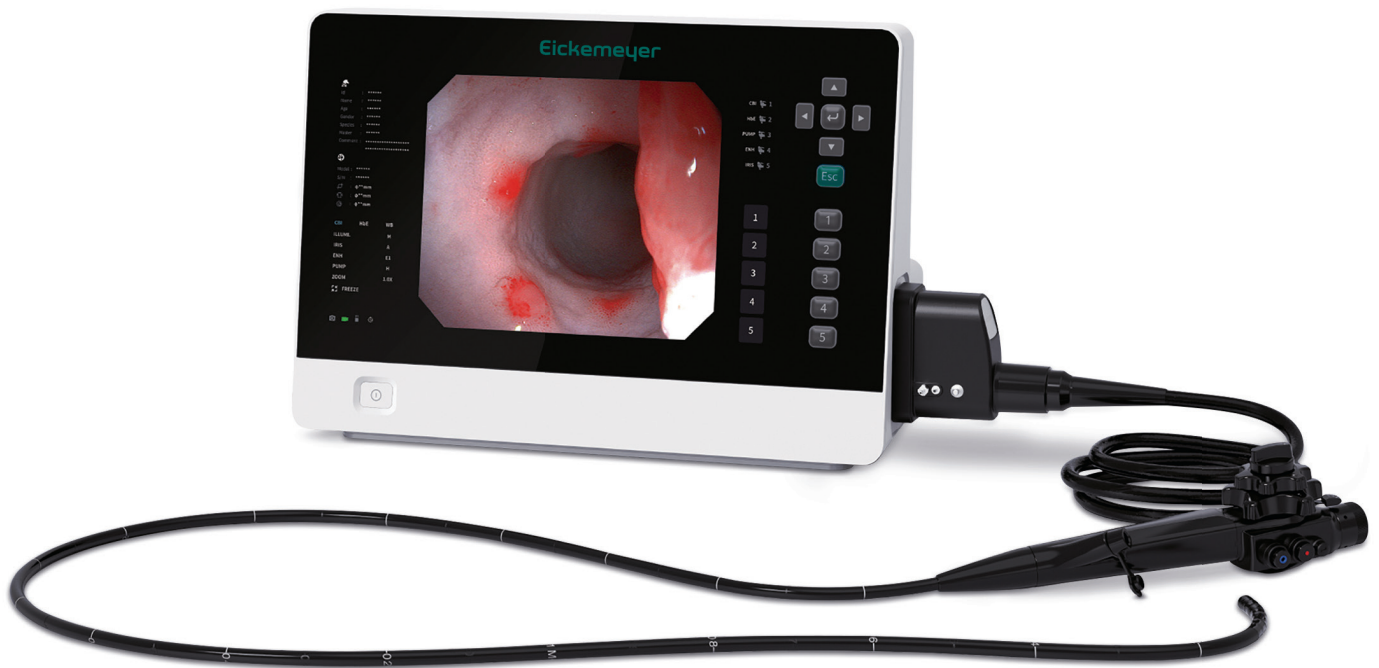


EICKVIEW 5-IN-1 ENDOSCOPE SYSTEM

USER MANUAL



Art. No. 306200

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veterinary technology for life
Eickemeyer®

Important information — Please Read Before Use

- Before use, thoroughly review this manual.
- Please keep all instruction manuals in a safe, accessible place.
- Contact EICKEMYER for any questions or comments about this instruction manual.

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Warranty Card of Product 30

Important Information — Please Read Before Use

Intended use

The endoscope imaging processors EickView 5-in-1 is intended to be used with endoscopes manufactured by EICKEMYER in endoscopy, endoscopic diagnosis and endoscopic treatment.

Instruction Manual

This instruction manual should be kept in an accessible place. Before use, thoroughly review this manual which contains the most appropriate instructions regarding to the maintenance and operation of this endoscope imaging processor. By following the essentials in this manual during operation and maintenance, the malfunction rate could be significantly reduced, resulting in extended lifetime of the endoscope imaging processor.

Any questions about the information provided in this instruction manual or about the endoscope imaging processor operation and safety regards, contact EICKEMYER.

User qualifications

If there is an official standard on user qualification to perform endoscopy and endoscopic treatment that is defined by the medical administration or other official institutions, such as academic societies for endoscopy, follow that standard.

This device must be operated by a medical practitioner capable of safely performing endoscopy after operation technique training. This user manual introduces the ideal preparation and inspection procedures. It is not the detailed instruction for clinical examination and does not intend to familiarize beginners with endoscopy techniques and medical knowledge.

Ancillary Equipment

The safety of the endoscope imaging processor does not only rely on the endoscope imaging processor itself, but also relies on its ancillary equipment. To guarantee the compatibility, only the ancillary equipment manufactured by EICKEMYER or confirmed by EICKEMYER is recommended to use.

EICKEMYER prepared the standard accessory and spares list. Please carefully check the items in the package according to the list provided in Section 1.1, "Checking the package contents list" after purchase. If any item is missing or damaged, contact EICKEMYER or distributor immediately. Prior to the first time use of a new endoscope imaging processor, carefully clean and disinfect the endoscope imaging processor and accessories.

The endoscope imaging processor and other components should be stored according to the following Section 4.7.2, "Storage and disposal".

Instrument compatibility

Before use, please refer to "Ancillary Equipment" to confirm that this instrument is compatible with the ancillary equipment being used. Using incompatible equipment can result in patient or operator injury and/or equipment damage.

Spare equipment

Be sure to prepare another endoscope imaging processor to avoid interruptions during examination due to equipment failure or malfunction.

Repair and modification

This instrument does not contain any user-serviceable parts. Do not disassemble, modify or attempt to repair it; patient or operator injury and/or equipment damage and/or the failure to obtain the expected functionality may result. Refer to Chapter 5, "Troubleshooting" for solutions of some irregularities. This instrument should be repaired by EICKEMYER authorized personnel only.

Important Information — Please Read Before Use

Signal words

The following signal words are used throughout this manual:



: It indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



: It indicates a potentially hazardous situation, if not be avoided, could result in death or serious injury.



: It indicates a potentially hazardous situation, if not be avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices or potential equipment damage.



: It indicates additional helpful information.

Dangers, warnings and cautions

Follow the dangers, warnings and cautions below when handling this instrument. This information is to be supplemented by the dangers, warnings and cautions given in each chapter.



- Never apply this Imaging processor connected with the endoscope to the heart or any area near the heart.
- Never apply an endotherapy accessory or another endoscope applied to or near the heart to come in contact with the endoscope connected to this imaging processor.
- Strictly observe the following precautions. Failure to do so may put the patient and the medical personnel in danger.
 - When the instrument is used to examine a patient, do not allow metal parts of the endoscope or its accessories to touch metal parts of other system components.
 - Keep fluids away from all electrical equipment. If fluids are spill on or into the unit, stop operation immediately and contact EICKEMYER.
 - Avoid preparing, inspecting or using the instrument with wet hands.
- Never install and operate the endoscope imaging processor in location where:
 - The concentration of oxygen is high.
 - Oxidizing agent (such as nitrous oxide (N₂O)) or flammable anesthetics are present in the atmosphere.
 - Flammable liquids are near.

Important Information — Please Read Before Use

WARNING

- This device must be operated by a medical practitioner capable of safely performing endoscopy after operation technique training. Do not use this instrument for any purpose other than its intended use.
- Do not use the instrument in any place where it exposed to strong electromagnetic radiation. Otherwise, this may impair the performance of the instrument.
- Always set the brightness to the minimum required level, as strong light may cause patient burns.
- Avoid observing in proximity to the mucosa for an extended period. It may cause patient burns.
- Do not place the device in a location where it is difficult to access the disconnect device.
- Do not replace detachable grid power cords with improperly rated cords.
- The user has to provide the power supply with reliable and safe grounding

CAUTION

- This instrument shall be used with auxiliary equipment or accessories complied with relevant EMC standards for safety reason. Otherwise, performance of the imaging processor may be affected.
- Portable or mobile phones may cause radio interference to this instrument. Relocating the imaging processor or provide shield to the location if the radio interference occurs.
- Do not connect or disconnect the endoscope connector while this instrument is turned ON. This action may destroy the instrument.
- When the instrument is used with other non-medical auxiliary equipment, such as video recorder and printer, the isolated transformer or insulating socket must be used to ensure the safety.
- Do not use a sharp or hand object to press the buttons on the front panel. This may damage the buttons.
- Avoid applying excessive force to the connectors, as this may damage the instrument.
- Please keep the endoscope imaging processor for indoor use.

Important Information — Please Read Before Use

Labels and Symbols

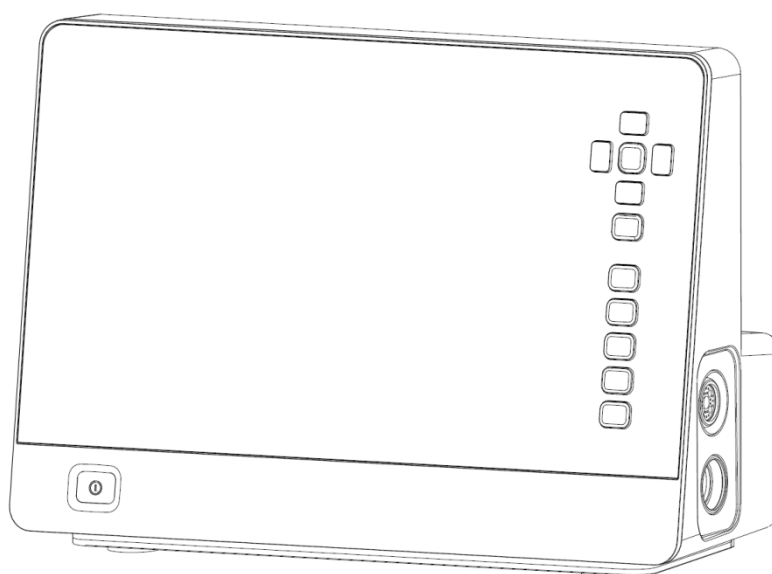
	Type BF applied part
	Protective earth(ground)
	Caution
	Equipotentiality
	Refer to instruction manual
	Date of manufacture
	Manufacturer
	Keep dry
	Use-by date
	Keep away from sunlight
	Serial Number
	Fragile, handle with care
	Stacking limit by number
	Temperature limit
	This way up

01 Checking the Package Contents

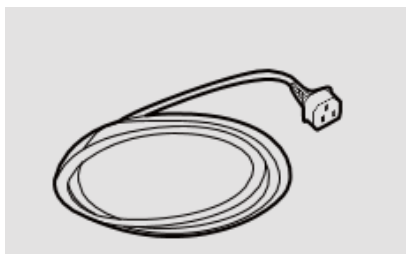
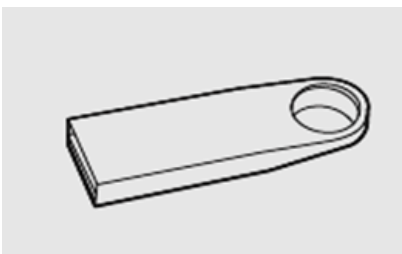
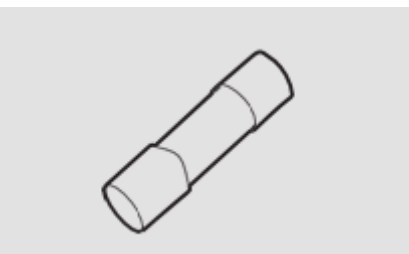
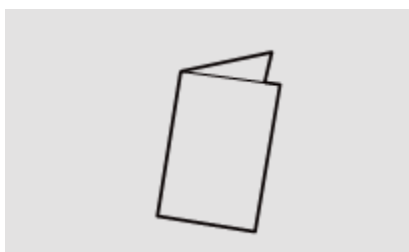
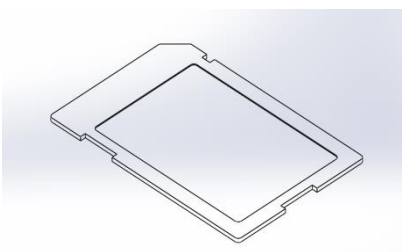
1.1 Checking the package contents list

CAUTION

- Check all items in the package against the components listed below. If any component is missing or damaged, do not use the item; please contact EICKEMYER immediately. Accessories below in the list are only for the reference. Please refer to the packing list/ shipping list included in each shipment.



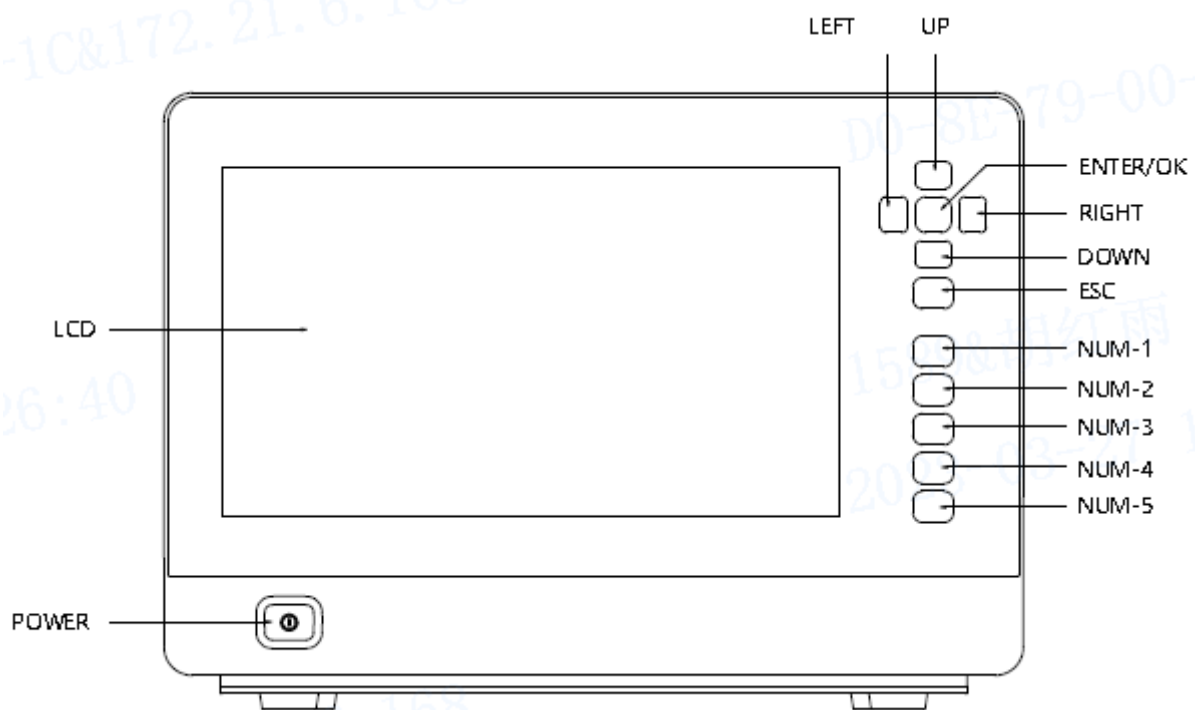
EickView 5-in-1

 Power cord	 USB flash drive (optional)	 Fuse
 User manual	 SD card	

02 Nomenclature and Functions

2.1 Nomenclature and Functions

2.1.1 Front panel

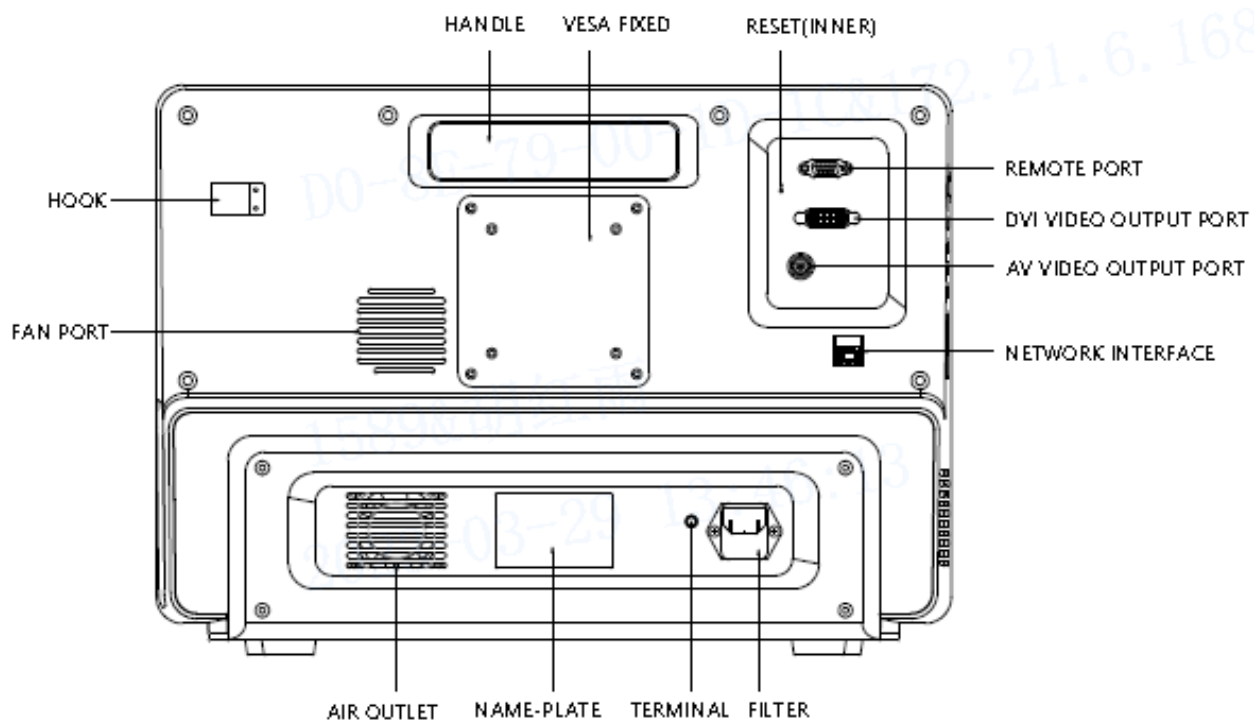


(Figure 2.1.1 Front panel)

Nomenclature	Description
Power Switch	Press to turn the endoscope imaging processor ON or OFF.
LCD	Used for functional operation and information display
Direction keys	Up, Down, Left、 Right, Enter/Confirm, Cancel
Number key (1 – 5)	Function buttons

02 Nomenclature and Functions

2.1.2 Rear panel

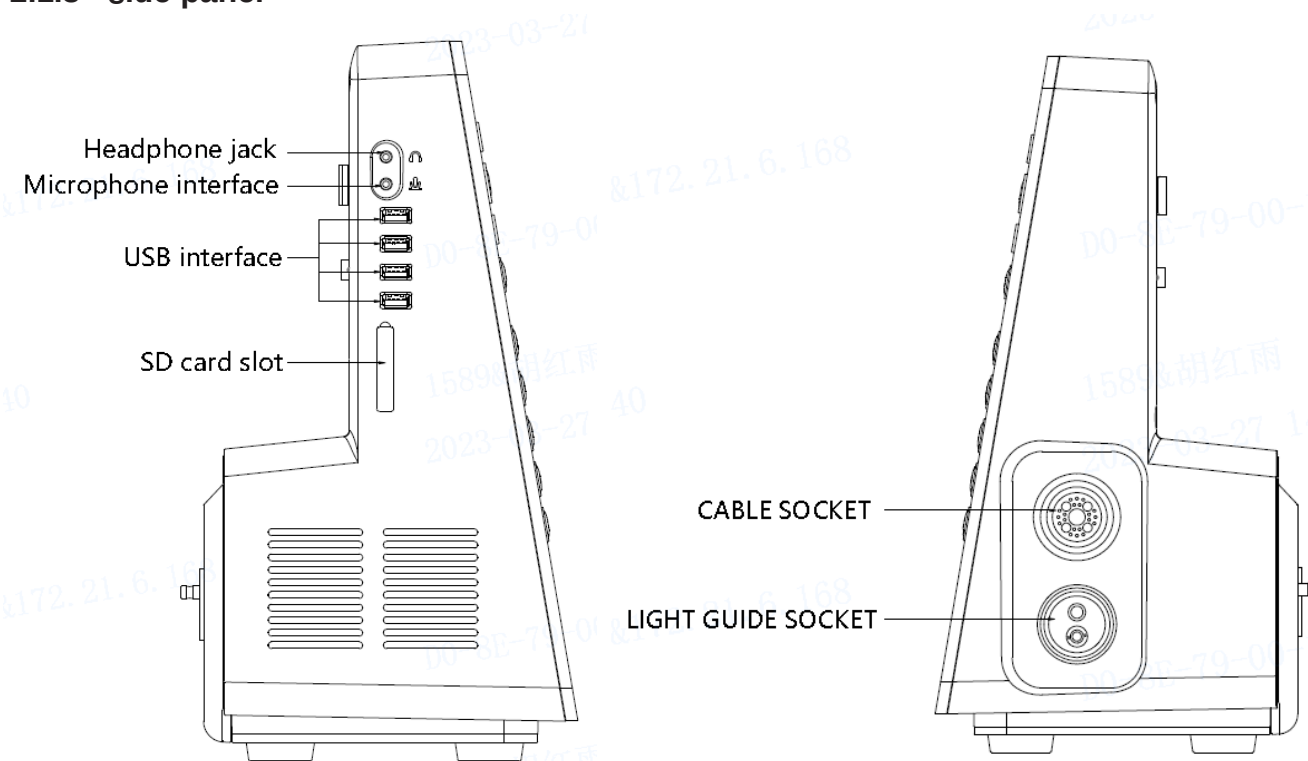


(Figure 2.1.2 Rear panel)

Nomenclature	Description
Air outlet	Cold and hot air exchange port
Nameplate	Label product related information
Equipotential terminal	Protective grounding
Filter	Filter power signals at a specific frequency
Network interface	Network connections
AV Video Output Port	Output AV video signal.
DVI Video Output Port	Connects equipment compatible with the DVI (Digital Visual Interface). Outputs DVI video.
REMOTE port	Port for debugging
Reset (inner)	Reset Image Processor Features
VESA Fixed	Standard mounting interface
Handle	Convenient mobile image processor
Hook	Hanging water bottle
Fan Port	Fan exhaust and heat dissipation during host operation

02 Nomenclature and Functions

2.1.3 Side panel



(Figure 2.1.3 Side panel)

Nomenclature	Description
Headphone jack	Connecting headphones
Microphone interface	Connecting a microphone
USB interface	Connecting USB devices
SD card slot	Insert SD card
CABLE SOCKET	Connecting the endoscope image signal
LIGHT GUIDE SOCKET	Connect the endoscope light guide plug

02 Nomenclature and Functions

2.2 Main components

- 1 Camera
- 2 Guide beam
- 3 Optical bayonet
- 4 Special water bottle
- 5 Dedicated USB flash drive
- 6 Dedicated SD card
- 7 Waterproof cover
- 8 power cord
- 9 Fuse (T 2.5 AL 250V)
- 10 Product Description
- 11 Product certificate

2.3 Product characteristics

- 1 Type of protection against electric shock: class I
- 2 The ingress protection rating of the imaging processor is common device.
- 3 Manufacturer: EICKEMYER – Medizintechnik für Tierärzte KG.
- 4 Product name/Model: EickView 5-in-1.
- 5 Operating mode: Continuous running.
- 6 Protective earth. 
- 7 Caution! 
- 8 Equipotentiality. 
- 9 Power ON/OFF. 
- 10 Classified as non-AP device or APG device, according to the safety rating of performing in air and flammable anesthetic gas mixture; or oxygen/nitrous oxide and flammable anesthetic gas mixture
- 11 Internal battery model: CR2025

02 Nomenclature and Functions

2.4 Performance characteristics

The EickView 5-in-1 is equipped with:

- 1 White balance function;
- 2 Three metering modes: average metering, peak metering and auto metering;
- 3 Hemoglobin enhancement function;
- 4 Structure enhancement mode;
- 5 Edge enhancement mode;
- 6 Combination reinforcement model;
- 7 Image color adjustment mode;
- 8 Digital magnification function;
- 9 Image Freezing and replaying function;
- 10 Automatic endoscope identification function;
- 11 USB storage function;
- 12 Characters information displaying function;
- 13 Various signal output methods, including DVI, AV.

2.5 Specifications

2.5.1. Operating environment

- Ambient temperature: +5°C ~ +40°C
- Relative humidity: 30 % – 85 %
- Atmospheric pressure: 700 – 1060 hPa
- Power supply: ~220 V AC, rated frequency
- Input power: 50 Hz : 120 VA
- Pollution degree: 2
- Overvoltage Category: II

2.5.2. Product Structural Composition

This product is composed of imaging processor, Operation panel, air pump, power module, endoscope socket and software.

2.5.3. Compatible devices



CAUTION

- All connected devices shall comply with the relevant requirements for safety use.

02 Nomenclature and Functions

1 Compatible Monitor

3C certified monitor (The monitor shall meet the requirements of GB9706.1 or IEC60601-1 or equivalent safety level).

2.5.4. Imaging processor specification

Dimensions	480 (length) × 190 (width) × 350 (height) mm
Weight	8.5 kg
Display	15.6 in

03 Installation and Inspection

- Prepare the endoscope imaging processor and compatible equipment before each use. Install and connect the equipment according to the procedures described in this chapter and the instruction manuals for ancillary equipment.

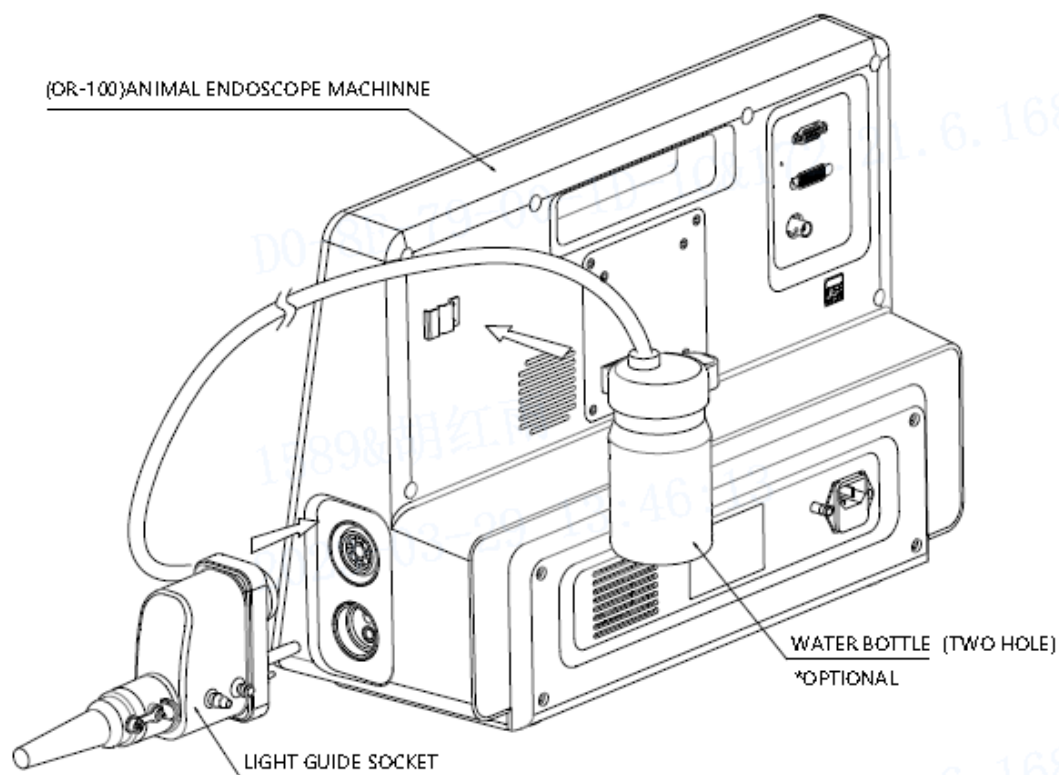
3.1 Endoscope imaging processor installation and connection

CAUTION

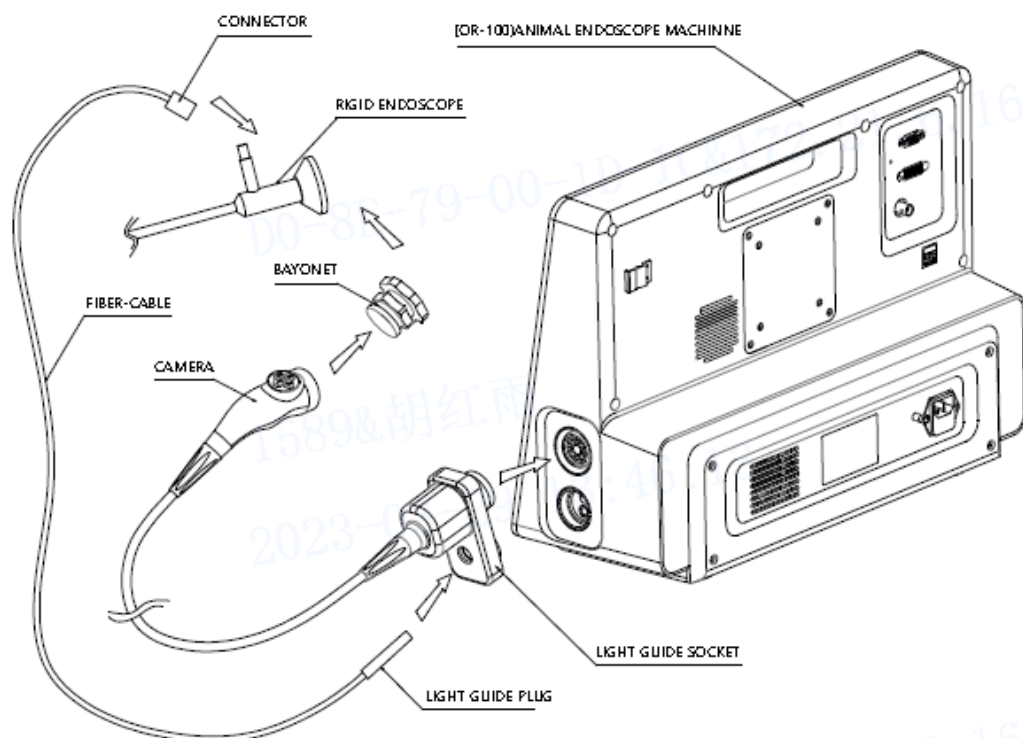
- Do not place any object on the top of the endoscope imaging processor. Otherwise, damage to the equipment may result.
- Do not cover or block the air outlet of the endoscope imaging processor. Ventilation grills blockage will overheat and cause damage to the device.
- Ensure reliable grounding. Power supply requirements:
 - Users need to provide 110 V AC or 220 V AC and 50 Hz or 60 Hz power supply; if the voltage is not stable, automatically regulated power supply must be provided (over 500W, residential used voltage regulator shall not be used.) Contact EICKEMEYER for any questions. The same voltage regulator cannot be shared with other electrical products with large electricity consumption.
 - The user has to provide the power supply with reliable and safe grounding.
 - For frequent power outage regions, UPS (Uninterruptible power supply) is recommended to use to ensure the normal operation of this system. Connect the power cord of the endoscope imaging processor with the power supply input inlet of the UPS.
- Turn OFF all system components before connecting them. Otherwise, equipment may be damaged.

- 1 Inspect and ensure the reliable grounding is available, and the fuse is in good condition, and all ventilation grills are uncovered and unblocked.
- 2 Ensure that the power switches of the endoscope imaging processor are OFF.
- 3 Firmly insert the endoscope connector into the endoscope connector inlet of EickView 5-in-1, as shown in Figure 3.1.

03 Installation and Inspection



(a) Connection of the endoscope and imaging processor



(b) Connection of rigid endoscope and image processor

Figure 3.1 Connection diagram

03 Installation and Inspection

- 4 Connect the monitor to the imaging processor using the BNC, or DVI cables, the ports and cables can't be altered.
- Connect the video output terminal (AV) of the endoscope imaging processor with the video input terminal (CVBS IN) of the monitor using the BNC Cable;
 - Connect the video output terminals (DVI) of the endoscope imaging processor with the input terminals (DVI IN) using the DVI Cable;

CAUTION

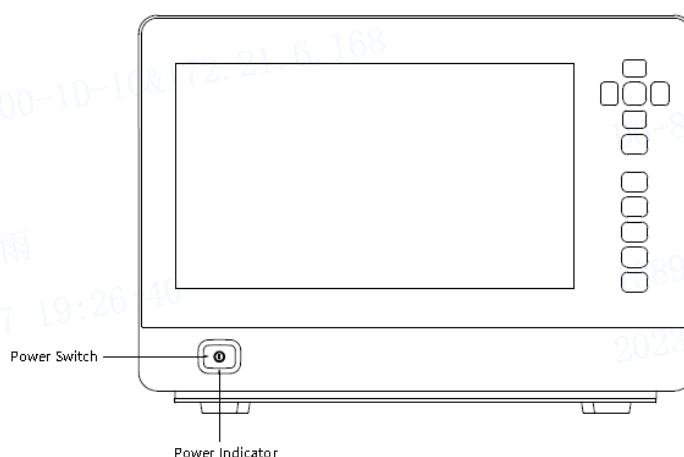
- For ancillary devices, such as recorders, printers, computer work stations etc., Consult EICKEMEYER to confirm equipment compatibility. EICKEMEYER is not responsible for any consequences caused by using of unapproved device.
- When install the imaging processor, keep it away from equipment with high energy and high power, or equipment emitting electromagnetic inference (such as CT equipment, X-ray equipment, microwave therapy apparatus, high frequency hyperthermia instrument, MRI equipment, radio communication device, etc.). Interruption of radio signals will appear on the display screen if the inference occurs, resulting in degradation on image quality. It is recommended to stay away from the inference source if the noise occurs.
- Do not hit the terminals on the front and rear panels of the imaging processor with any hard or sharp objects. Otherwise, damage can result.
- Do not touch the electric connecting points in the output socket of EickView 5-in-1 endoscope imaging processor.
- It is prohibited to use this product in the environment of flammable gas, otherwise a fire or explosions may result.
- It is strictly prohibited to frequently press the power switch of the imaging processor. Wait for at least 8 seconds before turning the imaging processor ON after each shutdown.
- For the information of high frequency coagulation device compatible with this imaging processor, refer to the instruction manual of the endoscope. Using the device not introduced in the endoscope instruction manual may cause the monitor to produce high frequency sound, and cause the endoscopic image to distort and disappear.

03 Installation and Inspection

3.2 Inspection of the power supply

Confirm that the ventilation grills are not covered or blocked with dust or other materials, and that the imaging processor can be turned ON.

- 1 Confirm that the ventilation grills are not covered or blocked with dust, and that the endoscope imaging processor is turned ON.
- 2 Press the power switch of the endoscope imaging processor as shown in Figure 3.2. And the power indicator lights up.



(Figure 3.2)

- 3 Confirm that air is ventilated by holding hand in front of the ventilation grills.
- 4 If the equipment fails to be turned ON, turn the endoscope imaging processor OFF. Then, confirm that the power cord is firmly connected. Then, turn the endoscope imaging processor ON again. If the equipment still fails to be turned ON, contact EICKEMEYER.

WARNING

- If air is not ventilated through the ventilation grills, do not use the imaging processor and contact EICKEMEYER.

3.3 Inspection of the examination light

WARNING

- Do not look directly into the distal end of the endoscope when it is emitting light. Eye injury may result.

- 1 Press the lamp button or icon (refer to the Section 4.4.3 “Examination lamp ignition” for details) to ignite the examination lamp. Confirm the examination light is emitted from the distal end of the endoscope.

03 Installation and Inspection

3.4 Inspection of the automatic brightness adjustment

Confirm that the brightness of the examination lamp can be automatically adjusted.



- Do not look directly into the distal end of the endoscope when they are emitting light. Eye injury may result.

- 1 Confirm that the endoscope is connected to the imaging processor, and that both are turned ON.
- 2 Press the lamp button or icon on the front panel to ignite examination lamp.
- 3 Tap the “ILLUMI.” icon on the touch screen of the imaging processor as described in the section 4.4.4, “Brightness adjustment mode setting” to switch to automatic mode.
- 4 Point the distal end of the endoscope at a suitable object and vary the distance. Confirm that the light being emitted from the distal end varies with the distance.
- 5 Hold the distal end of the endoscope at a distance about 30mm to the object and press the brightness enhancement and detracting buttons. Confirm that the brightness of the light emitted from the distal end of the endoscope increases or decreases accordingly.

3.5 Inspection of the monitor display



- Before inspection, make sure that white balance adjustment is performed. See section 4.3, “Adjusting the white balance”.

- 1 Turn ON the video monitor display to confirm that the endoscopic image is displayed properly.
- 2 Confirm that the text information is displayed on the monitor.
- 3 Confirm that the endoscope image is normal by observing any object such as your hand.

3.6 Inspection of the freeze and release function



- Do not use the endoscope imaging processor when the live image cannot be displayed normally. Otherwise, patient injury may occur.

- 1 Tap the image freezing icons described in the section 4.4.9, “Freezing the image”, to freeze image.
- 2 Confirm that the live image frozen.

03 Installation and Inspection

- 3 Tap the image freezing icon again to release frozen image. Refer to the Section 4.4.9, "Freezing the image" for details.
- 4 Confirm that the frozen image returns to the live image.

3.7 Inspection of the digital magnification function

Confirm that the image can be enlarged by tapping the icon and checking the displayed current zooming ratio on the touch screen.

- 1 Tap the digital magnification icon as described in the Section 4.4.8 "Digital magnification", confirm that the displayed zooming ratio changes in the cycle of "1.0×", "1.2×", "1.5×", "2.0×", and the endoscopic image is enlarged to corresponding degree.

3.8 Inspection of the structure and edge enhancement function

Confirm that the image can be enhanced by tapping the icon and checking the displayed current enhancement mode.

- 1 Tap the structure and edge enhancement mode icon as described in the Section 4.4.6, "Structure and edge enhancement"; confirm that the selected mode icon highlights and the displayed text on the monitor screen changes to corresponding mode.
- 2 Tap the enhancement icon several times, confirm the displayed enhancement level changes accordingly.

3.9 Inspection of the Hemoglobin enhancement function

Confirm that the hemoglobin can be enhanced in the endoscopic image by tapping the icon and checking the displayed enhancement mode information.

- 1 Tap the hemoglobin enhancement icon as described in the Section 4.4.7, "Hemoglobin enhancement"; confirm that the hemoglobin enhancement icon highlights.
- 2 Tap this icon again; confirm that the enhancement icon dims.

3.10 Inspection of power OFF

- 1 Press the power switch of the endoscope imaging processor.
- 2 Confirm that the endoscope imaging processor is turned OFF and the power indicator dims.



- If the power indicator remains illuminated after turning the endoscope imaging processor OFF, do not use it, unplug the power cord from the wall mains outlet and contact EICKEMEYER.

04 Operation

The operator of the endoscope imaging processor must be a medical practitioner capable of safely performing endoscopy after operation technique training. This manual does not explain or discuss clinical endoscopic procedures. It only describes basic operation of the endoscope imaging processor. Before using the endoscope, ensure to perform preparation and inspection on the endoscope imaging processor as described in Chapter 3, "Installation and inspection".

4.1 Precautions

WARNING

- If any irregularity is observed, do not use the endoscope imaging processor. Electric shock may result.
- Do not hit the terminals of the front and rear panel of the endoscope imaging processor with sharp or hard objects. Otherwise, this instrument may be damaged.
- While operating the endoscope and performing the endoscopy, be sure to observe the live image. If operate the endoscope and perform the endoscopy while freezing or replaying the images, patient injury may occur.

CAUTION

- Before disconnecting the endoscope with the endoscope imaging processor, power supply must be turned OFF.
- It is prohibited to use the imaging processor in the environment of flammable gas, otherwise a fire or explosions may result.
- It is forbidden to frequently turn ON the power switch of the imaging processor. Wait for at least 8 seconds before turning the imaging processor ON after each shutdown.

4.2 Turning the endoscope imaging processor ON and igniting the examination lamp

- 1 Turn the ancillary equipment ON.
- 2 Press the power switch to turn the endoscope imaging processor ON. The power indicator lights up.
- 3 Also, press the lamp button or tap the lamp icon on the front panel as described in Section 4.4.3, "Examination lamp ignition" to ignite the examination lamp at the distal end of the endoscope.
- 4 Confirm that the endoscopic image shows on the monitor normally.

NOTE

- Also refer to instruction manuals of ancillary equipment for safe use.

04 Operation

4.3 Adjusting the white balance

The white balance adjustment is used to display the correct image color on the monitor. Always adjust the white balance in the following cases:

- Before observation
 - Any irregularities observed on the color of the image
- 1 Check if the color of the endoscope image on the monitor is normal. If there is color deviation, the color should be reset.
 - 2 Insert the distal end of the endoscope into white balance cap; press the white balance button or tap the white balance icon as described in Section 4.4.5, “White balance adjustment”. The system will automatically perform white balance adjustment. Dimmed white balance adjustment indicator and text information displayed on the monitor indicate successful adjustment.

WARNING

- Make sure that the endoscope and white balance cap are clean before adjustment.

CAUTION

- Do not turn OFF the endoscope imaging processor or disconnect the endoscope until the white balance adjustment is completed.
- Do not allow other light to enter the white balance cap when adjust the white balance.
- When adjust white balance, the distal end of the endoscope should be inserted into the white balance cap.

4.4 Panel operation

The panel buttons and touch screen icons could realize the following functions:

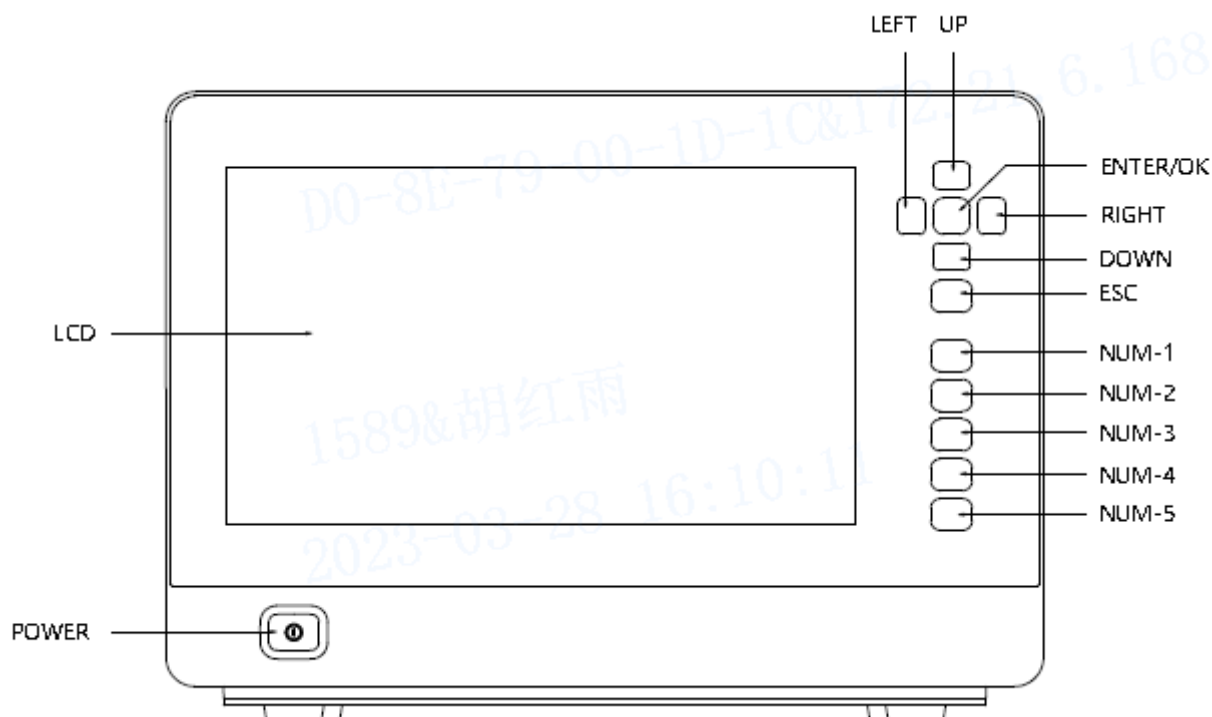
- Adjust the image display;
- Perform the “Edge Enhancement”, “Structure Enhancement”, and other image processing functions (shown in the Section 4.4.2, “Button and icon functions”);
- Freeze, replay and magnify image.

The displayed text information shows the current status of the icons.

4.4.1 Schematic diagram of panel

The schematic diagram of the panel button layout and display screen of EickView 5-in-1 imaging processor is shown in figure 4.4.1. Press the panel buttons or tap the screen icons to perform panel operations.

04 Operation



(Figure 4.4.1)

4.4.2 Button and icon functions

The displayed icons shown in the table below indicate the current setting of the imaging processor.

Icon Function	Function Description
FREEZE	Press the button, then the current image is frozen, press the button again, the frozen image become alive;
ENH	Press the button to switch enhancement level of the assigned enhancement mode (Edge, Structure, COM);
IRIS	Press the button to switch the IRIS mode between AVE\PEAK\AUTO;
ZOOM	Press the button to switch the magnification times between 1.2x, 1.5x, 1.8x, 2x;
PUMP	Press the PUMP button to switch the PUMP airflow level (Low, High, Mid) when using flexible endoscope;

4.4.3 Examination lamp ignition

This operation turns the examination lamp ON.

- 1 Press the ILLUMI. button icon.
- 2 The lamp indicator keeps illuminated when the examination lamp emits lights, the indicator dims when the lamp is extinguished.

4.4.4 Brightness adjustment mode setting

This operation changes the brightness of the emitting light of the examination lamp.

The lamp brightness is automatically adjusted when the brightness adjustment mode is set to automatic.

04 Operation

The lamp brightness is manually adjusted when the brightness adjustment mode is set to manual.

- 1 Tap the "ILLUMI." icon to enter the brightness adjustment mode setting page;
- 2 Switch between "OFF", "AUTO" and "MANUAL" in the dialog box that pops up;
- 3 Character Information displays the current dimming mode .

WARNING

- Always use minimum level of brightness when operating a close view of mucous membranes for an extended period.
- Do not bring the distal end of the endoscope in contact with the body or any flammable objects after using the endoscope with intense illumination for a long period. Burn may result due to the extremely high temperature.

4.4.5 White balance adjustment

The system can automatically adjust the white balance of the endoscopic image.

- 1 Insert the distal end of the endoscope into the white balance cap of the imaging processor; press the "WB" adjustment button, the white balance adjustment indicator illuminates. Automatic white balance adjustment will be performed.
- 2 Dimmed indicator and the displayed text information on the monitor indicate the successful adjustment.

4.4.6 Enhancement adjustment

This operation changes the endoscopic image enhancement mode among structure enhancement, edge enhancement and combine enhancement modes.

- 1 Tap the "ENH" icon to enter enhancement mode setting page. The highlighted icon indicates the active status; dimmed icon indicates the inactive status.
- 2 The selected enhancement mode and level are indicated as "Ex" "Sx" or "Cx" in the setting page. The first character "E" "S" or "C" indicates the edge enhancement mode, structure enhancement mode and combine enhancement mode respectively.

4.4.7 Digital magnification

The content of the endoscopic image can be enlarged by the digital magnification function. The zoom ratios are "1.0x", "1.2x", "1.5x" and "2.0x".

- 1 Tap the "ZOOM" icon to switch the zooming ratio among "1.0x", "1.2x", "1.5x" and "2.0x".

4.4.8 Freezing the image

The endoscopic image can be frozen by this operation.

- 1 Tap the "Freeze" icon to freeze image or release frozen image.

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NOTE

- When the portable memory is not available to use, the frozen image can be temporarily stored in the imaging processor. (Note: When the power supply of the imaging processor is cut OFF, the temporarily stored images will be cleaned).

4.4.9 IRIS mode setting

This operation changes the IRIS mode between peak mode, automatic mode, and average mode.

- 1 Tap the “IRIS” icon to switch the IRIS mode to peak mode, automatic mode, or average mode.
- 2 The selected IRIS mode is indicated as “AUTO”, “AVE”, or “PEAK” besides the IRIS icon representing automatic mode, average mode, or peak mode respectively.

4.4.10 Air feeding

This operation feed the air through the **flexible** endoscope into the target area.

! WARNING

- Over-insufflating air into the lumen may lead to patient pain, injury, bleeding, and/or perforation.

- 1 Press the “PUMP” icon to enter the airflow setting page..
Select the “H”, “M”, or “L” icon to adjust the airflow rate to high, middle, or low level respectively.
- 2 The highlighted icon indicates the selected airflow rate level.

4.4.11 Video recording

The captured video can be recorded by this operation.

- 1 Press the “RECORD” button to capture the video, the video recording indicator illuminates;
- 2 Press the “RECORD” button again to stop capturing, the indicator dims.
- 3 The video captured will be automatically saved into portable storage device. (The portable memory must be inserted into the USB port of the imaging processor. And, passcode needs to be inputted for data transfer. Otherwise, this function is not available)

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4.5 Termination of the operation

! CAUTION

- Before disconnecting the endoscope, ensure that the imaging processor is turned OFF. Otherwise, the sensor inside of the imaging processor may be damaged.

- 1 Press the power switch on the front panel to turn the imaging processor OFF.
- 2 Turn OFF other ancillary equipment.

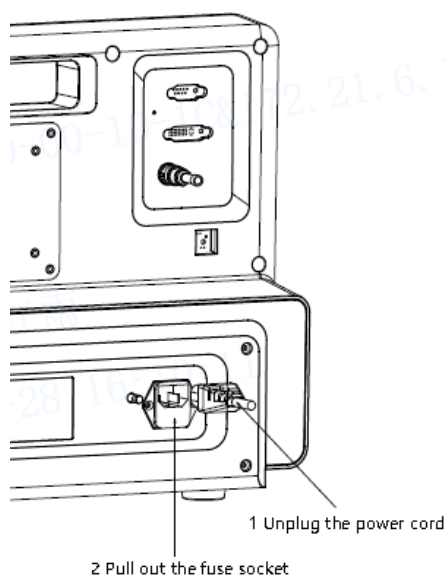
4.6 Fuse replacement

If the equipment fails to function normally when the power switch is ON, the fuse may be damaged and need to be replaced.

! WARNING

- Confirm that the power cord is unplugged from the power inlet before fuse replacement to prevent electric shock.
- Never install a fuse that has not been approved by EICKEMEYER or not fulfill the required specifications. Damage to the imaging processor, malfunction, electric shock or a fire may result.

- 1 Confirm that the power switch is turned OFF the power cord is unplugged from the wall mains outlet and the power inlet.
- 2 Press the cover on the fuse socket and draw the fuse holder out as shown in Figure 4.6.



(Figure 4.6)

04 Operation

- 3 If the fuse has been melt, replace it with a new one.
- 4 Connect the power cord and turn ON the power switch, if the fuse is damaged again, turn OFF the power switch, disconnect power cord, and contact EICKEMEYER.

4.7 Maintenance, storage and disposal of the imaging processor

4.7.1. Maintenance

(1) Maintenance of endoscope image processor :

WARNING

- Prior to cleaning, pull out the power supply cord and make it sure.
- Ensure the power supply plug is dry to prevent electric shock accident from happening.
- Do not wipe the power inlet or other terminals, damage to the imaging processor like distortion or corrosion may result.
- This equipment should be stored away from the direct sunlight, X-ray, radioactive ray or strong electromagnetic radiation. Otherwise, damage to the imaging processor may result.

CAUTION

- If any spare parts or electronic components of the EickView 5-in-1 type medical endoscope imaging processor are broken, please be sure to use the spare parts or electronic components provided by EICKEMEYER. EICKEMEYER is not responsible for any damages caused by using spare parts or electronic components from the other companies.

EICKEMEYER recommends that user and purchase unit conduct the maintenance activities to the imaging processor by following the methods below daily.

- 1 Turn the imaging processor OFF and disconnect the power cord from the wall mains outlet.
- 2 Only use dry gauze to wipe the power switch, otherwise the switch may be damaged and electric shock may result.
- 3 Use soft gauze moistened with diluted detergent to wipe the external of the equipment. When wiping the rear panel, do not wet the power inlet and the USB ports. When wiping the front panel, do not wet the USB port. Otherwise, damp circuit of the imaging may lead to electric shock and short circuit.
- 4 If the equipment is soiled with any liquid, wipe off all debris timely and dry it completely, especially the electric circuit connection terminals.

(2) Maintenance of camera and guide beam

There are two methods for cleaning and disinfection of cameras and guide beams: automatic cleaning, disinfection and manual cleaning and disinfection. Our company only introduces the manual cleaning and disinfection methods of cameras and guide beams. For other automatic cleaning and disinfection methods, please refer to the relevant equipment instructions.

04 Operation

WARNING

- The equipment must be cleaned and sterilized, before first use and after each use.
- Before cleaning, disinfection or sterilization, the camera, converter and hard mirror should be separated.

Cleaning:

- 1 Wipe the stains on the equipment with disposable paper towels or dry gauze;
- 2 After installing the moisture-proof cap, soak the equipment in the enzyme-containing detergent for at least 15 minutes;
- 3 Brush the equipment surface and all gaps in the detergent;
- 4 Rinse with reverse osmosis/deionized water at room temperature to remove visible detergent;

CAUTION

- Before cleaning the camera and guide beam, be sure to install a protective cover to prevent corrosive liquid from contacting the optical components inside the camera.
- Before immersion in any liquid, check whether the camera cable is cut or damaged. If there is any damage, please return the equipment to EICKEMEYER for repair.
- Do not place other sharp objects in the camera and beam guide tray.
- Do not use brushes or pads with metal or abrasive when cleaning, which may cause permanent scratches or damage to the instrument.
- The cable plug of the camera does not have waterproof function, so it needs to be waterproof before cleaning and soaking, or avoid immersion in liquid.

Disinfection:

- 1 Install a moisture-proof cap and soak the equipment in $\geq 2.4\%$ glutaraldehyde disinfectant for at least 45 minutes;
- 2 Rinse thoroughly with reverse osmosis/deionized water at room temperature to remove disinfectant;
- 3 Wipe the equipment with clean lint-free cloth immediately after rinsing.

CAUTION

- The camera plug does not have waterproof function, so it needs to be waterproof before cleaning and soaking, or avoid immersion in liquid.

Sterilization:

- 1 Please clean and prepare the equipment according to the above steps before sterilization;
- 2 Please follow the manufacturer's instructions when using a sterilization tray or other sterilization system;

04 Operation

CAUTION

- The camera cannot be sterilized by high temperature and high pressure. It is recommended to use low temperature plasma to sterilize the camera. Only one camera is sterilized for each tray, otherwise the sterilization will not be complete.

Use sterile protective cover

The use of sterile protective cover can maximize the service life of the equipment. To achieve the best effect, please follow the instructions provided by the protective cover manufacturer.

4.7.2. Storage and disposal

CAUTION

- Before storage, turn OFF the power switch, and disconnect the power cord from the imaging processor.
- The imaging processor should be stored in the cool and dry room with relative humidity no more than 95 % and good ventilation and without corrosive gas, flammable and explosive gas, liquid contamination, or chemicals.

The storage environment shall fulfill the following requirements.

- 1 Ambient temperature: -40 °C - +55 °C
- 2 Relative humidity: 10 % - 95 %
- 3 Atmospheric pressure: 500 hPa - 1060 hPa

Comply with relevant waste disposition regulations to dispose the endoscope imaging processor and its internal components needed to be discarded.

CAUTION

- The three-pin plug and socket are necessary for the power supply of the suction pump and high frequency power supply device cooperatively used with endoscope imaging processor, and the power supply must have ground lead, any accidents, for instance electric shocks and burnings etc., resulted from not complying with the usage standard will be responsible by the users themselves.
- When using video endoscopes and endoscope imaging processors, it is recommended to connect with a voltage regulator of power over 500W. The household power regulator is prohibited to use for video endoscopes and imaging processors.
- If the imaging processor has abnormal situations, please instantly stop using it, shut OFF the grid power supply and contact EICKEMEYER.
- When this product and its internal components are scrapped, please handle them as per the relative national regulations of waste disposal.

05 Troubleshooting

5.1 Troubleshooting

WARNING

- If any irregularity is observed or suspected, stop using the endoscope imaging processor. Consult EICKEMEYER. Otherwise, damages to the operator and/or the patient may result.

NOTE

- If an accessory of the endoscope imaging processor needs to be replaced, contact EICKEMEYER to purchase a replacement.

If any of the following irregularities is observed, do not use the imaging processor and solve the problem as described in the following table.

If the problem is not included in this section or cannot be resolved by the provided countermeasures, contact EICKEMEYER.

Irregularity description	Cause Analysis	Solution	Remarks
No power supply available for the medical endoscope imaging processor	Undesirable contact with power inlet.	Ensure the firm connection between the power cord and the power supply socket.	N/A
	Mains power supply outage.	Inspect the mains power supply.	N/A
	Fuse has been melt.	Replace with a new fuse.	Ensure the power supply has been cut OFF.
Failure in image display on the monitor	No connection between the imaging processor and the monitor through video output cable.	Connect the monitor and the imaging processor through the video output cable.	N/A
The endoscopic image is too dim or too bright.	Inappropriate IRIS mode setup.	Select appropriate IRIS mode.	N/A
	Malfunctions of the light source.	Contact the distributor or EICKEMEYER.	N/A
Achromatic endoscopic image or abnormal image color	White balance adjustment has not been implemented.	Conduct white balance adjustment.	N/A
	Inappropriate color setup.	Reset the color.	N/A
	Inappropriate chromaticity settings of the monitor.	Set appropriate chromaticity of the monitor.	N/A

05 Troubleshooting

Irregularity description	Cause Analysis	Solution	Remarks
Still Endoscopic image	The frozen image is not released.	Press the freeze button again, resume real-time image.	N/A
Jitter, drift and interference ripples on image	Inappropriate monitor signal system is chosen.	Set the correct signal system.	N/A
	Interference source presents nearby.	Relocate the working space away from the interference source.	N/A

5.2 Returning the imaging processor for repair

CAUTION

- EICKEMEYER is not responsible for any injuries to the human or damages to the imaging processor resulted from repair activities attempted by non-EICKEMEYER personnel.
- If any spare part or electronic component of the EickView 5-in-1 imaging processor is damaged, only use the spare parts or electronic components provided by EICKEMEYER. EICKEMEYER is not responsible for any damages caused by using unapproved spare parts or electronic components.
- Take a backup of the picture information inside this product, patient data, and user setting before returning to repair. These pieces of information are eliminated in the case of repair. Moreover, remove a portable memory.

When returning the imaging processor for repair, send the imaging processor with a description of the malfunction or damage and the name and telephone number of the individual at your site who is the most familiar with the problem. Also, include the warranty card.

06 Other Information

6.1 Manufacture date and service life

- 1 Manufacture date: refer to the product nameplate.
- 2 Expected service life: 5 years



CAUTION

- Before operation, inspect this instrument daily to ensure all technical requirements are fulfilled. If any nonconformity or damage is observed, contact EICKEMEYER.

NOTE

- The warranty period of the imaging processor is 1 year. After replacement, fuse and other consumables can function normally.

Warranty Card of Product

- User's Information (fill out it in detail)

User's Name			
Specific Address		Zip Code	
Product Name		Product No.	
Purchase Place		Purchase Date	
Invoice No.		Telephone	

The warranty card must be sent back to our company within one month after purchase of this product.

EICKEMEYER – Medizintechnik für Tierärzte KG

Warranty policy :

Provide the original invoice (or copy) of the product and contact EICKEMEYER. Be sure to send the warranty card of the product within one month after purchasing this product.

Warranty conditions:

Within half year after purchasing, any quality failure of this product is warranted by EICKEMEYER free of charge.

The following cases are not covered by the warranty:

1. Any damage caused by the improper operation or storage of the user.
2. Any damage caused by the unauthorized disassembly of the user.

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