



LABORATORY LINES

AUTOCLAVES



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Single-Door/Double-Door Horizontal Pulsating Vacuum Autoclave Motorized Door

Model YR0HSP1200 & YR0HSP1500



Application

YR series horizontal pressure steam autoclave is the equipment that disinfects and sterilizes the objects with saturated steam, its structure is horizontal and heating way is electric heating. It is composed of sterilization chamber, shell, jacket, door, steam generator, vacuum system, cooling system, pipe system, control system, display system and power-supply system.

It is widely used in CSSD, lab, scientific research institution, pharmaceutical, food industry and is suitable for items which are high temperature-resisting and high pressure-resisting including unwrapped or wrapped instrument, dressing, rubber, liquid, plant-in instrument, porous item, hollow instrument to be sterilized.

Product Features

CAD-aided design

Application of finite element analysis tools: Good structural design stems from good design methods. The use of finite element analysis methods in the design process not only increases the design pressure of the sterilizer, but also extends the life of the sterilizer.

Main structure

The machine adopts rectangular horizontal triple-layer design structure, with chamber and jacket, the thickness is 8 mm. Chamber is composed of compound gauge, non-return valve, steam trap, plug screen etc. Jacket is composed of pressure gauge, safety valve, vacuum circuit breaker etc. Horizontal sterilization chamber, rectangular cross-section, European-style ring-shaped stiffener jacket structure. The unique inner shell and ring-shaped jacket combination structure enhances the strength and rigidity of the main body.

Welding

Automatic welding using plasma welding machine, strictly follow WPS standard.

Insulating layer

The insulating layer is made by aluminum silicate which is the best insulating material, and equipped with silicate insulation cotton with strong thermal insulation performance, which effectively reduces energy loss and heat radiation.

Seal door

Pneumatic sealing, the door gasket is made of high-quality silicone rubber sealing ring and adopts patented compressed air sealing technology, it is fully automatic operation when sealed, the lifespan is more than 2000 sterilization cycles. The door equipped with complete electromechanical safety interlocking device to ensure the safety of personnel and equipment.



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Control system

- ✓ It is integrated by PLC + HMI + Printer. This system is easy to implement the program selection, parameter setting, equipment operation, report processing, printing, storing and others functions. The FO value and the temperature time gives double guarantee for sterilization.
- ✓ Equipped with Ethernet interface and USB interface.
- ✓ Equipped with independent temperature monitoring system.
- ✓ The master controller system equipped with three levels of authority.
- ✓ When automatic controller in the failure of the circumstances, the security device makes the sterilization indoor pressure safety in the pressure of the atmosphere to the back of the state, and allow the loading door can be opened.
- ✓ In order to maintenance, test and emergency needs, manual operation can be through the use of access control tools to complete.

Pipeline system

- ✓ All pipes are made of AISI 316L. All pipes are polished inside and outside, are seamless stainless steel medical-grade pipes, whose material composition can be traced.
- ✓ Drain lines are equipped with removable filter plugs to prevent clogging.
- ✓ The main control and action components are all internationally renowned brands to ensure stable operation of the equipment.
- ✓ The pipeline system is mainly composed of pneumatic angle seat valve, air filter, vacuum pump, heat exchanger, etc...
- ✓ With thermal insulator, reduce steam consumption, avoid scalding, improve sterilization and drying effect.

Steam generator

The steam generator is made of AISI 304, insulated with resin embedded glass wool, and equipped with water level sensor, safety valve, etc, automatic water filling.

Sterilization cycle

- ✓ Preset sterilization cycle:
- ✓ User-defined cycle
- ✓ Testing cycle (B & D test, Vacuum test)
- ✓ User can adjust parameters of all preset cycles as required and can set up new cycles through user-defined cycle. We also can preset new cycle according to user needs



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Drainage control system

Automatic drainage temperature adjustment system, drainage temperature $\leq 55^{\circ}\text{C}$.

Automatic hydrophobic device

Installed automatic control hydrophobic device for chamber and jacket, automatic program control, automatic drain, ensure the steam saturation.

Internal drainage

The bottom of the chamber has a certain inclination, which is convenient for cleaning and drainage, and ensures the discharge of condensate in the inner chamber, and equipped with drain line strainer.

Water-saving and noise reduction system

For water-saving and noise reduction system, which can save 30% recycled water consumption of vacuum pump and reduce the noise of vacuum pump.

Vacuum system

- ✓ The highly efficient liquid ring vacuum pump(with silencer) is provided to effectively remove air from within the chamber. Multiple negative pressure pulsation (1-99 times) + cross pressure pulsation (1 time) + positive pressure pulsation (1-3 times) mode is adopted to reduce the alternating load of the sterilizer and improve the fatigue life of the equipment.
- ✓ The steam condenser is fitter in the exhaust / vacuum line to condense the steam before entering inside the vacuum pump.

Maintenance system

Special design for a unique maintenance information prompt function, to remind user of maintenance, including change door gasket, clean and change filter, lubrication and maintenance of door lifting mechanism, wiping main body regularly.

Fault alarm system

Perfect fault information prompt and fault self-diagnosis

function..

GMP & Certificates

Equipped with standard GMP verification port. Certificate: CE, ISO9001, ISO13485, ASME, FDA, IEC60601-1, DQ, IQ, PQ, OQ, FAT, SAT, material certificate, calibration certificate, PI&D.

Advanced configuration

All major components are world famous brand, stable performance, reliability and long service life.



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Safety system

- ✓ Low water cutoff sensor
- ✓ Mechanical pressure relief safety valve for chamber and jacket
- ✓ Over-pressure protective device
- ✓ Over-temperature protective device
- ✓ Protective measure device of door safety
- ✓ Interlock function device
- ✓ Door safety interlock device: The program can't start up when the door is not closed well. When the pressure of chamber is not 0, the door can't be opened. The door cannot be opened when the machine is running.
- ✓ Perfect fault alarm and fault self-diagnosis function
- ✓ Emergency stop button
- ✓ Two doors cannot be opened at the same time

Alarm system

- ✓ Alarm system with sound and indicator light device.
- ✓ Door is not closed in place alarm.
- ✓ Chamber over-pressure can not open the door alarm.
- ✓ Chamber low-pressure can not open the door alarm.
- ✓ Chamber over-temperature can not open the door alarm.
- ✓ Chamber over-temperature alarm.
- ✓ Chamber low-temperature alarm.
- ✓ Door interlock alarm.
- ✓ Door opening and closing overtime alarm.
- ✓ Door not closed can not start program alarm.
- ✓ Program running can not open the door alarm.
- ✓ Door overload or blocked alarm.
- ✓ Door is not closed to open the chamber steam inlet valve alarm.
- ✓ Chamber low temperature and high temperature alarm during sterilization process.
- ✓ Emergency stop alarm.
- ✓ Water lacking alarm.
- ✓ Anti-dry burning alarm for electric heat pipe of steam generator.
- ✓ Sterilization failure alarm.
- ✓ Vacuum pump overload or blocked alarm.
- ✓ Sensor detection abnormality alarm.



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Main Material

| | |
|--|--|
| <ul style="list-style-type: none"> ● Number of Door <input type="checkbox"/> Single-door <input checked="" type="checkbox"/> Double-door | <ul style="list-style-type: none"> ● Door Type <input checked="" type="checkbox"/> Motorized door <input type="checkbox"/> Automatic vertical sliding door |
| <ul style="list-style-type: none"> ● Side Cover <input checked="" type="checkbox"/> With side cover <input type="checkbox"/> Without side cover | <ul style="list-style-type: none"> ● Steam Source <input type="checkbox"/> External steam supply <input checked="" type="checkbox"/> Built-in steam generator, AISI 304 |
| <ul style="list-style-type: none"> ● Material of Chamber + Jacket <input type="checkbox"/> AISI 304 + AISI 304 <input type="checkbox"/> AISI 316 L+ AISI 304 <input checked="" type="checkbox"/> AISI 316L + AISI 316L | <ul style="list-style-type: none"> ● Loading Method <input type="checkbox"/> Loading tray <input checked="" type="checkbox"/> Loading cart and transfer trolley <input type="checkbox"/> Floor trolley loading |
| <ul style="list-style-type: none"> ● Material of Pipeline <input type="checkbox"/> AISI 316 L+ AISI 304 <input checked="" type="checkbox"/> AISI 316L | <ul style="list-style-type: none"> ● Material of Door <input type="checkbox"/> AISI 304 <input checked="" type="checkbox"/> AISI 316L |
| <ul style="list-style-type: none"> ● Material of Water Tank <input checked="" type="checkbox"/> AISI 304 <input type="checkbox"/> AISI 316L | <ul style="list-style-type: none"> ● Voltage <input checked="" type="checkbox"/> 380V, 3-Phase <input type="checkbox"/> 220V, 3-phase <input type="checkbox"/> 440V, 3-Phase |
| <ul style="list-style-type: none"> ● Optional Configuration <input type="checkbox"/> Remote monitoring system | <ul style="list-style-type: none"> ● Frequency <input checked="" type="checkbox"/> 50Hz <input type="checkbox"/> 60Hz |

Note: means current configuration



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Single-Door/Double-Door Horizontal Pulsating Vacuum Autoclave Motorized Door

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Main Configuration

- ✓ Sterilization capacity: 1200L/1500L
- ✓ Type: Front loading horizontal autoclave
- ✓ Class: Class B
- ✓ Door number: Single-door/Double-door
- ✓ Door type: Motorized door
- ✓ Liquid ring vacuum pump, Pre-vacuum and Post-vacuum
- ✓ Control: PLC + HMI + Printer
- ✓ Display: 7 inch color touch screen
- ✓ Built-in printer
- ✓ Built-in steam generator
- ✓ Built-in feed pump and water tank
- ✓ Loading: Loading cart and Transfer trolley
- ✓ Language: English, Spanish, Chinese
- ✓ Warranty: 3 years

Main Parameters

- ✓ Design pressure: -0.1/0.3Mpa
- ✓ Design temperature: 150°C
- ✓ Working temperature range: 105°C-139°C
- ✓ Working pressure range: 0-0.25Mpa
- ✓ Temperature control accuracy: $\leq \pm 0.2^\circ\text{C}$
- ✓ Temperature display accuracy: 0.1°C
- ✓ Sterilization time range: 0-999min
- ✓ Drying time range: 0-999min
- ✓ Vacuum rate: -97Kpa
- ✓ Temperature equilibrium: $\leq \pm 0.5^\circ\text{C}$
- ✓ Safety valve open pressure: 0.28Mpa
- ✓ Water source: 0.15-0.3MPa
- ✓ Steam pressure: 0.2-0.6Mpa
- ✓ Compressed air source: 0.4MPa-0.7MPa



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| Program | Sterilization Temperature | Sterilization Time | Drying Time |
|-----------------------------------|---------------------------|--------------------|-------------|
| Unwrapped instruments | 134°C | 6 mins | 8 mins |
| Wrapped instruments | 134°C | 7 mins | 15 mins |
| Textile program | 134°C | 7 mins | 15 mins |
| Implant program | 134°C | 10 mins | 15 mins |
| Liquid program | 121°C | 20 mins | No |
| Rubber | 121°C | 20 mins | 15 mins |
| Hollow | 134°C | 6 mins | 10 mins |
| Prions | 134°C | 18 mins | 15 mins |
| PCD | 134°C | 3.5 mins | 5 mins |
| Bowie-Dick test | 134°C | 3.5 mins | 5 mins |
| Gravity program | | √ | |
| High vacuum program | | √ | |
| User-defined cycle | | √ | |
| Vacuum test | | √ | |
| Fast program | | √ | |
| Auxiliary program | | √ | |
| Manual control /Automatic control | | √ | |

Note 1: Users can adjust parameters of all pre-set cycles as required.

Note 2: Users can set up new cycles through user-defined cycles.

Note 3: We can pre-set new cycles according to user needs.

| Model | Chamber size (W×H×D) | Outer size (W×H×D) | Steam Consumption (kg/cycle) | Water Consumption (kg/cycle) | Net Weight (kg) | Power (kw) |
|------------|---------------------------|--------------------|------------------------------|------------------------------|-----------------|------------|
| YR0HSP1200 | 1200L 680*1180*1500 mm | 1420*2000*1800 mm | 65 | 600 | 1650 | 76 |
| YR0HSP1500 | 1500L 680*1180*1850 mm | 1420*2000*2100 mm | 80 | 750 | 1850 | 94 |



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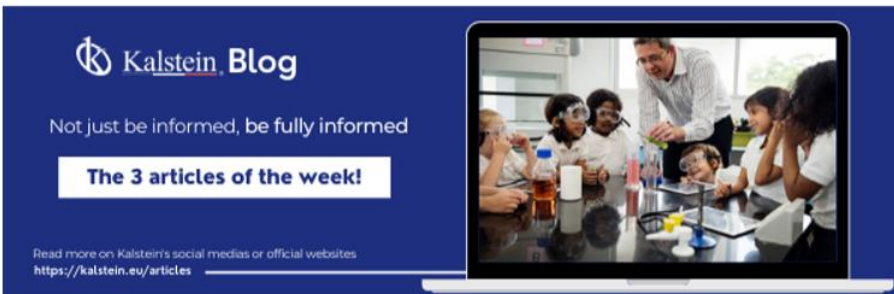
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