

ICOS is present on the international markets with a wide range of steam sterilizing autoclaves.

The wide experience acquired at ICOS in over 30 years of activity enables us to offer an extremely diversified product capable of meeting the requirements of the most varied applications and satisfy the strict standards of the pharmaceutical industry (FDA, cGMP, GAMP 5, etc.).

These machines are identified as follows:

- STEAM AUTOCLAVE WITH HINGED DOORS, AV/L SERIES
- STEAM AUTOCLAVE WITH SLIDING DOORS, AV/S SERIES

FIELD OF APPLICATION

This range of machines is used for sterilizing steam-resistant materials such as: vials, bottles, glass items, fabric materials, sealed or vented containers, rubber parts, machine parts, filters, etc.



LOADING SIDE - TYPE AV/S 914B

MAIN FEATURES

- ICOS sterilizing chambers made of round or rectangular cross section and provided with full jacket
- Chamber bottom fitted with guides for moving the product loading carts
- Machine body insulated with high density ceramic material and covered by 304 stainless steel sheet
- Doors of hinged and sliding type (vertical or side sliding)
- Sliding doors driven by an electromechanical system made in compliance with the requirements for the clean areas
- Discharge-side door interfaced for sterile environments
- External sheeting of machine with appropriate panelling
- Machine supported by a frame designed for a suitable load distribution on the floor
- Sterilizer equipped with connections required for the validation tests
- The unloading side door is equipped with a system interfacing with clean areas (bio-seal flange)

CONSTRUCTION FEATURES

- The machine body and associated safety devices are manufactured and tested in compliance with the standards required by the country of destination. Unless there is a specific request, the machines and systems are manufactured in compliance with the European (PED) or American (ASME) standards
- The machine body is completely of AISI 316L stainless-steel construction, with the exception of the jacket, which, in the standard version, is made of AISI 304 stainless steel
- Support frame of AISI 304 stainless steel
- External panelling made of AISI 304 stainless steel
- All the machine components are of sanitary type
- In the standard version, the door seal is ensured by a pneumatically pressurized silicone gasket
- Upon request, the door gasket can be made of an automatic pressure-sealing type. This system ensures the seal of the door in any condition of operation
- The chamber inside surface, the piping and all parts in contact with the product are polished to a degree of roughness $\leq 0,5 \mu\text{m}$

AUTOMATIC LOADING AND UNLOADING

When special conditions call for automating the loading and unloading operations, ICOS can provide a range of solutions compatible with customer requirements.



LOADING SIDE - TYPE AV/S 914A



LOADING SIDE - TYPE AV/S 601A

CONTROL SYSTEM

The AV/L and AV/S series machines are provided with a control system made up of a programmable controller (PLC), operating panel (OP) or industrial computer (PC) and printer. The control system manages the machine and its basic parameters, such as temperature, F0, and pressure; it allows an easy interfacing with the operator and makes it possible to customize the working cycles and maintenance operations. The system provides a complete process documentation and assists in the validation procedures.

Note: A full description of the control system is contained in the brochure.

All ICOS machines comply to the most updated standards in the quality of the materials used, their accurate finish, constructions and process characteristics.

NORMS AND STANDARDS

The new ICOS autoclaves are in compliance with the following Norms and Directives:

Governing directive/standard for pressure vessels:

- 97/23/EC (PED)
- ASME code Sec. VIII Div. 1

Technical norms/standards:

- EN 285
- 2004/108/EC
- 2006/42/EC
- cGMP
- UL, NEMA 4X, OSHA



CONTROL BOARD

PRE-DEFINED PROGRAMS

Library of standard "SERVICE" programs:

- Program # 1: Vacuum leak test
- Program # 4: Machine SIP
- Program # 5: Bowie & Dick test

Library of optional "SERVICE" programs:

- Program # 4: Automatic sterilization of machine and vacuum brake filter (SIP)
- Predisposition for Automatic integrity test of vacuum brake filter (W.I.T.)

Library of standard "WORKING" programs:

- Program # 70: Fractioned vacuum

Library of optional "WORKING" programs:

- Program # 10: Pharmacy with rapid cooling by shower and counter-pressure
- Program # 20: Pharmacy with gravity purge and counter-pressure
- Program # 30: Pharmacy with rapid cooling by shower and counter-pressure + seal test by vacuum crush
- Program # 40: Pharmacy with cooling by water injection in the jacket and counter-pressure
- Program # 50: Air + steam mixture and counter-pressure
- Program # 60: Tyndalization
- Program # 80: Pharmacy with natural cooling
- Program # 90: Slow heating with drying by slow vacuum
- Pharmacy with drying by hot air

AV/L SERIES - STEAM AUTOCLAVES - DOORS OF HINGED TYPE

Type	Capacity (litres / cu. ft.)	Chamber dimensions (mm / inches)				Overall dimensions (mm / inches)		
		Diameter	Width	Height	Length	Width	Height	Length
AV/L 500	195 / 7	500 / 19.5			1000 / 39	1200 / 47	2160 / 85	1285 / 50.5
AV/L 601A	435 / 15.5	885 / 34.5	660 / 26	660 / 26	1000 / 39	1200 / 47	2160 / 85	1580 / 62
AV/L 601B	545 / 19	885 / 34.5	660 / 26	660 / 26	1250 / 49	1200 / 47	2160 / 85	1830 / 72
AV/L 603A	690 / 24.5		660 / 26	1050 / 41	1000 / 39	1200 / 47	2160 / 85	1580 / 62
AV/L 603B	830 / 29		660 / 26	1050 / 41	1250 / 49	1200 / 47	2160 / 85	1830 / 72
AV/L 801A	770 / 27	1100 / 43	800 / 31.5	800 / 31.5	1000 / 39	1900 / 75	2160 / 85	1580 / 62
AV/L 801B	965 / 34	1100 / 43	800 / 31.5	800 / 31.5	1250 / 49	1900 / 75	2160 / 85	1830 / 72
AV/L 811A	1000 / 35		800 / 31.5	1100 / 43	1050 / 41	1900 / 75	2160 / 85	1630 / 64
AV/L 811B	1150 / 40.5		800 / 31.5	1100 / 43	1350 / 53	1900 / 75	2160 / 85	1930 / 76
AV/L 811C	1400 / 49.5		800 / 31.5	1100 / 43	1630 / 64	1900 / 75	2160 / 85	2210 / 87
AV/L 811D	1650 / 58		800 / 31.5	1100 / 43	1890 / 74.5	1900 / 75	2160 / 85	2470 / 97
AV/L 811E	1900 / 67		800 / 31.5	1100 / 43	2160 / 85	1900 / 75	2160 / 85	2740 / 108
AV/L 811F	2100 / 74		800 / 31.5	1100 / 43	2430 / 95.5	1900 / 75	2160 / 85	3010 / 118.5
AV/L 914A	2000 / 70.5		900 / 35.5	1450 / 57	1630 / 64	2100 / 82.5	2400 / 94.5	2210 / 87
AV/L 914B	2800 / 99		900 / 35.5	1450 / 57	2160 / 85	2100 / 82.5	2400 / 94.5	2740 / 108
AV/L 914C	3500 / 123.5		900 / 35.5	1450 / 57	2700 / 106	2100 / 82.5	2400 / 94.5	3280 / 129
AV/L 1217A	4550 / 160.5		1250 / 49	1700 / 67	2160 / 85	2800 / 110	2700 / 106	2740 / 108
AV/L 1217B	7000 / 247		1250 / 49	1700 / 67	3300 / 130	2800 / 110	2700 / 106	3880 / 152.5

AV/S SERIES - STEAM AUTOCLAVES - DOORS OF VERTICAL OR SIDE SLIDING TYPE



Type	Capacity (litres / cu. ft.)	Chamber dimensions (mm / inches)				Overall dimensions (mm / inches)		
		Diameter	Width	Height	Length	Width	Height	Length
AV/S 601A	435 / 15.5	885 / 34.5	660 / 26	660 / 26	1000 / 39	1200 / 47	2160 / 85	1580 / 62
AV/S 601B	545 / 19	885 / 34.5	660 / 26	660 / 26	1250 / 49	1200 / 47	2160 / 85	1830 / 72
AV/S 603A	690 / 24.5		660 / 26	1050 / 41	1000 / 39	1200 / 47	2160 / 85	1580 / 62
AV/S 603B	830 / 29		660 / 26	1050 / 41	1250 / 49	1200 / 47	2160 / 85	1830 / 72
AV/S 801A	770 / 27	1100 / 43	800 / 31.5	800 / 31.5	1000 / 39	1900 / 75	2160 / 85	1580 / 62
AV/S 801B	965 / 34	1100 / 43	800 / 31.5	800 / 31.5	1250 / 49	1900 / 75	2160 / 85	1830 / 72
AV/S 811A	1000 / 35		800 / 31.5	1100 / 43	1050 / 41	1900 / 75	2160 / 85	1630 / 64
AV/S 811B	1150 / 40.5		800 / 31.5	1100 / 43	1350 / 53	1900 / 75	2160 / 85	1930 / 76
AV/S 811C	1400 / 49.5		800 / 31.5	1100 / 43	1630 / 64	1900 / 75	2160 / 85	2210 / 87
AV/S 811D	1650 / 58		800 / 31.5	1100 / 43	1890 / 74.5	1900 / 75	2160 / 85	2470 / 97
AV/S 811E	1900 / 67		800 / 31.5	1100 / 43	2160 / 85	1900 / 75	2160 / 85	2740 / 108
AV/S 811F	2100 / 74		800 / 31.5	1100 / 43	2430 / 95.5	1900 / 75	2160 / 85	3010 / 118.5
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