RAYPA

Leading
Lab Technologies

VERTICAL AUTOCLAVES WITH SUPERDRYING SYSTEM

TLV-PD SERIES **TOP LINE**

TLV-PD SERIES - INSTALLATION GUIDE

Information to consider before installing your RAYPA autoclave.

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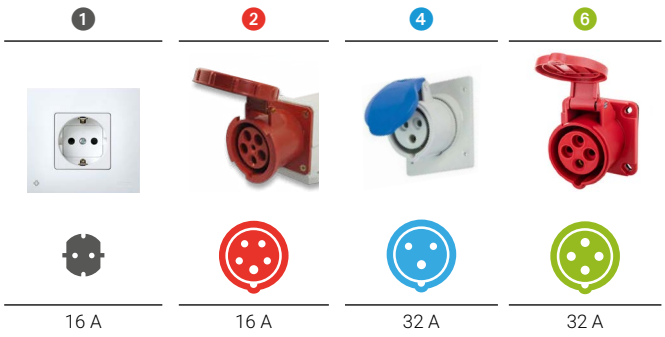
ELECTRIC CONNECTION EUROPEAN UNION

The following table shows the plug configuration according to international IEC and SCHUKO standards for most European Union countries. For customers requiring other plugs and other electrical configurations, please contact our technical team at raypa@raypa.com.

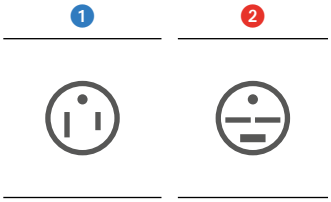
MODELS	FREQUENCY	POWER	AMPERES / PHASE	TENSION	CONNECTION
TLV-50PD	50/60 Hz	3600 W	15 A	230 (1P+N+PE) V	16 A 1
TLV-50PD-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	32 A 4
TLV-75PD	50/60 Hz	3600 W	15 A	230 (1P+N+PE) V	16 A 1
TLV-75PD-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	32 A 4
TLV-110PD	50/60 Hz	9000 W	13 A	400 (3P+N+PE) V	16 A 2
TLV-110PD-220T	50/60 Hz	9000 W	23 A	230 (3P+PE) V	32 A 6
TLV-110PD-6K-220M	50/60 Hz	6000 W	26 A	230 (1P+N+PE) V	32 A 4
TLV-150PD	50/60 Hz	9000 W	13 A	400 (3P+N+PE) V	16 A 2
TLV-150PD-220T	50/60 Hz	9000 W	23 A	230 (3P+PE) V	32 A 6
TLV-150PD-6K-220M	50/60 Hz	6000 W	26 A	230 (1P+N+PE) V	32 A 4



ELECTRIC 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 at raypa@raypa.com.

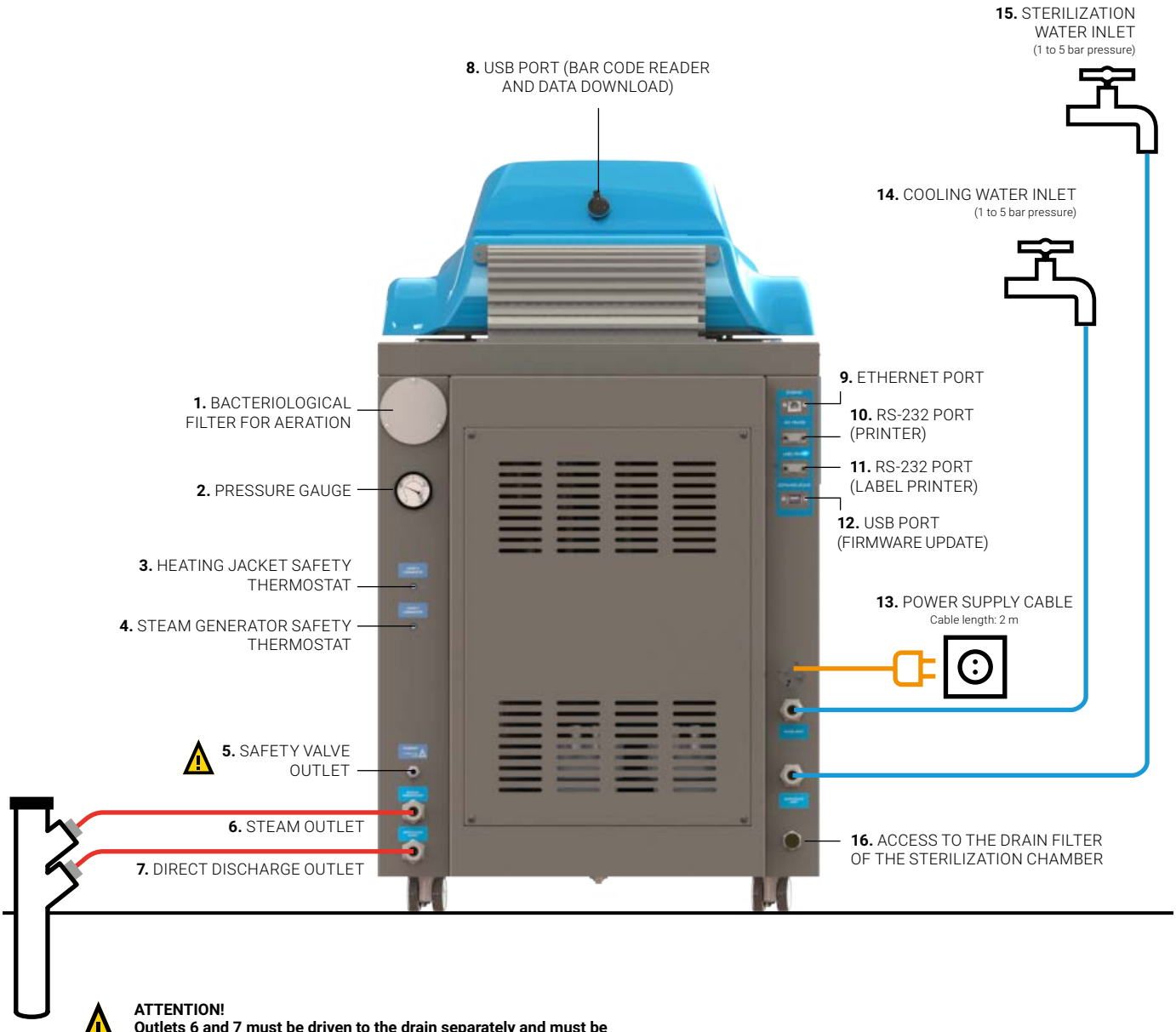
MODELS	FREQUENCY	POWER	AMPERES / PHASE	TENSION	CONNECTION
TLV-50PD-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	NEMA 5-50P 1
TLV-75PD-115V	50/60 Hz	3600 W	30 A	120 (1P+N+PE) V	NEMA 5-50P 1
TLV-110PD-220T	50/60 Hz	9000 W	23 A	230 (3P+PE) V	NEMA 15-30P 2
TLV-150PD-220T	50/60 Hz	9000 W	23 A	230 (3P+PE) V	NEMA 15-30P 2



VERTICAL AUTOCLAVES WITH SUPERDRYING SYSTEM

TLV-PD SERIES TOP LINE

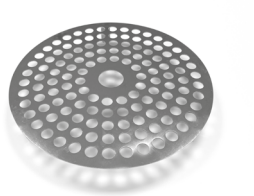
CONNECTIONS GRAPH



ATTENTION!
Outlets 6 and 7 must be driven to the drain separately and must be properly attached to it. See page 6.

COMPONENTS INCLUDED

In addition to the accessories chosen at the time of purchase of the autoclave (trays, label printer, ticket printer, bar code scanner, external server, etc) the following components are always 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
TLV-50PD	360 mm
TLV-75PD	360 mm
TLV-110PD	460 mm
TLV-150PD	460 mm

4 reinforced NBR hoses 2 m long with 3/4" connection at both ends for threaded connection to the equipment and tap (gaskets included).

For:
6. STEAM OUTLET
7. DIRECT DISCHARGE OUTLET
14. COOLING WATER INLET
15. STERILIZATION WATER INLET

DRAINAGE CONNECTIONS

TLV-PD Series autoclaves have two steam and liquid outlets to discharge the purge, regulate the internal pressure and expel the steam and condensates generated in each sterilization cycle. In addition, TLV-PD Series autoclaves have an active cooling system to cool these gas and liquid expulsions at high temperatures through the use of mains water.

Both the STEAM OUTLET **(6)** and the DIRECT DISCHARGE OUTLET **(7)** connections must be connected independently to a drain using the provided hoses.

IMPORTANT NOTE
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 the steam outlet and direct discharge connections.

MODEL	6 STEAM OUTLET	7 DIRECT DISCHARGE
TLV-50PD	170 mm	110 mm
TLV-75PD	180 mm	110 mm
TLV-110PD	190 mm	115 mm
TLV-150PD	190 mm	110 mm

WATER SUPPLY FOR STERILIZATION

AUTOMATIC SUPPLY (STANDARD)

TLV-PD Series autoclaves have an automated filling of the steam generator which generates steam during autoclave normal operation.

Purified water mus be used and supply options **A** and **B** are available using the STERILIZATION WATER SUPPLY connection **(15)**.

A. Use a water main (pressure from 1 to 5 bar) that goes through our ECOPUR-500 water purifier which will be connected to the water supply inlet of the autoclave.

WATER FROM A NON-PURIFIED NETWORK
3/4" GAS TAP
FROM 1 TO 5 BAR PRESSURE

ECOPUR-500
(accessory)

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

WATER FROM A PURIFIED NETWORK
3/4" GAS TAP
FROM 1 TO 5 BAR PRESSURE

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 µS/cm and 15 µS/cm

Multiple systems may be used to obtain water which fulfills these requirements: osmosis, demineralization, decalcification, etc*.

*Note: Take into account that distilled water that is too pure (conductivity less than 5 µS/cm) is not recommended as it may cause corrosion on stainless steel in the long term and water level detection problems.

WATER SUPPLY FOR COOLING

AUTOMATIC SUPPLY (STANDARD)

TLV-PD Series autoclaves have an active cooling system for the discharges and steam ejected from inside the sterilization chamber. To perform this function an adequate water main directly to the WATER INLET FOR COOLING **(14)**.

It is recommended to use soft or decalcified water to minimize the appearance of calcium buildup inside the pipes.

USE OF ECOPUR-500 ACCESSORY IN COMBINATION WITH TLV-PD AUTOCLAVES

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

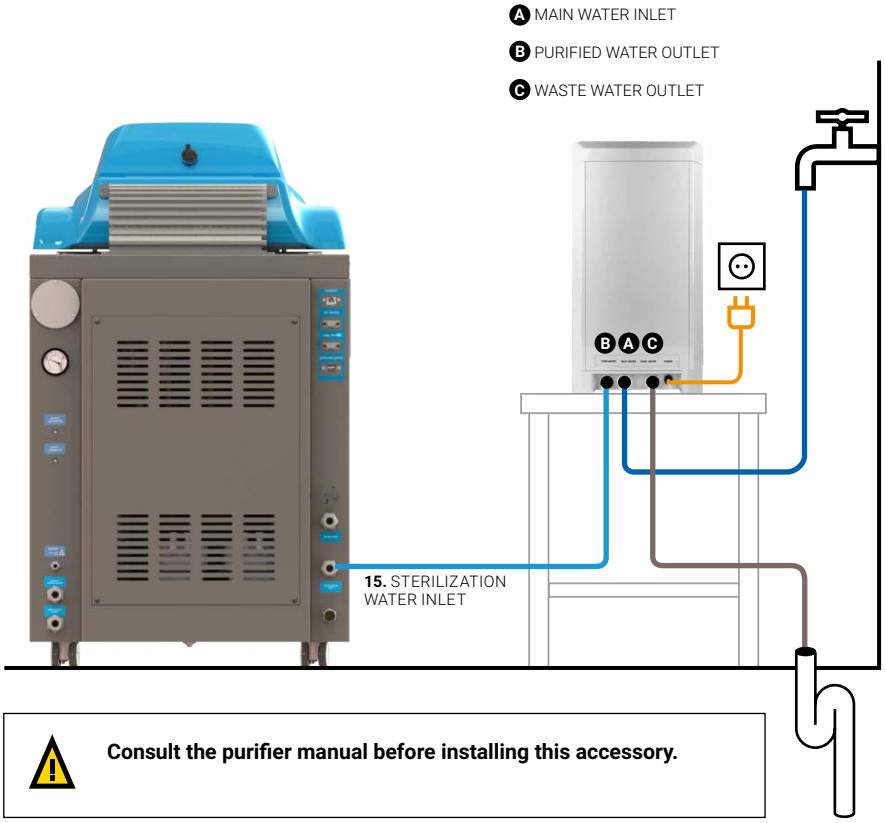
The MAIN WATER INLET **(A)** must be connected from the purifier to a non-purified water main with the provided 1.2m hose (water temperature from the main must not exceed 38°C or be less than 5°C).

Purified water must be driven from the PURIFIED WATER OUTLET **(B)** to the STERILIZATION WATER INLET **(15)** of the autoclave using the provided 1.2m hose.

From the WASTE WATER OUTLET **(C)** waste water must be driven to a drain with the provided 1.2m hose.

Purifier's inlet and drain hoses must always be visible and in good condition.

*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.

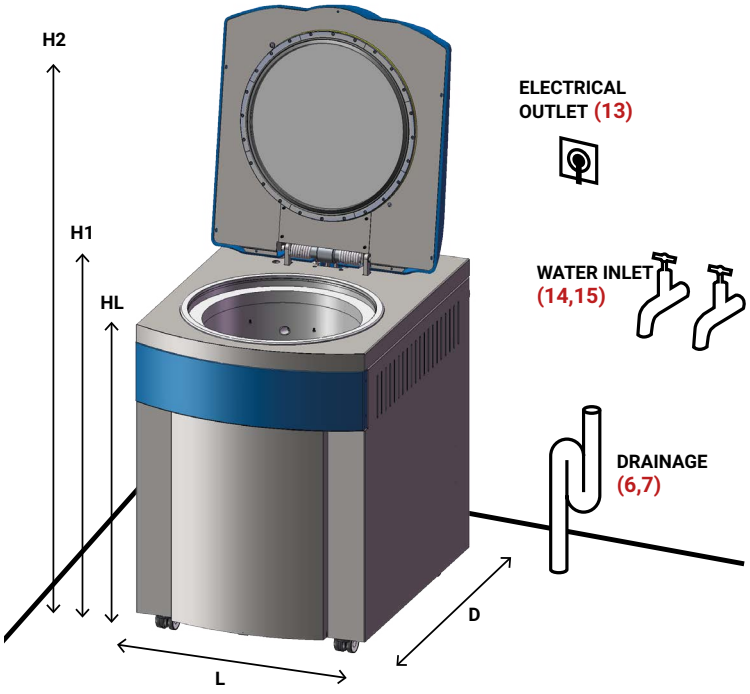


Consult the purifier manual before installing this accessory.

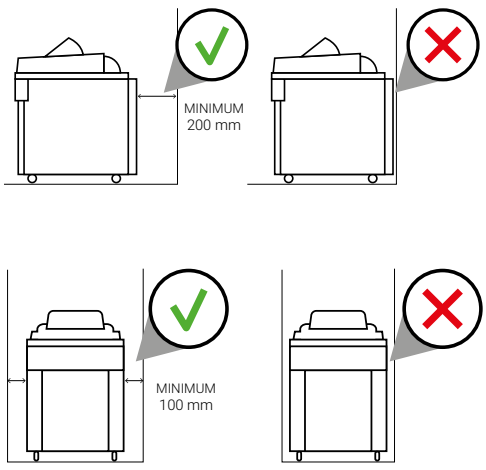
DIMENSIONS TO CONSIDER FOR THE INSTALLATION OF YOUR AUTOCLAVE

For safety reasons, the distance between both sides of the autoclave and the wall or any other object must be 100 mm, and at least 200mm between the autoclave and the rear wall.

MODELS	L LENGTH	D DEPTH	H1 HEIGHT	H2 HEIGHT with maximum door opening	HL LOAD HEIGHT	HS STEAM OUTLET CONNECTION HEIGHT	HD DIRECT DISCHARGE CONNECTION HEIGHT
TLV-50PD	610 mm	870 mm	1060 mm	1470 mm	815 mm	170 mm	110 mm
TLV-75PD	610 mm	876 mm	1110 mm	1520 mm	865 mm	180 mm	110 mm
TLV-110PD	710 mm	980 mm	1160 mm	1665 mm	915 mm	190 mm	115 mm
TLV-150PD	710 mm	980 mm	1310 mm	1810 mm	1065 mm	190 mm	110 mm



WARNING:
Observe the recommended distances.



CONSIDER:
Height and position of drain connections.

VERTICAL AUTOCLAVES WITH SUPERDRYING SYSTEM

TLV-PD SERIES TOP LINE

ENVIRONMENTAL CONDITIONS

This autoclave can operate under the following maximum conditions:

- Ambient temperature: 30 ºC
- Humidity: 75%
- Altitude: 3,000 meters above sea level Take into account that from 1,000 meters above sea level it may require adjustments, consult RAYPA's technical support team.

+ info

CLICK! WATCH THE TLV-PD SERIES VIDEO

Learn more about our **TLV-PD Series autoclaves** in our **YouTube channel**

REV 02.2022

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