Flexible System Construction with Various Types of Cassette DR

Appropriate imaging methods can be selected, combining with various sizes and scintillator panels according to the purpose and type of X-ray imaging to be conducted.
Panels can be shared with other imaging rooms and other systems such as nursing wagons.

Panel type		Full application	C series (High definition type)			G series (Lightweight type)	
Exterior							
Panel Name/Panel Type		FDR D-EVO Advanced C43A	FDR D-EVO III C43i	FDR D-EVO III C35i	FDR D-EVO III C25i	FDR D-EVO III G43i	FDR D-EVO III G35i
Scintillator		CsI	CsI	CsI	CsI	GOS	GOS
Size		43×43cm	43×43cm	35×43cm	24×30cm	43×43cm	35×43cm
Applications*	Tomosynthesis	●	-	-	-	-	-
	Energy Subtraction	●	-	-	-	-	-
	Long View Imaging	●	●	●	-	●	●
Cassette Tray		●	●	●	Free exposure position type	●	●

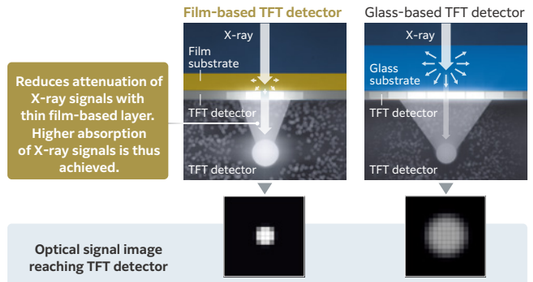
* These applications are optional.

FDR D-EVO III

Synergism between ISS method and flexible film-based TFT detector

Like FDR D-EVO II, FDR-D-EVO III is Equipped with an indirect conversion system called the ISS method which bonds optical sensors (TFT) to the X-ray irradiation side unlike traditional flatpanel detectores. This greatly suppresses scattering and attenuation of X-ray signals, creating a sharp image with low X-ray dose.

By changing the TFT detector of FDR D-EVO III from glass-base to film-base, X-ray transmittance is improved compared to FDR D-EVO II. FDR D-EVO III achieved DQE 33% from 31% (1Lp/mm-RQA5 1mR) by applying a flexible film to a base of the device detector. This unique technology combination is only possible with proprietary ISS technology to fully implement the benefits of film-based detectors.



FDR Visionary Suite Specifications

■ X-ray Generator
- Rated output : 50 kW / 65 kW / 80 kW
- Tube voltage : 40 to 150 kV
- Tube current : 10 to 630 mA (50 kW model)
  10 to 800 mA (65 kW model)
  10 to 1000 mA (80 kW model)
- AEC : Xe detector-type phototimer receiver
  combination up to three receivers

■ X-ray Tube Support
- Ceiling fixture : Fixed rail of 4 / 5.5 m
  Moving rail of 2 / 2.6 /3.3 m
- Movement range : Longitudinal 2.95 m (4 m fixed rail)
  Longitudinal 4.45 m (5.5 m fixed rail)
  Transversal 1.4 m (2 m moving rail)
  Transversal 2.0 m (2.6 m moving rail)
  Transversal 2.7 m (3.3 m moving rail)
  Vertical 1.6 m
- Rotation : Vertical axis ±180°
  Horizontal axis -180° to +120°

■ X-ray Tube Unit
- Maximum anode heat content : 600 kHU
- Maximum anode heat dissipation rate : 2200 HU/s
- Focal spot : 0.6 / 1.2 mm

■ Collimator
- Filtration : Inherent filtration 1.1 mmAl eq.
  Added filter of Cu 0.1 / 0.2 / 0.3 mm
- Standard accessories : Auto-filter
  Line marker
  Detent (fitted at the home position)
- Area dosimeter adapter (Option) :
  An adapter for dosimeter manufactured by VACUTEC/PTW

■ Table
- Tabletop size : 810 × 2350 mm
- Table height : 535 to 850 mm
- Longitudinal range : ±375 mm
- Transversal range : ±125 mm
- Bucky moving range : 800 mm
- Max. load : 295 kg
- Standard accessories : Tracking device
  Bucky tracking driver
- Options : Compression belt
  Side cassette holder
  Grip switch
  CFRP tabletop
  Hand grip
  Drip hanger
  Rear foot switch

■ Stand (BR-120, BR-120T)
BR-120: Normal Stand (No tilting function)/BR-120T: Tilting Stand
- Distance between Bucky top edge and floor surface :
  Manual : 643 to 2143 mm
  Motorized : 671 to 2113 mm
- Tilting angle (Function for BR-120T) : -20° to 90°
- Standard accessories : Tracking device
  Stop switch
  Foot switch
- Options : Hand grip (mounted on top edge of the Bucky)
  Hand grip (mounted on back side of the Bucky)
  Cassette holder
  Front handle
  Both side operation
  Compression belt
  Patient stand (for long view radiography)
  Wall mounting option (for BR-120)

FDR D-EVO Advanced C43A Specifications

- Scintillator : CsI
- Detector external size :
  464.5±1(W) × 516.7±1(D) × 18±1(H) mm
  *excluding convex part of the cable
- Weight : Approx. 4.5 kg (including battery)
- Pixel size : 150 μm
- Maximum detecting area : 2816 × 2816 pixels
- Image preview : less than 2 sec
- Cycle time : less than 8 sec

FDR D-EVO Advanced C43A

Product Name : FDR Visionary Suite
Manufacturer : Shimadzu Corporation

FUJIFILM
FUJIFILM Corporation
26-30, NISHIAZABU 2-CHOME, MINATO-KU, TOKYO 106-8620, JAPAN
https://global.fujifilm.com/

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FUJIFILM
Value from Innovation

NEW

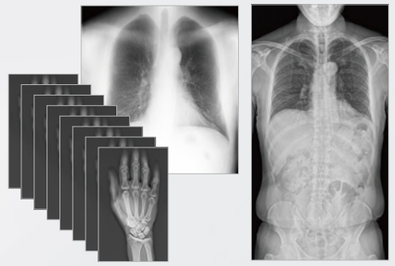
"Efficiency, through Intelligence" Digital radiography room

FDR Visionary Suite

NEW

Camera Assist Function

For positioning



Enhanced Applications

For diagnosis

Auto-Positioning

For comfortable workflow

Power Assist

For minimize the burden

Precision and Smart Simplicity

AI powered advanced applications and a smart design provide a connected and integrated workflow to ensure an improved patient experience. FUJIFILM's Dynamic Visualization processing provides refined diagnostic Image quality while reducing patient dose.

NEW

A large touchscreen LCD smart display provides access to patient and exam information for improved patient management

The 12-inch tube head LCD touch display, includes a camera assist function, that provides a live view image of the patient with AI support to assist patient positioning.

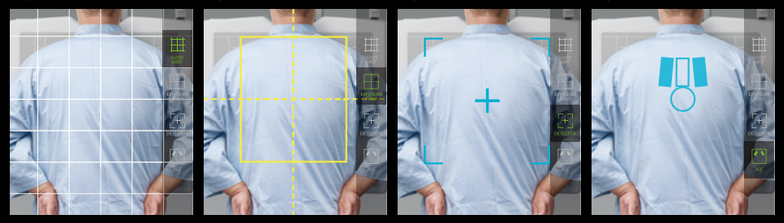
Camera Assist Function to Assist in Positioning*

The New "Eye" That Monitors the Patient

The camera assist function uses the camera built in the collimator to display a live view of the patient during imaging. Additional functions can also be added using the live view images, such as "Overlay Display," "Body Motion Detection and Notification," and "Previous Image Display." To protect the privacy of the patient, a shutter mechanism physically hides the camera when not needed.

Overlay Display Function

To assist in positioning, the DR panel size, radiation field size, AEC light field position, and horizontal and vertical grid lines are overlaid on the live view image.

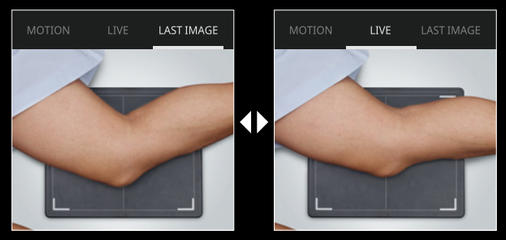


Body Motion Detection

Patient motion between the completion of patient positioning and X-rayexposure is identified and an immediate warning displayed allowing improved positioning and reduced retakes.

Previous Image display

A live view image is obtained at the time of X-ray exposure and in cases of retake this previous image can be displayed as a reference image, improving accuracy of positioning.

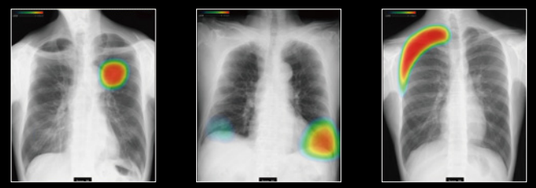


Previously obtained image　　Live view image

Software for FDR Visionary Suite

EX-Mobile Chest X-Ray Lesion Detection Software

EX-Mobile is a software application developed using AI technology. It automatically analyzes simple chest X-ray images to detect and mark regions suspected of having nodular/mass and infiltrative shadows and pneumothorax. Reconfirmation of those regions by the physician helps prevent them from being missed.



Nodular/mass shadow　Infiltrative shadow　Pneumothorax

REiLI*, a brand of Fujifilm medical AI technology, was developed to support diagnostic imaging and streamline workflows for physicians to enhance the quality of medical care by combining image processing technology that we have cultivated over the years with cutting-edge AI technology.

*Deep learning, a form of AI technology, was used in the design process.After introduction, system performance or accuracy does not change automatically.

Enhanced Applications That Support Diagnosis*

Image Stitching

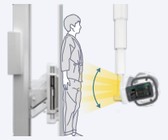
Display full-length images of spine or lower limb

Multiple images taken in one sweep are automatically combined to create a single stitched image of a widearea, up to 160 cm upright and 120 cm recumbent.
Mis-alignment caused by patient body movements can be automatically corrected through smart image alignment.*

*Depending on the degree of Mis-alignment between images it may not be possible to implement automatic image correction.

1 Imaging

Parameters for the Stitching area are set and exposure is performed.

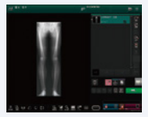


2 Collection of images

Number of images and exposures are automatically calculated.

3 Automatic stitching

Multiple images are stitched automatically. Disjoints in stitched images caused by patient body movements are also automatically corrected.



Energy Subtraction

Separates images of soft tissue and bone for improved viewing

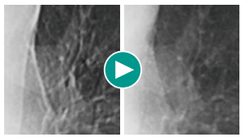
Utilizing the difference in X-ray energy absorption, two exposures are automatically taken to create specific images of soft tissue andbone, supporting improved visualization of structures and pathology.

Soft Tissue Image

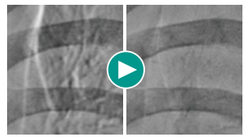
Bone Image

Controlling motion artifacts

Motion artifacts that may occur between exposures are suppressed by multiple resolution alignment processing, allowing for clear images of soft tissue and bone.



Alignment processing: OFF/ON
Soft Tissue Image



Alignment processing: OFF/ON
Bone Image

Tomosynthesis

Enhanced structure visualization

Digital tomosynthesis provides multi-slice reconstruction images utilizing the quick and efficient general radiography workflow.

Automatic X-ray dose control and background reconstruction

Using the imaging conditions for a single preliminary image as reference, the conditions for Tomosynthesis imaging are set automatically.

High-precision, high-quality imaging to 150 μm

Metal artifact suppression and enhanced tomosynthesis algorithms, ensure high-precision imaging down to 150 μm.

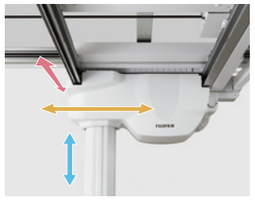
*This application is optional. Check the local regulations to confirm the availability of functions.

Stress-Free, Supportive workflow

① Preparation

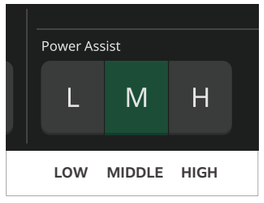
Power Assist

Designed to reduce strain from repetitive movements, motors provide progressive powered assistance for manual movement in response to the force applied by the user. This streamlines workflow and improves ergonomy and productivity. The level of assist has 3 modes to ensure optimised movement for different individuals.



A motor drive on each axis

The sensor senses the force applied to the X-ray tube unit



The asst level can be selected from three modes

Auto-positioning

5-axis motorized OTS with auto-positioning and auto-tracking at the wall stand and table reduces physical strain on radiographers. This increases efficiency in workflow and positively enriches the patient experience. Wireless control allows positioning from anywhere in the room.

Adopts an infrared method

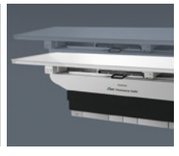
Wall Stand

Travel range of 40cm to 190cm, allows a wide coverage area for erect imaging. The Tilting bucky can be adjusted from -20 to 90 degrees providing a platform for extended imaging. *Option

Patient table

A bariatric elevating table with high weight capacity. Low loading height and fast movement provide for safe patient transfer and positioning. *Option

Wall Stand

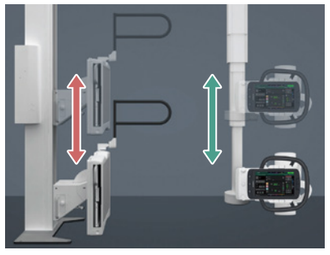


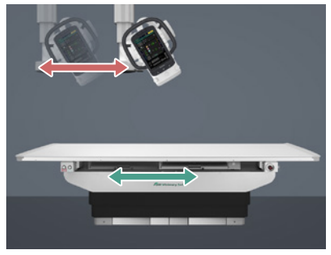
Patient table

② Patient Guidance and Positioning

Automation

Auto-tracking and centring at the wall stand and table reduces repetitive actions, reducing exam times and providing greater image consistency.





Radiation Field Matching

The Radiation Field Matching automatically reproduces the radiation field size pre-determined for the region of imaging. In combination with the Auto-Tracking Function, it can also automatically adjust the position according to upper and lower criteria.

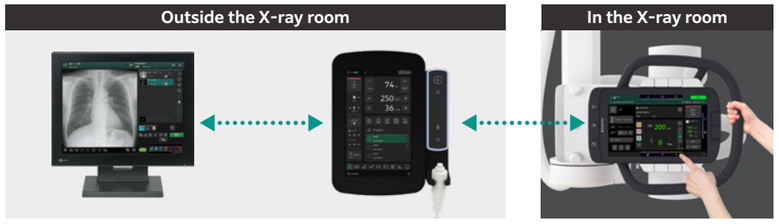
Tube head 12-inch touchscreen LCD smart display

The monitor enables single-screen viewing of information required for imaging, such as patient information, imaging conditions, distances, and angles, supporting improved in-room workflow and patient management.

③ Smart Examination

Integrated workflow

Utilizing an Intelligent Workflow, the Patient and examinations details selected from the DICOM worklist are automatically available at the tube head for confirmation and modification, improving patient management during the examination.

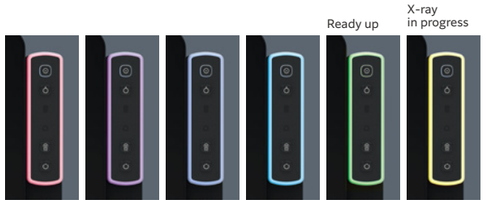


Imaging information is shared and matched | Imaging region | X-ray imaging conditions | Procedure | Panel type

Clear Audible and visual warnings for "X-ray status"

Individual Lights and sounds notify when the system is in X-ray prep and X-ray exposure.

NOTE: The colors of the "Ready up" and "X-ray in progress" notifications cannot be changed. The color for "stand-by" can be changed.



Wireless X-Ray Radiation Switch

Each switch can be multi-paired with two holders. A two-level switch allows the user to select the first level to prepare for imaging and the second level to perform X-ray radiation. Being wireless, it can be operated smoothly while moving outside of the X-ray room. Optional Bluetooth exposure switch provides flexibility in an emergency workflow.