

Lavamin

Pre-installation checklist



CE

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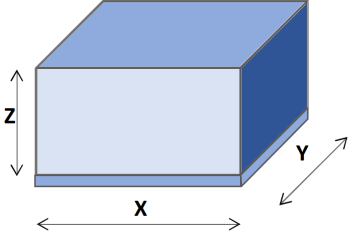
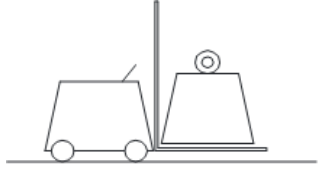
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1 Installation requirements

- Power supply
- Water supply
- Compressed air supply
- Water drain
- Workbench

2 Packaging specifications

X:	75 cm (29")	
Y:	38 cm (15")	
Z:	41 cm (16")	
Weight	23 kg (51 lbs). The weight is stated on the crate.	

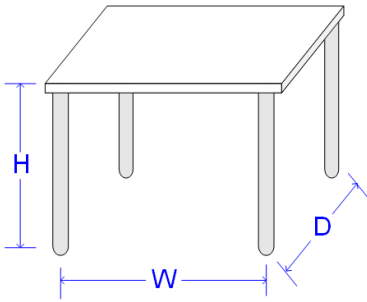
3 Location



CRUSHING HAZARD

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

- Make sure that the following facilities are available:
 - Power supply
 - Water supply
 - Compressed air supply

Recommended workbench dimensions		
Height	Recommended: 80 cm (31.5")	
Width	70 cm (27.6")	
Depth	80 cm (31.5")	

- Place the machine on a rigid, stable workbench with a horizontal surface and an adequate height.
- The machine must rest securely with all 4 feet on the table.
- To facilitate easy access for service technicians, allow sufficient space around the machine.

Illumination

Illumination: Make sure that the machine is adequately lit up. A minimum of 300 Lumen is recommended to illuminate the controls and other work areas.

Ambient conditions		
Operating environment	Surrounding temperature	5-40°C (40-105°F)
	Humidity	35-85% RH non-condensing

4 Dimensions

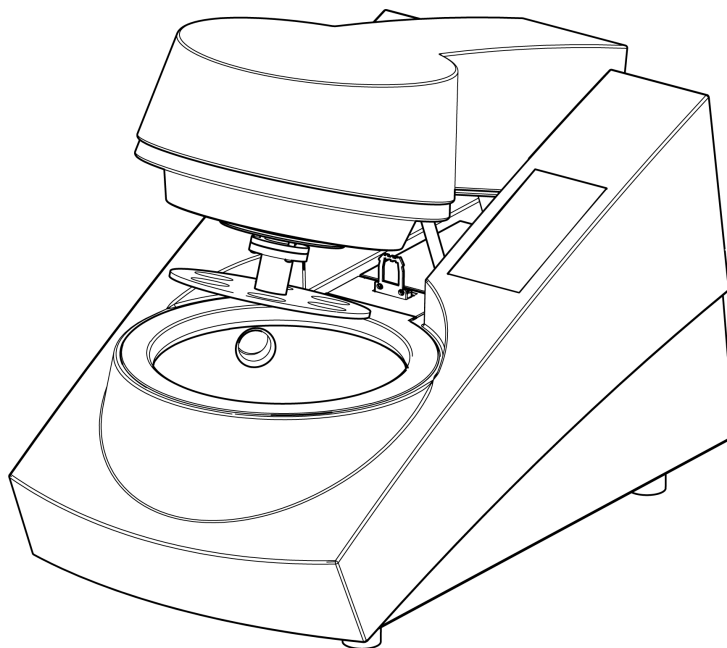
Width: 317 mm (12.5")

Depth: 629 mm (24.8")

Height:

- Closed: 325 mm (12.1")
- Open: 488 mm (19.2")

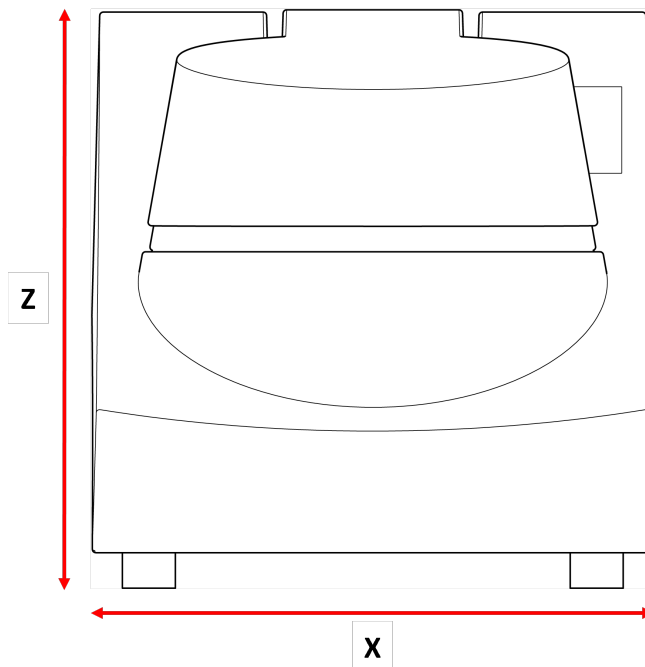
Weight: 17 kg (37.5 lbs)



Front view

X: 317 mm (12.5")

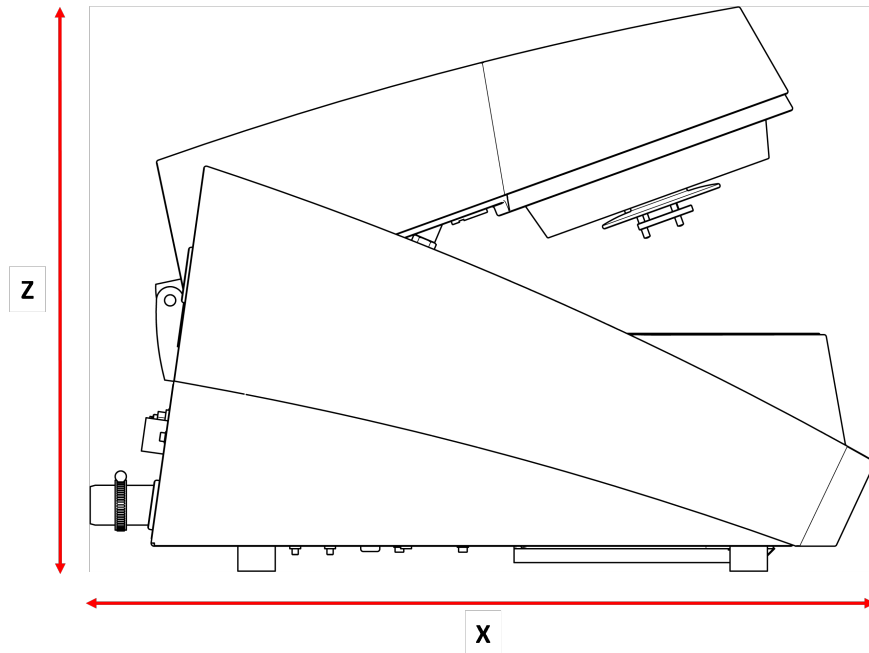
Z: 325 mm (12.8")



Side view

X: 629 mm
(24.8")

Z: 488 mm
(19.2")



5 Recommended space

Space in front of the machine

- Make sure that there is enough room in front of the machine. 100 cm (40")

6 Transport and storage

If, at any time after the installation, you have to move the unit or place it in storage, there is a number of guidelines we recommend that you follow.

- Package the unit securely before transportation. Insufficient packaging could cause damage to the unit and will void the warranty. Contact Struers Service.
- We recommend that you use the original packaging and fittings.

6.1 Transport

**CRUSHING HAZARD**

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

**Note**

We recommend that you keep all original packaging and fittings for future use.

To transport the machine safely, follow these instructions.

Preparing for transport

1. Disconnect the unit from the electrical power supply.
2. Remove any accessories.
3. Clean and dry the unit.

6.2 Storage

**CRUSHING HAZARD**

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

**Note**

We recommend that you keep all original packaging and fittings for future use.

1. Disconnect the machine from the electrical power supply, water supply and compressed air supply.
2. Check that there is no specimen holder or mover plate in the machine.
3. Clean and dry the unit before storage.
4. Place the machine and accessories in their original packaging.

**Note**

If the machine is not to be used for a longer period of time, wrap the machine in plastic along with silica gel.

7 Unpack the machine

**CRUSHING HAZARD**

Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

Note
We recommend that you keep all original packaging and fittings for future use.

1. Cut the packing tape on the top of the box.
2. Fold out the side of the box (see the illustration).
3. Remove the loose parts.
4. Remove the unit from the box.

8 Lift the machine

CRUSHING HAZARD
Take care of your fingers when handling the machine.
Wear safety shoes when handling heavy machinery.

Note
Always lift the machine from beneath.

Weight

Lavamin	17 kg (37.5 lbs)
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At the new location

1. Place the machine on a rigid, stable workbench with a horizontal surface and an adequate height.
2. Make sure that the unit is level and rests securely on the workbench.

9 Safety specifications

Safety Circuit Categories/Performance Level	
Rotation of the specimen holder	PL d, Stop category 0
Down movement of the hood	PL c, Stop category 0

10 Power supply



WARNING

Switch off the machine, disconnect the electrical power cable and wait 5 minutes before you dismantle the machine or install additional components.



ELECTRICAL HAZARD

Switch off the electrical power supply before installing electrical equipment. The machine must be earthed (grounded). Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the type plate of the machine. Incorrect voltage can damage the electrical circuit.

Electrical data

Voltage/frequency	200 - 240 V 50-60Hz	100 - 120V 50-60Hz
Power inlet	1-phase (N+L1+PE) or 2-phase (L1+L2+PE)	
Power consumption: Idle Max	2.5 W 140 W @ 200-240V	2.5 W 140 W @ 100-120V
Current	0.7 A @ 200-240V	1.2 A @ 100-120V

Power socket

The electrical power supply socket must be easy to access. The electrical power supply socket must be located at a height ranging from 0.6 m to 1.9 m (2½" to 6") above floor level. Not higher than 1.7 m (5' 6") is recommended.

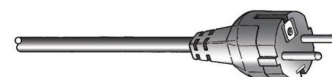


Note

The equipment is shipped with 2 types of electrical power cables. If the plug supplied on these cables is not approved in your country, the plug must be replaced with an approved plug.

Single-phase supply

The 2-pin plug (European Schuko) is for use on single-phase electrical power connections.



The leads must be connected as follows:

Yellow/Green	Earth (ground)
Black/Brown	Line (live)
Blue	Neutral

2-phase supply

The 3-pin plug (North American NEMA) is for use on 2-phase electrical power connections.



The leads must be connected as follows:

Green	Earth (ground)
Black	Line (live)
White	Line (live)

Residual Current Circuit Breaker (RCCB)



Note

Local standards can override the recommendations for the main electrical power supply cable. Always contact a qualified electrician to verify which option is suitable for the local installation setup.

Residual Current Circuit Breaker (RCCB)

Type A, 30 mA (or better) is recommended

Power the machine



ELECTRICAL HAZARD

Switch off the electrical power supply before installing electrical equipment. The machine must be earthed (grounded). Make sure that the actual electrical power supply voltage corresponds to the voltage stated on the type plate of the machine. Make sure that the fuse is set to the correct voltage setting. Incorrect voltage can damage the electrical circuit.

1. Connect the electrical power cable to the machine (IEC 320 connector).
2. Connect the other end of the cable to the electrical power supply socket.

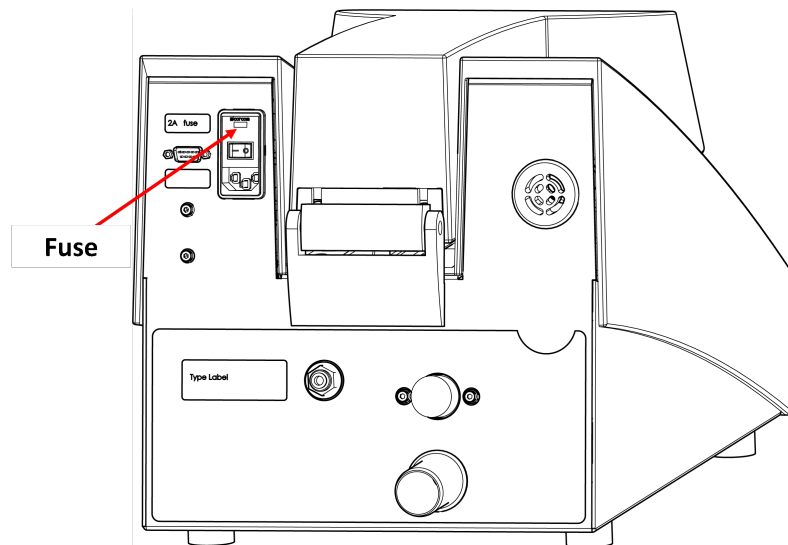


Note

In countries with a 100 - 120 V electrical power supply, you must change the setting of the equipment.

- 115 V: 100-120 V/50/60 Hz
- 230 V: 200-240 V/50/60 Hz (factory setting)

How to change the voltage



1. Use a small, flat-tip screwdriver to open the cover of the fuse compartment at the back of the control unit.
2. Take the fuse out of the fuse compartment.
3. Turn the fuse into the required position.
4. Push it back into the fuse compartment.
5. Close the cover of the fuse compartment.

11 Water supply



CAUTION

Make sure that the water connections are correctly mounted and without leaks.



Note

New water pipe installations:

Leave the water to run for a few minutes to flush any debris from the pipe before connecting the machine to the water supply.



Hint

The machine can be connected to the same water supply as e.g. Tegramin by using the Y-connector supplied.

Technical specifications	
Water pressure	1-9.9 bar (14.5-143 psi)
Water supply capacity	min. 6 L/min (1.6 gpm)
Water consumption	approximately 4.2-4.5 L (1 gal) per cycle (all cleaning programs)

Mount the 90° end of the inlet hose onto the water inlet on the back of the machine:

1. Insert the filter gasket in the coupling nut with the flat side against the pressure hose.
2. Tighten the coupling nut completely.

Water inlet

- Mount the straight end of the inlet hose on the water supply tap for cold water.
- If required, mount the reduction piece with gasket on the water supply tap and tighten the coupling nut completely.

Water outlet - drain



CAUTION

Make sure that the water connections are correctly mounted and without leaks.

1. Mount the outlet hose onto the water outlet pipe. (Lubricate with grease or soap to facilitate insertion.) Use a hose clamp for fastening.
2. Lead the other end of the drain hose to the water outlet. Shorten the hose, if necessary.



Note

Make sure that the waste water hose slopes downwards towards the waste water drain throughout its length.

12 Compressed air supply

Compressed air specifications	
Pressure	4.5-7 bar (65-101 psi)
Air consumption, approx.	200 L/min (53 gpm)
Air quality	Class-3, as specified in ISO 8573-1

To connect compressed air

1. Mount the quick coupling on the compressed air hose and secure it with the hose clamp supplied.

2. Connect the air inlet hose to the quick coupling and fit the other end into the compressed air inlet on the machine.

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