

# 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



### 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.



### SUPER CCD TECHNOLOGY

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



### HD TECHNOLOGY

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



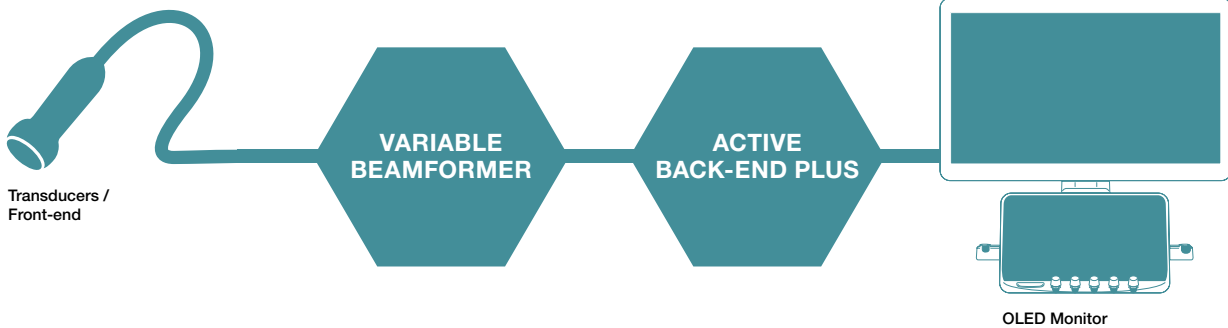
### G7 GRIP

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

## 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.

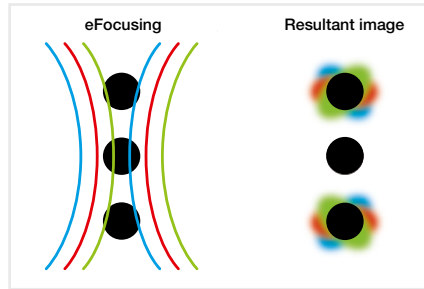
### Pure Symphonic Architecture





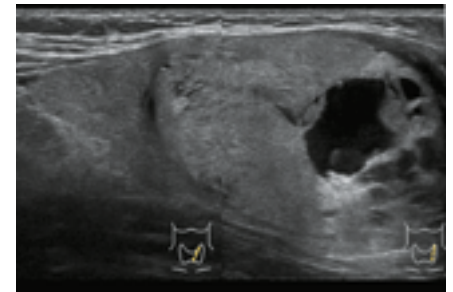
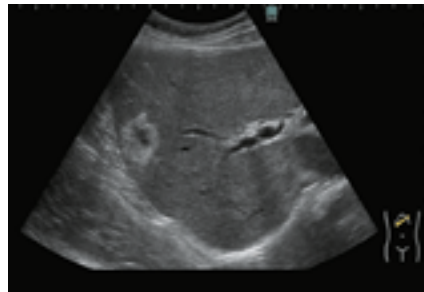
### VARIABLE BEAMFORMER

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.



### 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.



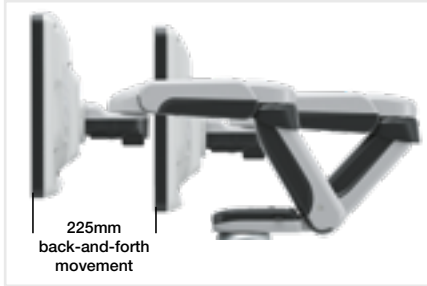
### OLED MONITOR

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.

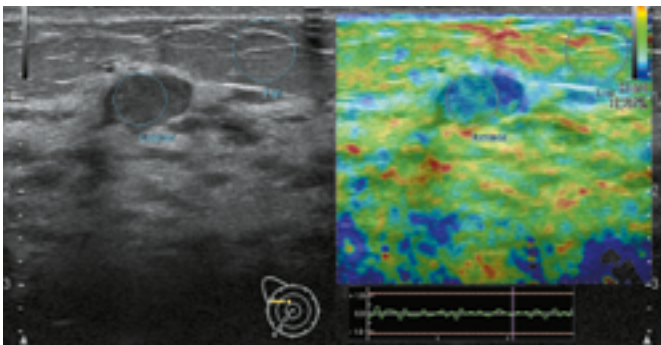


### 5-Switch System/Operating Console

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.



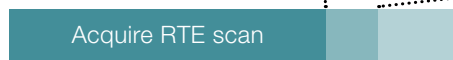
### Combined Setting of AFS/ASR

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-580UT & EG-580UR



## 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.

## 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.

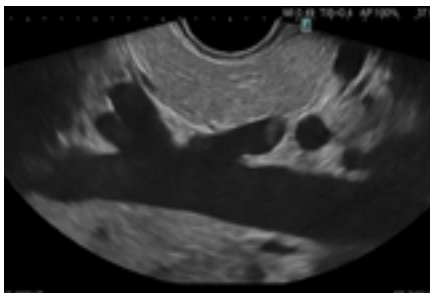


### Endoscopic functions

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

### Ultrasonic functions

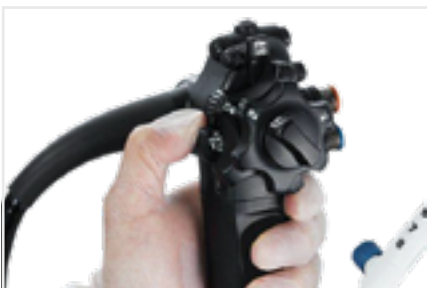
<b>Scanning method</b>	Electronic curved linear array scan
<b>Scanning angle</b>	150° (in combination with SU-1)



**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.

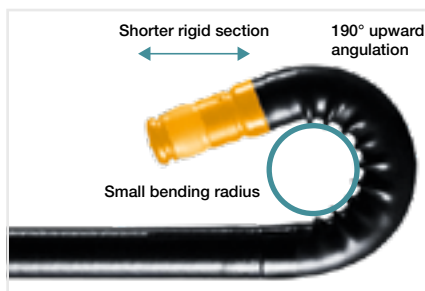
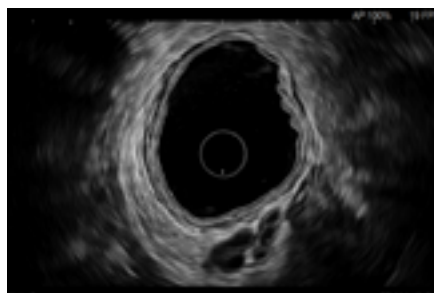


### Endoscopic functions

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

### 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



# ARIETTA™ 850 FF ENDO



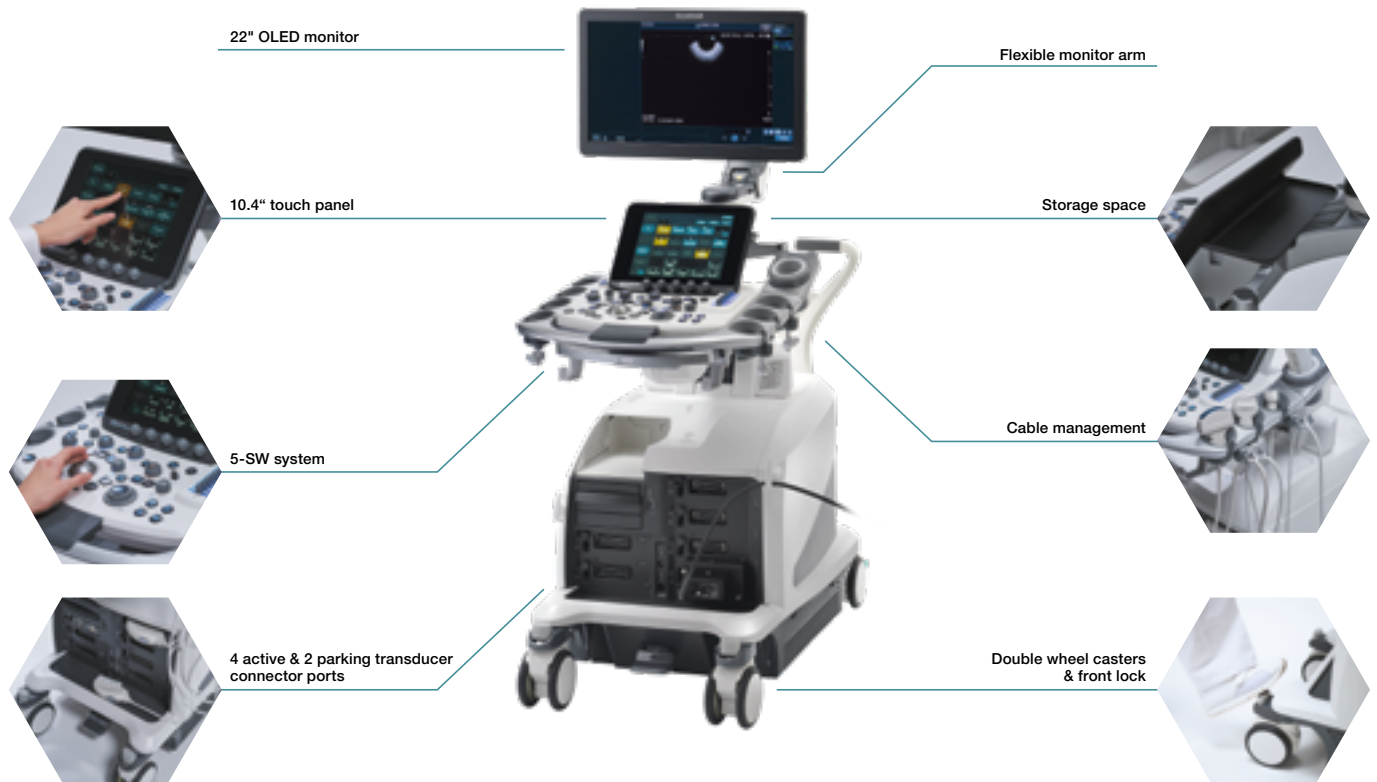
## IMPROVED ULTRASOUND TRANSMISSION

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-580UT
Applicable endoscopes Radial scan	EG-580UR

### Basic function related EUS for ARIETTA™ 850 FF ENDO

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

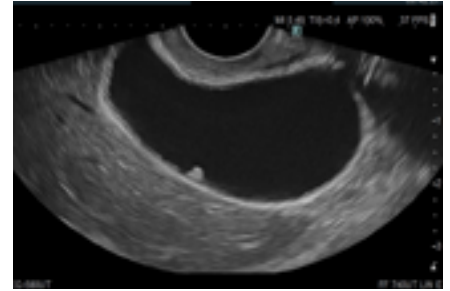
SU-1 does not have functions eFocusing & Compound Imaging.



## VARIOUS IMAGING MODES

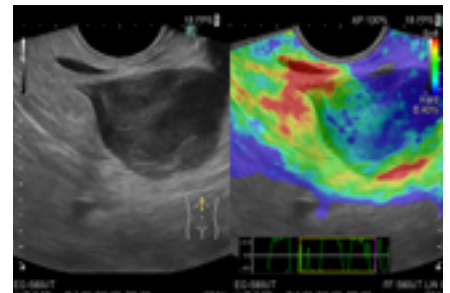
### HdT(THI) image

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



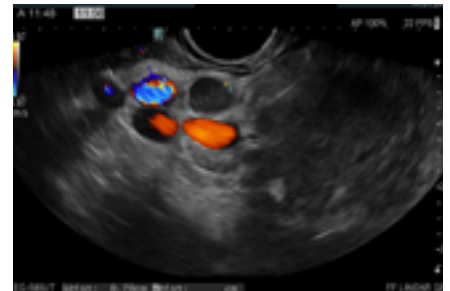
### Real-time Tissue Elastography (RTE)

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



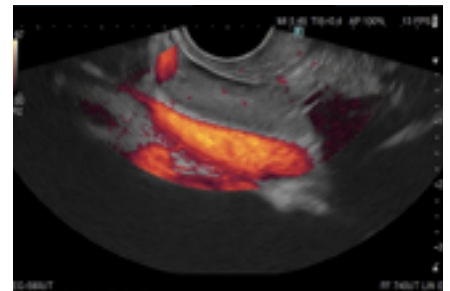
### Colour Doppler

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



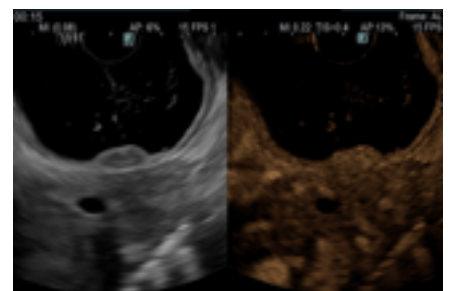
### eFLOW

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.



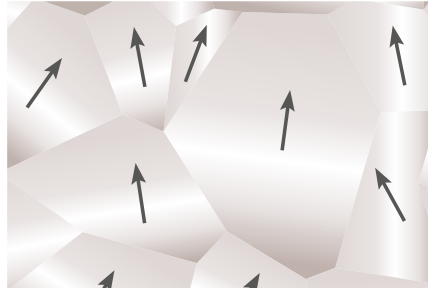


## BROAD RANGE OF TRANSDUCERS / FRONT-END

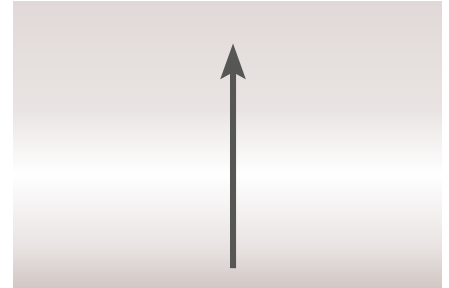
Fujifilm offers a broad range of sector transducers for various types of examinations.

### 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

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

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