

FUJIFILM

FCR PROTECT CS

FUJI COMPUTED RADIOGRAPHY

An all-purpose, high-throughput FCR Reader capable of precise 50 micron resolution imaging and fast mammography exams.



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

FCR, the world's first CR to receive PMA¹ approval from FDA² for mammography.

*1: PMA (Premarket Approval) *2: FDA (U.S. Food and Drug Administration)

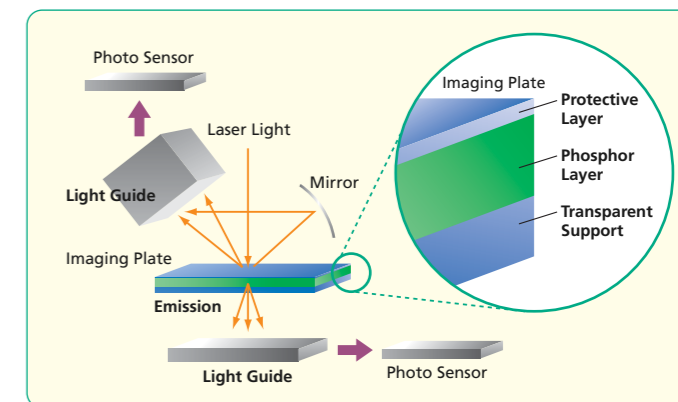
Setting new standards in digital mammography for speedy exams.

Fujifilm responds to the market needs of digital mammography with the introduction of PROTECT CS, a high-throughput FCR reader offering image quality optimized to satisfy the most demanding applications. Features include processing capacity sufficient to cover two mammography-screening rooms, and enough power to process standard examinations. Its four-cassette stacker and the MAMMOASCENT AWS-c's and CR Console's easy operability realize increasing workflow efficiency and enhanced diagnostic breadth.



Dual-Side Reading Technology

The Dual-Side Imaging Plate (IP) Reading technology allows the use of a thicker phosphor layer on the transparent base, thereby increasing DQE (Detective Quantum Efficiency) by collecting the emissions from both sides of the IP.



High-quality Image Display and Output



Image quality is consistently high with wide latitude and sharp definition, whether it is for digital mammogram or plain X-ray, and whether on print or on display. Optimized images are the result of up to 20- pixel/mm scanning pitch and combining image-processing algorithms.

Enhanced Image Processing

"Image Intelligence™" – a set of sophisticated digital image-processing software technologies available through the CR Console – processes image data and optimizes final output.



MFP Multi-frequency Processing*

As an optional software applicable for all types of FCR imaging, MFP is an improved version which uses frequency enhancement to provide more diagnostic data from a single exposure image, using Fujifilm's renowned Dynamic Range Control (DRC). MFP improves visibility of both dense and peripheral tissue by simultaneously applying edge enhancement processing to small and large structures within an image.

PEM Pattern Enhancement Processing for Mammography*

As an optional software specifically developed for mammographic imaging, PEM enhancement processing improves the conspicuity of micro-calcifications.

* Image processing requires the use of FCR CR Console Plus

High Productivity – 80 images per hour



The PROTECT CS, equipped with four-cassette stacker, can process up to 103 standard Imaging Plates (IP) (35 x 43 cm) and up to 80 HR-BD IPs* (18 x 24 cm) per hour.

* High-Resolution Dual-Side Imaging Plate

Optimized Operation



The MAMMOASCENT AWS-c optimizes your mammography examinations with its advanced design and features.

Digital Mammography System

A digital Mammography System is a system that links the FCR PROTECT CS and/or the FCR PROTECT ONE with the SYNAPSE Mammography Viewer via the MAMMOASCENT AWS-c and/or the CR Console to optimize the viewing of any body part that may be associated with breast cancer.



PROTECT CS

FUJIFILM FCR PROTECT CS Specifications

Standard Components:

- FCR PROTECT CS Image Reader (Model: CR-IR 363)
- AC power cord

Other System Components (sold separately):

- CR Console Plus, MAMMOASCENT AWS-c
- Image Recorder : DRYPIX 4000/7000
- ID Card Writer
- FCR Data Management System

Supplies:

Imaging Plate:

- ST-VI (Standard): 14" x 17", 14" x 14", 10" x 12", 8" x 10", 24 x 30cm, 18 x 24cm
- HR-V (High Resolution): 24 x 30cm, 18 x 24cm
- ST-BD (Standard Dual-Side Imaging): 24 x 30cm, 18 x 24cm
- HR-BD (Dual-Side Mammography): 24 x 30cm, 18 x 24cm

IP Cassette:

- Type CC: 14" x 17", 14" x 14", 10" x 12", 8" x 10", 24 x 30cm, 18 x 24cm
- Type CH: 24 x 30cm, 18 x 24cm
- Type DS: 24 x 30cm, 18 x 24cm
- Type DM: 24 x 30cm, 18 x 24cm
- Type LC: 35.4 x 124.5cm, 35.4 x 101.7cm, 35.4 x 83.0cm, 25.2 x 58.0cm, 24.0 x 57.0cm

Time Required for IP Feed/Load:

IP Type	IP Size	Required Time
ST-VI	14" x 17" (35 x 43cm)	Approx. 60 sec.
ST-VI	14" x 14" (35 x 35cm)	Approx. 54 sec.
ST-VI	10" x 12"	Approx. 50 sec.
ST-VI	8" x 10"	Approx. 40 sec.
ST-VI	24 x 30cm	Approx. 51 sec.
ST-VI	18 x 24cm	Approx. 42 sec.
HR-V	24 x 30cm	Approx. 65 sec.
HR-V	18 x 24cm	Approx. 55 sec.
ST-BD	24 x 30cm	Approx. 85 sec.
ST-BD	18 x 24cm	Approx. 75 sec.
HR-BD	24 x 30cm	Approx. 90 sec.
HR-BD	18 x 24cm	Approx. 80 sec.

Processing Capacity

(in high-pixel density two-image output format):

IP Type	IP Size	When connected to DRYPIX 7000/CR Console Plus
ST-VI	14" x 17" (35 x 43cm)	Approx. 103 IPs/hr.
ST-VI	14" x 14" (35 x 35cm)	Approx. 120 IPs/hr.
ST-VI	10" x 12"	Approx. 128 IPs/hr.
ST-VI	8" x 10"	Approx. 165 IPs/hr.
ST-VI	24 x 30cm	Approx. 128 IPs/hr.
ST-VI	18 x 24cm	Approx. 165 IPs/hr.
HR-V	24 x 30cm	Approx. 90 IPs/hr.
HR-V	18 x 24cm	Approx. 110 IPs/hr.
ST-BD	24 x 30cm	Approx. 65 IPs/hr.
ST-BD	18 x 24cm	Approx. 80 IPs/hr.
HR-BD	24 x 30cm	Approx. 65 IPs/hr.
HR-BD	18 x 24cm	Approx. 80 IPs/hr.

Time to Print on DRYPIX 7000 through network via CR Console:

Approx. 130 sec.

Time to Print on DRYPIX 7000 (18 x 24 HR-BD & ST-BD) :

Approx. 157sec.

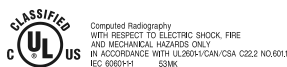
Time To Display on CR Console:

- 14" x 17": 39 sec.
- 18 x 24cm HR-BD: 50 sec.

Image Reading (Image output is via CR Console)

Reading Size	Standard Pixel-density		High Pixel-density	
	Pixels/mm	Number of Pixels	Pixels/mm	Number of Pixels
14" x 17" (35 x 43cm)	5	1760 x 2140	10	3520 x 4280
14" x 14" (35 x 35cm)	5	1760 x 1760	10	3520 x 3520
10" x 12"	6.7	1670 x 2010	10	2505 x 3015
8" x 10"	10	2000 x 2510	10	2000 x 2510
24 x 30 cm (ST-VI & HR-V)	6.7	1576 x 1976	10	2364 x 2964
18 x 24 cm (ST-VI & HR-V)	10	1770 x 2370	10	1770 x 2370
24 x 30 cm (ST-BD & HR-BD)	10	2364 x 2964	20	4728 x 5928
18 x 24 cm (ST-BD & HR-BD)	10	1770 x 2370	20	3540 x 4740

This equipment is a Class 1 laser product (IEC60825).



Specifications are subject to change without notice.
All brand names or trademarks are the property of their respective owners.
In some countries, regulatory approval may be required to import medical devices.
For the availability of these products, please contact your local sales representatives.

Number of Stackers: 4

Reading Gray Scale: 12 bits

Network: 10 Base T/100 Base TX

Dimensions (W x D x H): 655 x 740 x 1480mm (26" x 29" x 58")

Weight: 270 kg (595 lbs.)

Power Supply Conditions:

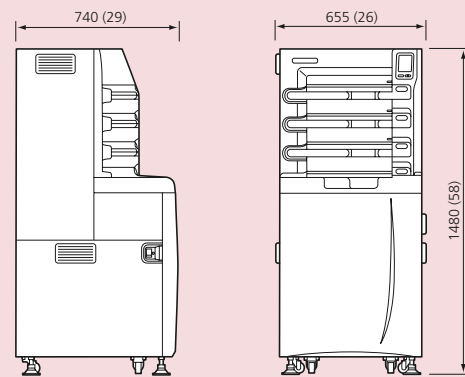
Single phase 50-60Hz
AC 120-240V ±10%
7A (max)

Environmental Conditions:

- Operating Conditions:
Temperature: 15-30°C
Humidity: 40-80%RH (No dew condensation)
- Non-operating Conditions:
Temperature: 0-45°C
Humidity: 10-90%RH (No dew condensation)

Dimensions

Unit: mm (in.)



IP Cassette with Imaging Plate



DM Cassette with IP HR-BD for Dual-Side Mammography



DS Cassette with IP ST-BD for Standard Dual-Side imaging

Mammography QC Program



Fujifilm's Mammography QC Program is a dedicated quality control program applicable to FUJIFILM digital mammography systems. This program enables the system to keep a stable image quality for both screening and diagnosis.



FUJIFILM supports the Pink Ribbon Campaign for early detection of breast cancer

FUJIFILM

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