FUJIFILM

NEW

VELOCITY T FP

An innovative DR realizing high image quality with less X-ray dosage

FUJIFILM DR

Image Intelligence™

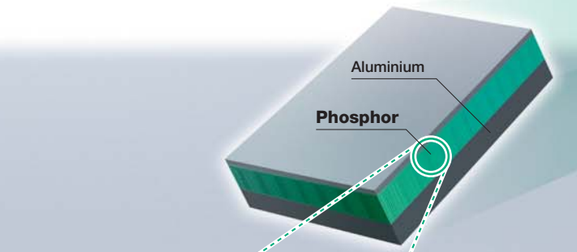
FUJIFILM DIGITAL RADIOGRAPHY SYSTEM

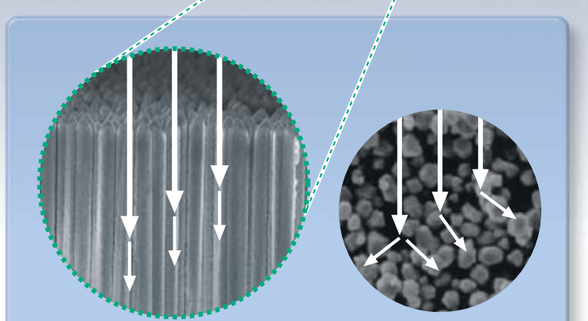
The new table-type FUJIFILM DR with enhanced DQE provides optimum image quality for diagnosis.

FUJIFILM's DR VELOCITY Tfp is a convenient supine-position digital radiography device that uses a columnar crystal X-ray detector attaining twice the DQE (Detective Quantum Efficiency) of current FUJIFILM products. Its significantly improved image quality provides the possibility of reducing X-ray dosage on patients.

Uncompromised Image Quality

By a combination of **Focused Phosphor Technology** applied to the built-in detector and FUJIFILM's renowned sophisticated digital image software technologies, the **Image Intelligence™**, the FUJIFILM DR VELOCITY Tfp offers unparalleled image quality in digital radiology.





● **Focused Phosphor Technology**

VELOCITY Tfp

Focused Phosphor Technology

It is essential to increase the X-ray exposure efficiency to improve image quality.

To increase the efficiency, the Imaging Plate X-ray absorption has to be improved. To improve the Imaging Plate absorption, the phosphor layer thickness needs to be appropriately increased.

In practice, the Imaging Plate efficiency cannot be improved by merely increasing the phosphor layer thickness for the following reasons:

(1) sufficient stimulation light cannot penetrate deep into the phosphor layer because each of the phosphor particles in the phosphor layer acts as a light scattering medium, and

(2) photo stimulated luminescence (PSL), generated deep inside the phosphor layer and containing X-ray information, cannot be extracted through the IP surface.

The new Focused Phosphor Plate not only increased in thickness but also utilizes a columnar particle structure which acts as a light guide, allowing the stimulation light to reach deep inside the phosphor layer. The PSL generated is then successfully extracted through the Focused Phosphor Plate surface. As a result, the X-ray exposure efficiency is improved.

Image Intelligence™

"Image Intelligence™" is a set of sophisticated digital image-processing software technologies that are incorporated in the FUJIFILM DR VELOCITY Tfp.

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

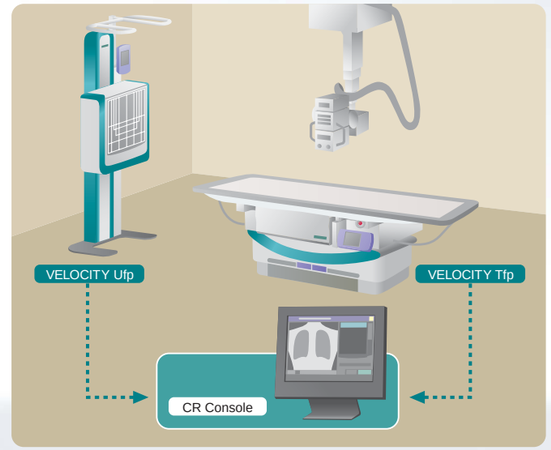
MFP is optional software that provides greater diagnostic information from a single exposure image through frequency enhancement. MFP improves visibility of both dense and peripheral tissues, simultaneously applying edge-enhancement processing to all structures in an image.

"Digital Suite"

VELOCITY Tfp, VELOCITY Ufp and Console for further flexibility

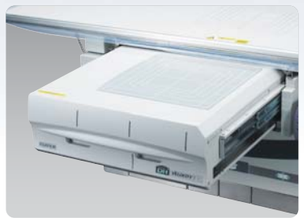
VELOCITY Tfp and VELOCITY Ufp plus CR Console "Digital Suite" expand flexibility in the radiography room with the dual capability of reading. Exposure data can be received from an X-ray controller*.

*Validated X-ray controllers.



Exposure Flexibility

The VELOCITY Tfp makes it possible to pull the exposure unit out from under the tabletop enabling exposure of upper and lower extremity bones that used to require the use of a cassette. Indicator lamps positioned on both sides of the table top for easy confirmation of X-ray and equipment condition can be checked from outside the X-ray exposure room for distinction of the unit's readiness.
The VELOCITY Tfp can handle sizes up to 17"×17" (43×43cm) and provides support for horizontal exposures in 10"×12" (25×30cm) and 8"×10" (20×25cm) sizes.



User-Friendly Interface

A convenient verification display can be installed on either side of the detector unit, clearly indicating patient name for quick and easy confirmation to minimized patient-data errors.

FUJIFILM DR VELOCITY Tfp SPECIFICATIONS

Standard Components (some items are sold separately):
- FUJIFILM DR VELOCITY Tfp Table-type Image Reader (CR-IR370)
- AC Power Cord
- Grid: 12:1, 10:1, 8:1 (density 36 lines/cm, focal distance 100cm)

Other System Components:
- CR Console Plus/Lite (Plus is recommended)
- Image Recorder: DRYPIX 2000/4000/7000

Reading Sizes (reference):
17" x 17" (43 x 43cm), 14" x 17" (35 x 43cm), 17" x 14" (43 x 35cm), 14" x 14" (35 x 35cm), 10" x 12" (25 x 30cm), 12" x 10" (30 x 25cm), 8" x 10" (20 x 25cm), 10" x 8" (25 x 20cm), 18 x 43cm.

Processing Capacity:
Approx. 140 IPs / hour.
Achieved under the following exposure combination:
Lumbar Spine (Front/Lateral) 40%, Abdomen (Spine) 20%, Upper and Lower Extremity Bones 40%.

***Note**: processing capacity varies depending on the maximum amount of X-ray exposure dose reaching the built-in IP inside VELOCITY Tfp.*

Network:
10 Base T/100 Base T

Dimensions:
- Table Top Size: 2350mm x 810mm (93" x 32")
- Table Height: 650 – 850mm (26" – 34")
- Control Unit (W x D x H): 260 x 550 x 470mm (10" x 22" x 19")
- Power Supply Unit (W x D x H): 500 x 400 x 475 – 495mm (20" x 16" x 19" – 20")

Weight:
- Table-type Image Reader: 471kg (1039lbs.)
- Control Unit: 21kg (46lbs.)
- Power Supply Unit: 45kg (99lbs.)

Power Supply Conditions:
Single phase 50/60Hz: AC200/220/230/240V ±10%
10.0/9.1/8.7/8.4A

Environmental Conditions:
- Operating Conditions:
  Temperature: 15(at 40%RH) – 30°C(at 80%RH)
  Humidity: 40(at 15°C) – 80%RH(at 30°C) [No dew condensation]
  Atmospheric pressure: 650 – 1060 hPa
- Non-operating Conditions:
  Temperature: 0 – 45°C
  Humidity: 10 – 90%RH [No dew condensation]
  Atmospheric pressure: 650 – 1060hPa

Note: Keep the temperature at 30°C and humidity less than 80%RH if the non-operating period is less than a week and 30°C and less than 60%RH if over a week.

Image Reading

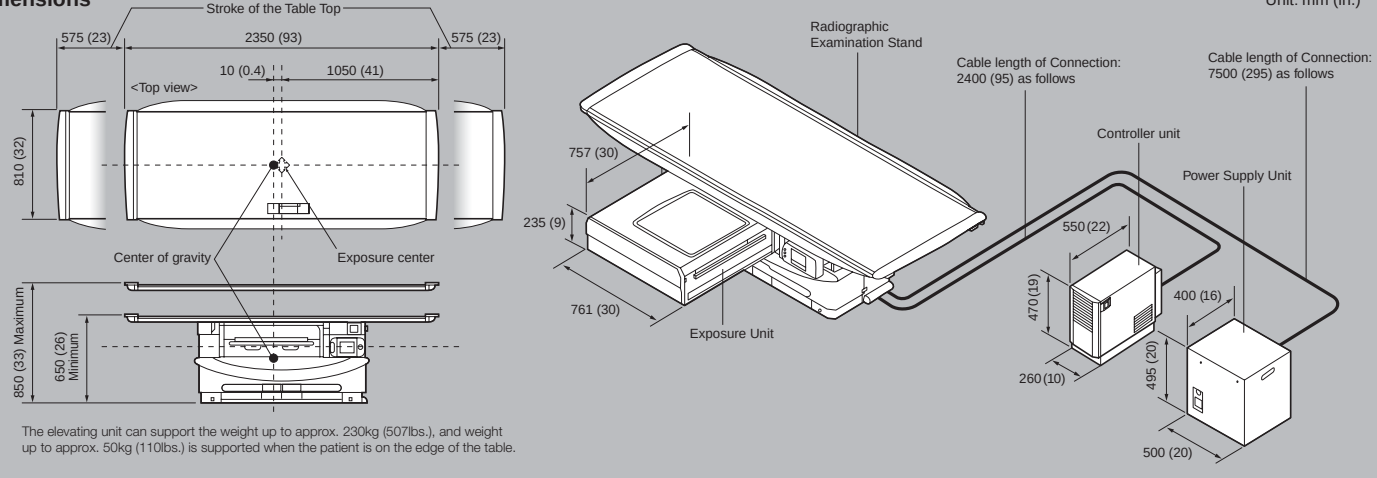
(1) Reading gray scale 12 bit/pixel
Output gray scale 10 bit/pixel

(2) Reading specification
All images are read at the rate of 12 bit/pixel and image densities listed in the table below are applied respectively for each image size when output from the CR Console.

Reading Size		17" × 17"	17" × 14"	14" × 17"	14" × 14"	12" × 10"	10" × 12"	10" × 8"	8" × 10"	18 × 43cm
Effective Reading Size (mm)		428 × 428	428 × 352	352 × 428	352 × 352	301.5 × 250.5	250.5 × 301.5	251 × 200	200 × 251	177 × 428
Standard Pixel-density	Spatial Resolution (pixels/mm)	5	5	5	5	6.7	6.7	10	10	5
	Number of Pixels	2140 × 2140	2140 × 1760	1760 × 2140	1760 × 1760	2010 × 1670	1670 × 2010	2510 × 2000	2000 × 2510	885 × 2140
High Pixel-density	Spatial Resolution (pixels/mm)	10	10	10	10	10	10	10	10	10
	Number of Pixels	4280 × 4280	4280 × 3520	3520 × 4280	3520 × 3520	3015 × 2505	2505 × 3015	2510 × 2000	2000 × 2510	1770 × 4280

Dimensions

Unit: mm (in.)



The elevating unit can support the weight up to approx. 230kg (507lbs.), and weight up to approx. 50kg (110lbs.) is supported when the patient is on the edge of the table.

Specifications and PC requirements are subject to change without notice.
All brand names or trademarks are the property of their respective owners.
All products require the regulatory approval of the importing country.
For details on their availability, contact our local representative.

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http://www.fujifilm.com/products/medical

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