads with optimized performance.



### GENERAL SPECIFICATION

The Encore® 2G Series is designed to provide sterilization at temperatures between 100°C (212°F) and 135°C (275°F). The series provides steam sterilization for applications including wrapped and unwrapped hard goods, liquid media, cages, animal bedding, waste and many other applications. All Encore® Series sterilizers are equipped to provide pre-vacuum or forced air preconditioning, as well as post-vacuum or controlled slow exhaust. F<sub>0</sub> sterilization is also featured on all units accompanied with an optional load probe.

### FEATURES AND BENEFITS

- |  |  |
|--|--|
| 8.4 inch high resolution touch screen                                    | Service mode feature including calibration                       |
| Self-prompting menus   | Auto standby feature for utility conservation                    |
| Audible and visual alarms for safety                                     | Alarm history display  |
| Configurable password security   | Non-proprietary components                                       |
| 20 configurable cycles including F <sub>0</sub> with optional load probe | Durable components including Burkert pneumatic valves            |
| 2 configurable low temperature cycles                                    | Quiet integrated air compressor                                  |
| Factory configured Bowie Dick and Leak Test cycles                       | Efficient drain cooling via patented Water Miser®                |
| Cycle reports logged to removable USB flash drive                        | Serviceable design   |
| On-screen data display of previously executed cycles                     | Control covered by 2 year parts and labor warranty               |
| PC software to manage, view and print cycle reports                      | Piping and components covered by 1 year parts and labor warranty |
| Impact printer (optional)  | Certified pressure vessel covered by 10 year warranty            |

## ENCORE® 2G CONTROL SYSTEM

The second generation Encore® Series control system combines simplistic user functionality with state-of-the-art technology and features. The PLC (programmable logic controller) based control uses a large high resolution touch screen with self-prompting menus. The large screen helps simplify the process of selecting and starting cycles for users by eliminating the need to cycle through multiple screens. User safety is provided through audible and visual alarms to alert users when a potential safety issue exists. 20 user-configurable cycles including cycle name gives the user optimal ability to configure cycles to each of their unique loads. 2 configurable low temp cycles are also provided for temperature sensitive goods and media prep. Users that choose to use a load probe for media loads will have the ability to configure cycles using F<sub>0</sub> settings for efficient sterilization of their media.



## ELECTRONIC RECORD KEEPING

The second generation Encore® Series control features the capability for users to forgo the use of an on-board printer as all cycles are logged and saved to a removable USB flash drive located on the front of the control. The flash drive may be used to periodically transfer the cycle reports to a personal computer for safe record keeping. Software is provided to assist in transferring, viewing and printing reports. Each cycle report logged is complete with a unique load number, parameters of the cycle, cycle log data, and a summary including minimum and maximum exposure temperature. The software also enables the user to customize the reports to meet their needs. An optional on-board impact printer can also be provided for users that require a printout at the moment the cycle was executed.

CYCLE PARAMETERS			
Load #	1		
Operator Initials	RB		
Cycle Name	WARMUP		
Precondition	Forced Air Removal		
Purge Time	02 min 00 sec		
# of Pulses	NA	Hold Time	NA
Vacuum Pulse 1	NA	Hold Time	NA
Pressure Pulse 1	NA	Hold Time	NA
Vacuum Pulse 2	NA	Hold Time	NA
Pressure Pulse 2	NA	Hold Time	NA
Vacuum Pulse 3	NA	Hold Time	NA
Pressure Pulse 3	NA	Hold Time	NA
Vacuum Pulse 4	NA	Hold Time	NA
Pressure Pulse 4	NA	Hold Time	NA
Vacuum Pulse 5	NA	Hold Time	NA
Pressure Pulse 5	NA	Hold Time	NA
Vacuum Pulse 6	NA	Hold Time	NA
Pressure Pulse 6	NA	Hold Time	NA
Exposure Temp Pro.	Chamber Drain		
Exposure Measure	Time		
Heatup Temp	116.5 C		
Heatup/Hold Time	01 min 00 sec		
Exposure Temp	121.1 C		
Overdrive	1.0 C		
Exposure Time	00 hr 05 min		

CYCLE LOG			
Date/Time	Phase	Chamber Temp	Pressure(PS)
16/02/24 10:23:44	Cycle Start	26.2	15.1
16/02/24 10:23:42	Purge	104.2	23.4
16/02/24 10:24:42	Heating Up 1	107.9	21.0
16/02/24 10:25:09	Heating Up 1	116.5	27.5
16/02/24 10:25:42	Heating Up 2	116.5	26.7
16/02/24 10:26:40	Heating Up 2	121.1	31.5
16/02/24 10:26:42	Exposure	121.4	31.8
16/02/24 10:27:42	Exposure	122.1	31.2
16/02/24 10:28:42	Exposure	122.3	31.8
16/02/24 10:29:42	Exposure	122.3	31.2
16/02/24 10:30:42	Exposure	122.2	31.1

CYCLE SUMMARY	
Exposure Temp min	122.4
Exposure Temp max	121.1
Condition Time	00:03:57
Exposure Time	00:05:00
Exhaust Time	00:04:40
Total Cycle Time	00:13:27



## 2 YEAR WARRANTY ON CONTROL SYSTEM

The Encore® 2G control system comes with the added value of a 2 year parts and labor warranty. The warranty covers all of the components encased in the control column including the touch screen. This added warranty goes above and beyond the industry standard and gives the Encore® 2G Series a clear distinction over its competitors.



## CERTIFIED PRESSURE VESSEL

The Encore® 2G Series provides an alternative to its higher priced contemporaries by using a certified used pressure vessel. The pressure vessel is thoroughly inspected, hydrostatically tested and ultrasound tested. Once the inspection and testing process is complete, the vessel interior is cleaned using glass bead blasting and the exterior is painted with a high quality industrial enamel. Continental Equipment certifies the vessel is like new and ready for its “encore” performance backed by a comparable warranty as OEM’s typically provide with brand new vessels.

## SERVICEABLE DESIGN

The Encore® 2G Series is designed to last with durable, non-proprietary components. However, like all sterilizers/autoclaves, the unit will require periodic maintenance. With that in mind, the medium units are designed with a service friendly hinged lower panel. The control column also features a hinged front panel for service access to its components if needed.

## BASIC OPTIONS AND ACCESSORIES

### CHAMBER SIZE

Common chamber sizes for medium laboratory Encore® Series sterilizers are 24 x 36 x 36/48/or 60 inches. Other sizes can be provided upon request.

### DOOR CONFIGURATION

The medium laboratory units can be built using either single door or double door (pass through) configuration.

### CABINET CONFIGURATION

Medium laboratory Encore Series sterilizers can be recessed into a wall or provided with side panels. Double door units may be recessed between 2 walls or recessed in 1 wall and provided with side panels.

### LOADING SYSTEM

The sterilizer can be provided with rack and shelves (24 x 36 x 36 only) installed inside the chamber or with a transfer carriage and loading cart. Both of the options come standard with 2 shelves. Additional shelves can be provided upon request.

### STEAM SOURCE

The sterilizer can operate on house steam or be provided with a stand-alone electric steam generator. The generator can be located in the same room as the sterilizer or in a utility room nearby. Standard voltages available are 208, 240, or 480 3-phase. The voltage must be determined before ordering.

### VACUUM PUMP

The standard piping configuration is equipped with a water ejector for accomplishing vacuum parameters. An electric vacuum pump can be used in lieu of the water ejector if a more efficient and consistent vacuum performance is required. Water usage during vacuum cycles can be reduced by nearly 70 percent with the addition of a vacuum pump.

### SEISMIC ANCHORING

Seismic anchoring can be provided when required by certain local codes in seismically active areas.

### IMPACT PRINTER

The Encore® 2G control provides electronic record keeping by logging all cycle reports to a removable USB flash drive for transferring, managing, viewing and printing on a local PC. An impact printer may also be provided for users that are required to produce a printout at the time the cycle is executed.

### LOAD PROBE

A load probe can be added for users processing high volumes of liquid loads. Once added, the load probe can be used in a controlling function based on time or  $F_0$  sterilization or in a non-controlling function as a visual aid in monitoring load temperature for cycle development.

### UPS (uninterruptable power supply)

An uninterruptable power supply can be added to aid the control system in the event of a momentary power loss or brownout.

## ADDITIONAL SERVICES AVAILABLE

### INSTALLATION

Installation of your new Encore® 2G Series sterilizer can be done by Continental Equipment's factory trained installers. Our installer(s) will move the unit into place and make all final connections. House connections for steam, water, electricity, and drain must be within 6 feet of the unit's desired location unless otherwise specified prior to installation. After final connections have been made, installation qualification (IQ) documents and in-service training for operators will be provided.

### DE-INSTALLATION

When replacing an existing unit prior to installation of your new Encore® 2G Series, Continental Equipment's factory trained installers can de-install and remove your old unit. Your existing unit may also qualify for a trade-in allowance. See the TRADE INS section for more details.

### LAYOUT/PLANNING ASSISTANCE

When building a new facility or remodeling an existing one, Continental Equipment's team can provide your team and architects with assistance. From providing detailed technical drawings to assisting with equipment layout, our team is here to help at no additional charge.

### VALIDATION ASSISTANCE

Continental Equipment's team can provide validation assistance including cycle development, installation qualifications (IQ), operating qualifications (OQ), and performance qualifications (PQ). We can also provide factory acceptance testing (FAT) and site acceptance testing (SAT) if needed.

### CALIBRATION

All Encore® 2G Series sterilizers come from the factory with a calibration certificate using measurement standards traceable to the National Institute of Standards and Technology (NIST). Our technicians can also provide field calibrations when needed/required.

### TRADE INS

Replacing an existing unit with a new Encore® 2G Series sterilizer and not sure what to do with your existing unit? Continental Equipment does provide trade in allowance on some makes and models. Trade ins are a great way to not only get value for your existing unit, but to save the costs associated with removal and disposal.

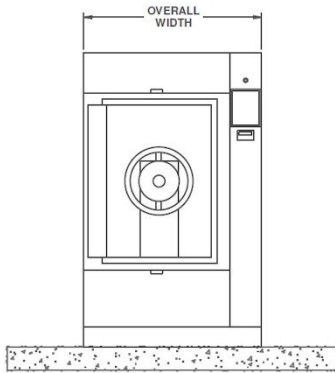
### PREVENTIVE MAINTENANCE PROGRAMS

The Encore® 2G Series units are designed with durable, non-proprietary, long-lasting components. However, some components will require periodic maintenance. Continental Equipment offers many diverse preventive maintenance programs to fit your budget. Our service team is comprised of expert technicians that respond quickly to all of your service needs. Ask us about a preventive maintenance program that meets your needs.

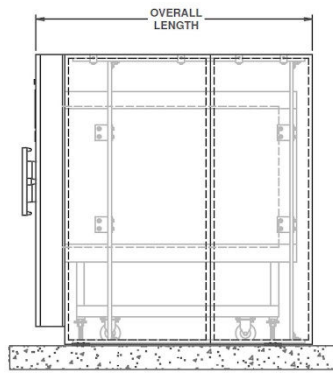


## DIMENSIONAL DATA

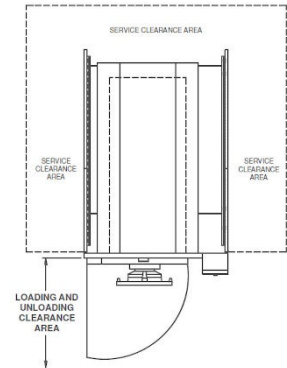
Front View (cabinet)



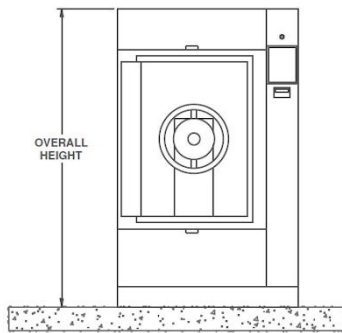
Side View (cabinet)



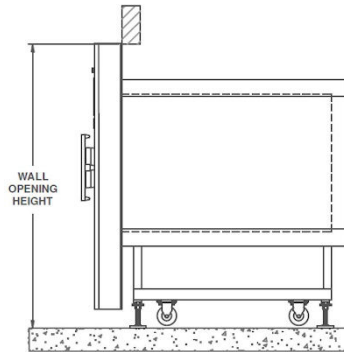
Top View (cabinet)\*



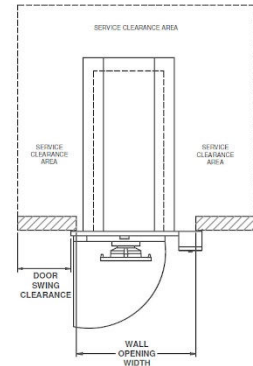
Front View (recessed)



Side View (recessed)



Top View (recessed)\*



Model	Chamber Size	Volume	Overall Width	Overall Height	Overall Length	Wall Opening Width	Wall Opening Height	Loading / Unloading Clearance Area
Encore 36	24" x 36" x 36"	18 ft <sup>3</sup>	44.5"	74.5"	55.5"	41.0"	74.25"	72.0"
Encore 48	24" x 36" x 48"	24 ft <sup>3</sup>	44.5"	74.5"	70.0"	41.0"	74.25"	96.0"
Encore 60	24" x 36" x 60"	30 ft <sup>3</sup>	44.5"	74.5"	81.0"	41.0"	74.25"	120.0"

\*Service clearance area of 18" to the sides and back recommended.

## UTILITY REQUIREMENTS

### STERILIZER

**Steam:** ¾" NPT, 40 to 60 psig dynamic

**Electrical:** 120 VAC, 60 Hz, 15 amp with disconnect outlet near unit

**Cold Water:** ¾" NPT, 80° F max, 40 to 80 psig dynamic

**Drain:** 12" x 12" x 6" floor sink with a 3" drain outlet recommended. Floor drain must compensate peak discharge. Final drain should have air gap

*Backflow preventer not provided*

### STAND-ALONE GENERATOR

**Soft Water:** ¾" NPT, 20 to 50 psig dynamic (water should be treated and or softened)

**Power:** 208/240/ or 480 VAC three phase

## ENGINEERING DATA

### HEAT LOSS TABLE

Model	Chamber Size	Steam Source	Approximate Operating Weight (lbs)		Heat Loss (BTU/hr at 70° F (21° C))							
					Single Door			Double Door				
			Single Door	Double Door	Cabinet To Room	Recessed In Front of Wall	Recessed Behind Wall	Recessed 1 Wall In Front of Wall	Recessed 1 Wall Behind Wall	Recessed 2 Walls In Front of Walls	Recessed 2 Walls Between Walls	
Encore 36	24" x 36" x 36"	House	4,200	4,400	12,000	5,000	7,000	NA	NA	NA	NA	
Encore 48	24" x 36" x 48"	House	4,500	4,700	14,000	5,000	9,000	5,000	13,000	5,000	8,000	
Encore 60	24" x 36" x 60"	House	4,800	5,000	16,000	5,000	11,000	5,000	16,000	5,000	11,000	

### WATER CONSUMPTION TABLE

Model	Chamber Size	Steam Source	Water Consumption								
			Sterilizer						Generator		
			Idle (gal/hr.)	In Cycle: Forced Air Peak (gal/min.)	In Cycle: Forced Air Per Cycle (gal/cycle) <sup>1</sup>	In Cycle: Vacuum Peak (gal/min.)	In Cycle: Vacuum Per Cycle (gal/cycle) <sup>2</sup>	Idle (gal/hr.)	In Cycle Peak (gal/min.) <sup>1</sup>	In Cycle Per Cycle (gal/cycle) <sup>2</sup>	
Encore 36	24" x 36" x 36"	House	3	8	25	5	115	NA	NA	NA	
		Electric Gen.	3	8	25	5	115	1	1	5	
Encore 48	24" x 36" x 48"	House	3	8	30	5	120	NA	NA	NA	
		Electric Gen.	3	8	30	5	120	1	1	5	
Encore 60	24" x 36" x 60"	House	3	8	35	5	125	NA	NA	NA	
		Electric Gen.	3	8	35	5	125	1	1	6	

<sup>1</sup> 30 minute exposure time @ 121° C with slow exhaust

<sup>2</sup> 30 minute exposure time @ 121° C with 15 minute dry

### STEAM AND POWER USAGE TABLE

Model	Chamber Size	Steam Source	Steam and Power Usage								
			Steam Consumption						Power		
			Idle (lb/hr.)	In Cycle: Forced Air Peak (lb/hr.)	In Cycle: Forced Air Per Cycle (lb/cycle) <sup>1</sup>	In Cycle: Vacuum Peak (lb/hr.)	In Cycle: Vacuum Per Cycle (lb/cycle) <sup>2</sup>	Generator Current (amps) <sup>3</sup>			
						208V	240V	480V			
Encore 36	24" x 36" x 36"	House	9	160	45	160	75	NA	NA	NA	
		Electric Gen.	9	160	45	160	75	227	197	99	
Encore 48	24" x 36" x 48"	House	10	220	50	220	80	NA	NA	NA	
		Electric Gen.	10	220	50	220	80	227	197	99	
Encore 60	24" x 36" x 60"	House	11	300	60	300	100	NA	NA	NA	
		Electric Gen.	11	300	60	300	100	283	246	123	

<sup>1</sup> 30 minute exposure time @ 121° C with slow exhaust

<sup>2</sup> 30 minute exposure time @ 121° C with 15 minute dry

<sup>3</sup> Current draw for 80 kW generator on Encore 36/48, 100 kW generator for Encore 60.

### WATER QUALITY TABLE

Water Quality Requirements				
Characteristic	Sterilizer		Generator	
	Nominal Value	Maximum Value	Nominal Value	Maximum Value
Temperature	40-60° F	80° F	140° F	40-140° F
Total Hardness	50-120 mg/L	171 mg/L	0-17 mg/L	130 mg/L
pH	6.8-7.5	6.5-8.5	6.8-7.5	6.5-8.5
Total Silica	0.1-1.0 mg/L	2.5 mg/L	0.1-1.0 mg/L	2.5 mg/L
Alkalinity	70-120 mg/L	180 mg/L	50-100 mg/L	180 mg/L
Total Dissolved Solids	100-200 mg/L	500 mg/L	50-150 mg/L	250 mg/L
Resistivity	NA	NA	2,000-6,000 ohms/cm	26,000 ohms/cm



## UNIT CONFIGURATION AND OPTIONS WORKSHEET

Complete the worksheet by checking the boxes next to the options that meet your needs. Turn your completed worksheet into your Continental Equipment Company representative or fax to 913-845-3583. Alternatively, you may also go to our website at [www.sterilizer.net](http://www.sterilizer.net) and select/submit your options via the request quotation page. If you do not find an option or size listed to meet your requirement, please contact us for assistance to meet your specifications.

Contact Name:	Phone:
Company Name:	Email:
Project Address:	
<p><b>CHAMBER SIZE</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> 24" x 36" x 36" (61 x 91.4 x 91.4 cm) Volume: 18 ft<sup>3</sup> (510 liters)</li> <li><input type="checkbox"/> 24" x 36" x 48" (61 x 91.4 x 121.9 cm) Volume: 24 ft<sup>3</sup> (680 liters)</li> <li><input type="checkbox"/> 24" x 36" x 60" (61 x 91.4 x 152.4 cm) Volume: 30 ft<sup>3</sup> (850 liters)</li> </ul> <p><b>DOOR CONFIGURATION</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Single</li> <li><input type="checkbox"/> Double (pass-through)</li> </ul> <p><b>CABINET CONFIGURATION</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cabinet (side panels)</li> <li><input type="checkbox"/> Recessed 1 wall</li> <li><input type="checkbox"/> Recessed 2 walls</li> </ul> <p><b>STEAM SOURCE</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> House supplied</li> <li><input type="checkbox"/> Stand-alone electric steam generator</li> </ul> <p><b>ADDITIONAL SERVICES</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Installation</li> <li><input type="checkbox"/> De-installation</li> <li><input type="checkbox"/> Layout/Planning assistance</li> <li><input type="checkbox"/> Preventive maintenance program</li> <li><input type="checkbox"/> Trade in allowance (if qualified)</li> <li><input type="checkbox"/> Validation assistance</li> </ul> <p><b>ADDITIONAL COMMENTS/REQUESTS</b></p>	
<p><b>LOADING SYSTEM CONFIGURATION</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Rack and shelves (2 shelves standard)*Encore 36 only <ul style="list-style-type: none"> <li><input type="checkbox"/> Additional shelves _____</li> </ul> </li> <li><input type="checkbox"/> Transfer carriage and loading cart (2 shelves standard) <ul style="list-style-type: none"> <li><input type="checkbox"/> Additional shelves _____</li> </ul> </li> </ul> <p><b>ADDITIONAL OPTIONS</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Vacuum pump</li> <li><input type="checkbox"/> Seismic anchoring</li> <li><input type="checkbox"/> Impact printer</li> <li><input type="checkbox"/> Load probe</li> <li><input type="checkbox"/> UPS (uninterruptable power supply)</li> </ul>	



Your Sterilization Equipment Specialists

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