VSC3008

EN

OPERATING MANUAL
VIDEOSCOPE

> TROTEC

AT WORK.

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Notes regarding the operating manual

Symbols

⚠ **Danger!**
Warns of a hazard which can lead to injuries.

⚠ **Caution!**
Warns of a hazard which can lead to damage to property.

The current version of the operating manual can be found at:

VSC3008

http://hub.trotec.com/?id=39601

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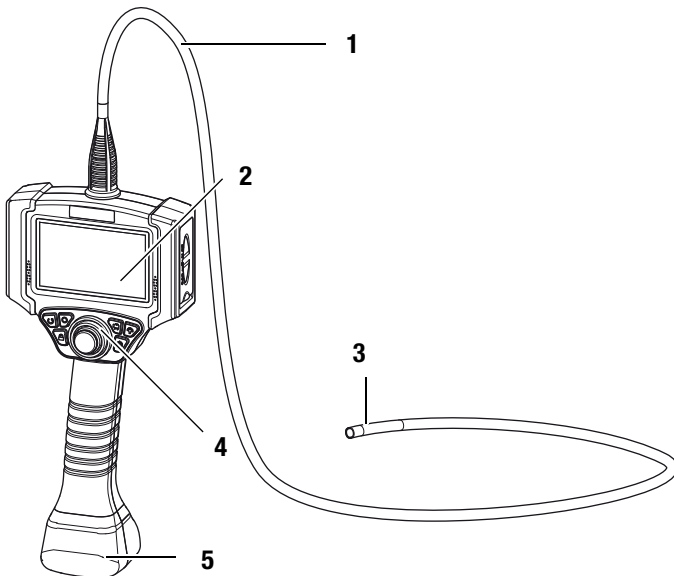
Information about the device

Device description

The videoscope serves for inspecting concealed machine components and poorly accessible or inaccessible hollows.
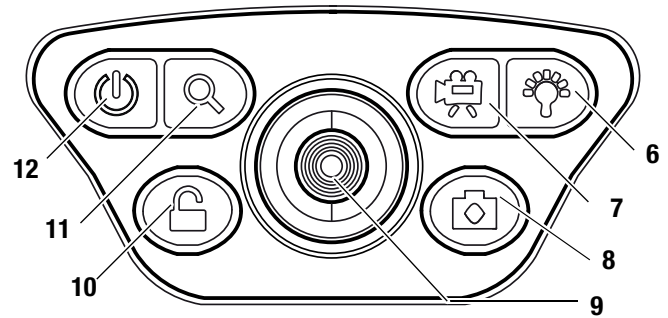The videoscope offers the following functions:

- high-resolution camera
- moveable camera head with very bright LED illumination
- recording of pictures and videos, storage on an SD card
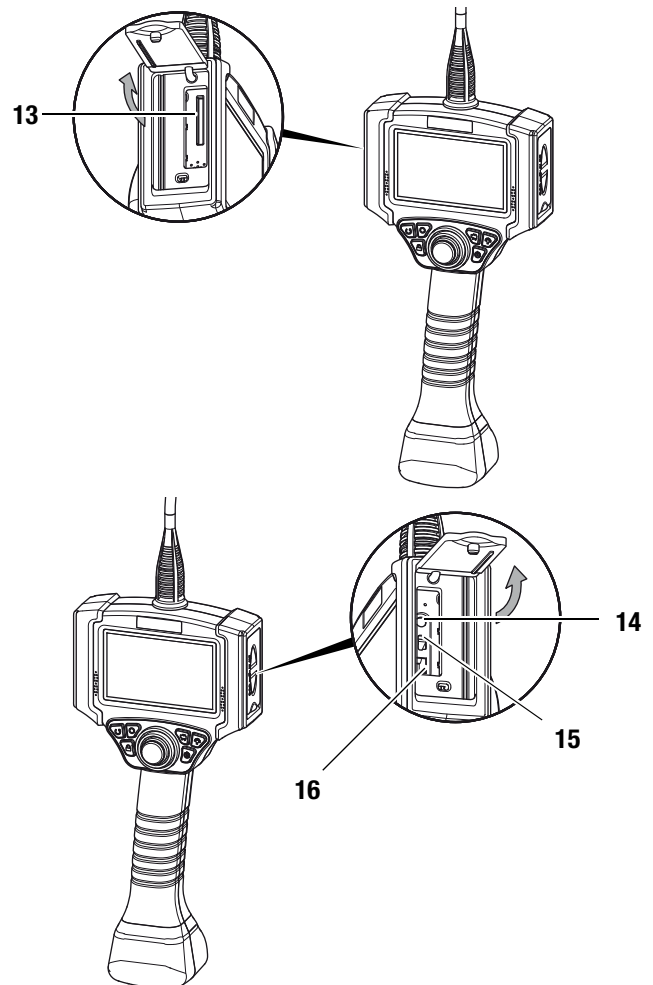- USB interface for data exchange.

Device depiction

No.	Operating element
1	Probe cable
2	Display
3	Fully flexible camera head
4	Operating elements
5	Battery with charger/power adapter connector

Operating elements

No.	Operating element	Meaning
6	Brightness button	Controls the light intensity at the camera head
7	Video button	Starts or stops video recording
8	Photo button	Taking a photo
9	Cursor	Controls the camera orientation and the menu
10	Padlock button	Locking the camera head in the current position
11	Zoom button	Zooming in the screen (1x, 2x, 3x)
12	On/Off/Menu/Back button	Switching the device on and off, calling up the main menu, leaving a menu

No.	Operating element	Meaning
13	SD slot	Slot for SD card
14	AV OUT	Audio/video signal output
15	USB port	Port for a mini USB cable
16	Power connector	Connector for the power adapter

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Technical data

Model		VSC3008
Article number		3.510.009.640
System	Type of lighting	10 white LEDs (colour temperature 5,000 to 6,500 K)
	Luminous intensity	50,000 lux
	White balance	4 setting options (automatic, sunlight, clouded, artificial light)
	Brightness control	Manually adjustable
	LCD display	4.3-inch TFT LCD (800 x 480 px [Wide VGA])
	Interfaces	USB, analogue video (HDTV)
	Memory	Slot for removable SD card (max. 32 GB)
	File formats	JPEG image format, AVI video format
	Power supply	5 V lithium polymer battery pack; power adapter (input: AC 100 V to 240 V 50/60 Hz 0.2 A, output: DC 5 V, 1.0 A)
	Operating time	> 4 h
Probe	Dimensions	Length 3 m, ø 8 mm
	Construction	Exterior: tungsten wire mesh for high torsional strength, inner layer: polyurethane on steel spiral
	Articulation	up/down/left/right ≈ 120°
	Type of protection	IP67, oil-resistant
Camera	Image sensor	CMOS
	Resolution	440,000 pixels
	Field of vision	130°
	Camera head	Stainless steel with titanium coating
	Zoom	Three times digital
Surrounding conditions	Temperature	-10 °C to +50 °C
	Humidity	< 90 % RH
	Type of protection (housing)	IP54
Physical characteristics	Construction	ABS housing with integrated bumpers
	Dimensions	410 x 154 x 80 mm
	Weight	960 g (incl. batteries)

Scope of delivery

- 1 x Videoscope VSC3008
- 1 x Battery pack 5V DC
- 1 x Case
- 1 x Power adapter/charger
- 1 x AV cable
- 1 x Getting started guide
- 1 x SD card
- 1 x Display cleaning cloth

Safety

Carefully read the operating manual before using the device and keep it within reach!

- Do not use the device in atmospheres containing sulphur, chlorine or salt.
- Protect the device from permanent direct sunlight.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Do not open the device with a tool.
- Observe the storage and operating conditions (see chapter Technical data).

Intended use

Only use the device for the visualization of objects. To use the device for its intended use, only use accessories and spare parts which have been approved by Trotec.

Improper use

Do not use the device in potentially explosive areas. Do not use the control unit with display underwater. Never use the device on persons or animals. Trotec accepts no liability for damages resulting from improper use. In such a case, any warranty claims shall expire. Any unauthorised modifications, alterations or structural changes to the device are forbidden.

Personnel qualifications

People who use this device must:
- have read and understood the operating manual, especially the Safety chapter.

Residual risks

⚠️ **Danger!**
Keep a sufficient distance from heat sources.

⚠️ **Danger!**
Do not leave the packaging lying around. Children may use it as a dangerous toy.

⚠️ **Danger!**
The device is not a toy and does not belong in the hands of children.

⚠️ **Danger!**
This device can be dangerous if it is used by untrained people in an unprofessional or improper way. Observe the personnel qualifications.

⚠️ **Caution!**
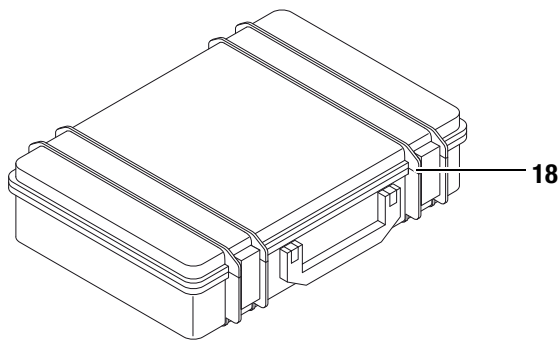To prevent damages to the device, do not expose it to extreme temperatures, extreme humidity or moisture.

⚠️ **Caution!**
Do not use abrasive cleaners or solvents to clean the device.

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Transport and storage

Transport

Use the supplied case (18) to transport the device.

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Storage

When the device is not being used, observe the following storage conditions:

- dry,
- protected from dust and direct sunlight,
- with a plastic cover to protect it from invasive dust, if necessary.
- The storage temperature is the same as the range given in the chapter Technical data.
- When storing the device for a long time, remove the batteries.
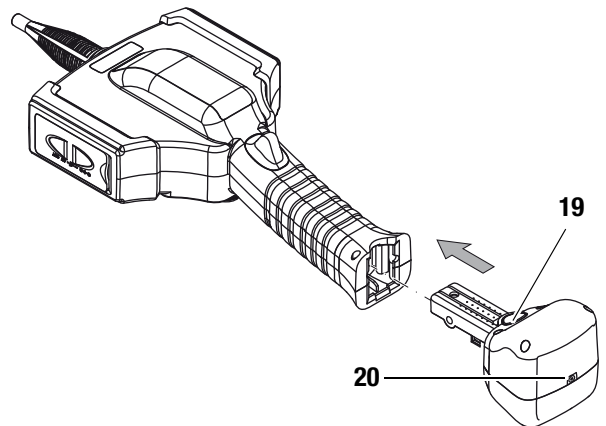- Preferably use the supplied case to store the device.

Operation

Inserting the battery pack

Before using the device for the first time, it may be necessary to insert the battery pack.

⚠ **Caution!**
Make sure that the surface of the device is dry and the device is switched off.

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1. Observing the correct orientation, push the battery pack into the device until it engages.

Note:

Alternatively, the device can be operated with the power adapter connected. For this purpose, connect the supplied power adapter with the connector (16).

⚠ **Caution!**
Only use the supplied power adapter or a power adapter with identical specifications! An unsuitable power adapter can cause damage to the device!
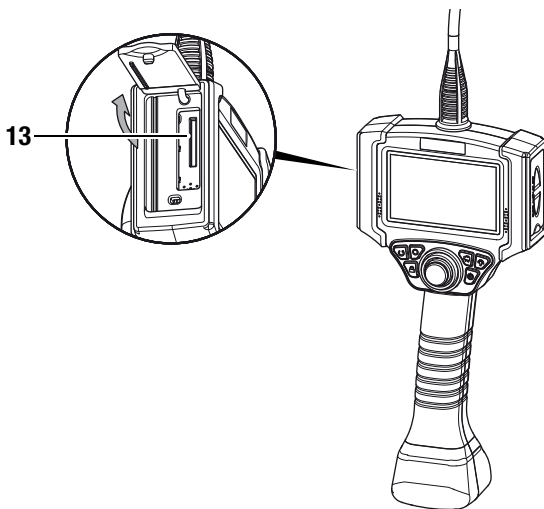
Charging the battery pack

Before using the device for the first time, it may be necessary to charge the battery.

- The battery can either be inserted in the device or removed for charging.
- If the battery is inserted, the device should be switched off during charging.
1. Plug the power adapter into the connector at the battery pack (20).
2. Plug the power adapter into the socket.
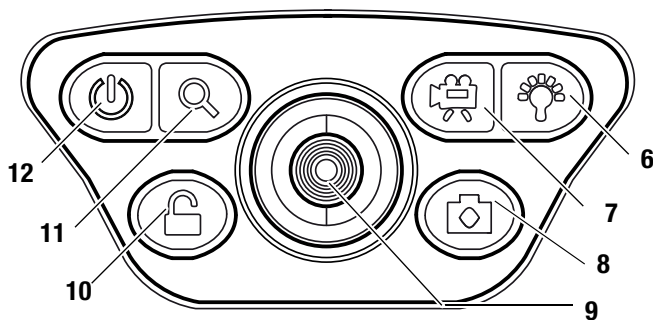   – The battery is charging.

Note:

The power adapter may become hot during charging of the battery pack, particularly if the videoscope is operated while the power adapter is connected. This is normal and does not affect its functioning.

Inserting the SD card

1. Open the rubber tab on the left side of the device.
2. Insert the SD card in the SD card slot (13).
   – The printed side of the SD card should point up and the rounded corner to the bottom right.
3. Slightly press down the SD card until it engages.
4. Close the rubber tab.

Switch-on

1. Press the On/Off button (12) for approx. 5 seconds.
   – An acoustic signal will be emitted three times. The display is switched on and the device is ready for operation.

Aligning/moving/holding the camera

1. Use the cursor (9) to move the camera (3) in the desired direction.
2. Hold the cursor in this position and press the padlock button (10).
   – The camera head is fixed in its position.
   – A padlock appears on the display.
   – The cursor (9) is locked.

⚠ **Caution!**
Avoid pulling on the probe cable while the lock in enabled; the camera head and the cable may get damaged!

The camera head is held in position by the lock (padlock symbol) and can thus inadvertently become a barbed hook.

Note:
If the position of the camera head is maintained for at least three seconds via the cursor, the lock is automatically activated!

3. Press the padlock button (10) again to unlock the camera head.
   – The camera head moves back to a neutral position.
   – The padlock symbol on the display disappears.

Note:
Always carry out this HOME function before pulling the probe cable out of the inspected hollow space to prevent the camera head from getting caught, and thus to avoid damage to the Bowden cables in the probe cable!

Taking a picture

1. Press the photo button (8).
   – The picture is taken and saved.

Recording a video

1. Press the video button (7).
   – The videoscope switches to recording mode.
   – The recording is started.
   – A video camera symbol appears in the top left of the display.
2. Press the video button (7) again.
   – The recording is stopped.

Viewing recordings

1. Press the cursor for approx. 5 s.
   - The browser for recordings opens.
   - By moving the cursor up/down or to the right/left you can navigate through the browser.
2. By moving the cursor to the right/left you can move from one image/video file to the next.
   - Open the desired file by slightly pressing the cursor.
   - Start a video file by slightly pressing the cursor again.
   - Stop the video file by pressing the zoom button (11).
3. To return to the live image mode briefly press the On/Off button (12) once.

Zooming in a recording

1. To magnify a recording, press the zoom button (11).
   - In this mode, magnifications of up to three times are possible.
2. By moving the cursor up/down or to the right/left you can navigate through the magnified image until reaching the desired spot.
3. To exit the zoom mode briefly press the On/Off button (12) once.

Cutting an image

- By pressing the cursor in the zoom mode you can cut out the selected part of the magnified image.

Deleting a file

- When the file is open, press the cursor for approx. 3 s.
   - Another submenu opens asking you whether or not to delete the selected files (YES/NO).

Switch-off

1. Press the On/Off button (12) for approx. 2 seconds.
   - The device switches off.

Operator software

The device has various setting options which can be accessed via an operator software.

The main menu consists of two submenus allowing to adjust the basic device settings and the photo/video settings.

1. Press the menu/back button (12).
   - The photo/video settings submenu is displayed.
2. To switch between the two submenus, move the cursor to the left or right.
3. To select a menu, press the cursor.
4. To leave a menu, press the menu/back button (12).

Photo and video settings submenu

The submenu offers the following options:

Designation	Meaning
White Balance	Setting the white balance
AGC	Setting the image gain
Exposure	Setting the exposure
Image Mode	Setting the image mode
FPS	Setting the refresh rate
Screen Brightness	Setting the display brightness
Screen Contrast	Setting the display contrast
Image Proportion	Setting the display format
Auto Save	Switching automatic saving on or off

Setting the white balance

1. Use the cursor to select the *White Balance* option.
2. Press the cursor to open the White Balance menu.

3. Select the desired setting using the cursor:

Designation	Meaning
Auto	automatic setting
A Type	setting for sunny daylight
B Type	setting for cloudy daylight
C Type	setting for artificial light

4. Press the cursor to confirm your selection.

Setting the image gain (AGC)

1. Use the cursor to select the *AGC* option.
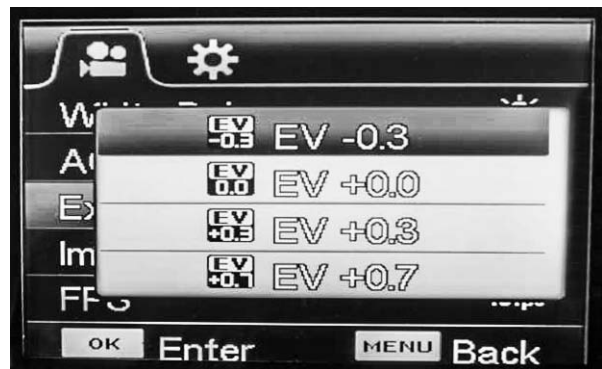2. Press the cursor to open the AGC menu.

3. Select the desired setting using the cursor:

Designation	Meaning
Auto	automatic setting
X 4	4-fold
X 8	8-fold
X 16	16-fold

4. Press the cursor to confirm your selection.

Setting the exposure

1. Use the cursor to select the *Exposure* option.
2. Press the cursor to open the Exposure menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting the image mode

1. Use the cursor to select the *Image Mode* option.
2. Press the cursor to open the Image Mode menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting the refresh rate
1. Use the cursor to select the *FPS* option.
2. Press the cursor to open the FPS menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting the display brightness
1. Use the cursor to select the *Screen Brightness* option.
2. Press the cursor to open the Screen Brightness menu.

3. Select the desired value using the cursor.
4. Press the cursor to confirm your selection.

Setting the display contrast
1. Use the cursor to select the *Screen Contrast* option.
2. Press the cursor to open the Screen Contrast menu.

3. Select the desired value using the cursor.
4. Press the cursor to confirm your selection.

Setting the display format
1. Use the cursor to select the *Image Proportion* option.
2. Press the cursor to open the Image Proportion menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting Auto Save

1. Use the cursor to select the *Auto Save* option.
2. Press the cursor to open the Auto Save menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

System settings submenu

The submenu offers the following options:

Designation	Meaning
Date & Time	Setting date and time
Language	Setting the menu language
Format	Formatting the SD card
Power frequency	Selecting power frequency 50 Hz or 60 Hz
Sounds	Setting the sounds
TV System	Selecting NTSC or PAL
Automatic shutdown	Selecting automatic shutdown to save energy
Firmware Update	Updating the system software

Setting date and time

1. Use the cursor to select the Date & Time option.
2. Press the cursor to open the Date & Time menu.

3. Move the cursor to the left or right to select the year, date or time.

    – The current selection is highlighted by a square.

4. Move the cursor up or down to set the value for the current selection.
5. Repeat steps 3 and 4 until the date and time are set as desired.
6. Press the cursor to confirm the settings.

Setting the menu language

1. Use the cursor to select the *Language* option.
2. Press the cursor to open the Language menu.

3. Select the desired menu language using the cursor.
4. Press the cursor to confirm your selection.

Formatting the SD card

Note:

If you format the SD card, all image data (photos and videos) will be deleted!

1. Use the cursor to select the *Format* option.
2. Press the cursor to open the Format menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting the power frequency

1. Use the cursor to select the *Power frequency* option.
2. Press the cursor to open the Power frequency menu.

3. Select the desired setting using the cursor.
4. Press the cursor to confirm your selection.

Setting the signal sounds

1. Use the cursor to select the *Sounds* option.
2. Press the cursor to open the Sounds menu.

3. Select the desired setting using the cursor:

Designation	Meaning
Shutter	Switching the shutter sound for image recordings on or off
Start_up sound	Selecting or switching off the melody for system start
Beep	Switching the button sounds on or off
Volume	Adjusting the volume

4. Press the cursor to confirm your selection.

Setting the TV system

This setting must be made before transferring an image from the device to a monitor.
Please note that the monitor must support the PAL or NTSC format.

1. Use the cursor to select the *TV System* option.
2. Press the cursor to open the TV System menu.

3. Select the compatible setting for your monitor using the cursor.
4. Press the cursor to confirm your selection.
5. If necessary, make the required settings at the monitor.
6. Connect the device to the monitor via the supplied AV cable and the AV output (14).

Selecting automatic shutdown

In this mode, the device will switch off automatically after a specified period of time if no menu navigations or device activities were carried out during this period.

1. Use the cursor to select the *Automatic shutdown* option.
2. Press the cursor to open the Automatic shutdown menu.

3. Select the desired setting using the cursor:

Designation	Meaning
OFF	Automatic shutdown is switched off
5 min	Automatic shutdown after 5 minutes
10 min	Automatic shutdown after 10 minutes
15 min	Automatic shutdown after 15 minutes

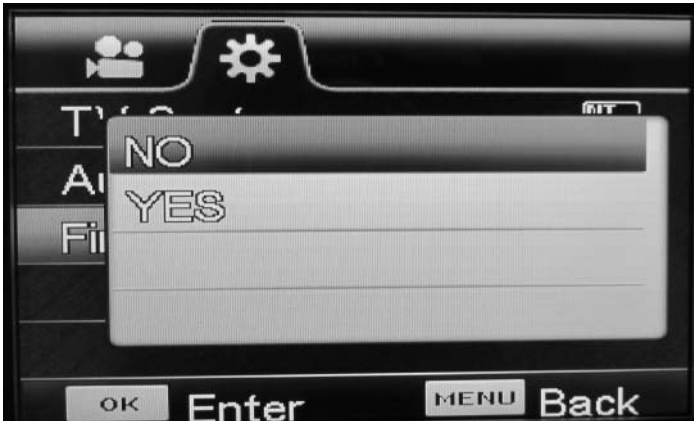4. Press the cursor to confirm your selection.

Update firmware

Note:

The firmware should only be updated after consultation with the dealer or manufacturer.

The firmware update must have been loaded onto the inserted SD card beforehand. The firmware update must **not** be located in a subfolder.

1. Use the cursor to select the *Firmware Update* option.
2. Press the cursor to open the Firmware Update menu.

3. Select the desired setting using the cursor.
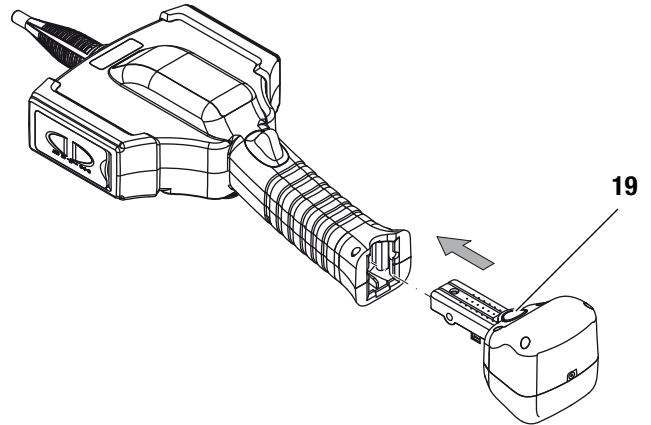4. Press the cursor to confirm your selection.

Maintenance and repair

Battery change

⚠ **Caution!**
Make sure that the surface of the device is dry and the device is switched off.

1. Press the button (19) on the rear of the battery pack.
2. Hold the button and pull the battery pack out of the device.
3. Push the new battery pack into the device until it engages.

Cleaning

Clean the device with a soft, damp and lint-free cloth. Ensure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners. Only use clean water to moisten the cloth.

Repair

Do not modify the device or install any spare parts. For repairs or device testing, contact the manufacturer.

Disposal

In the European Union, electronic equipment must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 on waste electrical and electronic equipment (WEEE). At the end of its life, please dispose of this instrument in a manner appropriate to the relevant legal requirements.

Declaration of conformity

in accordance with the EC Low Voltage Directive 2006/95/EC and the EC Directive 2004/108/EC about electromagnetic compatibility.

Herewith, we declare that the videoscope VSC3008 was developed, constructed and produced in compliance with the named EC directives.

The C€ marking is found on the rear of the device.

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