



## WHAT IS YOUR LOAD TYPE?

### Glassware

It is necessary to autoclave scientific glassware items to ensure the sterilization of surfaces. There are many glass items used within the laboratory environment but most, if not all, will require effective sterilization on a routine basis.

Some examples of popular laboratory glassware include conical and volumetric flasks, beakers, test tubes, graduated cylinders, watch glasses and more.

It is generally recommended to use borosilicate or quartz glassware, which can better withstand the stresses of high autoclave temperatures and pressures.

### Unwrapped instruments

Unwrapped instruments are usually items such as those used in examinations and operations for medical, dental, veterinary, beauty and ophthalmology. However it can also include selected equipment used for performing laboratory experiments.

Sometimes it may be necessary to sterilize larger items such as apparatus or metal cages, and these would also generally be processed as unwrapped instruments.

## FAQs

### When might I need to use a Load Support Plate?

A Load Support Plate is necessary to hold the load contents above heaters in chamber (for Top Loading autoclaves) if a basket or discard container isn't being used.

## THE CHALLENGES

### Challenges of glassware and unwrapped instrument loads

There are a number of considerations when using an autoclave to sterilize glassware. Most obviously, avoiding glass breakage or shattering within the chamber.

Empty glassware should never be sealed where high vacuum is used to dry sterilized glassware.

Care should be taken when loading and unloading to avoid damage, overcrowding or scalding.

Drying of glassware loads to remove condensate can be accommodated (if required).

All types of instrument loads benefit from drying at the end of the cycle. Unwrapped instruments can be dried by the heating of the surrounding air at the end of the cycle.

Post vacuum systems on small capacity bench-top units will improve drying, whilst a jacketed pressure vessel is strongly recommended on larger capacity units.

### Recommended options

- **Baskets And Morrison Containers** – available in various shapes and sizes to ensure glassware is safely contained for easy loading and unloading from the autoclave.

### Vacuum options

- **Advanced Vacuum (AVC001)** – will significantly improve steam penetration and effective air removal, and with the addition of a Heated Jacket will also assist with the removal of condensate at the end of the cycle should dry loads be required.
- **Basic Vacuum System (AVC002)** – is only applicable to standard autoclaves with heaters in the chamber, or direct steam models. It is ideal for situations where improved air removal is required, such as for vacuum cooling of unwrapped items.



## CHOOSING AN AUTOCLAVE BY LOAD TYPE

# GLASSWARE

Glassware and unwrapped instruments



## ASTELL RECOMMENDED PRODUCTS\*



### Top Loading Range

95 – 135 litres

- Vertical chamber with gas strut assisted door and fast-action locking mechanism
- Size optimised baskets and discard containers ensuring maximum chamber usage. Optional integral hoist for heavy loads
- Compact design with castors for easy movement
- Full range of options comparable with much larger machines

### Front Loading Range

120 – 344 litres

- Horizontal chamber provides easy loading access
- 5 standard chamber sizes up to 344 litres in capacity
- All units feature Astell's 'Swiftlock' secure door closure system
- Optional shelves and discard containers provide chamber loading flexibility

### SQUARE Range

125 – 735+ litres

- A choice of 7 standard chamber sizes and either a manual or automatic door
- Integral Steam Generator fitted as standard
- Fully customizable design built to customer requirements
- Ideal for high throughput laboratories

\*Please note these are suggested model ranges. Other products and options are available. Please contact us for a personal recommendation, providing a description of the load type(s).

### Product highlights

All Astell autoclaves have the following features:

'Heaters in chamber' models have 'media holdwarm', a feature that uses the heaters to hold sterilized media at a set temperature until it is to be used.

Autoclaves are manufactured to the principles of the Medical Devices Directive and in accordance with Pressure Equipment Directive (PED 2014/68/EU) and ISO 9001:2015 quality standards.

5.7" colour touchscreen controller with USB connectivity; allows users to edit cycle parameters, store and recover historic cycle data, add security levels with user passwords and more.

316L-grade stainless steel pressure vessels with electro-polished finish.

LSPT probe features 316L stainless steel conduit to protect the probe whilst inside the autoclave, and during unloading/unloading.

Industry-standard safety features to ensure the well-being of both the sterilizer and its operators; including external pressure gauge, over pressure and over temperature protection, a safety-linked door mechanism and thermally insulated doors.

**Optional** stainless steel pipework and panel work if required.

**Optional** controller software that meets the guidelines of FDA 21 CFR Part 11 Electronic Records; Electronic Signature final rule legislation.

### When asking for a quotation...

Remember to answer these four questions when asking for a quotation.

- What size of autoclave do you need?
- What items will you (or your customer) be sterilizing?
- Does the load need to be dry at the end of the cycle?
- How many cycles do you wish to run per day?



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