VSC206

EN

OPERATING MANUAL
VIDEOSKOP

TROTEC
AT WORK.

TRT-BA-VSC206-TC-001-EN

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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: www.trotec.de

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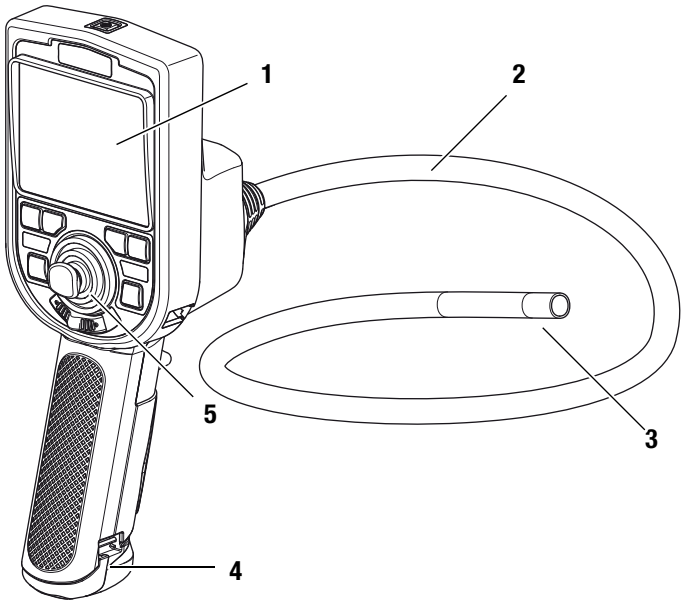
Information about the device

Device description

The videoscope serves for inspecting concealed machine components or poorly or inaccessible hollows.
The device has the following features:

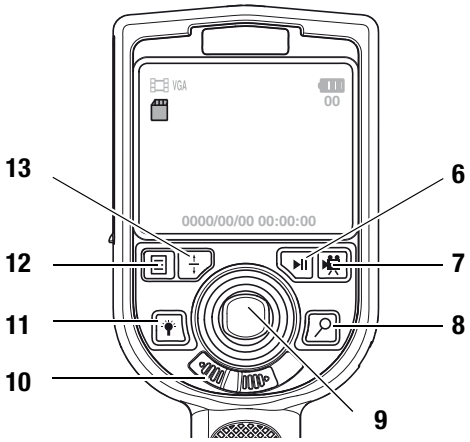
- high-resolution camera,
- operator software for control of functions,
- moveable camera head with adjustable, bright LED illumination,
- recording of pictures and videos, storage on an SD card,
- USB interface for data transmission

Device depiction

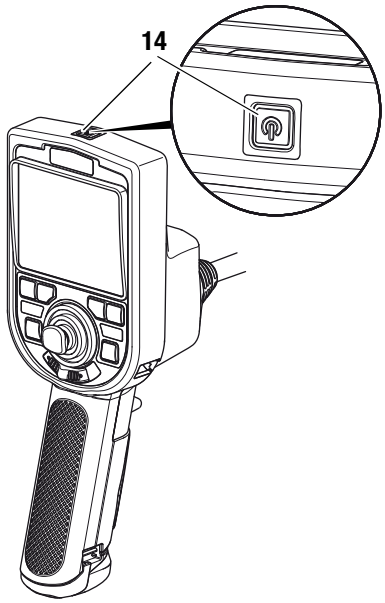


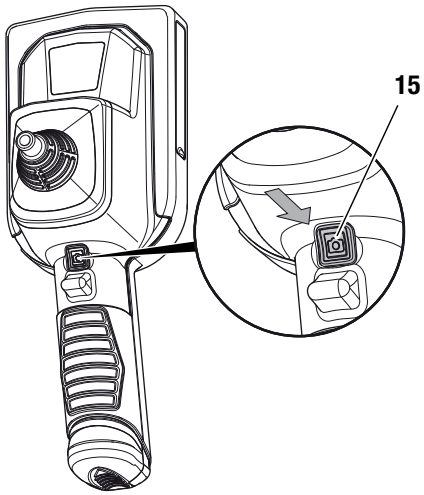
No.	Operating element
1	Display
2	Probe cable
3	Camera head with 4-way articulation
4	Battery compartment with battery holder
5	Operating elements with joystick

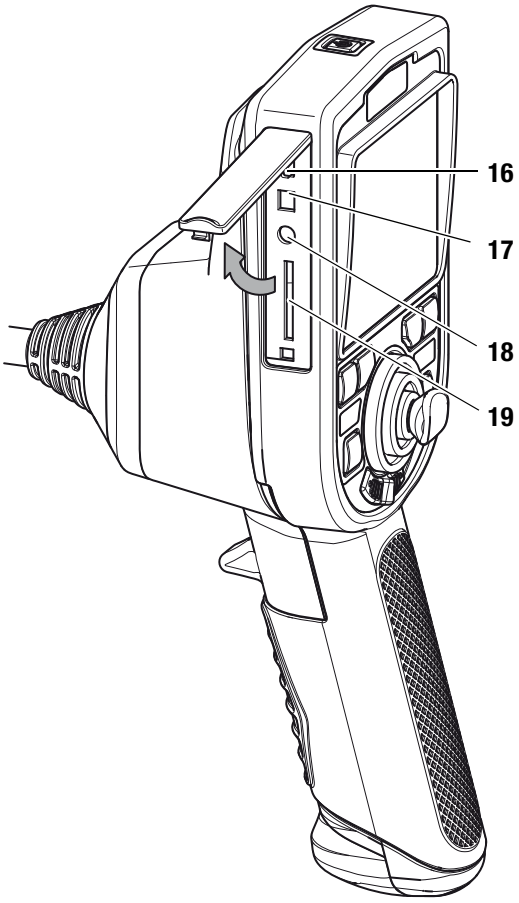
Operating elements



No.	Operating element
6	Play button
7	Video button
8	Zoom button
9	Joystick
10	Sliding button key lock (position left: unlocked, position right: locked)
11	Brightness button
12	Menu button
13	Up/Down button

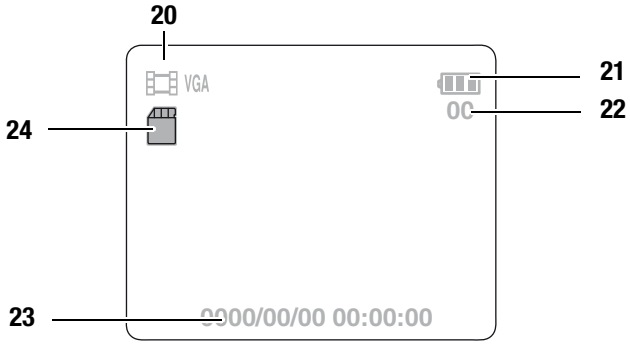






No.	Operating element
14	Power button
15	Photo/OK button
16	USB interface
17	Power adapter connection
18	AV output
19	SD card

Display



No.	Display element	
20	Picture mode	current picture mode (photo/video)
21	Battery	Battery state of charge
22	Zoom	current zoom factor
23	Time/date stamp	indicates the current date/time
24	SD card	SD card inserted

Technical data

Model		VSC206
Article number		3.510.009.630
System	Type of lighting	6 white LEDs (colour temperature 5,000 to 6,000 K)
	Luminous intensity	40,000 lux
	White balance	Default setting ex works
	Brightness control	Manually adjustable
	LCD display	3.5 inch TFT LCD (640 x 480 px [VGA])
	Memory	Slot for removable SD memory card (max. 32 GB)
	File formats	Image format JPEG, video format AVI
	Power supply	4 x LR6 AA, 1.5 V or 4 x Ni-MH batteries, 1.2 V; Power adapter (Input: AC 100 V to 240 V 50/60 Hz 0.2 A, Output: DC 5 V, 1.0 A)
	Operating time	≤ 2 h
Probe	Dimensions	Length 2 m, ø 6 mm
	Construction	Exterior: stainless steel wire mesh for high torsional stability, inner layer: polyurethane on steel spiral
	Articulation	up/down/left/right ≈ 120°
	Type of protection	IP67 (water-proof to 1 m/30 min)
Camera	Image sensor	CMOS
	Resolution	350,000 pixels
	Field of vision	90°
	Camera head	Stainless steel with titanium coating
	Zoom	5x digital
Control software	Operator guidance	Simple interactive menu control, menu navigation via joystick
	Available menu languages	German, English, French
	Software functions	System settings, video settings, memory functions
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	265 x 100 x 125 mm
	Weight	590 g (incl. batteries)

Scope of delivery

- 1 x Videoscope VSC206
- 4 x NI-MH batteries, 1.2 V
- 1 x Case
- 1 x Power adapter
- 1 x Battery charger with mains plug
- 1 x Getting started guide
- 1 x SD card
- 1 x LCD 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 oil, 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. Never use the device on persons or animals. Trotec accepts no liability for damages resulting from improper use. In such a case, entitlements to a warranty are forfeited. 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 away from sources of heat.

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!
Dangers can occur at the device when 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 or extreme humidity.

Caution!
To prevent water damages to the device, please observe the different types of protection of the housing and the gooseneck probe.
The housing is splash-proof (IP54), the gooseneck probe can be immersed in water (IP67, 1 m / 30 min).

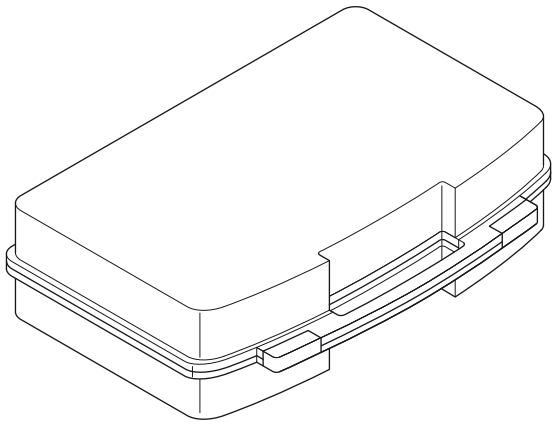
Caution!
Using the device continuously over several hours causes an increased heat generation in the LEDs in the probe tip. To increase the lifetime of both the LEDs and the imaging sensor we recommend allowing the device to cool down at ambient temperatures for at least 10 to 15 minutes with the power switched off after a long period of use.

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

Transport and storage

Transport

Use the supplied case to transport the device.



Storage

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

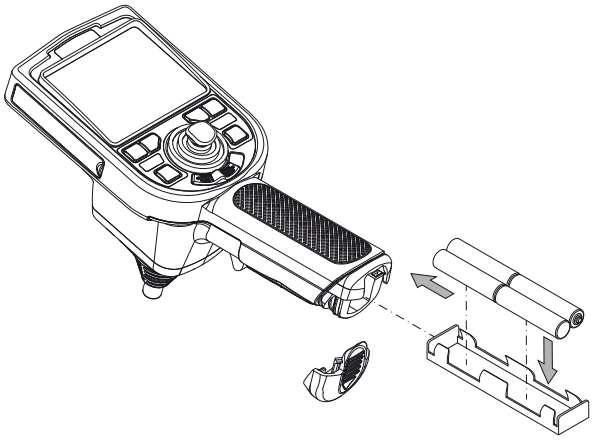
- dry,
- protected from dust and direct sunlight,
- with a plastic cover to protect it from invasive dust, if necessary.
- The storage temperature is the same as the range given in the chapter Technical data.
- When storing the device for a long time, remove the batteries.
- Preferably use the supplied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

Operation

Inserting the batteries

Caution!

Make certain that the surface of the device is dry and the device is switched off.



1. Remove the cover from the battery compartment by sliding it in the direction of the arrow.
   – The cover is firmly attached to the battery compartment.
2. Take out the battery holder.
   – Remove any used batteries.
3. Insert the batteries in the battery holder with correct polarity.
4. Insert the battery holder in the battery compartment by sliding it in the direction of the arrow.
5. Reattach the cover to the battery compartment.

Note:

Alternatively, the device can be operated with the power adapter connected. For this purpose, connect the supplied power adapter with the connection (17).

Caution!

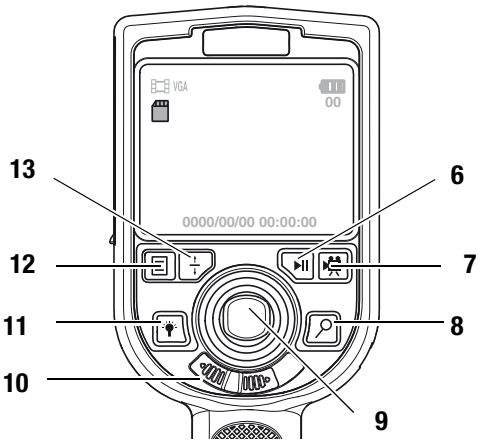
Only use the supplied power adapter or a power adapter with identical specifications! An unsuitable power adapter can cause damage to the device!

Inserting an SD card

1. Open the rubber tab on the left side of the device.
2. Insert the SD card in the SD card slot (19).
3. Slightly press down the SD card until it engages.
4. Close the rubber tab.

Switching on and off

- Briefly press the Power button (14).
  – The display is switched on.
  – The device is ready for operation.
- Press the Power button (14) for approx. 3 seconds.
  – The device switches off.



Aligning/moving/holding the camera

Note:
Please note that the surface of the netting at the probe exterior may fray over time depending on the mechanical stress (e. g. when in contact with sharp-edged objects). This does not constitute a defect of the device but normal wear and tear, which cannot be avoided.

1. Use the cursor (9) to move the camera (3) in the desired direction.
2. Slide the key lock (10) to locked.
   – The joystick (9) is locked.
   – The camera head is fixed in its position.

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

The camera head is held in position by the key lock and can thus inadvertently become a barbed hook.

Taking a picture

1. Press the Up/Down button (13) to switch into photo mode.
   – A camera symbol is displayed in the top left corner while in photo mode (20).
2. Press the Photo/OK button (15).
   – The picture is taken.

Recording a video

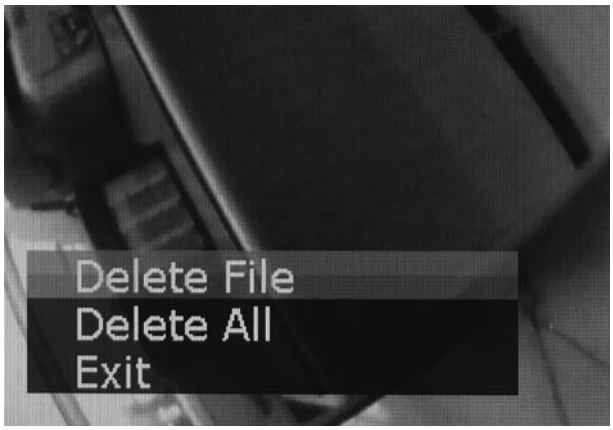
1. Press the Up/Down button (13) to switch into video mode.
   – A video symbol is displayed in the top left corner while in video mode (20).
2. Press the Video button (7).
   – The videoscope switches to recording mode.
   – The recording is started.
3. Press the Video button (7).
   – The recording is stopped.

Viewing recordings

1. Press the Play button (6).
   – The videoscope switches to picture view.
2. Press the Up/Down button (13).
   – The different recordings will be displayed on the screen.
   – Press the Zoom button (8) to see a preview of up to six pictures/videos.
   Press the Zoom button (8) again to exit the preview mode.
3. Press the Play button (6) again to play a video or, if necessary, to pause.
4. Press the Video button (7).
   – The picture view is stopped.
   – The videoscope switches back to recoding mode.

Deleting pictures or videos

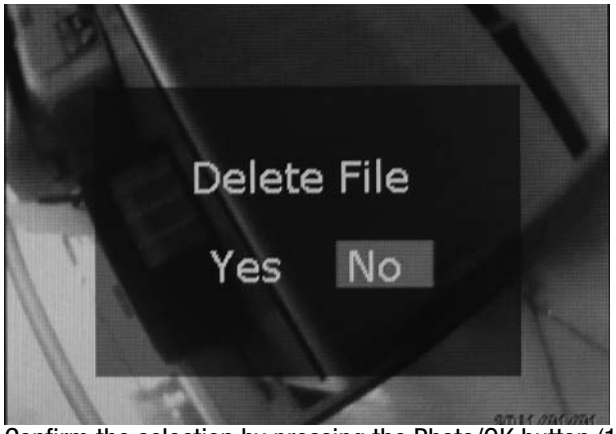
1. Press the Play button (6).
   – The videoscope switches to picture view.
2. Press the Up/Down button (13) or the brightness button (11) until the desired recording is displayed.
3. Press the Menu button (12).
   – The submenu *Delete* will be displayed.



4. Select the desired setting.

Designation	Meaning
Delete File	Delete the file
Delete All	Delete all files
Exit	Cancel

5. Press the Photo/OK button (15).
   – The submenu *Delete File* will be displayed.



6. Confirm the selection by pressing the Photo/OK button (15).
   – The selected action is executed.
   – The videoscope switches to picture view.

Operator software

Setting the resolution

1. Press the Menu button (12).
   – The selection menu will be displayed.

2. Select the menu item *Resolution* by use of the Up/Down button (13).
3. Confirm the selection by pressing the Photo/OK button (15).
   – The submenu *Resolution* will be displayed.

4. Use the Up/Down button (13) to select the desired resolution.

Designation	Meaning
QVGA	high resolution
D1	normal resolution

5. Confirm the selection by pressing the Photo/OK button (15).

Set date and time

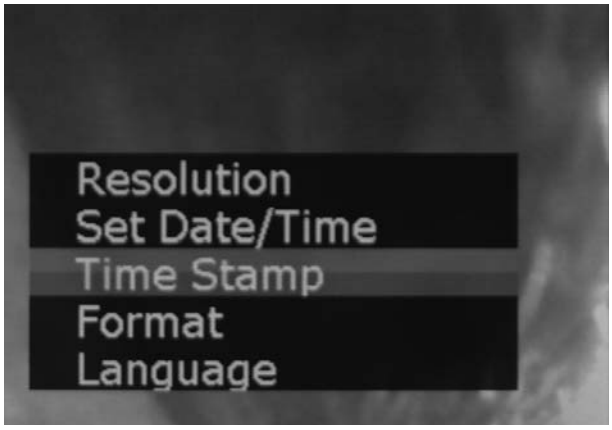
1. Press the Menu button (12).
   – The selection menu will be displayed.

2. Select the menu item *Set Date/Time* by use of the Up/Down button (13).
3. Photo/OK button (15).
   – The submenu *Set Date/Time* will be displayed.
   – The date is indicated in year/month/day format.

4. Use the Up/Down button (13) or the Brightness button (11) to select the desired year.
5. Press the Zoom button (8).
   – The field for the month is now enabled.
   – The settings are made as described for the year.
6. Repeat steps 4. and 5. until time and date are set.
7. Press the Photo/OK button (15).
   – The settings will be saved.

Setting the time stamp

1. Press the Menu button (12).
   – The selection menu will be displayed.



2. Select the menu item *Time Stamp* by use of the Up/Down button (13).
3. Confirm the selection by pressing the Photo/OK button (15).
   – The submenu *Time Stamp* will be displayed.

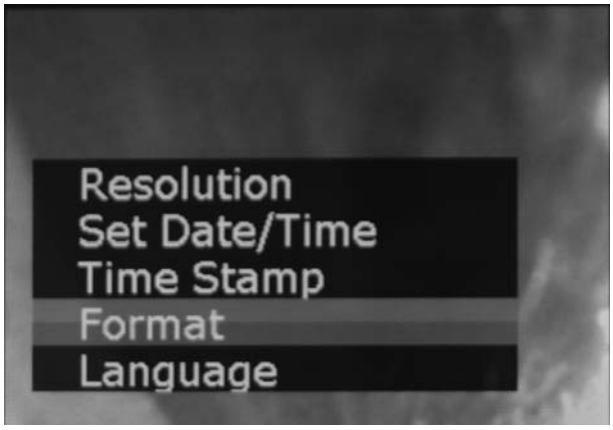
4. Use the Up/Down button (13) to select the desired setting.

Designation	Meaning
On	Time stamp enabled
Off	Time stamp disabled

5. Confirm the selection by pressing the Photo/OK button (15).
   – The time stamp will be set and the selection menu will be displayed.

Formatting an SD card

1. Press the Menu button (12).
   – The selection menu will be displayed.



2. Select the menu item *Format* by use of the Up/Down button (13).
3. Confirm the selection by pressing the Photo/OK button (15).
   – The submenu *Format* will be displayed.

4. Use the Up/Down button (13) to select the desired setting.

Designation	Meaning
Yes	Format SD card
No	Do not format SD card

5. Confirm the selection by pressing the Photo/OK button (15).
   – The process will be executed and the selection menu will be displayed.

Set language

1. Press the Menu button (12).
   – The selection menu will be displayed.

2. Select the menu item *Language* by use of the Up/Down button (13).
3. Confirm the selection by pressing the Photo/OK button (15).
   – The submenu *Language* will be displayed.

4. Use the Up/Down button (13) to select the desired language.
5. Confirm the selection by pressing the Photo/OK button (15).
   – The desired language will be set and the selection menu will be displayed.

Maintenance and repair

Charging the battery

Charge the battery when the battery status indication (21) flashes red. Only use the supplied power adapter or a power adapter with identical specifications for charging the batteries!

Note:

You can supply the device with electricity via the power adapter. To do so, connect the cable of the supplied power adapter to the corresponding connection (17).

Caution!

Only use the supplied power adapter or a power adapter with identical specifications! An unsuitable power adapter can cause damage to the device!

Alternatively, you can use spare batteries (type see Technical data).

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 VSC206 was developed, constructed and produced in compliance with the named EC directives.

The CE marking is found on the rear of the device.

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