

EN

INSTRUCTIONS  
VIDEOSCOPE



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**Information on the use of this instructions**


**Symbols**


 **Warning of electrical voltage**  
 This symbol indicates dangers to the life and health of persons due to electrical voltage.

 **Warning**  
 This signal word indicates a hazard with an average risk level which, if not avoided, can result in serious injury or death.

 **Caution**  
 This signal word indicates a hazard with a low risk level which, if not avoided, can result in minor or moderate injury.

**Note**  
 This signal word indicates important information (e.g. material damage), but does not indicate hazards.

 **Info**  
 Information marked with this symbol helps you to carry out your tasks quickly and safely.

 **Follow the manual**  
 Information marked with this symbol indicates that the instructions must be observed.

You can download the current version of the instructions and the EU declaration of conformity via the following link:



B021



<https://hub.trotec.com/?id=43269>

**Safety**

**Read this manual carefully before starting or using the device. Always store the manual in the immediate vicinity of the device or its site of use.**

- Do not use the device in potentially explosive rooms or areas and do not install it there.
- Do not use the device in aggressive atmosphere.
- Do not use the device in atmospheres containing oil, sulphur, chlorine or salt.
- Protect the device from permanent direct sunlight.
- Only use the device in de-energized facilities and objects. For reasons of safety, de-energize all plant components and objects prior to every inspection.
- Before using the measuring probes and camera heads, de-energize any circuits located in walls.
- Before using the measuring probes and camera heads in metal pipes inside a wall, have an authorised specialist company carry out a check to ensure that the metal pipes are not electrically charged.
- For reasons of safety, do not use the measuring probes and camera heads for inspections in moving parts.
- Do not open the device.
- Do not remove any safety signs, stickers or labels from the device. Keep all safety signs, stickers and labels in legible condition.
- Never charge batteries that cannot be recharged.
- Different types of batteries and new and used batteries must not be used together.
- Insert the batteries into the battery compartment according to the correct polarity.
- Remove discharged batteries from the device. Batteries contain materials hazardous to the environment. Dispose of the batteries according to the national regulations.
- Remove the batteries from the device if you will not be using the device for a longer period of time.
- Never short-circuit the supply terminal in the battery compartment!

- Do not swallow batteries! If a battery is swallowed, it can cause severe internal burns within 2 hours! These burns can lead to death!
- If you think batteries might have been swallowed or otherwise entered the body, seek medical attention immediately!
- Keep new and used batteries and an open battery compartment away from children.
- Observe the storage and operating conditions (see 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.

Any use other than the intended use is regarded as misuse.

### Reasonably foreseeable misuse

Do not use the device:

- in potentially explosive atmospheres
- in live environments
- in unsuitable liquids, e.g. acids and alkalis
- on people or animals

Do not use the control unit with display underwater.

Any unauthorised modifications, alterations or structural changes to the device are forbidden.

### Instructions for the use of videoscopes

The video scope is a precision instrument. For this reason, please observe the following instructions and precautions when using videoscopes:

- The probe is a precision component. Impact, compression, shock and pulling on the device can cause damage to the lens or light source.
- Avoid excessive bending, stretching, twisting and rolling of the probe cable as this may damage it and affect the function of the device.
- An extended use of this product may cause stains on the lens due to previous contamination, which in turn may result in blurred images during data collection. Use alcohol or acetone to clean the lens before use.
- Do not use the probe in inadmissible liquids. Clean the entire probe cable including the lens head immediately after use to prevent corrosion.
- If the device shows unusual reactions during operation, e.g. a flickering picture due to electromagnetic interference, stop the current operation immediately and switch off the device. Contact the supplier.

### Personnel qualification

People who use this device must:

- take measures to protect themselves from direct contact with live parts.
- have read and understood the instructions, especially the Safety chapter.

### Residual risks



#### Warning of electrical voltage

##### Risk of death due to electric shock!

An electric shock can result in severe personal injury or death! The device may only be used in accordance with all safety instructions listed here.



#### Warning of electrical voltage

Electric shock due to contact with live parts! Do not touch any live parts. Secure neighbouring live parts by covering them or by switching them off.



#### Warning of electrical voltage

There is a risk of a short-circuit due to liquids penetrating the housing!

Do not immerse the device and the accessories in water. Make sure that no water or other liquids can enter the housing.



#### Warning of electrical voltage

Work on the electrical components must only be carried out by an authorised specialist company!



#### Warning

##### Magnetic field!

The accessories magnet can affect pacemakers and implanted defibrillators!

Always keep a minimum distance of 20 cm between the device and pacemakers or implanted defibrillators. Persons with pacemakers or implanted defibrillators must not carry the device in their breast pocket.



#### Warning

##### Risk of damages or data loss due to magnetic field!

Do not store, carry or use the accessories magnet in the vicinity of data storage media or electronic devices such as hard drives, television units, gas meters or credit cards!

There is a risk of data loss or damages. If possible, keep the highest safety distance possible (at least 1 m).



#### Warning

Risk of suffocation!

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

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

**Warning**  
Dangers can occur at the device when it is used by untrained people in an unprofessional or improper way! Observe the personnel qualifications!

**Caution**  
Keep a sufficient distance from heat sources.

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

**Note**  
Do not use abrasive cleaners or solvents to clean the device.

**Information about the device**

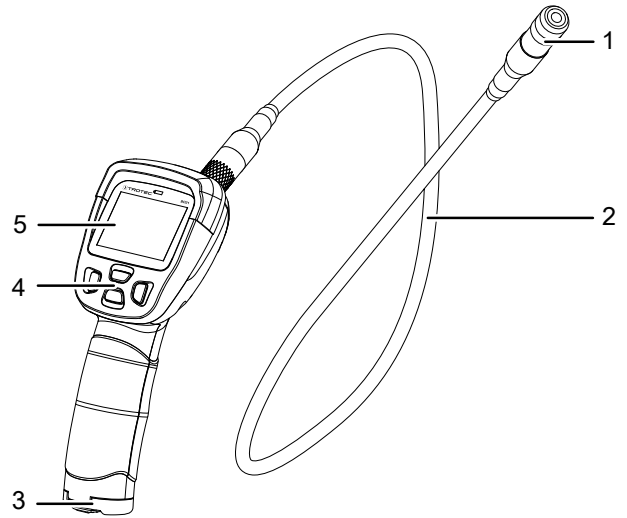
**Device description**

The videoscope B021 serves for inspecting concealed machine components and poorly accessible or inaccessible hollows.

The camera is connected to the device via a flexible gooseneck probe.

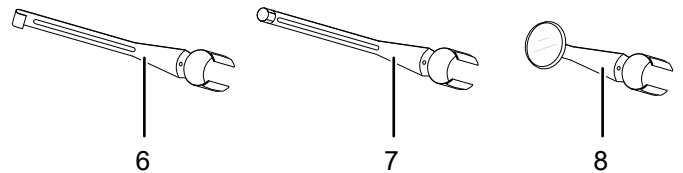
The probe is water-proof and can be immersed in water along with the camera head, e.g. to check whether there are any objects underneath the surface (e.g. for leak detection or drainage or sanitary work).

**Device depiction**



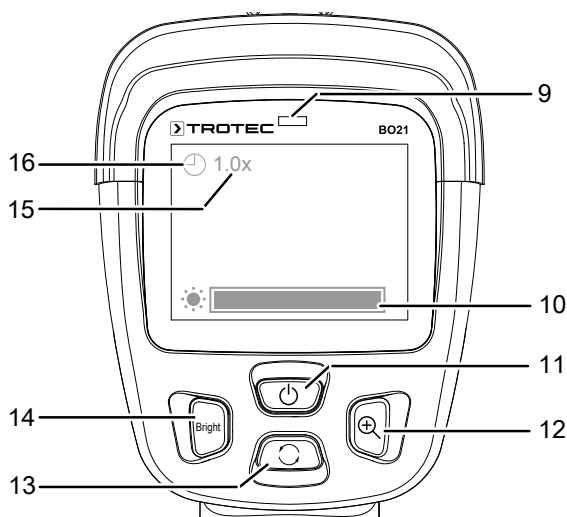
No.	Designation
1	Camera
2	Gooseneck probe
3	Battery compartment
4	Operating elements
5	Display

**Accessories**



No.	Designation	Function
6	Hook	recovery, taking samples
7	Magnet	holding ferromagnetic metal parts
8	Mirror	side-view adapter

## Display and operating elements



No.	Designation
9	Battery status indication
10	LED brightness indication
11	Power button
12	Zoom in button
13	Image rotation button
14	Brightness button
15	Enlargement factor indication
16	Image rotation indication

## Technical data

Parameter	Value
Model	B021
Weight	584 g
Dimensions (length x width x height)	240 mm x 160 mm x 100 mm
Display	2.4 inch digital LC colour display
Resolution	480 x 234 pixels
Frame rate	30 fps
Camera diameter	17 mm
Length of the gooseneck probe	1 m
Range of vision	5 to 15 cm
Field of vision	68°
Zoom	2x
Operating temperature	-10 °C to 50 °C
Storage temperature	-10 °C to 50 °C
Type of protection (gooseneck probe and camera head)	IP 67
Power supply	4 x Alkaline LR6 AA 1.5 V battery

## Scope of delivery

- 1 x Videoscope B021
- 4 x Alkaline LR6 AA 1.5 V battery
- 1 x Accessory kit with mirror, hook and magnet attachment
- 1 x Quick guide

## Transport and storage

### Note

If you store or transport the device improperly, the device may be damaged.  
Note the information regarding transport and storage of the device.

## Transport

When transporting the device, ensure dry conditions and protect the device from external influences e.g. by using a suitable bag.

## Storage

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

- dry and protected from frost and heat
- protected from dust and direct sunlight
- the storage temperature complies with the values specified in the Technical data
- Batteries are removed from the device

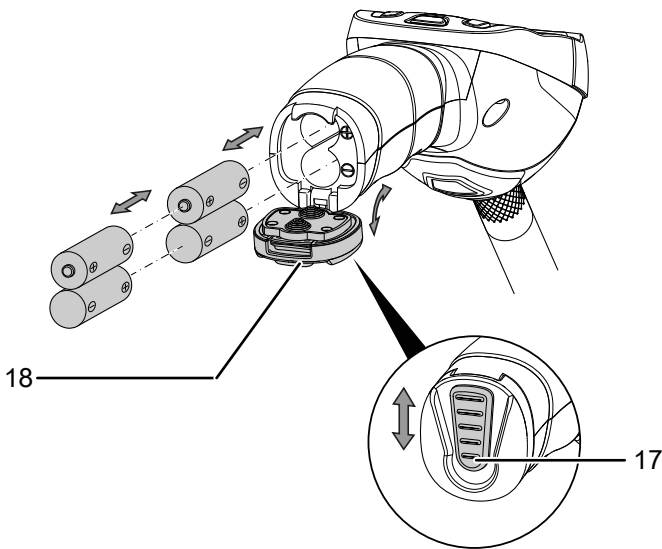
## Operation

### Inserting the batteries

**Note**

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

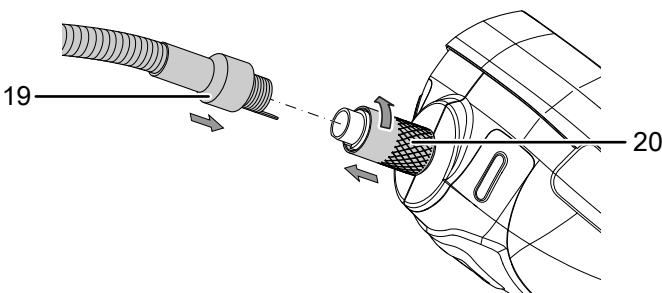
1. Slide the lock (17) downwards.
  - ⇒ The battery compartment's lock is released.
2. Open the cover (18) of the battery compartment.
  - ⇒ Remove any used batteries.
3. Insert the batteries with correct polarity.
4. Close the lock (17) again.
  - ⇒ The lock (17) engages and the battery compartment is closed.



### Connecting the gooseneck probe

**Note**

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



1. Connect the gooseneck probe (19) to the device port (20). To do so, insert the probe's detent pin into the corresponding recess at the plug of the camera housing until they are connected in a way preventing rotation.
2. The device port (20) comes with a screw joint. Screw it down on the gooseneck probe.

### Switching the device on and off

1. Press the *Power* button (11) for approx. 2 seconds.
  - ⇒ The display switches on.
  - ⇒ The device is ready for operation.
2. Briefly press the *Power* button (11).
  - ⇒ The device switches off.

### Aligning the camera/image

1. Move the gooseneck probe (2) into the desired position.
2. If required, you can rotate the camera image on the display by 180°. To do so, press the *Image rotation* button (13).
  - ⇒ The camera image is displayed rotated by 180°.
3. Press the *Image rotation* button (13) again.
  - ⇒ The camera image is displayed in the correct orientation again.
4. For underwater photos the gooseneck probe (2) can be immersed.
  - Make sure that the device itself does not make contact with water, otherwise it might be damaged.

### Setting the camera illumination

1. Repeatedly press the *Brightness* button (14) until the desired level of illumination is set at the camera head.
  - ⇒ The *LED brightness* indication (10) displays the current setting.

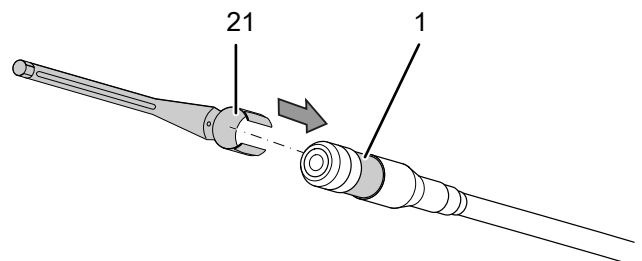
### Setting the zoom factor

1. Repeatedly press the *Zoom in* button (12) until the desired zoom factor has been set.
  - ⇒ The centre of the image is displayed enlarged.
  - ⇒ The *Enlargement factor* indication (15) displays the current enlargement value. The value range is between 1.0 and 2.0.

### Using accessories

The accessories include 3 attachments (6, 7, 8) for the camera head. If required, the attachments can be fastened to the camera head (1).

1. Fit the connecting piece of the attachment (21) to the camera head. Make sure not to damage the camera head.



2. To remove the attachment, carefully pull the connecting piece (21) off the camera head.

## Errors and faults

The device has been checked for proper functioning several times during production. If malfunctions occur nonetheless, check the device according to the following list.

The device does not switch on:

- Check the charging status of the battery. Change the battery, if required (see chapter Inserting the battery).
- Make sure that the battery is properly positioned. Check the polarity is correct.

For repairs or device testing, contact the manufacturer.

## Maintenance and repair

### Battery change

Change the batteries when the *Battery status* indication (9) is illuminated in red or the device can no longer be switched on. See section Inserting the batteries in chapter Operation.

### Cleaning

Clean the device with a soft, damp and lint-free cloth. Make sure that no moisture enters the housing. Do not use any sprays, solvents, alcohol-based cleaning agents or abrasive cleaners, but only 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

Always dispose of packing materials in an environmentally friendly manner and in accordance with the applicable local disposal regulations.



The icon with the crossed-out waste bin on waste electrical or electronic equipment is taken from Directive 2012/19/EU. It states that this device must not be disposed of with the household waste at the end of its life. You will find collection points for free return of waste electrical and electronic equipment in your vicinity. The addresses can be obtained from your municipality or local administration. You can also find out about other return options that apply for many EU countries on the website <https://hub.trotec.com/?id=45090>. Otherwise, please contact an official recycling centre for electronic and electrical equipment authorised for your country.

The separate collection of waste electrical and electronic equipment aims to enable the re-use, recycling and other forms of recovery of waste equipment as well as to prevent negative effects for the environment and human health caused by the disposal of hazardous substances potentially contained in the equipment.



In the European Union, batteries and accumulators must not be treated as domestic waste, but must be disposed of professionally in accordance with Directive 2006/66/EC of the European Parliament and of the Council of 6 September 2006 on batteries and accumulators. Please dispose of batteries and accumulators according to the relevant legal requirements.

### Only for United Kingdom

According to Waste Electrical and Electronic Equipment Regulations 2013 (SI 2013/3113) (as amended) and the Waste Batteries and Accumulators Regulations 2009 (SI 2009/890) (as amended), devices that are no longer usable must be collected separately and disposed of in an environmentally friendly manner.

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