

ENDOSCOPIC ULTRASOUND SYSTEMS

FROM
DIAGNOSIS TO
TREATMENT

FUJIFILM
Value from Innovation



FURTHER EVOLVED **TECHNOLOGIES FOR EUS**



HIGH PERFORMANCE TECHNOLOGY

Greater examination precision, greater comfort, and a wider range of applications are now possible with ultrasound imaging. In response to the ever increasing expectations of the medical profession, diagnostic equipment continuously evolves.

Image quality, workflow, and applications are three key functional areas where we have made a determined effort to refine fundamental performance, with the goal of creating the ultimate ultrasound platform. Flexibly responding to users' individual needs across the range of clinical disciplines, the premium ultrasound platform ARIETTA™ 850 FF ENDO brings diagnostic imaging without compromise.



SELECTION OF OUR TECHNOLOGIES



MULTI LIGHT TECHNOLOGY

Illumination suitable for observation using variable LED light intensity.



SUPER CCD TECHNOLOGY

The Super CCD and high-performance optical system provides high-quality images.



LCI TECHNOLOGY

Increased contrast in red colour leads to improved visibility of abnormalities, inflammation and delineation.



ONE-STEP CONNECTOR

Easy to plug in with an integrated wireless power supply to provide high speed transmission of data.



BLI TECHNOLOGY

The combination of special light wavelengths results in improved contrast imaging for characterisation.



G7 GRIP

Grip is designed to have a comfortable feel to improve performance and reduce stress.



FICE TECHNOLOGY

Provides the possibility to enhance slight colour differences such as vascular and mucosal patterns without tissue staining. The procedure digitally selects three wavelengths of light and displays reconstructed images.



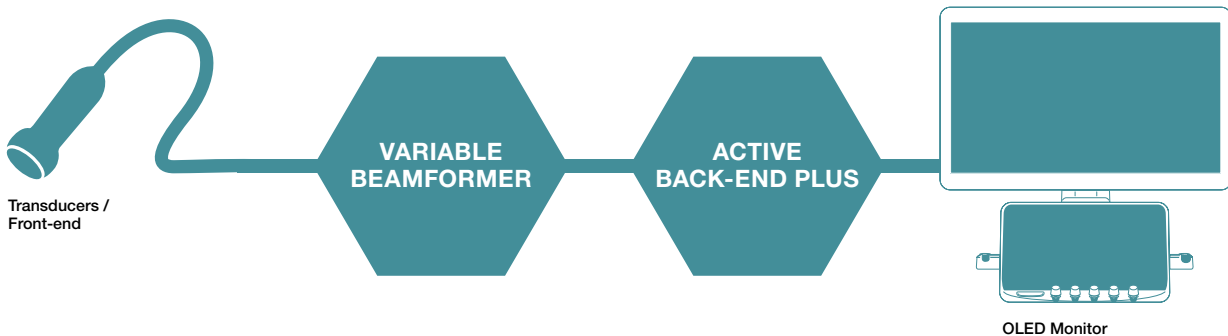
HD TECHNOLOGY

Combine equipment displaying this logo to ensure that you view HDTV images on your monitor.

EVOLVED TO FIT YOUR SIGHT: PURE IMAGE

Technologies fostered by Fujifilm to hone the high quality 'sound' have evolved further, giving life to Pure Symphonic Architecture. The combination of transducer/front-end, variable beamformer, active back-end, and OLED monitor – all these technologies work together to realise a high level of premium class performance.

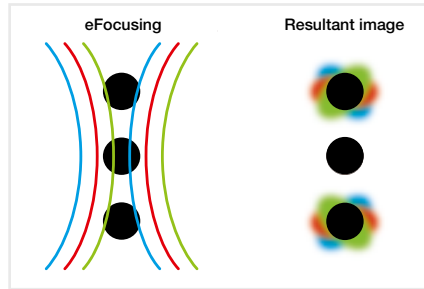
Pure Symphonic Architecture





VARIABLE BEAMFORMER

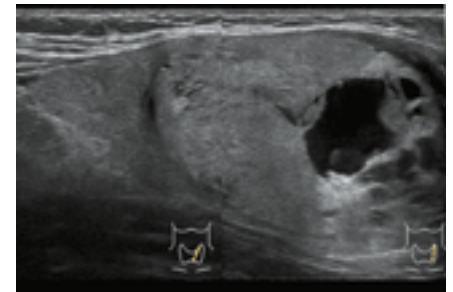
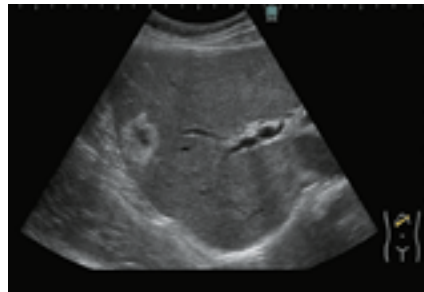
The eFocusing transmission and reception technology newly developed for ARIETTA™ 850 FF ENDO Ultrasound System significantly improves S/N and reduces focal dependency. Outstanding clarity of clinical images from near to far field with less patient dependency is achieved.



Focused at all depths

ACTIVE BACK-END PLUS

Active back-end is the powerful image processing engine developed to realise fast complex arithmetic computations.



Carving Imaging denotes an advanced image technology producing images with „Clearer Visibility“. Stable imaging with less patient dependency helps you achieve clearer images with less noise, made possible by our new image processing technology that enhances tissue structure visibility.



OFF



ON

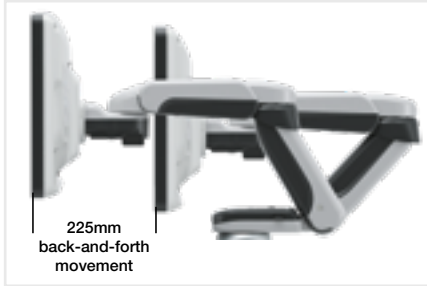
OLED MONITOR

The ARIETTA™ 850 FF ENDO Ultrasound System has adopted the latest technology, 22 inch wide OLED Monitor for an optimum image display. Without requiring backlighting to function, the OLED Monitor displays true black for a previously unattainable contrast resolution. It is an ideal monitor choice for diagnostic ultrasound, producing a high quality grayscale display.



SEAMLESS WORKFLOW

The ergonomic design of the ARIETTA™ 850 FF ENDO Ultrasound System reduces operator fatigue. Supporting seamless workflow, the many easy-to-use functions are intending to shorten examination time and provide a more comfortable examination environment. As a result, the patient experience is also improved.



Flexible Monitor Arm

The monitor arm mechanism supports a smooth back-and-forth movement of the screen during the examination without any change to the up, down, right or left position.

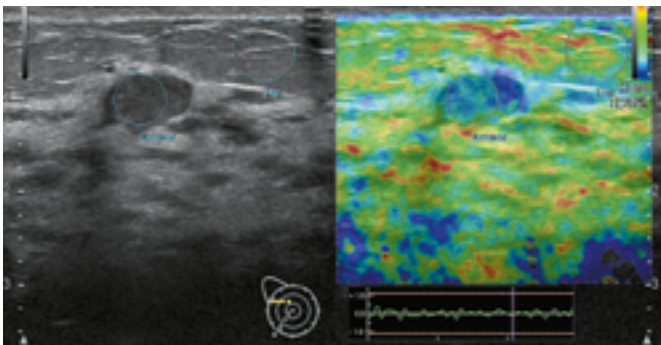


5-Switch System/Operating Console

The core 5-switch layout combined with trackball priority selection display on the monitor streamlines the workflow for more advanced functions, such as 3D measurement and analysis.

AUTOMATED MEASUREMENT

Numerous automated functions implemented in ARIETTA™ 850 FF ENDO Ultrasound System enhance workflow.



Combined Setting of AFS/ASR

Auto Frame Selection (AFS) picks out the appropriate frame for measurement in Real-time Tissue Elastography (RTE). Assist Strain Ratio (ASR) automatically locates the measurement Region of Interest (ROI). Complex, repetitive measurement steps can now be completed using a single button.

Manual



Auto





EG-740UT



G-Lock

- ULTRA-WIDE SCANNING ANGLE**
- SHORTER BENDING RADIUS**
- ADVANCED FORCE TRANSMISSION**

HIGH PERFORMANCE TRANSDUCER TECHNOLOGY

Ultrasonography has changed the clinical approach to patients with digestive and respiratory diseases.

Today, ultrasonography is being used to examine and visualise internal body structures for possible lesions, supporting definitive diagnosis and helping doctors to decide on a suitable approach to treatment.



Required balloon BS-102

EG-740UT ULTRASONIC ENDOSCOPE Curved Linear Array Scan



The EG-740UT is equipped with the G-Lock guide wire locking mechanism which is incorporated at the distal end. This feature enables efficient exchange of devices. The large 4.0 mm working channel enables the use of various endoscopic devices. It is designed to increase the clearance between the device and the working channel and to reduce the insertion resistance of devices.



Endoscopic functions

Viewing direction	40°
Observation range	3–100 mm
Field of view	140°
Ø Distal end	14.5 mm
Ø Insertion tube	12.6 mm
Bending capability	Up 150°/Down 100° Right 100°/Left 100°
Working length	1,250 mm
Overall length	1,550 mm
Ø Working channel	4.0 mm

Ultrasonic functions

Scanning method	Electronic curved linear array scan
Scanning angle	180°

Large working channel

The large 4.0 mm working channel enables the use of various endoscopic devices. It is designed to increase the clearance between the device and the working channel and to reduce the insertion resistance of devices.



Ultra-wide scanning angle

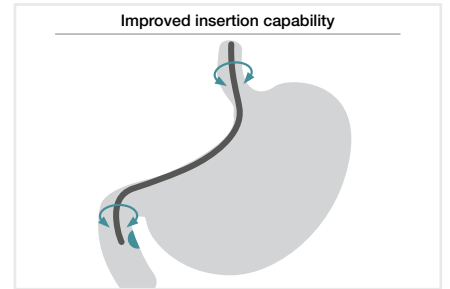
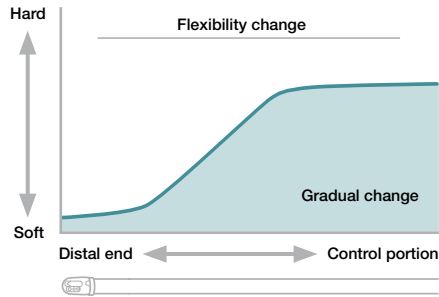
Due to the broader bandwidth and better acoustic sensitivity in combination with an improved signal to noise ratio, with the EG-740UT a crystal clear ultrasound image can be achieved. Furthermore, the ultra-wide scanning angle is aimed to support diagnostic and therapeutic procedures.





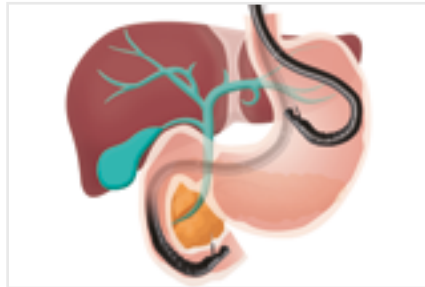
Advanced force transmission

With the improved material elasticity, the stiffness of the insertion portion gradually increases from the distal end to the control portion, this enables direct transmission of the push, pull and rotational movements from the hand to the distal end of the endoscope when compared to the previous model.



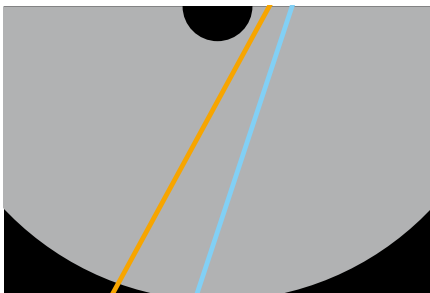
Shorter bending radius

The shorter bending radius is designed to improve the access to the anatomical target that is to be assessed and/or treated.

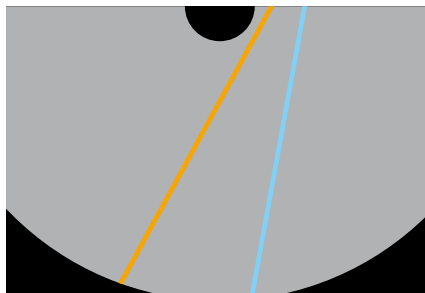


Wide-angle puncture direction supporting wider FNA accessibility

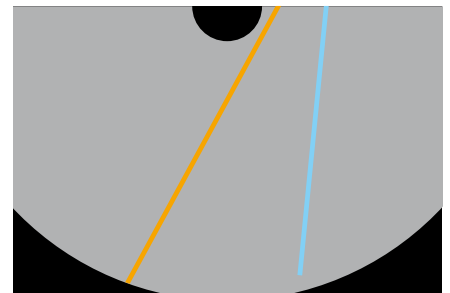
The combination of the short bending radius and the improved location of the transducer, enables broad FNA accessibility.



19G



22G

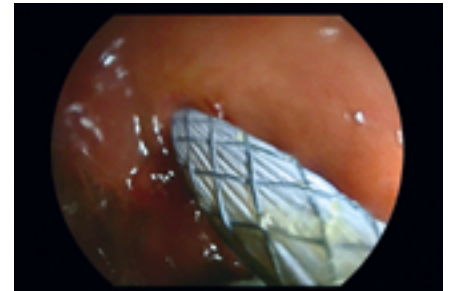
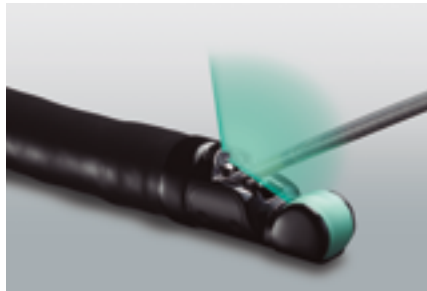


25G

- Forceps elevator UP
- Forceps elevator DOWN

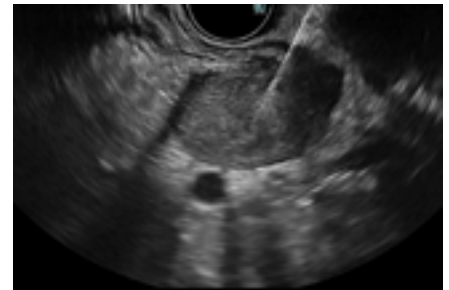
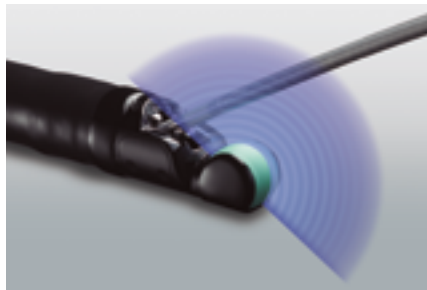
Improved device visualisation on the endoscopic image

As the objective lens is placed behind the elevator, the device can be seen in the endoscopic image.



Improved device visualisation on the ultrasound image

The position of the working channel outlet relative to the ultrasound transducer, ensures that the blind area between the working channel outlet and ultrasound scanning area is reduced.



One-step connector for easy plug-in

The first connector to incorporate an integrated wireless power supply that provides high-speed transmission of data. The design helps to simplify the cleaning process and reduces the potential for accidental damage.





EG-580UT ULTRASONIC ENDOSCOPE Curved Linear Array Scan



With a small bending radius and short rigid section, this endoscope enables easy access to the targeted areas. A wide puncture range enables FNA (Fine Needle Aspiration Biopsy) from a variety of positions to achieve broader accessibility. The 40° front oblique view and 140° endoscopic field of view is expected to reduce stress during the insertion process. Combined with powerful 150° up-angulation, the endoscope is suitable for both observation and therapeutic procedures.

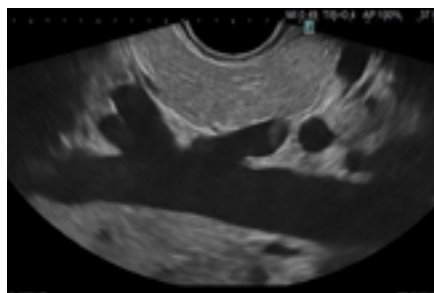


Endoscopic functions

Viewing direction	40° (Forward oblique)
Observation range	3–100 mm
Field of view	140°
Ø Distal end	13.9mm
Ø Flexible portion	12.4mm
Bending capability	Up 150°/Down 150° Right 120°/Left 120°
Working length	1,250mm
Overall length	1,550mm
Ø Working channel	3.8mm

Ultrasonic functions

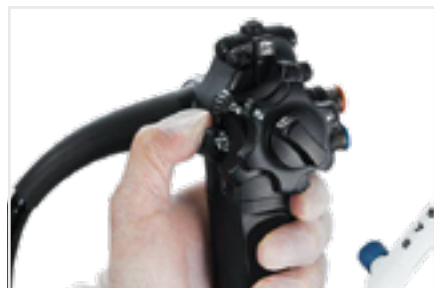
Scanning method	Electronic curved linear array scan
Scanning angle	150° (in combination with SU-1)



**40° front oblique,
140° endoscopic field**

FORCEPS ELEVATOR ASSIST

The Forceps Elevator Assist function ensures a steady maximum UP forceps elevation when the lever on the control portion is pulled down completely and clicks into place. This function reduces strain on the thumb caused by repeatedly operating the lever during procedures. It also supports flexible and subtle endoscopic operations during therapeutic procedures and stable puncture trajectory.



Hold maximum UP forceps elevator

EG-580UR ULTRASONIC ENDOSCOPE Radial Scan



The shorter rigid section with a slim distal end of 11.4 mm, an upward bending capability of 190° and a direct forward view are designed to be useful and operate nearly the same as a standard gastroscope. The enhanced manoeuvrability supports the approach in retroflex observation of the fundus and cardia.

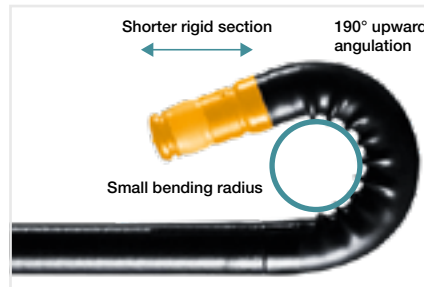
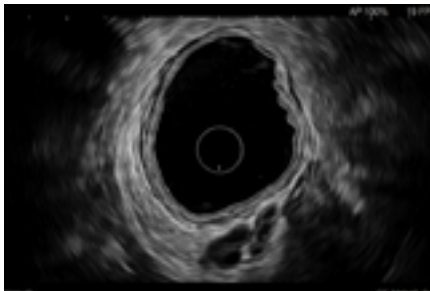


Endoscopic functions

Viewing direction	0°
Observation range	3–100 mm
Field of view	140°
Ø Distal end	11.4 mm
Ø Flexible portion	11.5 mm
Bending capability	Up 190°/Down 90° Right 100°/Left 100°
Working length	1,250 mm
Overall length	1,550 mm
Ø Working channel	2.8 mm

Ultrasonic functions

Scanning method	Electronic radial scan
Scanning angle	360° (in combination with SU-1)



Great approach ability

EUS BALLOON



Product code	Material Code	Characteristics	Compatible endoscopes	Unit
15920671	B20UR	Balloon	EG-580UR	20
15920683	B20UT	Balloon	EG-580UT	20
16708513	BS-102	Balloon	EG-740UT	20



ARIETTA™ 850 FF ENDO



IMPROVED ULTRASOUND TRANSMISSION

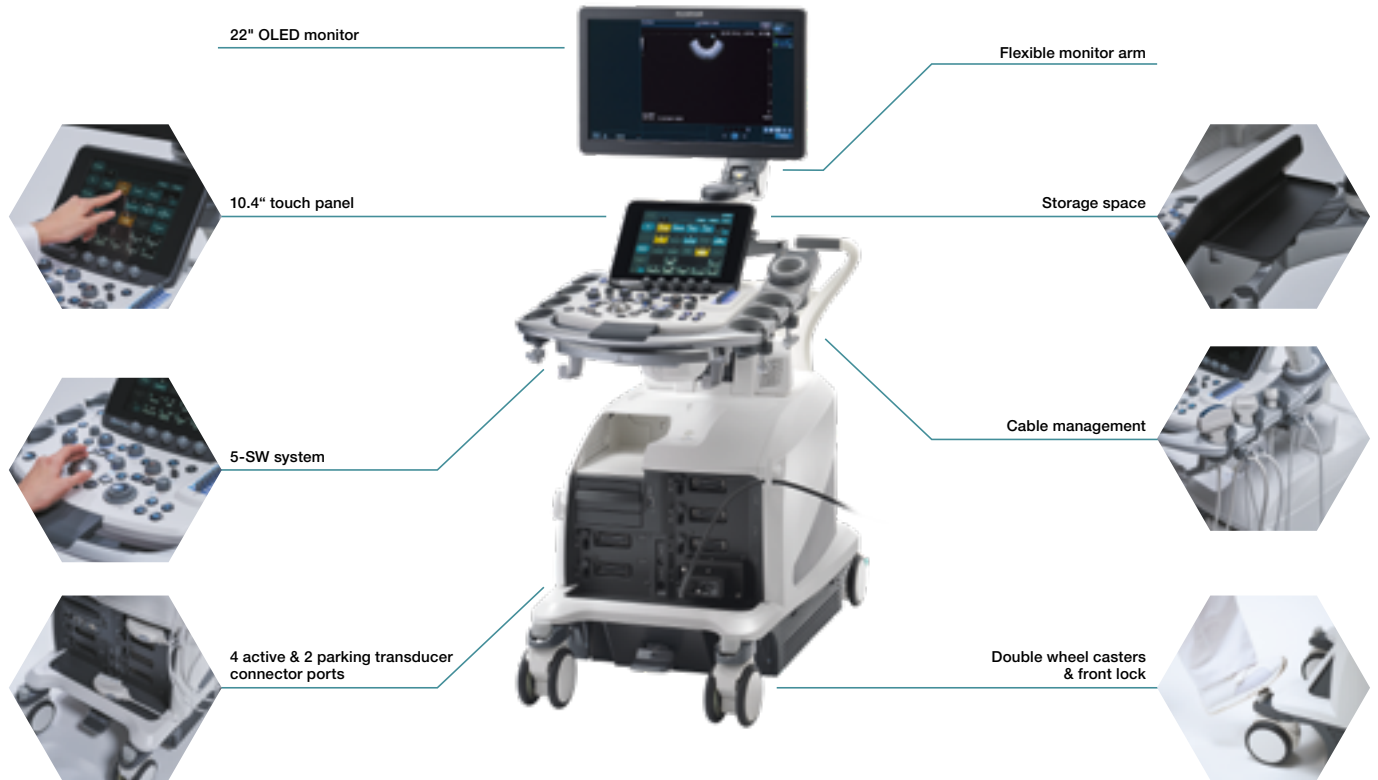
Carving Imaging makes it possible to render clear Ultrasound images from the superficial to the very deepest areas of the abdomen. The ARIETTA™ 850 FF ENDO Diagnostic Ultrasound System is equipped with various diagnostic applications to support high level diagnosis.

EXCELLENT IMAGE QUALITY

HIGH LEVEL DIAGNOSIS



SUPPORTING EASE OF PROCEDURE



NEW

ARIETTA™ 850 FF ENDO DIAGNOSTIC ULTRASOUND SYSTEM

Power rating	AC 200 – 240 V
Frequency rating	50 Hz / 60 Hz
Current consumption	1300 VA or less
Dimensions (W x H x D)	550 x 900 x 1,220 – 1,695mm
Weight	165 kg
Applicable endoscopes Curved linear array scan	EG-740UT EG-580UT
Applicable endoscopes Radial scan	EG-580UR

Basic function related EUS for ARIETTA™ 850 FF ENDO

Endoscope	THI HdT	CHI	RTE	SWM	eFlow	DFI	eFocusing	Compound Imaging
EG-740UT	●	●	●	●	●	●	●	●
EG-580UT	●	●	●		●		●	●
EG-580UR	●	●	●		●		●	

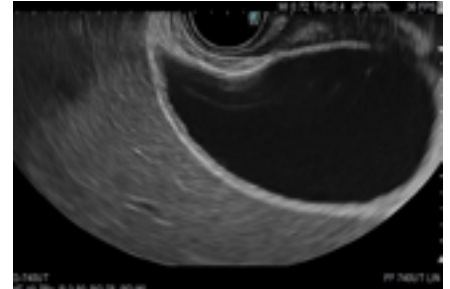
SU-1 does not have function about SWM, DFI, eFocusing, Compound Imaging



VARIOUS IMAGING MODES

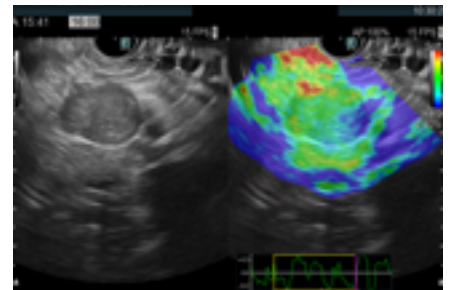
HdT(THI) image

By increasing resolution and reducing artefacts, this mode enables ultrasound image observation with reduced noise.



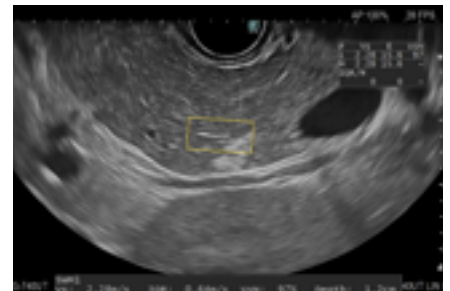
Real-time Tissue Elastography (RTE)

RTE assesses tissue strain in real time and displays the measured differences in tissue stiffness as a colour map.



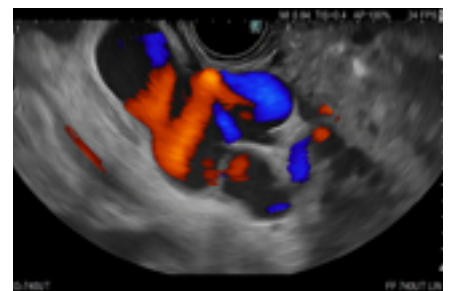
Shear Wave Measurement (SWM)*

Shear waves are generated using a 'push pulse' to excite the tissues. SWM provides an assessment of tissue stiffness by calculating the propagation velocity of the shear waves. FUJIFILM's SWM provides an additional reliability indicator, VsN, as an objective evaluation of the Vs measurement.



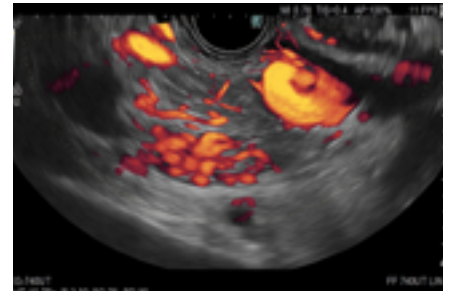
Colour Doppler

Colour Doppler obtains hemodynamic information. It helps to locate an observation site and blood flow.



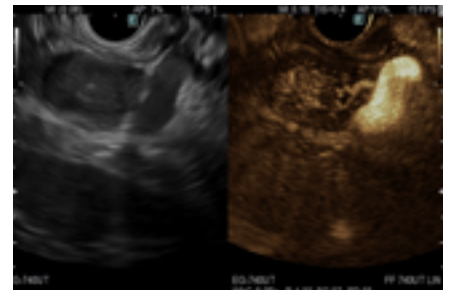
eFLOW

E-Flow is a Power Doppler Mode that enables visualisation of tiny, low-flow vessels.



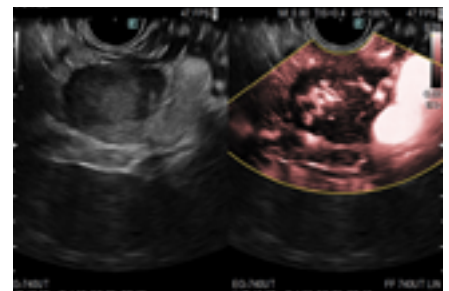
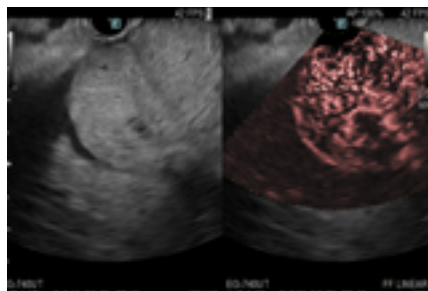
Contrast Harmonic Imaging (CHI)

Contrast enhanced ultrasound is used widely for clinical diagnosis. ARIETTA 850™ FF ENDO achieves a new level of performance in contrast agent detection.



Detective Flow Imaging (DFI)*

DFI is an imaging technology to display low-velocity blood flows, which used to be difficult to present, at a higher definition.



Difference of eFlow and DFI

In conventional blood flow imaging, blood flows have been observed using low-resolution Power Flow, mid-resolution Color Flow, and high-resolution eFlow. However, the presence of motion artifacts, motion of structures other than blood flows, has made it difficult to observe blood flows at low velocity. So we developed DFI that can be used to observe low-velocity minute blood flows.

* SWM and DFI are only available with EG-740UT.

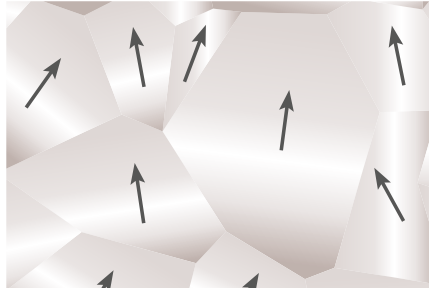


BROAD RANGE OF TRANSDUCERS / FRONT-END

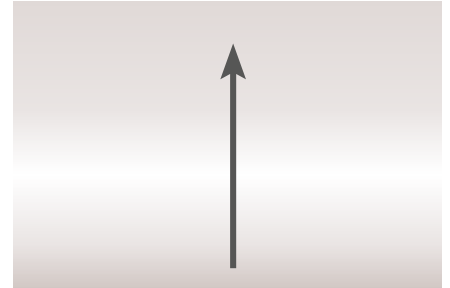
Fujifilm offers a broad range of sector transducers for various types of examinations.

Single Crystal

Piezoelectric single crystal technology is applied to convex, linear and sector transducer elements. The excellent piezoelectric properties of single crystals are used to generate ultrasound with high sensitivity and wide bandwidth resulting in superior quality imaging.



PZT



Single Crystal

4G CMUT

The evolution of CMUT (Capacitive Micro-machined Ultrasound Transducer), using next-generation silicon wafer technology has brought the full complement of ultrasound examination modes into practical use. With super wide frequency bandwidth and high sensitivity the enhanced resolution is maintained in the far field. 4G CMUT can deliver a one-probe solution for a wide range of ultrasound examinations.





SU-1



FOR YOUR DAILY EXAMINATIONS

Years of research and development to reduce patient discomfort and improve operator efficiency during endoscope examinations led to the development of Sonart, the integration of ultrasonographic diagnosis and endoscopy systems.

Proprietary image processing technology integrates excellent endoscope manoeuvrability and insertion capability to support accurate diagnoses. The compact one-cart system allows various applications.

**EUS TOWER: ALL-IN-ONE COMPACT SYSTEM
FOR ADVANCED THERAPEUTIC PERFORMANCE**

SU-1 ENDOSCOPIC ULTRASONIC PROCESSOR



Easy-to-clean flat keyboard for use by touch panel and touch pad, also available with trackball keyboard

Power supply	Power rating Frequency rating Power consumption	AC 100–240 V 50 Hz/60 Hz 2.0–1.2 A
Size	Dimensions (W x H x D) Weight	390 × 135 × 485 mm 13.0 kg
Ultrasonography image display	Scanning method Probe types Scanning modes Special modes	Electronic scanning Curved linear array/radial B/M/CD/PD/PW/THI/CH/F-FLOW Elastography/CHI
Received signal processing	Received gain correction STC Sound speed correction Dynamic Range	0–100, 2-step 6-step gain settings per depth Full screen ROI settings 40–100, 5-step
Display	PinP Observation screen	Endoscopic/ultrasound imaging Hospital, date, time, patient
Applicable	Curved linear array Radial	EG-740UT, EG-580UT, EG-530UT2, EB-530US, EG-580UR, EG-530UR2
Frequency		5 MHz, 7.5 MHz, 10 MHz, 12 MHz
Image input terminal	DVI image input terminal	1
Image output terminals	Video terminal	1
	S-video terminal	1
	RGB TV terminal	1
	DVI terminal (digital)	1
	DVI terminal (digital/analog)	1
	HD-SDI terminal	2
Sound output	RCA terminal	1
Control terminal	Remote terminal	2
	Remote terminal (input)	1
	RS-232C terminal	1
	Keyboard terminal	1
	Foot switch terminal	1
	Network terminal	1
Measurement function	Measurement items	Distance, perimeter, area, volume, flow speed
Storage	Data formats Storage device Cine memory	JPEG, TIFF, DICOM, AVI Internal/external memory (USB) Storage/playback
Accessories		Keyboard, foot switch
Image Modes	B-Mode THI CH CHI	Fundamental Mode Tissue Harmonic Imaging Compound Harmonic Imaging Contrast Harmonic Imaging
Doppler Mode	PW CD PD F-Flow	Pulse Wave Doppler Colour Doppler Power Doppler
Other	M-Mode Elastography	Motion Mode
Imaging	PinP Biopsy	Picture-in-picture (realtime) Visibility of puncture range
Storing	Image Store Clip Store Internal SSD USB FTP DICOM	via keyboard/foot switch/endoscope button via keyboard/foot switch/endoscope button JPEG, TIFF, DICOM, AVI JPEG, TIFF, DICOM, AVI JPEG, TIFF, DICOM, AVI JPEG, TIFF, DICOM

**NEVER
STOP**

FUJIFILM

FUJIFILM Europe GmbH

Balcke-Dürr-Allee 6 | 40882 Ratingen, Germany
+49 2102 5364-0 | endoscopy_eu@fujifilm.com
www.fujifilm-endoscopy.com

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