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# GERÄTEDOKUMENTATION

Miteinander zum Erfolg





# TRANSLATION OF THE ORIGINAL OPERATING INSTRUCTIONS

## VARSEO XS

en English



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VARSEO XS  
40100101



**This device documentation is part of the device and must be enclosed when selling or transferring the device.**

- The device has been designed solely for use in institutions such as research, commercial and training facilities. The device must only be operated by trained specialists; trainees and other persons operating the device must be supervised..
- The operating instructions must be read and understood before the device is used. This applies, in particular, for the Safety Instructions. Damage caused by non-compliance with these operating instructions will invalidate any and all warranty claims. We will also assume no liability for any resulting consequential damage.
- Symbols used

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This symbol indicates very important information. Failure to comply with it may result in personal injury.



Use eye protection (protective glasses against mechanical hazards).



This symbol indicates that safety gloves have to be worn.  
Recommendation: Nitrile gloves



This symbol indicates that protective clothing must be worn.



Read the operating instructions carefully.



Protect from direct light / sun light.

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## General Information

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### Importance of the operating Instructions

These operating instructions includes all information required in accordance with the relevant rules for the safe operation of the device described herein.

The operating instructions are a part of the device. The operating instructions must therefore

- always be kept in an easily accessible location near to the device until it is disposed of.
- be passed on with the device when it is sold, transferred or rented/leased out.

Contact the manufacturer if you are unsure about anything stated or described in the operating instructions.

We welcome any suggestions or contributions; please feel free to contact us. Your effort will help us make the operating instructions more user-friendly and respond more effectively to your needs and requirements.

### Target group

This document is directed toward everyone working with this device or performing service tasks that are described in this document.

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### Manufacturer

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## Conventions

These operating instructions contain references to residual hazards, important user tips and handling instructions that are identified with the following symbols and signal words.

### **DANGER**

This reference identifies hazards, which will result in serious injury or death if the relevant hazard warning is not observed or not observed properly.

### **WARNING**

This reference identifies hazards which could result in serious injury or death if the relevant hazard warning is not observed or not observed properly.

### **CAUTION**

This reference identifies only those hazards that are potential damaging to property and the environment.

### **NOTE**

This symbol identifies user tips and particularly useful information. It helps you to take full advantage of all the functions of your device.

1. Sequential actions are described in sequentially numbered paragraphs.
- Cross-references are identified with this symbol.

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## Warranty and Liability

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Our "General terms and conditions of sale and delivery" apply. These terms and conditions are available to the operating company upon conclusion of the contract, at the latest. Warranty and liability claims for personal injury and property damage are excluded if these are attributable to one or more of the following:

- Improper use of the device;
- Improper installation, commissioning, operating and maintenance of the device;
- Operating the device with safety installations/safeguards that are defective, improperly installed or inoperable;
- Failure to observe the notes contained in these operating instructions regarding the transport, storage, installation, commissioning, operation, service and maintenance of this device;
- Unauthorized structural modifications to this device;
- Inadequate monitoring/inspection of device components that are subject to wear;
- Improperly performed repairs;
- Catastrophic events beyond human control and force majeure.

### Intended use

This 3D printer is exclusively designed for the manufacture of legal 3D objects.

The use of the device for any other purpose such as, for example, the production of weapons or other dangerous objects, as well as to produce objects that are protected by copyright is strictly prohibited.

Any use deviating from the specified use is deemed improper use and is strictly prohibited.

Prohibited are:

- the use of the device if it is not in perfect condition or in case of safety-relevant device malfunctions,
- any operation without protective covers or protective equipment/safeguards,
- working with the device without wearing protective clothing,
- unauthorized modification on the machine,
- the assignment of unqualified personnel.

The manufacturer has no knowledge of any improper use up to this time.

### Exclusion of liability in case of modifications

If a modification by the user affects any aspect of the performance data or intended functioning, as described in the relevant standards of the 3-D printer, the person or organization that undertook the modification is responsible for obtaining a new classification and new labelling for the 3-D printer. This person or organization then assumes the status of "manufacturer".

### Disclaimer for use for third party materials

We accept no liability for any damage or personal injuries resulting from use of third-party resins.

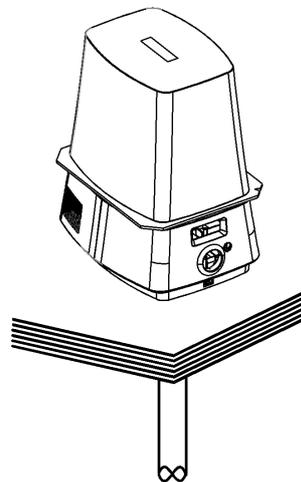
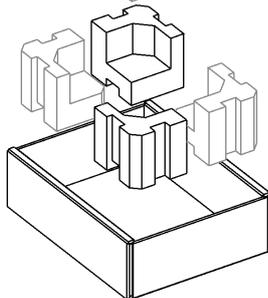
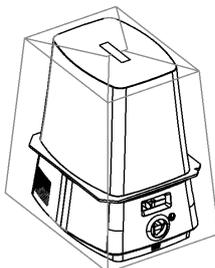
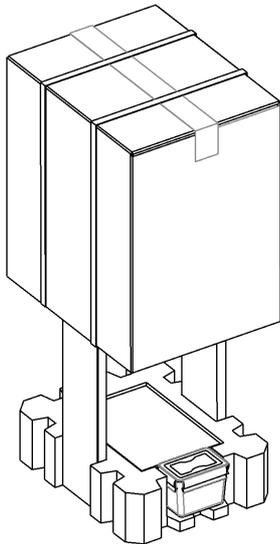
## Unpacking / Packing

### ⚠ CAUTION



#### Damage during transport without original packaging

- Please keep the original packaging materials.
- Always ship the device with the original packaging.



## Safety Instructions

The BEGO VARSEO XS is based on DLP technology (Digital Light Processing) and is intended solely for the creation of objects from stereo lithography resins, which have been approved by BEGO. Any other use is deemed to be improper. We shall not be liable for any damage resulting from improper use.

The safety instructions must be adhered to in order to prevent personal injury and damage to the

device. We shall not be held liable for any damage arising from the failure to comply with the safety instructions.

### **WARNING**



#### **Risk of injury!**

Observe the safety data for the resin used!

### General Safety Instructions

**Place of installation** - The device has been designed solely for use in institutions such as research, commercial and training facilities.

The device may only be installed on a sufficiently stable surface. The height of the table should not exceed 720 mm to avoid posture problems.

The device should only be used in **dry, dust free and well ventilated** rooms.

Keep the 3D printer away from direct sunlight and/or UV light even when the cover is closed.

Make sure that the device is not exposed to vibrations during operation. For that reason, do not place the device next to other devices that may generate vibrations.

**Operating company and operating personnel** - The device must only be operated by trained specialists; trainees and other persons operating the device must be supervised..

Operators must wear the prescribed protective clothing and comply with the rules of conduct.

The device must only be operated by employees, who are familiar with and follow the instructions of this operating manual.

The operating manual must be easily accessible during the operation of the device. Observe the national accident prevention regulations in addition to this operating manual.

**Handling the device** - Prior to connecting the device to the power supply, check and make sure that the specifications on the rating plate correspond to the power supply network. Consult a specialist in case of uncertainty.

The device is subject to the provisions of protection class III and must only be connected to proper power sources (outlet sockets).

The device must not be modified.

Signs and labels must always be maintained in legible condition. They must not be removed.

The device and its supply lines must be checked regularly for signs of damage. The device must not be operated if it has any defects that may pose a risks for the employees or third persons.

The operation of the device requires a LAN or WIFI connection, which must be set up beforehand!

Supply lines must be protected against heat, oil and sharp edges. Supply lines must not be used to carry the device or to pull out the mains plug.

**Repairs** - Repairs must only be carried out by BEGO customer service personnel or by persons authorized by the BEGO customer service department.

**Care and maintenance** - Switch off the device and pull out the mains plug before performing any servicing, cleaning or maintenance work.

Only use dry or slightly damp cloths to clean the device. The device must not be sprayed with or immersed in water.

Cleaning the resin tank → page 35

**Special safety instructions regarding this device**

**⚠ WARNING**

 **Risk of injury**  
Cables and hoses must be laid in such a way that they do not pose a tripping hazard! Use cable ducts, bridges, etc.

**⚠ WARNING**

 **Electrical hazards**  
Switch the device off and disconnect it from the power supply before carrying out any cleaning and/or servicing work.

**NOTE**

Important! Never operate the device without supervision!

**Using resins**

**⚠ WARNING**

 **Risk of injury**  
**The resin may cause allergic reactions.**

- Observe the safety data sheet for the resin in use (→ <http://www.bego.com>).
- Observe the corresponding resin's directions for use.
- Wear protective gloves. Recommendation: Nitrile gloves.
- Use protective eyewear (safety glasses).
- Wear protective clothing.

The VARSEO XS resin tank should only be filled with resin or cleaned with ethanol under exhaust ventilation or in a well ventilated room to be protected against unpleasant odours and/or rising gases.

**⚠ WARNING**

 **Risk of injury**

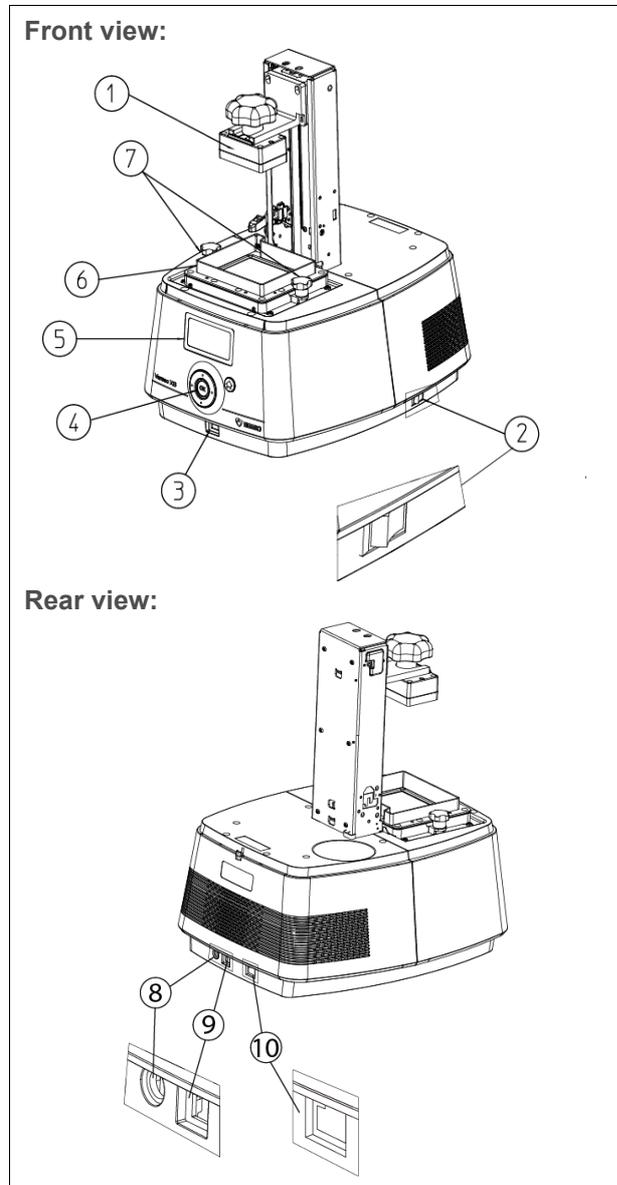
- The resin should not enter any bodily orifices such as the eyes and mouth, as this will cause a poisoning hazard.
- Any resin spilt on the floor must be wiped up using ethanol and paper towels to avoid slip hazard.
- Observe the safety data sheet for the resin in use (→ <http://www.bego.com>).

**NOTE**

We recommend using a separate resin tank and build platform for every indication to avoid any cross-contamination.

## Device description

### VARSEO XS - compact 3D printer with user-friendly operating and control concept



- 1 Build platform
- 2 Mains switch
- 3 USB A port
- 4 Control panel
- 5 LCD display
- 6 Resin tank
- 7 Fixing screws for the resin tank
- 8 Mains supply
- 9 USB B port
- 10 LAN connection

In combination with tested and proven materials, the device facilitates printing a variety of 3D objects using state-of-the-art stereolithographic technology. This technology is based on the principle of producing parts in a layer by layer fashion from liquid resin with the aid of UV light. The specific demands for precision and practicality were paramount during the development of the device.

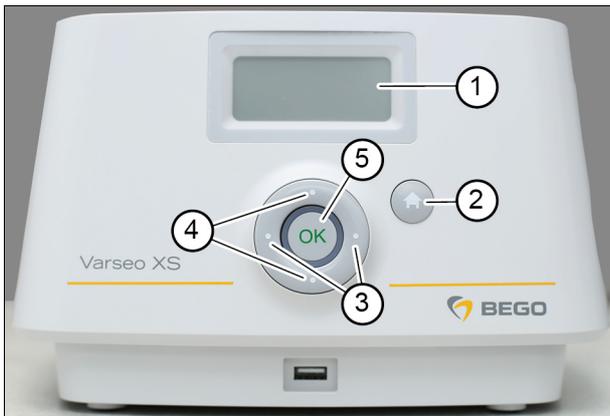
The exposure unit is equipped with a powerful UV-LED. It warrants a rapid print process and, at the same time, is maintenance-free and durable.

Data between the device and the PC is exchanged conveniently via the network interface (LAN or WIFI). The wide range of accessories facilitate immediate use. The technical design and the implementation of cutting-edge technologies make this 3D printer a perfect tool.

The BEGO VARSEO XS has a LCD display and a control panel, which are used to control all operations. A USB socket on the front of the device facilitates loading a print job (job file) from a USB flash drive. Alternatively, the job file may also be sent to the device via the local network. The device needs to be connected to the local network for that purpose.

In order to activate the BEGO Varseo XS 3D printer, the printer as well as the material to be used must first be registered under [www.my.BEGO.com](http://www.my.BEGO.com) (see page → page 14). After registration, you will be able to see and keep track of your system and your registered products, get access to software updates and be able to manage optional materials.

## Operating and control elements



- 1 LCD display
- 2 HOME button: Return to main menu
- 3 Left and right button
- 4 Up and down button: Navigate through menu items
- 5 OK button: Confirmation button

### NOTE

Deviating functions are described separately.

## Basic principles

VARSEO XS uses a powerful LED light source to create plastic objects by means of solidifying liquid resin mixtures. To prevent premature solidifying of the resin mixture it must only be used in an area that is protected from light or darkened, respectively. For that purpose, the Varseo XS is equipped with a protective cover. There will still be some non-solidified (wet) resin mixture on the object after the print job has been completed. Any further solidifying of the resin reduces the accuracy of the created object.

### ⚠ CAUTION



#### Property damage

**The resin is sensitive to light.**

Protect (liquid) resin mixtures that have not yet been solidified against direct or strong light sources in the area.

The objects are built in layers, which bond to each other. Every new layer solidifies on the non-stick film, which is located on the bottom of the resin tank. Any damage to the non-stick film can lead to flaws in the solidified layer and therefore causes flaws in the object.

### NOTE

**IMPORTANT!** Check the bottom of the resin tank for damage prior to every print job and replace the resin tank, if necessary.



## Technical data

UC light source.....	UV LED $\lambda$ 405 nm	Output:.....	60 W
Maximum print area (WxDxH).....	64x40x120 mm	Nominal voltage.....	100-240 V AC, 50/60 Hz
Height max.....	426 mm	Noise emission.....	< 70 dB(A)
Width.....	290 mm	Ambient temperature.....	20 - 30 °C (57 - 86 F)
Length.....	357 mm	max. relative humidity.....	40 bis 60 %
Resolution X/Y/Z-axis.....	50 $\mu$ m	Elevation.....	up to 2000 m
Weight.....	11 kg	Print rate.....	up to 30 mm/h

## BEGO CAMcreator Print

The BEGO CAMcreator software allows you to create and process different dental objects for the VARSEO XS.

Please install the BEGO CAMcreator software on your computer to use the printer. The software license, the installation instructions and a brief instruction of the software functions are available on your myBEGO account.

### NOTE

If you do not have admin rights then have the installation and the update carried out using admin rights or contact an administrator to have this done.

## System requirements

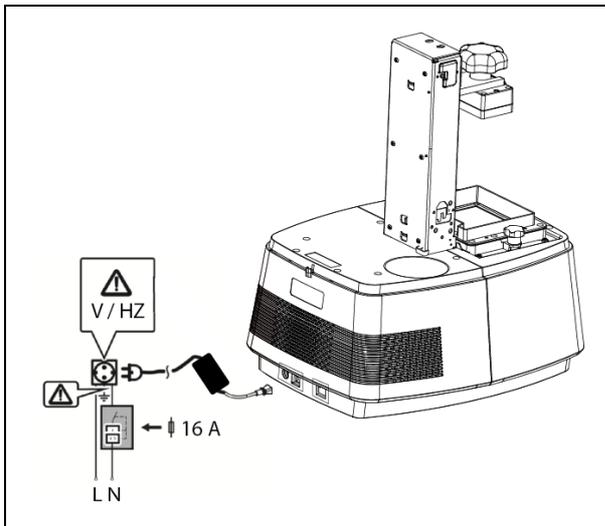
Item	Recommendation
OS	Windows 7, 8, 10 64-bit Professional
RAM	8 GB
Video Card	DirectX 11 NVIDIA GeForce
Available HDD storage space	at least 50 GB free storage space
CPU	Intel Core i5
Monitor	FullHD 1920x1200
Network	Internet connection
Mouse	With mouse wheel support

## Installation

### NOTE

- The device should be installed in a well-ventilated area. The distance to the wall must be at least 10 cm to ensure that there is enough space for proper device ventilation.
- Protect the device against frost, direct sunlight and ultraviolet radiation. Avoid positioning the device close to heat sources (e.g. radiators, ceramic ovens).
- Only use the device when the required ambient conditions are met (→ page 12).

## Electricity



### ⚠ WARNING



#### Electrical hazards

- Prior to connecting the device to the power supply, check and make sure that the specifications on the rating plate correspond to the power supply network. Consult a specialist in case of uncertainty.
- The device is subject to the provisions of class of protection III and must only be connected to properly grounded power sources.

## Initial commissioning

### Activating the VARSEO XS at myBEGO

A registration is required in order to activate your BEGO Varseo XS 3D printer requires. Using your chosen access data, you can login to [www.my.BEGO.com](http://www.my.BEGO.com) at any time and profit from many advantages:

- You will be the first to receive news and information. We will inform you about new products, tips and tricks for your BEGO Varseo 3D print system, scheduled webinars and much more.
- Support section: Profit from our video tutorials to take full advantage of your BEGO Varseo 3D print system.

1. Export the machine data from the device to the provided USB flash drive (→ page 30).
2. Open the "BEGO Varseo Activation.exe" file in the "Profile" folder on the provided USB flash drive.
3. Enter all required data and confirm the entries to activate your printer with myBEGO.

The activation will take place automatically.

After registration, we will send you an e-mail to the specified e-mail address, which will contain the user information that you have chosen.

Please note that the VARSEO XS printer must always be online and registered on [www.my.BEGO.com](http://www.my.BEGO.com) in order to execute print jobs!

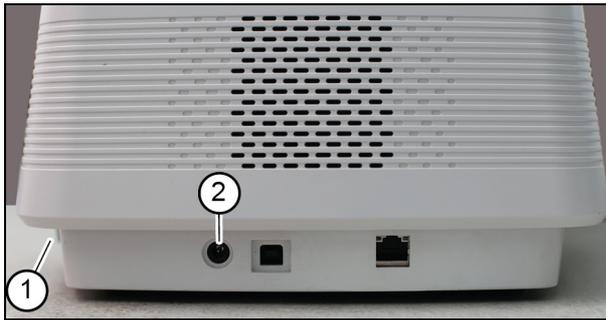
4. Download the BEGO CAMcreator Print software from your myBEGO account and install it on your computer (→ Page 12, Section "BEGO CAMcreator Print").
5. Establish a network connection:
  - Setting up a network connection via LAN cable → page 17
  - Setting up a network connection via WIFI → page 18

Your device requires a network connection with myBEGO in order to use the desired indications.

### NOTE

Both, the PC and the printer, need to be in the same network in order to send print jobs directly from the computer to the printer. Refer to the brief instructions supplied with your device to that end.

## Switching the VARSEO XS on



1. Connect the device to a power supply outlet (2) with the supplied power supply unit.
2. Switch the device on with the power switch (1).

INITIALIZING

PLEASE WAIT...

LANGUAGE [EN]  
 ► ENGLISH  
 ニホンゴ  
 FRANCAIS

LANGUAGE [EN]  
 ニホンゴ  
 FRANCAIS  
 ► DEUTSCH

MOVE PLATFORM  
 ► TO TOP  
 TO BOTTOM  
 FOR TRANSPORT

MOVE PLATFORM  
 TO TOP NOW?  
 NO  
 ► YES

The display will light up automatically.

The language selection screen will only appear when the device is switched on for the first time. Afterwards, the main menu will appear.

3. Select the desired display language using the up and down buttons.
4. Confirm your selection with the OK button.  
The language setting can be changed any time (→ page 31).
5. Press the HOME button to call up the main menu.
6. Upon delivery, the build platform is set to pack mode. Call up the following menu items and confirm every selection with the OK button to move the build platform up:
  - > FUNCTIONS
  - > MOVE PLATFORM
  - > TO TOP
  - > YES
7. The build platform will only be moved up if the cover is correctly seated on the device. Place the cover on the device correctly, as needed.

TASK COMPLETED

[OK] TO FINISH

The build platform will now be moved up. The display indicates the successful completion of the movement.

8. Confirm the message with the OK button.
9. Remove the protective material from the resin tank.
10. Press the HOME button to call up the main menu.

### NOTE

The Varseo XS printer must always be online to execute print jobs. The network connection can be established via LAN cable or WIFI.

- Setting up a network connection via LAN cable  
→ page 17
- Setting up a network connection via WIFI  
→ page 18

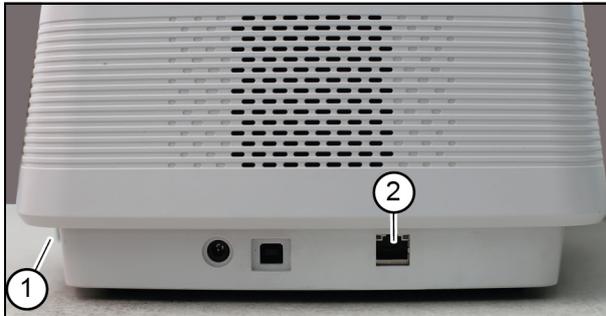
## Setting up a network connection via LAN cable

### NOTE

A connection without DHCP is not possible. Please contact your system administrator to set up DHCP in your network.

### NOTE

A LAN cable is not included in the scope of delivery. Use at least a CAT5e patch cable with a RJ45 connector.



```
SETTINGS
▶ NETWORK [WIFI]
WIFI      OFF
BUZZER    ON
```

```
NETWORK [WIFI]
▶ LAN
WIFI
```

1. Plug the LAN cable into the ethernet socket (2) on the back of the device and into the "LAN" socket of the router / network connection. If your network supports DHCP, the device will connect with your network automatically.

2. In case the device is set to WIFI connection, it needs to be switched to LAN connection. Call up the following menu items and confirm every selection with the OK button for that purpose:
  - > SETTINGS
  - > NETWORK
3. Select > LAN
4. Press the HOME button to call up the main menu.

## Checking the LAN connection

```
VARSEO XS
40100XXX

[OK] NEXT
```

```
LAN IP:
XXX.XXX.XXX.XXX

[OK] NEXT
```

1. You can check the connection to the network and see the IP address. Call up the following menu items and confirm every selection with the OK button for that purpose:
  - > INFO
  - > NETWORK STATUS
    - The serial number of the printer will be displayed.
2. Press the OK button to proceed to the next information screen.
  - The IP address will be displayed.

```
LAN MAC:
XX:XX:XX:XX:XX:
XX
[OK] BACK
```

```
LAN IS NOT
CONNECTED

[OK] NEXT
```

- The LAN MAC address will be displayed.
3. Press the HOME button to call up the main menu.
  4. If an error message appears, check the connectors of the LAN cable on the back of the device and on the router.

### Setting up a network connection via WIFI

```
SETTINGS
▶ NETWORK [LAN]
WIFI OFF
BUZZER ON
```

```
NETWORK [LAN]
LAN
▶ WIFI
```

```
SETTINGS
NETWORK [WIFI]
▶ WIFI OFF
BUZZER ON
```

```
WIFI [OFF]
▶ CONNECT
DISCONNECT
BACK
```

```
SEARCHING FOR
WIFI NETWORK

PLEASE WAIT...
```

1. In case the device is set to LAN connection, it needs to be switched to WIFI connection. Call up the following menu items and confirm every selection with the OK button for that purpose:
  - > SETTINGS
  - > NETWORK
2. Select:
  - > WIFI.
3. Connect the printer with a WIFI network. Call up the following menu items and confirm every selection with the OK button for that purpose:
  - > SETTINGS
  - > WIFI
  - > CONNECT

#### NOTE

The options have following meanings:

- > CONNECT: Searches for available WIFI networks
- > DISCONNECT: Disconnects the existing connection.
- > BACK: Abort settings and return to SETTINGS menu.

4. The device starts searching for available WIFI networks. Wait until the process is completed.

```
NO NETWORK FOUND
▶ SEARCH AGAIN
  CANCEL
```

```
WE FOUND (06/20)
  ACCESS POINT 5
▶ ACCESS POINT 6
  SEARCH AGAIN
```

```
ACCESS POINT 6
▶ ENTER PASSWORD
  KEYPAD HINT
```

5. If no available WIFI network is found, an information screen will appear. Select the following menu item for a new search  
> SEARCH AGAIN
6. To abort the search, select:  
> CANCEL
7. Confirm your selection with the OK button.  
The device shows the available WIFI networks, e.g. (6/20).
  - 06: Number of WIFI networks found
  - 20: Maximum number of WIFI networks that can be displayed
8. Select the WIFI connection to connect the device with from the list. Press the down button to call up the next page with further available networks.
9. Confirm your selection with the OK button.
10. Select the following menu to enter the WIFI password:  
> ENTER PASSWORD

## NOTE

The key pad and the HOME button must be used together for the following password entry. Instructions for the entry of the password via the printer's key pad can be found in the "KEYPAD HINT" menu.

```
PASSWORD [ABC]
ABC
[HOME] KEY MODE
[OK] TO FINISH
```

```
PASSWORD [abc]
abc
[HOME] KEY MODE
[OK] TO FINISH
```

```
PASSWORD [@##$]
@##$
[HOME] KEY MODE
[OK] TO FINISH
```

```
CONNECTING TO
[ACCESS POINT 6]

PLEASE WAIT...
```

```
[ACCESS POINT 6]
IS CONNECTED

[OK] TO FINISH
```

**Checking the WIFI connection**

```
INFO
  SYSTEM VERSION
  RESIN STATUS
  ► NETWORK STATUS
```

- Enter the password with the keypad. Four entry modes are available:
  - English upper case letters (A-Z),
  - English lower case letters (a-z),
  - Arabic numerals (0-9) and
  - special characters (!"#\$%&'()\*+,-./:;<=>?@[¥]^\_`{|}→).

The currently selected entry mode is indicated in square brackets on the top right of the screen→Illustrations.

In password entry mode, the keys have following functions:

- HOME button: Change entry mode
- Up and down buttons: Select numerals, letters or special characters
- Left and right buttons: Switch to previous or next digit

The password is shown in clear text when it is entered.

- Press the OK button to complete the password entry.
- Please wait, while the printer is establishing a connection to the selected network

The printer is connected with the selected WIFI network.

- Press the OK button to complete/exit the settings.

- Use this option to check the status of the wireless connection. Call up the following menu items and confirm every selection with the OK button for that purpose:
  - > INFO
  - > NETWORK STATUS

```
VARSEO XS
40100XXX

[OK] NEXT
```

```
WIFI AP SSID
XXXXXXXXXX

[OK] NEXT
```

```
IP:
XXX.XXX.XXX.XXX
RSSI: XXX
[OK] NEXT
```

```
WIFI MAC:
XX:XX:XX:XX:XX:
XX
[OK] BACK
```

- The serial number of the printer will be displayed.
2. Press the OK button to proceed to the next information screen.
    - The access point of the wireless network will be displayed.
    - The IP address of the wireless network will be displayed.
    - The MAC address of the wireless network will be displayed.
  3. Press the OK button to return to the information menu.
  4. Press the HOME button to return to the main menu.

### Automatic firmware updates

```
SYSTEM UPDATE IN
PROGRESS...
DO NOT TURN
DEVICE OFF
```

The VARSEO XS is updating the device software to the latest firmware version via my.BEGO.com. Upon every restart and after every print job, the device checks for new firmware versions are available and can be installed.

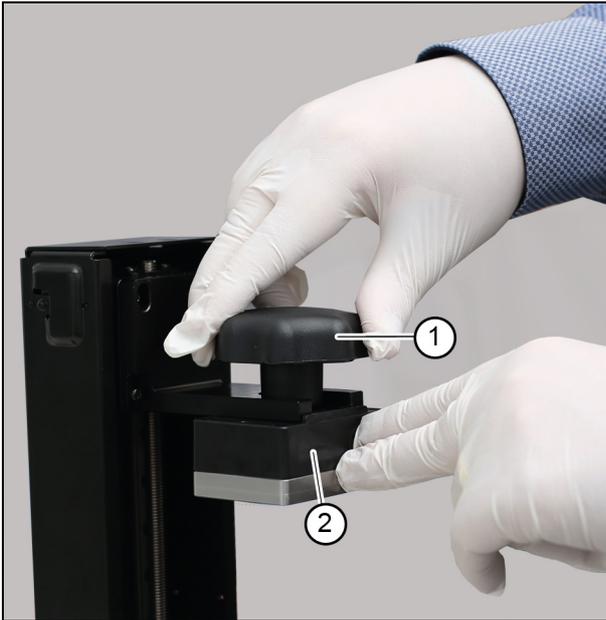
#### NOTE

Please observe the notes on the display.

## Operating the build platform

### NOTE

- Notes on cleaning the build platform  
→ page 35
- We recommend using a separate resin tank and build platform for every indication to avoid any cross-contamination.



### Removing the build platform

1. Turn the screw (1) on the build platform (2) counterclockwise all the way to the stop.
2. Pull the build platform off.

### Installing the build platform

1. Push the build platform into the build platform holding fixture.
2. Make sure that the build platform is inserted straight and parallel to the resin tank.
3. Press the build platform (2) all the way to the stop with one hand and tighten the screw on the build platform (1) clockwise with the other hand.

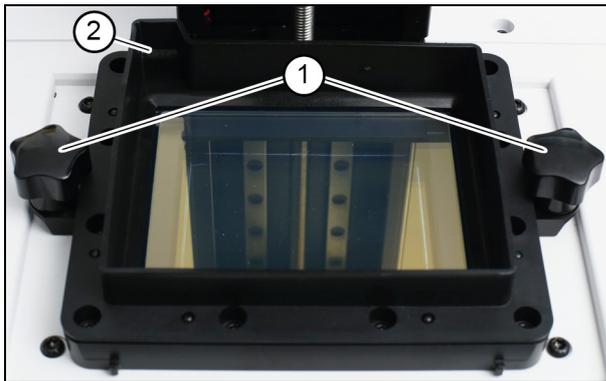
## Operating the resin tank

### ⚠ CAUTION



#### Property damage

Always remove the build platform before removing the resin tank to prevent residual material from dropping onto the surface of the device.



### NOTE

- Remove the resin tank for filling or replacement and to clean the device.
- We recommend using a separate resin tank and build platform for every indication to avoid any cross-contamination.

### Removing the resin tank

1. To remove the resin tank, turn both of the fixing screws (1) located on the resin tank counterclockwise.
2. Remove the fixing screws. Afterwards, you can remove the resin tank.

### Installing the resin tank

1. Insert the resin tank into the device with the MAX marking (2) facing to the left back side. When positioned correctly, the fixing screws can be easily inserted and tightened.
2. Insert the fixing screws (1) into the round openings on the side of the resin tank and tighten them in clockwise direction by hand.

## Filling the resin tank

### ⚠ WARNING



#### Risk of injury

The resin may cause allergic reactions.



- Observe the safety data sheet for the resin in use (→ <http://www.bego.com>).



- Observe the corresponding resin's directions for use.



- Wear protective gloves. Recommendation: Nitrile gloves.
- Use protective eyewear (safety glasses).
- Wear protective clothing.

### ⚠ WARNING

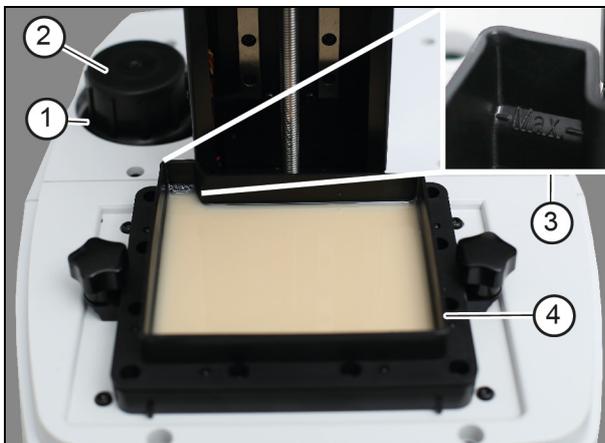


#### Risk of injury

Any resin spilt on the floor must be wiped up and cleaned using ethanol and paper towels to prevent any slip hazard.

### NOTE

- Switch the printer on and fill the resin tank with the corresponding resin before sending the print job to the printer!
- When refilling the resin tank, make sure that there is no solid residue in the resin. If that is the case, filter the resin (special accessory → page 11), so that it can be used.
- Notes on cleaning the resin tank → page 35.
- The resin may remain inside the resin tank for future print jobs. In order to prevent the resin from hardening inadvertently, the cover should not be removed longer than absolutely necessary. That way you protect the resin from light exposure and ensure that dust cannot get into the resin.



1. Read the instructions on the label and the instructions for use for the particular resin before filling the resin tank (4).
2. Shake the bottle (2) for the required amount of time, as indicated.
3. Remove the resin tank from the device (→ page 23).
4. Fill the resin tank; make sure that the fill level does not exceed the "Max" marking (3) on the resin tank. Otherwise, the resin tank may overflow.  
The resin filling capacity at the "Max" mark is approx. 90 g.
5. Place the resin tank back into the device (→ page 23)
6. Put the bottle, from which you have taken the resin for the print job, into the place provided for that purpose on the device (1). Make sure that the RFID tag on the bottom of the resin bottle does not get damaged.
7. Place the cover on the device.

## Printing objects

### ⚠ CAUTION



#### Property damage

- Make sure that there are prints or material residues on the build platform.
- Observe the information regarding the cleaning of the build platform (→ page 35) and the resin tank (→ page 35) to warrant a proper print quality and the proper operation of the printer.

### NOTE

The VARSEO XS printer must always be online to execute print jobs.

- Setting up a network connection via LAN cable → page 17
- Setting up a network connection via WIFI → page 18

Files can be send to the printer via the supplied USB flash drive or via the network with BEGO CAMcreator Print software.

### Printing objects from the USB flash drive



```
BEGO VARSEO XS
SETTINGS
INFO
▶ PRINT FROM USB
```

```
FILE 1
FILE 2
▶ FILE 3
FILE 4
```

```
START PRINTING
FILE 3?
NO
▶ YES
```

1. Check before every print job:
  - a) The printer is switched on.
  - b) The resin tank is filled with the required resin and properly installed.
  - c) The corresponding resin bottle with the RFID tag is placed on the device.
  - d) The cover is placed on the device.
2. Save the print job you have created with the BEGO CAMcreator Print software on a USB flash drive.
3. Plug the USB flash drive into the USB A port (1) located on the front of the printer.
4. Select the following main menu item to display the list of print files and confirm your selection with the OK button.
  - > PRINT FROM USB
5. Select the desired print file with the up and down buttons and confirm every selection with the OK button.
  - > FILE3
  - > YES

```
LOADING...
DO NOT REMOVE
USB DRIVE
PLEASE WAIT
```

The file is loaded and the print will start automatically.

### Printing objects via network (LAN/WIFI)

**NOTE**  
Both, the PC and the printer, need to be in the same network in order to send print jobs directly from the computer to the printer.

```
LOADING...

PLEASE WAIT
```

1. Check before every print job:
  - a) The printer is switched on.
  - b) The resin tank is filled with the required resin and properly installed.
  - c) The corresponding resin bottle with the RFID tag is placed on the device.
  - d) The cover is placed on the device.
2. Send the print job directly from the software to the printer. If the printer is not found automatically, please enter the IP address of the VARSEO XS under BEGO CAMcreator Print software options for the device (show IP address → Page 17, Section "Checking the LAN connection" or → Page 20, Section "Checking the WIFI connection") Please refer to the brief instructions for BEGO CAMcreator Print software.
3. The print job will start automatically once the print file has been successfully transferred.

### Calling up information about the print job

```
BUILDING    XXX%
TIME:      HH:MM:SS
TOTAL:     HH:MM:SS
[OK]MENU <>INFO
```

```
BUILDING    XXX%
RESIN NAME
XXXXXXXXXX
[OK]MENU <>INFO
```

```
BUILDING    XXX%
PRINT FILE:
XXXXXXXXXX
[OK]MENU <>INFO
```

The following information can be called up using the left and right buttons during printing:

- Print progress as a percentage
- Elapsed time
- Estimated total time
- Material used
- Name of the print job

## Stopping or aborting a print job

```
ACTIVE MENU
  PAUSE TASK
  CANCEL TASK
▶ BACK
```

1. To stop or abort a print job, select the corresponding menu:
  - > PAUSE TASK
  - > CANCEL TASK
  - > BACK
2. Confirm your entry with the OK button.

## Completion of the print job

**⚠ CAUTION**



**Property damage**  
**The resin is sensitive to light.**  
Only remove the cover for a short period of time, as needed, to protect the resin from light exposure.

```
TASK COMPLETED
PLEASE OPEN
COVER TO REMOVE
OBJECT
```

```
PLEASE REMOVE
OBJECT...

[OK] TO FINISH
```

After the print is completed, the build platform will automatically move to the top.

1. Remove the cover from the device.
2. Turn the screw on the build platform counter-clockwise all the way to the stop
3. Remove the build platform from the device (→ page 22).
4. Place the cover back on the device afterwards.

## Detaching object from the build platform

### ⚠ WARNING



#### Risk of injury

Ethanol is highly flammable.

- Keep the container closed tightly.
- Keep away from sources of ignition – No smoking.
- Observe the safety instructions on the packaging.

### ⚠ WARNING



#### Risk of injury

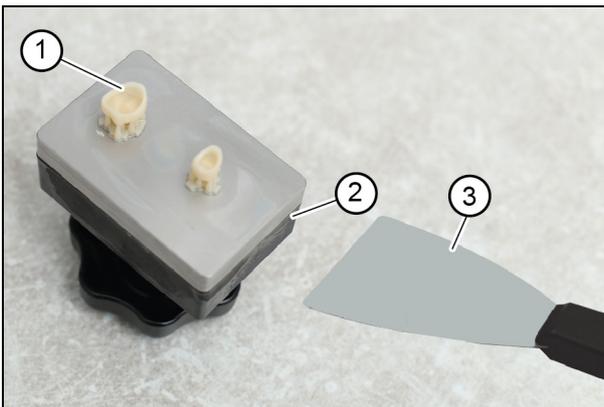
- Any resin spilt on the floor must be wiped up and cleaned using ethanol and paper towels to prevent any slip hazard.
- Wear protective gloves when touching resin that has not hardened/solidified or cleaning prints.

### ⚠ CAUTION



#### Property damage

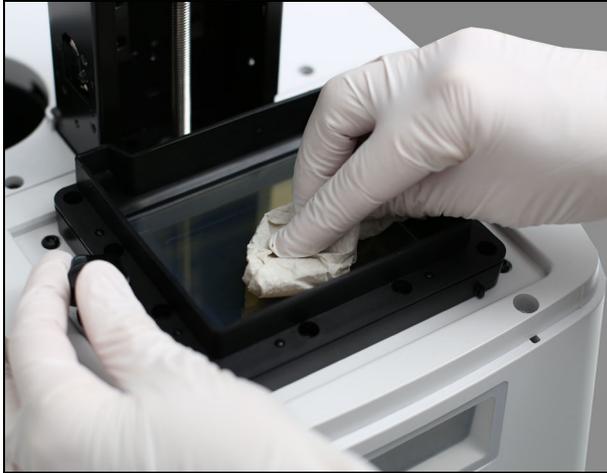
Always remove the build platform before removing the resin tank to prevent residual material from dropping onto the surface of the printer.



1. Remove the object (1) with gentle movements from the build platform (2), using the spatula (3) (→scope of delivery).
2. Please refer to the particular resin's instructions for use for notes regarding the cleaning of printed objects and further processing.

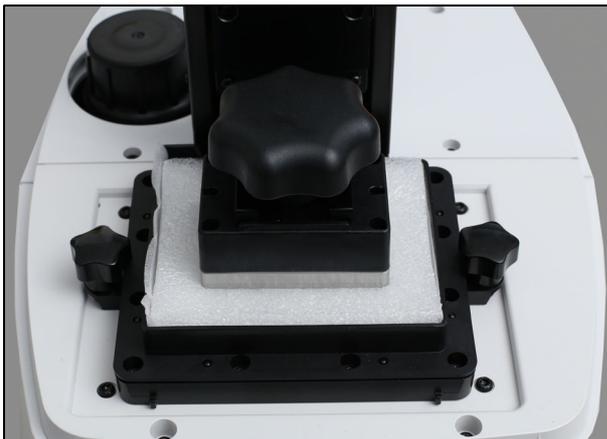
## Special functions

### Pack mode



Activate the "pack mode" function when packaging the printer for transport (→ Page 6, Section "Unpacking / Packing").

1. Clean the resin tank (→ page 35) before packaging the device.



2. Place the protective material inside the resin tank.

3. Place the cover on the device.

4. Call up the following menu to move the build platform to transport position:

> FUNCTIONS

> MOVE PLATFORM

> FOR TRANSPORT

> YES

5. Confirm your entry with the OK button.

6. Wait until the build platform has reached the transport position.

7. Press the OK button to complete the process.

8. Switch the power switch of the device off.

```
MOVE PLATFORM  
TO TOP  
TO BOTTOM  
▶ FOR TRANSPORT
```

## Exporting machine data



```
EXPORT BCP FILE
NO
▶ YES
```

```
TASK COMPLETED

[OK] TO FINISH
```

Every device has individual machine parameters that are needed to register the device on [my.bego.com](http://my.bego.com) (→ page 14). This file can also be used to add the Varseo XS to the BEGO CAMcreator Print software. Both of these steps are necessary for the successful use of the Varseo XS. The machine parameters are stored in the device and can be exported to a USB flash drive as follows:

1. Plug the provided USB flash drive into the USB A port (1) located on the front of the device.
2. Call up the following menu items and confirm every selection with the OK button:
  - > FUNCTIONS
  - > EXPORT BCP FILE
  - > YES
 The data will be exported.
3. Press the OK button once the data export is completed.
4. Remove the USB flash drive.
 

The machine parameters are stored on the USB flash drive as a BCP file in the "Profile" folder.
5. Copy the exported BCP file to your computer, as needed, to facilitate easy access to the parameters in the future.
6. Instructions on how to import the machine parameters (BCP file) to the BEGO CAMcreator Print software can be found in the software's installation instructions.

---

## Printer settings

---

### Switching the buzzer on and off

```
SETTINGS
NETWORK [LAN]
WIFI OFF
▶ BUZZER ON
```

```
BUZZER [ON]
▶ OFF
ON
```

When the buzzer is activated (on), the printer will emit an acoustic signal when a button is actuated. The buzzer is set to on by default.

1. Call up the following menu items and confirm every selection with the OK button to switch the buzzer off:
  - > SETTINGS
  - > BUZZER
  - > OFF
2. Press the HOME button to return to the main menu.

### Setting a language

```
LANGUAGE [EN]
ニホンゴ
FRANCAIS
▶ DEUTSCH
```

1. Call up the following menu items to change the language setting and confirm every selection with the OK button:
  - > SETTINGS
  - > LANGUAGE
2. Select the desired language
3. Press the HOME button to return to the main menu.

### Querying the resin status

```
MATERIAL:
VarseoWax
CAD/Cast
[OK] BACK
```

1. Make sure that the resin bottle with the RFID tag is placed on the device.
2. Call up the following menu to display information about the used resin and confirm every selection with the OK button:
  - > INFO
  - > RESIN STATUS
3. Press the OK button to return to the menu.
4. Press the HOME button to return to the main menu.

## Saving energy

```

SETTINGS
WIFI      OFF
BUZZER    ON
▶ ENERGY SAVE OFF
    
```

```

ENERGY SAVE[OFF]
OFF
▶ 3 MINUTES
  6 MINUTES
    
```

```

SETTINGS
WIFI      OFF
BUZZER    ON
▶ ENERGY SAVE 03M
    
```

The LED backlighting of the LCD display improves the legibility of the screen content. Backlighting is set to on by default. It can be temporarily be deactivated with the energy save mode.

1. Call up the following menu to change the time interval and confirm every selection with the OK button:
  - > SETTINGS
  - > ENERGY SAVE
2. Select one of the following options:
  - OFF: Backlighting remains activated constantly
  - 3 MINUTES: Backlighting turns off when the printer is inactive for three minutes.
  - 6 MINUTES: Backlighting turns off when the printer is inactive for six minutes.
3. Confirm your entry with the OK button.
4. Press the HOME button to return to the main menu.

Your selection is shown as OFF, 03M or 06M in the "Settings" menu.

## Restoring the factory defaults

```

RESTORE DEFAULT
ARE YOU SURE?
NO
▶ YES
    
```

1. Call up the following menu items to reset all settings to factory default and confirm every selection with [OK button]:
  - > SETTINGS
  - > RESTORE DEFAULT
  - > YES
2. Wait until the device has been set back to factory defaults.
3. Press the HOME button to return to the main menu.

## Querying the system version

```
SYSTEM VERSION
MODULE: X.X.X.X
LCM   : X.X.X
[OK] BACK
```

Call up the following menu to display the version of the printer firmware:

```
> INFO
> SYSTEM VERSION
```

4. Press the OK button to return to the menu.
5. Press the HOME button to return to the main menu.

## Open the help

```
HELP
MY.BEGO.COM
WWW.BEGO.COM
[OK] BACK
```

1. Call up the following menu to display the address of the BEGO website and confirm every selection with the OK button:

```
> INFO
> HELP
```

In the *3D Print* section of the website, you will find current information, product documentation, tutorials and much more.

2. Press the OK button to return to the menu.

## Service and Maintenance

### ⚠ WARNING



#### Electrical hazards

Switch the device off and disconnect it from the power supply before carrying out any cleaning and/or servicing work.

### ⚠ WARNING



#### Risk of injury

The resin may cause allergic reactions.



- Observe the safety data sheet for the resin in use (→ <http://www.bego.com>).



- Observe the corresponding resin's directions for use.



- Wear protective gloves. Recommendation: Nitrile gloves.
- Use protective eyewear (safety glasses).
- Wear protective clothing.

### ⚠ WARNING



#### Risk of injury

Ethanol is highly flammable.

- Keep the container closed tightly.
- Keep away from sources of ignition – No smoking.
- Observe the safety instructions on the packaging.

### ⚠ CAUTION



#### Property damage

The resin is sensitive to light.

- In order to prevent the resin from hardening inadvertently, you should not remove the cover any longer than absolutely necessary. That way you protect the resin from light exposure and ensure that dust cannot get into the resin.
- Filled resin tanks can be stored for a longer period of time in places that are protected from light exposure and dust.
- Keep the 3D printer away from direct sunlight and/or UV light even when the cover is closed. Otherwise, the resin inside the tank may harden/solidify.

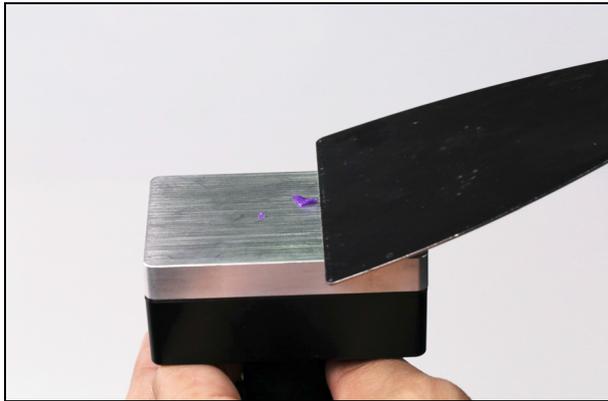
### ⚠ CAUTION



#### Property damage

Do not use any chemical and aggressive cleaning agents, as they may damage the surface of the device.

## Cleaning the build platform



1. Scrape all hardened resin residues from the surface. Make sure that no hardened resin residues remain on the build platform.
2. Remove any excessive resin from the surfaces of the build platform. This is of particular importance if you want to use a different or new resin.
3. Place the build platform properly back into the device (→ page 22)

## Cleaning the resin tank

### ⚠ CAUTION



#### Property damage

Do not touch the bottom of the resin tank with sharp-edged or hard tools. This may damage the bottom of the resin tank.

### NOTE

- Filtering the resin after every print improves the service life of the resin tank and prevents any premature detachment of the printed object from the build platform.
- Replace the resin tank (REF 20703) if the resin inside the tank has hardened and cannot be removed.



1. Remove the resin tank from the device (→ page 23).
2. Empty the resin tank by filtering the resin into a container that is protected against light exposure (e.g. filter for Varseo, REF 41048).
3. Carefully clean the surface of the resin tank with blank cards (REF 19551) or a spatula made of silicone. Carefully remove hardened residues with plastic tweezers (e.g. Varseo acid tweezers, REF 41046) Make sure that the bottom of the resin tank does not get damaged.
4. Spray ethanol into the resin tank. Clean the resin tank subsequently using, for instance, soft, lint-free cloths.
5. Clean the bottom side of the resin tank with glass cleaner and a soft, lint-free cloth.
6. Observe the notes on the disposal of resin and used cleaning cloths (→ page 39).
7. Place the resin tank back into the device (→ page 23)

## Troubleshooting

Service must only be carried out by authorized BEGO repair shops!

Technical service hotline: +49 (421) 2028 - (270 ... 274)

### Error messages

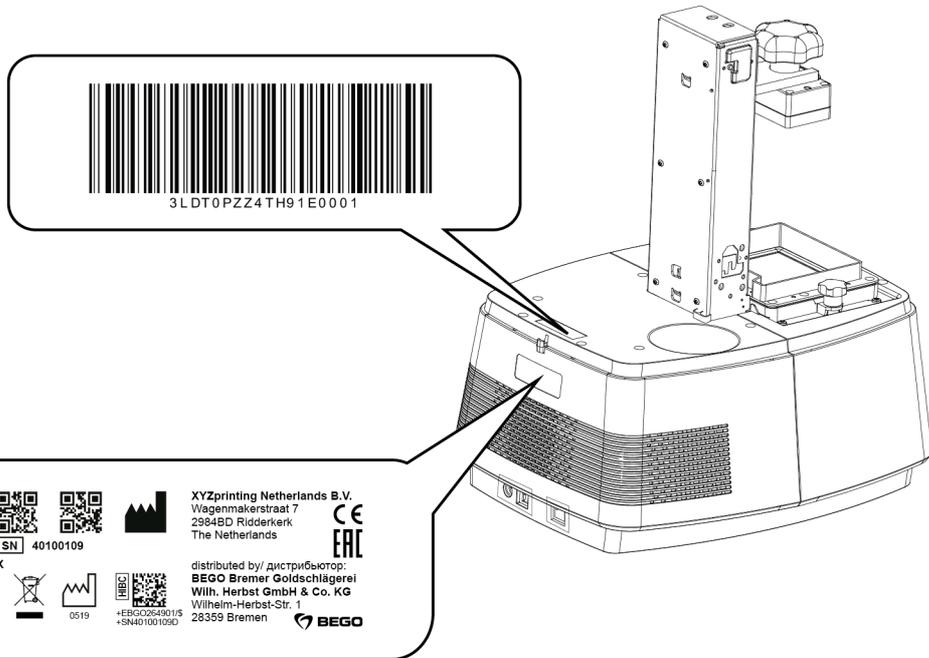
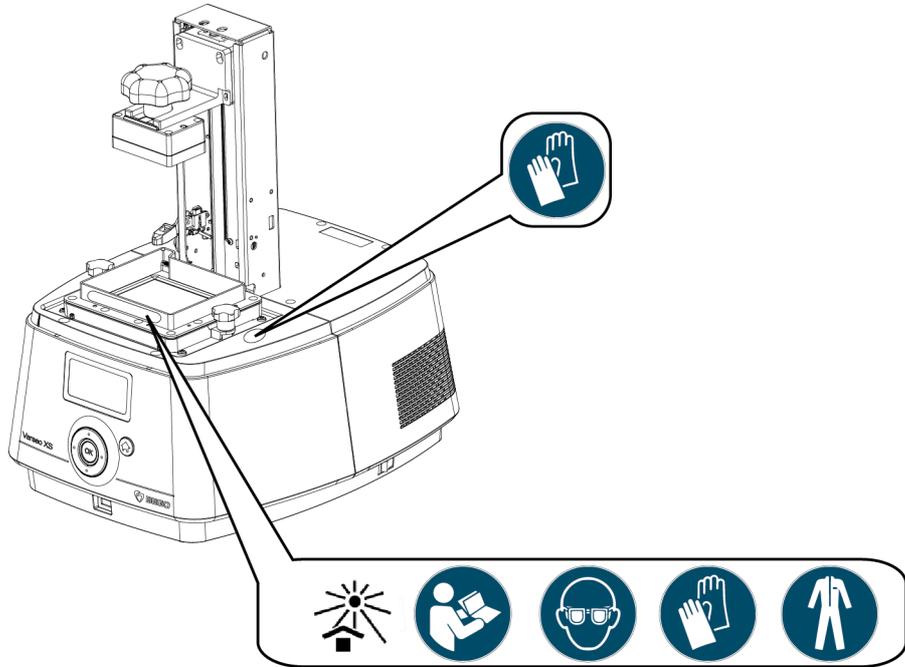
Error code	Cause	Action
1001 - 1009 100A - 100F	-	Please contact an authorized BEGO repair shop.
2001	Resin bottle not detected.	Make sure that the resin bottle is properly positioned in the device (→ page 24) and the RFID tag is located on the bottom of the bottle. Please contact customer service if the RFID tag is missing.
2002	-	Please contact an authorized BEGO repair shop.
2003	Only little or no material left.	See warning 200C, error code 509 - 511.
2004	The printer cover is open.	Please install cover properly.
2005	RFID tag cannot be read.	Only use BEGO materials. Materials from other manufacturers cannot be identified. If you receive this error message when using BEGO material, please check the RFID tag on the bottom of the resin bottle for signs of damage.
2006 - 2008	Print file cannot be read.	Always create files with the latest version of the BEGO CAMcreator Print software to avoid possible compatibility problems with the latest firmware of the device. Check the USB flash drive for file system errors.
2009	The resin tank is not or not properly installed.	Please install resin tank properly (→ page 24).

### Warning 200C

Error code	Cause	Action
100 - 103	The device cannot contact my.bego.	Check your network or internet connection.
500	-	Please contact an authorized BEGO repair shop.
501	Device is not activated.	Activate the device on my.bego.com (→ page 14).
502-503	-	Please contact an authorized BEGO repair shop.
504	Material key not enabled/approved.	Additional materials can be enabled/approved on my.bego.com, provided they are available for your device.
505	The project file cannot be found.	Please check the storage location of the project file in the BEGO CAMcreator Print or contact customer service for further assistance.

Error code	Cause	Action
506	Print job was not created for this printer.	Print jobs can only be used for the device for which they were originally created. Create the print job again for the printer you want to use.
507	The material is almost used up.	Please ensure that you have enough material and reorder, as needed..
508	-	Please contact an authorized BEGO repair shop.
509...511	The allotted amount inside of the BEGO resin bottle is running low or has been used up.	Use a new BEGO resin bottle as soon as the allotted amount has been used up.
512	The shelf life of the material has expired.	Please only use material that not exceeded the expiration date/shelf life.
513	-	Please contact an authorized BEGO repair shop.
514	The project was created for a different material than that currently installed in the printer..	Please check, which material you would like to use.. Afterwards, either correct the print job or fill the corresponding material into the resin tank and place the bottle into the recess provided for that purpose.
998-999	-	Please contact an authorized BEGO repair shop.

## Signs and stickers



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## Disposal

---



### Instructions for disposal of the device

(Applicable only within the European Union)

The adjacent symbol on the type plate of the device indicates that the device, in accordance with the European directive on waste electrical and electronic equipment, may not be disposed of as normal domestic waste.

As a customer, you contribute to the protection of the environment when you dispose of the device correctly.

### Disposal in Germany

BEGO offers a solution for the disposal of all BEGO devices sold and put into operation in Germany after August 13, 2005. Please contact us when it is time to dispose of the device.

### Disposal in other countries of the European Union

Please contact the company from which you purchased the device when it needs to be disposed of. They will provide you with information concerning correct disposal in your region.

### Instructions for disposal of resins

Only hardened/solidified resins may be disposed of as normal household waste. Do not contaminate standing or flowing waters with resin. Dispose of empty resin containers and contaminated materials in accordance with local regulations. Dispose according to EC Directives on waste and hazardous waste.

Please observe the disposal instructions of the corresponding print resins; further information on handling the product can be found in the material-specific safety data sheets and are also available for download in the BEGO download center under [www.bego.com](http://www.bego.com).



## DECLARATION OF CONFORMITY

- **Manufacturer:** XYZprinting Netherlands B.V.  
Wagenmakerstraat 7, 2984 BD Ridderkerk,  
The Netherlands  
+31 857325615  
[www.xyzprinting.com/nl-NL/home](http://www.xyzprinting.com/nl-NL/home)
- **Name of products:** Varseo XS
- **REF:** 26490, 26490RU
- **Serial numbers:** 401XXXXX
- **Description:** 3D printing system

The products named above conform to the following Directives upon delivery.

- **Directives:** 2006/42/EC of 17 May 2006  
2011/65/EU of 8 June 2011  
2014/30/EU of 26 February 2014  
2014/53/EU of 16 April 2014
- **Authorized to compile the technical file:** Fernando Hernandez  
XYZprinting Netherlands B.V.  
Wagenmakerstraat 7, 2984 BD Ridderkerk,  
The Netherlands

2019. 5. 30

Place, Date

  
\_\_\_\_\_  
Signature Head of  
R&D Department

  
\_\_\_\_\_  
Signature  
Managing Director

- Český

Společnost XYZprinting Netherlands B.V., tímto prohlašuje, že tato Varseo XS splňuje z ákladní požadavky a další příslušná ustanovení směrnice 2006/42/ES, 2011/65/EU, 2014/30/EU, 2014/53/EU.

- Dansk

XYZprinting Netherlands B.V., erklærer herved, at følgende udstyr Varseo XS overholder de væsentlige krav og øvrige relevante krav i direktiv, 2006/42/EF, 2011/65/EU, 2014/30/EU, 2014/53/EU.

- Deutsch

Hiermit erklärt XYZprinting Netherlands B.V., dass sich dieses Gerät Varseo XS in Übereinstimmung mit den grundlegenden Anforderungen und den anderen relevanten Vorschriften der Richtlinie 2006/42/EG, 2011/65/EU, 2014/30/EU, 2014/53/EU befindet.

- Eesti keeles

Käesolevaga kinnitab XYZprinting Netherlands B.V., et see Varseo XS vastab Euroopa Nõukogu direktiivi 2006/42/EÜ, 2011/65/EL, 2014/30/EL, 2014/53/EL põhinõuetele ja muudele olulistele tingimustele.

- Ελληνικά

ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ , XYZprinting Netherlands B.V., ΔΗΛΩΝΕΙ ΟΤΙ ΑΥΤΟ Varseo XS ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 2006/42/ΕΚ, 2011/65/ΕΕ, 2014/30/ΕΕ, 2014/53/ΕΕ.

- Español

Por medio de la presente, XYZprinting Netherlands B.V., declara que Varseo XS cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva, 2006/42/CE, 2011/65/UE, 2014/30/UE, 2014/53/UE.

- Français

Par la présente, XYZprinting Netherlands B.V., déclare que les appareils du type Varseo XS sont conformes aux exigences essentielles et aux autres dispositions pertinentes de la directive 2006/42/CE, 2011/65/UE, 2014/30/UE, 2014/53/UE.

- Italiano

Con la presente , XYZprinting Netherlands B.V., dichiara che questo Varseo XS è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2006/42/CE, 2011/65/UE, 2014/30/UE, 2014/53/UE.

- Latviski

Ar šo XYZprinting Netherlands B.V., apliecina, ka šī Varseo XS atbilst Direktīvas 2006/42/EK, 2011/65/ES, 2014/30/ES, 2014/53/ES pamatprasībām un citiem atbilstošiem noteikumiem.

- Lietuviškai

ŠiuoXYZprinting Netherlands B.V., skelbia, kad Varseo XS tenkina visus svarbiausius 2006/42/EB, 2011/65/ES, 2014/30/ES, 2014/53/ES direktyvos reikalavimus ir kitas svarbias nuostatas.

- Magyar

A gyártó XYZprinting Netherlands B.V., kijelenti, hogy ez a Varseo XS megfelel az 2006/42/EK, 2011/65/EU, 2014/30/EU, 2014/53/EU irányelv alapkövetelményeinek és a kapcsolódó rendelkezéseknek.

- Malti

Hawnhekk, XYZprinting Netherlands B.V., jiddikjara li dan Varseo XS jikkonforma mal-htigijiet essenzjali u ma provvedimenti oħrajn rilevanti li hemm fid-Dirrettiva 2006/42/KE, 2011/65/UE, 2014/30/UE, 2014/53/UE.

- Nederlands

Hierbij verklaart, XYZprinting Netherlands B.V., dat Varseo XS in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2006/42/EG, 2011/65/EU, 2014/30/EU, 2014/53/EU.

- Polski

Niniejszym firma XYZprinting Netherlands B.V., oświadcza, że Varseo XS spełnia wszystkie istotne wymogi i klauzule zawarte w dokumencie „Directive 2006/42/WE, 2011/65/UE, 2014/30/UE, 2014/53/UE”.

- Português

XYZprinting Netherlands B.V., declara que este Varseo XS está conforme com os requisitos essenciais e outras disposições da Directiva 2006/42/CE, 2011/65/UE, 2014/30/UE, 2014/53/UE.

- Slovensky

Výrobca XYZprinting Netherlands B.V., týmto deklaruje, že táto Varseo XS je v súlade so základnými požiadavkami a ďalšími relevantnými predpismi smernice 2006/42/ES, 2011/65/EU, 2014/30/EU, 2014/53/EU.

- Slovensko

XYZprinting Netherlands B.V., s tem potrjuje, da je ta Varseo XS skladen/a z osnovnimi zahtevami in ustreznimi določili Direktive 2006/42/ES, 2011/65/EU, 2014/30/EU, 2014/53/EU.

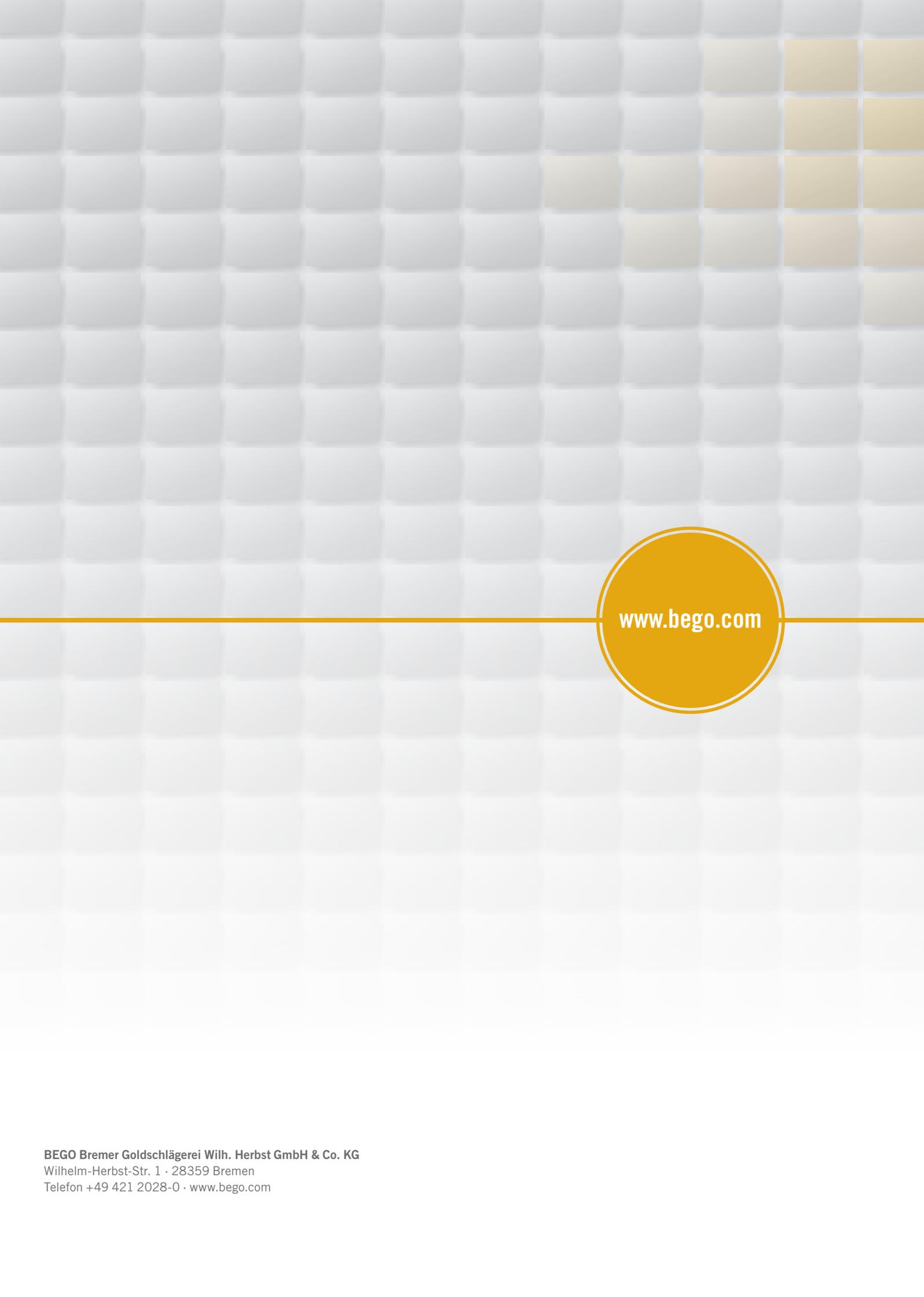
- Suomi

XYZprinting Netherlands B.V., vakuuttaa täten että Varseo XS tyyppinen laite on direktiivin 2006/42/EY, 2011/65/EU, 2014/30/EU, 2014/53/EU oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

- Svenska

Härmed intygar, XYZprinting Netherlands B.V., att denna Varseo XS står i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2006/42/EG, 2011/65/EU, 2014/30/EU, 2014/53/EU.





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