

Xineos-2022HR & Xineos-3030HR

CMOS Flat X-ray Detectors for Fluoroscopy



Key Features

- 99 μ m pixel pitch
- Best in class resolution
- Excellent low-dose image quality
- Negligible image lag
- Instant mode switching
- No warm-up time needed
- Stable offset calibration
- Low power dissipation
- Support for gain-, offset- and defect pixel correction
- CameraLink (Full) data interface (other options available on request)

Typical Applications

- Surgery
- Skull/ENT
- Crystallography
- Non-destructive testing

Xineos CMOS X-Ray Flat Detectors: Better Images, Lower Dose

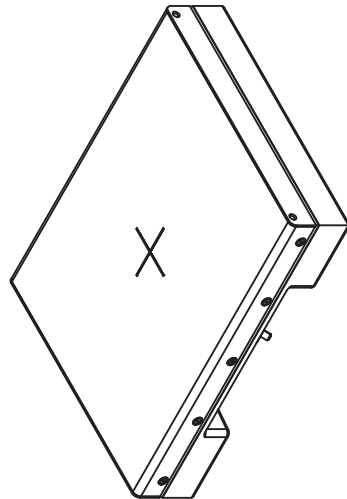
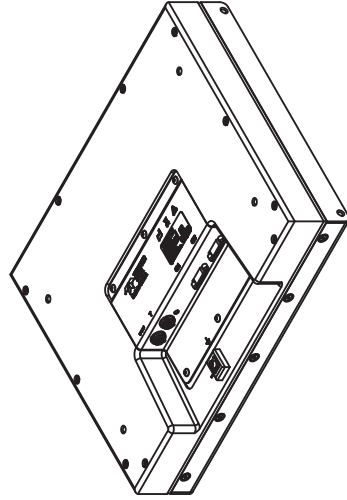
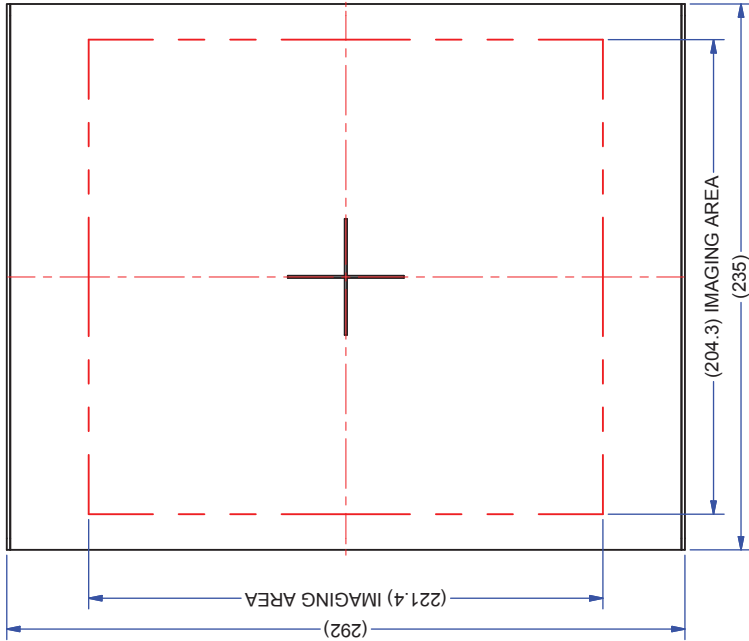
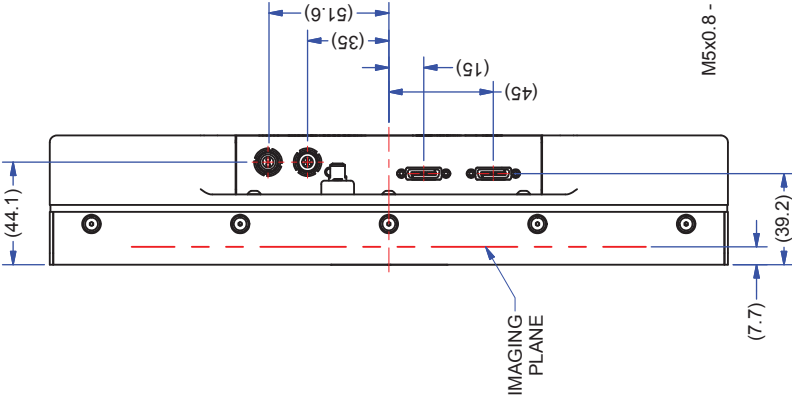
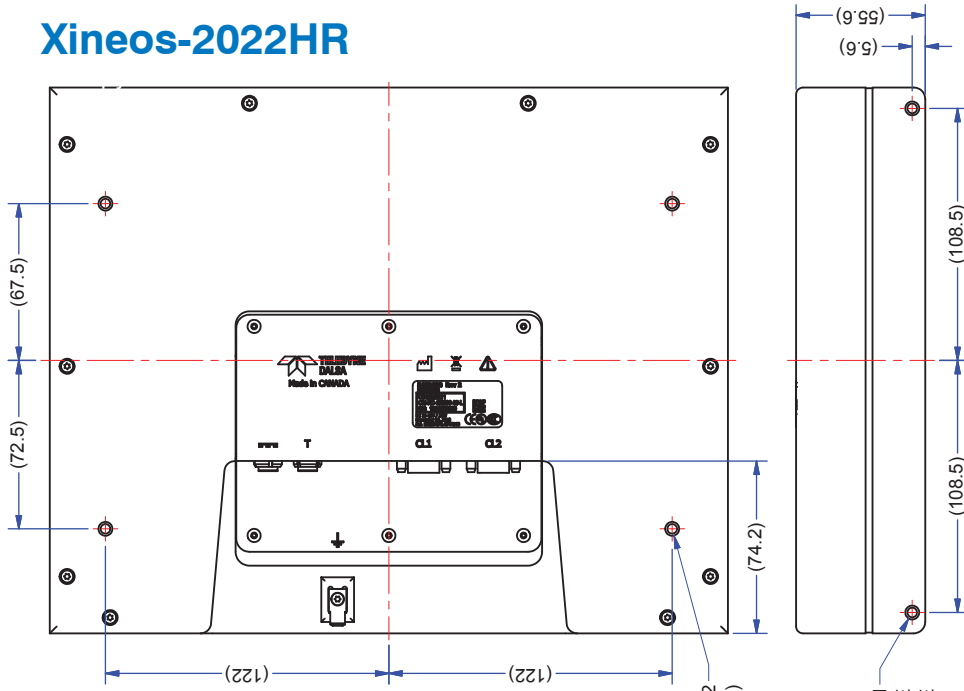
Utilizing Teledyne DALSA's latest generation proprietary radiation-hard CMOS Active Pixel design, the Xineos-HR Flat X-ray Detectors offer the industry's highest spatial resolution available in a compact flat detector package. Offering temperature-stable imaging characteristics and eliminating the need for forced cooling, these Xineos detectors are easy to integrate and reliable, reducing system recalibration and maintenance requirements in critical, heavy-use imaging systems.

The Xineos-HR range is specifically designed to meet the demanding needs of clinical, scientific and industrial applications, by using an advanced switchable pixel design that combines a high dynamic range with unsurpassed signal-to-noise performance at the lowest exposure levels. These dynamic applications benefit from the increased detectability of small or low-contrast features while imaging lag-free at high frame rates in full resolution. Flexible zoom modes can be used to capture regions-of-interest at 100fps or even faster. Instantly after power-on, the detectors are ready to output crystal clean images and switching between different readout modes is instant.

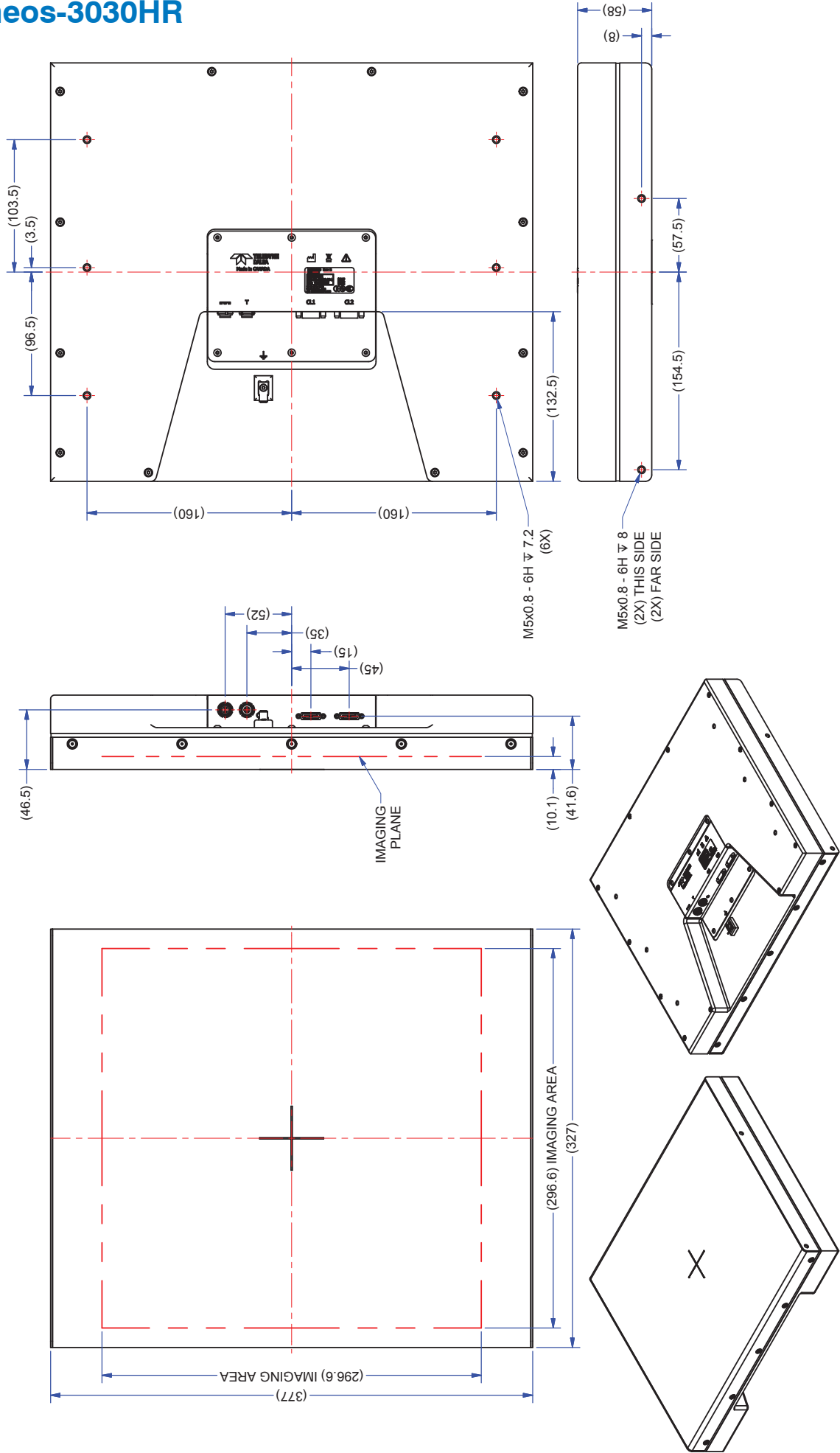
Specifications (Typical Values @ RQA5)

Parameter	Xineos-2022HR	Xineos-3030HR
Pixel Pitch		99 μ m
Active Area	204x221mm ²	296x296mm ²
Resolution	2065x2237	2994x2997
Binning support		1x1 / 2x2
Scintillator		Medical-grade columnar CsI
Saturation Dose, RQA5 (per mode)		5 μ Gy / 23 μ Gy
Dynamic Range (per mode)		70dB / 75dB
MTF @ 1lp/mm / 2lp/mm	60%/30%	58%/28%
DQE(0) @ 20 μ Gy, RQA5	72%	66%
DQE(0) @ 5nGy, RQA5	70%	64%
Image Bit Depth		14 bit
Data Interface		CameraLink (Full)
Frame Rate		
- Mag0 (100%), 1x1 / 2x2	31fps / 56fps	31fps / 63fps
- Mag1 (70%), 1x1 / 2x2	37fps / 68fps	43fps / 84fps
- Mag 2 (50%), 1x1 / 2x2	44fps / 80fps	57fps / 108fps
ROI readout		Centered 100%/70%/50% MAG modes
Trigger modes		Internal or External (Continuous or Pulsed)
X-Ray Energy Range		15..150kV
Power Consumption (active)	<15W	<18W
Dimensions (WxHxD)	235x292x56mm	327X377X58mm
Weight	6kg	9kg

Xineos-2022HR

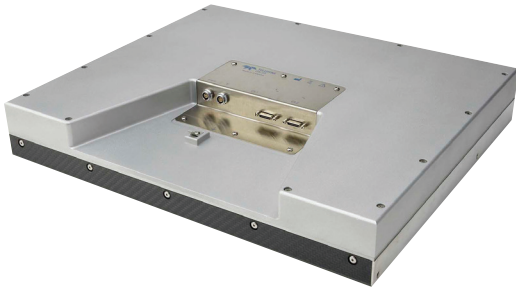


Xineos-3030HR



Xineos-2022HR & Xineos-3030HR

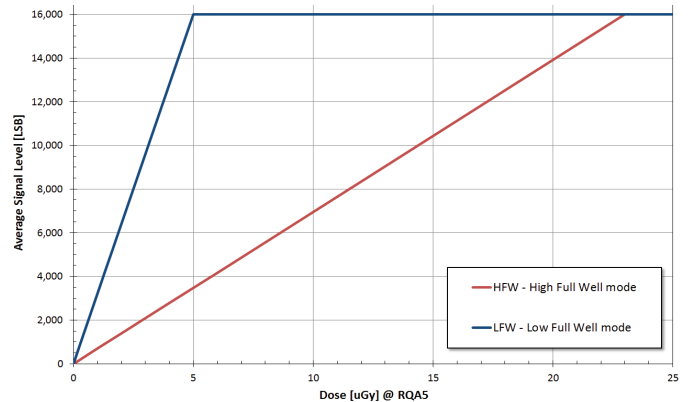
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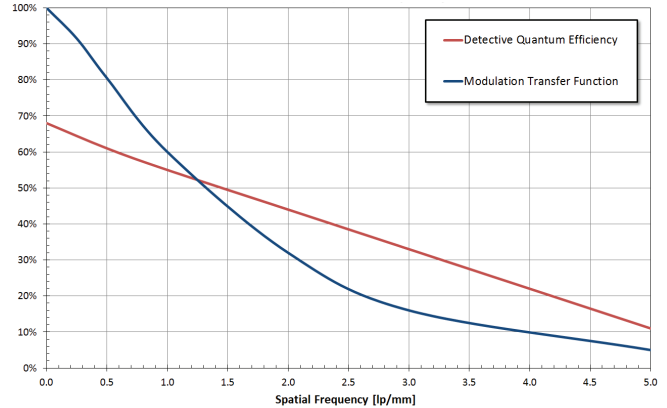
Detective Quantum Efficiency (DQE):

To become an accurate indicator of detector performance, DQE value must be reported at a specific dose value. For dynamic X-ray applications the meaningful doses should be very low. This requirement is the primary goal of the Xineos architecture. While Xineos routinely achieves 70% or higher DQE at doses of 200 μ R, the detector performance is not compromised at 1 μ R entrance dose level.

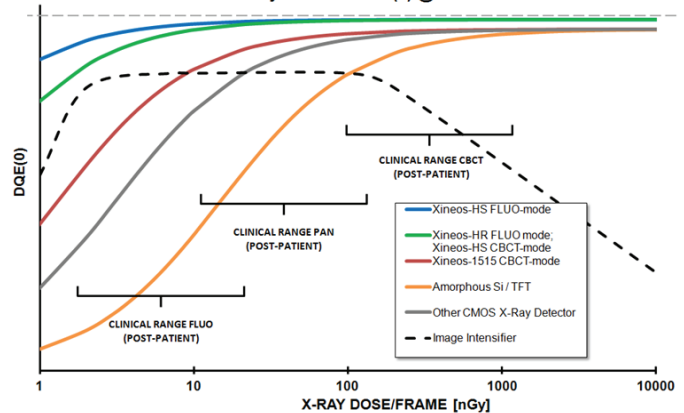
Xineos-2022HR/3030HR Sensitivity (RQA5)



Xineos-2022HR/3030HR DQE and MTF (RQA5)



X-Ray Detector DQE(0) @ RQA5



www.teledynedalsa.com

Americas

Waterloo, ON
+1 519-886-6000
sales.sensors@teledynedalsa.com

Europe

Eindhoven, The Netherlands
+31 40-259-9000
sales.sensors@teledynedalsa.com

Asia Pacific

Tokyo, Japan
+81 3-5960-6353
sales.sensors@teledynedalsa.com

Shanghai, China
+86 21-3368-0027
sales.sensors@teledynedalsa.com

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