

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 cm<sup>2</sup> 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

### APPLICATIONS<sup>1</sup>

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

## Technical Specifications

### SENSOR

Panel .....	Amorphous silicon
Scintillator .....	CsI: TI or various Gadox
Pixel Size .....	100 $\mu\text{m}$ 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 $\mu\text{m}^2$
Max. Frame Rate .....	25 fps

#### Binning - 2 $\times$ 2

Pixel Matrix .....	1536 $\times$ 1536
Pixel Pitch .....	200 $\times$ 200 $\mu\text{m}^2$
Max. Frame Rate .....	50 fps

#### Binning - 3 $\times$ 3

Pixel Matrix .....	1024 $\times$ 1024
Pixel Pitch .....	300 $\times$ 300 $\mu\text{m}^2$
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

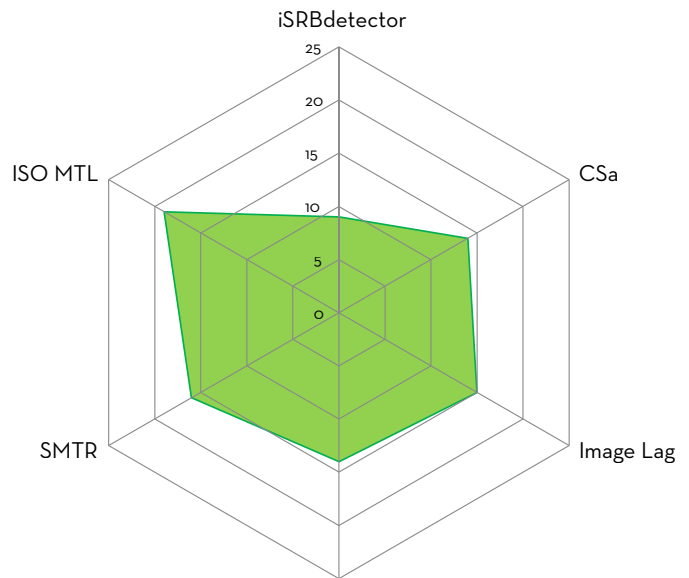
Type .. Real time offset, gain, defective pixel corrections on frame grabber

### 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

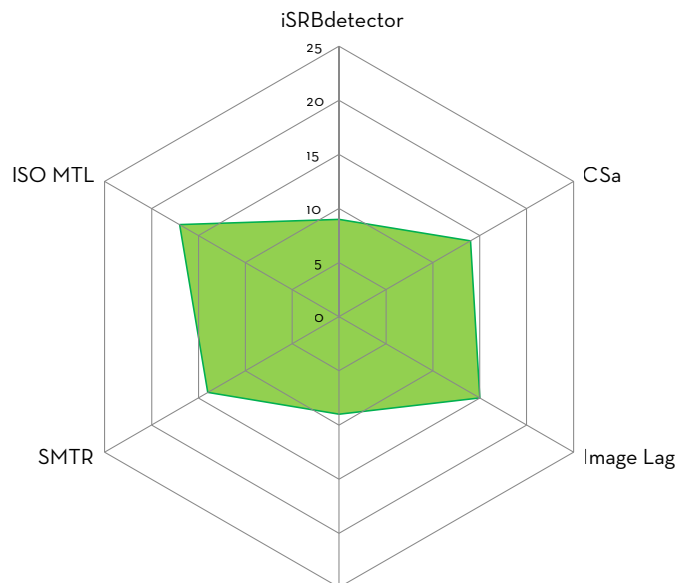
Material: Al-7022



SNRN @1mGy

### XRD 3131N-F22-C @ 25Hz

Material: SS-316L



SNRN @1mGy

<sup>1</sup> 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.



USA HEADQUARTERS  
Salt Lake City, UT  
P: +1-801-972-5000

GERMANY  
Walluf  
P: +49-6123-971-300

CHINA  
Wuxi  
P: +86 510 8820-1652

For a complete listing of our global offices, visit [www.vareximaging.com](http://www.vareximaging.com)

© 2023 Varex Imaging Corporation. All Rights reserved. Production of any of the material contained herein in any format or media without the express written permission of Varex Imaging Corporation is prohibited.