



cGMP STEAM STERILIZERS

APPLICATION

For in-process or terminal steam sterilization of medical devices, pharmaceuticals or diagnostic products required by the Food and Drug Administration (FDA) to be manufactured under the current Good Manufacturing Practices (cGMP) regulations. Gravity displacement, prevacuum, air-over-pressure, various water cooling and other custom cycles can be provided to meet the individual product demands of the manufacturer.

CHAMBERS

ARS/Beverly Pacific (ARS/BP) has been fabricating sterilizer chambers for over fifty years. Our designs have been proven to be highly durable and reliable. We use heavy gage materials, the highest quality manufacturing techniques and engineering designs that facilitate safety, ease of use and low maintenance.

Chamber/Jacket Construction

- 316L stainless steel
- Optional nickel clad chambers
- Interior welds ground flush
- Standard #4 (150 grit) finish
- Optional high polish finishes
- Baffled steam ports

- Sanitary, flanged or threaded couplings
- Fully jacketed chambers
- Optional removable jacket elements
- Rear wall heated (single door)
- Optional biocontainment barrier
- From 4 to 2500 cu.ft.

Door Construction

- Single or double door pass through
- Fail-safe wedge lock system
- Sliding or hinged doors
- Solid FDA grade silicone gaskets
- Operate independently from controls
- Double door units interlocked
- Steam heated

Insulation

- Chambers fully insulated
- Insulation wrapped with corrugated aluminum
- Aluminum strapped with stainless steel
- Doors fully insulated
- Doors covers of stainless steel

ARS can also provide chambers with manual, hinged, radial arm locking, single or double door of 316L stainless steel or carbon steel with pure nickel cladding on interior surfaces. Custom construction is also available.

PLUMBING

ARS plumbing designs are based on over 30 years of combined sterilizer engineering and manufacturing experience. In addition, as a service organization providing preventative maintenance and repair services on all brands of sterilization equipment, our direct experience has provided us with an end-user perspective that has been incorporated into the layout and choice of componentry in our plumbing designs. We also utilize non-proprietary parts that can be sourced from multiple vendors including ARS.

Piping to chamber

- Sanitary piping of 316 stainless steel
- Optional flanged or threaded 316 stainless steel
- Optional brass and copper
- Self-draining, no "dead-legs"
- Drain line isolation with dual check valves
- Constant bleed line in drain
- Air-operated valves
- Optional solenoid /motorized ball valves
- Vacuum by water ejector
- Optional liquid ring vacuum pump
- In-line, SIP, .22 μ air filter

- In-line .22 μ pre-filter
- Standard removable validation port

Piping to jacket/drain

- Brass pipe on all steam lines
- Brass pipe on drain lines
- Copper pipe on water lines
- Copper tubing only for gages
- Condenser tank before drain
- Thermostatic water conservation valve

Steam supply (optional)

- Integral or side-by-side
- Pure steam generator
- Clean steam generator
- Culinary steam generator
- Electric or steam-to-steam
- Optional steam sample port

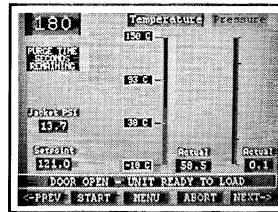
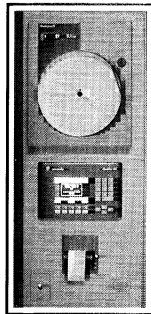
CONTROLS

ARS incorporates a wide selection of control options and can incorporate customer specified proprietary controls if desired. ARS offers two standard types of control systems: Frontier 2000™ PLC (programmable logic controller) based controls or ARS EM (electromechanical) controls.

Frontier 2000™ Control System

- Standard A-B SLC5/03
- Optional A-B SLC5/05
- Standard A-B Panelview 600
- Independent data recorder
- Digital impact printer
- $\pm 0.5^\circ$ C temperature control
- High/low temperature alarm
- Dual independent RTD's
- Chamber pressure transmitter
- Jacket pressure transducer
- Sanitary digital thermometer
- High water alarm
- Optional control by F₀
- Optional control by load probe
- Addressable storage registers

- Pre-programmed vacuum test cycles
- Optional in-line air detection test
- Full control remote panel for double door units
- Optional remote panel indicator only



Frontier 2000™ cGMP sterilizer controller with typical screen

ARS Electromechanical Controls

- Analog drum switch with relays
- Time controlled by digital timers
- Panel cycle indicator lights
- Independent data recorder
- $\pm 0.5^\circ$ C temperature control
- A high/low temperature alarm
- Dual independent RTD's
- Chamber pressure transmitter
- Sanitary digital thermometer
- High water alarm
- Optional F₀ recording
- Full control remote panel for double door units
- Optional remote panel indicator only

CYCLES

- Dry goods with vacuum
- Dry goods without vacuum
- Liquids
- Air-over-pressure
- Steam-air mix
- Cascading water
- Heated or cooled "dry" time
- Custom to your specification.

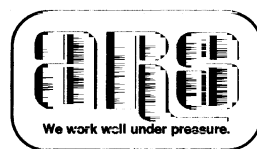
OUR NAME HAS OPENED DOORS FOR

ARS was founded in 1971 as Autoclave Repair Specialists and incorporated in 1975. In 1985, ARS acquired the exclusive rights to all Beverly Pacific (BP) sterilization products. The company's equipment and services have earned it an outstanding reputation.

Our philosophy is to provide very high quality services incorporating the best components available. The ARS team is also dedicated to the highest standards of workmanship. By so doing, our customers can achieve many years of reliable performance and an overall low cost of ownership. Our pride rests on our customers' satisfaction with the products we manufacture or distribute and the service we provide.

ARS is headquartered in an 11,000 square foot facility in Santa Fe Springs, California. It is licensed and regulated by the U.S. Food and Drug Administration and the California Department of Health Services. Licensure is predicated upon the company's continued adherence to current Good Manufacturing Practices as set forth in the Code of Federal Regulations.

We work well under pressure.



ARS ENTERPRISES

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