Mr Beam

dreamcut

DESKTOP LASERCUTTER
QUICK START GUIDE

When you start up your **Mr Beam II dreamcut / dreamcut ready**, remember that it has been assembled and packed by us with great care. We hope that you will take the time to unpack and set it up carefully.

Munich, March 2020 | Rev. 1.4

SAFETY INSTRUCTIONS

You can find the latest version of this Quick Start Guide, as well as that of previous modells, and some other information about your Mr Beam at the following QR Code.

At **www.mr-beam.org/support**, you will also find answers to many questions regarding Mr Beam.

Before using your Mr Beam, please read and understand the user manual and the safety instructions.

You can find the latest manual and safety instructions in the menu of your Mr Beam user interface and on **mr-beam.org**

Vor Beginn von Reinigungs- und Wartungsarbeiten das Gerät immer ausschalten und den Netzstecker ziehen.

Wartungs- und Inspektionstätigkeiten dürfen nur im ausgeschalteten Zustand von geschultem Personal durchgeführt werden.

Vorsicht - sichtbares Laserlicht, wenn Abdeckung geöffnet und Sicherheitsverriegelung überbrückt Bestrahlung von Auge und Haut durch direkte oder Streustrahlung vermeiden

Bei Abwesenheit Schlüssel des Schlüsselschalters abziehen

Only process materials that Mr Beam Lasers has classified as harmless. You can find an up-to-date list of materials at **mr-beam.org**

Never process PVC, Vinyl, ABS, coated carbon fiber, fiberglass or other materials containing chlorine!

Processing these materials with your Mr Beam will produce extremely toxic vapours, which can cause machine damage and health hazard.

$P_0 = 5W \text{ cw}$
$\lambda = 450nm$
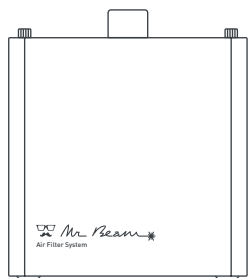
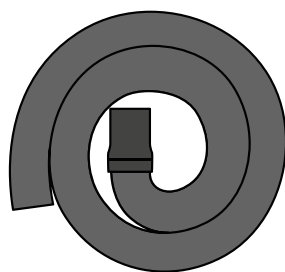# SCOPE OF DELIVERY - WITH AIR FILTER SYSTEM
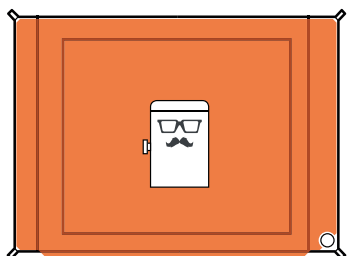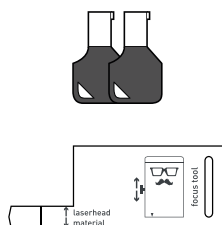
LASER HEAD
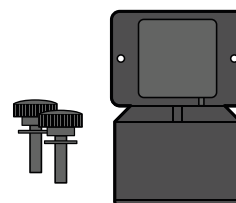MR BEAM
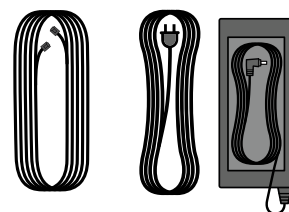
2 KEYS
FOCUS TOOL

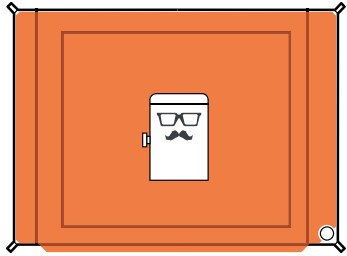CABLE AIR FILTER
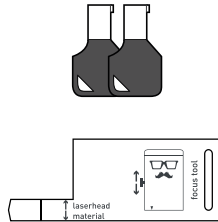
POWER CABLE
POWER SUPPLY UNIT

AIR FILTER SYSTEM
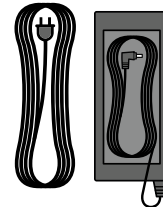
HOSE

SUCTION SOCKET

SCREWS
WASHERS

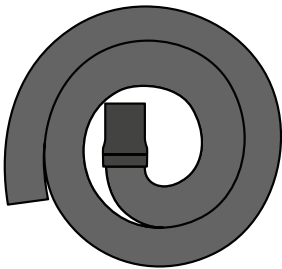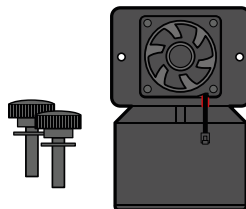# SCOPE OF DELIVERY - WITHOUT AIR FILTER SYSTEM

LASER HEAD
MR BEAM

2 KEYS
FOCUS TOOL

POWER CABLE
POWER SUPPLY UNIT

HOSE

SUCTION SOCKET
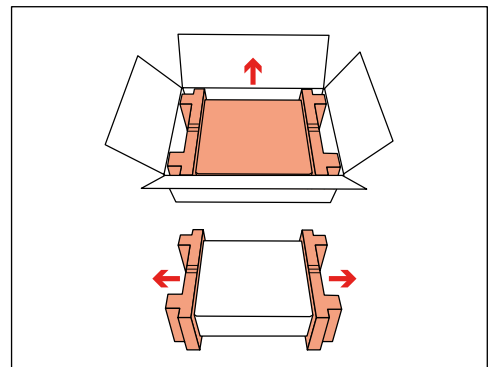FAN
SCREWS
WASHERS
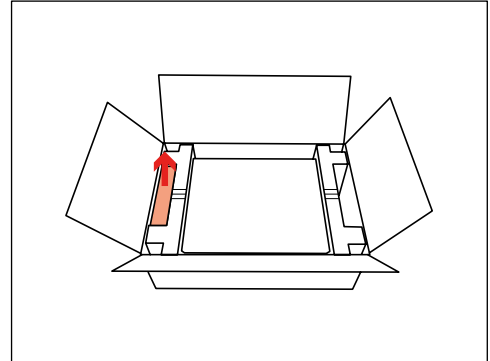
For indoor use we recommend a **Mr Beam Air Filter System**. If you don´t have one yet, order it now from our shop at **store.mr-beam.org**
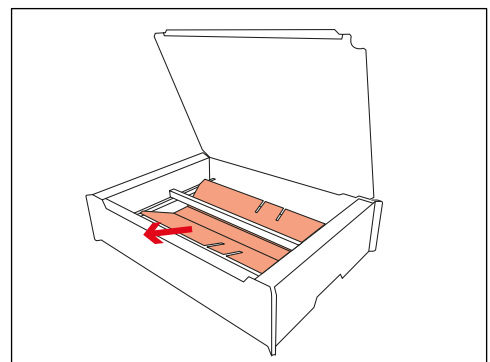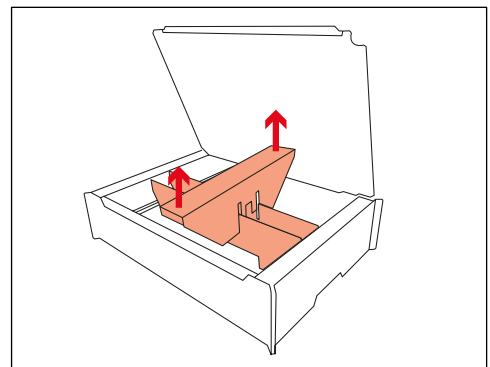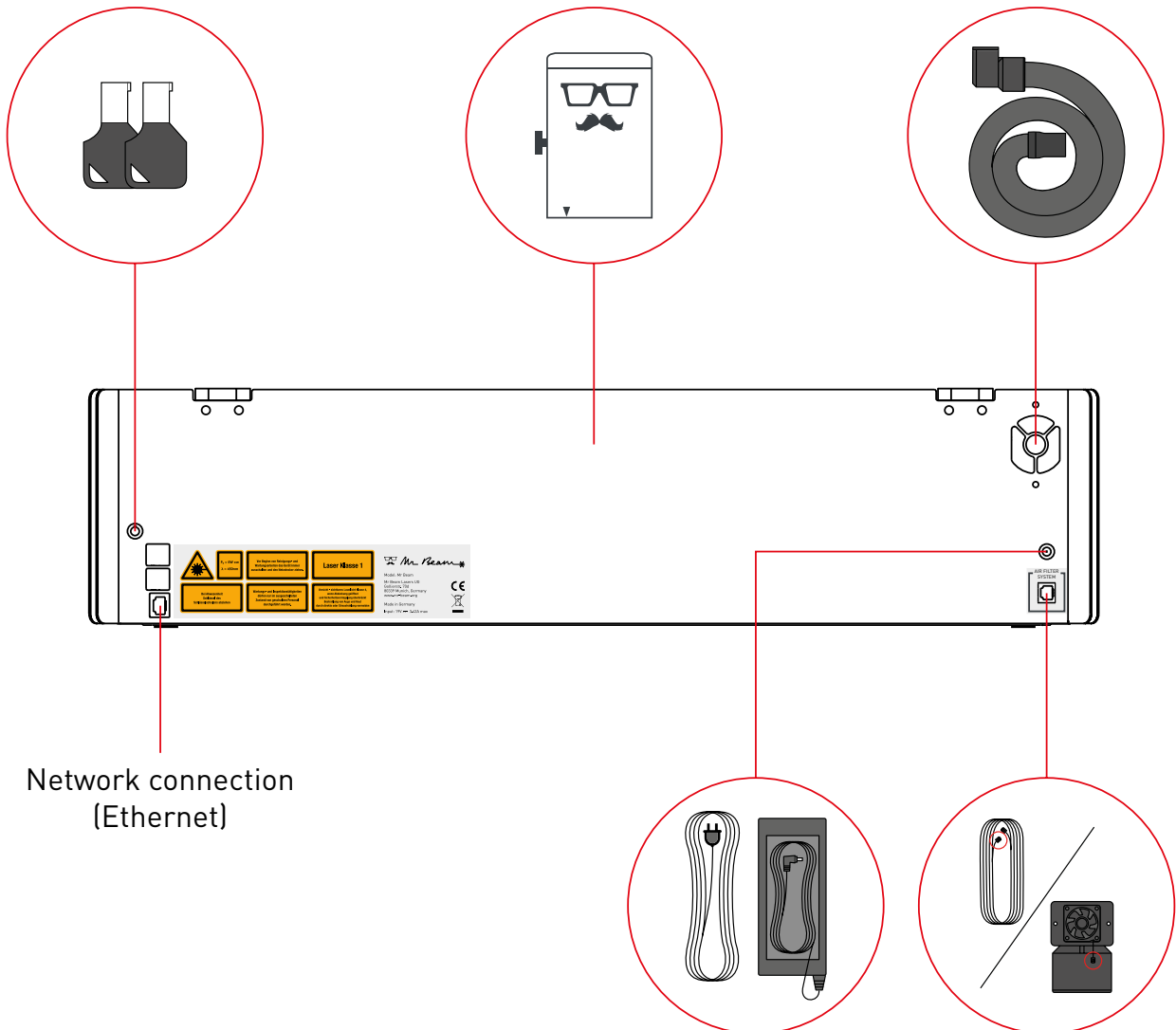
First, remove the small box on the side. The laser head, the power adapter, the key and the Focus Tool are inside it.

Remove the transport safeguard inside the device carefully.

SETTING UP MR BEAM
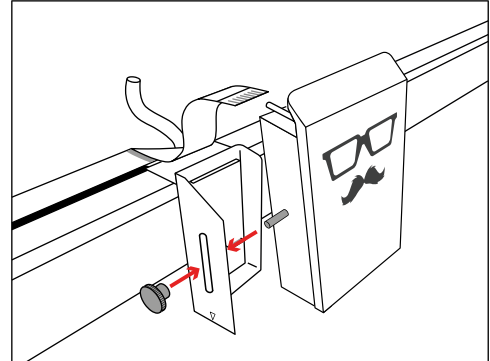
Network connection
(Ethernet)

5

CONNECTING THE LASER HEAD TO X-AXIS

To connect and disconnect the laser head, Mr Beam must be disconnected from the power supply system!

Remove the sticker from the back side of the laser head.

Mount the laser head to the base plate using the knurled screw.

Tighten the knurled screw moderately with two fingers.

Then connect both the hose (only in the „dreamcut" model), as well as the ribbon cable to the laser head.
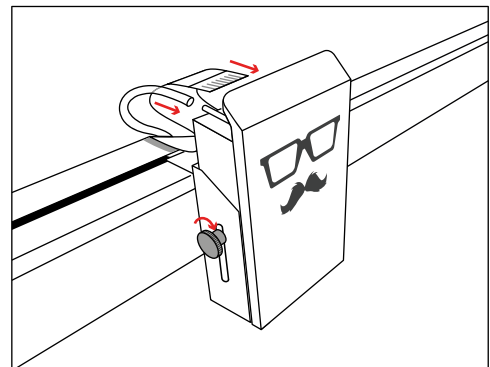
The silver contacts of the ribbon cable must be on the top.
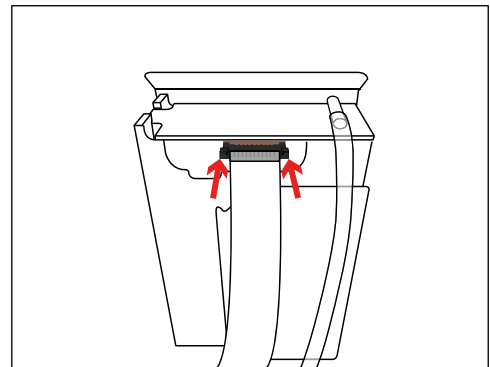
The black bracket fixes the ribbon cable to the socket.

To disconnect the cable, pull out the bracket about 2 mm **carefully**. For fastening, press in the bracket on both sides.
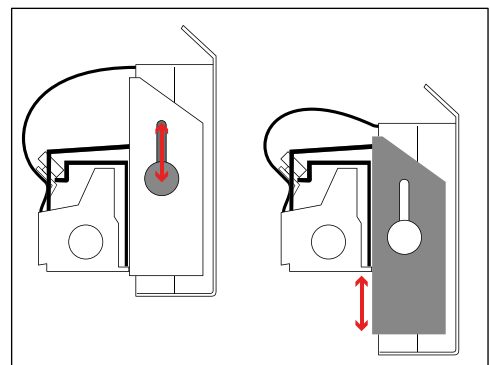
To adjust the laser focus to different material heights, the base plate can be mounted at different heights. You can make fine adjustments using the knurled screw and the slotted hole in the base plate.

See the chapter: Mr Beam Focusing

CONNECTION OF THE SUCTION / AIR FILTER SYSTEM

Screw the elbow to the end of the hose (left-hand thread).
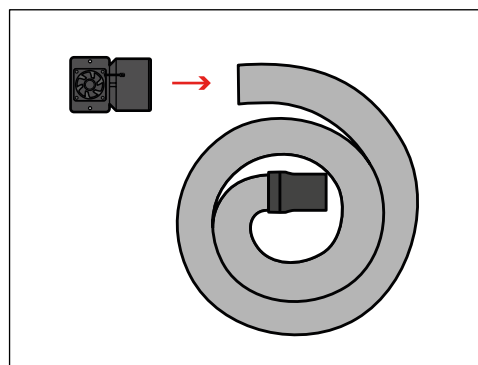
Screw the contra-angle incl. hose to the housing using the knurled screws.
Also connect the Mr Beam Air Filter System or suction fan with the appropriate cable.
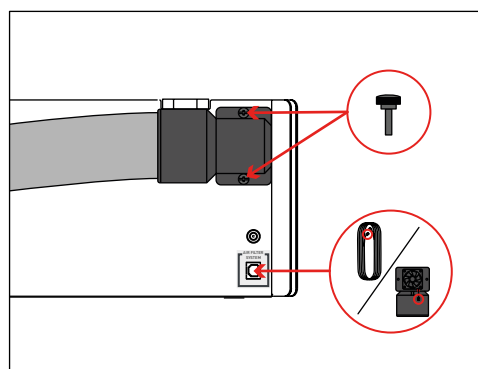
Connect the Mr Beam Air Filter System or suction fan to your Mr Beam.
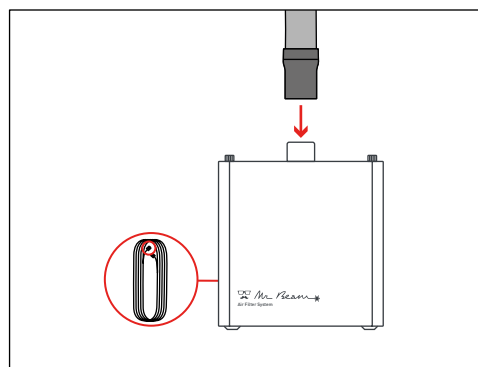
If you operate your Mr Beam without Mr Beam Air Filter System, you are **obliged** to ensure that the waste air is discharged properly.

To do this, direct the waste air outdoors or connect the hose to an existing waste system. Fix the hose carefully and prevent the waste air from entering the room.
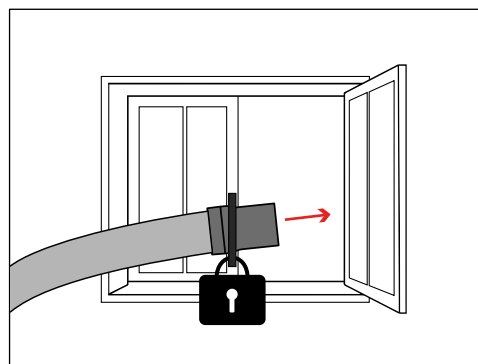
POWER SUPPLY / ON-OFF SWITCH

Connect the **power adapter** to your Mr Beam.
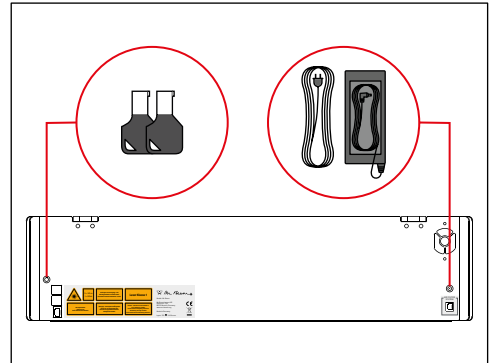
Turn on your Mr Beam using the **key**. It serves as access control for authorized users.
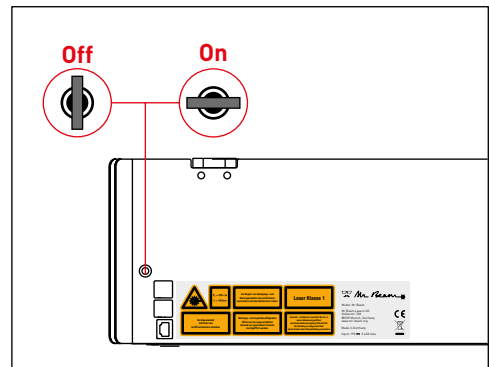
To **turn on** your Mr Beam, briefly press the button. The light of the laser head is switched on immediately and after 10 seconds the Status Lights are also switched on.
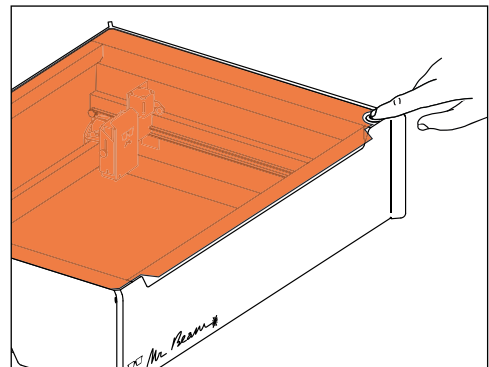
To **turn off** your Mr Beam, press the button 5 seconds until the Status Lights turn permanently red. After 15 seconds the whole system shuts down.
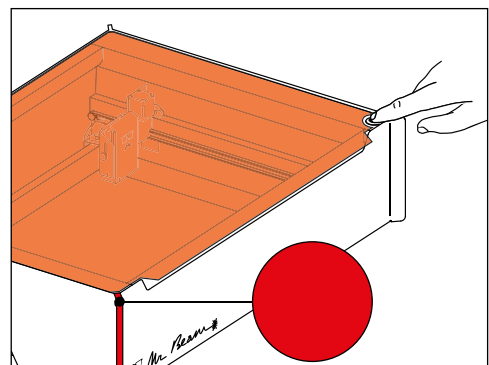
Connection options with Mr Beam
There are three options to connect Mr Beam to your computer or tablet. Choosing the most appropriate option depends on your personal usage preference and the network available at the location Mr Beam is set up in.

Please choose one of the following connection options and proceed with the installation in the section "**Status Lights**" on the next page.

Option A: Connection via Wi-Fi
Connect your computer directly to the Wi-Fi Access Point of your Mr Beam. This is the easiest connection option. No internet access or network infrastructure is required. You may not be able to use the Internet on your computer while you are connected to Mr Beam. See page 11.
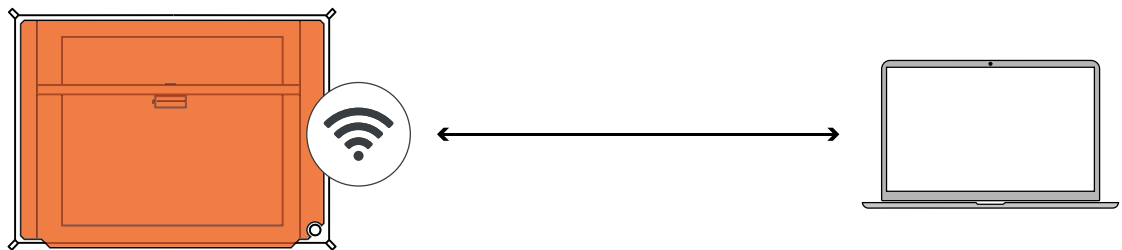
Option B: Connection via network cable (Ethernet) and router
Connect Mr Beam to the network router using a cable. Then, use the find.mr-beam service to create a connection to your Mr Beam.
This option is particularly stable due to the cable connection. An internet connection is necessary for the use of the find.mr-beam service. See page 12.
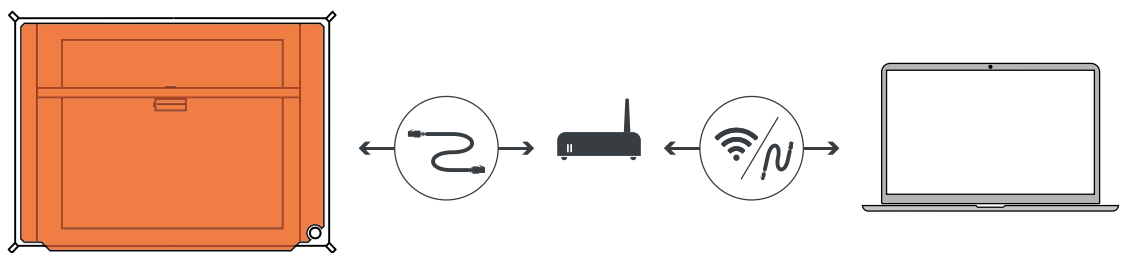
Option C: Connection via Wi-Fi and router:
Connect your Mr Beam to your network via Wi-Fi. To do this, connect Mr Beam to your Wi-Fi using the Wi-Fi-name and password. For initial setup, you need to connect via Option A or B first. The initial setup may be a little complicated, but in the long term, this is the most comfortable option that many users prefer. See page 13.
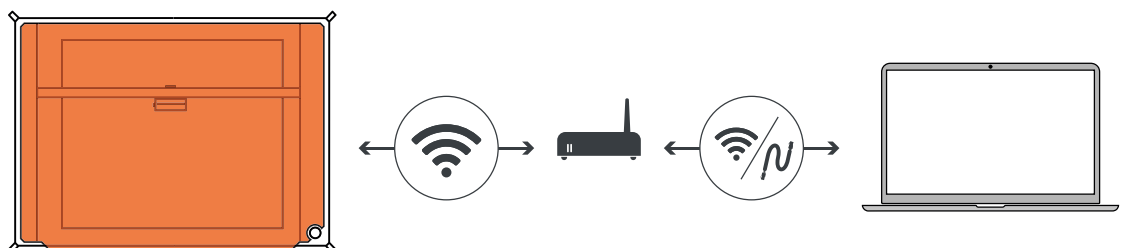
Status Lights

Whether it is your first time setting up your Mr Beam or whether you have been connected to it many times, the **Mr Beam Status Lights** show you how you can connect to Mr Beam at the moment. For that, the status lights "breathe" (pulsate up and down) in different colors.

Orange breathing:	**Green breathing:**	**White breathing:**

Access your Mr Beam via **find.mr-beam.org**

Mr Beam is connected to your router, has an active Internet connection and can be used in your browser by **find.mr-beam.org**.

Find more details on page 15.
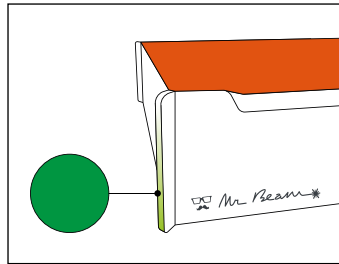
Connect directly to your Mr Beam Wi-Fi Access Point.
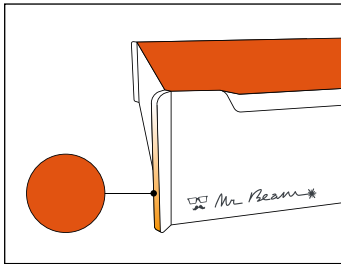
In the wireless settings on your computer, select the Wi-Fi network named „**Mr-Beam-XXXX**". (Password: mrbeamsetup). Once your computer is connected to Mr Beam, open the Google Chrome browser and enter the following in the address bar: 10.250.250.1

Find more details on page 16.
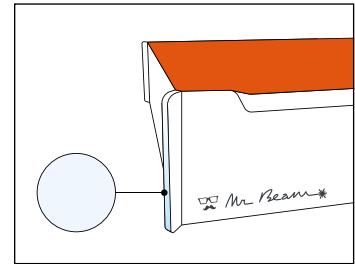
Mr Beam is connected to your local network but has no active Internet connection. Visit our online **Knowledge Base** to find possible solutions.

In case of a green and white pulsation, both connection options are available (Wi-Fi Access Point and local network).

Find more details on page 17.

In all cases, you will find further information in our online **Knowledge Base** at **www.mr-beam.org/docs/lights**

OPTION A: WI-FI ACCESS POINT
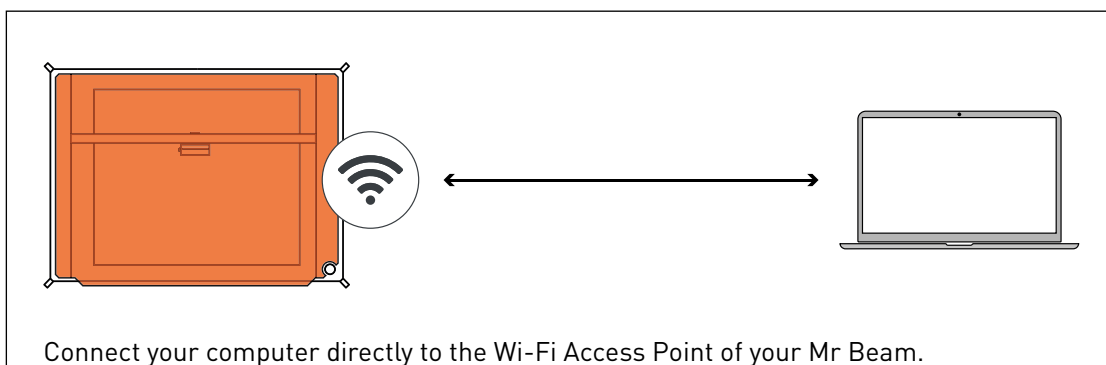
Connect your computer directly to the Wi-Fi Access Point of your Mr Beam.

Name: MrBeam-XXXX
S/N: 0000000XXXXXXXXX-2X

On your computer, select the Wi-Fi network with the name of your Mr Beam: „**MrBeam-XXXX**".

XXXX stands for your specific device name, which is located on the back of your Mr Beam.
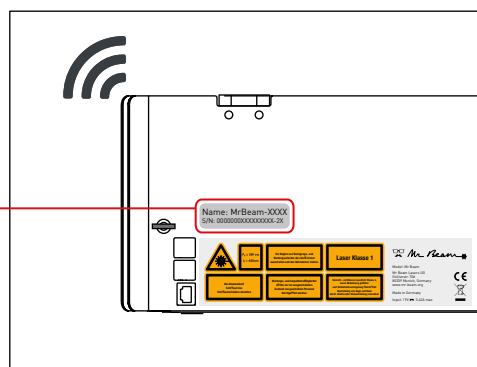
Name: MrBeam-XXXX

Passwort: mrbeamsetup

The password for the Wi-Fi connection is: **mrbeamsetup**.
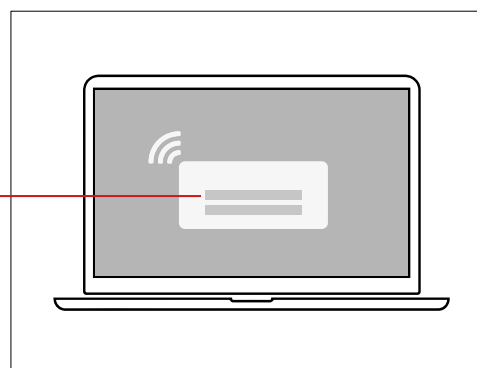
10.250.250.1

Enter the following IP address in the search bar of your Google Chrome browser to load the web app: **10.250.250.1**

Tip: During the initial setup, your Mr Beam will guide you through the Mr Beam **Welcome Dialog**. If you wish to do so, you can set up a Wi-Fi connection with the router there.

OPTION B: CABLE AND ROUTER

Connect your Mr Beam to your network with a cable.
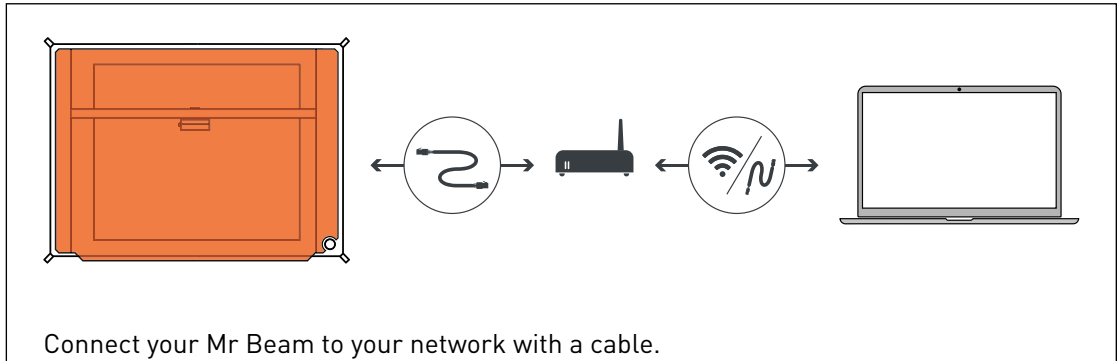
Connect your Mr Beam to your router with a network cable (Ethernet). The network socket is located on the back under the USB ports.

Important: do not confuse the socket with the Air Filter System connection on the other side.

Important: a direct cable connection between your Mr Beam and the computer is not possible.

Make sure your computer is also connected to the router via cable or Wi-Fi.

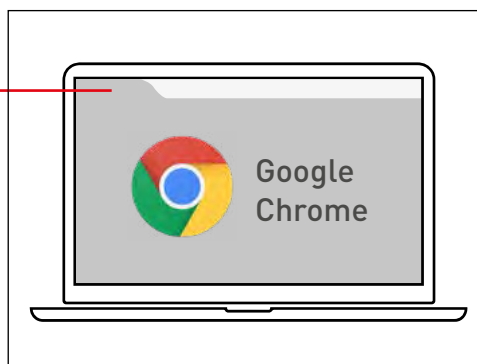After a few seconds (maximum 60 s), your Mr Beam will pulsate with orange lights. The next steps can be found on page 10.

Tip: During the initial setup, your Mr Beam will guide you through the Mr Beam **Welcome Dialog**. If you wish to do so, you can set up a Wi-Fi connection with the router there.

Connect your Mr Beam to your network via Wi-Fi.

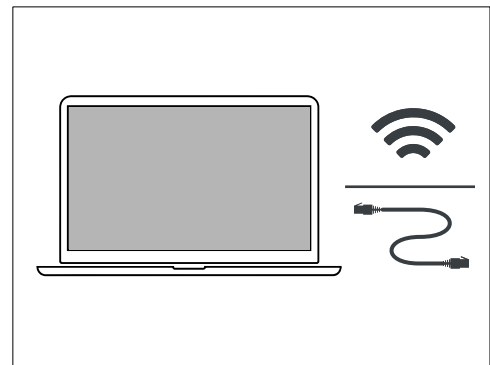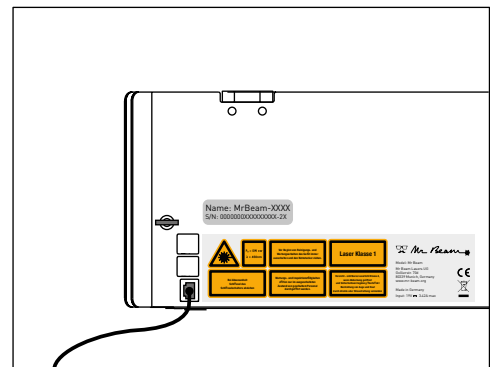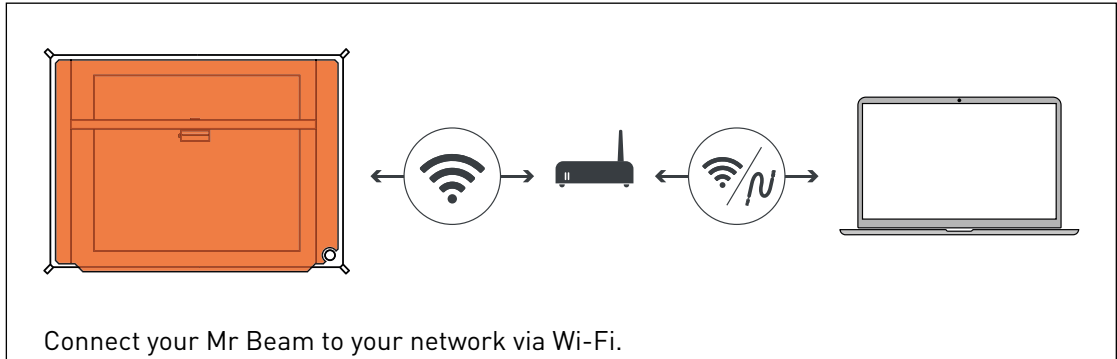For initial setup, you need to first connect through either option A or B to get to the Welcome Dialog, where you can set up your Wi-Fi connection.

If you select **Option A**, connect your computer directly to the Wi-Fi Access Point of your Mr Beam. Afterwards enter the IP address 10.250.250.1 in your Google Chrome browser. This process is described in detail on page 11.
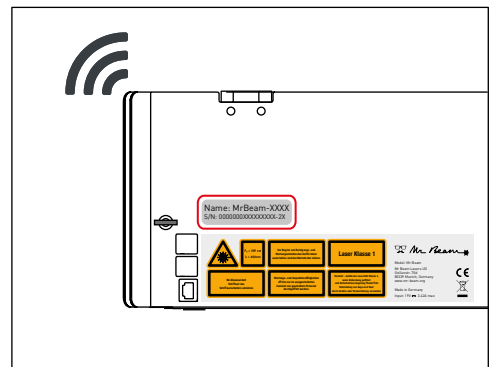
If you have a cable, select **Option B** to connect Mr Beam to your router with the cable. Now use the find.mr-beam service to connect to your Mr Beam for the first time. This process is described in detail on page 12.
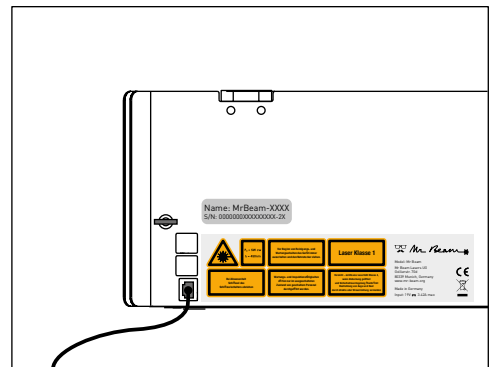
Independently of the chosen option, Mr Beam will greet you with the **Welcome Dialog**. During the Welcome Dialog, you have the option of connecting your Mr Beam to your Wi-Fi. Click the Connect button that appears next to your Wi-Fi network name and then enter your Wi-Fi password.

Tip: A similar process is performed when registering a new smartphone in your Wi-Fi.

OPTION C: WI-FI AND ROUTER

If you have selected the **Option A** for initial setup and are connected to the Mr Beam Access Point via Wi-Fi, Mr Beam will interrupt the Wi-Fi connection to your computer to connect to your wireless router. If successful, your Mr Beam will soon pulsate with orange lights and you can connect to the find.mrbeam service.

Caution: If this fails, e.g. because you entered an incorrect password, you will not receive an error message because you are no longer connected to your Mr Beam. In this case, you have to repeat the connection process of the **Option A** from the beginning.

If you have selected the **Option B** using a cable for initial setup, Mr Beam will tell you if the connection to your router was successful or not. If successful, you can now disconnect the network cable, use the Wi-Fi connection and use the find.mr-beam service.

If you notice a slow connection while operating your Mr Beam, e.g. If the pictures of the camera do not load or load slowly, this is probably due to a poor Wi-Fi connection. In this case, try option B (network cable and router).

CONNECTION TO MR BEAM - ORANGE PULSING

If your Mr Beam is breathing orange, you can access your Mr Beam at **find.mr-beam.org**.
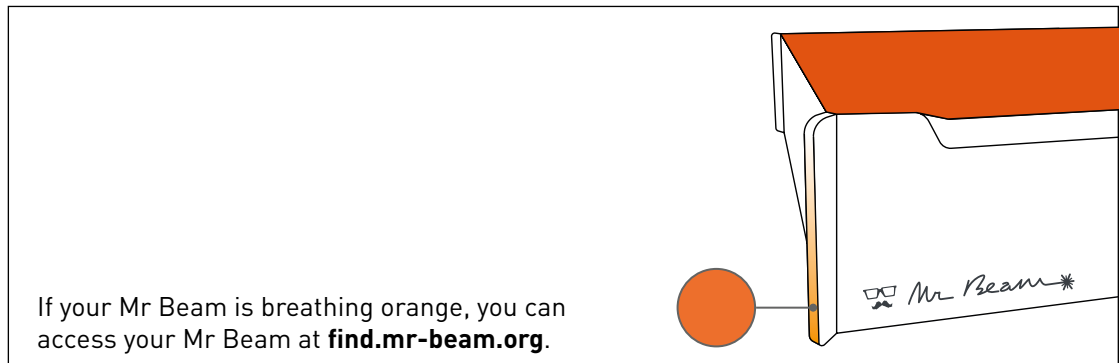
find.mr-beam.org

Enter the address **find.mr-beam.org** into your Google Chrome browser to connect to your Mr Beam.
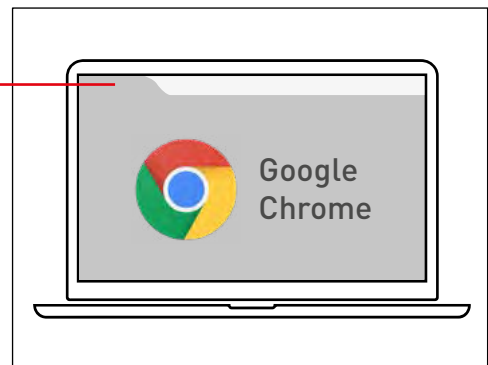
The Online-Service find.mr-beam helps you find your Mr Beam on your computer within your local network.

Your Mr Beam can be founded on find.mr-beam.org, if it is on and connected to the local network (either via cable or Wi-Fi).
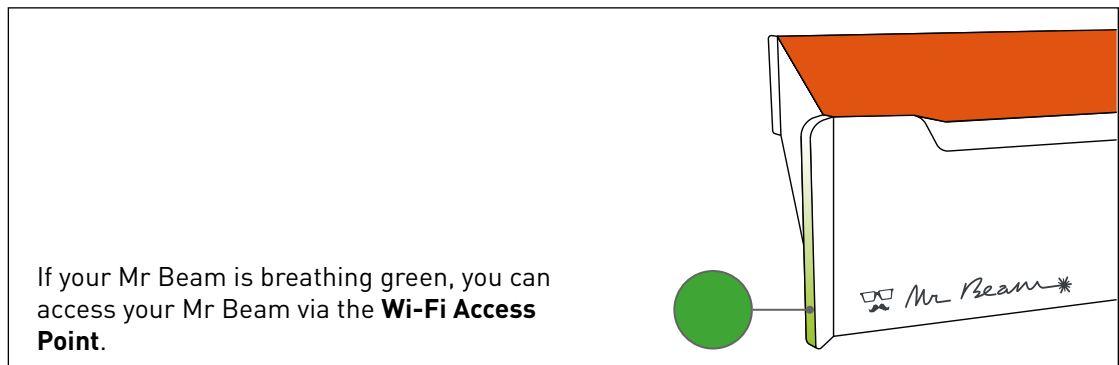
Tip: We recommend that you bookmark the website find.mr-beam.org

After selecting your Mr Beam, the software starts automatically.

CONNECTION TO MR BEAM - GREEN PULSING

If your Mr Beam is breathing green, you can access your Mr Beam via the **Wi-Fi Access Point**.

Name: MrBeam-XXXX
S/N: 0000000XXXXXXXXX-2X

On your computer, select the Wi-Fi network with the name of your Mr Beam: „**MrBeam-XXXX**".

XXXX stands for your specific device name, which is located on the back of your Mr Beam.
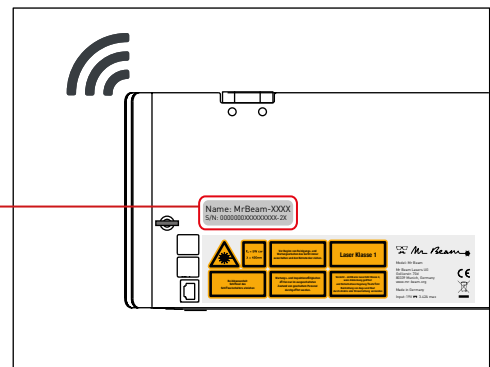
Name: MrBeam-XXXX

Password: mrbeamsetup

The password for the Wi-Fi connection is: **mrbeamsetup**.
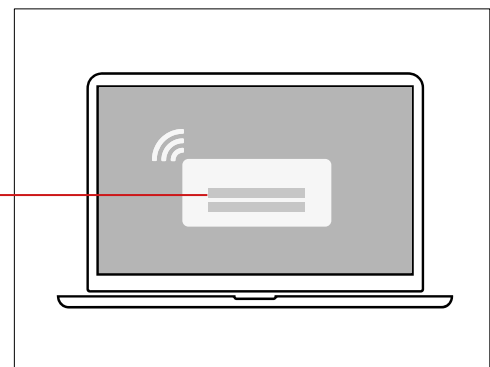
10.250.250.1

Enter the following IP address in your Google Chrome browser to load the web app: **10.250.250.1**

Tip: During the initial setup, your Mr Beam will guide you through the Mr Beam **Welcome Dialog**. If you wish to do so, you can set up a Wi-Fi connection with the router there.

CONNECTION TO MR BEAM - WHITE PULSING

If your Mr Beam is breathing white, you have several options to access your Mr Beam.
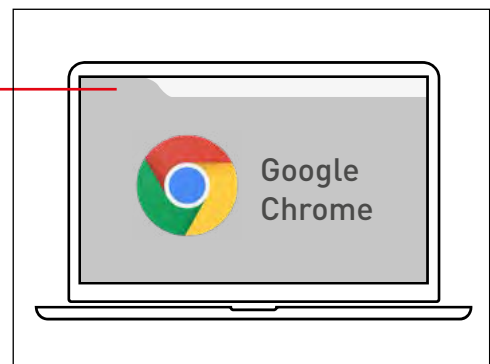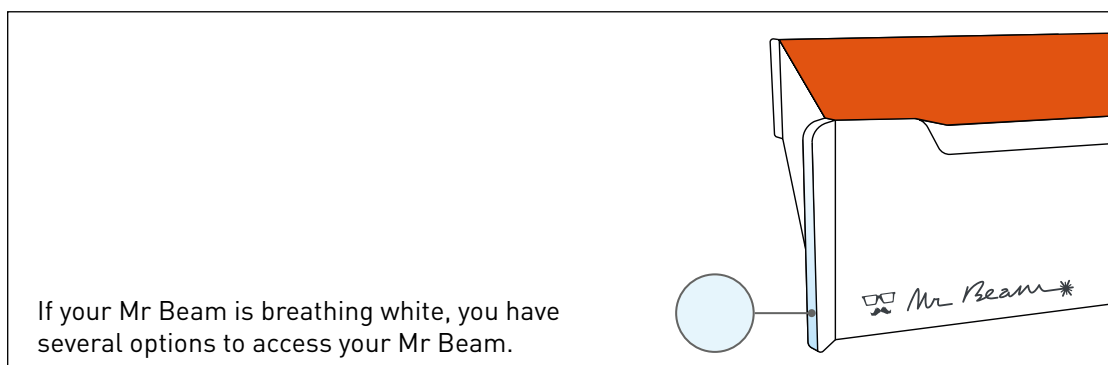
Mr Beam is connected to a network either via network cable or by Wi-Fi. However, it can not connect to the find.mr-beam service, e.g. because there is no internet connection.

The connection options in this case depend on your computer operating system and your network configuration.

We recommend to visit our **Knowledge Base** to find detailed instructions for this case. (See QR Code below).

Tip: A color pattern of **green and white pulsing light** appears when your Mr Beam Wi-Fi Access Point is active, your Mr Beam is connected by cable to the network router, and the find.mr-beam service is not available. In this case, we recommend connecting directly to the Wi-Fi Access Point. See page 11.

Connection issues?

Visit our **Knowledge Base** at
www.mr-beam.org/docs/troubleshooting
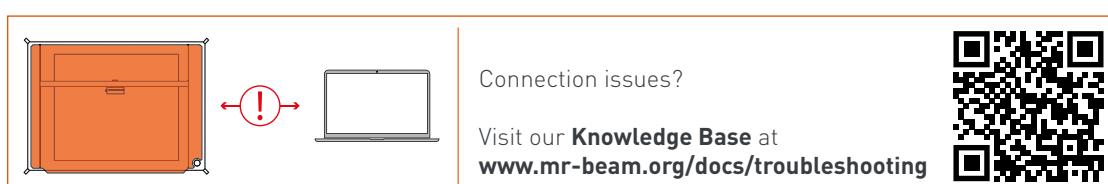
MR BEAM FOCUSING

You need to focus the laserhead to achieve the best result with your Mr Beam.

Because the laser light conically leaves the laser head, there is one point at which it is focused maximally, the Focus point. At this point, your Mr Beam has the maximum performance and highest precision. Therefore, the Focus point should be positioned exactly on the material and needs to be manually adjusted to the material height. For this adjustment, the distance between the bottom edge of the laser head and the top edge of the material has to be 10mm. Use the **Mr Beam Focus Tool** for this.

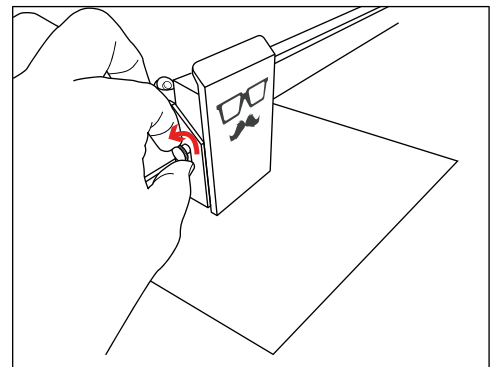Laser source

Laser head

10mm

Focus point
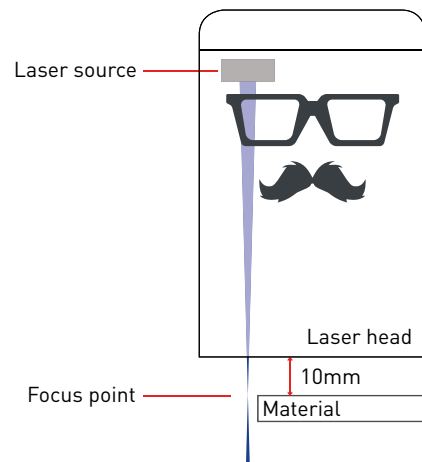
Material

Step 1:
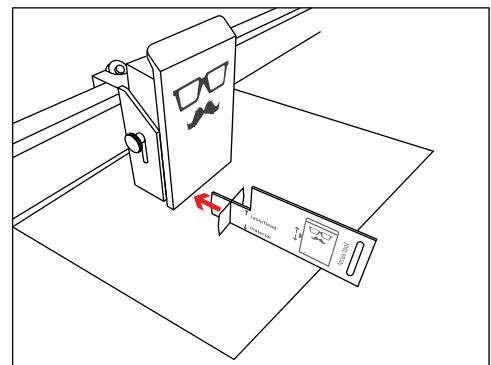Move the laser head over the material by double clicking on the working area on your computer.
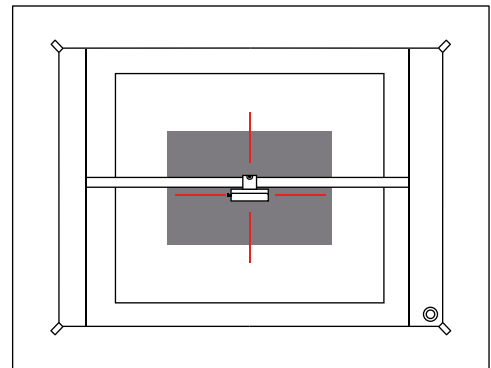
Step 2:
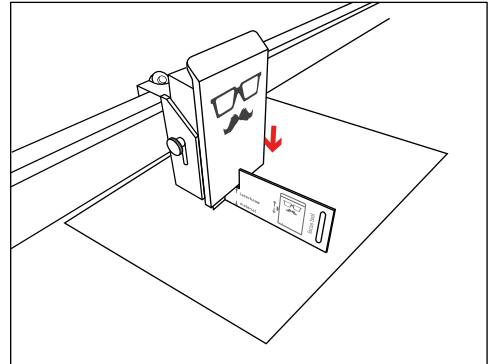Loosen the screw on the left side of the laser head to move it up and down.

Step 3:
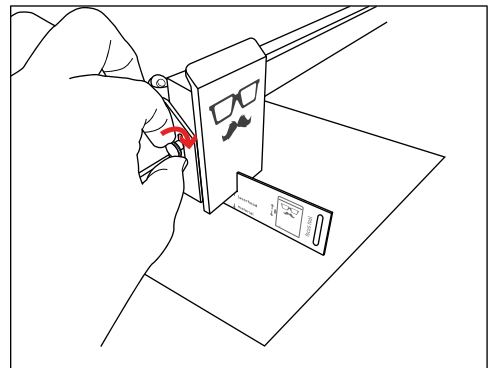Place the focus tool on the material and the cross under the laser head.

Step 4:
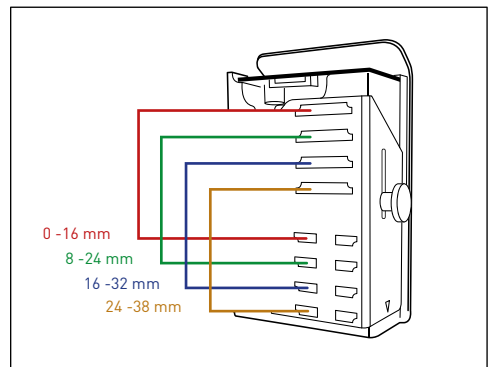Move the laser head down until it touches the cross of the focus tool.

Step 5:
Moderately tighten the screw again and remove the focus tool.

0 - 16 mm
8 - 24 mm
16 - 32 mm
24 - 38 mm

Coarse focusing
For coarse focusing, the laser head can be mounted at different positions.

To connect and disconnect the ribbon cable, Mr Beam must be disconnected from the power supply!

First remove the laser head by using the knur-led screw and put it aside carefully. It is not necessarily needed to disconnect the ribbon cable. To mount and unmount the base plate, slightly press the dolly together. Unhook the top of the base plate first, then the bottom. To reassemble in a different height, proceed in reverse order.
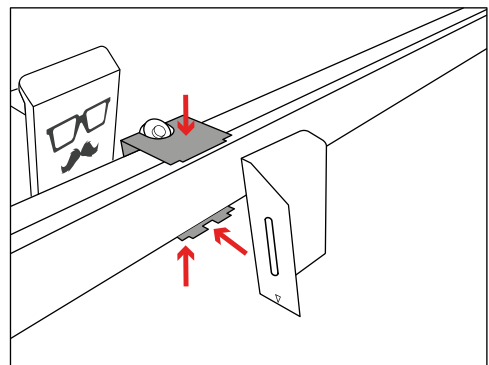
MR BEAM SOFTWARE

Continue to the material settings

Working area   Design library

When the lid of Mr Beam is fully open, a photo is taken every five seconds and it is shown on the working area. Double-click anywhere to move the laser head to the desired position.

Creating SVG files

If you create a vector file for cutting and engraving, please observe the following details:

- filled areas will always be engraved
- lines can be cut or engraved
- choose different colors while creating the file to select different parameters in the Mr Beam
  Software later

A collection of video tutorials about this topic can be found at
**www.mr-beam.org/docs/video-tutorials**

1. Upload file
Switch to the "design library" area. Under "Upload" or by dragging and dropping them into the browser window, you can upload files with the following extensions: .dxf, .svg, .gcode, .gif, .jpeg, .jpg, .bmp, .pcx, .png, ...

The files can then be selected in the overview.

2. Placement
Once a file has been selected, it can be placed in the work area on the work piece. Use the arrows to scale and rotate the graphic.
Click on "Laser" in the upper left corner to access the laser settings.
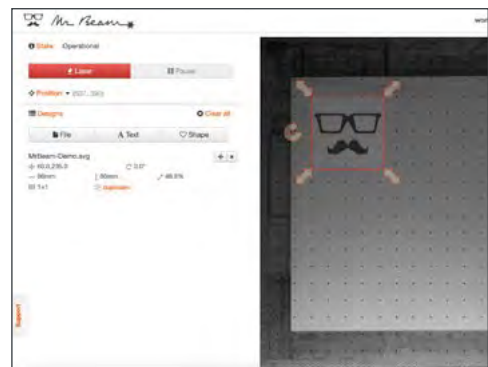
3. Material settings
Select the inserted material. Depending on the material, color and material thickness can be selected.
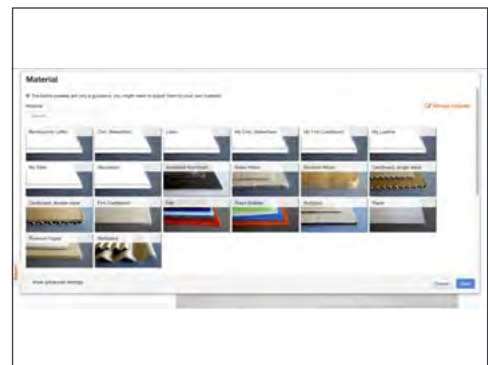

4. Parameter assignment
Depending on the material used, additional settings can be made. If different colors were used in the selected file, different parameters can be assigned to them. By dragging them into the corresponding field, different tasks can be assigned to each color: "skip", "engrave" or "cut".

5. Additional settings
"Laser Intensity Range" describes the range of the gray levels displayed in an engraving; "Engraving Speed Range" describes the speed at which gray values are engraved.
When cutting materials, "Laser Intensity" displays the performance, "Laser Speed" displays the speed and "Passes" shows how often the contour is cut.
Further settings can be found under the menu item "show advanced settings".
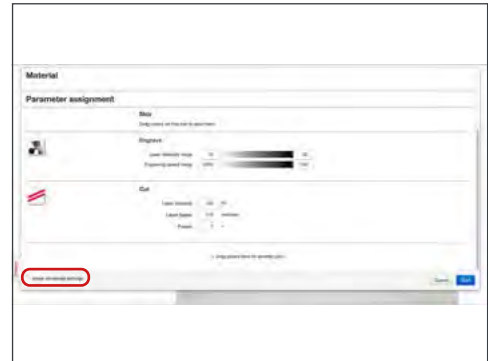
6. Transmission of the instructions
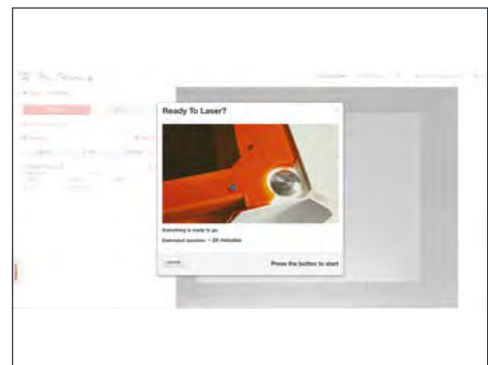By clicking on "Start" the instructions will be transmitted to your Mr Beam.

7. Start
After the lid of the laser is closed and the button pressed to confirm, Mr Beam starts to laser. The computer can then be disconnected or turned off from your Mr Beam, as the laser instructions are now on your Mr Beam.

Never operate your Mr Beam unsupervised!

Happy?

Tell your friends and family! Share your results on Facebook, Twitter and Instagram

#madewithmrbeam

Not Happy?

Please visit our Support section:
mr-beam.org/support

or contact our friendly customer service team through a **Support Ticket** at **mr-beam.org/ticket**