

# Xineos-2222HS & Xineos-3030HS

CMOS Flat X-ray Detectors for Fluoroscopy



## Key Features

- Best in class low-dose image quality
- 152  $\mu\text{m}$  pixel pitch
- 30 fps at full resolution
- Up to 150 fps in binned ROI modes
- 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
- Gigabit Ethernet data interface (other options available on request)

## Typical Applications

- Surgery
- Orthopedics
- Cardiology
- Vascular
- Skull/ENT
- Veterinary

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

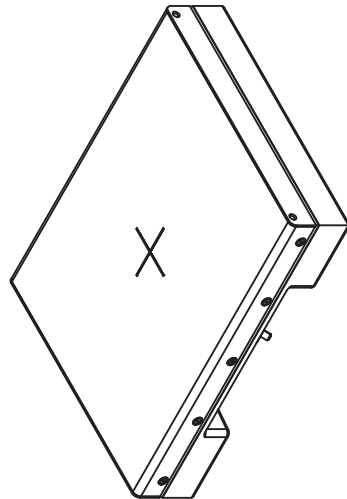
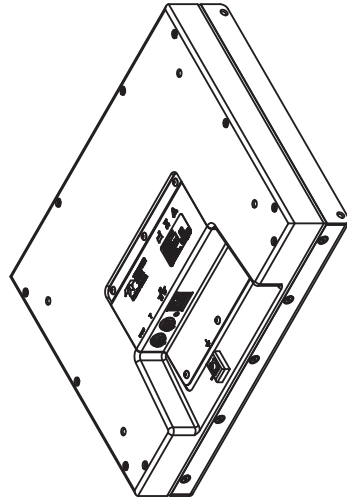
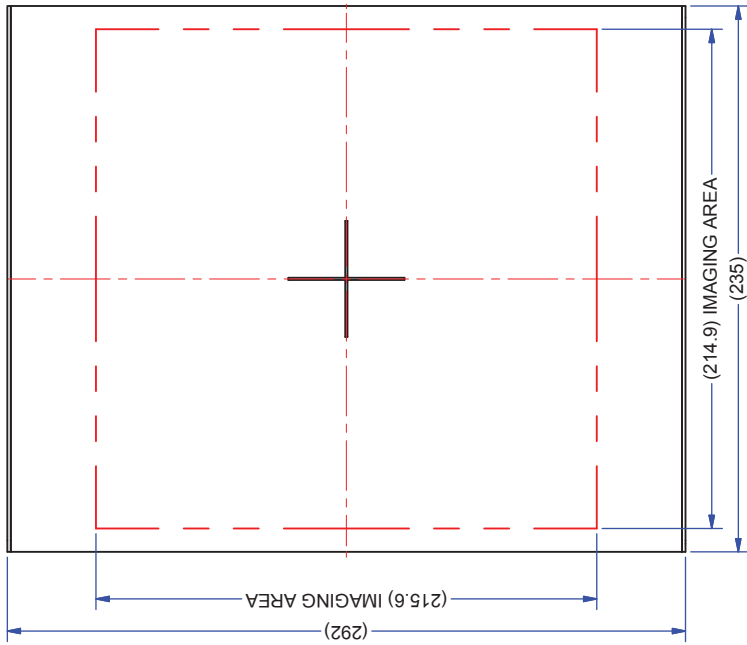
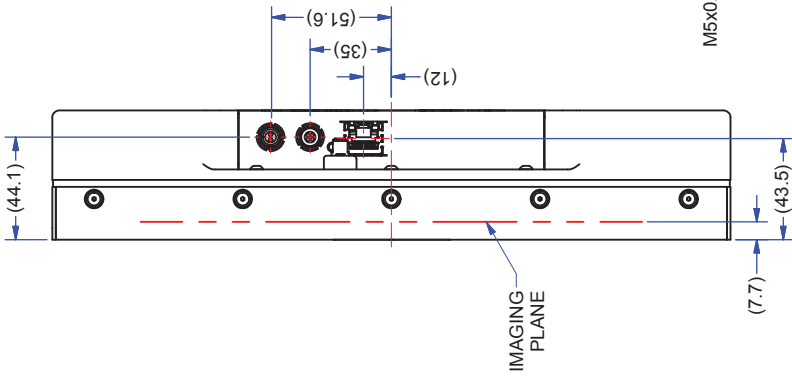
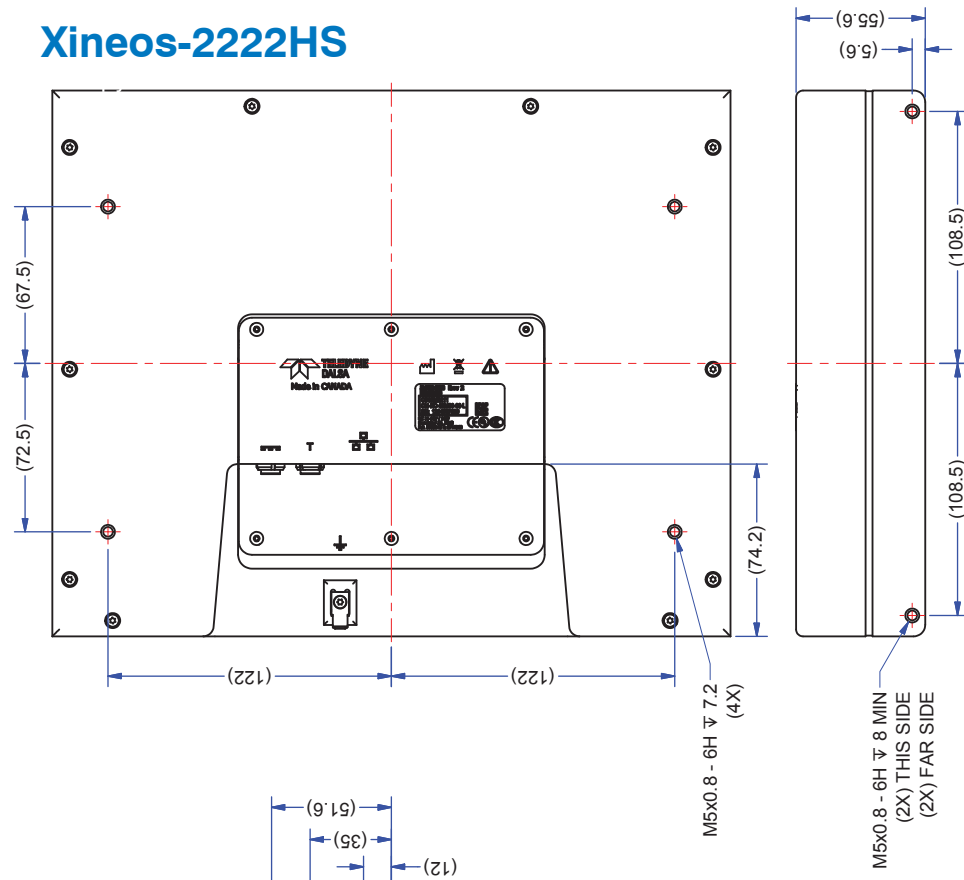
Utilizing Teledyne DALSA's latest generation proprietary radiation-hard CMOS Active Pixel design, the Xineos-HS Flat X-ray Detectors are the industry's first to beat the low-dose clinical imaging performance of Image Intensified cameras, and combine this industry benchmark with the form factor advantages of traditional amorphous silicon flat panels. 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 for mobile and fixed interventional imaging systems.

The Xineos-HS range is specifically designed to meet the demanding needs of both Surgical and Cardiac interventions, 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, pulsed x-ray clinical applications benefit from the increased detectability of small or low-contrast features while imaging lag-free in full resolution. Flexible zoom modes can be used to capture regions-of-interest at 150 fps, or even faster. Instantly after power-on, the detectors are ready to output crystal clean images and switching between modes is instant, making life so much easier for the physician – and the patient.

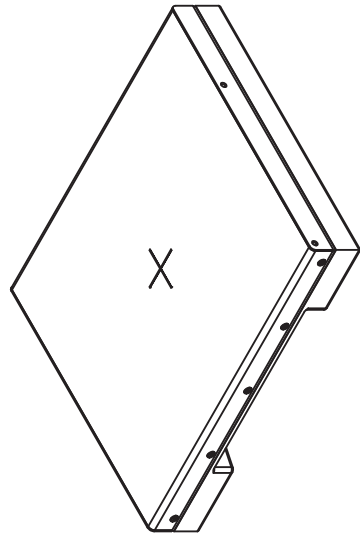
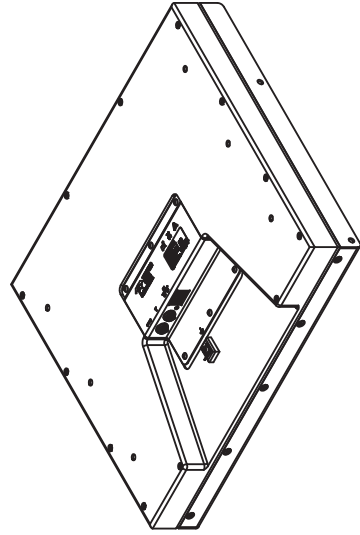
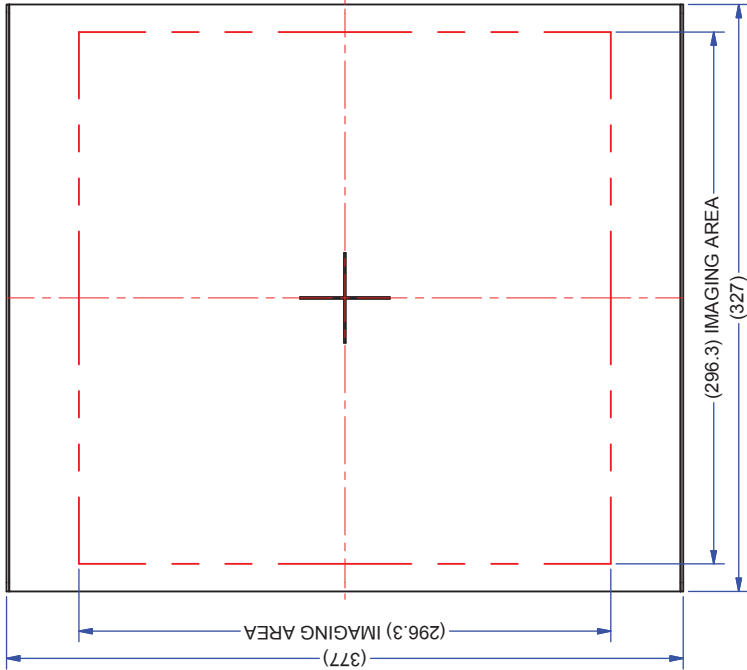
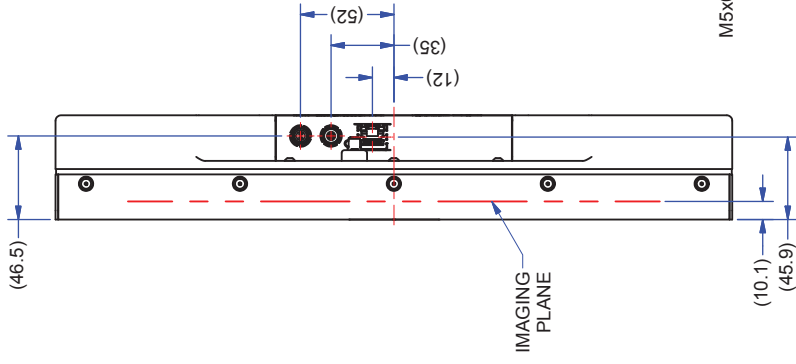
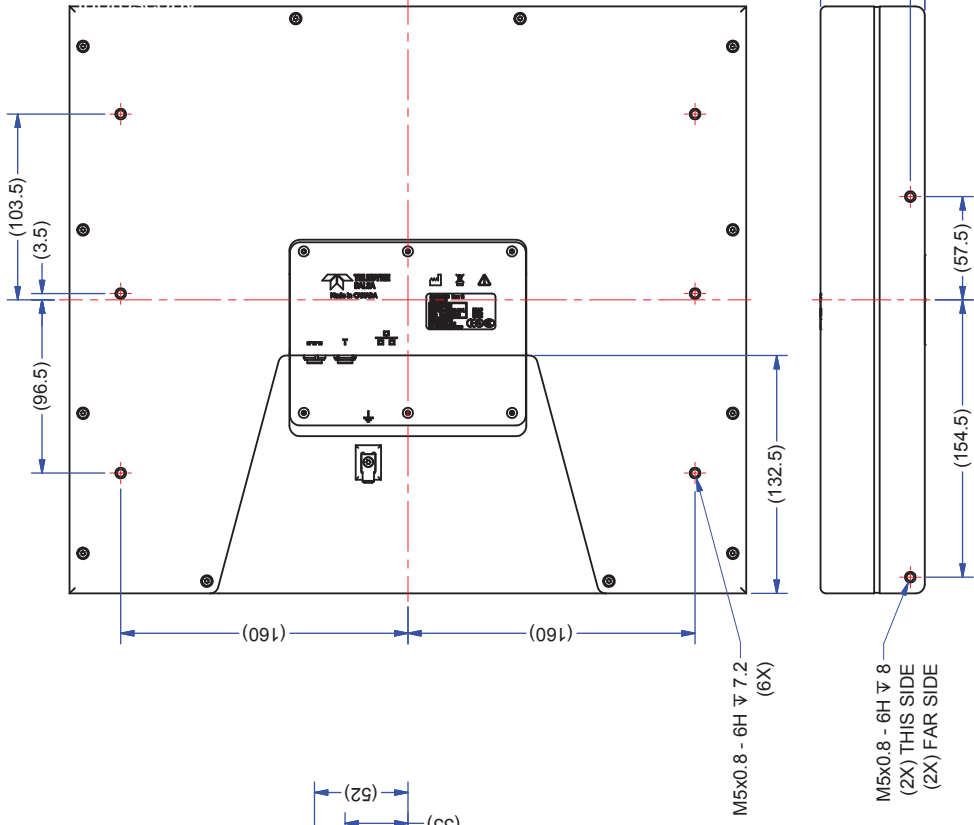
## Specifications (Typical Values @ RQA5)

Parameter	Xineos-2222HS	Xineos-3030HS
Pixel Pitch		151.8 $\mu\text{m}$
Active Area	215x215 mm <sup>2</sup>	295x295 mm <sup>2</sup>
Resolution	1416x1420	1952x1952
Binning support		1x1 / 2x2
Scintillator		Medical-grade columnar CsI
Saturation Dose, RQA5 (per mode)		2u Gy / 10u Gy / 45u Gy
Dynamic Range (per mode)		70 dB / 75 dB / 77 dB
MTF @ 1 lp/mm / 2 lp/mm	60% / 27%	58% / 25%
DQE(0) @ 1u Gy, RQA5	72%	66%
DQE(0) @ 10n Gy, RQA5	68%	64%
Image Bit Depth		16 bit
Data Interface		Gigabit Ethernet (GigE)
Frame Rate		
- Full FOV (100%), 1x1 / 2x2	27 fps / 80 fps	14 fps / 57 fps
- Mag0 (96%), 1x1 / 2x2	30 fps / 90 fps	15 fps / 60 fps
- Mag1 (70%), 1x1 / 2x2	57 fps / 160 fps	30 fps / 115 fps
- Mag 2 (50%), 1x1 / 2x2	115 fps / 220 fps	55 fps / 150 fps
ROI readout		programmable (x,y) position & size
Trigger modes		Internal or External (Continuous or Pulsed)
X-Ray Energy Range		15..150 kV
Power Consumption (active)	<15 W	<18 W
Dimensions (WxHxD)	235x292x56 mm	327X377X58 mm
Weight	6 kg	9 kg

# Xineos-2222HS

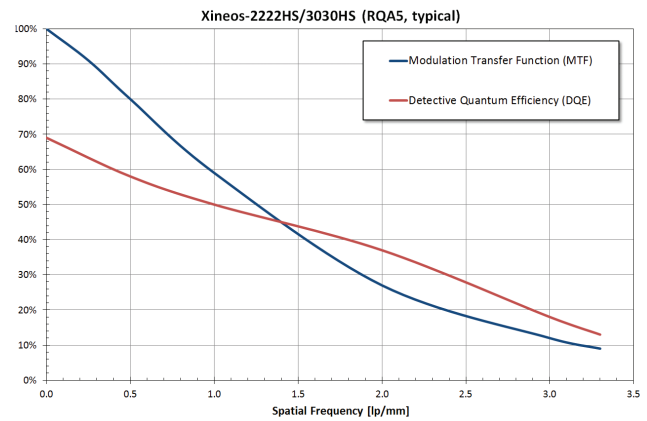
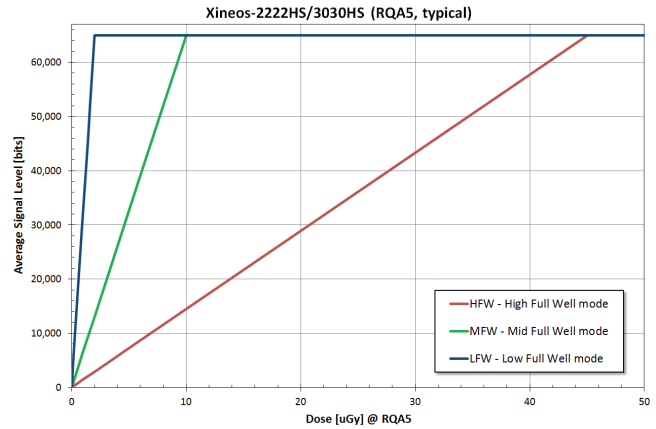
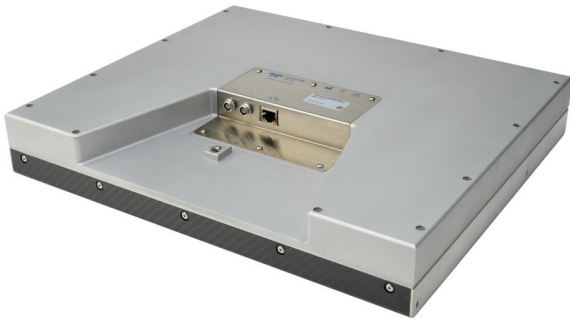
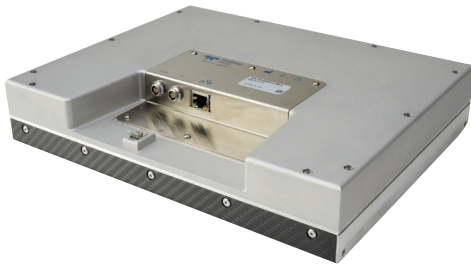


# Xineos-3030HS



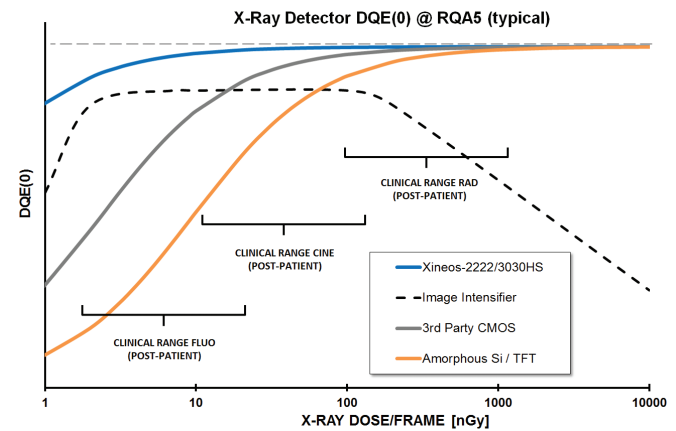
# Xineos-2222HS & Xineos-3030HS

CMOS Flat X-ray Detectors for Fluoroscopy



## 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% DQE(0) at doses of 1 $\mu$ Gy, the detector performance is hardly compromised at 10nGy entrance dose level. Such behavior can be achieved only when electronics noise is negligible, and detector performance is dominated by X-ray photon shot noise statistics to the lowest practical dose levels.



[www.teledynedalsa.com](http://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

Teledyne DALSA has its corporate offices in Waterloo, Canada  
Teledyne DALSA reserves the right to make changes at any time without notice. Teledyne DALSA © 2017.

