Operating manual
Videoscope

Wöhler VE 400

1 General

1.1 Scope of supply

Device	Scope of supply
Wöhler VE 400 Videoscope	HD videoscope
	1 m probe with Ø 5.5 mm camera head and 1 videoscope connection cable 1.5 m or 1 m probe wit Ø 3.9 mm camera head
	32 GB micro SD memory card with USB card adapter
	Micro USB cable with power pack
	Transport case

1.2 Storage and transport

! CAUTION!
The videoscope could be damaged if transported improperly!

To avoid damage occurring during transport it is imperative to transport the device in the original case envisaged for the purpose.

! CAUTION!
When transporting, do not roll the flexible probe cable tighter than required to fit it in the padded foam insert.

1.3 Disposal

Do not dispose of electronic equipment along with household waste. Dispose of electronic equipment in accordance with applicable environmental regulations.

Batteries are considered hazardous waste. Dispose of batteries at the collection points provided.

1.4 Address

2   Technical data

Monitor	Details
Display	5" LCD display, color
Resolution	1920 x 1080 pixels
Menu languages	English, German, Spanish, French, Russian, Italian, Dutch
Interfaces	Micro USB charge connector, Micro SD card slot
Operating temperature	0-45 °C
Power supply	Rechargeable 3500 mAh Lithium battery
Battery charging time	Approx. 3 hours
Battery operating time	Approx. 4 hours
Additional lamp	6 LEDs
Recording format	Video: mp4
	Image: jpeg

Probe with camera head	Details
Probe length	100 cm
Degree of protection–camera head	IP 67

Camera head	Ø 5.5 mm
Resolution	1920 x 1080 pixels
Viewing angle	0° straight ahead and 90° side view
Focal length	Approx. 4-10 cm
Lighting	6 adjustable LEDs
Camera head	Ø 3.9 mm
Resolution	1920 x 1080 pixels
Viewing angle	0° straight ahead
Focal length	Approx. 3-10 cm
Lighting	6 adjustable LEDs

3 Notes

3.1 Symbols used in this operating manual

> **!** **CAUTION!**
> Highlights risks that can lead to damage occurring to the device.

> ☞ *NOTE!*
> *Highlights tips and other useful information.*

3.2 Cautionary notes when operating

> **!** **CAUTION!**
> Use the videoscope only when the ambient temperature is within the specified range.

> **!** **CAUTION!**
> Keep the videoscope clean and dry at all times. In particular, make sure that the waterproof coating protecting the probe does not get scratched.

> **!** **CAUTION!**
> Never open the device housing. Device parts and the rechargeable battery must only be replaced in the factory.

> **!** **CAUTION!**
> Use a 5 V battery charger only to charge the rechargeable battery.

4 Design and functions

Fig. 12: Front view of Wöhler VE 400

Legend

1 On/Off key: Press and hold for 2 s

2 ⚙ key (settings):
- To access the settings menu
- To delete an image or a video from the image gallery

3 M-key (mode): Toggle between image, video and playback modes

4 Arrow key: Up/down, rotate image

5 Arrow key: Up/down, rotate image

6 OK key: Confirm action, freeze image

7 • key (record): Start / stop recording video

8 Lighting key: Adjust brightness of LEDs
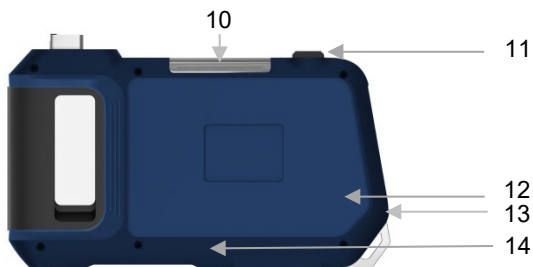
9 Connector to connect camera cable and camera head

Fig. 13: Rear view of Wöhler VE 400

Legend

10 Supplementary lighting

11 On/Off key supplementary lighting

12 Loudspeaker
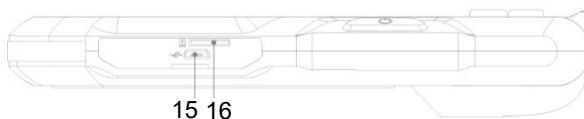
13 Microphone
(activated in settings menu)

14 Reset key

Fig. 14: Bottom of device with connections

15 Charger cable port

16 Card slot for memory card

4.1   Display

Fig. 15: Display

M-key to select mode: 1 Image
2 Video
3 Video playback

Set via ⚙️key: 4 Microphone
5 Time and date

Status indicator   6 Memory card inserted
7 Battery charge status

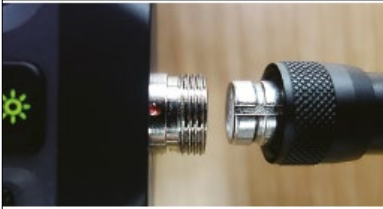# 5   Prior to inspection

5.1   Replacing the probe

Fig. 16: Connecting the probe

- To remove the probe undo the gland nut, then disconnect the probe from the monitor.
- To connect the probe to the monitor, insert the probe into the female connector ensuring the notch on the male connector is precisely aligned with the red dot on the female connector.
- Then tighten the gland nut finger-tight.

☞ *NOTE!*
Connect the camera probe before switching on the Wöhler VE 400. If you connect the probe when the device is switched on, you will need to restart the Wöhler VE 400.

5.2   Inserting the memory card

- Switch off the Wöhler VE 400.

The memory card slot is located on the bottom of the device below the black cover

- To remove the memory card: Press the card in lightly until it is ejected, then pull out the memory card.
- Always insert the memory card so that the label faces upward (towards the display).

! CAUTION!
Never use force when inserting or removing the memory card.

| 5.3 | Charging the recharge-able battery | The battery symbol on the top right of the display indicates the charge status of the rechargeable battery. |

- To charge the videoscope connect the power pack, included in the scope of supply, to the USB port on the bottom of the device. Connect the power pack to the mains.

The On/Off key flashes red (Fig. 1, position 1) while the battery is being charged.

The Wöhler VE 400 remains ready for operation throughout the charging process.

6 Operating

| 6.1 | Power on/off | • To power the device on/off press and hold the On/Off key (1) for approx. 2 seconds. |

The start screen is displayed after 3 seconds, followed immediately by the live camera image.

| 6.2 | Freezing the image | • To freeze an image, press the OK key. |

- To return to the normal image mode, press the OK key again.

| 6.3 | Rotating an image | • To rotate an image 90° in the display, press the arrow up key. |

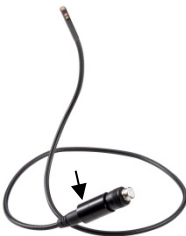| 6.4 | Probe viewing angle (Ø 5.5 mm only) | • Press the black switch on the probe connection to change the viewing angle of the probe from 0° to 90° side view. |

Fig. 17: Ø 5.5 mm probe Wöhler VE 400; the arrow indicates the switch to change the viewing angle.

☞ *NOTE!*
If the battery voltage is very low, the message "no camera" appears on the screen after switching the viewing angle. In this case the camera must be restarted.

6.5 Recording

Fig. 18: Image and video mode

- Press the M-key to select the image or video mode.

- Press the • key to capture an image or to start recording a video.

- Press the • key again to stop recording a video.

☞ NOTE!
After 10 minutes the Wöhler VE 400 stops recording automatically. If you want to continue the video, you have to start it again.

☞ NOTE!
To record audio along with the video you must switch on the microphone in the Settings menu, see chapter 7.

6.6 Playback

Fig. 19: Playback mode

- Press the M-key to select the playback mode.

- It is now possible to scroll through the image and video files using the arrow keys.

☞ NOTE!
The image/video number as well as the total number of recorded files are displayed on the top right of the display.
The length of the current video is displayed on the bottom left of the display.

- Press the OK key to start/stop the video playback.

- Press the M-key to exit the playback mode.

6.7 Deleting files

- Press the M-key to select the playback mode.

- Use the arrow keys to select the image or video to be deleted.

- To delete the file press the ⚙ key, then press the OK key to confirm your intention.

You have the option to delete the selected image/video file or all of the images/videos.

6.8   Transferring image and video files to a PC

Power off the videoscope.

Option 1:

- Power off the videoscope.
- Remove the micro SD memory card and insert it into a PC with the aid of suitable card adapter, then read out the data.

Option 2:

- Power on the videoscope.
- Connect the monitor with the PC using a USB cable, then save the image and video files to the PC.

7 Settings

☞ *NOTE!*
Settings confirmed by pressing the OK key are saved when the device is switched off and on again.

- Use the M-key to select the image or video mode, depending on if the settings are to be applied to the images or videos.

- After selecting the desired mode, press the ⚙ key followed by the M-key to access the corresponding settings menu.

- Use the arrow keys to scroll to the desired parameter, then press the OK key to open the corresponding settings menu.

- Press the OK key to confirm your selection.

- To exit the settings menu, press the ⚙ key.

7.1 Image settings

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Fig. 20: Image mode

- Press the M-key to select the image mode.

- Press the ⚙ key

The settings menu to configure the date display appears.

Date display

- Press the OK key to select if you wish the date is to be displayed in saved image files or not.

- Press the ⚙ key to exit the settings menu.

7.2 Video settings

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Fig. 21: Video mode

- Press the M-key to select the video mode.

- Press the ⚙ key

Resolution

- 1080 pixels (full HD) or 720 pixels (HD)

Date display

- Select if the date is to be displayed in a saved video file or not.

| **Recording** | Off: The microphone is deactivated. Videos are recorded without sound. |
| | On: The microphone is activated. Videos are recorded with sound. |

7.3   General settings

Fig. 22: Image and video mode

- Press the M-key to select the image mode or the video mode.

- Press the ⚙ key

The corresponding settings menu for images or videos is displayed.

- Press the M-key.

The general camera settings are displayed.

Auto power off

- Select when the videoscope will automatically power off if no keys are pressed for a specified period of time.

Frequency

- 50 Hz or 60 Hz

Language

- Chinese, German, Japanese, English, Spanish, French, Italian, Russian.

Time and date

- Use the arrow keys to select the respective digit, then press the OK key to move to the next respective digit.

Format

- This option allows you to delete all of the image files and video files saved on the videoscope.

Standard settings

- This option resets all settings on the device to factory settings.

Version

- Firmware version

10   UKCA Declaration of Conformity

The manufacturer:

Wöhler Technik GmbH
Wöhler-Platz 1, D-33181 Bad Wünnenberg

hereby declares that the following product:

Product: **Videoscope**
Model: **Wöhler VE 400**

is in conformity with the requirements of the following legislation:
Electromagnetic Compatibility Regulations 2016

The following standards were used to access the products in terms of electromagnetic compatibility:

BS EN 55032: 2015
BS EN 61000-3-2: 2014
BS EN 61000-3-3: 2013
BS EN 55024: 2010+A1: 2015

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