Fujifilm Bronchoscopy System

State-of-the-art Electronic Video Bronchoscopy and Endoscopic Ultrasonography in a unique system
High-quality images realized with the Super CCD.
The various endoscope lineup for a wide range of applications

The 530 series Fujifilm electronic bronchoscopes fully meet the needs expected in the endoscopic bronchial care. Incorporated with the leading endoscopic technologies, this series offers high-quality images further enhancing diagnostic capability as well as high operability, insertability, and durability. The lineup is suited to versatile applications.

High-quality images with a wide field of view of 140°
The EB-530H has an improved field of view of 140°, which is 20° wider than the conventional view. The wider field of view enables a wider observation field to be displayed in high-quality without using the digital zoom-out, supporting more effective and detailed diagnoses.

Equipped with a Super CCD image sensor
The 530 series endoscopes are equipped with a specially designed Super CCD image sensor for ultra-slim endoscopes. Using RGB filtering, the image sensor also provides vivid colors in the red spectrum which are important in endoscopic diagnoses.
Lineup for various applications
The 530 series has five types of bronchoscopes, which include both standard and treatment types. You can choose an endoscope best suited to your purpose.

The light-weight grip realizing high maneuverability
The light-weight grip eases a physician’s strain during the endoscope operation. To enhance maneuverability, the design and buttons are laid out to fit naturally into physician’s hands.

Optimized tip layout
The dual light guides equipped in the 530 series endoscopes eliminate considerable portions of shadow areas and provide bright and clear endoscopic images. The forceps channel in this series is widened as much as possible, enabling the acceptance of various forceps and improving the suction power.

Smoother insertion
The downsized hard and bending portions of the distal end have improved the flexibility of the endoscope, allowing smoother insertion into the upper lobe bronchi.

Single-use suction button
The single-use suction button enables physicians to conduct clean and less interrupted suction at all times. The internal structure of endoscopes has also improved, further enhancing suction performance.

Light-weight connector
The connectors incorporated in the 530 series endoscopes are slim, lightweight, and easy to handle. Procedures are now considerably less troublesome when the endoscope has to be removed/attached for cleaning and disinfection.
Leading endoscopic technologies are incorporated into the 530 bronchoscope series. All endoscopes in the series are equipped with the Super CCD chip, enabling high-quality images to be provided of all bronchial areas. Each endoscope is equipped with the features suited to each purpose, such as the dual light guides equipped as standard, a large forceps channel, and high frequency compatibility.

**Electronic Video Bronchoscope – Slim type**

**EB-530P**

This slim type scope has an impressive 3.8 mm distal end diameter, combined with a 1.2 mm forceps channel, allows for improved insertion capabilities into the peripheral bronchi.

<table>
<thead>
<tr>
<th>Field of view</th>
<th>120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>3-100 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>3.8 mm</td>
</tr>
<tr>
<td>Bending capability</td>
<td>UP 180° / DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>890 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>1.2 mm</td>
</tr>
</tbody>
</table>

**Electronic Video Bronchoscope – Standard type**

**EB-530S**

This standard type endoscope is suitable for ordinal biopsies as well as treatment with a high-frequency knife and APC. This scope offers excellent capabilities in observation, insertion and treatment.

<table>
<thead>
<tr>
<th>Field of view</th>
<th>120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>3-100 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>4.9 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>4.9 mm</td>
</tr>
<tr>
<td>Bending capability</td>
<td>UP 180° / DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>870 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.0 mm</td>
</tr>
</tbody>
</table>
Electronic Video Bronchoscope – Standard type
▶ EB-530H
Displaying an ultra high-quality wide angle image of 140°, this standard type endoscope has further enhanced the observation performance.

<table>
<thead>
<tr>
<th>Field of view</th>
<th>140°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>3-100 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>5.4 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>4.9 mm</td>
</tr>
<tr>
<td>Bending capability</td>
<td>UP 180°/DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>870 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.0 mm</td>
</tr>
</tbody>
</table>

Electronic Video Bronchoscope – Treatment type
▶ EB-530T
This endoscope achieves high treatment capability. The 2.8 mm forceps channel accommodates various treatment accessories, and an insulated resin cap is equipped on the tip.

<table>
<thead>
<tr>
<th>Field of view</th>
<th>120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>3-100 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>5.8 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>5.9 mm</td>
</tr>
<tr>
<td>Bending capability</td>
<td>UP 180°/DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>870 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.8 mm</td>
</tr>
</tbody>
</table>

Electronic Video Bronchoscope – Treatment type
▶ EB-530XT
With the 3.2 mm forceps channel, this endoscope has improved its suction power, leading to further enhancement of the observation performance.

<table>
<thead>
<tr>
<th>Field of view</th>
<th>120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>3-100 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>6.2 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>6.3 mm</td>
</tr>
<tr>
<td>Bending capability</td>
<td>UP 180°/DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>870 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>3.2 mm</td>
</tr>
</tbody>
</table>
EPX-4450HD with FICE Dual Mode

Full digital processor
Leading diagnostic performance to higher dimension
Clear and sharper image quality, advanced image processing features and interface allow for user-friendly operations and efficient workflows.

Achieving always optimal illuminated images with automatic control of the photometric mode
The automatic photometric mode selection optimally adjusts the lighting in accordance with the positioning of the endoscope, providing you with a well-balanced picture from close-up to distant focusing.
Available with the 500 series scopes

Anti-blur function: extracting the best still image from multiple images
The anti-blur function offers sharpest and clearest images for review and documentation in any occasion.

A sequence of images always kept in the background
Freezing the image during the examination
Automatic selection and display of the sharpest image

This diagram shows how the function works
**FICE technology in the EPX-4450HD**

FICE – “Flexible spectral Imaging Colour Enhancement” – in the new EPX-4450HD yields diagnostic results without any need for tissue staining. The procedure digitally limits the wavelengths of the light and displays it in up to ten different colour combinations. The scope switch allows physicians to switch between the conventional image and the FICE image in a split second, ensuring an uninterrupted examination with the eyes always concentrated on the monitor.

**Dual Mode**

Simultaneously display a FICE image and white light image on the same monitor

By having a dual view of a FICE image and white light image on the same monitor, you can collect more information for examination and diagnosis.

**EPX-4450HD integrates into the hospital network environment with DICOM interfaces**

* This system does not guarantee the connections of any network devices. * The connection may be limited in some network environments.
SU-8000, an ultrasonic processor with high-quality image

Equipped with ZONE Sonography™ technology and Sound Speed Correction technology, the SU-8000 produces high-quality images. This compact, one-cart system facilitates endoscopic ultrasonography.

ZONE Sonography™ technology ensures high-quality images
ZONE Sonography™ technology defines conventional wisdom in ultrasonography. The technology delivers wide ultrasound beams and quickly acquires large amounts of echo data in sizeable zones. Split-second data acquisition allows highly advanced image processing.

Sound Speed Correction technology improves image resolution
Advanced image processing technology estimates the optimal speed of ultrasound travelling through the body (sound speed) and constructs images.

Display quality images in different modes
Technologies developed in the field of ultrasonographic diagnosis improve the quality of ultrasound images. Images created from advanced image processing enable the use of appropriate modes for your setting.

C mode
The color Doppler function obtains hemodynamic information in disease areas and helps you locate the observation site and vascular structures.
SU-8000 Scanning modes: C mode, Power Doppler, Pulse wave, B mode, M mode

Frequency switching
A wide range of frequencies (5, 7.5, 10 and 12 MHz) help to delineate clear images of the regions of the lung and adjacent organs.

Compact Flash (CF) card slot
Images during examinations are stored directly on a CF card. Compact Flash is a registered trademark of SanDisk Corporation.

Sonart, an endoscopic ultrasonography system, is now available
Sonart ensures high-quality image and high performance in a single compact cart. ZONE Sonography™ technology and Sound Speed Correction technology deliver delineation of clear and high-quality images.
Equipment with a Super CCD image sensor

Equipped with the Super CCD image sensor at the tip of the endoscope, this ultrasonic bronchoscope offers high-resolution endoscopic images.

Multilateral approaches to improving maneuverability

Full support for observation, diagnosis and treatment of lesions and tissue collection in the bronchial region. Multilateral efforts improve maneuverability for safer diagnoses.

Paracentesis while constantly monitoring the position of the needle with 10° forward oblique view

The use of the 10° forward oblique view and optimal positioning of the ultrasonic transducer improve maneuverability and safety during paracentesis. The opening of the forceps channel is constantly displayed in an endoscopic image to help locate the puncture needle.

Two lights to support paracentesis

Two lights on opposite sides illuminate the front and eliminate shadows during paracentesis. An appropriate needle angle facilitates smooth paracentesis at the target site.

Ultrasonic bronchoscope for ultrasonographic diagnosis

The improved maneuverability and insertion capability reduce patient discomfort and improve operator efficiency. These features, together with high-quality image, support safe ultrasonographic diagnosis.

Distal end outer diameter of 6.7 mm

The ultra-slim endoscope with a distal end outer diameter of 6.7 mm reduces patient discomfort and improves maneuverability and insertion capability.

Endoscopic functions

<table>
<thead>
<tr>
<th>Model</th>
<th>EB-530US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Viewing direction</td>
<td>10° (Forward Oblique)</td>
</tr>
<tr>
<td>Observation range</td>
<td>3 to 100 mm</td>
</tr>
<tr>
<td>Field of view</td>
<td>120°</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>6.7 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>6.3 mm</td>
</tr>
<tr>
<td>Bending capability (UP/DOWN)</td>
<td>130°/90°</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.0 mm</td>
</tr>
<tr>
<td>Working length</td>
<td>610 mm</td>
</tr>
<tr>
<td>Overall length</td>
<td>880 mm</td>
</tr>
</tbody>
</table>

Ultrasonic functions

<table>
<thead>
<tr>
<th>Scanning mode</th>
<th>Color Doppler, Power Doppler, Pulse wave, B mode, M mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scanning method</td>
<td>Electronic scan (convex)</td>
</tr>
<tr>
<td>Scanning angle</td>
<td>65°</td>
</tr>
<tr>
<td>Frequency</td>
<td>5 MHz / 7.5 MHz / 10 MHz / 12 MHz</td>
</tr>
</tbody>
</table>
Mobile Fiberoptic Bronchoscope

For quick and timely examinations in versatile clinical settings owing to no light guide cable at all. Practically no need to exchange the light source over many years owing to the LED light source.

Fiberoptic Bronchoscope – Mobile

**FB-120MP**

<table>
<thead>
<tr>
<th>Field of view</th>
<th>120°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>1-50 mm</td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>4.8 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>4.9 mm</td>
</tr>
<tr>
<td>Bending capability: UP</td>
<td>180° / DOWN 130°</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>920 mm</td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.2 mm</td>
</tr>
<tr>
<td>HF Compatibility</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Battery Box

Smaller battery box LA-1A.
CR2 X 1 lithium battery (up to 60 minutes continuous use).
Durable battery switch owing to its rotational mechanism.

Fiberoptic Bronchoscope

As the worldwide incidence of respiratory disease increases, higher-quality bronchoscopes to meet physician needs are demanded. Introducing the Fujifilm fiberoptic bronchoscopes, designed to meet not only the requirement of physicians, but also designed for improved patient comfort. Fujifilm fiberoptic bronchoscopes offer excellent optical characteristics, enhanced maneuverability and improved ergonomics. All this is necessary to improve examination efficiency. In order to further address clinical needs, the Fujifilm fiberoptic bronchoscopes are fully insulated to be compatible with high frequency therapeutic treatments. So, whether you want to use it for intubation purposes or the examination is of diagnostic or therapeutic nature, Fujifilm’s fiberoptic bronchoscopes provide safe and efficient means for patient care.

Fiberoptic Bronchoscope – Standard, therapeutic, pediatric

**FB-120S/T/P**

<table>
<thead>
<tr>
<th>Viewing direction</th>
<th>FB-120S</th>
<th>FB-120T</th>
<th>FB-120P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observation range</td>
<td>1 ~ 50 mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field of view</td>
<td>120°</td>
<td>100°</td>
<td></td>
</tr>
<tr>
<td>Distal end diameter</td>
<td>4.8 mm</td>
<td>5.9 mm</td>
<td>2.7 mm</td>
</tr>
<tr>
<td>Flexible portion diameter</td>
<td>4.9 mm</td>
<td>5.9 mm</td>
<td>2.8 mm</td>
</tr>
<tr>
<td>Bending capability: UP</td>
<td>180°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bending capability: DOWN</td>
<td>130°</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forceps channel diameter</td>
<td>2.2 mm</td>
<td>2.8 mm</td>
<td>1.2 mm</td>
</tr>
<tr>
<td>Working length</td>
<td>600 mm</td>
<td></td>
<td>920 mm</td>
</tr>
<tr>
<td>Total length</td>
<td>900 mm</td>
<td>920 mm</td>
<td></td>
</tr>
</tbody>
</table>
**Video Processor**

### EPX-4450HD

**Digital output**
- HD-SDI: HDTV 1080i (2ch)
- DVI (Digital Visual Interface): 1280 x 1024 p
- Ethernet: 100/10 Base

**Analog output**
- RGB: 1280 x 1024 p
- SDTV (120 V / NTSC, 230 V / PAL): RGB Y/C, Composite

**Color adjustment**
- Brightness, Red, Green, Blue, R-Hue, Chroma; 9 steps

**Detail**
- Hi, Lo; 9 steps

**Contrast (gamma)**
- 3 steps

**Hyper-Sharpness**
- Hi, Mid, Lo, Off

**Color emphasis**
- Hi, Mid, Lo, Off

**FICE**
- Flexible spectral imaging
- Color Enhancement 10 presets

**Iris**
- Average / Peak / Auto

**Image storage**
- CF Card

**Power rating**
- 120 V 60 Hz 0.8 A
- 230 V 50 Hz 0.5 A

**Dimensions (W x H x D)**
- 390 x 105 x 450 mm

**Weight**
- 9.5 kg

**D/L**
- M/L, Store

### EPX-2500

**Digital output**
- DVI (Digital Visual Interface): 1024 x 768 p

**Analog output**
- RGB (2); SDTV (NTSC / PAL)
- Y/C (2); SDTV (NTSC / PAL)
- Composite: SDTV (NTSC / PAL)

**Color adjustment**
- Black, Red, Green, Blue, R-Hue, Chroma; 9 settings

**Detail**
- Hi, Lo; 9 settings

**Contrast (gamma)**
- 9 settings

**BLD**
- Hi, Mid, Lo, Off

**Picture in picture**
- On, Off; Size: 1/4, 1/3

**Auto gain control**
- Off, +3 db, +6 db

**Iris**
- Average / Peak

**Zoom**
- Electric zoom: x1.0 – x2.0; 0.05 steps

**Lamp rated value**
- Main lamp: 11.7 V 150 W Xenon lamp
- Emergency lamp: 12 V 75 W Halogen lamp

**Brightness control**
- 9 settings

**Lamp cooling method**
- Forced air cooling

**Air supply pump**
- Hi, Low, Off

**Power**
- 120 V 60 Hz 2.7 A / 230 V 50 Hz 1.4 A

**Dimensions (W x D x H)**
- 375 x 455 x 190 mm (including projections)

**Weight**
- 17.0 kg

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**Video Processor**

### SU-8000

**Power supply**
- AC120 V / 60 Hz
- AC230 V / 50 Hz
- 2.2 A / 1.4 A

**Current consumption (rated)**
- 1.8 A / 1.2 A

**Applicable scopes**
- EG-530U series scope
- EB-530U series scope

**Video output terminal**
- Video terminal (1 channel)
- S video terminal (1 channel)
- RGB PC terminal (1 channel)
- RGB PC/TV terminal (1 channel)
- DVI image input terminal (1 channel)
- HD-SDI terminal (2 channels)

**Audio output terminal**
- RCA terminal (1 channel)
- DVI image input terminal (1 channel)

**Video input terminal**
- DVI image input terminal (1 channel)
- S video terminal (PROCESSOR) (1 channel)
- S video terminal (SP702) (1 channel)

**Control terminal**
- Remote terminal (2 channels)
- Foot Switch terminal (1 channel)
- Keyboard terminal (1 channel)
- RS232C terminal (PROCESSOR) (1 channel)
- RS232C terminal (SP702) (1 channel)

**Network terminal (1 channel)**
- Ethernet (100 BaseTX)

**Image storage**
- Storage: CF memory card, networked shared folder (FTP, DICOM)
- File format: TIFF, JPEG

**External dimensions (W x H x D)**
- 375 x 215 x 445 mm (including protruding parts)

**Weight**
- 14 kg

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**Video Processor**

### XL-4450 Light source

**Lamp rated value**
- Main Lamp: 300 W Xenon lamp LMP-002
- Emergency Lamp: 75 W Halogen lamp

**Light control**
- Automatic light control

**Lamp cooling method**
- Forced air cooling

**Air supply pump**
- High, Mid, Lo, Off

**Light save**
- On, Off

**Transmitted illumination**
- On, Off

**Power rating**
- 120 V 60 Hz 3.3 A
- 230 V 50 Hz 1.7 A

**Dimensions (W x H x D)**
- 390 x 155 x 450 mm

**Weight**
- 15 kg

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**Ultrasonic Processor**

### SU-8000

**Power supply**
- AC120 V
- AC230 V

**Current consumption (rated)**
- 1.8 A

**Applicable scopes**
- EG-530U series scope
- EB-530U series scope

**Video output terminal**
- Video terminal (1 channel)
- S video terminal (1 channel)
- RGB PC terminal (1 channel)
- RGB PC/TV terminal (1 channel)
- DVI image input terminal (1 channel)
- HD-SDI terminal (2 channels)

**Audio output terminal**
- RCA terminal (1 channel)
- DVI image input terminal (1 channel)

**Video input terminal**
- DVI image input terminal (1 channel)
- S video terminal (PROCESSOR) (1 channel)
- S video terminal (SP702) (1 channel)