



BETA STAR LIFE SCIENCE EQUIPMENT



SIMPLE. RELIABLE. **STERILIZATION.**



COMPANY OVERVIEW

BETA STAR LIFE SCIENCE EQUIPMENT

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10 REASONS TO TRUST YOUR STERILIZATION TO US

There are many providers of sterilization equipment. Some companies are larger, some are smaller, and some are our size. However, our unique blend of large company resources and small company attention to detail distinguish us from other sterilization manufacturers.

SINGLE SOURCE USA MANUFACTURER

USA made, from raw plate to FAT

INDUSTRY EXPERIENCE

30+ Years in sterilization

FINANCIAL STABILITY

Backed by \$50 million in annual revenue

EXTENSIVE QUALITY PROGRAM

Auditable quality procedures; ASME and UL

DOCUMENTATION FOR ANY LABORATORY

SOP's, IQ, OQ, GMP level documentation

WORLD CLASS MANUFACTURING FACILITY

Automated welding and machining centers

NATIONWIDE SERVICE AND SUPPORT

Quick ship parts and local service technicians

IMMEDIATE SERVICE WITH CONNECTIVITY

Remote diagnostics, 256-bit encryption security

COMPETITIVE PRICE POINTS

Test us, we compete

SOLUTIONS PROVIDER

Unique product development for complex problems

BORN IN THE **UNITED STATES**

At Beta Star Life Science Equipment, we proudly design, manufacture, assemble, and test our sterilizers in our USA Headquarters in Honey Brook, Pennsylvania. Our facility features an assembly and testing bay that allows us to complete customer witnessed Factory Acceptance Testing (FAT) to ensure reliability and quality.

OUR HISTORY

Beta Star Life Science Equipment started in 1984 as a sterilizer service company, built by providing great service for biomedical, pharmaceutical, university, and vivarium facilities. After years of building a group of satisfied customers, we started to receive requests to develop our own sterilization equipment. Since 1996, we have been designing, manufacturing, and continuously improving our steam sterilizers (autoclaves) to protect our customers research processes and results.

Our equipment is used to sterilize a variety of different materials including simple textiles, laboratory tools, animal bedding, and cages. We have a diverse line of sterilizers used in many different industries.



PROUDLY MADE IN THE USA

OUR PROMISE: SERVICEABILITY

There are many different sterilization equipment providers, so what makes Beta Star different? Serviceability. Serviceability is defined as the ability to install, provide preventative maintenance, and execute emergency service in a time and cost efficient manner.

Beta Star's non-proprietary components eliminate a number of problems frequently experienced with other equipment manufacturers such as: out-of-stock issues with proprietary components; and unnecessary mark-ups when components are controlled by one company.





PROTECT YOUR RESEARCH AND PRODUCTION

IT STARTS IN PENNSYLVANIA

At Beta Star, we understand that sterilization equipment is an often overlooked, but invaluable and critical step of the research and pharmaceutical production processes.

Governed by a quality team that oversees tens of thousands of production hours every month, our rigorous manufacturing, assembly, and testing procedures are world class. Every chamber we manufacture, from 20" x 20" to 72" x 86", goes through hydro and leak testing which creates the foundation for our 15-year standard chamber warranty.

cGMP PHARMACEUTICAL

Non-proprietary micro-processor controls and cycle data acquisition packages ensure that stringent cGMP guidelines are met. Data storage packages are compliant with the Food and Drug Administration 21 CFR regulations, including Part 11 Electronic signatures, FDA Quality Regulations, and AAMI/ISO 111345-R-8/93 Industrial Standards for Moist Heat Sterilization. All software is developed according to Life Cycle Methodology and GAMP4 requirements.

Standard vacuum and gravity cycle capabilities provide sterilization for liquid, porous, and hard good loads. Custom cycles can be provided, which are engineered to meet AAMI Industrial Moist Heat Sterilization Guidelines. For all cGMP units, chamber temperature control and distribution is guaranteed to be within +/- 0.5°C.

BSL3 EFFLUENT STERILIZATION

All Beta Star BSL3 effluent sterilizers provide the protection you need and the sterilization capabilities you can rely on for these critical applications. Our design prevents harmful pathogens and viruses from exiting the sterilizer at any time during the sterilization process. Pathogens are retained until the required sterilization exposure time has been achieved. To keep pathogens from draining until the sterilization cycle is complete, a heated 0.2 um hydrophobic filter traps harmful pathogens and viruses until



sterilization exposure time has been achieved for all cycle types. All BSL3 sterilizers are equipped with a high temperature FDA-approved silicone door seal. The chambers feature "Easy-Clean" rounded corners and a floor-sloping drain system to facilitate the complete discharge of all harmful pathogens.

ONE LAB **ONE SUPPLIER**

Getting proposals from multiple equipment suppliers can be an unnecessary waste of available time on large addition and renovation projects. Our technical expertise and in-house design and engineering team allows us to provide sole-sourced steam sterilizer and washer solutions. Thanks to industry partnerships with a network of manufacturers, we are able to provide our customers with complete facility solutions which include sterilizers and washers with:

- Modular Walls
- Environmental Seals
- Clean and Electric Steam Generators
- Loading Equipment



STERILIZATION FOR A VARIETY OF INDUSTRIES

BIOPHARMA

The biomedical / pharmaceutical industry is governed by the FDA's stringent Current Good Manufacturing Practice (cGMP) regulations to protect drug development research processes. To meet these requirements, Beta Star will execute or oversee validation testing and provide supporting documents for the validation testing.

Our autoclaves make your drug development processes more profitable by protecting your research. Repeatable and validatable results are a vital part of the research process, and our sterilizers ensure that these results are possible.

RESEARCH LABORATORY

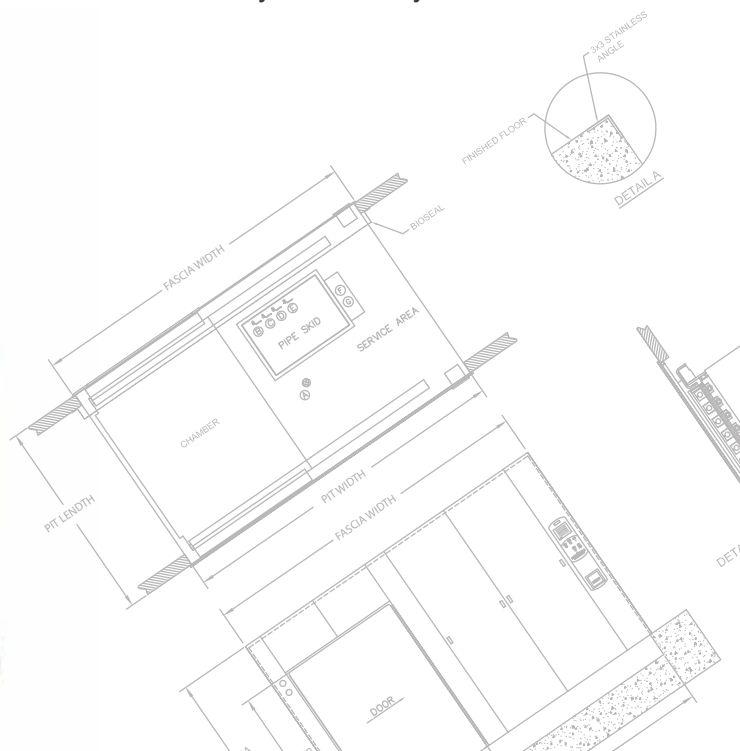
The laboratory series sterilizers are built around ease-of-use and reliability. An intuitive Human Machine Interface (HMI) drives the control of the sterilizer through cycle operation options, user login, customized cycles, help screens, and network/data download ports.

The laboratory series sterilizers, led by the newly designed LSII Sterilizer, set the standard for reliable sterilization, customer focused design features, and environmentally conscious utility usage at a budget-conscious price for everyday laboratory sterilization needs.

VIVARIUM (LIFE SCIENCE)

Maximizing throughput. That is the key ingredient for successful sterilization in vivarium (animal care) facilities. For vivarium facilities, sterilizing animal cages and bedding material to keep the facility's animals in clean environments is the most important part of the research.

This delicate process requires detailed planning to ensure scheduled cage and bedding changes are kept. To keep this process running smoothly, cage throughput analysis, led by the Beta Star engineering team can be done to help you pick the right sized sterilizer for your facility's daily and weekly needs.



WHAT WE **STERILIZE**

Beta Star's in-house development team has created over 30 customized programmable cycles to maximize efficiency and utility consumption. An intuitive Human Machine Interface (HMI) screen drives the sterilizer PLC control and allows the operator to select cycles for a variety of media.

ITEMS TO STERILIZE

- Surgical Instruments
- Glass and Plasticware
- Centrifuge Tubes
- Pipette Tips
- Solutions and Water
- Animal Food and Bedding
- Biohazardous Waste





A COMPLETE STERILIZATION PRODUCT LINE

SMALL STERILIZERS

TYPICAL STANDARDS: 20X20, 26X26, 24X36, 26X36

Designed around efficiency and ease of use, Beta Star's line of small sterilizers are ideal for research laboratories where the primary media being sterilized consists of glassware, surgical instruments, chemical solutions, and water. A vertically lifting door design conserves lab space for fitting multiple sterilizers into one laboratory space.

The flagship LSII Sterilizer design features a cylindrical chamber to maximize sterilization space while reducing utility consumption and heat loss.

BULK STERILIZERS

TYPICAL STANDARDS: 35X57 TO 72X86

Beta Star bulk sterilizers are built for maximum throughput to minimize the logistical problems of large vivarium laboratories. Dual steam inlet baffles facilitate complete temperature distribution and increased usable sterilization space.

Door options include a horizontal sliding and a unique lift and swing door that significantly reduces space requirements for bulk sterilizers with chamber widths up to 72". Floor to ceiling fascia provides a clean and sterile finish.



LSII (20X20) STERILIZER



BULK STERILIZER WITH LOADING CART

A PASSION FOR INNOVATION

Our desire to solve people's sterilization problems has driven us to create a wide array of unique solutions to standard laboratory problems such as significant water consumption and limited laboratory space. But, we're not done. Our team of engineers and technical sales experts are ready for the next innovative challenge your facility presents.

ENVIROVAC® WATER SAVINGS

The patented EnviroVac® Water Conservation System significantly reduces water consumption, up to 75% when compared with traditional vacuum systems. Depending on load and sterilizer size, per cycle conservation amounts can approach hundreds of gallons of water.

20x20x38 Load Size	EnviroVac® Gallons	Traditional Gallons
Small	56	226
Medium	64	256
Large	70	286

24x36x60 Load Size	EnviroVac® Gallons	Traditional Gallons
Small	126	330
Medium	142	346
Large	154	358

PROVEN WATER SAVINGS

BETA CONNECT SYSTEM: IoT

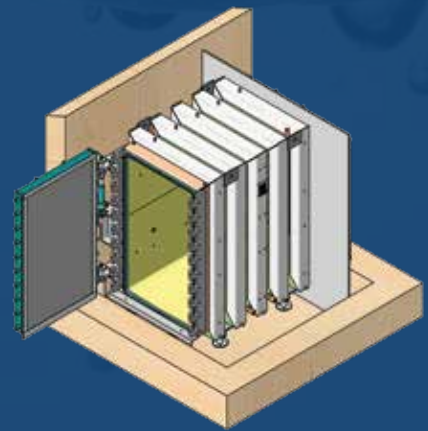
The Beta Connect control system revolutionizes the way sterilizers are serviced. Through a manually-controlled, 256-bit encryption connection. Service, troubleshooting, and system updates can be immediately initiated through the secure connection to be reviewed by our certified technicians.



REMOTE MONITORING AND SERVICE

LIFT AND SWING DOOR

A customer came to us with a problem: a need for a bulk sterilizer without room for a horizontally or vertically opening door. This need inspired the Lift and Swing Door design, which boasts near silent electronic door drives and PLC control.



CONCEPT, DESIGN, AND MANUFACTURE



RESPONSIVE OR PREVENTATIVE EQUIPMENT SERVICE OPTIONS

SERVICE, PARTS, AND REDUCING DOWNTIME

Beta Star offers emergency repair and preventative service for laboratory equipment to ensure your facility and research process operates efficiently. We provide a variety of replacement parts, emergency service, and preventative maintenance for sterilizers, washers, and other laboratory equipment for many of the manufacturers in the industry.

This list of services provided includes: on-site repair, preventative maintenance packages, parts packages, equipment installation and validation, technician training, and all-inclusive packages.

EMERGENCY REPAIR

Quickly responding to a malfunctioning sterilizer is a crucial aspect of sterilization. Maintaining sterilization uptime means your research process proceeds uninterrupted, your vivarium cages stay clean, and you reduce the frequency of emergency service needs. Over the life of your sterilizer, frequent emergency repairs can significantly increase the lifetime cost-of-ownership of the sterilizer.

Beta Star's network of service technicians are ready to provide service on equipment from all manufacturers for routine check-ups and emergency service. For Beta Star equipment, a recommended spare parts list is distributed to all customers, and non-proprietary components ensure that preventative and emergency service needs are not unnecessarily delayed by wait time for required parts.

REVOLUTIONIZING SERVICE

The Beta Connect System, a new service innovation from Beta Star, gives technicians the ability to diagnose sterilizer problems instantly and remotely through a secure, 256-bit encryption connection.



PREVENTATIVE MAINTENANCE PLANS

Just as a car requires scheduled maintenance to keep you from being stranded on the road, regular laboratory equipment maintenance is a vital component to keeping your sterilizer up and running. Depending on your facility's needs, Beta Star offers three different standard packages:

- Quarterly Service Package
- Semi-Annual
- Yearly Service

WORLD CLASS **U.S. MANUFACTURING**

Beta Star Life Science Equipment, a division of R-V Industries, is backed by the strength and manufacturing expertise of R-V Industries. R-V Industries is a uniquely diversified engineering and manufacturing company with 160,000 square feet of manufacturing and warehouse space supported by 250 employees. In addition to life science equipment, R-V operates in a variety of different industries including chemical, food & beverage, oil & gas, and paper mill.

Our 26,000 square foot stainless and alloy only facility ensures the structural integrity of our material by eliminating cross-contamination between stainless and carbon steels. After the manufacturing process is complete, all equipment is tested at one of Beta Star's testing stations to complete Factory Acceptance Testing with full utility connections.



COMPANY HEADQUARTERS • HONEY BROOK, PA



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