

**BETA★STAR**  
LIFE SCIENCE EQUIPMENT



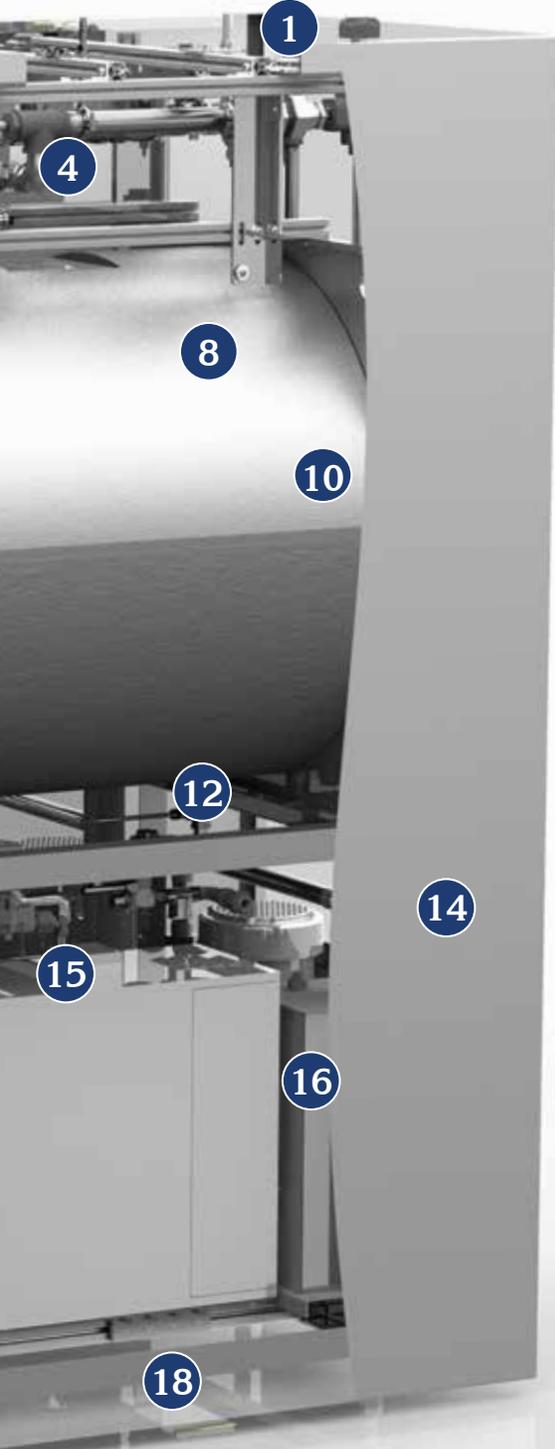
**LSII** INSTITUTIONAL AND ANIMAL CARE  
ALL-NEW LAB STERILIZER

## DESIGNED WITH YOUR STERILIZATION NEEDS IN MIND

- 1 Designed to utilize electric solenoid process valves or pneumatic actuated valves depending on customer specifications.
- 2 A forward-facing electrical panel gives an abundance of space for service access while adhering to National Electrical Codes.
- 3 Industry leading **Allen Bradley PLC** system keeps your sterilizer operating smoothly with a name you can trust.
- 4 Every Beta Star sterilizer is designed and built using non-proprietary components which reduce the lifetime cost-of-ownership and increase the availability of replacement parts.
- 5 The Beta Star control system software is internally developed and validated with extensive technical documentation and validation protocols.
- 6 The **E-Lift** access panel, outfitted with a dual gas-cylinder assisted lift and hold mechanism, provides increased serviceability with easy access to the front facing electrical panel.
- 7 The optional **Beta Connect System** takes sterilizer observation and control into the palm of your hand with mobile alerts including cycle status updates, warnings and alarms to minimize downtime.  
  
In addition, the Beta Connect system allows for immediate service from our technical support team over an internet connection protected by a 256-bit encryption tunnel.
- 8 A cylindrical chamber allows the vessel to be fully jacketed while maintaining the same sterilization capacity as the rectangular LSI. In addition, the cylindrical chamber expedites load drying by utilizing gravity to direct remaining water and condensate down the drain.
- 9 The standard manual door is easily operated by hand and held in place by a double-chain tracking system for anti-jam functionality. An automatic door upgrade is also available.
- 10 New 1.5" insulation provides increased utility savings by reducing heat loss to the room while maintaining chamber temperature. The result is lower HVAC costs and a reduction in steam usage for chamber temperature.



# LSII



All Beta Star sterilizers quench effluent going to the drain at <140°F.

11

Two standard validation ports provide the access necessary for sterilizer validation and load probe testing.

12

Through numerous design reviews, the LSII was optimized to use 20% less material by weight than its predecessor to reduce load concerns for multi-floor buildings.

13

The LSII reduces the horizontal footprint by 11.5% and vertical footprint by 7.5% for easy egress and efficient use of laboratory space.

14

A smaller footprint makes it easy for the LSII to fit through narrow hallways, doorways and in elevators.

An all electric system allows for greater installation flexibility with fewer utility requirements.

15

The **EnviroVac® Water Conservation System** is available as a vacuum system upgrade that reduces water consumption during a sterilizer cycle by up to 75%.

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An optional electrical boiler is assembled on a sliding rail system. The system allows a service technician to slide the boiler out of the sterilizer for easy inspection, service and access to other sterilizer components.

17

Specially designed sterilizer framework gives the LSII the ability to be moved with a pallet jack for increased mobility and easy installation.

18

## *Environmentally Conscious*

The LSII incorporated numerous design changes to provide an environmentally friendly sterilizer to help contribute to LEED accreditation.

- Patented EnviroVac® System saves up to 75% more water than a standard vacuum system.
- Cylindrical chamber allows 360° insulation coverage with significant savings on utility usage tied to chamber heating.
- Reduced steel usage helps minimize the carbon footprint in our manufacturing process.



# STERILIZER APPLICATIONS

The LSII Sterilizer is designed for laboratory use for fast and efficient sterilization utilizing the following cycles:

## PRE-VACUUM CYCLES

**Pre-Vacuum Cycle:** Pre-conditioning of load during air removal using programmable positive and negative ramped pressure pulsing to remove entrapped air. Programmable ramped vacuum drying.

**Micro Isolator Cycle:** Pre-vacuum cycle using programmable positive and negative ramped pressure pulsing to reduce internal and external crazing of animal housing by allowing pressure stabilization to protect items being processed.

## LIQUID CYCLES

**Liquid Cycle:** Used for liquids in vented borosilicate glass or metal containers. The cycle uses positive steam pressure and vacuum assisted air removal with programmable ramped heating and exhaust to ambient with optional cooling phase.

**Liquid, Air Cool Cycle:** Used for liquids in vented borosilicate glass or metal containers. The cycle uses positive steam pressure and vacuum assisted air removal with programmable ramped heating and introduction of filtered air during exhaust to speed cooling.

**Pre-Vacuum Liquid Cycle:** Pre-conditioning of load using programmable positive and negative ramped pressure pulsing to assist in removal of entrapped air. Chamber temperatures at negative pressures are controlled to prevent boiling of product. Controlled ramped exhaust to ambient with optional cooling phase.

## TEST CYCLES

**Leak Test:** Programmable vacuum leak test to verify door seal, sterilizer chamber and piping integrity through monitoring of acceptable vacuum loss over selected time.

**A.R.T. (Air Removal Test):** Pre-programmed vacuum cycle used to verify removal of residual air from chamber and load, and ensure steam penetration into the test load.

## GRAVITY CYCLE

For non-air retentive products; utilizes positive steam pressure with vacuum assist air removal for conditioning of load. The end of cycle exhaust is programmable for dry and non-dry phases.

## BIO-WASTE CYCLE

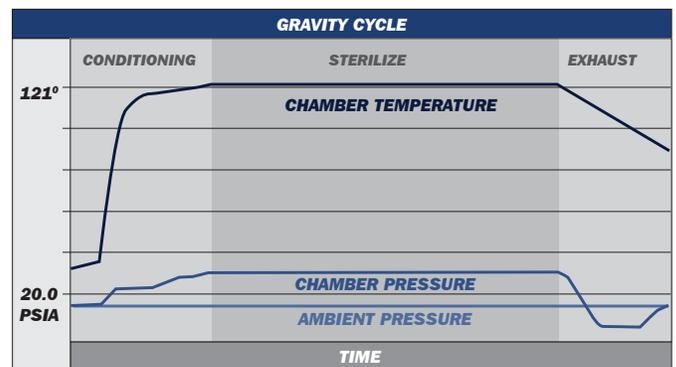
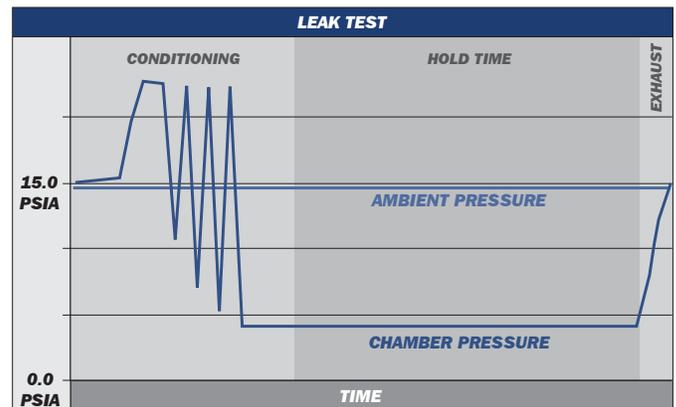
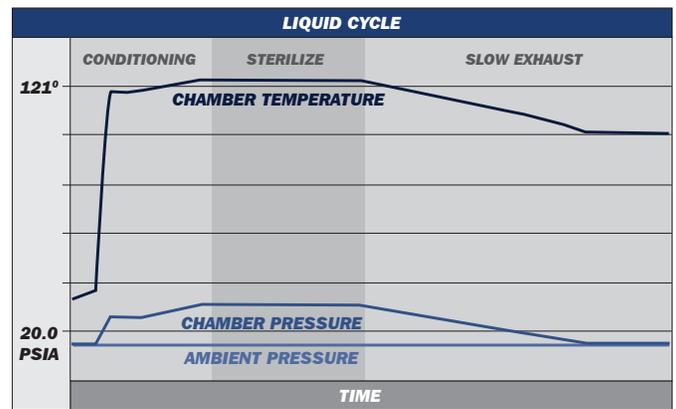
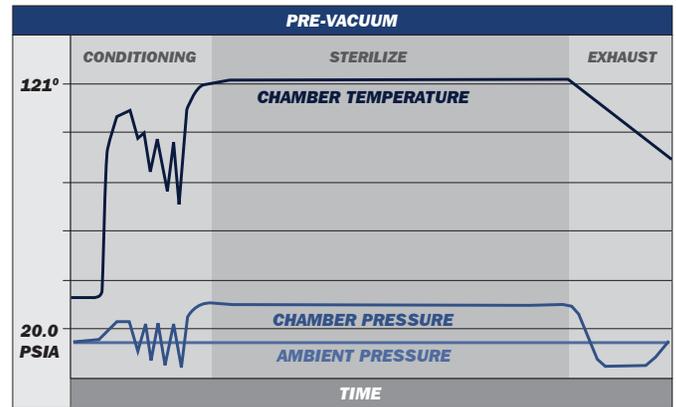
Designed for pre-sterilization conditioning through positive and negative pressurization to ensure air removal from mixed products in containers. Programmable ramped steam pressurization is used to maximize heat penetration of mixed laboratory biohazard waste.

## F<sub>0</sub> TEMPERATURE CONTROL CYCLE

For the sterilization of heat sensitive materials using time-at-temperature calculations beginning at a predetermined point of the conditioning phase. This reduces the product exposure to higher temperatures normally found in standard sterilization cycles.

## ISOTHERMAL CYCLE

Designed for conditioning of heat sensitive materials at a temperature range of 78°C - 104°C.



## DESCRIPTION

The all-new Beta Star LSII Sterilizer has a true, usable 20" square internal volume throughout the vessel. The cylindrical vessel construction allows 360° insulation coverage with over 33% more chamber volume with a smaller overall footprint than its predecessor. The LSII's class leading chamber volume and space-saving design permits larger loads and minimum facility space requirements. The all new Allen Bradley HMI System comes Beta Connect ready with mobile monitoring and instant online technical support from Beta Star. Like all Beta-Star sterilizers, the LSII is designed and manufactured with non-proprietary components for easy service and cost-effective part replacement.

### CYLINDRICAL CHAMBER DESIGN

By eliminating the shear stress inherent in rectangular vessel construction, the cylindrical ASME Section VIII designed pressure vessel provides a greater percentage of jacket coverage for improved heat distribution. This increased jacket area decreases vessel heat up time, increases even heat distribution and improves temperature control accuracy. Further benefits of the vessel design include controlled steam dispersion throughout the chamber during sterilization, spatial cavities along all sides of the load for ease of steam penetration and a free draining shape for fast condensate removal and load drying. This new vessel design provides 20,395 cubic inches of internal volume, 33.8% more than traditional 20" x 20" rectangular shaped vessels.

### BETA CONNECT SYSTEM READY

The new HMI Control System provides mobile monitoring and alert capabilities for every Beta Star sterilizer. View the HMI from any Android or iOS device to check on the cycle status or view current alarms and alarm history. For larger companies and institutions, a software package is available to monitor four sterilizers at once to efficiently manage the sterilization process.

### NON-PROPRIETARY COMPONENTS

All Beta Star sterilizers are engineered to utilize non-proprietary components. Non-proprietary components provide the lowest cost of ownership by decreasing replacement component cost. With a fully stocked warehouse, Beta Star is able to provide same day shipment to simplify service and minimize machine down time.

## STANDARDS

Every sterilizer is manufactured with superior quality to ensure a proper and thorough sterilization cycle. This is substantiated through our standards and listings:

- ASME Section VIII, Division 1 vessel construction.
- Instrument calibration to NIST Standards.
- Underwriters Laboratory (UL) Standard.
- Canadian Standards Association (CSA).
- Temperature control to +/- 0.5°C for all cycles.



## STERILIZER DETAILS

### SAFETY FEATURES

Every Beta Star sterilizer is manufactured in our Honey Brook headquarters, which has held and maintained the O.S.H.A. Safety and Health Achievement Recognition Program (SHARP) Certificate since 2007. The OSHA recognized safety history is built into every sterilizer we manufacture. Safe sterilizer operation is assured with the following designed in safety features:

- Close-door button must be held for the duration of door closing.
- Continuous system monitoring, alert and alarm functionality identifies any abnormal or unsafe operating condition. The alarm history is retained for review.
- Fail-safe door design with an electrically interlocked chamber steam supply valve requires the door to be in the fully closed position before steam can be injected into the chamber.
- Administrator and Operator security levels within the control system provide selectable user parameters for secure system set-up and operation.
- All moving door components are shielded from accidental operator contact.
- Electrical components are positioned to conform to NEC requirements for maintenance access.

### ALLEN BRADLEY PLC SYSTEM

The LSII incorporates the industry standard Allen Bradley MicroLogix 1400 Controller with numerous benefits including:

- Five (5) levels of user login security types.
- Thirty (30) stored programmable custom cycle types.
- Custom cycle names for easy user recognition.
- Network and data download ports.

### HMI SYSTEM

The Beta Connect HMI System brings internet connectivity to the sterilizer through mobile alerts, remote technical support, sterilization system management, predictive maintenance and data analytics.

The 5.7" HMI color touch screen display incorporates several pre-programmed cycle types with custom cycle names for easy recognition. In-cycle data, including cycle status output, help screens and alarms, are all displayed on the HMI.

### PRINTER

With a standard 32 column, 9 pin DOT matrix impact printer (or optional thermal printer), the LSII Sterilizer documents all cycle information including: Owner Name, Machine Name, Machine Serial Number, Cycle Number and Name, Cycle Count, Current Date, Start Time, User Name and Cycle Parameters.

Cycle Data printed by the LSII Sterilizer includes time in cycle, chamber pressure and chamber temperature. Systems with the optional load probe installed and enabled will provide printed load probe temperature and accumulated F<sub>0</sub>. In addition to this frequency based logging, the printer will also print a message and cycle data for each change of phase, process change in a phase and all alarms.

At the completion of a cycle, the LSII Sterilizer will print a Cycle Summary Report with the following information: Time in Sterilizer, Minimum Chamber Temperature in Sterilize, Maximum Chamber Temperature in Sterilize, Minimum Chamber Pressure in Sterilize and Maximum Chamber Pressure in Sterilize. The final lines of the printout requests a User Initial acknowledgement and a Date line.

# STANDARD CONSTRUCTION

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## SHELL ASSEMBLY

Every shell assembly and vessel is manufactured according to ASME Section VIII, Division 1 standards. Standard vessels consist of a 316L stainless steel chamber and door with a 304 stainless steel steam jacket. The vessel chamber, door and jacket maintain specified operating pressures and temperatures from full vacuum to 45 psig. Additional standard shell features include:

- Smooth, consistent vessel finish is produced through glass bead media. Optional 25Ra or better finishes available.
- Two (2) threaded validation ports for load monitoring.
- Machined and polished door gasket groove for extended gasket life and seal integrity.
- Cylindrical chamber design for efficient shell insulation and improved condensate drainage.
- Vessel shape promotes efficient steam dispersion, accurate temperature control and effective load penetration.
- Three (3) sided door retention for additional safety.

## DOOR OPERATION

The LSII door seal and secure system uses door locating limit switches to sense when the door is in the up and fully closed position. Cycle initiation then applies pressure to the door seal to prevent door movement until chamber and ambient pressures are equalized at the end of a cycle. The LSII is available with standard, manually-operated doors or optional auto-door configurations.

## DOOR GASKET

With precision machined gasket grooves, a proven design and high temperature door gasket material, every Beta Star sterilizer provides industry leading door gasket life.

## CHAMBER DRAIN

The cylindrical chamber design improves condensate drainage and decreases load dry times after the cycle has been completed. All Beta Star sterilizers quench effluent going to the drain to less than 140°F.

## VACUUM SYSTEM

A water ejector vacuum system is standard on every Beta Star sterilizer. Beta Star's proven piping configuration combines accurate pressure and temperature control, reliable operation and service ease. For additional savings, the EnviroVac® Vacuum System is available as an option.

## STEAM SOURCE

The Beta Star LSII Sterilizer is designed to operate with a house steam supply or with an optional, factory installed integral steam generator. Steam supply options include:

- **House Steam:** Steam is supplied by the facility. See the Utility Requirement Charts (page 8) for recommended steam supply pressures and flows.
- **Integral Electric Steam Generator:** Generators are factory installed and designed to fit within the existing machine footprint. Beta Star's integral electric steam generators provide complete boiler control through the sterilizer HMI. Integrated control provides the ability to perform automated boiler blow-down at user selected time intervals. Electric steam generators are available in standard carbon or optional stainless steel construction for use with sensitive media or deionized (DI) make up water supplies.

- **Steam to Steam Generator:** Used to create clean steam from a pure water source using house steam or an electric steam generator. The Steam to Steam Generator provides process contact steam supply. In this arrangement, jacket steam is provided by the house steam or electric boiler system.

## PIPING AND VALVES

All piping systems are factory assembled, tested and configured to permit on-site service and inspection with accurate sterilizer control.

Piping systems are available in copper and brass or optional 316L stainless steel configurations. Long life industrial process valves provide reliable operation and precise control. Electric solenoid process valves are standard with pneumatic actuated process valves as an option.

## LOADING EQUIPMENT

All process loading equipment is constructed of 316L stainless steel to protect the integrity of the load. Every LSII Sterilizer includes a bottom shelf that provides a flat loading platform with tool-free removal for drain screen access.

## FACTORY TESTING

Every Beta Star sterilizer goes through a strict Factory Acceptance Test (FAT) to ensure proper functionality prior to shipment.

## SERVICEABILITY

Equipped with a tool-less lift assist hatch for service access to the control system. The design features a service access panel that can be removed without tools for access to the piping components.

All electrical and process control instruments are clearly labeled and visibly traceable. Standard piping components are copper brazed or compression fittings and threaded brass components which are positioned for safe and easy replacement. All wiring and piping uses non-proprietary industrial grade components available directly through a local supply house, authorized service agency, or directly through the Beta Star Parts Department.

## MOUNTING ARRANGEMENT

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The Beta Star LSII Sterilizer is designed to be moved with a pallet jack for increased mobility and easy movement through hallways and elevators prior to installation. A rugged, powder coated frame ensures sterilizer rigidity throughout sterilizer movement.

## STERILIZER OPTIONS

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### BETA CONNECT CONTROL OPTIONS

The all-new Beta Connect System has four options with different features specifically tailored to meet the customers needs. Each option is independent, which gives the customer control to select the desired features:

- **Remote Support (Option 1):** Every Beta Connect sterilizer is connected to our service center through an internet connection with 256-bit encryption security. Service, troubleshooting and control updates are immediately initiated through the secure connection by our certified technicians.
- **Mobile Observation and Control (Option 2):** Observe and control a sterilizer HMI from any location utilizing a smart phone or tablet. Cycle alarms, errors and alerts can be sent directly to different users and devices.

- **Sterilization Management (Option 3):** Observe and control every sterilizer in a network or facility from one command center computer. The software package allows a facility manager to simultaneously view four HMLs at once, with the ability to bring any other HMI to the live feed.
- **Predictive Maintenance and Analysis (Option 4):** Evaluating sterilizer usage data can change sterilizer service calls from reactive to proactive through predictive maintenance developed from sterilizer usage data. This data can be used for department cost-usage allocation, alarm diagnostics and cost-of-ownership budgeting.

#### ADDITIONAL CYCLE OPTIONS

The Beta Connect Control System is equipped to handle advanced cycle functionality with pre-configured cycles for standard loads such as glassware, plasticware, liquids, pre-vacuum and hard goods:

- **F<sub>0</sub> Cycle:** Calculates the sterilization time based on load temperature and duration exposed. These calculations are based on predetermined set points which provide controlled exposure time.
- **Isothermal Cycle:** Low temperature cycle used in disinfection or pasteurization of heat sensitive solutions.
- **Load Probe:** Inserted through one of the standard validation ports to provide temperature monitoring.

#### VESSEL OPTIONS

The LSII chamber vessel can be configured to enhance functionality by utilizing:

- **A 316L Steam Jacket:** Upgrade the 304 stainless steel jacket to 316L stainless steel for increased protection against vessel corrosion.
- **Seismic Restraints:** For installations in seismically active areas, a seismic restraint or tie-down can be added.
- **Chamber Passivation:** This process removes chamber impurities and inhibits future corrosion.

#### PIPING OPTIONS

316L Stainless steel piping with stainless steel process valves, threaded fittings and swage style fittings can be added as an upgrade for increased protection against corrosion.

#### LOADING EQUIPMENT OPTIONS

In addition to a standard flat loading bottom shelf, the following equipment options help maximize available chamber space for maximum sterilization throughput:

- **Rack Support System:** This system compliments the bottom shelf by adding an adjustable position sliding-shelf support system. A standard rack support system includes one sliding shelf. Additional shelves (3 shelf maximum) may be purchased separately.
- **Loading Cart and Transfer Carriage:** This option replaces the bottom shelf with a chamber track that permits secure carriage docking to the sterilizer for cart transfer into the chamber.

#### UNINTERRUPTED POWER / BACKUP POWER

An Uninterrupted Power Supply (UPS) System can be integrated into the sterilizer configuration. The UPS helps prevent damage from voltage spikes, drops and losses. This system works by having an internal checking system that, upon recognition of a power loss, triggers a sterilizer alarm and goes into the "abort" condition. The abort condition holds the sterilizer in safe mode until electric service is restored to the unit.

#### MODULAR WALL SYSTEMS

Stainless steel modular wall systems compliment the installation of sterilization equipment by separating a service area from the rest of the room. The modular wall can be customized with various options such as louvered vents, service doors, windows, ceiling panels and drip panels for bulkheads.

#### WATER CONSERVATION

All Beta Star sterilizers can be equipped with the patented EnviroVac® System. The EnviroVac® System dramatically reduces environmental and facility water usage concerns. Designed to drastically reduce water consumption by nearly 75% during a sterilization cycle, the EnviroVac® requires only a 1/2" water feed at a minimum of 40 psig.

With the patented EnviroVac® option, your sterilization cycle is no longer at risk of failure due to normal fluctuations in water pressure and temperature. Water and steam discharge is monitored and regulated to ensure they are below your safe and regulatory temperature levels before allowing the effluent entry to the facility drain systems. This system replaces standard vacuum pump and condenser systems provided by other manufacturers. Condensers on other systems have a history of failure, which requires costly out of warranty replacement.



#### QUALITY DOCUMENTATION

Quality documentation packages can be included into your sterilizer package. A list of documentation options include:

- **IQ / OQ Documentation Only:** A documentation package used to qualify installation and operation of the sterilizer.
- **IQ / OQ Documentation and Execution:** A documentation package and manufacturer representative executing and qualifying installation and operation of the sterilizer.
- **FAT Documentation Only Package:** A documentation package that qualifies the Factory Acceptance Test was performed with optional customer attendance.
- **SAT (Site Acceptance Test):** On-site testing of the equipment performed by a manufacturer's representative.
- **FRS (Functional Requirement Specification):** A documentation package the details, defines and ensures equipment functionality.
- **Chamber Temperature Mapping:** A temperature test completed throughout the inside of the chamber to record temperature consistency.

# NATIONWIDE SERVICE

## PREVENTATIVE MAINTENANCE

A nationwide network of trained and skilled service technicians can provide scheduled inspections, adjustments and recommended maintenance to ensure equipment reliability. The following maintenance options are available:

- **Option I:** This contract is for four inspections per year. After each quarterly inspection, a quote is generated for all required or recommended maintenance and repairs. After the warranty period, all parts and labor for repairs are billable at the contract preferred customer rate. All service calls, unless covered under warranty, are billable.
- **Option II:** This contract includes four inspections per year. Labor within the terms of the contract, if necessary to perform Preventative Maintenance, is included and will be performed at the time of inspection. Parts will include a 10% discount off of the Beta Star list price. Service calls within thirty days of the last inspection are covered except for those excluded under the terms of the contract (utilities, operator error, etc.).

## COMPONENT SERVICING

In addition to preventative maintenance packages, Beta Star offers additional sterilization services to keep components operating correctly and efficiently:

- **Controls Calibration:** Annual calibration to ensure the correct temperatures are achieved during the sterilization phase.
- **Steam Generator Cleaning:** Physical removal of the mineral scale that develops inside the steam generator. As water is heated in the generator, minerals suspended in the water precipitate and form scale. This scale negatively effects water

level controls, probes, pressure sensing devices and the heating elements. Generator blow down does not always effectively remove scale that has already formed in the generator.

## INSTALLATION SCOPE

All Beta Star sterilizers are installed directly by the manufacturer or by an authorized installation provider and may include:

- **Delivery:** Factory direct delivery and installation provided directly or through an authorized installation provider.
- **Removal of Existing Equipment:** In the case of equipment replacement, Beta Star can arrange removal of the existing sterilizer.
- **Installation Supervision Only:** Where in-house or specialized service workers will be used, an on-site authorized representative will guide workers through the installation.
- **User Training:** Operator training is provided with every newly installed sterilizer. Additional operator training is available to refresh or train new users.
- **Maintenance Training:** In-house maintenance technicians benefit from factory direct training on-site or at our factory.

STERILIZER DIMENSIONS	
Description	Dimension
Height	73.75 inch
Width	30.5 inch
Depth	50.875 inch
Wall Opening Width	30 inch
Wall Opening Height	74 inch
Floor to Chamber	37.5 inch

PLUMBING UTILITY REQUIREMENTS <sup>1</sup>					
Plumbing Utility	Connection Size	Standard Material <sup>2</sup>	Flow Rate		Pressure
			Peak	Average	
Drain Size	3"	By Others, Suitable for 140°F/60°C	N/A	N/A	Atmosphere
House Steam	½"	Black Iron/Brass or Stainless	90 LB/HR	60 LB/HR	50-80 PSIG
Water, Ejector Vacuum Equipped Machine (Standard)	¾"	Copper	8 GPM	4 GPM	60-80 PSIG
Water, EnviroVac® Equipped Machine (Optional)	½"	Copper	2 GPM	1 GPM	40-60 PSIG
Hot Water, Electric Steam Generator Equipped Machine (Optional)	½"	Copper	½ GPM	¼ GPM	40-60 PSIG
Instrument Air, Pneumatic Valve Equipped Machine (Optional)	½"	Copper	2 SCFM	1 SCFM	80-100 PSIG

ELECTRICAL UTILITY REQUIREMENTS					
Electrical Utility	Voltage	Phase	Frequency	Amp Draw	Type
Sterilizer Controls	120V	1	60 Hz	3	Dedicated Circuit
Electric Steam Generator Controls (Optional)	120V	1	60 Hz	5	
EnviroVac® (Standard Single Phase) <sup>3</sup>	120V	1	60 Hz	9.4	Dedicated Circuit
EnviroVac® (Optional Three Phase Assembly) <sup>3</sup>	280V	3	60 Hz	6.9	Disconnect
EnviroVac® (Optional Three Phase Assembly) <sup>3</sup>	480V	3	60 Hz	3.0	Disconnect
Electric Steam Generator (Optional)	208 / 480V	3	60 Hz	83 / 36	Disconnect
Air Compressor (Optional) <sup>4</sup>	120V	1	60 Hz	12	Duplex Outlet
Ethernet Connection Required For Optional Beta Connect™ Remote Connectivity System					

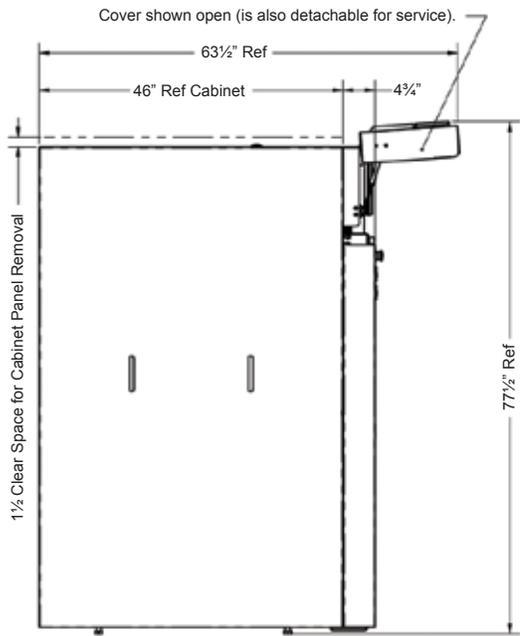
<sup>1</sup> Recommended utility values indicate design standards for efficient machine operation. Consult with the Beta Star Sales Staff for site specific utility values which may fall outside of indicated ranges.

<sup>2</sup> Material(s) may vary to suit installation.

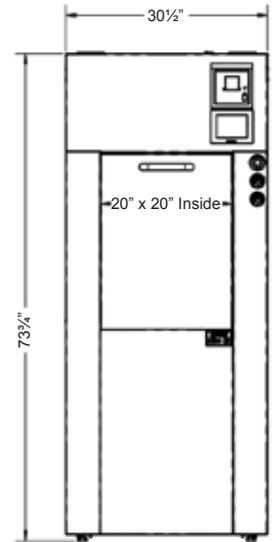
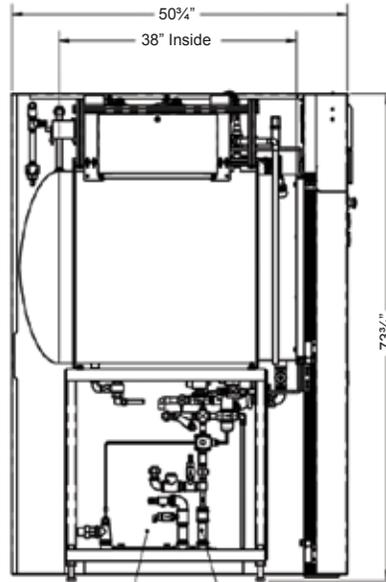
<sup>3</sup> Operating voltage must be specified.

<sup>4</sup> Air compressor only required for pneumatic valve optioned machine installations which have no house instrument air available.

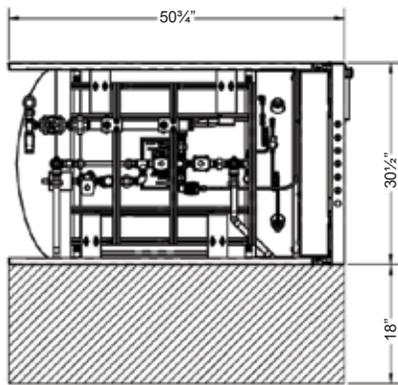
# LSII SINGLE DOOR CABINET



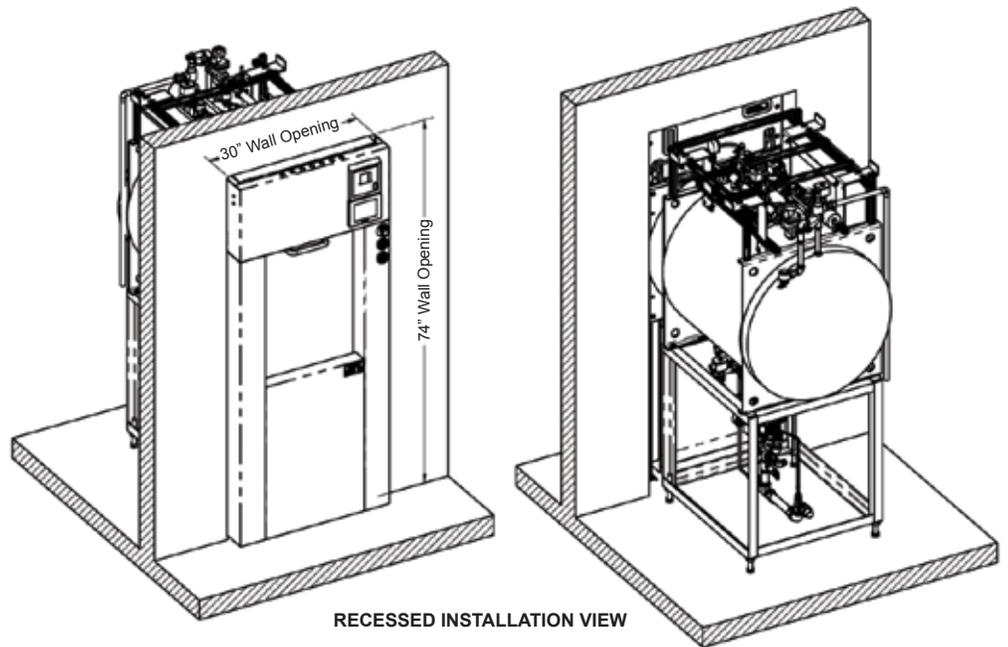
**CABINET ENCLOSURE VIEW**



# LSII SINGLE DOOR RECESSED



18" Recommended minimum service this side of machine for left hand service unit. Opposite side for right hand service unit.



# LSII OPTIONS CHECKLIST

Check all the desired options and contact our sales team at 610-273-4222 for a quote today.

## BASIC OPTIONS

### DOOR QUANTITY

- Single Door

### CHAMBER PROCESS TYPE

- Conventional Steam Sterilization

### JACKET PIPING OPTIONS

- Copper and Brass
- 316L Threaded and Swage Style Fittings

### CHAMBER PIPING

- Copper and Brass
- 316L Threaded and Swage Style Fittings

### SERVICE SIDE

- Right Side Service
- Left Side Service
- Universal Service Side (LSII Model Sterilizer)

### CONTROL OPTIONS

- Allen Bradley MicroLogix

### INSTALLATION TYPE

- Free Standing
- Recessed One Wall

### VACUUM SYSTEM TYPE

- Water Ejector Vacuum
- EnviroVac® Water Conservation System:  
120V\_\_\_\_ 208V\_\_\_\_ 480V\_\_\_\_
- Condenser Tank Chiller Coil  
(Enhanced Water Conservation)

### CABINET CLOSURE PANELS

- Cabinet Enclosure Panels  
(Right and Left Side Panels)
- Right Side Panel Only
- Left Side Panel Only

### DOOR OPERATION

- Manual (Standard)
- Automatic

## MAINTENANCE OPTIONS

### WARRANTY

- Standard 1 Year Warranty

### PREVENTATIVE MAINTENANCE PLAN

- Option I: Inspections and Service Recommendations
- Option II: Inspections, Maintenance and Parts Discount

\* Consult Beta Star sales staff for appropriate sizing.

\*\* Water pressure, flow, mineral content and temperature may all affect efficient sterilizer operation. While all facility water supplies may vary, consult Beta Star sales staff for recommendations regarding water quality for your specific installation.

## ENCLOSURES

### MODULAR WALL/ENCLOSURES

- No Modular Wall or Enclosure Required
- Modular Wall or Enclosure Required

## EXTENDED OPTIONS

### CONTROL OPTIONS

- Thermal Printer (Impact Printer Standard)
- Ethernet Connection (Hardware Only)
- Remote Troubleshooting
- Data Acquisition

### BETA CONNECT OPTIONS

- Option 1: Remote Support
- Option 2: Mobile Observation and Control
- Option 3: Sterilization Management
- Option 4: Predictive Maintenance and Analysis

### PROCESS OPTIONS

- Load Probe for F<sub>0</sub> Cycle
- Isothermal

### PROCESS VALVE TYPES

- Electric Solenoid
- Pneumatic Piston

## UTILITY INFORMATION

### CHAMBER STEAM SOURCE\*

- House Steam: Pressure: \_\_\_\_\_ LB/HR: \_\_\_\_\_
- House Clean Steam: Pressure: \_\_\_\_\_ LB/HR: \_\_\_\_\_
- Electric Steam Generator (Carbon Steel):  
208V\_\_\_\_ 480V\_\_\_\_
- Electric Steam Generator (Stainless Steel):  
208V\_\_\_\_ 480V\_\_\_\_
- Steam to Steam Generator

### JACKET STEAM SOURCE

- House Steam: Pressure: \_\_\_\_\_ LB/HR: \_\_\_\_\_
- House Clean Steam: Pressure: \_\_\_\_\_ LB/HR: \_\_\_\_\_
- Electric Steam Generator (Carbon Steel):  
208V\_\_\_\_ 480V\_\_\_\_
- Electric Steam Generator (Stainless Steel):  
208V\_\_\_\_ 480V\_\_\_\_

### WATER\*\*

- Facility Water: Pressure: \_\_\_\_\_
- Water, Softened (To Steam Generator)
- Water, RO (To Steam Generator)
- Water, DI (To Steam Generator)
- Untreated Tap Water (to Vacuum System)

## LOADING EQUIPMENT

### CART AND CARRIAGE

- Bottom Shelf Only
- Rack for Multiple Shelves (Provided with (1) Sliding Shelf)
- Loading Cart and Transfer Carriage
- Shelves for Rack or Loading Cart: Qty \_\_\_\_\_ (Total Max. of 3)

## LSII OPTIONS CHECKLIST

### INSTALLATION SCOPE

#### MANUFACTURER INSTALLATION SCOPE

- Freight
- Factory Tear Down
- Removal of Existing Equipment
- Receive / Inspection / Un-crate
- On-Site Re-Assembly
- Rigging / Delivery to Final Location
- Make Ready for Final Connections
- Utility Connection by Manufacturer
- Equipment Startup
- Commissioning (Leak Test and 2 Cycles)
- User Training
- Maintenance Training
- SAT (Site Acceptance Testing)
- Validation Support

### QUALITY

#### STANDARD QUALITY OPTIONS

- IQ Documentation
- OQ Documentation
- IQ Execution
- OQ Execution
- Manufacturer Factory Test
- FAT (Factory Acceptance Test by Customer)
- FAT Documentation Only Package
- Chamber Temperature Mapping (At Factory)
- Chamber Temperature Mapping (On-Site)
- SAT (Site Acceptance Test)

## MADE IN THE USA

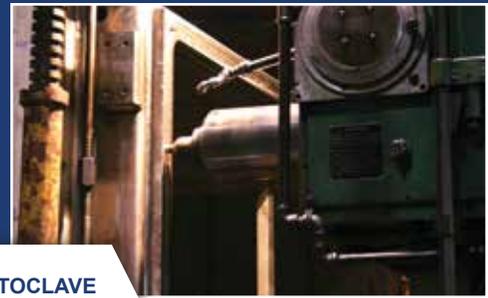
All Beta Star chamber manufacturing, mechanical assembly and factory testing takes place at our headquarters in Southeastern Pennsylvania. Our state-of-the-art manufacturing facility features a dedicated stainless and alloy only area to eliminate cross-contamination of materials. The stainless area has epoxy coated floors, multi-unit testing stations, an orbital welding station and a water reclamation system.



## OUR MANUFACTURING PROCESS



**1** PRE-FAB  
PLASMA



**2** AUTOCLAVE  
MACHINING



**3** CHAMBER  
FABRICATION



**4** FINAL  
ASSEMBLY

## STERILIZATION INDUSTRY EXPERTS

Beta Star Life Science Equipment is an internationally recognized manufacturer specializing in steam sterilizers. Our technical sales team is led by industry experts Bill Purvis and Lynn Johnson, who have spent their careers meeting the needs of the sterilization industry.



Bill Purvis founded Beta Star in 1984 as a sterilizer service company. After years of servicing equipment from a variety of manufacturers, Bill decided to design and manufacture a new sterilizer with serviceability at the forefront of the design. Since that first machine, Bill has strived to build a quality product with unique and innovative features to meet customer needs. Bill serves Beta Star as the Eastern Sales Manager.

Lynn Johnson has been in the sterilization industry since 1998. After earning his undergraduate degree in electrical engineering, Lynn joined the sterilization industry as an Electrical Engineer and Software Designer. In his years in the industry, Lynn has established himself as a technical consultant serving the sterilization needs of laboratories and vivariums across the Western United States and Western Canada. Lynn serves Beta Star as the Western Sales Manager.



STERILIZATION EXCELLENCE FOR THE BIOMEDICAL, LABORATORY, PHARMACEUTICAL AND RESEARCH INDUSTRIES

### GET A QUOTE TODAY

The all-new Beta Star LSII Checklist gives our customers a succinct and complete list of sterilizer options.

Check all the options you need and get in touch with us. You can call, fax or email us a scanned copy of the checklist and our sales and estimating team will prepare your custom quote.

Headquarters  
Sales Department  
P: 610-273-4222  
F: 610-273-0259  
Sales@rvii.com

Western USA  
Lynn Johnson  
P: 402-305-2445  
F: 402-916-4907  
LynnJ@rvii.com



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