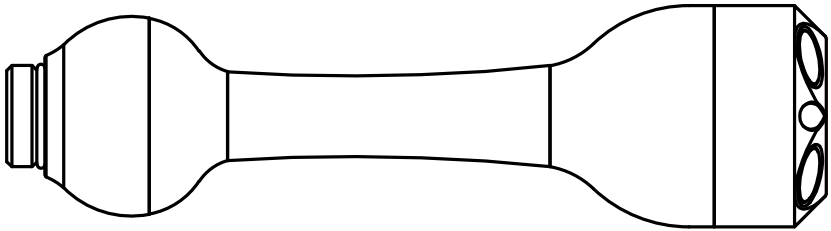


K-35 HD



BEDIENUNGSANLEITUNG

K-35 HD

DE

INSTRUCTION MANUAL

K-35 HD

EN

EN

English

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Keep the manual for future reference!

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INTRODUCTION

About the manual

The manual ensures the safe operation of the devices and must be kept in the devices' close proximity, immediately accessible for any personnel.

All personnel are to carefully read and understand this manual before taking up work. As a precondition for safe operation, all safety instructions and operational procedures given in this manual must be observed.

Furthermore, the local accident prevention regulations and general safety provisions applicable for the devices' range of use are to be heeded.

Explanation of symbols

Safety instructions in this manual are indicated by means of symbols. The safety instructions express the extent of the hazard.

WARNING


This combination of symbol and signal word identifies a possibly dangerous situation, which may cause death or severe injuries if not avoided.

CAUTION

This combination of symbol and signal word identifies a possibly dangerous situation, which may cause minor or slight injuries if not avoided.

NOTE

This combination of symbol and signal word identifies a possibly dangerous situation, which may cause damage to property and environment if not avoided.

 **TIP** This symbol highlights useful tips and information for an efficient and trouble-free operation of the device.

SAFETY

Proper Use

The devices are solely intended to be used for the inspection of cleaned water and sewer pipes in combination with original accessories and components made by Kummert GmbH. Any other use of the devices considered improper.

Target group

This manual is addressed to skilled sewer and pipe inspectors or individuals with a comparable, documented qualification.

Safety information

The following chapter lists residual risks which remain, even when the device are used in a proper manner.

WARNING

Electrical voltage!

In case of damaged insulation or other components, there is a risk of death by electric shock. Therefore:

- Always disconnect the device from the push rod before performing work on the it (e.g. cleaning it).
- In case of any damage, stop the inspection immediately and have the device repaired by a certified service centre.

WARNING

Risk of blinding!

The camera's LED can blind the eyes. Therefore:

- Never point the camera at vehicles, individuals or yourself.

WARNING


Risk of photosensitive seizures!

During operation, the crawler's LEDs are being flashed. This may cause epileptic seizures or impair consciousness with light-sensitive individuals and may even affect people who are not suffering from epilepsy. Therefore, absolutely observe the following:

- Never look directly into flashing LEDs
 - Never point flashing LEDs at individuals or motorists, etc.
 - If epilepsy-like symptoms occur, disrupt all work immediately and consult a doctor
-

PREPARATION

Delivery


 **TIP** Claims for damages can only be asserted within the legal time for claims. Report every fault as soon as it has been discovered.

The delivery is to be inspected for completeness and possible transport damage immediately upon receipt. Report transport damages to the carrier immediately.

The standard scope of delivery of K-35 HD includes:

- K-35 HD
- Protective cap
- Instruction manual

Packaging

 **TIP** Keep the packaging material for storage or transport.

Packaging may also comprise materials added to the packages for the protection against moisture or frost (e.g. silica gel bags, anti-freezing agents).

Storage

Always store the device under the following conditions:

- Do not store outdoors.
- Store in a dry and dust-free place.
- Protect the connectors of the device with the supplied protective caps.

Transport

Make sure that you comply with local loading safety regulations. Beyond this, ensure that the camera is protected against impacts.

PRODUCT DESCRIPTION

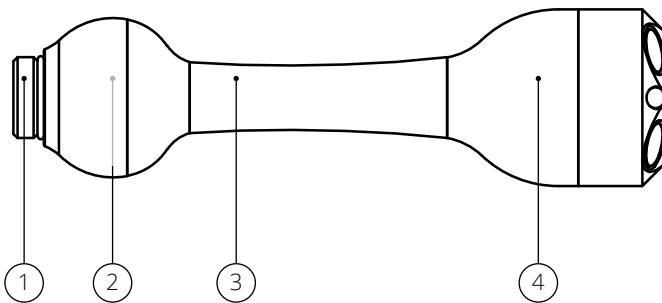
Brief description K-35 HD

K-35 HD is suitable for pipes of DN50 and up. The flashing LEDs guarantee perfect illumination and crisp, clear images. The 1:1 format is ideal for the mainly circular pipes. The integrated locating transmitter enables the operator to locate the camera at any time during the inspection.

Specifications

Range of use	DN 50 and up
Diameter	35 mm
Complete length	130 mm
Length of camera	37 mm
Weight	300 g
Tightness	1 bar
Protection category	IP 68
Frequency of transmitter	33 KHz
Recommended reel	S

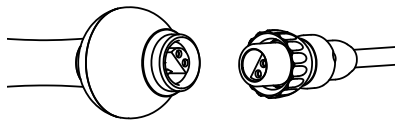
Components



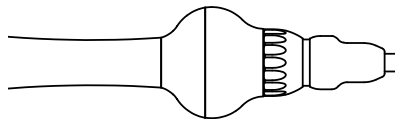
- 1 Camera connector
- 2 Locating transmitter
- 3 End piece
- 4 Camera

MOUNTING

Remove the protective cap from the connector. Connect the connector and the 4-pin plug of the reel. Make sure that the pins are in the correct position.



Hand-tighten the screw connection of the plug.



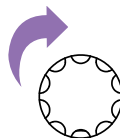
DISMOUNTING

Unscrew the screw connection of the plug and pull the camera apart from the plug. Seal the connector with the supplied protective cap if needed.

OPERATION PROTAB

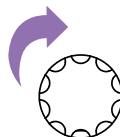
Adjust brightness

Turn the right knob to the left or right in order to increase or decrease the brightness.



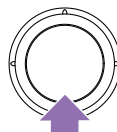
Zoom (Finding mode)

Turn the left knob to the right or left in order to zoom in or out.



Switch modes

K-35 HD features two inspection modes - the full image mode and the view mode. Push the center of the 3D joystick.



TIP The software can3D® assists you with operating K-35 HD. For more detailed information read the manual can3D®.

can3D® CONTROL PANEL

1 Switch camera off

2 Automatic image centering

3 Flash light

4 Continuous measurement of pipe run

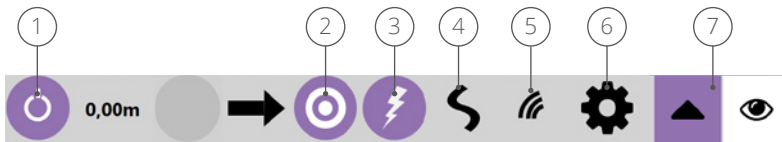
5 Locating transmitter

6 Camera settings

7 Modes

Arrow: Full image

Eye: View



Easy HD/ easyTab CONTROL PANEL

1 Switch camera off

2 Flash light

3 Camera settings

4 Brightness +

5 Brightness -

6 Zoom +

7 Zoom -

8 Locating transmitter



TROUBLE SHOOTING

In case of malfunction the following list helps you to isolate possible causes and enables you to find a solution:

MALFUNCTION	SOLUTION
Camera not working	Check connections
Image blurred or stained	Check if the sapphire glass is clean

Please contact our service team in case of any malfunction as well as for requests for repair, spare part orders or any further question:

Phone: +49 (0) 9382 9727 - 710
E-Mail: service@kummert.de

CLEANING

Seal the connector with the supplied protective cap and clean the camera under running water.

NOTE

Property damage due to incorrect cleaning!

Incorrect cleaning may cause damage or total breakdown. Therefore:

- Never use a high-pressure washer or similar means for cleaning
- Seal the connectors with the supplied caps
- Do not use abrasive, corrosive or other aggressive detergents
- Do not clean electronic components under running water

MAINTENANCE

For a smooth and safe operation, it is necessary to visually check and regularly clean the device.

The following maintenance guide explains the needed maintenance tasks:

	Before each use	After each use	During storage	After storage
Check if all seals are present and intact	x	x	x	x
Check if all screws are present and tight	x	x		x
Make sure that all connectors are clean and dry	x	x		
Make sure that the sapphire glas is not damaged	x	x		x
Make sure that the end piece is not damaged	x	x		x
Clean the device (see above. „Cleaning“)		x		

In case of a damage or missing components, contact the manufacturer or a certified service centre.

DISPOSAL

NOTE

Danger to environment!

Incorrect disposal may cause dangers to the environment.

- Electrical waste, electronic components, lubricants and other substances may only be disposed of by certified specialist companies.
 - When in doubt, ask for information on environmentally safe disposal at your local authorities or specific waste management companies.
-

When the device has reached the end of its useful life, it has to be disassembled and disposed of in an environmentally safe manner.

Unless both parties agreed otherwise on recycling or disposal, all components must be properly dismantled and recycled by the owner as follows:

- Scrap any metal parts.
- Recycle any plastic parts in the appropriate manner.
- Dispose of all other components separately depending on the nature of material.

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