X-Scan iHE2 Series

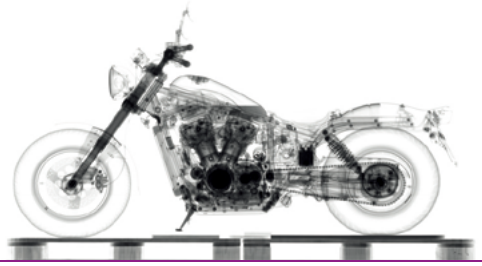
X-ray linear array detector

Detection Technology
FOREKNOW. FORESAVE.®

X-Scan iHE2 Series | The X-Scan iHE2 series is an enhanced product family of high-resolution linear array detectors for high-energy X-ray Industrial Inspection applications utilizing X-ray energies of up to 15MeV.

Increased radiation hardness increases the lifespan of the detector, reducing the lifetime cost of the system. Industry-leading image quality with reduced dark image noise and increases dynamic range and sensitivity.

Available with 0.2mm and 0.4mm pixel pitches and in several standard lengths. Upon request may be customized to different lengths as well as for high-energy tomography applications utilizing Linear Accelerators as the radiation source.



APPLICATIONS

High Energy NDT and industrial CT

- Aerospace industry
- Automotive industry
- Defense industry
- Oil and gas industry

KEY FEATURES AND BENEFITS

- X-ray source energy range: 160 kVp – 15MeV
- Active length: from 102 mm to 922 mm
- Pixel pitch options: 0.2 mm, 0.4 mm
- 16-bit AD, Dynamic range: > 16000
- CE marking (EMC standard compliance)
- High conversion efficiency, dynamic range and sensitivity for demanding high energy applications
- Increased radiation hardness for longer detector lifespan and reduced lifetime costs
- Cost efficient solution for industrial CT application
- Applicable for both continuous and non-continuous X-ray sources
- Customized solutions available upon request
- Ethernet and frame grabber interfaces to meet a wide range of compatibility and performance requirements
- Pixelated Cadmium Tungstate ($CdWO_4$) scintillator
- Rapid evaluation and software development with included X-View demo software, control library and sample source code

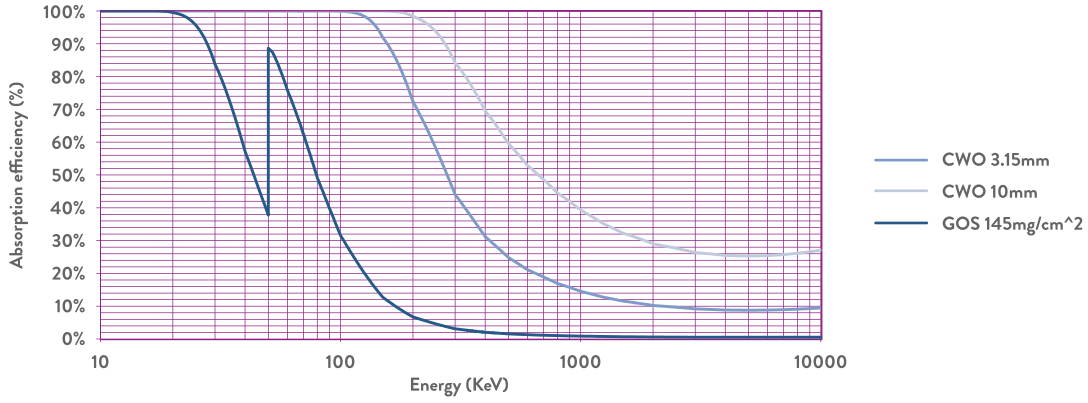
GENERAL CHARACTERISTICS

PRODUCT	X-Scan 0.2iHE2	X-Scan 0.4iHE2	X-Scan 0.4iHE2-M
X-ray tube voltage Vp range	160-600 KVp		600 KVp -15 MeV
Scintillator material	Pixelated CdWo4		
Scintillator absorption length	3.15 mm		10.00 mm
Active area lengths	102-922 mm	307-922 mm	410-922 mm
Pixel pitch (spacing)	0.20 mm	0.40 mm	0.40 mm
Pixel height (PD)	0.80 mm	0.60 mm	0.60 mm
Pixel width (PD)	0.15 mm	0.32 mm	0.32 mm
Pixel height (scintillator)	1.57 mm		
Pixel width (scintillator)	0.10 mm	0.25 mm	0.25 mm
Continuous mode			
- Maximum scanning speed	5-20 cm/s	16-40 cm/s	16-40 cm/s
- Minimum integration times	1.0-3.1 ms	1.0-2.5 ms	1.0-2.5 ms
- Maximum integration times	128 ms		
Non-continuous mode			
- Integration time range	140 us - 65 ms		
- Maximum integration time	128 ms		
Saturation level of raw data	~ 54000 ADC counts@16-bit		
A/D resolution	16-bits		
Overall uniformity without offset at X-card level	< +20%	< +15%	< +15%
Overall uniformity without offset at detector level	< +25%	< +20%	< +20%
Electronic crosstalk of each channel	< 0.5%		
Dynamic range @ 3.5pf feedback capacitance	> 16000		
Data digital interface	16 bits		
Interface	Ethernet (Control: TCP/IP, Image: UDP) or Frame grabber (Control. RS232, Image: Rs422)		
Linearity	> 99%		
Operational voltage	+12 V DC		
Power consumption	60 W max		
Operational temperature	0 - 40°C		
Relative humidity	30 –80 %		
Storage temperature	-10 - +50°C		
CE marking	EMC standard compliance (EN61326-1:2013, EN61000-3-2:2006+A1+A2 and EN61000-3-3:2008)		

ENCLOSURES OF THE X-SCAN IHE2 SERIES

PRODUCT MODEL	Active length	Length	Width	Height	Weight
X-Scan iHE2-410	410 mm (16.1")	450 mm (17.7")	160 mm (6.3")	50 mm (2")	6 kg (13 lbs)
X-Scan iHE2-512	512 mm (20.2")	552 mm (21.7")	160 mm (6.3")	50 mm (2")	10 kg (22 lbs)
X-Scan iHE2-614	614 mm (24.2")	655 mm (25.8")	160 mm (6.3")	50 mm (2")	12 kg (26 lbs)
X-Scan iHE2-820	820 mm (32.3")	860 mm (33.9")	160 mm (6.3")	50 mm (2")	15 kg (33 lbs)
X-Scan iHE2-922	922 mm (36.3")	962 mm (37.9")	160 mm (6.3")	50 mm (2")	16 kg (35 lbs)

X-Scan iHE2 Absorption Efficiencies



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