

AE-B SERIES - INSTALLATION GUIDE

Information to consider before installing your RAYPA autoclave.

INDEX

Electrical connection (Standard)	Page 2
Electrical connection (North America)	Page 3
Connections graph	Page 4
Components included	Page 5
Drainage connections	Page 6
Semi-automatic water supply	Page 7
Automatic water supply	Page 8
Use of ECOPUR-500 in combination with AE-B Series autoclaves	Page 9
Integrated basket lift system installation.....	Page 10
Dimensions to consider	Page 14
Environmental conditions	Page 15
Recommended maintenance.....	Page 15

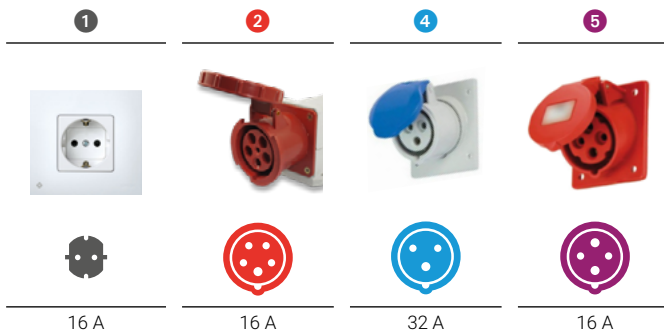


VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

ELECTRICAL CONNECTION STANDARD

The following table shows the plug configuration according to international IEC and SCHUKO standards. For customers requiring other plugs and other electrical configurations, please contact our technical service.

MODEL	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
AE-50-B	50/60 Hz	3600 W	15 A	230 (1P+N+PE) V	16 A ①
AE-50-B-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	32 A ④
AE-75-B	50/60 Hz	3600 W	15 A	230 (1P+N+PE) V	16 A ①
AE-75-B-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	32 A ④
AE-75-B-6K	50/60 Hz	6000 W	9 A	400 (3P+N+PE) V	16 A ②
AE-110-B	50/60 Hz	6000 W	9 A	400 (3P+N+PE) V	16 A ②
AE-110-B-9K	50/60 Hz	9000 W	13 A	400 (3P+N+PE) V	16 A ②
AE-110-B-220T	50/60 Hz	6000 W	15 A	230 (3P+PE) V	16 A ⑤
AE-110-B-220M	50/60 Hz	6000 W	26 A	230 (1P+N+PE) V	32 A ④
AE-150-B	50/60 Hz	6000 W	9 A	400 (3P+N+PE) V	16 A ②
AE-150-B-9K	50/60 Hz	9000 W	13 A	400 (3P+N+PE) V	16 A ②
AE-150-B-220T	50/60 Hz	6000 W	15 A	230 (3P+PE) V	16 A ⑤
AE-150-B-220M	50/60 Hz	6000 W	26 A	230 (1P+N+PE) V	32 A ④



VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

ELECTRICAL CONNECTION NORTH AMERICA

The following table shows the plug configuration according to the NEMA standard for the United States and other countries. For customers requiring other plugs and other electrical configurations, please contact our technical team.

Attention: The following table lists standard electrical configuration versions. The power of each model can be increased if needed. Furthermore, the voltage can be modified to suit other configurations if required. Moreover, certain models can be adjusted between single-phase and three-phase. Additionally, the provided NEMA plug can also be customized if needed.

MODEL	FREQUENCY	POWER	AMPERES / PHASE	VOLTAGE	CONNECTION
AE-50-B-115V-US	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	NEMA 5-50P 1
AE-75-B-115V-US	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	NEMA 5-50P 1
AE-110-B-220T-US	50/60 Hz	6000 W	15 A	230 (3P+PE) V	NEMA L15-20P 2
AE-150-B-220T-US	50/60 Hz	6000 W	15 A	230 (3P+PE) V	NEMA L15-20P 2

1



5-50R

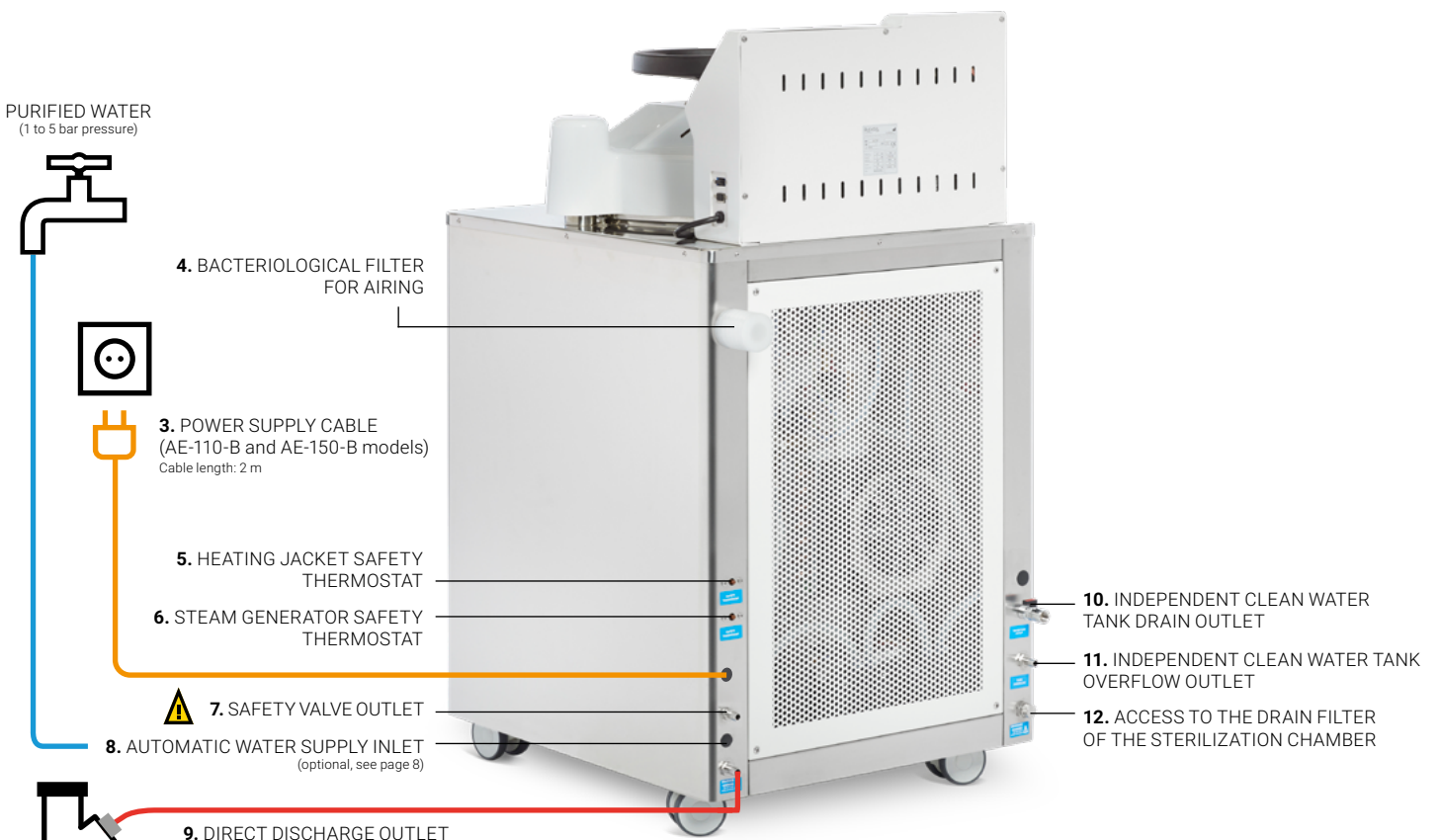
2




L15-20R

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

CONNECTIONS GRAPH

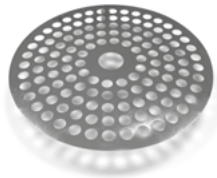


 **ATTENTION!**
Connections to drainage must be fixed properly. See note on page 6.

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

COMPONENTS INCLUDED

In addition to the accessories chosen at the time of purchase of the autoclave (baskets, tray supports, software kit, etc.), the following components are included:



1 stainless steel protective rack for the sterilization chamber, with legs to place it on the inner base of the sterilization chamber.

MODELS	DIAMETER Ø
AE-50-B	290 mm
AE-75-B	390 mm
AE-110-B	390 mm
AE-150-B	490 mm



1 bacteriological filter for air inlet.

For:

4. BACTERIOLOGICAL FILTER FOR AIRING



1 silicone hose with Ø5 x Ø8 mm and 1 m long for direct discharge. Clamps for holding the hose at both ends included.

For:

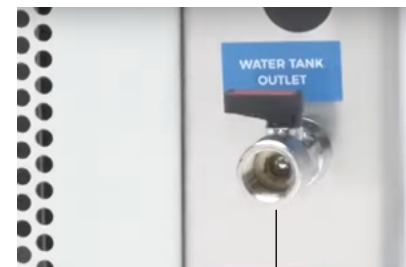
9. DIRECT DISCHARGE OUTLET

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

DRAINAGE CONNECTIONS

The AE-B Series autoclaves directly discharge to the drainage after finishing each cycle through the DIRECT DISCHARGE OUTLET **(9)**. If a drain is not available, an external TANK-B can be used for draining the equipment. For this purpose, the DIRECT DISCHARGE OUTLET **(9)** must be connected to the external TANK-B.

Another drainage connection, used only in exceptional situations, such as to reduce the weight during equipment transport, is the INDEPENDENT CLEAN WATER TANK DRAIN OUTLET **(10)**. If the clean water tank needs to be drained, a suitable container (tray, drum, etc.) should be placed under the INDEPENDENT CLEAN WATER TANK DRAIN OUTLET **(10)**. Then, the drain valve should be manually operated to allow the water to flow out completely.



10. INDEPENDENT CLEAN WATER TANK DRAIN OUTLET TAP

OTHER DRAINS

- 11.** INDEPENDENT CLEAN WATER TANK OVERFLOW OUTLET
- 12.** ACCESS TO THE DRAIN FILTER AND DRAINING OUTLET OF THE STERILIZATION CHAMBER

IMPORTANT NOTE:

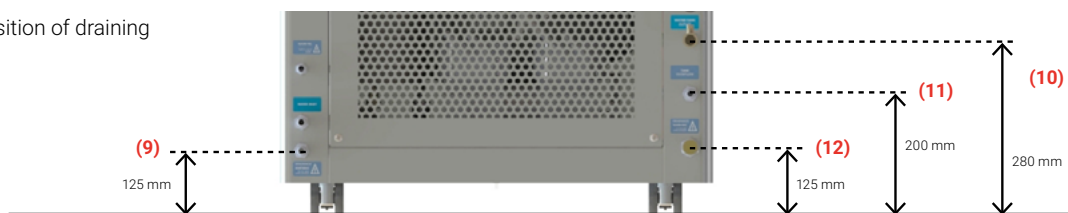
The drain of the direct discharge connection must withstand a temperature of about 120 °C, since when it is discharged directly in the outside, the steam from inside comes out at a minimum of 100 °C (PVC drains support up to 80 °C).



It is very important to properly fix the connections to the drain. During normal operation of the autoclave, pressure and high temperature in these hoses produce vibrations, so they can get loose if not correctly fixed to the drain and may cause burns.

CONSIDER:

Height and position of draining connections



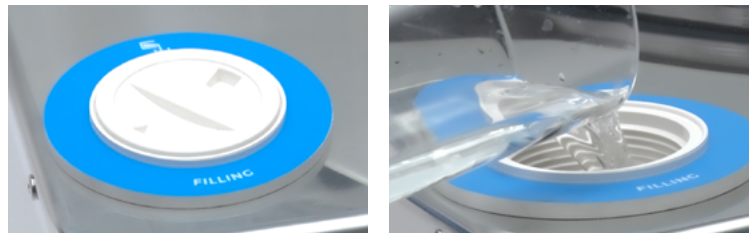
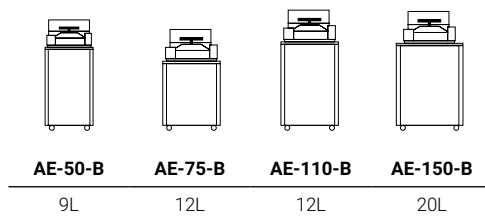
VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

SEMI-AUTOMATIC WATER SUPPLY

STANDARD

Purified water is necessary for the operation of the autoclave and is added manually into the independent clean water tank until the alarm (a "beep") is heard and the on-screen lack of water message disappears. Water distribution from the independent clean water tank into the sterilization chamber is automatic.

The independent clean water tank has a volume of 9L to 20L, depending on the model, and is equipped with minimum and maximum water volume sensors.



If the separate clean water tank is not filled sufficiently, an error message will appear on the screen and operation of the autoclave will be blocked. If overfilled, after hearing the alarm (a "beep"), the excess water will come out through the INDEPENDENT CLEAN WATER TANK OVERFLOW OUTLET **(11)**.

IMPORTANT NOTE:

PURIFIED WATER

The water used to feed the autoclave must be free of contaminants and meet the following hardness and conductivity requirements:

- Hardness: ≤ 0.02 mmol/l
- Conductivity: between $5 \mu\text{S}/\text{cm}$ and $15 \mu\text{S}/\text{cm}$

Multiple systems can be used to obtain water with these requirements: osmotized, demineralized, decalcified, distilled water, etc*.

*Note: Take into account that distilled water that is too pure (conductivity less than $5 \mu\text{S}/\text{cm}$) is not recommended as it may cause long term corrosion on stainless steel and water level detection problems in some models.

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

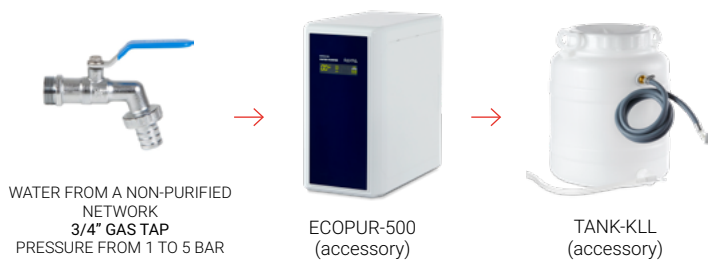
AUTOMATIC WATER SUPPLY

OPTIONAL

If you have chosen the **KLL-B** automatic water filling accessory (optional, but factory installed) there are the following water feed options **A**, **B**, and **C** using the AUTOMATIC WATER SUPPLY INLET connection **(8)**.

Autoclaves equipped with the KLL-B accessory will have both the filling of the independent water tank and the distribution of water into the sterilization chamber fully automated during normal operation of the autoclave.

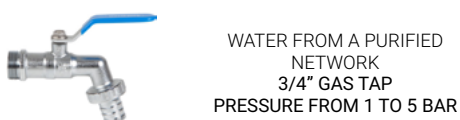
A. Use tap water (pressure from 1 to 5 bar) that goes through our ECOPUR-500 water purifier. Resulting water from the purifier will accumulate in a tank connected to the automatic water supply inlet of the autoclave.



B. Use a customer's purified water tank that will connect directly to the automatic water supply inlet of the autoclave.



C. Use water from a previously purified network (pressure from 1 to 5 bar) which will connect to the automatic water supply inlet of the autoclave.



KLL-B ACCESSORY
(installed inside of the AE-B autoclave)

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

USE OF ECOPUR-500 IN COMBINATION WITH AE-B SERIES AUTOCLAVES

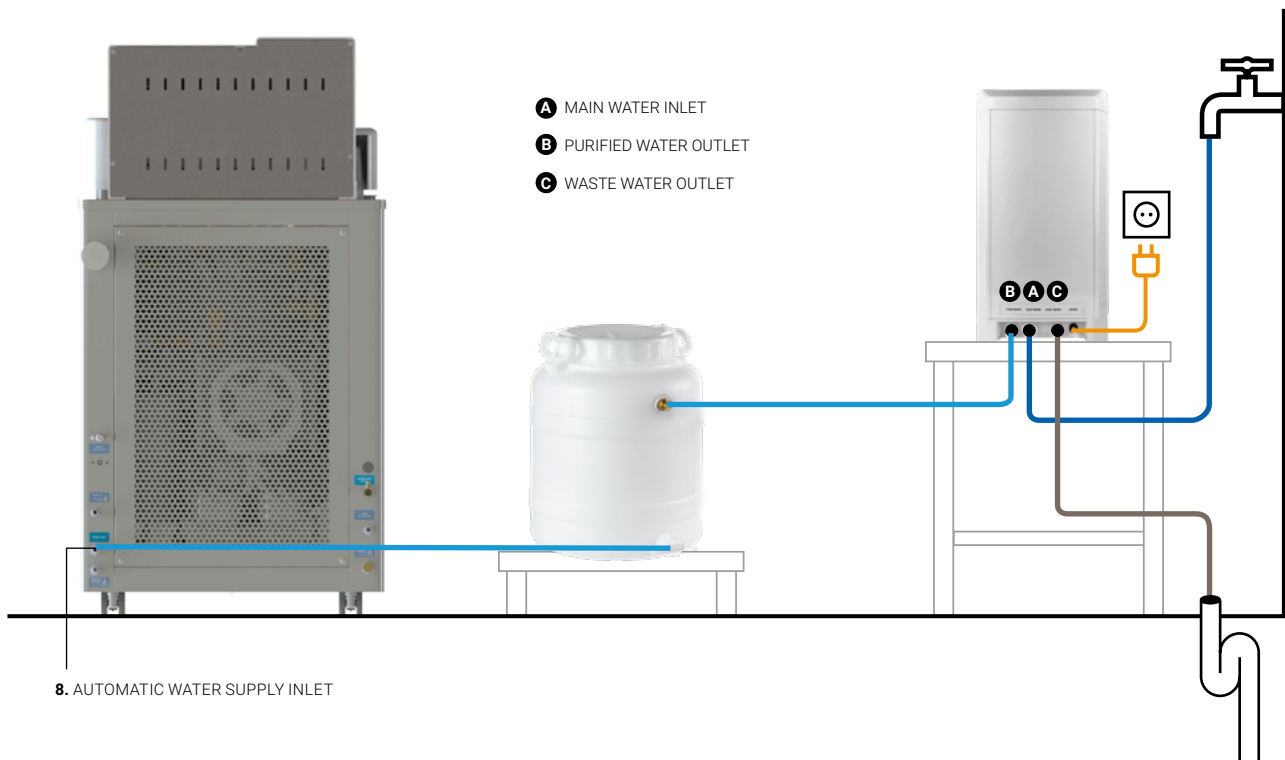
If you don't have a purified water main available where you intend to install the autoclave, we recommend using our ECOPUR-500 water purifier*.

The MAIN WATER INLET (A) must be connected from the purifier to a non-purified water main with the 1,2m hose (water temperature from the main must not exceed 38°C or be less than 5°C).

Water must be driven from the PURIFIED WATER OUTLET (B) to the AUTOMATIC WATER SUPPLY INLET (8) of the autoclave using the provided 1,2m hose.

Waste water must be driven from the WASTE WATER OUTLET (C) to a drain with the 1,2m provided hose.

Bear in mind that the inlet and drain hoses in the purifier must always be visible and in perfect working condition.



Read the specific manual before installing this accessory.

*It is recommended to use a single purifier for each autoclave. In case you would like to use the same purifier for more than one autoclave contact our technical support.

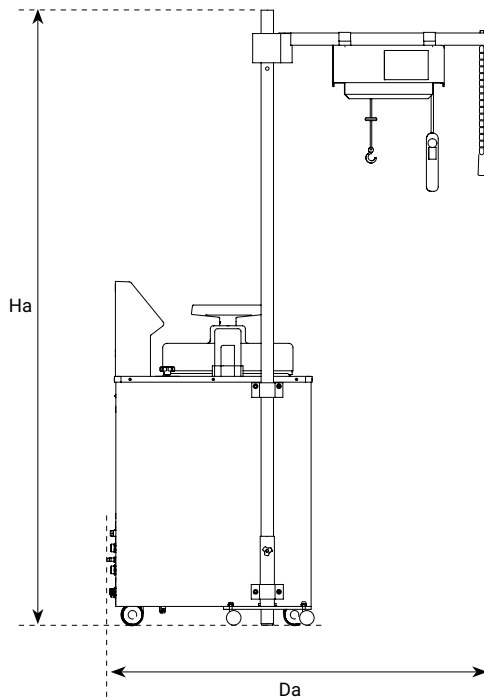
VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

INTEGRATED BASKET LIFT SYSTEM INSTALLATION

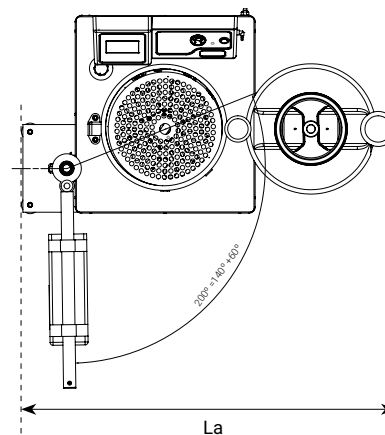
To ensure safe handling of baskets in larger-volume autoclaves, it is recommended to use a basket lifting crane with a rotating mast. For the AE-B Series autoclaves, the recommended models are the CLASSIC-LIFT and CLASSIC-LIFT-R cranes, compatible with loads of up to 30 and 40 kg, respectively.

REFERENCE	CRANE DIMENSIONS L x D x H	MAXIMUM LOAD PER BASKET	AUTOCLAVE MODEL COMPATIBILITY	DIMENSIONS OF THE CRANE + AUTOCLAVE SET La x Da x Ha
CLASSIC-LIFT	800 x 300 x 2100 mm	30 Kg	AE-75-B	1276 x 1296 x 2100 mm
			AE-110-B	1276 x 1296 x 2100 mm
CLASSIC-LIFT-R	800 x 300 x 2600 mm	40 Kg	AE-110-B	1276 x 1296 x 2600 mm
			AE-150-B	1543 x 1536 x 2600 mm

SIDE VIEW



PLAN VIEW

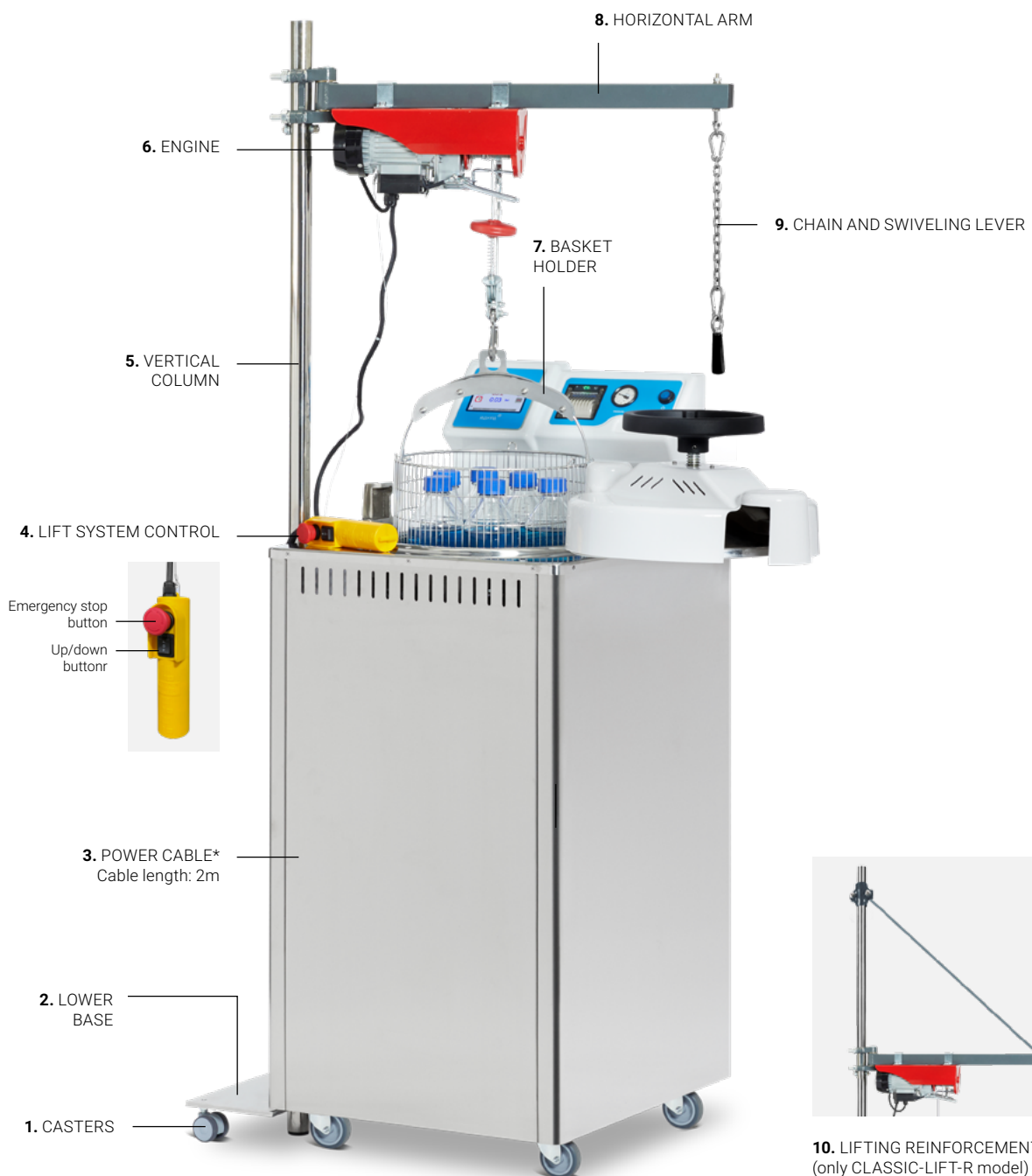


ATTENTION:

Each crane is factory-adjusted according to the specific measurements of the autoclave with which it is installed. In case you want to install a basket lift system after the purchase of the autoclave, please contact the technical service.

VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

INTEGRATED BASKET LIFT SYSTEM DESCRIPTION



SIMPLIFIED INSTALLATION GUIDE



ATTENTION

Read the specific manual of the integrated basket lift system before assembling, installing and handling this accessory.

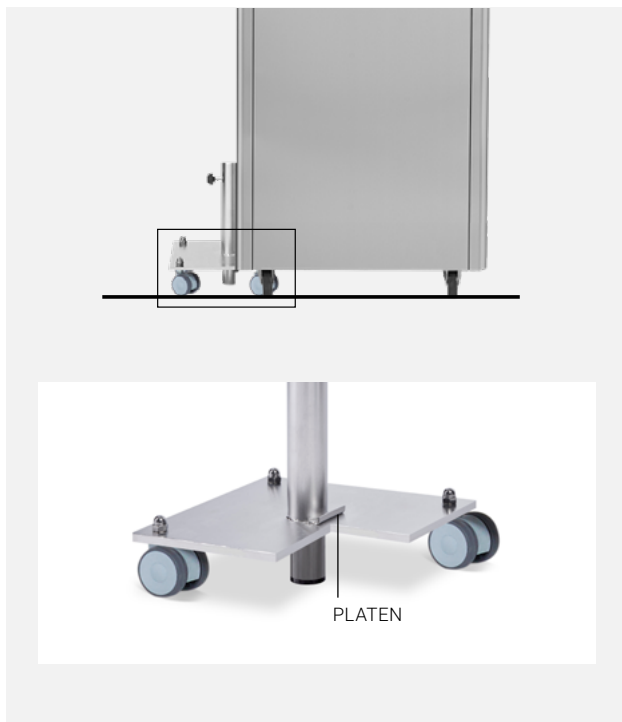
Step 1

Place the autoclave in the chosen working location and verify that it is placed on a stable surface.

You should also ensure the autoclave has the necessary boreholes on its left side to install the basket lift system. The height and distribution of these holes is factory set according to the specific purchased autoclave model.

After performing all the previous steps, install the lower support by embedding the platen into the autoclave base, in order to fasten the support into the furniture. The height of the lower base is factory set according to the specific purchased autoclave model.

This operation requires lifting the autoclave slightly sideways to introduce the platen beneath.



Step 2

Insert the vertical column and tighten the indicated screw to fasten the column.

Fasten the vertical column to the autoclave chassis with the metal flanges and screws supplied.

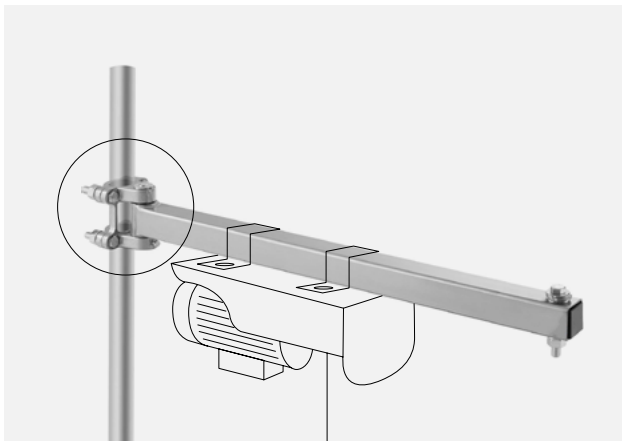


VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

Step 3

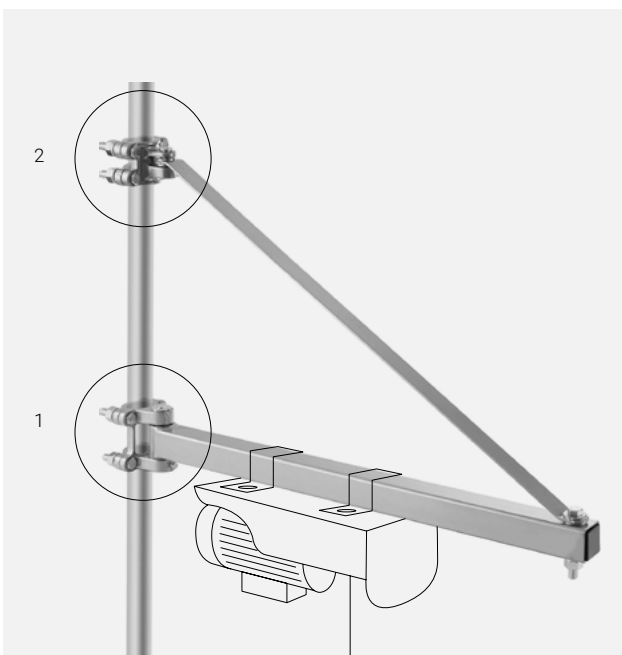
CLASSIC-LIFT model

Install the horizontal arm with the engine.



CLASSIC-LIFT-R model

First, install the horizontal arm with the engine (1). Then, screw the reinforcement bar (2).



Step 4

Once the assembly is complete, place a basket on the hook and check that the basket moves vertically in and out of the autoclave.



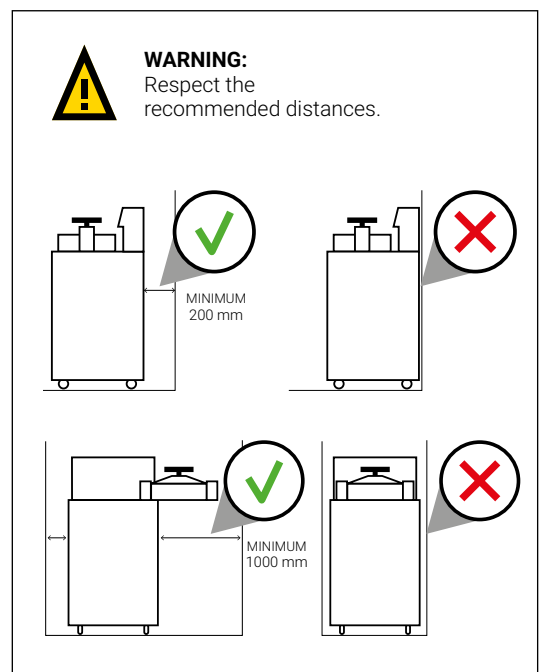
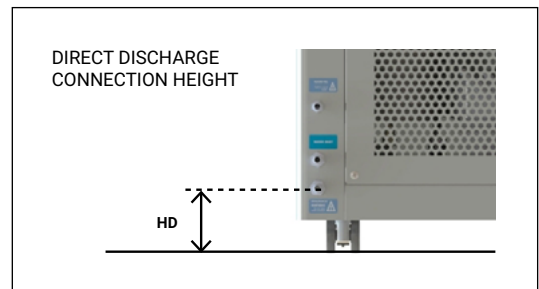
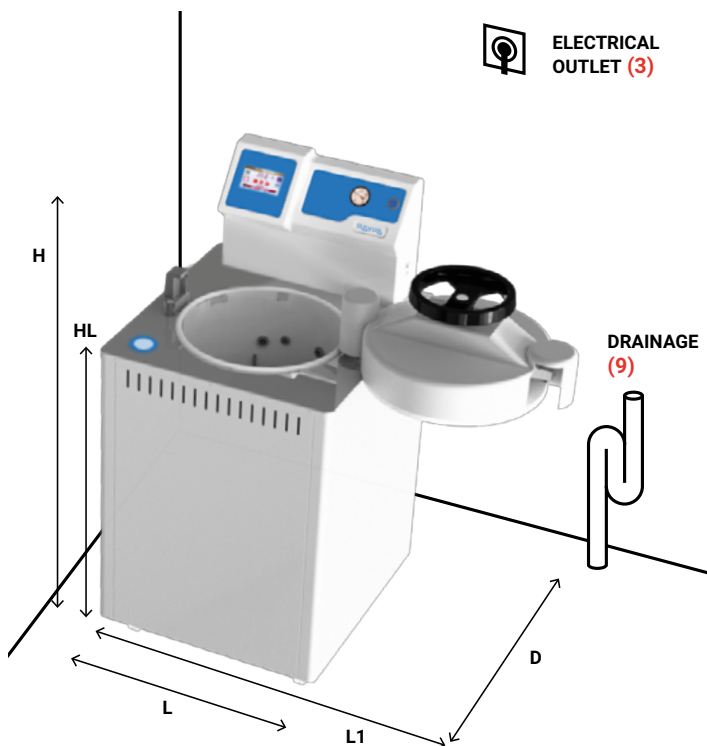
VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES



DIMENSIONS TO CONSIDER FOR THE INSTALLATION OF YOUR AUTOCLAVE

For safety reasons, the autoclave must maintain a minimum distance of 100 mm from the wall or any other object on the side opposite to the door opening, while on the side where the door opens, the minimum distance must be 1000 mm. Additionally, a minimum clearance of 200 mm must be maintained at the back.

MODELS	L LENGTH with closed door	L1 LENGTH with maximum door opening	D DEPTH	H HEIGHT	HL LOAD HEIGHT	HD DIRECT DISCHARGE CONNECTION HEIGHT
AE-50-B	505 mm	900 mm	580 mm	1290 mm	939 mm	125 mm
AE-75-B	610 mm	1100 mm	700 mm	1185 mm	834 mm	125 mm
AE-110-B	610 mm	1100 mm	700 mm	1435 mm	1084 mm	125 mm
AE-150-B	750 mm	1380 mm	820 mm	1400 mm	1043 mm	125 mm



VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

ENVIRONMENTAL CONDITIONS

This equipment can operate under the following maximum conditions:

- Ambient temperature: 30°C
- Humidity: 75%
- Altitude: 3000 meters above sea level. Please note that from 1000 meters above sea level, an adjustment of the purge parameter must be made. Consult with RAYPA technical team.

RECOMMENDED MAINTENANCE

Autoclaves are like cars: they need regular maintenance for them to work properly, to ensure good condition, prevent deterioration of its components, and maximize their useful life. Frequent cleaning and regular maintenance are essential, as autoclaves work at high pressures and temperatures and are therefore subject to a high level of stress.

For clients that perform multiple cycles each day, we recommend carrying out maintenance and cleaning tasks more frequently.

DAILY MAINTENANCE

Clean the gasket using a clean cotton cloth with a mild vinegar solution (or a comparable product) to reduce the formation of lime deposits.

Wipe the external surfaces with a clean cotton cloth moistened with water and a neutral detergent. Ensure all surfaces are thoroughly dried afterwards.



WEEKLY MAINTENANCE

Clean the sterilization chamber and all the components with a clean cotton cloth dampened with water and neutral detergent. Dry them after.

Empty the integrated water tank completely, removing all its contents, and then refill it exclusively with purified water.



MONTHLY MAINTENANCE

Carefully clean the discharge filter under running water, following the detailed instructions in the user and maintenance manual. If it is clogged with agar, hot water will be needed. If the filter cannot be restored, replace it with a new one.

ANNUAL MAINTENANCE

Autoclaves from the AE-B Series are equipped with a bacteriological filter, which should be replaced either upon reaching the recommended interval or when a filter blockage is detected.

Conducting a technical inspection is essential to ensure consistent process safety over time. It is necessary to periodically verify the thermodynamic process parameters (pressure and temperature), ensuring they remain within the accepted limits.



VERTICAL AUTOCLAVES WITH PREVACUUMS AND DRYING AE-B SERIES

TECHNICAL SUPPORT, ORIGINAL SPARE PARTS AND EXPERIENCED CONSULTING SERVICES

For an optimal operation of the autoclave, always use original spare parts and schedule periodically, with a specialized technician, the relevant maintenance tasks, such as calibration of the temperature and pressure sensors or replacement of the sterilization chamber door gasket.

Additionally, we provide a comprehensive range of services to ensure a satisfactory user experience throughout the entire lifespan of our products. These services include support and training programs, guided start-up and qualification services, preventive and corrective maintenance, periodic calibration, technical support and repairs, as well as consulting on special applications.

Should you encounter any issues, have questions, or require further information regarding maintenance of the AE-B Series autoclave, please don't hesitate to reach out to our technical support service using the following contact details.



Technical support

<https://www.raypa.com/en/contact/>
+34 937 830 720 (Ext. 2109)

more info

 YouTube



CLICK!
ACCESS THE
AE-B SERIES
VIDEO

Learn more about our AE-B Series autoclaves in our **YouTube channel**



REV 09.2024