

# Instructions for Use

## Veterinary Flexible Otoscope

**RAE-201**



To ensure safety, be sure to read these instructions before use !

Please read this instructions for use thoroughly before using the product and keep it properly for future reference. Information in the instructions may change at any time without prior notice. You may visit the website <https://www.jeetvet.com> for contact information.

When using the product, please strictly follow the instructions and properly carry out maintenance, which will greatly reduce the occurrence of faults and prolong the service life of the product.

Since the product is being improved continuously, the appearance or specifications of the product may be different from that stated in the instructions without prior notice.

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The version number of the user manual may be upgraded at any time without notice due to changes in software or technical specifications.



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Version: A0

For veterinary use only.

## About the Instructions for Use

The Instructions for Use describes in details of the use, functionality, and operation method of the product.

Before using the product, please read the instruction manual carefully and understand the contents to ensure that the product can be used correctly and to ensure the safety of animals and users.

The instructions describe the product in its most complete configuration, so some of the contents may not apply to the product you have purchased. If you have any questions, please contact Jeet Medical.

Please keep this instruction manual near the product so that it can be easily and promptly accessed when needed.

The instruction manual is suitable for professional veterinary clinical staff with knowledge and working experience in the medical procedures, practices and terminology necessary for endoscope.

All illustrations provided in the instructions are for reference only and the settings or data in the illustrations may not exactly match the actual display you see on the product

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## 1. Important information



**Note:** Before using the veterinary flexible otoscope, please read and fully understand the instructions for use to ensure proper usage.

### 1.1 Instructions for Use

This manual provides detailed information about the product's purpose, structure, operation methods, precautions, and post-use cleaning and disinfection procedures. Before using this product, please read this manual carefully to ensure proper usage, thereby ensuring the safety of both the animal and the operator.

If you have any questions or comments regarding the information in this manual, please contact Jeet Medical (Shenzhen) Co., Ltd.

The content of this manual is subject to change without prior notice.

Unauthorized reproduction of all or any part of this manual is prohibited.

Please keep this manual in a safe place for future reference.

This manual is written by technical personnel with relevant professional knowledge and training.

### 1.2 Intended Use

The veterinary ENT flexible endoscope, when connected to a computer or mobile device for image display, is used for nasal examinations, lung biopsies, sampling, and pulmonary lavage in cats and dogs.

### 1.3 Structure Composition

This product consists of a distal end, bending section, insertion tube, handle, and signal connection cable.

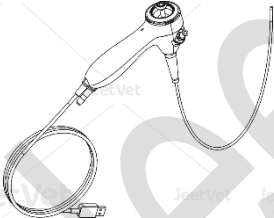

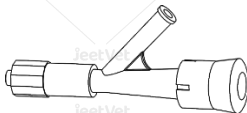
### 1.4 User Qualifications

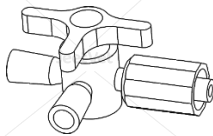
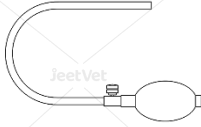
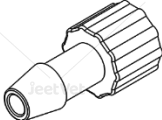
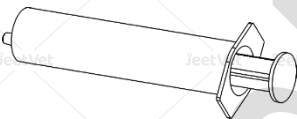
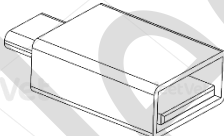
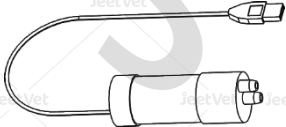
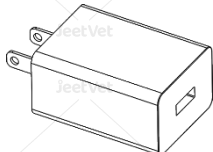
This manual only covers common preparation and examination procedures and is not intended to provide detailed clinical examination guidance or familiarize beginners with endoscopic techniques and medical knowledge.



This endoscope must be operated by a physician who has received training in safe endoscopic procedures.

### 1.5 Unpacking Inspection

Please check all items against the packing list. If any parts are missing or damaged, do not use the product and immediately contact Jeet Medical or an authorized dealer. The list of accessories below is for reference only; please refer to the packing list included with each shipment.

	Veterinary Flexible Otoscope
	Biopsy forceps
	Y-shape valve

	<p>Luer three-way connector</p>
	<p>Inflatable balloon</p>
	<p>Connector of Inflatable balloon</p>
	<p>Syringe</p>
	<p>OTG adaptor</p>
	<p>Simple pump</p>
	<p>USB charger</p>

	<p>Cleaning brush</p>
	<p>Instructions for use (This manual)</p>

### 1.6 Repair and modification

If contamination is suspected, or if the device is suspected or confirmed to be malfunctioning, do not use it. Please contact our company for repairs. Any required parts should be purchased by the engineer directly from the manufacturer. Using non-certified parts may pose safety risks.

**Safety Control:** After each maintenance or repair involving safety inspections, ensure that the device operates within appropriate conditions.



**Warning:** This equipment should only be repaired by Jeet Medical technicians. Jeet medical will not be liable for any injury or damage caused by repairs made by any technicians other than our own.

### 1.7 Warning and precautions

Please read the following precautions carefully to ensure proper use of this product. Failure to read the following items carefully may result in equipment damage or improper operation:

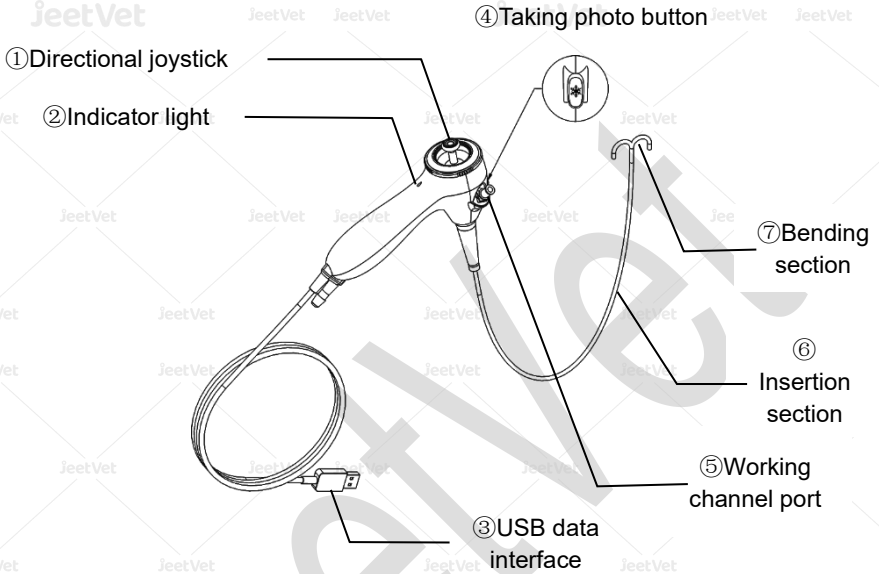


- a. After each use of the endoscope, please clean, disinfect and store it according to this manual.
- b. Do not bump, hit, drop, bend, twist or pull the distal end, insertion tube, bending part, directional rocker or endoscopy connector.
- c. Do not force or suddenly perform bending angle control.
- d. Do not operate the bending section, insert or pull out the endoscopy insertion tube, or use endoscope accessories without viewing the endoscope image or with the image frozen or magnified.
- e. Do not insert or withdraw the endoscope insertion section when the curved section is deflected, as this may result in injury, bleeding, or perforation of the animals.
- f. The curved portion can be bent in both up and down directions, and make sure that the curved portion is in a flat state when inserting or removing the endoscope. Do not use excessive force when inserting or removing the endoscope, otherwise it may cause injury, bleeding or perforation of the animals.
- g. Control the bending direction only by toggling the rocker, do not break the bending part by hand, this may cause the traction wire to break.
- h. It is not advisable to control the operating handle at the maximum bending angle for a long time, such operation will make the device in a high load state, affecting the service life of the device, in the maximum bending angle as far as possible to control within 40 seconds.

- i. If resistance is encountered when inserting the endoscope, do not force the insertion, and stop the insertion immediately. Otherwise, it will lead to injury, bleeding or perforation of the animals.
- j. Do not operate the curved part of the endoscope, supply air, insert or remove the insertion part of the endoscope, or use accessories without obtaining a clear endoscopic image or when the endoscopic image is frozen, otherwise it will result in injury, bleeding, or perforation of the animals.
- k. Ensure that the endoscope is not in close proximity or stacked with other equipment (components of the instrument or system) to avoid electromagnetic interference.
- l. Keep the insertion and bending sections as straight as possible, and do not attempt to forcibly bend the insertion section of the endoscope, otherwise the endoscope may be damaged.
- m. Do not collide with the end, especially the surface of the lens at the distal end, or it may lead to abnormal images.
- n. Prohibit the use or storage in explosive, strong electromagnetic field, and places with flammable gas, or it may cause fire or explosion.
- o. Do not look directly at the strong light source emitted from the endoscope probe end at a close distance to avoid the strong light from affecting your vision.
- p. At the end of the operation, try to let the insertion tube return to a straight state, do not pull it out of the animal in a bent state, in order to prevent the probe from being stuck with too much force, which may lead to damage of the steering function.

## 2. Product overview

### 2.1 Schematic diagram of components



### 2.2 Product parameters

Diameter of tube	3.0mm	Depth of field	5-50mm
Working channel	1.2mm	Direction	Up & down
Working length	600mm	Viewing angle	120°
Pixels	160,000	Illumination	LED light
Bending angle	Up & down 180°	Memory	Memory of mobile phone
Interface	USB	Weight	< 1kg

Material of tube	Four-layer medical polyurethane	Independent water & air supply channel	None
Compatible system	Android、Windows		
Accessories	Biopsy forceps, Cleaning brush, Inflatable balloon, Connector of balloon, Luer three-way connector, Syringe, Simple pump, Y-shape valve, USB charger, OTG adaptor, Packing case		

### 2.3 Environmental conditions

Operating environment	Temperature: 5℃~40℃ Relative humidity: 10~80%
Storage and transportation	Temperature: -20℃~+55℃ Relative humidity: 10~93%
Atmospheric pressure	70kPa~106kPa
Waterproof level	Tube: IP67 Handle: Not waterproof

## 3. Preparation and check


Before each use of this endoscope, it must be prepared and inspected as described below. Other equipment used in conjunction with this device must also be inspected in accordance with the operating instructions.

This device has not been sterilized before shipment. Before initial use, clean and sterilize the product according to the instructions in "Chapter 5.1 Cleaning and Disinfection".

### 3.1 Preparing the equipment

Prepare relevant equipment and PPE (personal protective equipment) (e.g. goggles, face mask, waterproof clothing and protective gloves) before each use. PPE should be of appropriate size and length to prevent skin exposure. Refer to section 1.5 of the instruction manual for details on the use of assistive devices.

The operator of this device must be a veterinarian or a member of the medical staff under the supervision of a veterinarian who has adequate training in clinical endoscopic techniques. Therefore, this instruction manual does not explain or discuss any endoscopic clinical techniques, but only describes the basic procedures and precautions associated with the operation of this device.

 **Warning:** Do not insert or remove the endoscope under the following conditions, as this will result in injury, bleeding or perforation of the animals.

- When the accessories extend out of the distal end of the endoscope
- When the bending section is locked
- When it is difficult to insert or remove the endoscope

Stop using the endoscope immediately and withdraw it slowly.

- if you suspect that the endoscope functions abnormally
- if the endoscopy image on the monitor disappears or freezes unexpectedly

- if the directional joystick functions abnormally

Continued use of the endoscope under these conditions may result in injury, bleeding or perforation of the animals.

If you notice an abnormal endoscopy image or function, but it returns to normal quickly, the endoscope may also be malfunctioning, in which case you should stop the inspection immediately. Observe the endoscope image while slowly withdrawing the endoscope from the animal to avoid recurrence of the abnormality, which may result in injury, bleeding, or perforation of the animals.

### 3.2 Software installation

Please use your mobile phone to scan the following QR code to download and install the APP.



## 4. Product operation

### 4.1 Viewing Images on a Computer

Open the computer's camera access permissions, and directly connect the endoscope USB data interface<sup>③</sup> to the computer's USB port.

When the endoscope's operation indicator light<sup>②</sup> turns blue, images will be visible to the user. Use the directional joystick<sup>①</sup> to control the direction for observation.

## 4.2 Viewing Images on a mobile phone

Install the app on your mobile phone.

Connect the endoscope USB data interface<sup>③</sup> to an OTG adapter, then connect the other end of the OTG adapter to the mobile phone.

Check that the operation indicator light<sup>②</sup> turns blue. The phone will automatically prompt you to open the app. Select the corresponding app to begin use. Disconnect the OTG adapter from the phone to turn off the endoscope, indicated by the extinguished indicator light.

Open the app, select "Allow/OK" when prompted. When the image is visible, use the directional joystick<sup>①</sup> to control the direction for observation.

## 4.3 Photo/Video Recording

Press the photo button<sup>④</sup> on the handle or click the photo icon in the app to take pictures. Click the video recording icon in the app to record videos.

## 4.4 File Storage

Photo and video files are saved in the album of the computer or mobile phone in JPG/MP4 format.

## 4.5 Biopsy Sampling

Adjust the direction joystick to keep the bending section<sup>⑦</sup> of the

endoscope straight, then connect the Y-valve to the biopsy channel port ⑤ on the right side of the handle.

Ensure that the biopsy forceps are closed, then slowly insert the biopsy forceps vertically into the Y-valve compression connector.

While observing the endoscopic image, slowly and gently insert the biopsy forceps into the biopsy channel.

When the biopsy forceps enter the visible area, operate the handle to open the forceps, gently grasp the pathological tissue, close the forceps, and carefully pull them out.

Slowly remove the biopsy forceps from the Y-valve compression connector. During this process, ensure the forceps are firmly closed to prevent the biopsy tissue from falling off.

 **Warning:**

Do not open the foreign body forceps when the distal end of the forceps is not visible in the visual area, as this will cause injury of the animals or damage the forceps.

When inserting and removing the foreign body forceps, it is important to ensure that the distal end of the foreign body forceps is closed. Failure to do so may result in damage to the inside of the forceps and dislodgement of the foreign body.

The foreign body forceps are disposable, do not reuse them.

#### 4.6 Water and air supply

- First, connect the Y-shape valve to the working channel port ⑤ on the right side of the endoscope handle.



- Connect the luer three-way connector to the Y-shape valve.
- Connect the inflatable balloon to one end of the luer three-way connector for air supply, rotate the valve on the three-way connector to control the volume of air supply.
- If water supply or waste liquid pumping is required, then connect the syringe to the other connector of the luer three-way connector and rotate the valve on the three-way connector to control the volume of water supply.

 **Warning: Clean and disinfect after each use in accordance with Chapter 5.1!**

## 5. Maintenance, storage and disposal

### 5.1 Cleaning and disinfection

The endoscope must be cleaned and disinfected after each examination, especially the mucus and dirt adhering to the distal end, inside the working channel and on the tube, which may block the working channel and the endoscope may perform abnormally if not cleaned for a long time. If the endoscope is not cleaned and disinfected correctly it may pose a risk of infection to the next animal or operator using the endoscope.

 **Warning:**

- The endoscope handle is non-waterproof, immersion disinfection is strictly prohibited, the insertion tube can be immersed.

- Please do not immerse the tube for a long time, because repeated or long-term immersion in disinfectant will increase the internal humidity of the endoscope, leading to blurring or even damage to the lens.

Endoscopes are cleaned and disinfected manually as follows:

### (1) Cleaning

- a. Wipe the insertion tube with gauze or a soft sponge in clean water to remove dirt.
- b. Immerse the insertion tube in cleaning agent and gently scrub the insertion tube with gauze or soft sponge repeatedly.
- c. Insert the cleaning brush into the working channel and scrub the inside of the tube.

Note: The cleaning brush should not be reversed halfway, and the brush tip must be completely exposed from the distal end of the endoscope tube before it can be pulled out in the reverse direction to avoid damage to the inner wall of the tube.

- d. Manually inject clean water into the tube with a syringe for flushing.

### (2) Disinfection

- a. Immerse the insertion tube in the disinfectant solution and gently and repeatedly scrub the insertion tube with gauze or soft sponge.
- b. Disinfect the working channel according to the method of cleaning the endoscope working channel.
- c. After endoscope disinfection, rinse with water to remove residual disinfectant. At the same time, any residual disinfectant on the inner

wall should be removed in the same way as cleaning the endoscopic working channel. If non-sterile water is used for rinsing after disinfection, wipe the endoscope and rinse the working channel with 75% to 95% ethanol, rinse water should not be reused.

- d. Wipe the outer surface of the endoscope with dry gauze.
- e. Blow out the moisture on the inner wall of the working channel with balloon air supply, and then dry the endoscope naturally to prevent bacterial reproduction.

### (3) Precautions for disinfection

- a. General detergent methods cannot achieve the purpose of disinfection, and if endoscopes need to be disinfected, various disinfection methods and materials should be researched and selected from the perspective of the medical profession and in conjunction with the special clinical situation.
- b. Certain materials used in the veterinary endoscopes (e.g., synthetic resins and rubbers, etc.) may be damaged when some disinfectants are used. Due attention should be paid to the safety of the endoscope before using any disinfection method.
- c. The following disinfectants are safe for veterinary endoscopes when used correctly, as confirmed by long-term testing and clinical use:
  - A. Enzyme wash.
  - B. 2% glutaraldehyde solution with a soaking time of not less than 10 minutes.

 **Warning: The following disinfection methods can cause major**

**malfunctions in electronic endoscopes and should be absolutely prohibited!**

- A. Heated, pressurized, EGO sterilized at a pressure of 1.5 atmospheres or more and a temperature of 40°C or more.
- B. Ultrasonic cleaning disinfection
- C. Boiling sterilization
- D. Dry sterilization disinfection
- E. Steam sterilization
- F. Disinfection with cresol or formaldehyde solution
- G. Cleaning and disinfection with undiluted chlorinated benzene cleaning solution

### **5.2 Storage**

- a. Make sure that all the reusable components and cleaning, disinfection equipment are completely dry.
- b. Store all reusable components in a storage cabinet. Make sure that the components are not in contact with each other during storage.
- c. Place all cleaning, disinfection equipment in one container, and then place the container in the storage cabinet.

### **5.3 Disposal**

When the device reaches the end of its effective service life, it is disposed of as electrical and electronic waste, in accordance with all applicable national and local laws and regulations, and arbitrary disposal may cause pollution to the environment.

## 6. Troubleshooting

The information in this chapter is intended to assist users in diagnosing and resolving potential issues that may arise during operation. The following sections detail possible problems, their potential causes, and recommended solutions.

Note: If the issue persists after taking the recommended measures, or if the problem is not described in this chapter, please cease use and contact Jeet Medical for consultation and repair.

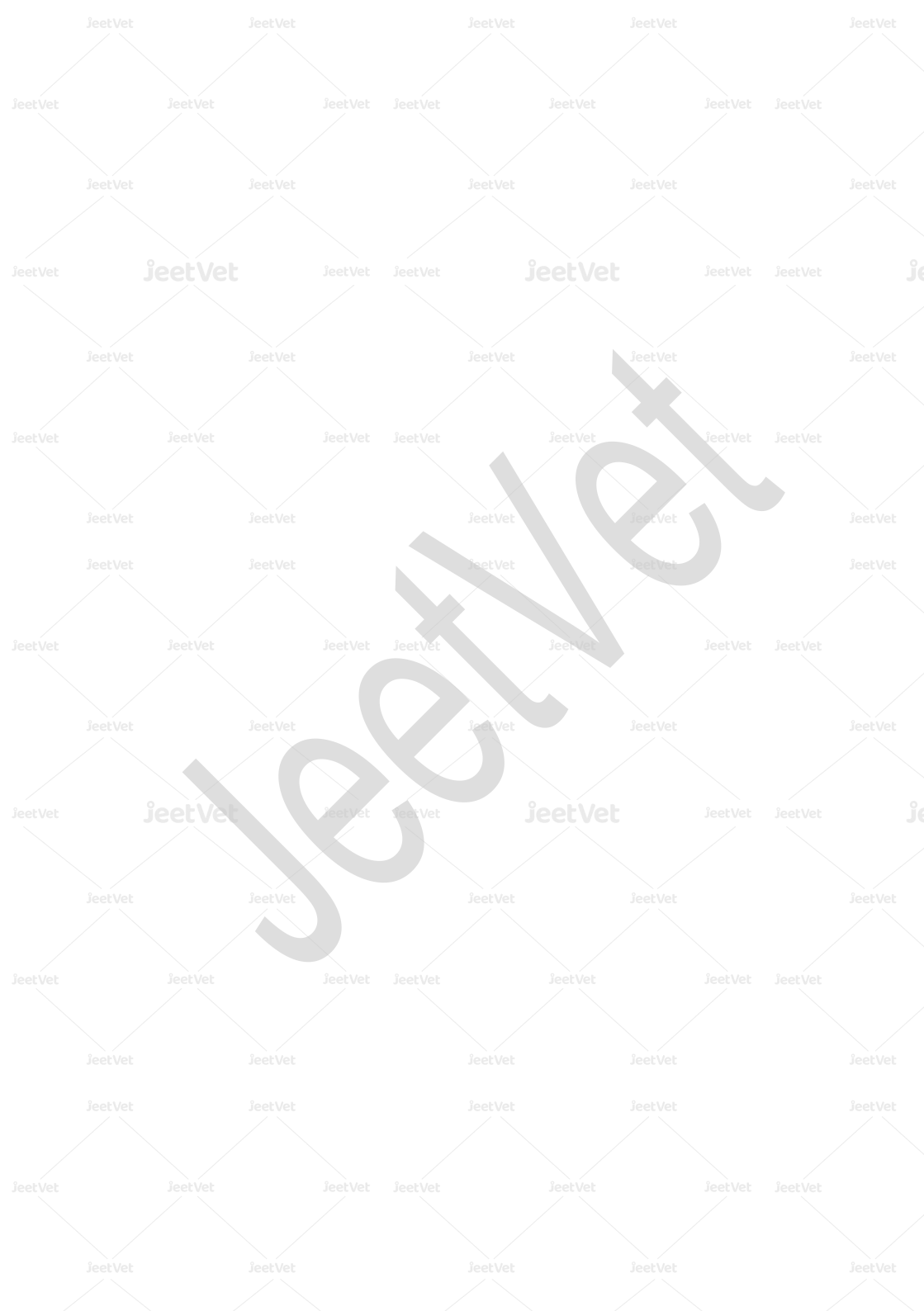
No.	Malfunctions	Troubleshooting methods
1.	Endoscope indicator light is off	<ol style="list-style-type: none"> <li>1. Check the data cable plug.</li> <li>2. Disconnect and reconnect the data cable.</li> </ol>
2.	No real-time image on display screen	<ol style="list-style-type: none"> <li>1. Check the data cable plug.</li> <li>2. Disconnect and reconnect the data cable.</li> <li>3. Try another display device.</li> <li>4. Connect to a computer to check if an image appears.</li> </ol>

## 7. Warranty

- **Warranty Period:** 12 months from the date of purchase.
- **Warranty Coverage:** The warranty covers equipment failures due to material defects or manufacturing processes, not caused by human actions. Defective parts will be repaired or replaced free of charge within the warranty period.
- **Exclusions:** If the endoscope is found to be damaged due to human actions, such as crushed insertion tubes, forceful detachment, breakage, animal bite marks, or improper use and maintenance by the user, or any damages resulting from disassembly, the repair costs will be borne by the user.
- **Consumables:** Consumables, defined as single-use materials that need to be replaced after each use, are not covered under the warranty.

### **Warning:**

To prevent infection and ensure the safety of maintenance personnel, please thoroughly clean and disinfect the endoscope and accessories before returning them for repair. If the endoscope or accessories have been used on animals with infectious diseases, please inform us in advance.



**jeetVet**

Seeing Animal Health Clearly

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