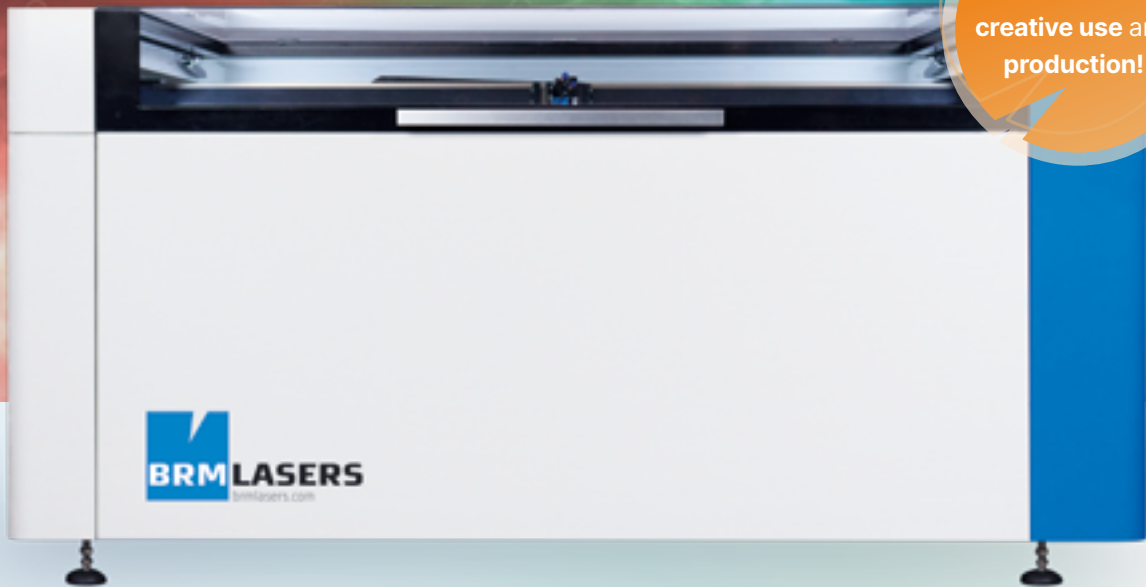


# BRM Lasers

## Delivery information

*BRM Pro*



Ideal for  
**creative use and  
production!**

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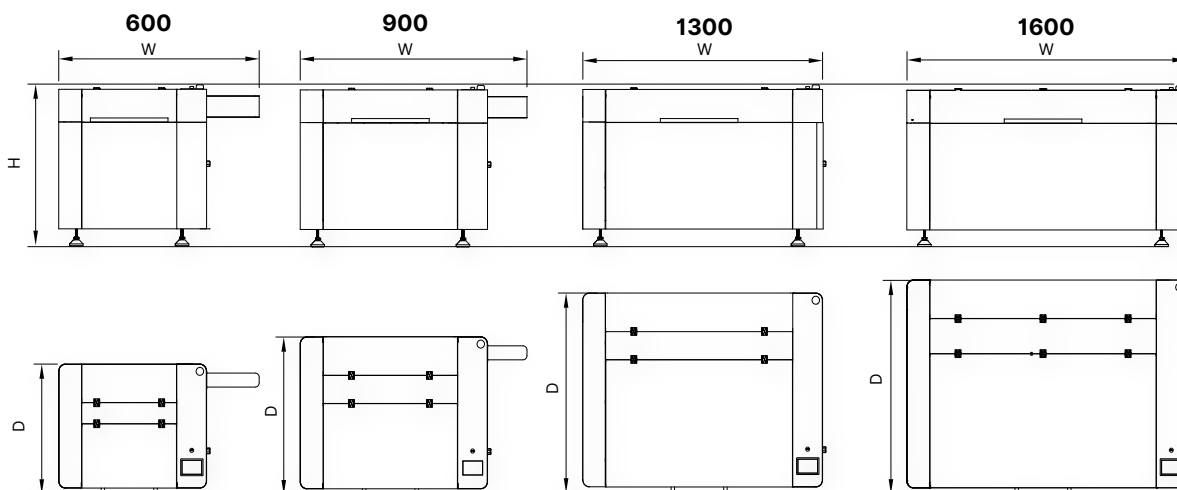
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# Specifications

## Machine dimensions and weight

(Dimensions in mm)	600	900	1300	1600
<b>w</b>	1400	1700	1900	2200
<b>D</b>	1010	1210	1510	1610
<b>H</b>	1260	1260	1260	1260
<b>Weight (kg)</b>	275	350	450	525



### Feet

- Quantity: 4 adjustable-height feet
- Surface area of foot:  $\varnothing$  80 mm

# Placing the machine

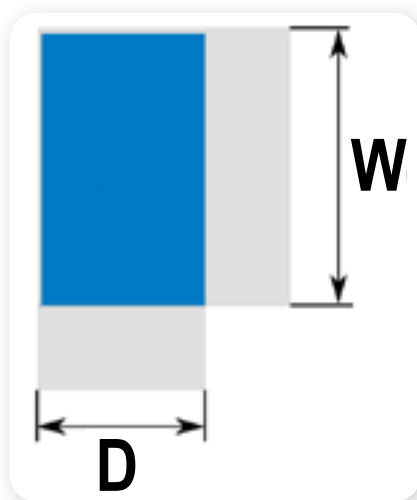
When the machine is in use, no space is required at the left or rear. The following minimum space is required for maintenance or repair:

(Dimensions in mm)	600	900	1300	1600
BACK	500*	500*	500*	500*
LEFT	500*	500*	500*	500*
FRONT	900	1100	1400	1500
RIGHT	600	800	1100	1200

\* May be 0 if the required free space can be created during maintenance or repair.

## Measuring out the route

### Straight through a door



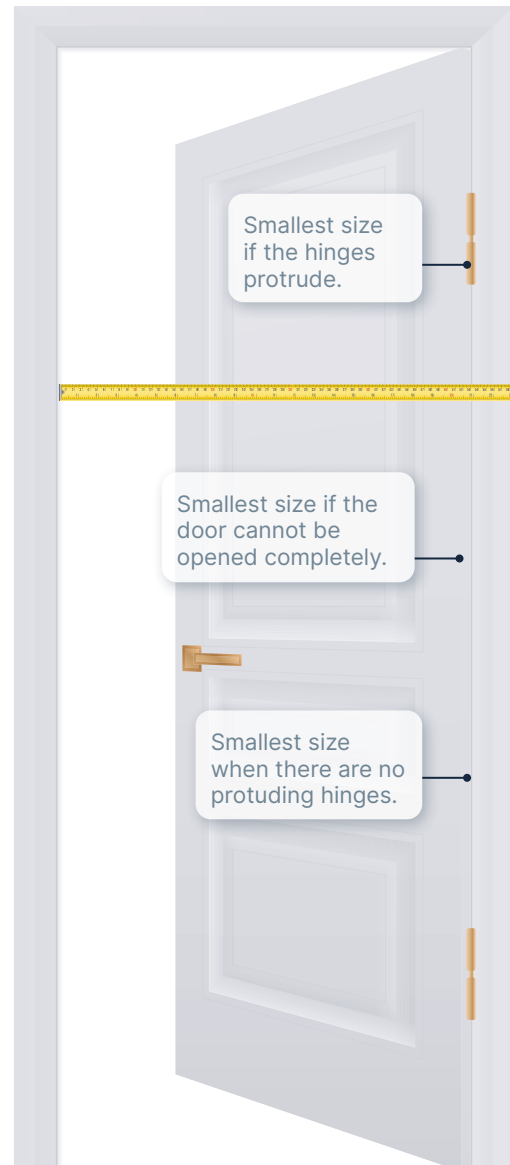
(Dimensions in mm)	600	900	1300	1600
W	1450	1750	1950	2250
D	1020	1220	1520	1620

# Placing the machine

## Measuring the passageway

When measuring a passageway, it is important to measure the correct smallest dimension. That is:

- The inside dimension of the door frame, if the door can be opened completely.
- The measurement up to any protruding hinges
- The measurement up to the door, if it cannot be opened completely.



# Placing the machine

## When is a moving company needed?

Does the machine need to be lifted more than 100 mm? Then a moving company is needed for the installation. That can be the case when the machine needs to be lifted through a frame or when there is an elevation of more than 100 mm.

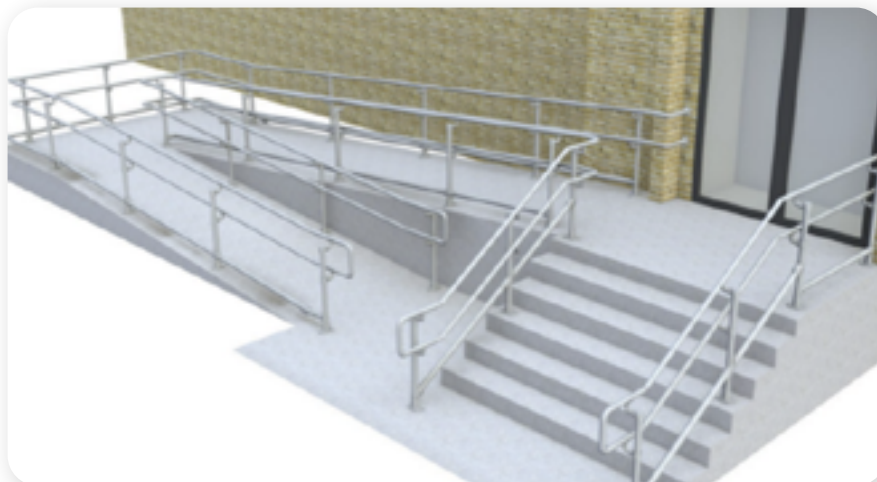
A moving company is also required when the machine will be transported up or down a ramp that:

- Is steeper than 5°
- Is narrower than the depth of your machine. See page 3.
- Is split
- Has tight turning radiusus

The following ramps require a moving company.

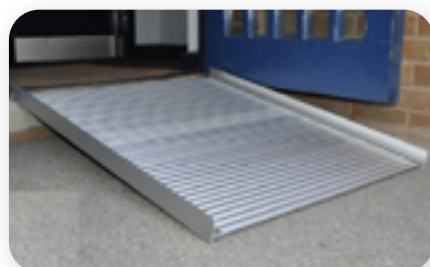


Split ramp



Ramp with tight turning radiusus

The following ramps do not require a moving company.



## Connecting the machine

### Electricity

The machine has two plugs to provide power to the machine.

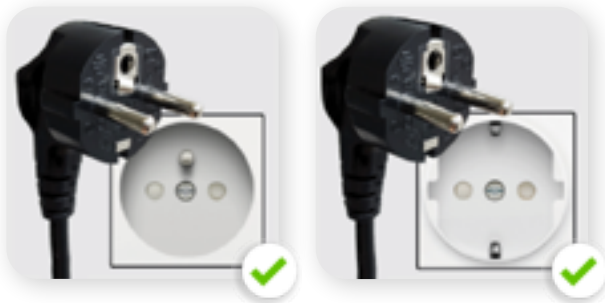
The first plug is for the laser machine itself. The second plug is for the peripheral equipment, if you want to switch these on or off via the laser machine. You use these for the:

- Non-filtering fume extractor
- Air pump
- Water chiller

Both plugs are fused at 10 amps and cannot be connected to the same group as this would overload the electrical circuit.

Requirements for the power supply on site:

- Two grounded outlets. Type E or F
- Minimum of 10 amps left per outlet, minimum of 20 amps in total
- Due to certification, connecting to a type C, D, H or K is not allowed
- If you are using a BRM Extractor please inquire about other requirements



Permitted: E and F



Not permitted: C, D, H, K and others

# Placing the machine

## Computer: connection

The machine can be connected with a USB 2.0 A (Windows only) connector or with a RJ45 UTP connector on 100 Mbit duplex.

**Please note!** When using an overhead camera, it must be connected via USB to a USB 3.0 Type-A port.



USB-A

- Maximum length of USB cable: 3 metres
- Connection via USB hub is not recommended



RJ45

- Maximum length of network cable: 100 metres
- The network connection is not DHCP-compatible

## Computer: specifications

The computer must meet the following minimum specifications:

- Windows 10 or MacOS X or later
- When installing the software, admin rights are required

The following applies to every computer:

- At least a 800 MHz processor
- At least 2 GB working memory
- At least 500 MB storage

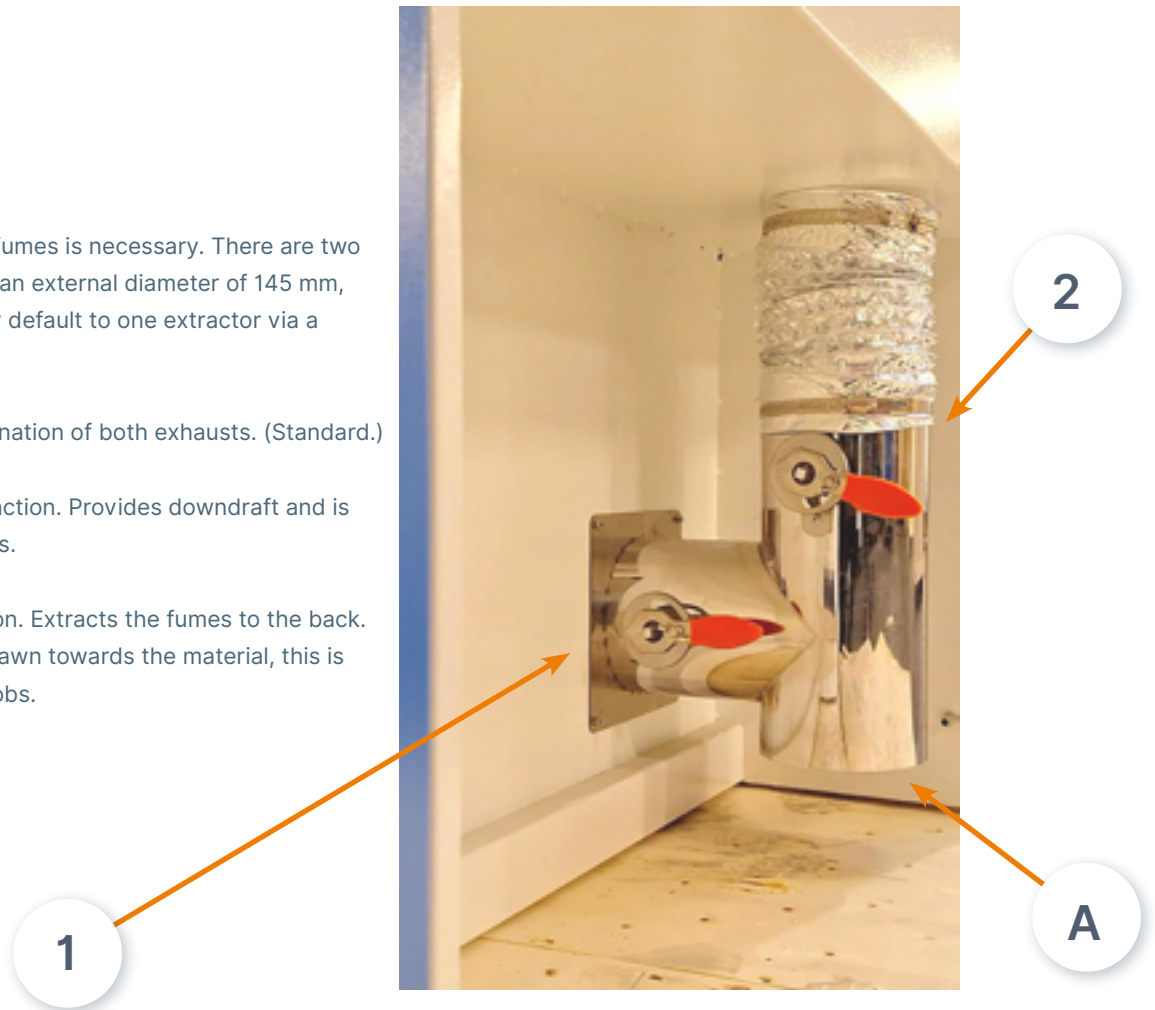


# Placing the machine

## Extraction

A correct extraction of fumes is necessary. There are two connections, each with an external diameter of 145 mm, which are connected by default to one extractor via a T-piece.

- Connection A: combination of both exhausts. (Standard.)
- Lever 1: bottom extraction. Provides downdraft and is suitable for cutting tasks.
- Lever 2: top extraction. Extracts the fumes to the back. As the fumes are not drawn towards the material, this is suitable for engraving jobs.



Check with the local regulatory authority whether exhaust gases may actually be discharged to the outside. If this is not allowed, a BRM Extractor is a solution.

It is also possible to use a company's own extraction solution. Several machines are often connected to this. This can create dangerous situations if sparks or burning particles are released. This is why we recommend installing a spark arrester when using a proprietary extraction solution to which several machines are connected. This is an excellent measure to cover a small risk with large consequences.

The required capacity for each model is listed below:

	<b>600</b>	<b>900</b>	<b>1300</b>	<b>1600</b>
<b>m<sup>3</sup></b>	380	380	550	850
<b>mbar</b>	15	15	15	15

# Placing the machine

## Air supply

The machine comes standard with an air pump. This allows you to add air during cutting and engraving to prevent flame formation. With acrylic, the right amount of air can create nice smooth edges while cutting and with wood you can prevent some soot formation.

Next, air is essential for preserving your lens. The addition of air ensures that the fumes have less chance of settling on the lens.

The standard air pump included is connected to the machine with a silicone hose. Furthermore, it can be plugged into the socket of the machine.

## Software-controlled air supply unit

With the software-controlled air supply unit the machine can be connected to a central system. The machine has its own shut-off valve, conditioning and pressure regulator. In addition, PU hose (8 mm external, 6 mm internal) is supplied. With this hose, the machine is connected to the push-in fitting that must be present in the central system. The maximum pressure that can be connected to the machine is 8 bar. Furthermore, the compressor should provide 120 l/minute and we recommend a tank of at least 50 liters.

For materials where a lot of soot forms during cutting, you can make nicer cuts with more air. The edges become less black and do not give off. That saves post-processing.



8 mm PU hose



8 mm push-in fitting

# Support and safety

## Remote support

Using remote support, we help you quickly and efficiently. The following is required to be able to do this properly:

- A computer with an internet connection with at least 2 Mbps speed and 1.5 GB data cap per login.
- Administrator rights for the user of the computer that controls the machine.
- Administrator rights for our remote support software.

The remote support is performed with ConnectWise Control software. This software must be installed just before remote support and is automatically uninstalled as soon as the session ends. The Privacy Statement can be read here: [privacy policy](#).

## On-site support

Is on-site support needed? Then make sure there is enough space around the machine before the BRM mechanic arrives. Because the sooner our mechanic can get to work, the sooner the machine will be up and running again! Specifications for the space requirements can be found in the chapter 'Placing the machine' on page 4.

## Safety

Define the possible risks in your organization's health and safety policy.

### Fire safety

Where the machine itself has a low risk of fire, more complex operations or incorrect settings can nevertheless create a high risk of fire. For this reason, BRM's standard rule is that the operator must always be near the machine when it is on.

In case of a potential fire, the fire class depends on the material used. Give employees and the fire prevention service the right information and provide the right measures and extinguishers.

### Fire extinguishers

A laser machine has electrical components. Therefore, there are specific requirements for extinguishing agents. We recommend a CO<sub>2</sub> extinguisher. This is the best solution for an electrical fire. CO<sub>2</sub> quickly and effectively expels oxygen and suffocates the fire. Furthermore, CO<sub>2</sub> is very clean and the chance of collateral damage is smaller.

Less suitable or even unsuitable are:

- The powder extinguisher (ABC extinguisher) is not recommended. As extinguishing powder can cause a great deal of collateral damage, repairing the machine may be considerably more expensive or impossible.
- A fire blanket is only suitable if it is large enough to cover the machine to the ground.
- The foam extinguisher is not allowed according to NEN 2559. This is because voltages of over 1000V may exist within the machine.

### Laser safety

The machine is laser class 1 certified. Laser safety is therefore guaranteed during normal use.

Of course, it is not permitted to bypass or sabotage safety. BRM is not responsible for safety in case of improper use.

# Annexes

## Checklist for the installation route

1. The minimum size for the parking place on delivery is 14 x 4,5 meters.

| Yes

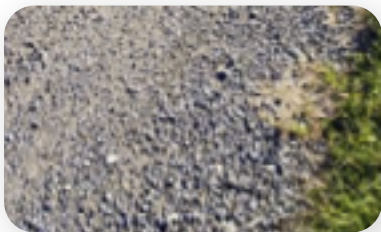
| No, a different size \_\_\_\_\_

2. How many meters is it from the parking place to the space where the machine is to be installed?

\_\_\_\_\_ meters inside

\_\_\_\_\_ meters outside

3. Which type of outdoor surface is there?



| Gravel



| Bricks



| Tiles



| Asphalt

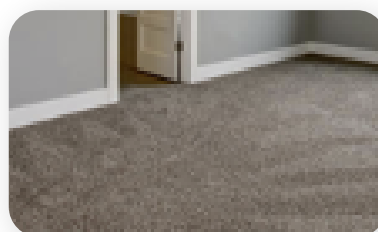
Please provide  
a photo

| Other

4. What type of inside surface is there?



| Hard: wood, concrete, stone or laminate



| Soft: carpet or vinyl

Please provide  
a photo

| Other

5. Are there any thresholds on the route to be covered?

- | Yes  
 | No

If so: How high are these thresholds?

\_\_\_\_\_ mm

6. Is there a ramp? More information in the chapter 'When to use a moving company' on page 6.

- | Yes  
 | No, please go on to question 7

If so: provide the information here and fill in at least two of these variables:

Length of the ramp: \_\_\_\_\_ mm

Difference in height of the ramp: \_\_\_\_\_ mm

Slope of the ramp: \_\_\_\_\_ degrees

Is there a rotation in the hill?

- | Yes  
 | No

If so: how big is this pivot space:

Length \_\_\_\_\_ mm

Width: \_\_\_\_\_ mm

7. How large is the narrowest passage? More information in chapter 'Measuring the passageway' on page 5.

Height: \_\_\_\_\_ mm

Width: \_\_\_\_\_ mm

8. How large is the space for the narrowest passage? More information in chapter 'Measuring out the route' on page 4.

Length: \_\_\_\_\_ mm

Width: \_\_\_\_\_ mm

9. Where will the machine be placed?

- | Ground floor
- | Other, that is: \_\_\_\_\_

10. Is there an elevator that the machine has to enter?

- | Yes
- | No

If so: How big is the elevator? (Also, be sure to measure the grips inside the elevator.)

Length: \_\_\_\_\_m

Width: \_\_\_\_\_m

Height: \_\_\_\_\_m

Weight limit: \_\_\_\_\_ kg

11. Are pallet trucks allowed inside and outside?

- | Yes
- | No

12. Are only specific pallet trucks allowed? With rubber wheels, for instance.

- | Yes
- | No

13. Is there a pallet truck available that we can use?

- | Yes
- | No

14. Is a forklift or stacker available that can carry at least 850 kg at 1100 mm?

- | Yes
- | No

15. Will a moving company be employed?

- | Yes
- | No

16. How many people can actively help with the placing?

\_\_\_\_\_

17. Contact person and phone number

\_\_\_\_\_

\_\_\_\_\_

## Checklist for location

1. Is the correct fire extinguisher on hand? More info in the chapter 'Fire extinguishers' on page 10.
  - | Yes
  - | No
2. Are there 2 (3 when using a BRM Extractor) type E or F electrical outlets within 2 meters of the machine?  
More info in the chapter 'Electricity' on page 7.
  - | Yes
  - | No
3. Is there at least 10 A per outlet available for the machine and peripheral equipment?
  - | Yes
  - | No
4. Is the space where the machine and extractor are located at least 85 m<sup>3</sup>? This is with regard to natural fresh air.
  - | Yes
  - | No
5. Is there a wall pass-through pipe present?
  - | Yes, specifically Ø \_\_\_\_ mm
  - | No, a BRM extractor is chosen
  - | No, an in-house extraction system is chosen
6. Is a computer equipped with Windows 10 or later of MacOS X available? (An administrator account is required during installation.)
  - | Yes
  - | No