mindray

HS-50F

50L High Flow Insufflator

Ultimate Experience
Intelligent Control

Digitally signed by Prodan Sveatoslav
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HS-50F

Main features

High Speed Insufflation

The HS-50F offers an increased maximum flow rate of 50L per minute. In addition, the display mode provides clear visualization of the pressure, flow rate and volume in real time for monitoring the status of the HS-50F.

Gas Heating Functions

Using a heated insufflator tube (optional) can maintain the output gas at approximately 37°C, reducing telescope fogging and minimizing the need for the surgeon to frequently wipe the telescope.

100 times autoclavable, outer diameter-12mm, inner diameter-8mm

Multi-modes available

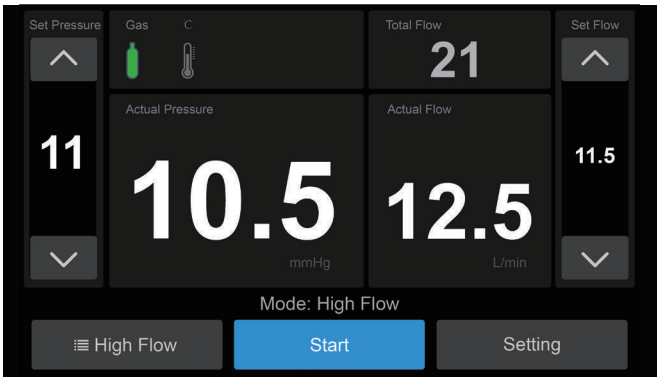
The equipment provides the following operating mode:

Operating mode	Description	Pressure(mmHg)	Flow(L/min)
High Flow	Designed for laparoscopies performed on normal weight adult patients.	1 - 30	1 - 45
Pediatric	Designed for laparoscopies performed on children.	1 - 15	0.1 - 20
Bariatric	Designed for laparoscopies performed on obese adult patients.	1 - 30	1 - 50
RetroPeritonenum	Designed for laparoscopies performed in retroperitoneum.	1 - 30	1 - 20
Custom	You can customize the operating mode as necessary.	1 - 30	0.1 - 50

Automatic Smoke Evacuation

If there is too much smoke in the abdominal cavity during the surgery, the foot switch can be treaded to exhaust smoke quickly to ensure a clear surgical field.

User-friendly design



HS-50F features 7-inch touch screen with a user-friendly interface, and it provides audible and visible alarm messages to promptly alert the surgeon of high pressure situations and etc., thereby ensuring the safety of the surgery.

With the Auto Leakage Compensation function, if there is a gas leakage, the machine automatically replenishes the gas to maintain stable abdominal pressure.

Specifications

Dimension	Length (front to back): 380 mm Width (left to right): 350 mm Height (top to bottom): 141 mm (excluding the rubber feet)
Weight	10 kg
Mechanical noise	≤ 50dBA
Gas source	Gas supply with gas cylinder / Central gas supply / Connection using reducing valve
Pressure range	0.4-16 Mpa
Gas type	CO_2
Gas flow	Max 50 L/min
Input voltage	AC 100 -240V~
Rated frequency	50/60 Hz
Maximum current	0.75A-0.35A
Fuse	T3.15AH250V

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P/N:ENG-HS-50F-210285X2P-20240723

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healthcare within reach

TV-300/TV-300T(220V)/TV-300T(110V)/

TV-500/TV-500T(220V)/TV-500T(110V)

Mobile Trolley

Operator's Manual

■ Release time: 2023-5

■ Revision: 1.0

2 Product Introduction

2.1 Intended Purpose

This product is used to carry endoscopic surgical devices, including monitor, endoscope camera system, light source, insufflator, hysteroscopy pump, video recorder, ultrasonic surgical & electrosurgical energy platform, light cable, footswitch, and cables. Except TV300, the mobile trolley can turn on or off mounted devices by pressing the power switch on the trolley.

2.2 Differences Among Models

Model	Applicable Monitor	110V Isolation Transformer	220V Isolation Transformer	Power Switch On the Trolley
TV-300	32-inch	×	×	×
TV-300T(200V)	32-inch	×	√	√
TV-300T(110V)	32-inch	√	×	√
TV-500	32-inch/55-inch	×	×	√
TV-500T(200V)	32-inch/55-inch	×	√	√
TV-500T(110V)	32-inch/55-inch	√	×	√
Note: The shelf materials of the TV -300 series are different from that of the TV-500 series.				

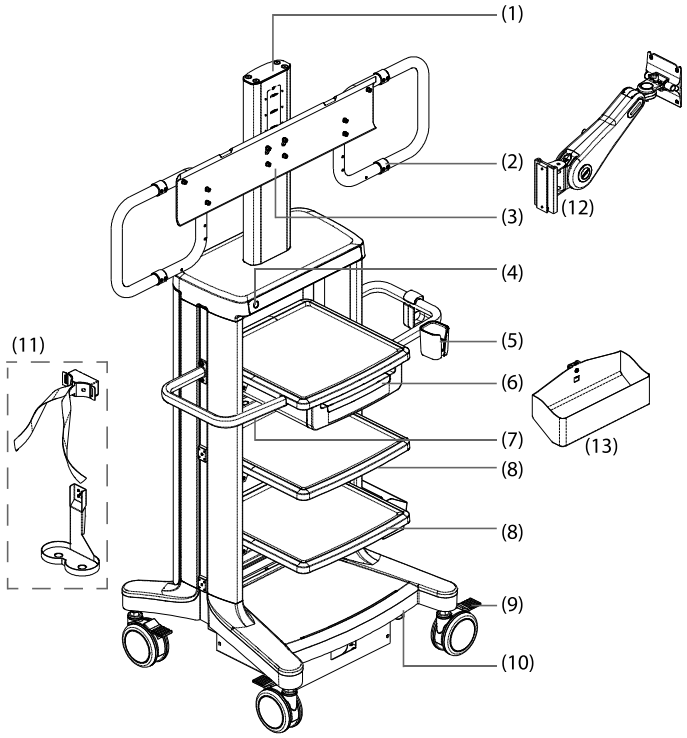
NOTE

- **√ indicates "configured" while × indicates "not configured".**

2.3 System Components

This product consists of shelves, open storage space, closed storage space, cable management box, handles, columns, castors, base plate, etc. Monitor arm, CO2 holder assembly, keyboard tray, and footswitch holder are also available for this product.

2.3.1 Front View of the Mobile Trolley



(1) Monitor column: supports a monitor stand. For details about the monitor stands of different sizes for different models, refer to ***3.5 Fixing Position of the Monitor Stand***.

(2) Monitor stand handle: hold to adjust the monitor position, available only for 55-inch monitor stands.

(3) Monitor stand: secures a monitor screen.

(4) Power switch: press to turn on/off all powered medical devices on the trolley.

- Orange: AC power is properly connected to the trolley with isolation transformer, but the power switch is off.
- Green: AC power is properly connected, and the power switch is on.

(5) Camera head holder: holds camera head.

(6) Drawer: stores accessories, including keyboard tray (optional).

(7) Drawer handle: hold to move the trolley.

(8) Shelves: used to place main units, such as insufflator and light source.

(9) Castor brake: apply the castor brake to lock or unlock the castors.

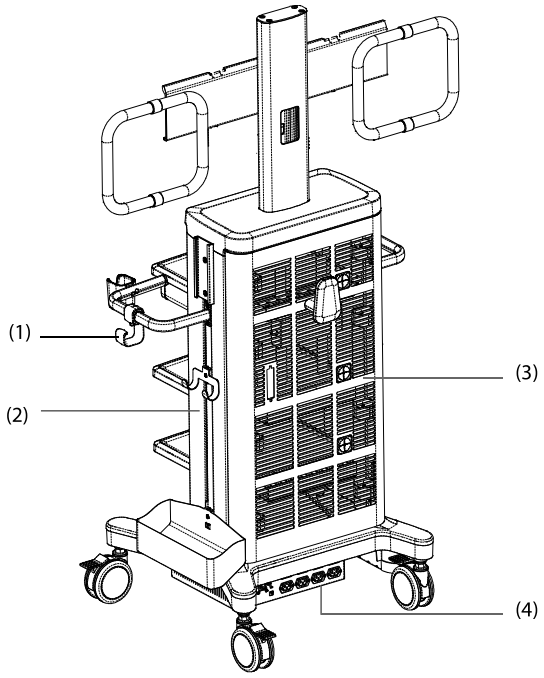
(10) Base plate: an isolation transformer (if configured) is installed under the base plate.

(11) CO2 holder assembly (optional): holds CO2 cylinders, and includes a cylinder strap rack and a cylinder holder.

(12) Monitor arm (optional): secures a side-screen monitor.

(13) Footswitch holder: stores footswitches.

2.3.2 Back View of the Mobile Trolley



(1) Hook: holds light cables and other cables.

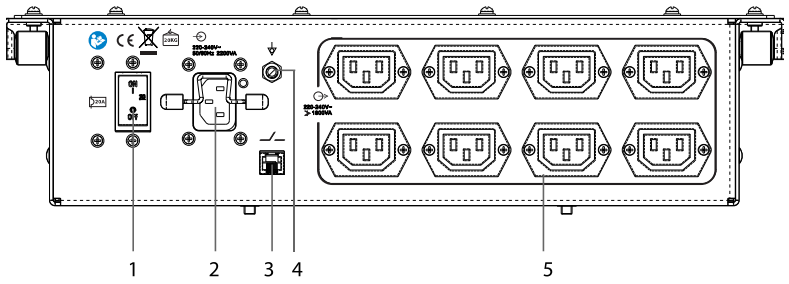
(2) Trolley column: accessories such as the monitor arm and footswitch holder are secured on the slide rail of the trolley column.

(3) Rear door: lock it when moving the trolley.

(4) Isolation transformer: if the trolley is equipped with an isolation transformer, you can connect the power connectors of the mounted devices to the output power sockets of the isolation transformer.

2.3.3 Back View of the Isolation Transformer

Taking TV-300T(220V)/ TV-500T(220V) as an example, the back view of the isolation transformer is as follows:



(1) Circuit breaker: used to protect the circuit. It is turned on in normal status.

(2) Input power socket: connects the AC Mains.

(3) RJ11 connector: used to supply power to the power switch of the trolley.

(4) Equipotential grounding terminal: when using the isolation transformer together with other devices on the trolley, connect their equipotential grounding terminals together to eliminate potential difference.

(5) Output power socket: connects the devices on the trolley.

Model	32-Inch Monitor Stand (Without Pan/Tilt Functions)	32-Inch Monitor Stand (With Pan/Tilt Functions*)	55-Inch Monitor Stand
TV-500T(200V)	×	√	√
TV-500T(110V)	×	√	√
*: The monitor stand provides up to 20° tilting movement and 75° panning movement.			

NOTE

- **√ indicates "configured" while × indicates "not configured".**

You can select the position of the monitor stand as needed. A 32-inch monitor stand can be adjusted to the following 3 heights:

- 1600 mm (center of the monitor)
- 1650 mm (center of the monitor)
- 1700 mm (center of the monitor)

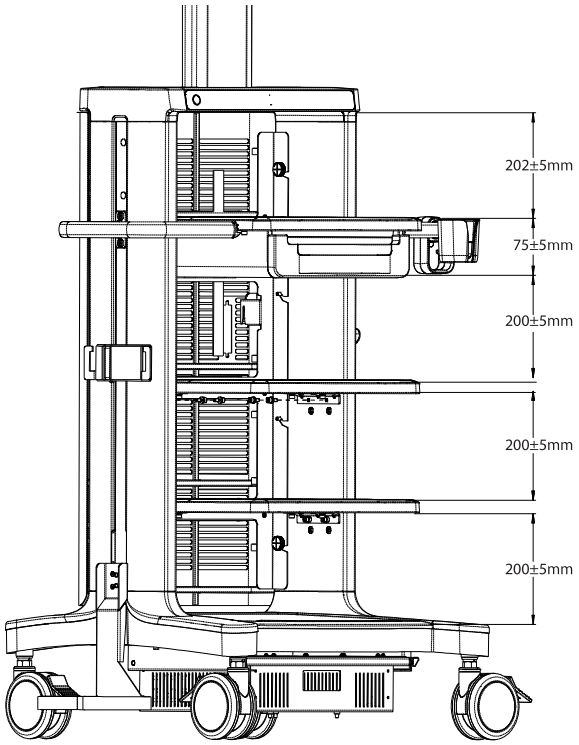
A 55-inch monitor stand can be adjusted to the following 2 heights:

- 1650 mm (center of the monitor)
- 1630 mm (center of the monitor)

3.6 Fixing Position of the Shelves

The mobile trolley has 4 layers of space. The distance between shelves (excluding the thickness of the shelves) is as follows:

- Layer 1: 202 ±5 mm
- Layer 2: 200 ±5 mm
- Layer 3: 200 ±5 mm
- Layer 4: 200 ±5 mm



There are screw holes for shelf adjustment on the main body of the trolley. You can select the position of the second or third shelf based on the dimension of the mounted device. After adjusting the shelf by one stop, the distance between shelves changes by 20 mm.

A.3 Isolation Transformer Specifications

TV-300T(110V)/ TV-500T(110V)	Input voltage	110-120 VAC (±10%)
	Frequency	50-60 Hz (±3 Hz)
	Input power	1100 VA
	Output power	1000 VA
TV-300T(220V)/ TV-500T(220V)	Input voltage	220-240 VAC (±10%)
	Frequency	50-60 Hz (±3 Hz)
	Input power	2000 VA
	Output power	1800 VA

A.4 Physical Specifications

Dimension	Mobile trolley	Depth: 665 ± 10 mm Width: 1210 ± 10 mm (55-inch monitor stand) Height: 1800 ± 10 mm (including the castors: 148 ± 5mm)
	Shelf	Width: 424.4 ± 2mm Depth: 424.2 ± 2mm Note: The dimension of the mounted devices shall not exceed that of the shelves.
	Drawer	Depth: 323 ± 5 mm Width: 295 ± 5 mm Height: 75 ± 5 mm
	Rear door	Depth: 55.5 ± 5 mm Width: 518 ± 5 mm Height: 930 ± 5 mm
Weight of the mobile trolley		No more than 100 kg (excluding the optional modules)
Load capacity	Monitor arm	Dimension: 27-inch monitor (maximum) Weight: less than 8 kg
	Shelf	No more than 20 kg
	Monitor stand	55-inch: no more than 50 kg 32-inch: no more than 15 kg
	CO2 holder assembly	No more than 18 kg
	Total load capacity	No more than 160 kg

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P/N:ENG-Rigid Endoscope-210285X4P-20230822

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Rigid Endoscope

Small Diameter, Big Vision

Small Diameter, Big Vision

The heatable front end provides effective anti-fogging, which helps deliver smooth surgery.

The Standard 300mm and Lengthened 450mm Type are adaptable for use in various surgeries.

A large depth of field of 3-200mm provides consistently clear views, eliminating the need for repeated refocusing.

The control body has been specially polished to retain grease more easily, allowing for smooth entry and exit of trocars.

A channel diameter of Φ5.45mm ensures greater luminous flux while smoothly passing through a variety of 5mm-size trocars.

The format size is consistent with that of the Φ10mm endoscope, which enables easy full-screen view.

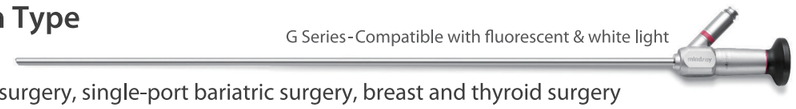
Rigid Endoscope

Standard 5mm Type

Recommended Surgery: Single-port gynecologic surgery, thoracic surgery

Product	Diameter	Working Length	Field of View	Code
0°	5.45mm	300mm	85°	G 00500A
30°	5.45mm	300mm	85°	G 00530A

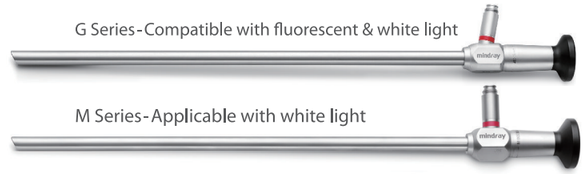
Lengthened 5mm Type



Recommended Surgery:
Single-port gynecologic surgery, single-port bariatric surgery, breast and thyroid surgery

Product	Diameter	Working Length	Field of View	Code
0°	5.45mm	450mm	85°	G 10500A
30°	5.45mm	450mm	85°	G 10530A

Standard 10mm Type



Recommended Surgery: General Surgery

Product	Diameter	Working Length	Field of View	Code
0°	10mm	321mm	80°	M 01000A / G 01000A
30°	10mm	321mm	80°	M 01030A / G 01030A

Rigid Endoscope Tray

Product Name	Placed Items	Dimensions (mm)	Code
Small Rigid Endoscope Tray	Standard 5 or 10mm Rigid Endoscope	496×90×44	X TR500944
Long Rigid Endoscope Tray	Lengthened 5mm or 3D Electronic Endoscope	643×158×75	X TR641675

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Reusable Laparoscopic Instruments

User Friendly & Future Proof

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P/N:ENG-Reusable Laparoscopic Instruments-210285X20P-20241122

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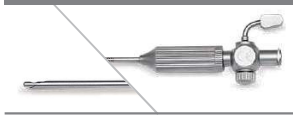
Trocars

Product	Description	Dimension	Code	
	Pyramidal Trocar	ϕ 5X95	221-51155	👍
		ϕ 10X95	221-01155	👍
		ϕ 12X95	221-81155	
		ϕ 5X150	221-53155	👍
		ϕ 10X150	221-03155	👍
		ϕ 12X150	221-83155	👍
	Auto Shield Trocar	ϕ 5X95	221-51255	
		ϕ 10X95	221-01255	
		ϕ 12X95	221-81255	
		ϕ 5X150	221-53255	
		ϕ 10X150	221-03255	
		ϕ 12X150	221-83255	
	Pyramidal Trocar with Screw	ϕ 5X95	221-51165	
		ϕ 10X95	221-01165	
		ϕ 12X95	221-81165	
	Auto Shield Trocar with Screw	ϕ 5X95	221-51265	
		ϕ 10X95	221-01265	
		ϕ 12X95	221-81265	

Trocars

- To avoid blood contamination when inserting the telescope and to reduce times of cleaning the tip of the telescope by controlling the sealing flap opening and closing.

Product	Description	Dimension	Code	
	Veress Needle	ϕ 2X120	221-21127	
		ϕ 2.7X150	221-27157	👍
	Reducer Sleeve	ϕ 10 - ϕ 5	221-01785	
		ϕ 12 - ϕ 5	221-81785	
	Sealing Cap	ϕ 5	221-50925	👍
		ϕ 10	221-00925	👍
		ϕ 12	221-80925	👍
	Reducer	ϕ 10 - ϕ 5	221-00725	👍
		ϕ 12 - ϕ 5	221-80725	👍
	Reducer	ϕ 10 - ϕ 5	221-00715	

LC0005S/LC0003S Light Cable Instructions for Use

Statement

SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD. (hereinafter called Mindray) owns the intellectual property rights to this product and this manual. Disclosure of the information in this manual in any manner whatsoever without the written permission of Mindray is strictly forbidden.

This manual provides the instructions necessary to operate the product in accordance with its function and intended use. Observance of this manual is a prerequisite for proper performance and correct operation, and ensures patient and operator safety.

Mindray is responsible for the effects on safety, reliability and performance of this product, only if:

(1) this product is used in accordance with the instructions for use.

(2) this product is not damaged by human factors. Human factors refer to unintentional falling, intentional damaging, etc.

In the event that it becomes necessary to return a unit to Mindray, please contact the Mindray Service Department and obtain a Mindray Customer Service Authorization Number. The Mindray Customer Service Authorization Number must appear on the outside of the shipping container. Return shipments will not be accepted if the Mindray Customer Service Authorization Number is not clearly visible. Please provide the model number, serial number, and a brief description of the reason for return. The customer is responsible for freight charges when this product is shipped to Mindray for service (including any relevant customs fees or other freight related charges).

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The issue date of this manual is 2021-5.

Notification of Adverse Events

As a health care provider, you may report the occurrence of certain events to SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD., and possibly to the competent authority of the Member state in which the user and/or patient is established.

These events, include device-related death and serious injury or illness. In addition, as part of our Quality Assurance Program, SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD. requests to be notified of device failures or malfunctions. This information is required to ensure that SHENZHEN MINDRAY BIO-MEDICAL ELECTRONICS CO., LTD. provides only the highest quality products.

Important Information

1. It is the customer's responsibility to maintain and manage the product after delivery.
2. The warranty does not cover the following items, even during the warranty period:
   (1) Damage or loss due to misuse or abuse.
   (2) Damage or loss caused by force majeure such as fires, earthquakes, floods, and lightning.
   (3) Damage or loss involving the product purchased from a channel other than Mindray or its authorized agency.
3. This product shall not be modified without permission.
4. In no event shall Mindray be liable for the damage caused by alteration, modification, or repair performed by personnel other than those designated by Mindray.
5. At the end of the service life of the product, please contact Mindray or its agency. Mindary shall not be liable for the result if you do not consult Mindray or its agency about disposal of the product.
6. This manual contains warnings regarding foreseeable potential dangers, but you shall always be alert to dangers other than those indicated as well.
7. Mindray shall not be liable for damage or loss that results from negligence or from ignoring the precautions and operating instructions described in this manual.
8. This manual shall always be kept properly so that it can be obtained conveniently as needed.

I. Intended Use

The light cable is used to transmit light during the endoscopic diagnosis and treatment. In the medical field, it is used with the cold light source of endoscopes.

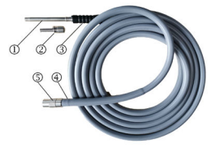
NOTE

- According to the conclusion of clinical evaluation and residual risk evaluation, for the intended patients, there is no known side effects that can occur during or after the use of the medical device. And there is no need for the operator to make extra preparations. Thus, no residual risk associated with using the medical device should be disclosed due to the risk management report.

II. Specifications

Model	LC0005S	LC0003S
Length of light cable	3000 mm ± 10%	
Diameter of exit optical fiber	Φ4.8 mm ± 0.1mm	Φ3.5 mm ± 0.1mm
Minimum bending radius	50mm	

III. Introduction



1. Connector (to light source)
2. Light source adapter
3. Connector sleeve
4. Anti-bending device
5. Connector (to endoscope)

IV. Safety Precautions

⚠ WARNING

Risk of patient injury

- Ensure that all endoscopic equipment is properly connected and functioning before inserting the endoscope into a patient.
- Use this product only along with the endoscopic device specified by Mindray.

⚠ CAUTION

Risk of patient injury

Light source produces a lot of heat, causing a high temperature at the connector and front end of the endoscope. It may result in the following risk:

- ➢ Scalding the patient (for example, when the small cavity of the lumen is exposed to excessive lighting, or the front end of the endoscope is close to the tissue).
- ➢ Burn of the patient or user's skin.
- ➢ Combustion or burning-out of surgical instruments (such as surgical drapes, and plastic materials).

- It is forbidden to place the endoscopic equipment on the patient's skin, flammable materials, or temperature-sensitive materials.
- Adjust the output power of the light source to make the minimum brightness required to illuminate the target area. Avoid excessive exposure to strong light.

⚠ CAUTION

Risk of user injury

When the light source is on, do not look straight at the endoscopic connector of the light cable because that may cause eye injury.

V. Removal After Use

⚠ CAUTION

Risk of user injury

Touching the light cable connector when its temperature is high may cause scalding.

- Cool the light cable after use.

INSTRUCTION

Risk of product damage

Sudden change in temperature may cause damage to the product.

- Cool the light cable after use.
- It is forbidden to use liquid to cool the light cable.

INSTRUCTION

Risk of product damage

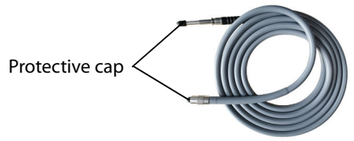
Pulling the cable may damage the product.

- To unplug the light cable from the light source, grasp the plastic shell of the connector.

VI. Cleaning, Disinfection, and Sterilization

Clean, disinfect and sterilize this product regularly based on the local or hospital's regulations related to cleaning, disinfection, and sterilization.

A protective cap is provided together with the product before delivery, as shown in the following figure. Remove the protector before cleaning, disinfection, and sterilization.



1. Cleaning and Disinfection

(1) Disconnect the light cable from the devices, including light source and endoscope.

(2) Use a soft cloth dipped in an appropriate amount of water to remove leftover on the surface of the light cable.

(3) Use a clean soft cloth dipped in an appropriate amount of ethanol (75%) to wipe the surface of the light cable.

(4) Use a dry soft cloth to wipe off detergent on the surface of the light cable, and place the light cable in a ventilated and cool environment to air dry it.

2. Sterilization

The recommended sterilization method is pressure steam sterilization. For loading method of pressure steam sterilization, please refer to the corresponding sterilizer operation instructions.

The procedure is as follows:

(1) Remove the light source adapter from the light cable.

(2) Put the product in a sterilization box, and wrap two layers of sterile sheets to prevent contamination during storage and transportation after sterilization.

(3) Perform pressure steam sterilization as instructed in the manual for using the sterilizer.

The pressure steam sterilization parameters are as follows:

Sterilization process	Temperature	Minimum required time
Pulsation vacuum	132ºC - 134ºC	4min

⚠ WARNING

Risk of patient/medical staff injury

Improper or inadequate cleaning, disinfection, and sterilization may result in infection of the patient or medical staff or product damage.

- Clean, disinfect, and sterilize the product for the first use and before each use.
- Clean, disinfect and sterilize the product properly according to this manual.

VII. Warranty

If a user or unauthorized person repairs or modifies the product privately, the warranty of the Mindray becomes invalid. The product damage caused by improper use is not covered by the warranty.

VIII. Operating Environment

1. Temperature: 0ºC - +35ºC
2. Humidity: 30% - 85% RH, non-condensing
3. Atmospheric pressure: 70 kPa - 106 kPa

IX. Storage and Transportation Environment

1. Temperature: -20ºC - +60ºC
2. Humidity: 30% - 95% RH, non-condensing
3. Atmospheric pressure: 70 kPa - 106 kPa

Put clean and disinfected products in packages capable of isolating the products from bacteria, and store them in a dark, cool, and well-ventilated room.

X. Equipment Symbols

Symbol	Description
MD	Medical Device
	Manufacturer
	Date of manufacture
	TYPE CF APPLIED PART
LOT	Batch code
	Temperature limit
	Humidity limitation
	Atmospheric pressure limitation
CE	The product bears CE mark indicating its conformity with the provisions of the Council Directive 93/42/EEC concerning medical devices and fulfils the essential requirements of Annex I of this directive. Note: The product complies with the Council Directive 2011/65/EU.
	Refer to instruction manual/booklet
EC REP	Authorized representative in the European community
	Comply with the requirements of Directive 2012/19/EU Waste Electrical & Electronic Equipment

Company Contact

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LC0005S/LC0003S

导光束
使用说明书

Light Cable
Instructions for Use

046-020513-00(3.0)

声明

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(1) 按照《使用说明书》使用本产品。

(2) 非人为因素造成的产品损坏。人为因素是指不小心摔落、蓄意破坏等。

确实需要向迈瑞公司退货时，请联系迈瑞公司售后服务部，告知产品型号和系列号，并简述原因。若产品的系列号模糊不可辨认，退货请求将不予接受。

说明书编制日期：2021 年 5 月

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重要信息

1. 购买本产品后，客户对产品的维护和管理负全部责任。
2. 即使在保修期内，对下列情况迈瑞将不负责保修：
   (1) 由于操作不当或故意损坏造成的损坏。
   (2) 由于不可抗力如火灾、地震、洪水、闪电等造成的损坏。
   (3) 不是从迈瑞公司或指定的分销商手中购买的迈瑞产品，如果发生损坏，将不予保修。
3. 禁止擅自对本产品做任何改动。
4. 非迈瑞公司指定人员对设备进行的重新改装、改动或维修造成的损坏，迈瑞将不负任何责任。
5. 产品报废处理前请联系迈瑞公司或其代理机构。未向迈瑞公司或其代理机构咨询而对产品进行处理，迈瑞公司不对其所产生的后果负责。
6. 本说明书对可以预见的危险做出了警告。但请在任何时间保持警惕以防出现其他危险。
7. 由于疏忽没有按照说明书中的指引而产生的问题，迈瑞公司将不对此负责。
8. 请妥善保管本说明书，以确保管理和操作人员可以随时查阅。

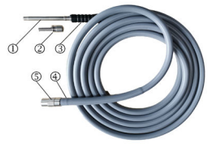
一、预期用途

导光束用于在内窥镜诊断和治疗中传输光线。医学领域中，它与医用内窥镜冷光源配套使用。

二、主要技术参数

型号	LC0005S	LC0003S
导光束长度	3000 mm ± 10%	
出射端光纤直径	Φ4.8 mm，允差 ±0.1mm	Φ3.5 mm，允差 ±0.1mm
最小可弯曲半径	50mm	

三、导光束结构



1. 导光束接头（光源侧）
2. 导光束光源适配套
3. 接头套管
4. 防折弯装置
5. 导光束接头（内窥镜侧）

四、安全注意事项

⚠ 警告

患者受伤的风险

- 将内窥镜插入患者体内之前，应始终正确连接内窥镜设备。
- 本产品仅可与迈瑞指定的内窥镜设备配合使用。

⚠ 小心

患者受伤的风险

光源会产生大量热量，导致内窥镜接头与先端部温度升高。可能会存在以下风险：

- ➢ 患者组织烫伤（例如，管腔较小的腔隙暴露在过强的照明下，或内镜先端部与组织距离过近）。
- ➢ 患者或用户皮肤烧伤。
- ➢ 手术器械燃烧或烧毁（例如，手术铺巾，塑料材料等）。

- 禁止将内窥镜设备放置在患者皮肤、可燃性材料或对温度敏感的材料上。
- 调节光源的输出功率，达到照亮目标区域所需的最低亮度。避免强光的过度暴露。

⚠ 小心

用户受伤的风险

在光源打开的情况下，直视导光束的内镜接头可能导致眼睛损伤。因此，光源打开的情况下，禁止直视导光束的内镜接口。

五、使用后拆卸

⚠ 小心

用户受伤的风险

导光束上的接头温度过高时，触摸接头可能会导致烫伤。

- 使用后应使导光束冷却。

说明

产品损坏的风险

高温导光束的温度急剧变化会损伤产品。

- 使用后应使导光束冷却。
- 禁止使用液体冷却导光束。

说明

产品损坏的风险

拉拽缆线会损坏产品。

- 从光源上拔下导光束时，应拉动接头的塑料外壳。

六、清洗、消毒和灭菌

请根据当地或医院关于医疗设备清洁消毒的规定定期对本产品进行清洁、消毒和灭菌。

本产品出厂时配送光纤保护套，如下图所示，清洁消毒及灭菌前请先取下保护套。

光纤保护套

1. 清洁和消毒

(1) 断开导光束与光源、内窥镜等设备的连接。
(2) 使用一块软布蘸取适量的水除去导光束表面的残留物。
(3) 使用干净的软布蘸取适量乙醇（75%）擦拭导光束表面。
(4) 用干的软布擦去导光束表面的清洁剂，并将导光束置于通风阴凉的环境下风干。

2. 灭菌

推荐使用经验证过的灭菌方法：压力蒸汽灭菌。

压力蒸汽灭菌的装载方法，请参照相应灭菌器的操作说明。

步骤如下：

(1) 卸下导光束光源适配套。
(2) 将产品放置在灭菌盒中，并包裹两层无菌单，以防止灭菌后在存放、运输过程中染菌。
(3) 参照灭菌器的使用说明书执行压力蒸汽灭菌。

压力蒸汽灭菌器灭菌参数如下：

设备类别	温度	所需最短时间
预真空式	132ºC ~ 134ºC	4min

⚠ 警告

患者 / 医务人员受伤的风险

清洗、消毒和灭菌不当或不充分可能导致患者或医务人员感染和产品损坏。

- 首次及此后每次使用产品之前，应该进行清洗、消毒和灭菌。
- 按照本说明书，正确进行产品清洗、消毒和灭菌。

七、保修

如果用户或未经授权的人员私自维修或改造产品，则迈瑞公司的保修将失效。因使用不当导致的产品损坏不在保修范围之内。

八、工作环境

1. 温度：0ºC ~ +35ºC
2. 湿度：30% ~ 85% RH（无凝露）
3. 大气压：70 kPa ~ 106 kPa

九、存储和运输环境

1. 温度：-20ºC ~ +60ºC
2. 湿度：30% ~ 95% RH（无凝露）
3. 大气压：70 kPa ~ 106 kPa

将清洗和消毒处理后的产品置于能隔离细菌的包装中，存放在避光、阴冷、通风良好的室内。

十、符号

符号	说明
	注意！查阅随机文件
	生产日期
	CF 型应用部分
	批次代码
	温度极限
	湿度极限
	大气压力极限
	电子产品环保使用年限（20 年）

售后服务单位

单位名称：深圳迈瑞生物医疗电子股份有限公司
单位地址：深圳市南山区高新技术产业园区科技南十二路迈瑞大厦
邮政编码：518057
网址：www.mindray.com
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电话：+86 755 81888998
传真：+86 755 26582680

Fotografie furtun CO2 marca “GENTEC”


Low-Pressure Hose Assemblies
for use with Medical Gases
REF : 34l-CO2(GS/7/16-8)
Part No : 216466030(082-002806-00)
CE
0123
QTY : 1PCS
LOT : 61M-25020032
: GENTEC(SHANGHAI) CORPORATION
No.499 Wenji Road,Songjiang District,Shanghai,P.R.C
URL : www.gentec.com
EC REP : MedNet EC-REP GmbH
Borkstrasse 10 • 48163 Muenster • Germany
Tel:+49 251 32266-0
Fax:+49 251 32266-22
Email: birthe.harms@medneteurope.com

1. Warning

1.1 Do not smoke in the area where oxygen is in use.

1.2 Make sure that the device and its gas source are not contaminated with oil.

1.3 The connectors of the hose assemblies adopt the standard gas outlet connectors, which are gas-specific and prevent interchangeability between different gases or the same gases with different pressure.

1.4 Do not over bend the hose while in use.

1.5 Do not put heavy objects on the hose.

2. Intended Use

2.1 This product is suitable for use in the medical gas pipeline systems to transport medical gas in a safe, reliable and effective manner. The connectors of the hose assemblies adopt the standard gas outlet connectors, which are gas-specific and prevent interchangeability between different gases or the same gases with different pressure.

3. Product Parameters

3.1 Hose assemblies are CE marked. Hose is made of medical grade PVC material that is toxicity and biocompatibility tested.

3.2 Connections are made of HPb59-1 brass or 304 stainless steel, with joints using a fixed casing. Maximum working pressure 200 psi (1.4 MPa) @ 70℉ (21℃).

3X	X	-XXX	-XX	-XX	-X
Diameter Code:	Color Code:	Gas Code	Connector Code 1	Connector Code 2	Hose Length (m)
4: 1/4" 5: 5/16"	I: ISO U: USA G: GB				

4. Use Instructions

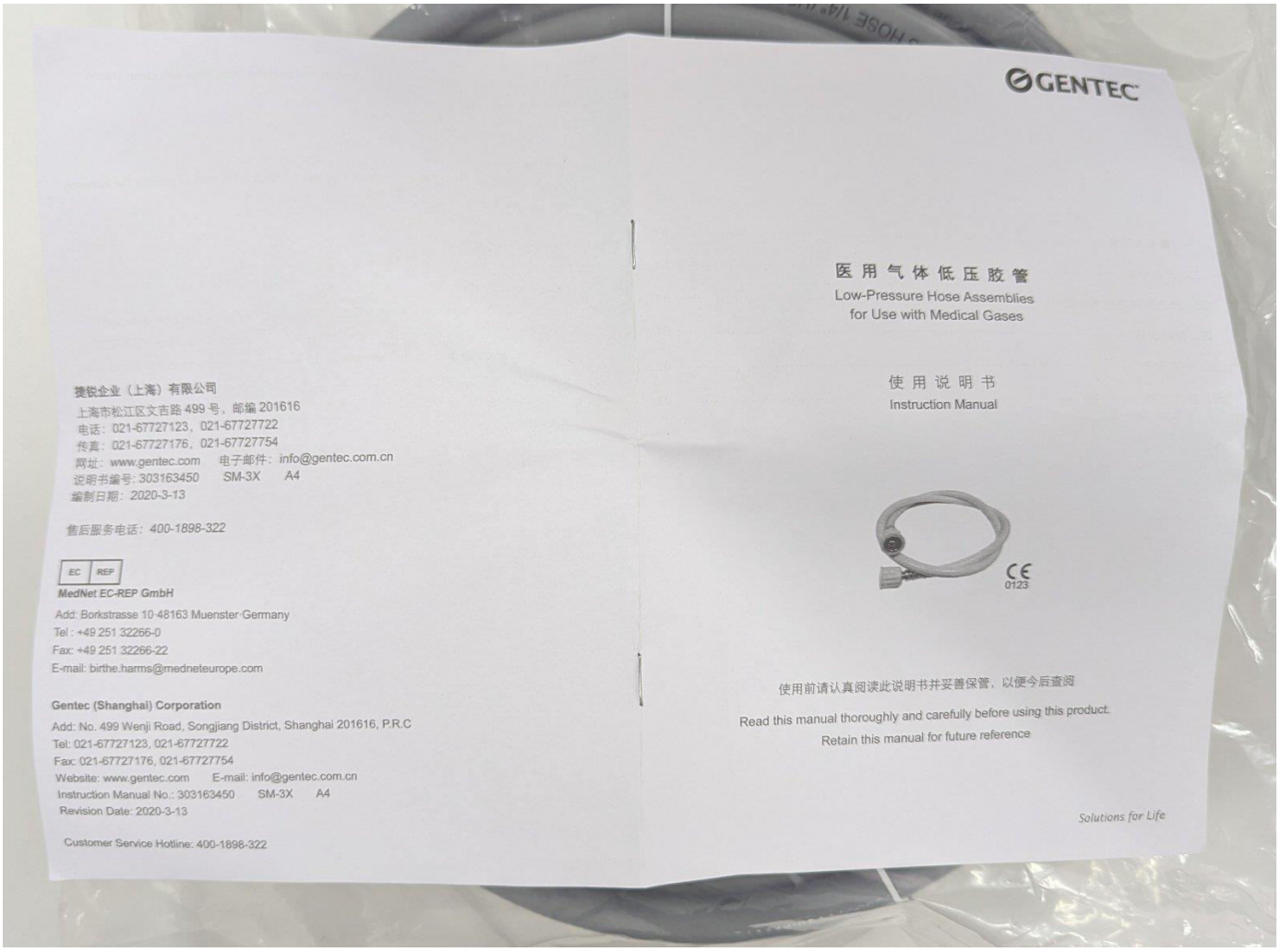
4.1 Check the exterior appearance of the hose and the cleanliness of the connectors prior to each use. Please stop use if any abnormity is detected.

4.2 Check the exterior appearance and expiration date of the hose before use. Please do not use if the hose is damaged or expired.

4.3 Make sure the gas meet the requirements.

4.4 Make sure the operating pressure meet pressure requirements.

4.5 Service Life: 3 Years.


GENTEC
医用气体低压胶管
Low-Pressure Hose Assemblies
for Use with Medical Gases
使用说明书
Instruction Manual
CE
0123
使用前请认真阅读此说明书并妥善保管，以便今后查阅
Read this manual thoroughly and carefully before using this product.
Retain this manual for future reference
Solutions for Life
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电话：021-67727123，021-67727722
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Instruction Manual No.: 303163450 SM-3X A4
Revision Date: 2020-3-13
Customer Service Hotline: 400-1898-322

Foto GENTEC

Reductor CO2

[Ar/CO2 pressure regulator TR-07 200 bar/24 l/min]

Ar/CO2 pressure regulator TR-07 200 bar/24 l/min

~~1 100 MDL/pc~~

990 MDL/pc

As low as 52.97MDL/mo with iute Read more

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Description:

- Forged special brass cylindrical body & Forged special aluminum body bonnet
- Dioxide colors with professional laser marking
- Professional metal protective cap, easy to read dual scale gauges (BAR) with virtually unbreakable crew-on lean lens
- Outlet with cut-off valve. You can shut it when you leave for a while, and do not need adjust the pressure again.
- Gauges meet EN ISO 5171 and regulator conformity to the standard EN ISO 5172.
- 100% leak testing, pressure test, function test and visual inspection.