

Benchtop autoclaves with drying

AHS-DRY Series CLASSICLINE

Technical information



Why choose RAYPA?

Expert manufacturer, original design, global brand



GLOBAL REACH

With half a century of experience, we have a long list of satisfied customers around the world. Currently, we export 85% of our annual turnover and have a stable network of distributors with presence in over 100 countries.



EFFICIENT TECHNICAL SERVICE

Our team of highly qualified technicians and engineers is expert in our products. If you experience a technical issue, it will be our priority to rectify it. When you purchase a RAYPA unit, you're guaranteed top-level support and technical assistance.



EXPERT MANUFACTURER

After more than 45 years in the industry, RAYPA is a global leader in the manufacture of laboratory autoclaves. Each of our autoclaves is designed and manufactured entirely within our modern facility equipped with the latest technology



FULL AND CUSTOMIZABLE RANGE

We offer an extensive portfolio of laboratory autoclaves to cover multiple applications and market segments. Discover the combination of autoclave model and accessories that best fits your needs within our 11 series and 35 available models.



INNOVATION AND QUALITY

Our products feature advanced technology, ongoing innovation, superior construction quality, and are designed for a long service life. Our technical and engineering staff works tirelessly every day to optimize our products and exceed our customers' expectations.



COMPREHENSIVE CONSULTANCY

Our team of specialists assesses each project and provides guidance to clients on the option that best suits their requirements. After the sale, we offer training on the use and recommended maintenance of each unit to ensure its optimal operation and extend its lifespan.

Benchtop autoclaves with drying

The AHS-DRY Series benchtop autoclaves with front-loading access cover most laboratory sterilization needs in many industries, educational institutions and research facilities with the aim of increasing the productivity of the laboratory. A great chamber capacity, the final drying feature and the independent water tank, together with the optimization of resources such as water, power and operating time, results in a cost-efficient solution to manage laboratory workload.

RECOMMENDED APPLICATIONS



Glassware



Plastics and metal objects



Laboratory waste bags



Liquids and culture media



Porous solids and wrapped objects*

*For this application, the sterilization time should be extended, the chamber should not be fully loaded and chemical and/or biological tests should be used to validate the correct sterilization of the load.



MAIN FEATURES

COST-EFFECTIVE SOLUTION

AHS-DRY Series autoclaves are robust autoclaves with excellent performance for liquids and solids sterilization procedures. The vacuum drying feature by a heating jacket and vacuum pump at the end of the sterilization cycle eliminates the need of an external equipment to dry the load, significantly reducing the duration of each sterilization rotation and saving the operator time.

MULTIPLE TYPES OF STERILIZATION CYCLES

Several options available to perform solids or liquids sterilization. Programmable final vacuum drying for the sterilization of solids, initial prevacuum for the sterilization of objects of complex geometries and programmable temperature holding at the end of the cycle for the sterilization of culture media. Optional flexible probe for liquids sterilization.

EASY INSTALLATION AND MAINTENANCE

Every AHS-DRY Series autoclave is a plug and play equipment that does not need dedicated installation connections. They simply need a power source and can work even without a connection to the drainage. They include a manually fed independent water tank that automatically feeds the sterilization chamber. Optional upgrade to fully automatic water feed directly from water network.

SAFETY FIRST

AHS-DRY Series autoclaves are equipped with several features to ensure the safety of the operators. These include an overpressure safety valve, a thermally insulated door, a safety thermostat, an open door detection system, and independent pneumatic safety system that locks the main door while positive pressure exists inside the sterilization chamber.

ADVANTAGES

Final vacuum drying feature by a heating jacket and Suitable to sterilize wrapped and unwrapped loads, **???** • small porous and hollow objects and items of vacuum pump to completely dry solid loads. complex geometries with cavities* thanks to the initial standard prevacuum phase. Sterilization chamber and door made of high quality stainless steel grade AISI-316L extremely resistant to corrosion. Automatic water feed to the sterilization chamber from the independent water tank, with water level sensors included in both locations. Optional upgrade Equipment built following all applicable European to fully automatic water feed directly from water CE Union quality, regulatory and safety standards. network. Heating by powerful electric elements made of Programmable auto-start for up to 24 h. Incoloy® 825 assembled inside the sterilization chamber and shielded by a protective grid. Optional software for sterilization data management. Control by a PID microprocessor with 4 predefined and 6 editable programs, adjustable by time, temperature, Plug and play equipment, no plumbing required. drying time and type of sterilization cycle (solids or liquids, with optional agar mode and/or core probe control). Optional integrated or external printer. Adjustable temperature holding at the end of the sterilization cycle between 40-80°C (agar mode).

OPERATING PRINCIPLE

AHS-DRY Series autoclaves provide a solution for the multiple sterilization needs of general laboratories, including glassware, plastics, metal utensils, laboratory waste bags, wrapped and unwrapped solids, small porous and hollow objects, liquids, culture media and other laboratory items.

The load has to be placed into the vessel's trays or basket and, after manually filling the independent water tank with purified water, the equipment starts to create the initial prevacuum, automatically feeds water to the sterilization chamber, heats up and purges until the set combination of sterilization time and temperature is reached.



OPERATION OF A STERILIZATION CYCLE FOR SOLIDS

PREVACUUM PHASE

- · In this initial step, the equipment's vacuum pump mechanically removes air from the chamber and load through a single vacuum pulse of -0,75 Bargs. This allows the steam to penetrate load objects of complex geometries that couldn't otherwise be reached with a simple displacement of the air by gravity.
- Afterwards, the independent water tank starts to supply water to the sterilization chamber and the heating jacket turns on, preheating the load.

HEATING PHASE

 After completing the prevacuum phase and once the bottom of the sterilization chamber has been filled with water, the powerful heating elements assembled at the bottom of the sterilization chamber heat up dramatically, transferring energy to the water to produce saturated steam throughout the chamber.

STERILIZATION PHASE

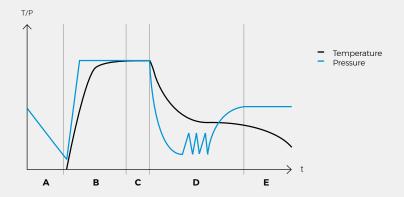
 Upon reaching the set sterilization temperature inside the chamber, the sterilization phase begins, accurately sustaining the temperature throughout the duration of this phase. • This crucial step is controlled by a PT-100 Class A temperature probe located within the chamber. As an option for liquids sterilization processes, this phase can be regulated by a PT-100 Class A flexible temperature probe located inside a sample.

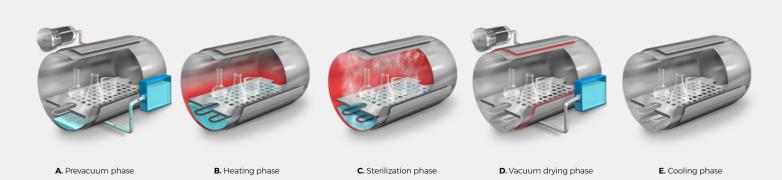
VACUUM DRYING PHASE

 Once the sterilization phase is finished, only for solids programs, vacuum drying starts, where multiple vacuum pulses occur while the heating jacket is turned on, completely drying the load and automatically returning the water to the independent water tank.

COOLING PHASE

- Once the vacuum drying phase is completed, natural cooling begins and an acoustic beep will sound when a safe temperature is reached that allows the chamber to be opened.
- In liquid programs with agar mode activated, the equipment will hold the preprogrammed temperature indefinitely, selectable between 40 and 80°C.





PREDEFINED PROGRAMS

Program No.	$\begin{array}{c} \textbf{Sterilization temperature} \\ ^{\circ}\textbf{C} \end{array}$	Sterilization time min	Drying time min	Program mode
P0	115	60	12	Solids
P1	121	30	25	Solids
P2	133	20	30	Solids
P3	121	20	-	Liquids

AHS-DRY Series autoclaves have 10 programs, from P0 to P9, and the first four are predefined and protected.

The rest of the programs, from P4 to P9, can be edited by adjusting the following parameters:

- · Sterilization temperature.
- · Sterilization time.
- · Final drying time.
- · Sterilization mode (solids or liquids).
- Sterilization with temperature holding at the end of the cycle (agar mode).
- Temperature regulation of the sterilization cycle can be done through the chamber temperature probe or through the combined use of the chamber probe and the flexible probe.

DIGITAL MICROPROCESSOR

Digital PID microprocessor with 6 push-buttons for an easy programming and parameters selection.



SCREEN FUNCTIONS

The alphanumeric screen, apart from showing the standard sterilization parameters, also displays the current sterilization phase and several visual alerts, including warning or error messages. The available languages include English, Spanish, French and Catalan. For other languages please contact us.



LOADING CAPACITIES



ISO ERLENMEYER FLASKS

		(250mL Ø85 x 143mr	n)	((500mL Ø105 x 183m	m)	((1000mL Ø131 x 230m	m)	((2000mL Ø166 x 280m	m)
Autoclave model	Usable volume L	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units
AH-21-L	21	1	8	8	1	4	4	0	0	0	0	0	0
AHS-50-DRY	50	1	14	14	1	8	8	1	5	5	1	2	2
AHS-75-DRY	75	1	26	26	1	15	15	1	8	8	1	3	3



ISO BOTTLES

		(250mL Ø70 x 143mr	n)	(500mL Ø80 x 185mi	m)	(1	1000mL Ø101 x 230m	ım)	()	2000mL Ø136 x 260m	m)
Autoclave model	Usable volume L	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units	Total baskets	Units / basket	Total units
AH-21-L	21	1	8	8	1	8	8	0	0	0	0	0	0
AHS-50-DRY	50	2	20	40	1	14	14	1	8	8	1	5	5
AHS-75-DRY	75	2	32	64	1	26	26	1	15	15	1	8	8

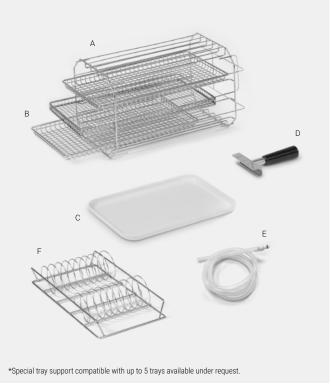
The data contained within these tables, regarding load capacities, serves as a non-binding guide to assist you in the selection of the most appropriate autoclave model.

COMPONENTS SUPPLIED



AH-21-L

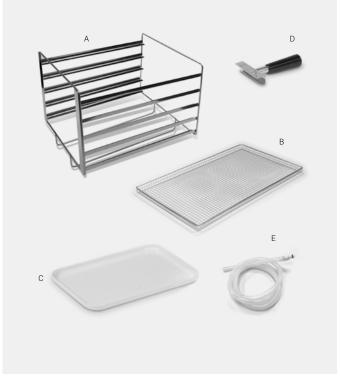
- A. Stainless steel tray support for 4 trays*.
- B. 3 stainless steel wire trays.
- C. Auxiliary plastic tray for collecting condensed water after opening the door in cycles without final drying.
- D. Holding clamp to move the trays.
- E. Silicone tube of 1m with quick connection to drain the independent water tank.
- F. Stainless steel bag support.
- Stainless steel protecting grid for the heating elements.





AHS-50-DRY and AHS-75-DRY

- A. Stainless steel tray support for 5 trays.
- B. 2 stainless steel wire trays.
- C. Auxiliary plastic tray for collecting condensed water after opening the door in cycles without final drying.
- D. Holding clamp to move the trays.
- E. Silicone tube of 1m with quick connection to drain the independent water tank.
- Stainless steel protecting grid for the heating elements.

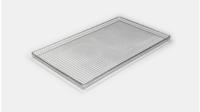




ACCESSORIES

STAINLESS STEEL WIRE TRAYS

References		BAH-21	BAH-50 B	BAH-75 B
External dimensions L x D mr	n	190 x 350	315 x 330	315 x 530
Maximum capacity for	22 L	4 or 5	-	-
autoclaves with the following	55 L	-	5	-
chamber volumes	79 L	-	-	5
*Special tray support compatible w			-	5



STAINLESS STEEL WIRE HORIZONTAL BASKET

	RB-AH-21	RB-AHS-50	RB-AHS-75
Exterior L x D x H mm	170 x 340 x 180	324 x 360 x 235	324 x 560 x 235
Interior L x D x H mm	160 x 330 x 170	314 x 350 x 225	314 x 550 x 225
22 L	1	-	-
55 L	-	1	-
79 L	-	-	1
	Interior LxDxHmm 22 L 55 L	Exterior L x D x H mm 170 x 340 x 180 Interior L x D x H mm 160 x 330 x 170 22 L 1 55 L -	Exterior L x D x H mm 170 x 340 x 180 324 x 360 x 235 Interior L x D x H mm 160 x 330 x 170 314 x 350 x 225 22 L 1 - 55 L - 1



STAINLESS STEEL BAG HOLDER SUPPORT*

180 x 95
00 x 30
20
-
4
6



STAINLESS STEEL CONTAINERS WITH FILTER ON THE LID

*Possibility of adapting the size of this accessory according to the needs of each customer. For more information, please contact us.

References		FC-215	FC-331	FC-338
Dimensions	Exterior L x D x H mm	285 x 185 x 65	300 x 300 x 110	300 x 300 x 85
Dimensions	Interior L x D x H mm	275 x 175 x 55	290 x 290 x 100	290 x 290 x 75
Maximum capacity for	22 L	2	-	-
autoclaves with the following	55 L	6	2	2
chamber volumes	79 L	9	2	2



ACCESSORIES



FLEXIBLE TEMPERATURE PROBE PT-100 CLASS A

After installing this accessory, the temperature regulation of the sterilization cycle can be controlled by the main chamber temperature probe or both the main chamber temperature probe and the flexible temperature probe.

The temperature control by the flexible temperature probe is especially advantageous for processes involving the sterilization of large volumes of liquids, where the sterilization process is regulated by both the temperature achieved in the center of the liquid sample as well as the temperature achieved in the sterilization chamber Furthermore, should the autoclave be opened at chamber temperatures higher than 80°C there is a risk of liquids boiling over which can be avoided if the temperature of the sample is controlled throughout the sterilization procedure.

Must be installed at our factory.

Ref. PT-2-AH



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EXTERNAL MATRIX PRINTER

Prints program number, cycle number, temperature, time, date and hour and error messages

Selectable print frequency between 10 and 240 seconds.

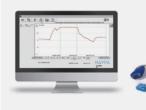
Connection: RS-232.

Requires factory adaptation.

Consumables: PAPER-ITS for paper and 70945 for ink ribbon



Download technical data sheet



SW7000 SOFTWARE

Communication software between the equipment and the PC that allows the visualization and recording in real time or after each cycle. Cycles can also be exported to Excel or printed.

Connection to PC via RS-232.

It is supplied with a RS-232 cable, a USB stick that includes the software and installation drivers, and a RS-232 to USB

Ref. SW7000



EMBEDDED THERMAL PRINTER

Prints program number, cycle number, temperature, time, date and hour and error messages.

Selectable print frequency between 10 and 240 seconds.

Must be installed at our factory.

Consumable: PAPER-IT for paper



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CABLE GLAND

Installation of a Ø2mm or Ø4mm cable gland to provide access to as many as eight external temperature probes for calibration and validation procedures.

Ref. CG2MM and CG4MM



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ACCESSORIES



BENCHTOP AUTOCLAVE TABLE

Stainless steel table with casters (with brakes on two of them).

Designed to accommodate any model of benchtop autoclave, including larger models.

Dimensions (LxDxH): 800x900x800mm.

Ref. TABLE-AHS



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TRANSPORT TROLLEY

Auxiliary trolley to aid in the loading and unloading of the autoclave.

Made of chrome iron and plastic.

The surface of each shelf is textured to prevent the load from moving.

Rubber-coated casters to reduce noise and prevent floor wear.

Dimensions (LxDxH): 730x490x700mm

Ref. TR-TR



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AUTOMATIC WATER FILLING

Water pump to automate the supply of the tank with purified water. Compatible with installations that have a purified water network, a purified water tank or installations with a non-purified water network; in the latter case a water purifier (ECOPUR-500) and a purified water tank (TANK-KLL) will be required.

Must be installed at our factory.

Ref. KLL-21 and KLL-AHS



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ECO-EFFICIENT WATER PURIFIER

Direct flow eco-efficient water purifier without water accumulation capable of filtering 1,3L/min with LED display.

The installation of this accessory requires the joint installation of the external tank (TANK-KLL) and the automatic water filling system (KLL-AHS or KLL-21).

Ref. ECOPUR-500



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PURIFIED WATER TANK

Alternative solution for the storage of up to 25L of purified water in the absence of a water network.

Ref. TANK-KLL



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ACCESSORIES



Temperature data logger

Temperature recorder in AISI-316L stainless steel disk format with connection base and software.

Recommended for autoclave validation and for monitoring the internal temperature of vessels.

Available in various sizes.

Ref. VAL-DL



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PACK OF STERILIZATION TAPE

Class 1 indicator for steam sterilization. The color change indicates that the materials have been processed, but this is not a guarantee of a correct sterilization. Additional methods such as biological indicators are required (EN ISO 11138).

Pack of 5 rolls of 50m x 19mm tape.

Ref. TEST-CT



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SPECIFIC SERVICES



IQ-OQ DOCUMENTATION

Delivery of documentation and protocols for autoclave qualification through a third party.

Ref. IQ-OQ DOC



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IQ-OQ-PQ QUALIFICATION

Autoclave qualification service performed by RAYPA technicians or authorized entities. It covers the startup of the equipment and the comprehensive qualification of its performance.

Ref. IQ-OQ-PQ



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CALIBRATION CERTIFICATE FOLLOWING ENAC TRACEABILITY STANDARDS

Unitary certification of proper equipment calibration and performance in compliance with international

Ref. MAPEO-ENAC



MAPPING OF STABILITY AND **HOMOGENEITY**

Generation of documentary evidence certifying that the temperature and pressure distribution within the autoclave is uniform and stable, in accordance with the manufacturer's design specifications.

Ref. MAP-3, MAP-7 and MAP-9



ON-SITE COMMISSIONING & TRAINING

On-site commissioning, which includes verification of the correct operation and installation of the equipment and a training session for users on the use and maintenance of the equipment.

Ref. INSAE



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REMOTE COMMISSIONING & TRAINING

Guided remote startup including a training session for users on the operation and maintenance of the equipment.

Ref. INSAE-REM



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MAINTENANCE CONTRACT

Regular inspection plan that includes technical inspection, probe calibration and compliance with the preventive maintenance plan, in addition to tariff

Ref. MANT-1.4 and MANT-1.5



EXTENDED WARRANTY

Extended warranty up to a total of 3 vears

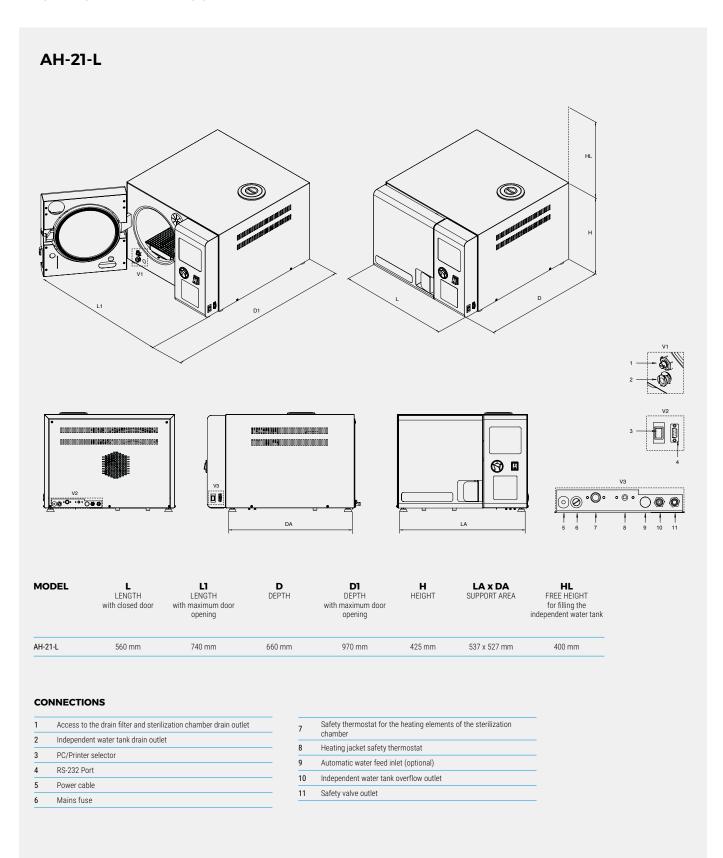
Ref. WE-CL



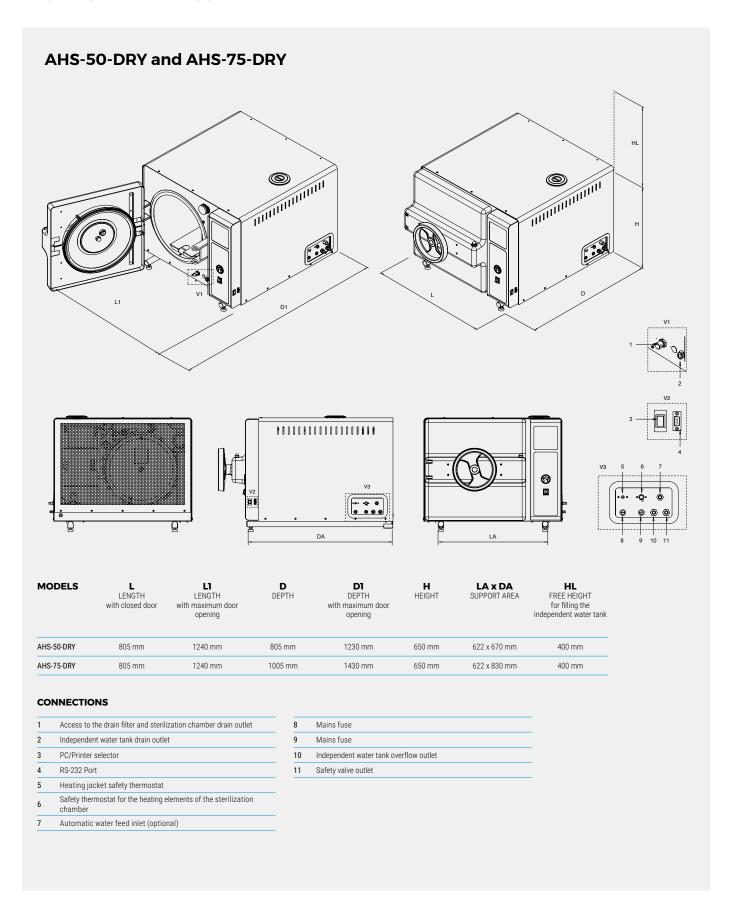
SET OF CONSUMABLES, **SPARE PARTS AND ESSENTIAL COMPONENTS**

Set of spare parts, consumables and original components selected to meet the maintenance plan of each model with the aim of maximizing the lifespan of the equipment and minimizing downtime in the event of a breakdown.

TECHNICAL DRAWINGS



TECHNICAL DRAWINGS



TECHNICAL BRIEF

vailable	e models		AH-21-L AHS-50-DRY a AHS-75-DRY		
		Recommended setting	General laboratory		
5	0	Equipment placement	Benchtop		
\$	General classification	Load direction	Frontal		
		Chamber profile	Round		
		Glassware	++		
		Plastics and metal objects	++		
Щ.	Recommended type of load	Laboratory waste bags	++		
		Liquids and culture media	++		
		Porous solids and wrapped loads	+		
		Steam generation method	Heating elements		
7)	Sterilization technology features	Type of purge	Vacuum		
		Vacuum drying by heating jacket and vacuum pump	✓		
1))	Transfer of data	RS-232	✓		
<u></u>		Integrated printer	0		
=1]	Batch printers	External printer	0		
		Sterilization chamber volume	22 L 55 - 79 L		
		External building materials	Metallic & AISI-304		
		Sterilization chamber material	AISI-316L		
		Heating elements material	Incoloy® 825		
		Gasket material	Silicone rubber		
N	Sterilization chamber	Sterilization temperature min max.	100 - 134°C		
، رك	and door specifications	Maximum pressure (above atmospheric pressure)	2,1 Barg		
		Mechanism to open the door	Handle Wheel		
		Direction in which the door opens	Frontal		
		Automatic locking with pressure	~		
		Thermally insulated door	*		
		Screen display	Digital LCD		
		Screen size	2 lines x 16 digits		
٦٦	User interface and	Total number of available programs	10		
	microprocessor	Automatic microprocessor control	···		
		Timer start	·		
		Agar mode (temperature holding after cycle ends 40-80°C)	·		
Ď.	Special cycles and process				
4	optimization	Final vacuum drying (to completely dry solid loads) Temperature control by flexible probe	0		
		Agar mode	40 - 80°C		
		Temperature of sterilization phase	100 - 134°C		
٠.		Duration of sterilization phase			
Ũ.	Adjustable cycle parameters	Duration of drying phase	1 - 250 min		
			3 - 99 min		
		Temperature control by flexible probe	On/Off		
		Sterilization mode (solids or liquids).	<u> </u>		
		Air inlet with bacteriological filter	✓		
		Independent water tank capacity	6L 10L		
+)	Other specifications	Flexible temperature probe	0		
\oplus		Rubber feet	✓		
		Pressure gauge	✓		
		Custom electrical features (115-230M V / 230-400T V)	0		

^{+:} Recommended ✓: Included 0: Optional

TECHNICAL DATA







Specifications

References	AH-21-L	AHS-50-DRY	AHS-75-DRY
Total/usable volume of the chamber L	22/21	55/50	79/75
Usable dimensions of the chamber Ø max. x D mm	210 x 430	360 x 400	360 x 600
Volume of the built-in water tank L	6	10	10
External dimensions L x D x H mm	560 x 660 x 425	805 x 805 x 650	805 x 1005 x 650
Maximum number of trays	4 or 5	5	5
Tray size L x D mm	190 x 350	315 x 330	315 x 530
Net weight Kg	49	109	126
Power W	2000	2800	3200
Standard voltage* V	230	230	230
Frequency Hz	50/60	50/60	50/60

^{*}Other voltages and electrical configurations available on request.

Safety features

- · Safety valve.
- · Safety thermostats with manual rearm for the heating jacket and the heating elements.
- · Pneumatic door blocking system while positive pressure exists inside the sterilization chamber.
- · Open door sensor.
- · Thermally insulated door.
- · Water level detector in the sterilization chamber.
- · Water level detector (min.- max.) in the independent water tank with overflow drainage.
- · Bacteriological filter for air inlet.
- · Heating elements cover.
- Several visual and acoustic safety and warning alarms.

Regulations

All our AHS-DRY Series autoclaves are designed to comply with the strictest international directives and standards, including the following regulations:

- EN-61010-1 Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.
- EN-61010-2-040 Part 2-040: Requirements for laboratory autoclaves.
- EN-61326 Electrical equipment for measurement, control and laboratory use. EMC requirements.
- · AD 2000 Merkblatt Pressure vessels.
- · 2014/35/EU Low voltage.
- 2014/30/EU Electromagnetic compatibility.
- 2014/68/EU Pressure equipment.

General features

Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water	General leatures	
Adjustable drying time Max. pressure 2,1 Barg Sterilization control system Fully automatic microprocessor control by chamber temperature probe or flexible temperature probe Mechanical displacement by vacuum pump Vacuum drying system Vacuum pump plus heating jacket Single prevacuum pulse system Vacuum pump Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Adjustation chamber Pusaurum pump Vacuum pump Alsi-316L stainless steel AISI-316L stainless steel AIS	Adjustable sterilization temperature	100 - 134 °C
Max. pressure 2,1 Barg Sterilization control system Fully automatic microprocessor control by chamber temperature probe or flexible temperature probe Air purge system Mechanical displacement by vacuum pump Vacuum drying system Vacuum pump plus heating jacket Single prevacuum pulse system Vacuum pump Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure display Pressure gauge on control panel Water management Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water feed directly from water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Adjustable sterilization time	1 - 250 min
Sterilization control system Fully automatic microprocessor control by chamber temperature probe or flexible temperature probe Air purge system Mechanical displacement by vacuum pump Vacuum drying system Vacuum pump plus heating jacket Single prevacuum pulse system Vacuum pump Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Fully automatic microprocessor control by chamber temperature probe of flexible temperature probe Air purge system pump Mechanical displacement by vacuum pump Vacuum pump Vacuum pump AISI-316L stainless steel Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Adjustable drying time	3 - 99 min
Air purge system Mechanical displacement by vacuum pump Vacuum drying system Vacuum pump plus heating jacket Single prevacuum pulse system Vacuum pump Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Mechanical displacement by vacuum pump Vacuum pump Vacuum pump Vacuum pump Vacuum pump Vacuum pump AISI-316L stainless steel Incoloy® 825 Silicone rubber RS-232 Connection to PC RS-232 Connection to PC RS-232 Connection to PC RS-232 Connection to Suser free) Programmable auto-start Up to 24 h Screen type LCD display Opening door Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Max. pressure	2,1 Barg
Vacuum drying system Vacuum pump plus heating jacket Single prevacuum pulse system Vacuum pump Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Sterilization control system	
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Sterilization chamber material AISI-316L stainless steel Heating elements material Incoloy® 825 Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Vacuum drying system	Vacuum pump plus heating jacket
Heating elements material Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Independent manually clean the drainage filter and drain the sterilization chamber	Single prevacuum pulse system	Vacuum pump
Gasket material Silicone rubber Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Silicone rubber Up to 24 h Screen type LCD display Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Sterilization chamber material	AISI-316L stainless steel
Connection to PC RS-232 Connection to printer RS-232 or integrated Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Pressure display Drainage system RS-232 RS-23	Heating elements material	Incoloy® 825
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Number of programs 10 (4 preset and 6 user free) Programmable auto-start Up to 24 h Screen type LCD display Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system 10 (4 preset and 6 user free) Prosure feed in swiveling door Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values. Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Connection to PC	RS-232
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Screen type LCD display Opening door mode Front-loading swiveling door Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system Drainage system Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Number of programs	10 (4 preset and 6 user free)
Opening door mode Front-loading swiveling door Monitoring of sterilization parameters Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Programmable auto-start	Up to 24 h
Monitoring of sterilization parameters Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically returns to the independent water tank after an automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network.	Screen type	LCD display
Pressure display Pressure gauge on control panel Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system automatically interrupted if obtained values differ from programmed values automatically feed the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system Drainage system Drainage system	Opening door mode	Front-loading swiveling door
Water management Independent manually filled water tank that automatically feeds the sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage system Drainage system Drainage system Independent manually filled water tank that automatically feeds the independent water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Monitoring of sterilization parameters	Self-control of obtained values (T° & t) vs programmed values. Cycle is automatically interrupted if obtained values differ from programmed values
Water management sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water feed directly from water network. Drainage connections for both drainage and overflow of the independent water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Pressure display	Pressure gauge on control panel
Drainage system water tank and a screw to manually clean the drainage filter and drain the sterilization chamber	Water management	sterilization chamber. Water automatically returns to the independent water tank after the cycle is completed. Optional upgrade to fully automatic water
Feet Feet with resistant rubber	Drainage system	water tank and a screw to manually clean the drainage filter and drain the
	Feet	Feet with resistant rubber

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