

Wöhler VE 500



Contents

1	General information.....	4
1.1	Information on the operating instructions	4
1.2	Notes in the operating instructions	4
1.3	Intended use	5
1.4	Basic equipment.....	5
1.5	Waste disposal	5
1.6	Address	6
2	Warnings.....	6
3	Specification.....	7
4	Device parts and function	9
4.1	Control buttons	9
4.2	Device connections	10
4.3	Indications in the display	12
5	Before the inspection	13
5.1	Probe change	13
5.2	Inserting the memory card.....	13
5.3	Charging the battery	15
6	Picture view	15
6.1	Switch on/off.....	15
6.2	Freeze image	15
6.3	Rotate image.....	15
6.4	Change screen view (only probes with 2 or 3 cameras)	15
7	Recording	16
8	Manage images and videos	17
8.1	Delete images and videos or back up	17
8.2	Transferring image and video files to the PC	17
9	Settings	19
9.1	Photo settings	19
9.2	Video settings.....	19
9.3	General settings	20
10	Video inspection via app.....	21

11	Maintenance	25
12	Warranty and service	26
12.1	Warranty	26
12.2	Service.....	26
13	Declaration of conformity	27
14	FCC Caution:.....	28

1 General information

1.1 Information on the operating instructions

These operating instructions enable you to operate the Wöhler VE 500 HD video endoscope safely. Please keep these operating instructions in a safe place for future reference.

The Wöhler VE 500 may only be used by qualified personnel for the intended purpose.

We accept no liability for damage caused by failure to observe these operating instructions.

1.2 Notes in the operating instructions



WARNING!

Indicates instructions which, if ignored, could result in injury or death.



ATTENTION!

Indicates dangers which could result in damage to the appliance or objects.



NOTE!

Highlights tips and other useful information.

1.3 Intended use

The Wöhler VE 500 HD video endoscope is suitable for HD inspection of inaccessible cavities through the smallest openings from Ø 6 mm (e.g. tile cross). Other areas of application include pre-wall installations, fireplaces, combustion chambers, connectors, sinks or drain pipes. The screen view can be split so that two different views can be displayed simultaneously when using a probe with two or three cameras.

1.4 Basic equipment

Device	Scope of delivery
Wöhler VE 500 HD video endoscope	Monitor
	Rechargeable battery 3.7 V / 6.0 Ah Li-Ion
	Probe (different lengths are available depending on the set combinations)
	Connection cable, 1m
	USB-C charging cable with charging plug
	Micro SD card 32 GB
	Probe attachments: 1 magnet and 1 hook
	Case

1.5 Waste disposal



Electronic devices must not be disposed of with household waste, but must be disposed of in accordance with the applicable environmental regulations.

Damaged batteries are considered hazardous waste and must be taken to the designated collection points for disposal.

1.6 Address

Wöhler Technology GmbH

Wöhler-Platz 1

33181 Bad Wünnenberg

Phone: +49 2953 73-100

E-mail: info@woehler-international.com

2 Warnings



ATTENTION!

Only use the videoscope within the specified temperature range.



ATTENTION!

Keep the videoscope clean and dry. Take particular care to ensure that the waterproof protective layer of the probe is not scratched.



ATTENTION!

Never open the device housing. Device parts or the battery may only be replaced at the factory.



ATTENTION!

Only use a 5 V charger to charge the battery.

3 Specification

Monitor

Description	Specification
Display	7 " HD IPS, color
Monitor resolution	1280 x 720 pixels
Image rotation	180°
Connections	USB-C port Micro SD card slot HDMI connection (up to HDMI version 1.3)
Menu languages	English, Spanish, Chinese, German, Italian, French
Additional lamp, also available when the camera is switched off	6 LEDs

Probe

Probes of different lengths with one, two or three cameras are available, more information at www.woehler-international.com

Description	Specification
Point of view	78°
Split screen	Possible when connecting a probe with 2 or 3 cameras
Video resolution	1920 x 1080 pixels max.
Image resolution	1920 x 1080Pixel max.
IP protection class	IP 67 (camera and probes)
Lighting	Adjustable LEDs

Technical data

Description	Specification
Operating temperature	-20° to 60 °C
Power supply	Battery 3.7V, 6.0 Ah Li-Ion
Operating time	approx. 4 h
Loading time	approx. 3.5 h

4 Device parts and function

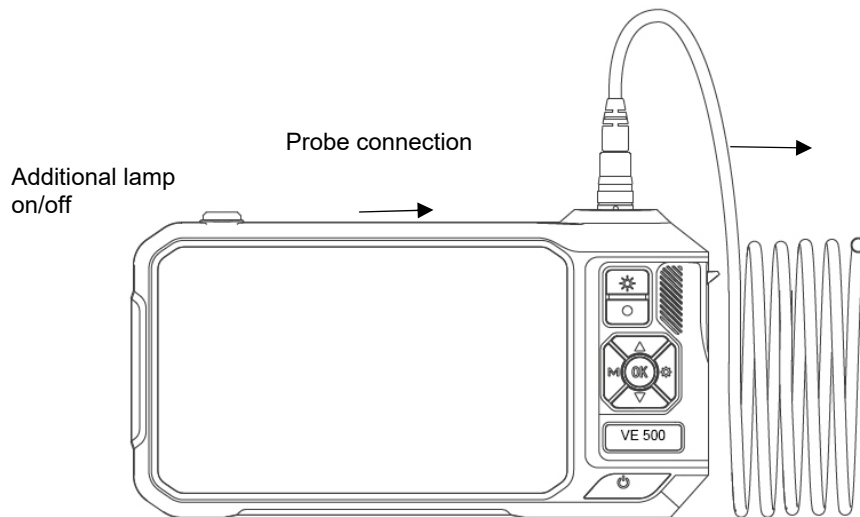


Fig. 1: Front of device with connected probe

4.1 Control buttons

Control button	Keystroke	Functions
 On/off button	long	on/off
 Brightness button	short	Press the brightness button to adjust the brightness of the LEDs on the probe in three stages or to switch the LEDs off completely
 Record button	short	Take a photo Start video recording Stop
	long	Change screen view (only for probes with 2 or 3 cameras)
 M	short	Select mode:

M button		Photo, video or image gallery
 Settings button	short	Call up and exit the settings menu
OK OK button	short	Confirm settings Freeze image
 Arrow key	short	Scroll up menu
 Arrow key	short	Scroll down menu Rotate image

4.2
Device connections

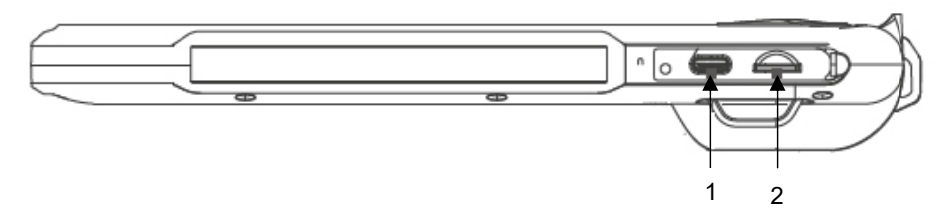


Fig. 2: Bottom of device, cover removed

Number	Function
1	USB-C charging port
2	Micro SD card slot

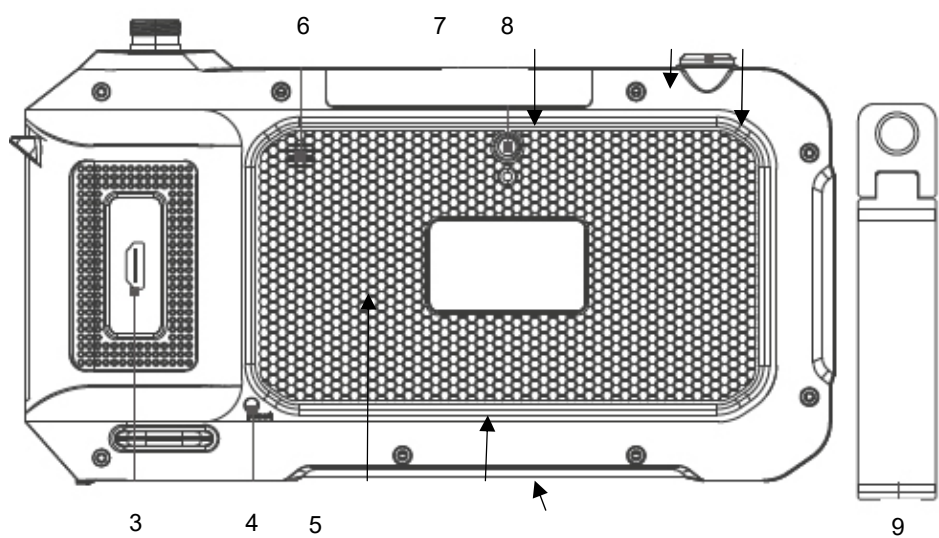


Fig. 3: Rear of the device

Number	Function
3	HDMI connection
4	Press the reset button if the system crashes.
5	Microphone
6	Loudspeaker
7	Additional LED lamp
8	1/4" threaded connection for metal uprights
9	Metal stand

4.3 Indications in the display



Fig. 4: Display header

Number	Function
1 Mode Selection via M button	 Photo
	 Video
	 Picture gallery
2 SD memory card	Icon displayed : Memory card inserted
	Icon crossed out: Memory card missing
3 Battery	Filling depending on charge level

5 Before the inspection

5.1 Probe change



Fig. 5: Mounting the probe



NOTE!

If no probe is connected, "no camera" appears on the display when the camera is switched on.

- To remove the probe, loosen the union nut and pull the probe off the monitor or probe extension cable.



ATTENTION!

We strongly recommend installing the probe extension cable between the monitor and the probe. This significantly reduces the load on the contacts and increases the service life of the probe.



NOTE!

Install the camera probe before switching on the Wöhler VE 500. If the probe was installed while the device was switched on, the Wöhler VE 500 must then be switched on again.

- To mount the probe on the monitor or the probe extension cable, plug it onto the connector so that the notch on the socket is exactly above the red dot on the connector.
- Then screw the union nut hand-tight.

5.2 Inserting the memory card

Photos and videos can only be recorded when a memory card is inserted.

- Switch off the Wöhler VE 500.

The memory card slot is located on the underside of the device under the black cover.

- To remove the memory card, press lightly on the card until it pops out and then pull it out.
- When inserting the memory card, ensure that it is correctly aligned.

**ATTENTION!**

The memory card must never be pulled out or inserted with force.

5.3 Charging the battery



Fig. 6: Bottom of device, USB charging socket marked with arrow.

The battery status is shown in the battery symbol at the top right of the display.

- To charge the battery, remove the cover on the bottom of the device.
- Connect the USB-C cable included in the scope of delivery to the device via the USB charging socket. Connect the other end of the cable to the mains via the power adapter.

The on/off button flashes red during the charging process. The Wöhler VE 500 remains ready for operation during the charging process. As soon as the battery is charged, the on/off button flashes red and blue alternately when the charging cable is plugged in.

6 Picture view

6.1 Switch on/off

- To switch the device on and off, press and hold the on/off button for approx. 2 seconds.

After 3 seconds, the start screen appears, followed immediately by the camera image.

6.2 Freeze image

- Press the OK button to freeze an image.
- Press the OK button again to return to normal picture mode.

6.3 Rotate image

- Press the down arrow button to rotate the image on the display by 180°.

6.4 Change screen view (only probes with 2 or 3 cameras)



NOTE!

The screen view can only be changed if a probe with 2 or 3 cameras is connected.



Fig. 7: Sequence of screen views with a long press on the record button

Press and hold the record button (●) to change the view:

- 0° straight ahead (A)
- 90° right (B)
- 90° left (C) with three cameras
- split screen with 2 cameras, AB, or AC with 3 cameras, :

0° straight ahead and 90° right (AB)

- split screen:

0° straight ahead and 90° left (AB) with 3 cameras

For better orientation, A, B, C, AB or AC appears on the screen.

The illumination LEDs of the active camera are switched on automatically.

7 Recording



Fig. 8: Photo icon



Fig. 9: Video icon



NOTE!

Photos and videos can only be recorded if a mini SD card is inserted. An SD card class 10 or higher is required.

- Depending on whether you want to take a photo or record a video, press the M button repeatedly until the photo icon or the video icon appears at the top left of the screen.
- Press the record button(●) to take a photo or start a video recording.

During video recording, the recording time is shown at the bottom left of the display.

- To end a video recording, press the record button again.



NOTE!

The Wöhler VE 500 stops recording automatically after 9:59 minutes. If the video is to be continued, it must be restarted.



NOTE!

To record the sound in a video, the microphone must be activated in the settings menu, see chapter 9. In this case, a microphone icon is displayed at the top right of the screen.

8 Manage images and videos



Fig. 10: Image gallery icon

- Call up the picture gallery mode with the M button.

Playback mode appears at the top left of the screen.

- You can now browse through the image and video files using the arrow buttons.



NOTE!

A video is displayed with the file name MOV, an image with the file name JPG.

The picture/video number and the total number of recorded files appear at the top right of the display.

For video, the video duration appears at the bottom center of the display. The picture/video resolution appears at the top right of the display.

8.1 Delete or save images and videos

- Start and stop the playback of a video with the OK button.
- Press the M button to exit the picture gallery.
- Call up the playback mode with the M button.
- Use the arrow buttons to select the image or video to be deleted or saved.

- To delete or save, press the  button.

You now have the option of selecting whether the selected image/video should be deleted/saved (Protection) or all images/videos should be deleted/saved (Protection).

- Confirm your selection with the OK button.



NOTE!

Saved images or videos cannot be deleted in the image gallery, but only on the PC, see chapter 8.2. You can cancel the backup function by going to "Protection > Open" in the settings.

- To exit the menu without deleting or saving, press the M button.

8.2 Transferring image and Micro SD memory card:

- Switch off the videoscope.

video files to the PC

- Remove the micro SD memory card and read out the data using a suitable card adapter.

or

USB cable:



ATTENTION!

Disconnect the probe from the monitor!

- Switch on the videoscope.
- Connect the monitor to the PC using the USB cable.
- Go to the general settings and select "MSCD - ON, see chapter 9.3. All files saved on the SD card are now displayed in the laptop/PC explorer. You can now save, delete and manage the files there.

9 Settings



NOTE!

Settings confirmed with OK are retained after switching off and on again. Exception: The device's own WLAN network is always deactivated after switching on.

- Depending on whether the desired settings relate to images or videos, use the M button to select photo or video mode.
 - Press the  button to access the corresponding settings menu.
 - Use the arrow buttons to go to the desired parameter and open the corresponding settings menu with the OK button.
 - Confirm your selection with the OK button.
 - To exit the settings menu, press the M button.
 - Use the M button to select photo mode.
 - Press the  button
- The photo settings menu will now appear.

9.1 Photo settings



Fig. 11: Photo mode

Resolution

Date Stamp

Shutter sound

Options: 1920 x 1080 and 1280 x 720

- Options: Show or hide date in picture/video.
- Options: Activate or deactivate click sound when taking photos.
- Use the M button to select video mode.
- Press the  button.
- The video settings menu will now appear.

9.2 Video settings



Fig. 12: Video mode

Resolution

Audio

Date stamp

- Options: 1920 x 1080 (Full HD) and 1280 x 720 (HD)

Off: The microphone is deactivated. Videos are recorded without sound.

On: The microphone is activated. Videos are recorded with sound. A microphone icon appears at the top right of the standard display.

- Selection of whether or not the date should be displayed in a saved video file.

9.3 General settings

- Press the  button. It does not matter which mode you are in.

The settings menus for the respective mode now appear.

- Press the  button again.

The general camera settings now appear.

Date / time

- Use the arrow buttons to set the relevant digit and press the OK button to move to the next digit.

Language

- English, Spanish, Chinese, German, Italian, French

Wi-Fi

- Activate or deactivate the device's own Wi-Fi. When the Wi-Fi is activated, the Wöhler VE 500 sets up its own Wi-Fi network, see chapter .

Automatic shut-down

- Select if the videoscope is automatically switched off, when no button is pressed for a longer period of time: Automatic switch-off deactivated, switch-off possible after 5 or 10 minutes.

Clear SD card

- Option to delete all photo and video files stored on the mini SD card.

Default settings

- Option to reset all settings to the factory settings. (Confirm default settings)

Version/MSDC

- Version: Information about the device and the firmware version
- If the Wöhler VE 500 is connected to a laptop or PC via a USB cable, MSDC appears at this point. After confirmation (MSDC - ON), all files stored on the SD card are displayed in the laptop/PC explorer.

10 Video inspection via app

If desired, photos and videos of the Wöhler VE 500 can be taken, viewed and deleted in the Wöhler Smart Inspection app.

The image files can also be sent directly from the app to the customer or to the office via messenger service or email.



NOTE!

The app is in English. The language cannot be changed.

Wöhler VE 500

- To work with the app, proceed as follows:
- Open the general device settings in the Wöhler VE 500. Activate the device's own Wi-Fi there, see chapter 9.3.



NOTE!

After switching the Wöhler VE 500 off and on again, the device's own WiFi is always deactivated.

Mobile device

- Download the "Smart Inspection App" from the Play Store (Android) or the App Store (iOS) onto your mobile device.
- Open the Wi-Fi settings of your mobile end device and connect your end device to the Wöhler VE 500 (displayed as Wöhler VE 500).



NOTE!

As long as your mobile device is connected to the Wöhler VE 500, your mobile device has no access to the Internet.

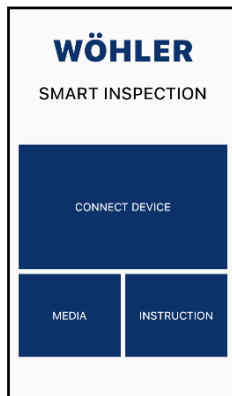


Fig. 13: Wöhler Smart Inspection app start page

- Open the Wöhler VE 500 Smart Inspection app.
- Tap on "Connect Device" to connect the app to the Wöhler VE 500.



Fig. 14: Compatible Wöhler devices

All Wöhler endoscopes with which the app is compatible appear in the app.

- Select Wöhler VE 500 video endoscope.

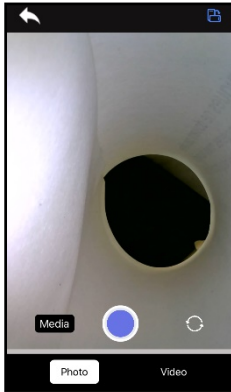


Fig. 15: Live image in the app

As soon as the WLAN connection has been established, the live image of the Wöhler VE 500 appears in the app on the mobile device.



NOTE!

When the app is connected, it is not possible to operate the Wöhler VE 500 using the monitor buttons. Only the following commands can be executed via the monitor buttons :

- *Setting the brightness of the LEDs*
- *Image freeze via M-key*
- *Image rotation via arrow keys*
- *General camera settings*

If the app is closed, the Wöhler VE 500 can only be operated again via the monitor buttons after a restart.

Photos and videos taken via the app are only saved on the mobile device, not on the SD card of the Wöhler VE 500.

Rotate image



- Tap on the icon at the top right of the app to rotate the display by 90° on the screen of the mobile device.

Change screen view (only probes with 2 or 3 cameras)

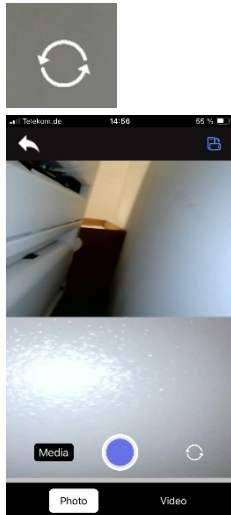
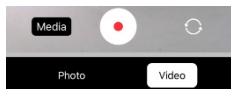


Fig. 16: Split screen

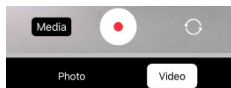
Take a photo



Record video



View, delete and send images and videos



NOTE!

The screen view can only be changed if a probe with 2 or 3 cameras is connected.

- Tap the switch icon to change the screen view one after the other:
 - 0° straight ahead
 - 90° right
 - 90° left with three cameras
 - split screen,
 - 0° straight ahead and 90° right
 - Split screen:
 - 0° straight ahead and 90° left (only with 3 cameras)

- Select "Photo" in the footer.
- Tap the blue dot to take the photo.
A confirmation message appears briefly on the screen.

- Select "Video" in the footer.
- Tap on the red dot to start video recording.
- The recording length is displayed with a timer in the footer.
- Tap the red square to end the video recording.

- Tap on "Media" in the image to access the media gallery.
- Tap on an image or video to view it.
- Select one or more pictures or videos and tap the trash icon to delete them.
- Select one or more pictures or videos and tap the send icon to send them via messenger service or email.

NOTE!

Images and videos can be sent or deleted directly from the media gallery or from the display of an individual image or video.

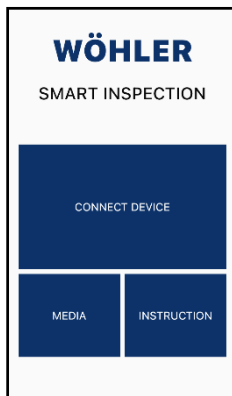


Fig. 17: Main view of the Wöhler Smart Inspection app



NOTE!

You also have the option of accessing the media gallery via the main view, even if the app is not connected to the Wöhler VE 500. All photos and videos that you have ever taken with a VE device are displayed here.

11 Maintenance

- Make sure that the cameras at the tip of the probe are clean. Blow off any dirt or wipe it off with a soft, clean cloth.
- Charge the battery every 3 months if you do not use the device for a longer period of time.

12 Warranty and service

12.1 Warranty

Every Wöhler VE 500 HD video endoscope is tested in all functions and only leaves our factory after a detailed quality check.

If used correctly, the warranty period for the Wöhler VE 500 is twelve months from the date of purchase. The battery is excluded.

The warranty does not apply if repairs and modifications have been carried out on the appliance by a third party who is not authorized to do so.

12.2 Service

SERVICE is very important to us. That's why we are also there for you after the warranty period.

- You send the endoscope to us, we repair it within a few days and send it to you with our parcel service.
- You will receive immediate help from our technicians on the phone.

13 Declaration of conformity

The manufacturer:

WÖHLER Technik GmbH

Wöhler-Platz 1, D-33181 Bad Wünnenberg

declares that the product:

Product name: Wöhler VE 500 HD video endoscope

complies with the essential protection requirements laid down in Directive 2014/53/EU of the European Parliament and of the Council on the harmonization of the laws of the Member States relating to the making available on the market of radio equipment.

The following standards were used to assess the product with regard to the above directive:

Radio	ETSI EN 300 328 V.2.2.2 (2019-07)
EMC	ETSI EN 301 489-1 V.2.2.3 (2019-11) ETSI EN 301 489-17 V.3.2.4 (2020-09)
Safety	EN IEC 62368-1 ;2020+A11 :2020
Health	EN 62479:2010, EN 50663:2017

Bad Wünnenberg, 03.01.2024



Dr. Michael Poeplau, Managing Director/Managing Director

14 FCC Caution:

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with FCC radiation exposure requirement set forth for an uncontrolled environment.