

## Site Preparation Document for L3214

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# Instructions and Sign-off





## Version overview

Version	Date	Reason for modification	Author
001	13/06/2019	Original version	
002	17/03/2020	Update work area Update power and air connection image Minor specification updates	
003	14/09/2021	Updated power specs from 60A to 32A	
	16/09/2021	Layout and language revision	Astrid L.

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# L SERIES™

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## 1 CONTENTS OF THIS DOCUMENT

This document explains how to prepare the customer site for the installation of the L-Series Laser Cutter and gives information regarding transportation and connection. At the end of this document, official forms are included that provide an overview of the installation site, system configuration and end-user workflow. This information will facilitate the installation.

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## 2 SITE PREPARATION

Prior to installation of the laser cutter, a couple of things need to be prepared to ensure smooth installation. The site must also meet certain requirements, see the checklist on page 12.



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**NOTE:** Before installation can be scheduled, the customer site needs to be prepared. The customer must check and tick all the points on the checklist (see p. 12), complete where necessary and return this document signed to the installation engineer.

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**NOTE:** An installation completion document is available. We recommend using this document, also after the installation of the laser cutter. Make sure each party has a copy of the completely filled-in document.

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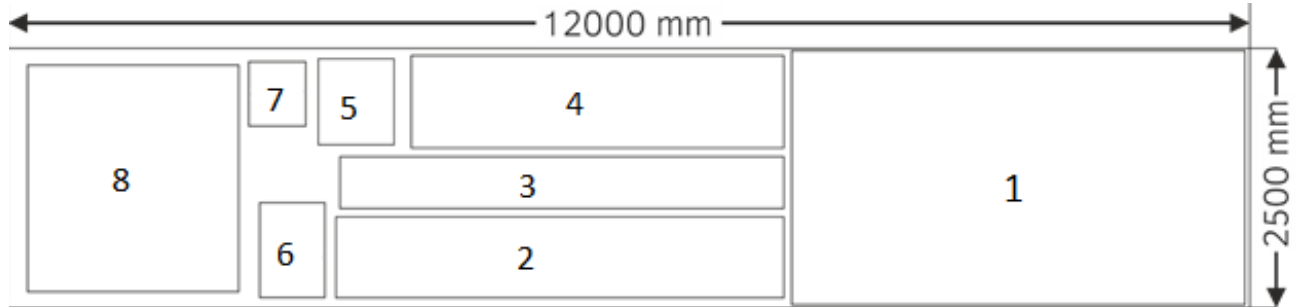
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**ATTENTION:** The amount of time the engineer will spend on-site for the installation is limited. Proper site preparation is crucial for a successful installation. Any delay due to missing machinery, options, accessories, people, or other installation requirements will be added to the on-site time and will be charged extra.

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## 2.1 Shipping, Arrival and Unpacking

For short distances, the machine is delivered uncrated.



*Layout in truck*

No.	Description	Dimensions (w x d x h)	Weight
1	Main unit	4382 x 2450 x 1328 mm 172.5 x 96.5 x 52.3 inch	1000 kg 2204.6 lbs
2	Camera gantry	4330 x 780 x 2135 mm 170.5 x 30.7 x 84.1 inch	200 kg 441 lbs
3	De-reeler	4290 x 500 x 1080 mm 169 x 19.7 x 42.5 inch	250 kg 551.2 lbs
4	Slats	3600 x 890 x 500 mm 141.7 x 35.1 x 19.7 inch	400 kg 882 lbs
5	Fan 1	630 x 915 x 979 mm 24.8 x 36.1 x 38.6 inch	90 kg 198.5 lbs
6	Fan 2	820 x 730 x 1170 mm 32.3 x 28.8 x 46.1 inch	120 kg 265 lbs
7	Chiller	550 x 620 x 840 mm 21.7 x 24.4 x 33.1 inch	76 kg 168 lbs
8	Additional parts	Flexible hoses PC and monitor Toolbox Fan spigots Water pipes	

All parts together weigh 2200kg (4851 lbs).

For long distances, the machine is delivered in crates.

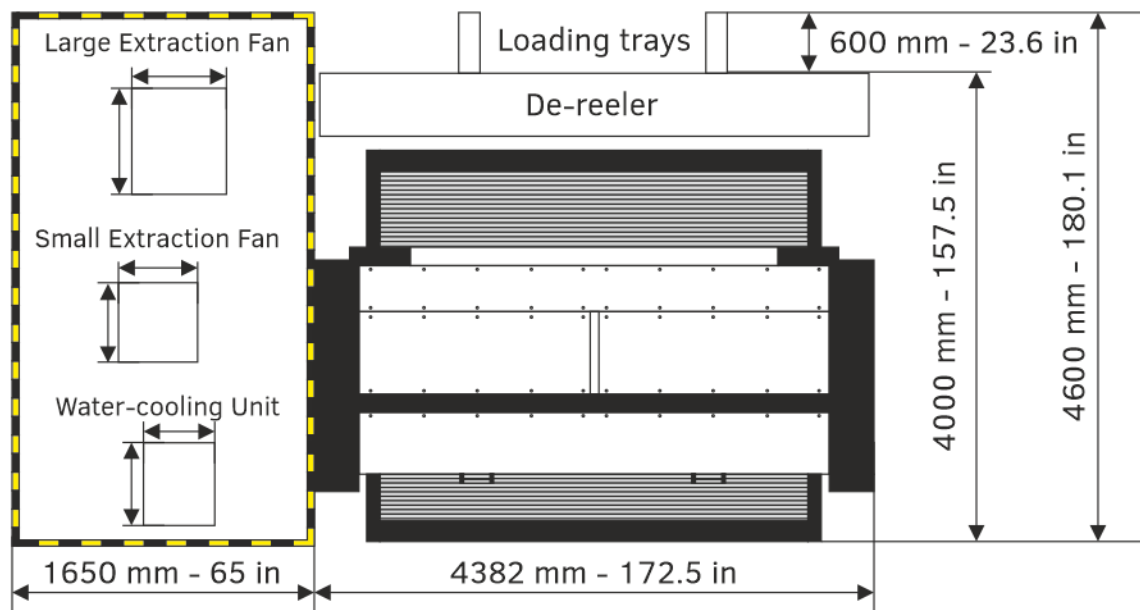
Crate	Description	Dimensions (w x d x h)	Weight
Crate 1	Fans, chiller, additional parts	2250 x 2090 x 1960 mm 88.6 x 82.3 x 77.2 inch	715 kg 1577 lbs
Crate 2	De-reeler	4580 x 1040 x 1580 mm 180.3 x 41 x 62.2 inch	658 kg 1451 lbs
Crate 3	Slats	3730 x 1030 x 620 mm 147 x 40.6 x 24.4 inch	614 kg 1354 lbs
Crate 4	Camera gantry	4580 x 1140 x 2510 mm 180.3 x 44.9 x 98.9 inch	872 kg 1923 lbs
Crate 5	Main unit	4690 x 2270 x 1860 mm 185 x 89.4 x 73.2	2200 kg 4851 lbs

- The machine is delivered in one container or truck load.
- The crates should be handled with a forklift or hand pallet truck(s). Use the table above to determine the correct lifting capacity of the transportation vehicles.
- The main unit crate has heavy duty wheels on one side for easy unloading.
- The crates may need to be transported with two pallet trucks at each side, otherwise doorways need to be up to 5m (16,4 ft) wide. The width of the outside and inside corridors/doorways should be at least 450cm (178”) when a forklift is used. The main unit has wheels, which are only suited for smooth office and warehouse floors and not for outside. A doorway of minimum 2600 mm (103”) can be used as long as enough space to maneuver is available around the entryway.
- Avoid stairs during unpacking and installation.
- Keep 1m to 2m (3 to 7 feet) clear on each side of the machine to make it easier to work during installation.
- For additional safety, make sure a CO2 fire extinguisher is present and easily accessible.

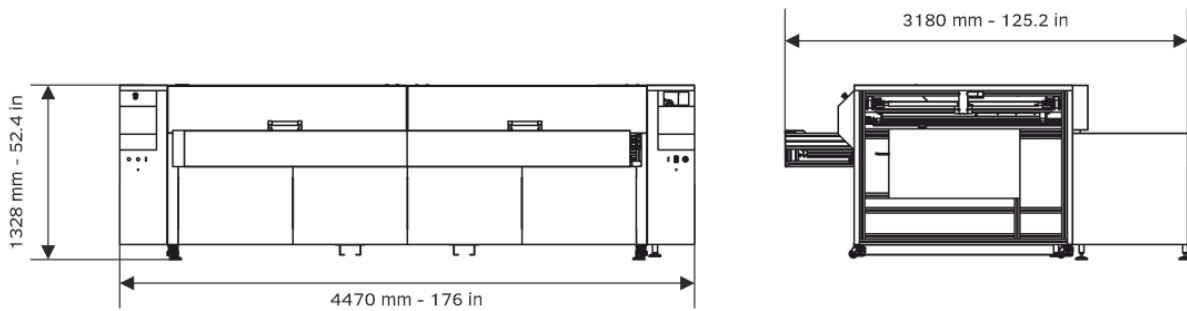
## 2.2 Floorplan

Use the floorplan to determine if the installation area and/or positioning is suited for the machine.

- A solid and level concrete surface, preferably antistatic, is recommended.
- Wooden frames/floors/constructions are not suitable.
- The height difference over the entire installation area should not be more than 3cm (1.2”).



*Floorplan – top view*



*Floorplan – side view without camera gantry*



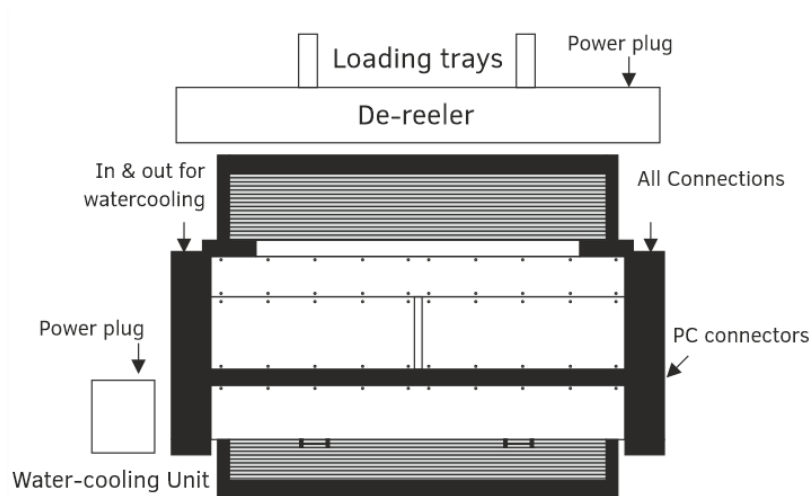
**NOTE:** Keep a free space of about 1620x4600mm (65" x 180.1") next to the unit.

Peripherals	Width	Depth
Large extraction fan	730mm / 28.8"	820mm / 32.3"
Small extraction fan	630mm / 24.8"	915mm / 36.1"
Water cooling unit	550mm / 21.7"	620mm / 24.4"

### 2.3 Connections

The laser cutter has three connections: electrical (one power cord for both vacuum/extraction pumps and laser cutter), computer connections, and compressed air.

All routing for the cables/airline is connected around the area that is indicated with "All connections" on the image below.





### 2.3.1 Computer Connection

A computer is installed inside the laser unit. All peripherals, such as monitor, keyboard, and mouse have leads exiting the laser unit.

### 2.3.2 Electrical connection

The electrical cable and wall socket are **NOT SUPPLIED** with the laser cutter and must be provided by the end user.

The wall socket and cable plug need to be IEC60309 standard.  
The connection to the mains may also be done with an electric wall box.

Power requirements: 3-phase 380-145 VAC with a 32Amp type C MCB.

- The voltage between each phase and neutral must not exceed 200 to 240VAC (per single phase).
- Preferably with a wall-mounted isolator switch to suit the current consumption.

Average power consumption: 32A

Peripherals:

Unit	Voltage	MCB	Max power	AVG power
4 kW chiller	200-240 Vac	16 A	4.4 kW	4.4 kW
Edge de-reeler	200-240 Vac	16 A	600 W	300 W



**NOTE:** For installations within the US, please ensure to have an additional 3 x 208V + N available for the peripherals as they are configured to run at a voltage between 200 and 240 VAC.

There is a 5-pin power socket located at the rear of the unit for easy connection to the mains supply.

Power cable:

- Length: Distance between power switch of the machine and wall socket + 2m (6 feet)
- 5 cores (3x L + N + PE), according to the available power
- **Europe:** The section of each core must be at least 6 mm<sup>2</sup> (3 X 400V + N).  
**America:** The diameter of each core must be at least AWG 9 with MTW rating for the American market (3 x 415V).



**ATTENTION:** Be sure to check the regional electrical requirement for the type of wall socket and plug, and fuse for the wall socket or electrical wall box.

### 2.3.3 Pneumatic connection

The unit is delivered with a one touch pneumatic fitting outer diameter 6mm to connect to the compressed air supply. The end user must provide the parts for this connection.

The length of the tube should be the distance between the power switch of the machine and the wall socket + 2m (6 feet).

- Compressed air supply: max 3 bar (60 PSI)  
@ 220 l/min (7.8 cfm)
- Standard operating air supply: 0.5 bar (60 PSI)  
@ 30 l/min (1.1 cfm)

The air should be clean and dry, and filtered to 15 microns (Class 4 ISO 8573-1), which usually means an additional compressed air dryer is required

Connector:

- 1: connection to the cutter (tube outer diameter 6mm)
- 2: connection to the existing installation (so it might require another connection type than the one on the picture)



**NOTE:** Type in “6mm one touch pneumatic fitting for metric tubes” in your search engine to find the correct fitting easier.

## 2.4 Fume extraction

Make sure the installation area is well ventilated.

The L3214 unit come with a fume extraction fan. This fan has an extraction tube with a diameter of 250mm or 10 inches. Ducting with the same diameter is included for the use between unit and fan. Please verify with the local law and legislation if a filtering system needs to be set up, as some materials can generate hazardous smoke when lasered!

- Fumes extraction fan needs outdoor outlet:
  - Diameter of minimum 250mm or 10 inches
  - 250 mm or 10-inch connector to fan
  - If the length exceeds 15 meters (approximately 50 feet or 600 inch), an additional fan may be required to assist the flow.
  - Air displacement generated by the supplied fume extraction fan is approximately 5800 m<sup>3</sup>/h or 3400 cfm.
- Alternatively, air filtration units can be used. Contact Summa for advice.



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## 3 PAGES FOR COMPLETION AND SIGNATURE

Complete the following pages, sign off the certification page; scan them (or take a picture) and mail them to [installations@summa.com](mailto:installations@summa.com).

### 3.1 Preparational checklist

Machine to be installed: \_\_\_\_\_

- The driver of the truck can unload the crate, which can be moved inside.
- A forklift truck or pallet truck(s) with the appropriate lifting capacity will be available (lifting capacity 2000kg, fork length min 200cm).
- Two people are available for setting up the chassis of the machine.
- There is a clear path to the installation area (so no steps, stairs, radiators,...) and doorways are wide enough.
- The installation area is free. It is recommended to mark this area on the floor.
- The power main connection or the parts to connect to the mains are available. Someone with sufficient knowledge of the local requirements for electrical installation is available or has prepared the connection. Choose one of the options below:
  - 3-phase power supply and type: \_\_\_\_\_
  - Monophasic power supply and type: \_\_\_\_\_
- The compressed air connection or the parts to connect to compressed air are available.
- The future operator of the cutter is available during installation and entire training.
- The environment complies with the requirements for operating the machine:
  - The area is well ventilated.
  - A CO2 fire extinguisher is present.

### 3.2 Extra Info

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### 3.3 Certification

I hereby declare that all preparatory work on site has been completed and that the necessary parts/tools and people will be available during installation and training.

Company name \_\_\_\_\_

Name \_\_\_\_\_

Date \_\_\_\_\_

Signature \_\_\_\_\_