FUJIFILM

A Flexible and High-resolution X-ray System

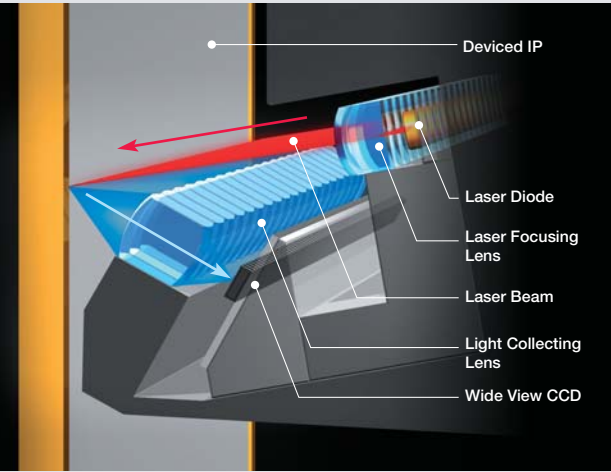## VELOCITY Unity

NEW

Image Intelligence™

A Speedy and Easy-to-operate X-ray System Performing a Wide Range of Exams.

The Fujifilm DR VELOCITY Unity enables radiographic exams in various positions including supine and upright. The X-ray tube and the detector both on the U-arm can be perfectly aligned, and the detector can be easily tilted for exams of angled parts such as the knee and the skull. The unit has an exceptionally high image processing capability, and is fully motorized ensuring rapid set-up at exam.

HIGH IMAGE QUALITY

HD LineScan Technology

For image acquisition, the Fujifilm DR VELOCITY Unity uses a revolutionary HD LineScan technology which employs a wide-view CCD and a built-in Deviced IP. The detector unit is significantly slimmer than previous models yet has an increased throughput, reading images at a high resolution of 100μm.

Deviced IP

Laser Diode

Laser Focusing Lens

Laser Beam

Light Collecting Lens

Wide View CCD

Image Intelligence™

Image Intelligence™

"Image Intelligence™" is a set of sophisticated digital image processing software technologies incorporated in the Fujifilm DR VELOCITY Unity. An optimum image for examination is generated with this Image Intelligence technology.

Software Technology Examples

FNC Flexible Noise Control

FNC selectively suppresses noise components while maintaining signal contrast, improving granularity in "noisy" anatomical regions.

MFP Multiple Frequency Processing

MFP is optional software that provides greater diagnostic information from a single exposure image through frequency enhancement. MFP improves visibility of both dense and peripheral tissues, simultaneously applying edge-enhancement processing to all structures in an image.

UNPRECEDENTED SPEED

Processing up to 240 IP/hour at 10-pixel/mm resolution, the Fujifilm DR VELOCITY Unity ensures immediate results for the operator and less waiting for the patient. The productivity gains seen with this unit are more than just impressive throughput. Since images are processed using FUJIFILM's refined image processing tools, they are in the optimum state for diagnosis when they are displayed. Radiologists do not waste valuable time trying to make the image look acceptable before transmitting them to PACS.
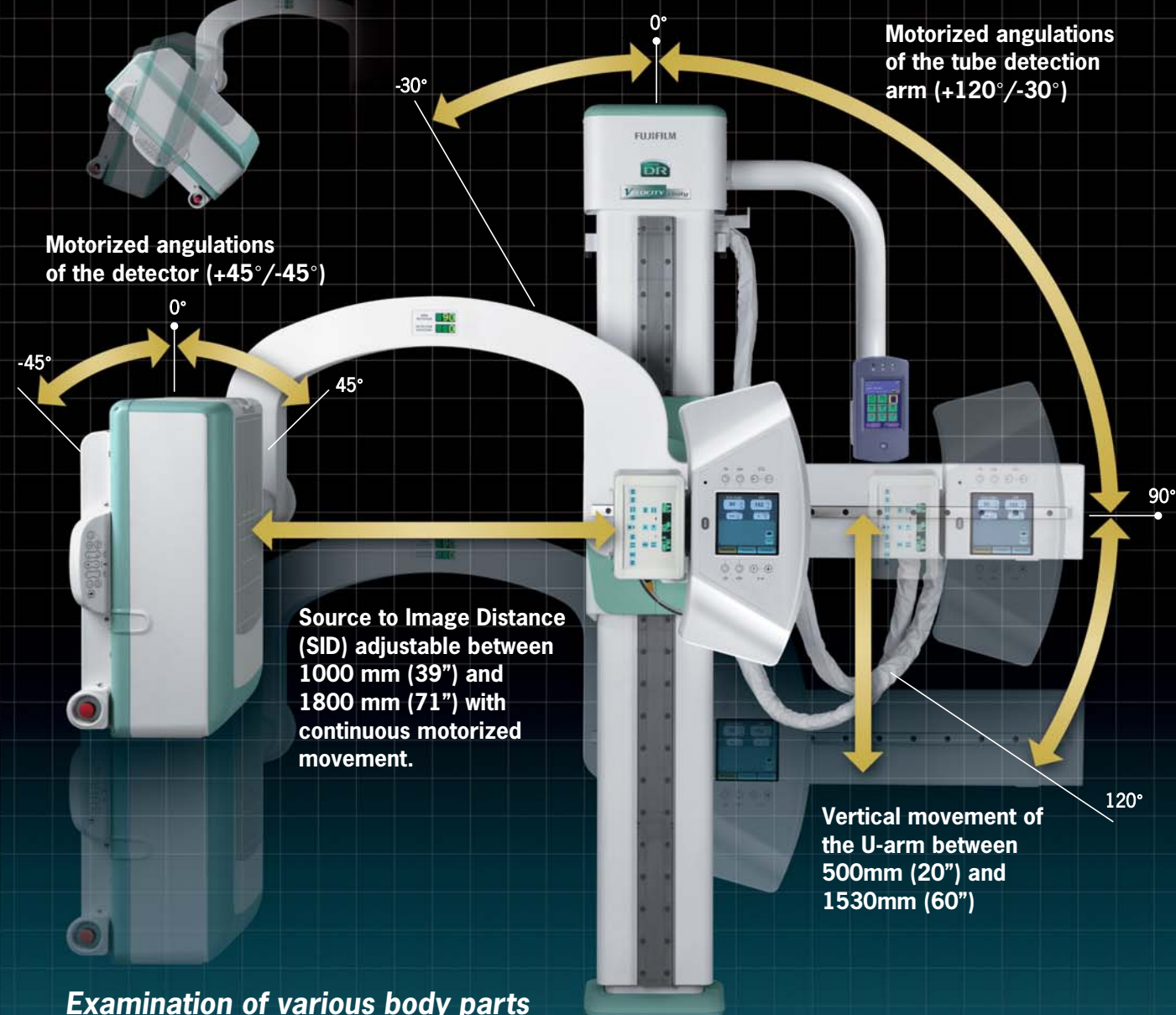
Image is on display in approximately **9** *seconds*

VELOCITY Unity   Image Data   CR Console

VELOCITY Unity
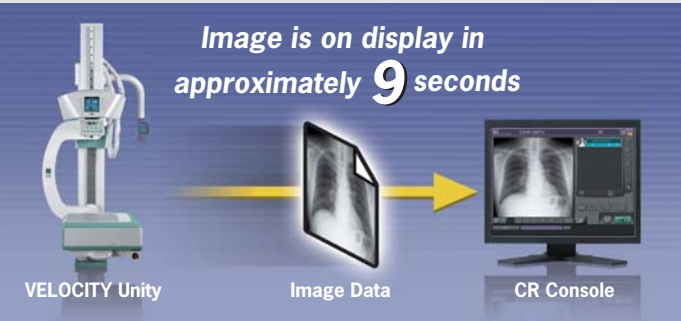
• A 100μm image resolution • Large image detection area (up to 17"×17" or 43cm × 43cm)
• Takes approximately 9 seconds for image displaying • Flexible positioning of patient at X-ray exposure
• Small footprint • User-friendly graphic menus, easy operability • Safety design

The Fujifilm DR VELOCITY Unity can perform versatile movements enabling a wide range of radiographic exams with just one unit.

Motorized angulations of the tube detection arm (+120°/-30°)

0°
-30°
90°
120°

Motorized angulations of the detector (+45°/-45°)

0°
-45°
45°

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Source to Image Distance (SID) adjustable between 1000 mm (39") and 1800 mm (71") with continuous motorized movement.

Vertical movement of the U-arm between 500mm (20") and 1530mm (60")

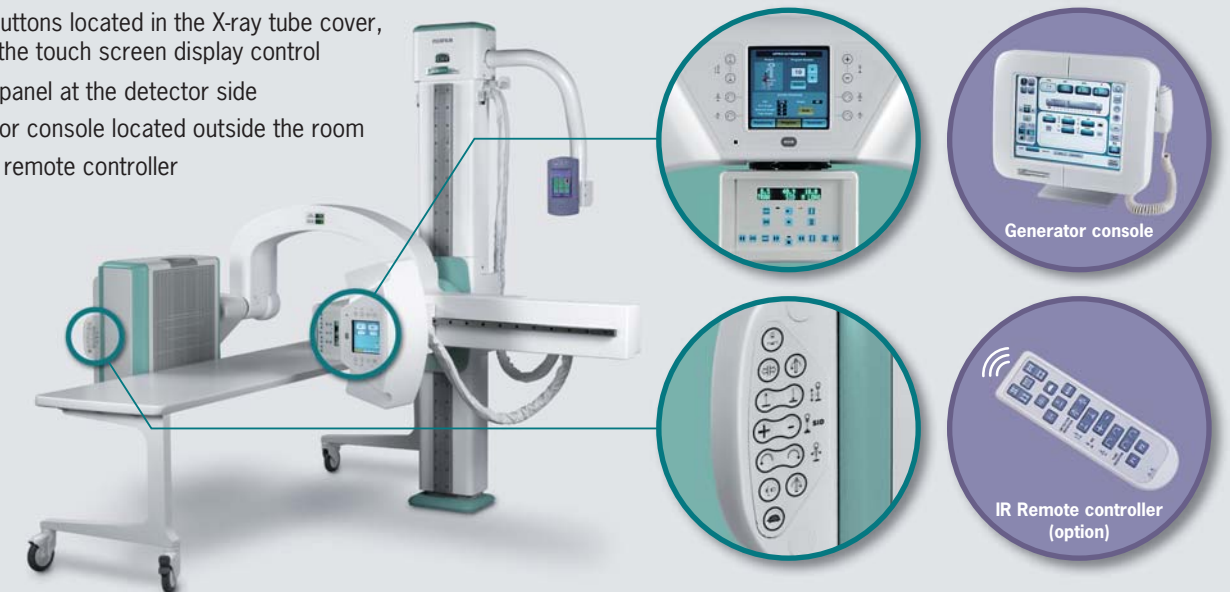## *Examination of various body parts*

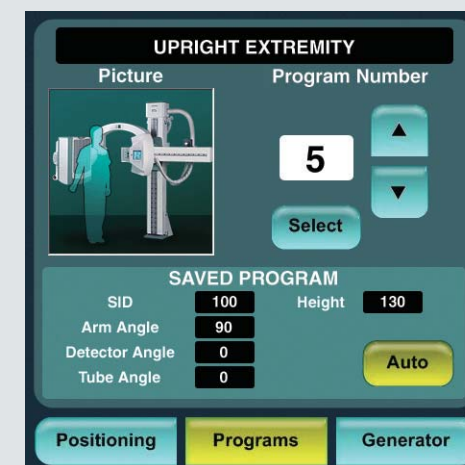| Skull Exams	Chest Views	Extremity Elbow

Simple and automatic operation

Easy operation using the following:
- Touch buttons located in the X-ray tube cover, around the touch screen display control
- Control panel at the detector side
- Generator console located outside the room
- Infrared remote controller

Generator console

IR Remote controller (option)

Easy positioning, better productivity

UPRIGHT EXTREMITY

Picture   Program Number

5

Select

SAVED PROGRAM

SID	100	Height	130
Arm Angle	90		
Detector Angle	0		
Tube Angle	0		

Auto

Positioning   Programs   Generator

The following can be set automatically from the touch screen panel by selecting a specific position number from the pre-set position list displayed on the screen: SID, arm angle, detector angle, and height.
Also the exposure condition (kV, mA, ms) can be set automatically by selecting a body part from the body part list displayed on the CR Console.*
These auto-setting functions greatly alleviate the workload of radiologists.

*The CR Console is the central controlling device of the CR system.

kVp **130**
mAs **4** Density N
mA **80** Sensitivity
ms **50** AEC Cells

Positioning   Programs   Generator

CR Console

The system's dual-speed motorized movement when a button or control is pressed and the intelligent anti-collision mechanism which uses two sensor laser beams ensure patient safety, and quick and easy patient positioning.
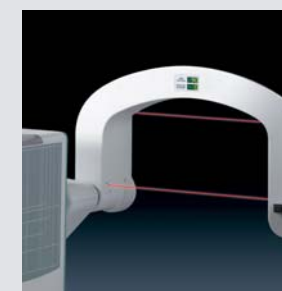
A convenient verification screen clearly indicates the patient name for quick and easy confirmation, minimizing patient-data errors. A suitable grid size can be selected from this screen to match the type of exam.

FUJIFILM DR VELOCITY Unity SPECIFICATIONS

Image Detector (Model: CR-IR 371 RU)

• Image size	43 × 43 cm (17 × 17 inch)
• Pixels	4280 × 4280
• Pixel size	100 microns
• Spatial frequency (Nyquist)	5.0 cy/mm
• Bit Depth	12 bit
• Preview image	Approx. 9 seconds

Universal Arm Stand (Model: VERSO F)

• Vertical height	max. 1530 mm or more
	min. 500 mm
• Rotation of arm	+120/-30 degree
• Tilting of detector	+/-45 degree*
• SID	1000 – 1800 mm

*The absolute angle of detector is limited from 0 to +110 degree by software.

Generator (Model: SHF515 / SHF535 / SHF635 / SHF835)

• Output	50kW (SHF515, SHF535)/64kW (SHF635)/80kW (SHF835)
	(SHF835 available in some countries)
• Range of output	40 to 150kVp in 1kVp steps.
• Maximum current	640mA (SHF515, SHF535,SHF635)/800mA (SHF835)
• Console (Model: TPC 12")	12 inch Monitor and Touch screen display

X-Ray Tube (Model: E7252X / E7869X)

• Range of voltage	40 – 150kV
• Focal spot	1.2 mm (Large focus)/0.6 mm (Small focus)
• Anode heat storage capacity	300 kHU (E7252X)/600 kHU (E7869X)

Collimator (Model: 150PBL Collimator)

• Automatic collimator

Image & Information Processor (Model: CR-IR 348CL): Option

• Spatial frequency processing
• Gradation processing
• Dynamic Range compression processing
• Multi-frequency processing (option)
• Flexible noise control processing (option)
• Grid pattern removal processing (option)

Dimensions* (W × D × H)

• Universal arm stand**	2320 × 1465 × 2650 mm (91" × 58" × 104")
• Arm controller	592 × 422 × 600 mm (23" × 17" × 24")
• Generator	592 × 422 × 690 mm (23" × 17" × 27")

*This is approx. value.   ** Detector is included

Weight*

• Universal arm stand**	500 kg (1102 lbs.)
• Arm controller	65 kg (143 lbs.)
• Generator	110 kg (243 lbs.)

*This is approx. value.   ** Detector is included

Power Supply Requirement

|	
• Detector	200 – 240V±10%, 2.1 2.5A, 50/60Hz (Single phase)
• Universal arm stand	230/240V±10%, 50/60Hz (Single phase)
• Generator	230/240V, 50/60Hz (Single phase) for output 50kW
	400V, 50/60Hz (3-phase) for output 50kW
	400V, 50/60Hz (3-phase) for output 64kW
	480V, 50/60Hz (3-phase) for output 80kW

Environment Condition

• Temperature	15 – 30 degree
• Humidity	40 – 75%Rh
• Atmospheric pressure	750 – 1060 hPa

Optional Accessories

• Mobile table	Carbon fiber table (Patient Capacity: 200 kg)
• Grid	10:1 or 8:1, 36 lines/cm, FID 100/140/180 cm
• Ion chamber (Model: ICX-127)	3 field
• Infrared remote controller	
• Ceiling support	
• Cassette holder	
• Long view cassette holder	
• QC phantom holder	

Dimensions
Unit mm (in.):
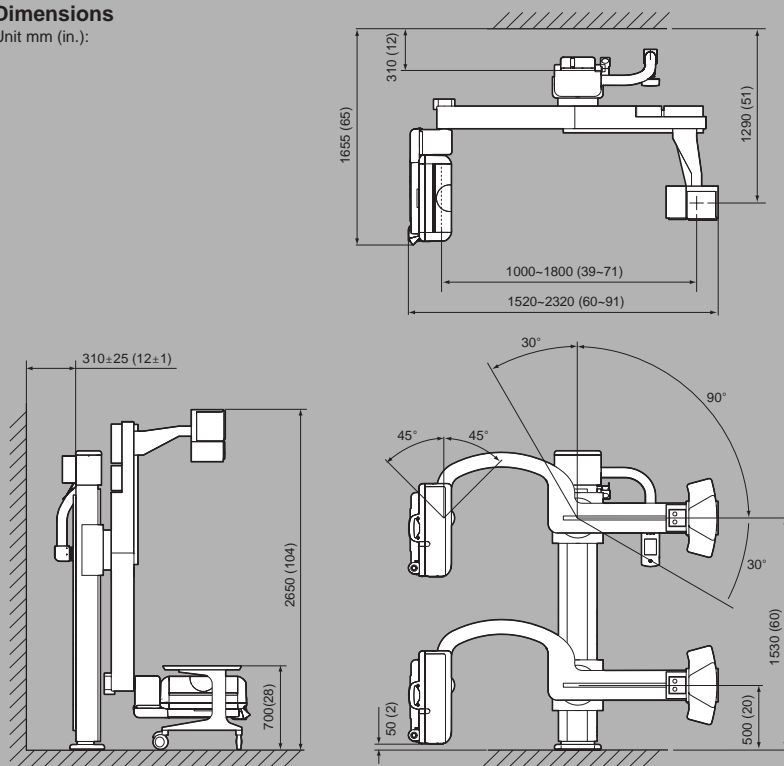
FUJIFILM DR VELOCITY Unity (Model: CR-IR371) CE 0123

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