

EC-550 Series Video Colonoscope

Technical Specifications



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1. General Description

The EC-550 series video colonoscope is specially designed for the examination, diagnosis and treatment for the lower digestive tract of human body. The CMOS imaging technology, digital image processing technology, micro-optical lens technology, and advanced software technology are applied on the device to provide high-quality images, making the diagnosis and treatment safer, the judgment more accurate and the operation more stable.

The product supports real-time video acquisition, air/water-feeding, suction and remote control of image freezing, magnification, etc.

With fully-sealed design, the endoscope can be directly immersed for cleaning without waterproof cap, thus to avoid water inflow and damage to the endoscope caused by misoperation.

The product complies with the relevant international and national standards.

2. Advanced Technologies

- High-definition CMOS imaging technology 1920x1080
- Micro-optical lens technology
- Super large angle imaging lens technology

- Auxiliary water-feeding
- High conductive section hardness insertion tube with finer diameter
- Quick switch between air-feeding and water-feeding
- Smaller bending radius and larger bending angle
- High polymer engineering materials with higher disinfectant tolerance
- Convenient operation with new generation handle
- Safe fully-sealed design
- Simple and quick connection and disconnection

3. Connector Section

- Electrical contacts
- Light guide
- Air pipe
- Optical fiber cable connector
- Suction port
- Auxiliary water-feeding port
- Cap for auxiliary water-feeding port
- Leakage detector port
- Electrosurgical equivalent terminal
- Air/water-feeding port (including water-feeding port and air-feeding port)

4. Control Section and Insertion Section

- Left/right angulation lock
- Left/right angulation control knob

- Up/down angulation control knob
- Up/down angulation lock
- Remote buttons (0-3)
 - Customize the functions of the four remote buttons by using the image processor.
 - The customizable functions include freeze, zoom, VIST, photometry mode, image enhancement, color enhancement, CHb pseudo-color image, transillumination mode, contrast enhancement, AGC, image size, screenshot, video print, video recording, timer, PBP, information display, one-key export and upload.
- Instrument channel
 - Used for feeding liquid to the distal end
 - Used for the endotherapy accessory
 - Used as a part of the suction tube after covering the biopsy valve cap firmly
- Insertion limit mark
- Suction valve

Press it to aspirate liquid, debris or gas from the patient's body.
- Air/water valve
 - Cover the hole on the valve with a finger to feed air.
 - Press the valve to feed water to

clean the objective lens.

- When using the valve to feed water or air, the air or water can remove the blood, debris or mucous membrane adhering to the objective lens.

5. Distal End

- Objective lens
- Air/water nozzle
- Light guide lenses
- Auxiliary water-feeding outlet
- Instrument channel outlet

6. Auxiliary Examination

- Biopsy forceps sampling
- Cytology brush sampling
- Feeding liquid by syringe

7. Specifications

Refer to Appendix A.

(Net weight: 1.5 kg)

8. Packing List

- Endoscope
- Biopsy valve
- Air/water valve
- Suction valve
- Cleaning brush
- Leakage detector
- Injection tube
- Auxiliary water-feeding tube
- Channel plug
- Waterproof cap
- Ventilation connector

- User manual

9. Application Range

The product is used with the image processor and light source provided by the manufacturer to provide images on the monitor for the observation, diagnosis and treatment of human lower digestive tract (including rectum, colon and ileocecum).

10. Compatible Devices

- Light source: VLS-50D, VLS-50T, VLS-55Q, VLS-55T, VLS-51T, VLS-51D
- Image processor: HD-550, HD-550Exp, HD-550Pro, HD-550S, HD-510, HD-500Plus
- Trolley: HDT-500

11. Safety Standards

- IEC 60601-1:2005+A1:2012
- IEC 60601-2-18:2009
- IEC 60601-1-2:2014

12. Environment Requirements

- Operating environment
 - Temperature: +5°C - +40°C
 - Relative humidity: 30% - 80%
 - Atmospheric pressure: 700 hPa - 1060 hPa
- Storage environment
 - Temperature: -5°C - +40°C
 - Relative humidity: 30% - 80%

- Atmospheric pressure: 700 hPa - 1060 hPa
- Transportation environment
 - Temperature: -20°C - +55°C
 - Relative humidity: 20% - 90%
 - Atmospheric pressure: 700 hPa - 1060 hPa
- Safety types
 - Degree of protection against electric shock: Type BF applied part
 - Degree of protection against harmful liquid: IPX7

13. Appendix

Appendix A Specifications

No.	Model	EC-550	EC-550T	EC-550L	EC-550L/T
	Parameter				
1	Direction of view	Front viewing			
2	Field of view	140° ±10%			
3	Resolution	11.1 lp/m (working distance: 10 mm)			
4	Depth of field	3 - 100 mm			
5	Outer diameter of the distal end	Φ 12 mm Allowance: +5%, not considering the lower limit	Φ 12 mm Allowance: +5%, not considering the lower limit	Φ 12.9 mm Allowance: +10%, not considering the lower limit	Φ 12.9 mm Allowance: +10%, not considering the lower limit
6	Outer diameter of the bending section	Φ 12.5 mm Allowance: +10% not considering the lower limit	Φ 12.5 mm Allowance: +10% not considering the lower limit	Φ 12.9 mm Allowance: +10% not considering the lower limit	Φ 12.9 mm Allowance: +10% not considering the lower limit
7	Outer diameter of the insertion section	≤ Φ12.5 mm	≤ Φ12.5 mm	≤ Φ12.9 mm	≤ Φ12.9 mm
8	Bending angle	Up/down 180°, left/right 160°, Allowance: -10%, not considering the upper limit			
9	Min. inner diameter of the instrument channel	≥ Φ 3.8 mm	≥ Φ 3.8 mm	≥ Φ 4.2 mm	≥ Φ 4.2 mm
10	Working length	1350 mm±10%	1700 mm±10%	1350 mm±10%	1700 mm±10%

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11	Total length	1700 mm±10%	2050 mm±10%	1700 mm±10%	2050 mm±10%
12	Minimum visible distance	3 mm			
13	Illuminance	≥ 18000 Lx			
14	Aspirated amount	≥ 400 mL/min			
15	Water/air feeding	<ul style="list-style-type: none"> • Amount of fed water: ≥ 45 mL/min • Amount of fed air: ≥ 800 mL/min 			
16	Auxiliary water feeding	Support			
16	Endoscope information storage	Support			

Appendix B Recommended Methods for High-level Disinfectant

Disinfectant	Concentration	Contact Period	Contact Type	Precautions
Glutaraldehyde (GA)	≥ 2.4% (alkaline)	≥ 10 min; ≥ 45 min (used by patients carrying mycobacterium tuberculosis or other mycobacterium bacteria)	1. Automated endoscope reprocessor 2. Manual: Fill all channels with disinfectant to immerse the endoscope.	1. This disinfectant has sensitization and irritation on the skin, eye, and respiratory tract. In addition, it can cause dermatitis, conjunctivitis, nasal cavity inflammation, and occupational asthma. It is suitable for use in the automatic disinfection machine. 2. This disinfectant is easy to condense on the endoscope and AER.

NOTE:

- The specifications of the product may change without any prior notification.
- Some products or features may not be available in some countries.
- Please contact the local distributor for more information

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