

Making the Invisible Visible

XRD 3131N Flat Panel Detector



OVERVIEW

Varex Imaging's XRD 3131N is a high speed, large area amorphous silicon Flat Panel X-ray detector for high dose industrial applications.

The XRD 3131N supports a full 31 x 31 cm² field of view, is available with several scintillator options and shielding options for high-dose non-destructive testing, including inline Cone Beam Computed Tomography, using energies up to 450 kV. This detector has a 100 µm native pixel pitch and operates at 25 fps at full resolution and full field of view; it also supports different fields of view and binning modes.

Rapid system integration is accomplished with integrated trigger and X-ray synchronization, a frame grabber providing real-time image-processing and a comprehensive software library for image acquisition and processing.

FEATURES AND BENEFITS

- High resolution with high speed
- 25 fps @ 100 µm
- Selectable Modes up to 150 fps
- Designed for 24/7 Applications
- Ultra high sensitivity
- Up to 450 kV
- Real time corrections

APPLICATIONS¹

- Inline Battery Inspection
- Inline CBCT
- Metrology
- Scientific applications

Technical Specifications

SENSOR

Panel	Amorphous silicon
Scintillator	CsI: TI or various Gadox
Pixel Size	100 μm pitch
Pixel Matrix	3072 \times 3072
Total Area	307 mm \times 307 mm

READ OUT MODES

Binning - 1 \times 1

Pixel Matrix	3072 \times 3072
Pixel Pitch	100 \times 100 μm^2
Max. Frame Rate	25 fps

Binning - 2 \times 2

Pixel Matrix	1536 \times 1536
Pixel Pitch	200 \times 200 μm^2
Max. Frame Rate	50 fps

Binning - 3 \times 3

Pixel Matrix	1024 \times 1024
Pixel Pitch	300 \times 300 μm^2
Max. Frame Rate	75 fps

(Additional read-out modes are available.)

ELECTRONICS

ADC	16-bit
Charge Amplifier	Low noise ASICs with user selectable gains

COMMUNICATIONS

Data I/F	Fiber optic to PCIe frame grabber
Software	64 bit Windows® / Linux OS

IMAGE PROCESSING

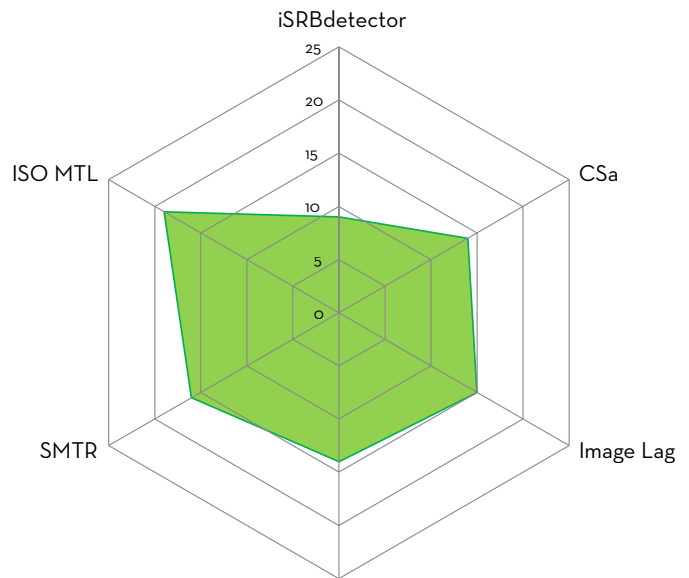
Type . . . Real time offset, gain, defective pixel corrections on frame grabber

MECHANICAL

Size	
160 kV	418 x 470 x 38 mm
225 kV / 450 kV	418 x 470 x 43 mm
Weight (approx.)	
160 kV	8.7 kg
225 kV	16 kg
450 kV	20 kg

XRD 3131N-F22-C @ 25Hz

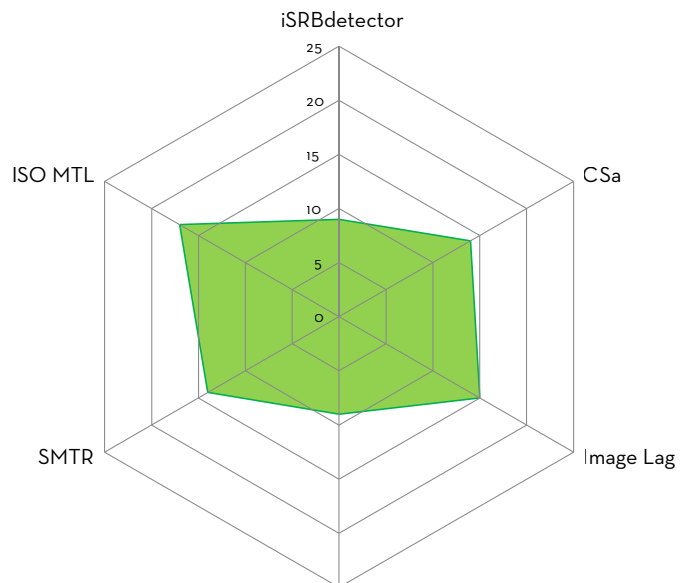
Material: Al-7022



SNRN @1mGy

XRD 3131N-F22-C @ 25Hz

Material: SS-316L



SNRN @1mGy

¹ Unless otherwise specified, Varex Imaging Flat Panel X-ray Detectors are components intended to be integrated into products by X-ray system manufacturers. System manufacturers are responsible for qualifying and validating their products for their intended uses and meeting all applicable regulatory requirements. Contents in this document are subject to change without notice.



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