WÖHLER

Manual
HD-Pushrod Camera

Wohler VIS 700

The Measure of Technology

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1 General Information

1.1 Operation Manual Information

This operation manual allows you to work safely with the Wohler VIS 700. Please keep this manual for your information.

The Wohler VIS 700 should be employed by professionals for its intended use only.

Liability is void for any damages caused by not following this manual.

1.2 Copyright

Without previous authorization of Wohler it is not allowed to reproduce, copy or translate this manual or part of this manual.

1.3 Notes

WARNING!
Not following this warning can cause injury or death.

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

NOTE!
Highlights tips and other useful information.

1.4 Proper use

The Camera is designed to visually inspect and document the condition of pipes and shafts, for example in flue gas systems, ventilation systems as well as for inspecting underground pipes etc.

The Camera is designed to be used by trained specialists only.

Any other use is considered improper use.

1.5 Scope of supply

Device	Scope of supply
Wohler VIS 700 HD Pushrod Camera	Monitor
	Ø 1.5 inch pan and tilt color camera head, pluggable (option)
	Ø 1 inch miniature camera head, plug-gable (option)
	SD card 32 GB
	Viper with 100 ft camera rod and monitor cable (5 ft)
	3 replacement plastic domes
	1 guidance ball
	1 anti-slide mat
	1 USB power supply with USN-C-cable
	Twinwall hard case

1.6 Storage and transport

To avoid damage occurring during transport it is imperative that the complete system is transported in the original case designed for the purpose.

1.7 Information on disposal

Electronic equipment does not belong into domestic waste, but must be disposed in accordance with the applicable statutory provisions.

You may hand in any defective batteries taken out of the unit to our company as well as to recycling places of public disposal systems or to selling points of new batteries or storage batteries.

1.8 Manufacturer

Wöhler Technik GmbH

2 Important information

Body Protectiond

WARNING!

Never point a connected camera head at your own or somebody else's eyes when the monitor is switched on. The LEDs are extremely bright and can dazzle.

WARNING!

Guide the rod with due care and attention. As the rod is made of flexible material, it can make whipping movements if it slips. Protect your eyes in particular.

WARNING!

In order to limit the exposure of persons to electromagnetic fields, a safety distance of 5 cm must be maintained when the locating transmitter is switched on and when the user is temporarily or permanently near the camera head.

Working environment

WARNING!

Only place the camera on firm level ground and ensure a secure position of camera and user, especially when working in high altitude, e.g. when working on the roof.

WARNING!

Make sure that the parts that you are going to inspect are no live parts.

CAUTION!

Protect the camera head against oil and acid. Never use the camera head and rod to push obstructions.

Operating Temperature

CAUTION!

Do not use the camera in temperatures above 40°C. High temperatures can damage the camera.

Resistance to water

CAUTION!

Only the camera head and the rod are waterproof Keep the camera system dry and protect it from water!

Resistance to impacts

CAUTION!

The camera system is not impact resistant. Do not throw or allow the case to fall!

Accessories

CAUTION!

Use only original Wöhler accessories and spare parts!

Strong magnetic or electric fields

NOTE!

Do not use the camera near television towers, mobile radio equipment or other sources of magnetic or electric fields, as these may impair the quality of the displayed image.

Extraneous influences

NOTE!

Extraneous influences such as static discharges can cause the device to malfunction. If a malfunction occurs, switch the monitor off and on again.

3 Technical data

3.1 Monitor

Fig. 1: Monitor

Description	Data
Dimensions housing	0.3 x 0.2 x 0.1 inch
Weight	1.9 lb
TFT display	7"/ 16:9 format 1280 x 800 pixel
Charging cable	USB-C 5 V/3 A
Power supply	3.7 V, 11400 mAh rechargeable Li-Ion battery
Battery operating time	Up to 4 h (battery status in display)
Operating Temperature	32 - 104 °F
Storage Temperature	- 4 – 122°F

3.2 Wöhler pan & tilt camera head

Fig. 2: Pan & tilt camera head

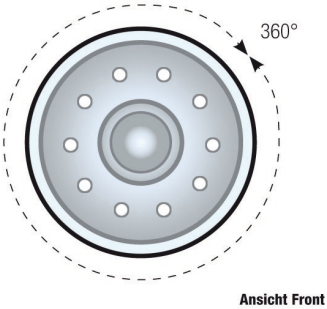


Fig. 3: Pans through 360°

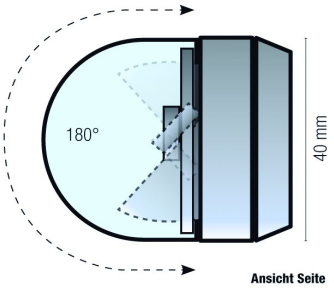


Fig. 4: Tilts 180°

Description	Data
Classification Type	½.7" COLOR CMOS
Focus distance	1 inch ... ∞
Light source	10 white LEDs
Protection	Waterproof to IP 67 (up to 1 m depth for 30 mins.)
Dimensions	
Diameter	Ø 1.5 inch
Shell length	2.2 inch
Total length	ca. 4 inch
Frequency of the integrated emitter	8.9 kHz
Angle of detection	75°

3.3 HD – Mini Camera Head

Fig. 5: HD Mini Camera Head

Description	Data
Classification Type	1/2,7" COLOR CMOS
Light source	10 white LEDs
Protection	Waterproof to IP 68 (up to 30 m depth for 30 mins.)
Dimensions	
Diameter	Ø 1 inch
Shell length	1.3 inch
Total length	ca. 3.2 inch
Frequency of the integrated emitter	8.9 kHz
Angle of detection	150°
Operation temperature	0 … 40 °C
Storage temperature	– 20 … 50 °C

3.4 Camera Rod

Description	Data
Length	100 ft.
Connection cable to the monitor	4,92 ft

3.5 Electronic meter counter

Description	Data
Resolution	1 inch
Max. deviation	5 % of reading

3.6 Storage

Description	Data
Memory	If you are using a memory card other than the one included in the scope of supply, you must format it on a PC before using it with the camera. FAT 32
Max.	32 GB
Technology	SD or SDHC, maximum speed 10
Record Capacity	Approx. 3 GB/h
Video Resolution	1280 x 720 HD, max. 25 fps.
Video format	AVI (H264)

3.7 Twinwall hard case

Description	Data
Dimensions	7 x 17 x 20 in.
Total weight with monitor, camera head and rod	22 lb

4 Design and function

4.1 Video Inspection System

Fig. 6: Wohler VIS 700 HD Pushrod Camera

Legend:

1 Monitor
2 Anti-glare protection (stored in the case)
3 Space for accessories, charging cable, camera head etc.
4 Opening for the camera head
5 Camera head
6 Lower shell with viper and rod (inside)
7 Locks of the camera case
8 Locks of the lower shell
9 Monitor support

4.2 Monitor

Fig. 7: Monitor

Fig. 8: Bottom side of the monitor with USB and SD card slot

Legend:

1 Fixing holes for glare protection
2 Handle, in the picture inserted in the slot of the housing
3 Bottom side of the monitor with terminal strip
4 Loudspeaker
5 Microphone
6 CTIA standard connection for headset with headphone and microphone
7 Without funcion
8 SD Card slot
9 USB port for stick
10 USB port for charging cable
11 Notch for placing the monitor on the connecting rail of the case

5 Starting to use your camera system

5.1 Activating the battery

If the camera system cannot be switched on during initial operation, you have two options for activating the battery:

- Connect the monitor to the mains via the power supply unit. Switch on the camera system.
- Afterwards, the camera can also be switched on without being connected to the power supply.
- or
- Carry out a reset 1, see chapter 15.1.

5.2 Attaching the camera head

- Open the cover of the camera head opening (Fig 5, part 4).
- Carefully pull the rod out of the case.
- If it is not already connected to the rod, connect the camera head to the rod as follows: Insert the five-pin connector of the camera rod into the socket of the camera head.
  Then screw together the threaded parts of the camera head and camera rod.

! CAUTION!
The connection is only waterproof when the connectors are joined together properly.

5.3 Fixing the Guidance Ball

A Guidance Ball Ø 1.2 inches comes with the Wöhler VIS 700. Fix the Guidance Ball to the flex part of the camera push rod, to improve the arc mobility of rod and camera head.

- Use the Guidance Ball for the inspection of pipes Ø 3 inches and larger.

Fig. 9: Guidance ball, comes with the VIS 700

Note!
In pipes Ø 3 inches and larger you can push the rod with the guidance ball much easier. Do not use the Guidance Ball for the inspection of smaller pipes.

Fig. 10: Guidance Ball fixed to the flex part of the the camera head.

- Fix the Guidance Ball as follows:
- Push down the lock (1) of the guidance ball and open it.
- Place the open Guidance Ball around the flex part of the camera rod, see illustration opposite.
- Push down the lock (1) and close the Guidance Ball until the lock engages.

5.4 Using the monitor

NOTE!
When the monitor is stored in the case the joystick is located at the bottom left. This position makes it possible to operate the joystick with the left hand and guide the camera rod with the right hand. If the monitor is removed from the case, it is recommended that right-handed users turn the monitor around so that they can operate the joystick with their right hand.

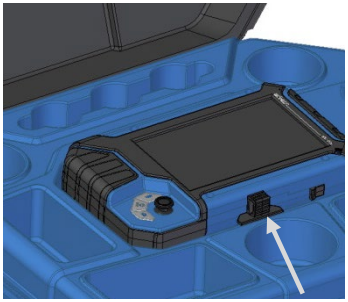


Fig. 11: Press the catch from the front to release the monitor from its secured position in the case

- To release the monitor from its secured position in the case, press the catch from the front.

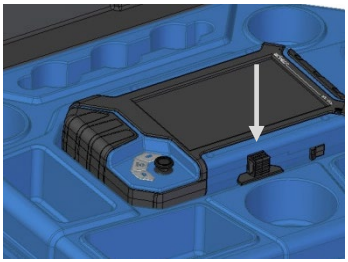


Fig. 12: Press down on the catch from above to lower the monitor into the case.

- To return the monitor to its transport position, press on all four corners of the monitor or press down vertically on the catch.

CAUTION!
If there is any resistance when pushing down on the monitor, check the connection cable has been placed under the monitor properly rolled up.

Fig. 13: You can turn and tilt the monitor

When released from the case you can tilt the monitor up and down and turn it around its longitudinal axis. Locking points ensure the camera is held in a stable position.

Fig. 14: Monitor removed from the case

It is also possible to take the monitor from the case and hold it in your hands.

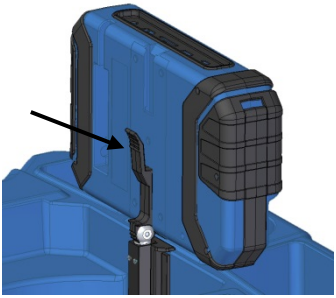


Fig. 15: Press the lever to release the monitor from the holder

Proceed as follows to release the monitor from the holder:

- Position the monitor upright in the holder.
- Press against the lever on the rear of the monitor.
- At the same time pull the monitor out of the holder.

Handle

Fig. 16: With the handle pulled out it is possible to hold and operate the monitor with one hand.

It is possible to pull out a handle to allow you to hold the monitor in your right hand and operate the joystick with your right hand at the same time.

Fig. 17: Push button for pulling out the handle marked with arrow

- To pull out the handle press the black pushbutton on the top of the monitor and slide the handle to the right at the same time.

Glare Protection

- Remove the Glare Protection from of the case lid. It is located in the compartment behind the lower part of the Short Guide.
- Insert both pins of the Glare Protection into the corresponding fixing holes immediately above or below the display to suit your working position. Magnets at the ends of the pins ensure a stable hold.

5.5 Charging the rechargeable battery

WARNING!
Danger of death by electrocution!

Never touch a mains plug with wet hands!

Do not expose the power pack to moisture!

Never pull the cable to remove the power pack from the socket outlet - it could rip out the cable!

Operate the power pack only when the mains power supply is the same as the voltage stated on the rating plate!

Fig. 18: Battery charge icon 60%

A battery charge icon is on the right of the icon ribbon. The charge level is displayed in either blue or orange (≤ 20%).

Recharge the rechargeable battery if the charge level is displayed in red (≤ 10%).

Fig. 19: USB port indicated by an arrow

- To charge the battery, connect the monitor to the mains using the USB power pack included in the scope of supply.
- To do so, insert the USB C connector into the USB port on the bottom of the monitor.

When the camera system is switched off the image and video keys flash red during the charging process.

The image and video keys light up red when the battery is fully charged.

The camera system remains fully functional during the battery charging process.

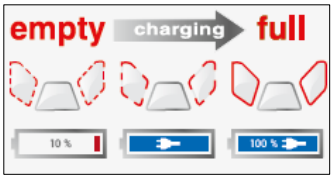


Fig. 20: Keys and charge level indicated when charging

NOTE!
If possible, recharge the battery when the camera system is switched off. This increases the operational lifetime of the rechargeable battery.

The keys will not flash if the battery is recharged with the camera system switched on. A connector symbol is displayed in the rechargeable battery display.

6 Keys and their functions

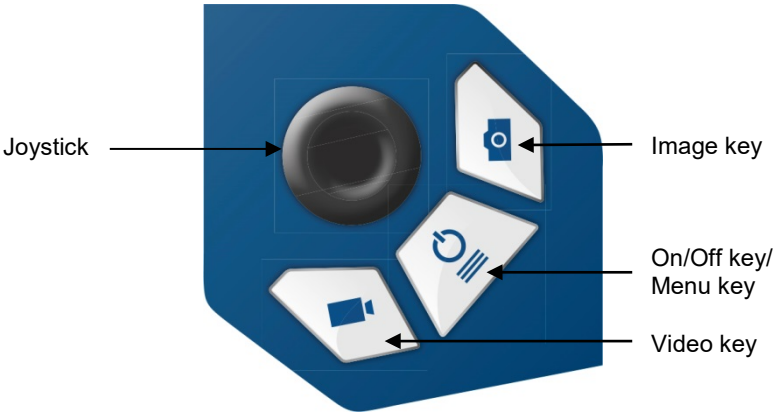


Fig. 21: Monitor keys

6.1 On/Off key

NOTE!
The ventilation fan works at irregular intervals when the camera is in operation.

Switching on the system

- When the system is switched off, press and hold the ON/Off key for approx. one second. The ON/Off key then lights up green, the image and video keys light up blue.

After approx. five seconds the LEDs light up on the camera. The Home screen is displayed followed by the camera image.

NOTE!
It is possible to turn the monitor through 180°. The icon and information ribbons in the monitor are automatically aligned according to the monitor position. It is also possible to turn the viewing position of the screen by slightly turning the monitor.

Switching the system off

- Press and hold the On/Off key for approx. two seconds until the system switches off.

Calling up the menu

- When the system is switched on briefly press the ON/Off key to display the menu.
- Briefly press the ON/Off key again to hide the menu.

6.2 Video key

- To begin recording a video, briefly press the video key.
- To stop recording the video, briefly press the video key again.

A red dot is displayed in the information ribbon of the display when a video is being recorded. In addition, the video recording time is also displayed in the information ribbon.

NOTE!
The camera will only record a video when a memory card is installed. The camera will automatically stop recording, if the memory card is removed.

NOTE!
It is not possible to save the position indicator or a comment when recording a video.

If you require this information, it is recommended that you capture an image while recording the video. In the photo all information is shown as graphical elements.

Record time

NOTE!
After 30 minutes the camera will automatically stop recording a video. If the video has to be recorded over a longer period of time, the user has to start recording again by pressing the video key after 30 minutes.

NOTE!
The minimum record time is 10 seconds. Even if the user tries to stop the record before, the camera will stop recording after 10 s only.

6.3 Image key

- Press the image key briefly to capture an image.

It is possible to capture an image while recording a video.

> ☞ *NOTE!*
> *The camera will only capture an image when a memory card is installed.*

6.4 Joystick

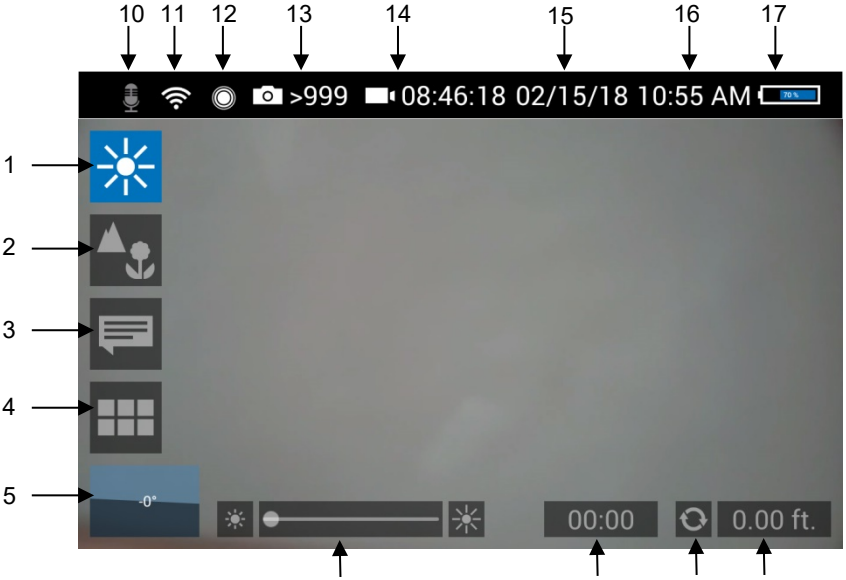
Tilts through 180°

- To tilt the camera head move the joystick back and forth.

Pans through 360°

- To pan the camera head move the joystick left or right.

7 Display elements



Legend:

1 Brightness control
2 Focus control
3 Comment function
4 System menu
5 “Horizon” with tilt and pan angle display / Home function
6 “Brightness” slider (the “Focus” slider can also be displayed here)
7 Video recording time
8 Reset meter counter
9 Meter counter
10 Microphone on/off
11 WLAN active
12 Locator
13 Number of possible images remaining
14 Remaining video recording time
15 Date
16 Time
17 Remaining battery charge

8 Displayed position of the camera head

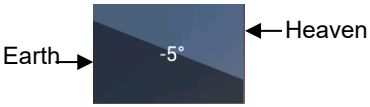


Fig. 22: Horizon icon including degree display

The horizon icon indicates the downward gradient of the pipe.

Example:
- 5° corresponds to a downward gradient of 5°

(+ 5° corresponds to an upward gradient of 5°)

9 Home function

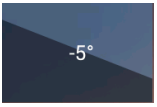


Fig. 23: Tap the horizon icon to level the camera head

The Home function makes it possible to align the camera head in a straight position, so that the camera faces “straight ahead” and the tilt and pan angle display is depicted parallel to the ground below.

- To activate the Home function tap the horizon symbol in the display.

10 Digital meter counter

Fig. 24: Reset icon (left) and position of the camera head (right)

The meter counter display information tells you how far the camera head has been pulled out of the case. To precisely determine the position of the camera head in the pipe, proceed as follows:

- Insert the camera head into the beginning of the pipe and tap the reset icon.

The position indicator is now set to 0.

11 Voice recording

Fig. 25: Microphone icon

The Wöhler VIS 700 can record a voice recording for each video. The microphone must be activated before recording.

- Tap the microphone icon to activate the microphone.

The microphone is located at the bottom left of the monitor, see Fig. 7, part 5.

- Tap the microphone icon again to deactivate the microphone if you do not want the sound to be recorded during video recording.

12 Live menu

Via the live menu, settings can be made on the camera system.

- To display the live menu, briefly tap the On/Off/Menu key when the system is switched on.
- To hide the menu, briefly tap the On/Off/Menu key again.

All menu settings are made using the touchscreen. As soon as a slider appears in the display it is possible to configure the settings via the touchscreen or using the joystick. That is the case with the Focus menu and the Brightness menu.

12.1 Brightness menu

Fig. 26: Brightness menu icon

Fig. 27: Brightness slider

In the Brightness menu it is possible to regulate the light intensity of the camera head LEDs.

- Tap the menu icon “Brightness”.

- To increase or decrease the brightness
  - slide the dot on the slider using the joystick in desired direction
  or
  - tap the sun symbol on the corresponding side next to the slider or slide the dot on the slider in the desired direction.
- To exit the Brightness menu press the joystick or tap another menu in the display.

12.2 Focus menu

Fig. 28: Focus menu icon

NOTE!
The focus function of the Wöhler VIS 700 HD camera system is only active when the HD pan and tild camera head Ø 40 mm is connected , not when the HD miniature camera head Ø 26 mm is connected. The miniature camera head has a fixed focus.

In the focus menu, you can set the sharpness of the image area you are interested in. You can adjust the focus using the touch screen or the joystick.

Adjusting the focus via the touchscreen

- Tap the menu icon “Focus” in the display to call up the slider.

Fig. 29: Focus slider

- To adjust the focus
  slide the dot on the slider
  or
  tap the flower or mountain icon.

Adjusting the focus per joystick

- To activate the focus function, briefly press the joystick.
- Move the joystick left or right to adjust the focus setting.

12.3 Comment function

Using the comment function it is possible to add a written comment to an image. Images can then be saved together with the comments. It is not possible to add a comment to an image after it has been saved.

NOTE!
It is not possible to add a written comment directly to a video. However, it is possible to capture an image while recording a video. It is then possible to add a comment to the image before saving it.

Add a comment

- Tap the menu icon “Comment” in the display.

Fig. 30: Comment menu icon

The comment list appears with ready-made comments.

Add a comment to the list of comments

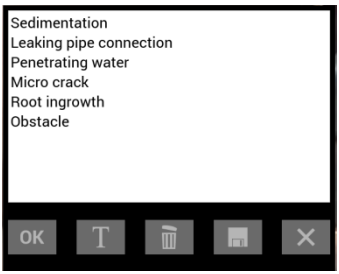


Fig. 31. List of comments

- To create a new comment tap the text icon **T**.
- Enter the new comment using the keypad.
- Tap **OK** to add the new comment to the list of comments. The new comment is displayed when the list of comments is called up again.

Add a comment to an image

- To add a comment to the image, simply select the comment in the list and tap OK.

Delete a comment from the list of comments

- To delete a comment from the list of comments, select the comment in the list of comments and then tap the Recycle Bin icon. The comment is no longer displayed when the comment function is called up again.
- To delete a comment previously added to an image, tap the comment to be deleted and then tap the Recycle Bin symbol in the Comment menu.

Store the list of comments

- Tap the save icon if you want to save the current comment list permanently.

The save icon will be colored blue for 2 seconds.

- If you exit the Comment menu without saving your new comment, the new comment will no longer appear in the list.

Delete a comment from the image

- Select the comment in the image (not in the comments list), and then tap the Recycle Bin icon to delete the comment from the image.

Exit the Comment menu

- Tap the **X** icon to exit the Comment menu.

12.4 System menu

You can access the System menu via the following submenus:
WLAN, Location detection, Image and video gallery, Settings.

The active functions are highlighted blue, inactive functions are grey.

Fig. 32: System menu with submenus WLAN (1), Locator detection (2), Image and video gallery (3) and settings (4)

Activate WLAN

Fig. 33: WLAN icon

This function is described in chapter 13.

12.4.1 Locator

Fig. 34: Locator icon

- Tap the Locator icon to activate the locator transmitter.

It is now possible to detect the camera head with the Wöhler Locator 200.

> *NOTE!*
> *The camera consumes less power when the transmitter is switched off. However, in this case it will not be possible to locate the camera head.*

Fig. 35: Selecting the frequency

The transmission frequency of the connected camera head is displayed below the locator icon.

- Tap on the transmission frequency, if you want to change between 8.9 kHZ and 512 Hz.

> *NOTE!*
> *The camera consumes less power when the transmitter is switched off. However, in this case it will not be possible to locate the camera head.*

12.4.2 Saving and deleting images and videos

Fig. 36: Image and video gallery icon

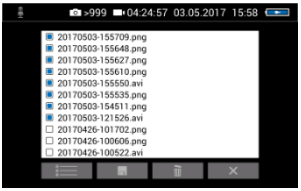


Fig. 37: Image and video gallery

The Picture and Video Gallery displays all the pictures and videos you have taken. The respective file name consists of the date and time of the recording.

Mark all files

Fig. 38: Lists icon

- Tap the Lists icon to highlight or deselect all files.

Save files to USB drive

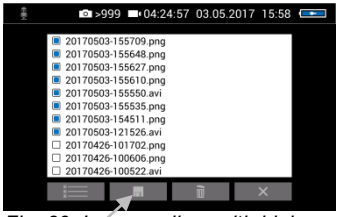


Fig. 39: Image gallery with highlighted files; the Save icon is indicated by an arrow.

- Insert the USB drive into the monitor.
- Select the check boxes next to the files to be saved. The check boxes will then be highlighted blue.
- Then tap the Save icon.

A dialog box opens to save the files to the USB drive.

Delete files

Fig. 40: Recycle Bin icon

- Select the check boxes next to the files to be deleted. The check box next to a selected file is highlighted blue.
- Then tap the Recycle Bin icon.

12.4.3 Display images and videos

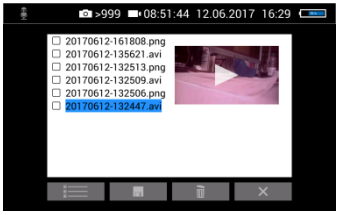


Fig. 41: Preview selected video

- Tap a file name in the Image and Video Gallery.

An image or video preview is displayed next to the file list.

- Tap Preview. The image or video is displayed.

NOTE!
Depending on the size of the video file it can take several seconds for the video to load before it is ready to play.

To return to the gallery, tap the image icon again or tap the Close icon in the video.

How to playback videos on a PC

NOTE!
During video playback, the date, time and meter count are always displayed in the video, regardless of which media player is used.

There are two options to transmit images and videos from the camera to a PC.

- Save the image and video files to a USB drive (see Fig. 39) and then load them onto the PC.
- Remove the SD memory card from the monitor (see Fig. 8: Bottom side of the monitor with

USB and SD card slot.) Insert the memory card into the card slot of the PC and copy the image and video files onto the PC.

You can playback a video on the PC using the Windows Media Player or VLC Player once you have saved the respective video file to the PC. If you work with a Windows PC, the Media Player will already be installed on the PC. The VLC Player is available to download free of charge from the website.

NOTE!
Depending on the size of the video file it can take several seconds for the video to load before it is ready to play.

Exit the Image and Video Gallery

Tap the **X** icon to exit the Image and Video Gallery.

12.4.4 Settings

Note!
The settings made here are automatically saved and remain stored after the camera system has been switched off and switched on again.

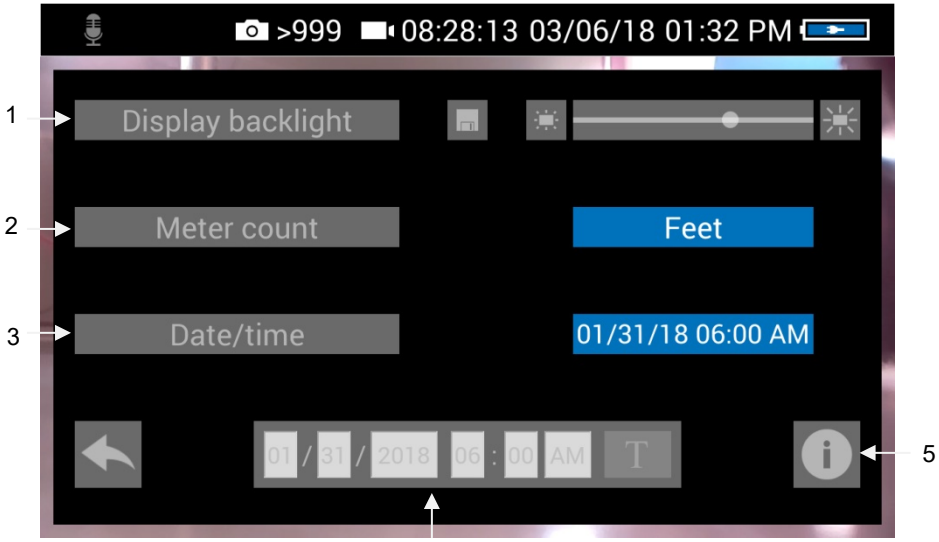


Fig. 42: Settings menu

1 Display Backlight

Here the display backlight can be adjusted. (To adjust the illumination of the camera head, see chapter 7.)

When the camera is turned on, the display brightness is always set to 70%.

- To change the display brightness, tap on the light icons next to the slide bar

or

- move the point on the slide bar.

It is possible to adjust the display brightness in 10 levels from 10% to 100%.

If you want to retain the setting of the display brightness even after switching on again, tap the

memory icon next to the slid bar.

NOTE!
To reduce power consumption when the battery is low, it is advisable to choose a low backlight.

2 Meter Count

There are 2 possibilities to display the meter count:

0.00 m (Meter)

0.0 ft. (feet)

- Tap on the blue unit field to change the unit.

3 Date/Time

Here you can change the display of date and time. The following possibilities exist:

GERMAN:

Day.Month.Year

00.00 – 24.00

INTERNATIONAL:

Year-Month-Day

00:00 – 12:00 AM and 00:00 – 12:00 PM

USA:

Month/Day/Year

00:00 – 12:00 AM and 00:00 – 12:00 PM

4 Updating the date and the time

Here you can change the date and time. They appear in the header of the display and as file names of stored photos and videos.

- Tap the T icon next to the date and time. A keyboard opens.
- Select the numeric keyboard.
- Fill in all fields one after the other with numbers and confirm with the tick.

The settings are saved automatically and are retained after switching the camera off and switching on again.

- Tap on the Info Button to enter the info menu.

12.4.5 Info menu

Fig. 43: Info menu

In the info menu under "Hostname" you will find the serial number which is required for displaying the images in a browser, see chapter 13 (transmission of the image files via WLAN), the language version, the wlanO-IP as well as software and hardware versions for the service.

The user does not have to operated the service button.

13 Working with the Light Ring

Fig. 44: Digital Light Ring for camera heads Ø 26 mm and 40 mm

13.1 System requirements

The Light Ring can be controlled via the camera.

NOTE!
It is not possible to controll the Light Ring with an older Version of the camera or the camera head.

Fig. 45: Info menu with SOM (Firmware of the camera) and CAM (Version of the camera head)

The firmware of the camera must be 2.0.2 or higher. The version of the camera head must bei 1.4.0 or higher. You can find the version number in the Info menu, see chapter 12.4.5.

If you work with an older camera or camera head the the Light Ring will always be switched on when the camera ist switched on.

13.2 Installing the light ring

- Unscrew the camera head from the camera rod.

Working with the Light Ring

Fig. 46: Light Ring plugged on the rod

- Plug the 5-pin plug of the camera rod into the socket of the Wöhler Light Ring.
- Turn the threaded piece of the camera rod to the right to lock it.

Fig. 47: Camera with light ring

- Plug the camera head connector into the auxiliary lighting connector and rotate until the poles snap into place.
- Turn the threaded piece of the camera rod to the right to lock it.

13.3 Dimming the lighting

When the camera system is switched on, the light ring is switched on and the illumination of the camera head is at the highest level.

The additional illumination can be switched off via the brightness menu of the camera. The LEDs of the camera head can be dimmed in 3 levels and then switched off.

- Press the menu button to display the camera menu.

Fig. 48: Camera menu when the light ring is swithced on

NOTE!
If the light ring is installed, a light bulb appears as the icon for the brightness menu instead of the sun. When the additional lighting is switched on, a + appears next to the light bulb.

- Tap on the bulb icon to select the brightness menu.
- Adjust the brightness as usual using the slide bar or the joystick.

14 Transmission of image files via WLAN

There are 2 ways for a live transmission of images and videos:

1. Access Point: the Wöhler VIS 700 establishes its own WLAN network.
2. Client: You dial into a stationary WLAN network with the Wöhler VIS 700 and your mobile device or laptop.

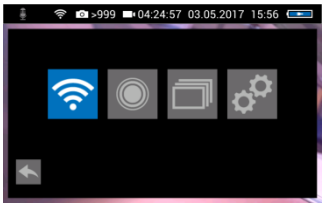


Fig. 49: system menu with activated WLAN icon

- Open the System menu, see chapter 12.4.

Fig. 50: WLAN icon

- Tap on the WLAN Icon, to activate the WLAN function of the camera system.

The camera will now search for the available networks.

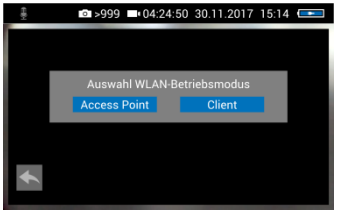


Fig. 51: Selecting the WLAN mode

- You will be prompted to select the WLAN operating mode: "Access Point" or "Client".

14.1 Access Point: Transmission via a VIS 700-WLAN-network

When “Access Point” is selected, the Wöhler VIS 700 builds up its own WLAN network, via which the image data can be transferred directly to a mobile device.

This method allows to view the live images on the Wöhler VIS 700 monitor, while a colleague standing at the other end of the tube, can watch the live videos on his mobile device.

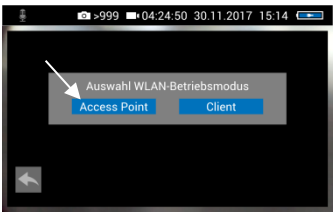
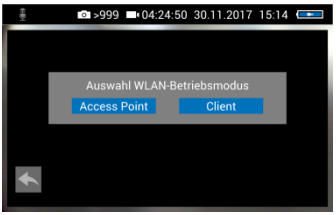


Fig. 52: „AccessPoint“

- Select “Access Point”



The display shows the network name of the Wöhler VIS 700 and the password you need to connect your mobile device.

The **network name** is composed as follows:

VIS700_*serial number of the camera*.

The default **password** is:

woehlerVIS700

It is possible to change the network name and the password.

> *NOTE*
> *If you change the network name, you can use your own company name as the network name, for example.*

Fig. 53: Changing the password

- To change the network name or password, tap the corresponding field and then tap the text-button T.

A keyboard will appear on screen.

- Make the appropriate changes.
  (The passwart must have at least 8 signs).
- Tap OK to save the changes.

Fig. 54: WLAN icon in the icon ribbon

The WLAN icon is displayed in the icon ribbon of the display until the WLAN function is deactivated.

- To deactivate the WLAN function, tap the WLAN icon again in the System menu.
- To establish a connection between the camera and the mobile device, proceed as follows.
- Access the WLAN settings of your mobile device.
- Select the network **VIS700_[*serial number, 4 digits*] or the network name that you have chosen**
- Enter the password. The password is **woehlerVIS700 or the password that you have chosen.** Note the upper and lower case letters.

NOTE!
As long as your mobile device is connected to the VIS700 network, you will not be able to connect it to the Internet. Therefore, the warning message "Internet not available" appears.

Establishing a connection to a mobile device

- Wait until the Wöhler VIS 700 establishes contact with your mobile device.

Now you have 2 options to additionally display the live images of the camera in the display of your mobile device:

Option1:

- Go to the Info-menu of your camera, see chapter 0.

As you already have activated the WLAN-Access-Point-Mode, the key “wlan0-IP” will be highlighted in blue.

Tap „wlan0-IP“.

Fig. 55: Info-menu with the WLAN-Access-Point-mode activated.

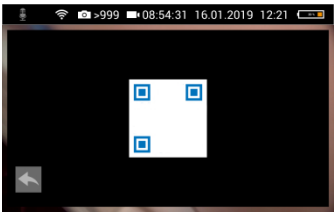


Fig. 56: QR code for loading the live image onto the mobile device.

A QR-Code will appear in the Display.

- Scan the QR code with a QR code reader on your mobile device.

NOTE!
You can charge a QR-Code-Reader as a free app from the App Store (iOS) or Google Play Store (Android) to your device.

The camera image will now appear in the display of your mobile device. Focus and brightness settings of the camera will also change the image on the mobile device.

Option 2

- Open any browser on your mobile device (Chrome, Internet Explorer, Firefox etc.)
- In the address bar of your browser enter: **http://VIS700_[*serial number, 4 digits]***

The camera image will now be shown on the display of your mobile device. Changes made to the focus and brightness settings in the camera menu will also change the image shown on your terminal device.

14.2 Client: Using an existing WLAN network

In the “Client” mode, you dial into an existing network both with the Wöhler VIS 700 and with a mobile device or a WLAN-capable PC or Laptop. This way, live image transmission from the camera to the mobile device/laptop is even possible over a certain distance. This possibility can be interesting in industrial plants, for example.

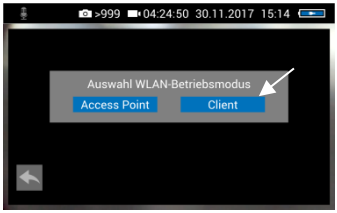


Fig. 57: Client

- Select “Client”.

All available networks will appear in the camera display.

- Select the network.
- Enter the password of your network.
- Confirm with OK.

> *NOTE*
> *The password will always be saved so that you do not have to enter it the next time you log on to the same network.*

Fig. 58: WLAN-Icon in the header

After a successful connection, the WLAN icon will appear in the top bar of the display. The WLAN button in the system menu will be highlighted in blue until the WLAN function is deactivated again.

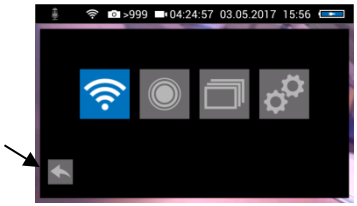


Fig. 59: System menu with activated WLAN button

- Tap the arrow button to exit the system menu.

Connection to a mobile device or laptop

- Proceed as follows to establish the connection between the camera and the mobile device or laptop.
- Open the WLAN settings of your mobile device.
- Select the same network that you dialed into with the camera.
- Enter the password of your network.
- Open any browser on your mobile device or laptop (Chrome, Firefox, Internetexplorer etc.).

Since the settings of mobile devices are different, two procedures are described below. If option 1 does not work, proceed with option 2.

Option 1

- Enter the following address in the address bar of the browser of your mobile device: **http://VIS700_[*serial number, 4 digit*]**

NOTE
You can find the serial number on the sticker on the back of the monitor or in the settings menu (System menu>Settings) under "Hostname".

The Camera-picture will now appear on the screen or your mobile device or laptop. Focus and brightness settings made via the menu on the camera also affect the picture on the mobile device.

Option 2

Fig. 60: Settings menu - wlan0_IP is marked

- If your mobile device did not connect successfully to the camera, proceed as follows:
- Open the settings menu of the Wöhler VIS 700 (system menu > settings). In the left column you will find the wlan0-IP.
- Enter the wlan0-IP in the address bar of your browser. (without http, only the digits and dots!)

The camera image will now appear in the display of your mobile device. Focus and brightness settings made via the menu on the camera image will also affect the image on the mobile device.

15 Faults

15.1 Reset

Fig. 61: Reset hole indicated by an arrow

It is possible to rectify certain malfunctions by initiating a reset operation. The reset hole is located on the rear of the monitor next to the camera connection port, see Figure opposite.

- Reset 1: Insert a thin object, for example a straightened paper clip, into the reset hole and press for 2-3 seconds. All buttons should then light up.
- Reset 2: If all buttons do not light up after 2-3 seconds, insert a thin object into the reset hole and press for approx. 15 seconds. All buttons should then light up.

NOTE!
Depending on the type of reset operation the reset time (until all buttons light up) is between 2 and 15 seconds. The reset operation is successful when all buttons light up.

15.2 Possible malfunctions

Fault description	Possible cause	Remedy
Image and video keys flash rapidly when the device is turned on.	Rechargeable battery is flat.	Recharge the battery
Monitor and camera head switched on. No image or stuttering image replay.	Rod is broken.	Return the device for repair.
Camera stops video recording	No video signal, e.g. due to a broken rod	If it occurs repeatedly, return the unit for repair.
Blurred images	Plastic dome scratched.	Replace the plastic dome; glass dome optional.
Camera system dead	Rechargeable battery is flat.	Recharge the battery.
	Device is faulty.	Return the device for repair.

16 Maintenance

16.1 Information on maintenance

Proper operation of the Service Camera requires regular maintenance. The following maintenance works can be done by the user himself.

16.2 Replacing the dome of the camera head

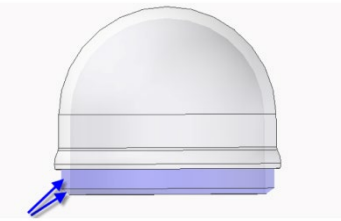


Fig. 62: Fitting the camera dome

NOTE!
The camera head is supplied protected by a plastic dome, which can be replaced if necessary, for example, if it becomes scratched. It is optional to fit this camera head with a glass dome for use in dry working environments.

Smear the thread with silicone grease before fitting the new dome. When fitting the replacement dome, make sure you engage all of the thread to ensure it is properly tightened. Otherwise, it cannot be guaranteed that the camera head is properly sealed, and malfunctions can occur as a result of water and dirt ingress.

16.3 Camera head

- Only use soft, damp cloth to clean the lens. Never use any cleanser.

16.4 Monitor

- Clean the monitor using a soft cloth.

16.5 Cleaning the viper and the rod

The viper with the rod is placed in the lower shell of the case. It is possible to take it out and clean it with water. In this case the camera head can remain fixed to the camera rod. If you remove the camera head from the rod, you must seal the rod end with a plug before cleaning.

- To do so proceed as follows:

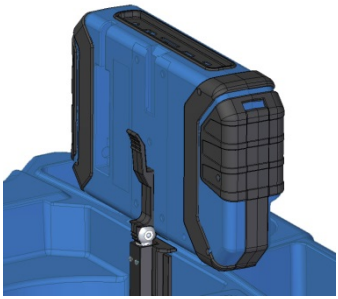


Fig. 63: Press lever and pull the monitor from the support at the same time.

- First open the upper shell of the case.
- Place the monitor in an upright position and pull it from the support.
- Unscrew the union nut of the monitor cable and remove the monitor cable from the monitor.
- Store the monitor so that it cannot become wet when you are cleaning the viper.

Fig. 64: Upper shell of the case with connection cable (monitor) and without monitor

- Push the monitor support back into the case.

Fig. 65: Case in the correct position for removing the viper

- Open the black locks of the lower shell.
- Place the case in an upright position on the narrow edge.

Fig. 66: Grasping the end of the rod and the viper

- Grasp the rod guide and the viper, so that they cannot twist against each other any more.
- Turn the viper 90° counterclockwise.

The rod can easily be removed from the case now.

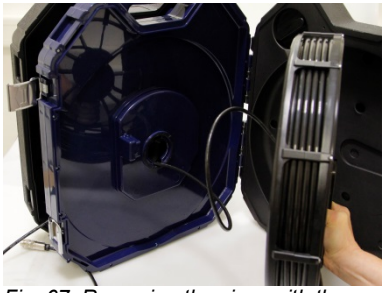


Fig. 67: Removing the viper with the connection cable from the case.

- Remove the viper from the case.
- Cautiously pull the monitor cable from the case.
- Close the upper shell of the case.

Cleaning the viper and the rod

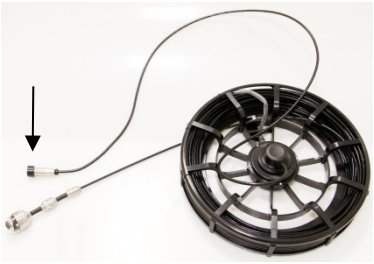


Fig. 68: Viper removed from the case, monitor plug covered by a lid

! CAUTION!
Take care that no water comes into the plug connections of the rod.

- Secure the monitor plug against water, e.g. with a foil.
- If the camera head is not connected to the rod during cleaning, secure the rod end against the ingress of water, e.g. with a foil.

☞ *NOTE!*
The waterproof camera head can remain attached to the camera rod while cleaning. In this case take care that the connection is tight.

Fig. 69: Cleaning the viper and the rod

- Clean the viper and the rod with water.

Cleaning the lower shell of the case.

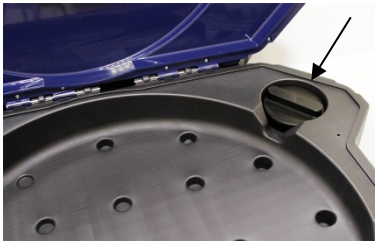


Fig. 70: Sealing plug placed in the lower shell of the case.

In the upper right corner of the lower shell of the case there is a sealing plug.

- Remove the sealing plug.

Fig. 71: Hole for the connection of the viper, sealed with the sealing plug.

- Plug the sealing plug into the hole for the connection of the viper. Fix the sealing plug by turning it clockwise. Fix it carefully so that no water can come into the upper shall of the case.
- Flush the lower shell of the case with water.
- Dry the case with a cloth.
- Allow the viper and the rod to dry, to avoid humidity in the case.

Assembly of the case

Fig. 72: Rod guide in the end position

- After that mount the case in reverse order.
- Turn the sealing plug counter clockwise, remove it and plug it in its place in the upper right corner of the lower shell of the case.
- Guide the monitor cable through the hole in the middle of the case.
- Place the viper on the hole, so that the rod guide is vertically down.
- Press the viper slightly and turn it 90° clockwise.

Fig. 73: Rod with camera head.

- Guide the end of the rod with the camera head through the opening and push the camera head into the case.
- Close the lower shell of the case.
- Connect the monitor with the monitor cable.
- Replace the monitor into the case again.
- Return the monitor to its transport position by pressing down (see chapter 0) and close the case.

Rely only on high-grade diagnostic and testing tools offered on our virtual shelves.