

ELECTRON TUBES & DEVICES

PRODUCT CATALOG

Canon

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Application for Medical Devices

X-ray Flat Panel Detectors Application

Model Name	DR	Mobile DR	Mobile C-arm	Rad & Fluoro	Retrofit
FDX2530RPW		★			
FDX4343RPW	★				★
FDX3543RPW		★			★
FDX3543RP		★			★
FDX4343R	★				★
FDXA4343R	★				★
FDX3334RF				★	

* DR: Digital Radio-graphic * ★ Most recommendable product.



Mobile DR Mobile C-arm



Rad & Fluoro



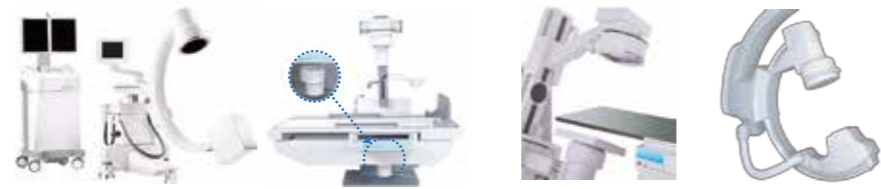
Digital Radiography

X-ray Image Intensifiers Application

Size	Model Name		Mobile C-arm	Rad & Fluoro	Simulator	Angiography
4inch	E5881J-P1	—				
	E5877J-P1	—				
6inch	E5863SD-P6	E5863SD-P6A				
	E5883SD-P6	E5883SD-P6A	★	★		
	E5804SD-P3	E5804SD-P3A				
	E5764SD-P3	E5764SD-P3A				
	E5830SD-P3	E5830SD-P3A				
	E5804SD-P4	E5804SD-P4A				
	E5764SD-P4	E5764SD-P4A				
	E5830SD-P4	E5830SD-P4A	★			
9inch	E5804SD-P6	E5804SD-P6A				
	E5764SD-P6	E5764SD-P6A				
	E5830SD-P6	E5830SD-P6A		★	★	
	E5764SD-P7	—				
	E5830SD-P7	—	★			
	E5765SD-P2	E5765SD-P2A				
12inch	E5796SD-P2	E5796SD-P2A		★	★	★
	E5876SD-P1	E5876SD-P1A				
16inch	E5876SD-P2	E5876SD-P2A		★		

* Products with a model name ending in "A" are 24 Vdc input type. * Products with a model name not ending in "A" are 100-240 Vac input type.

* ★ Most recommendable product.



Mobile C-arm Rad & Fluoro Simulator Angiography

X-ray Tubes Application

Stationary Anode X-ray Tubes and X-ray Tube Assemblies

Model Name	Stationary Anode X-ray tube	X-ray Tube	X-ray Tube Assembly	Mobile	Mobile C-arm	General Radiographic		Rad & Fluoro	
						Analog	Digital	Analog	Digital
DF-151 series	↕				★				
DF-161 series					★				
DF-183 series				★					
DF-281	↕								
E7846		↕							
XRR-1231					★				
XRR-2251					★				
XRR-3351		↕		★					
E7894X									
E7240X series									
E7299X series									
E7239X series						★			
E7843X									
E7242X series						★			
E7876X									
E7833X									
E7252X series								★	
E7884X series							★		
E7886X series							★		
XRR-3331X								★	
XRR-3332X									
E7100X									
E7255X series									
E7254X series						★			
E7864X series									★
XRR-4631G									★
XRR-6652X						★			
E7869X						★			★

* ★ Most recommendable product.

X-ray Tubes Application

Stationary Anode X-ray Tubes

Model Name	Intraoral	Panprama/Cephalo	C-Arm/CBCT
D-045			
D-0711 series			
DG-073B-AC			
DG-073B-DC			
D-023 series			
D-058R series			
D-054 series			
D-0510 series			
D-061 series			
D-059 series			
D-0813 series			
D-0814			
D-068 series			
D-125 series			
D-205B series			
DF-151 series			
DF-161 series			
DF-183 series			
DF-281 series			



Mobile Intraoral Panorama/Cephalo

Expertise in X-ray Imaging Devices

Over one century period, We have contributed to the development and production of state-of-the-art electronic devices with excellent performance and reliability.



Product lineup

X-ray Flat Panel Detectors

High-quality FPDs
Increase Great Potential
for Digital Radiography



X-ray Flat Panel Detectors

X-ray Tube Assemblies X-ray Tubes

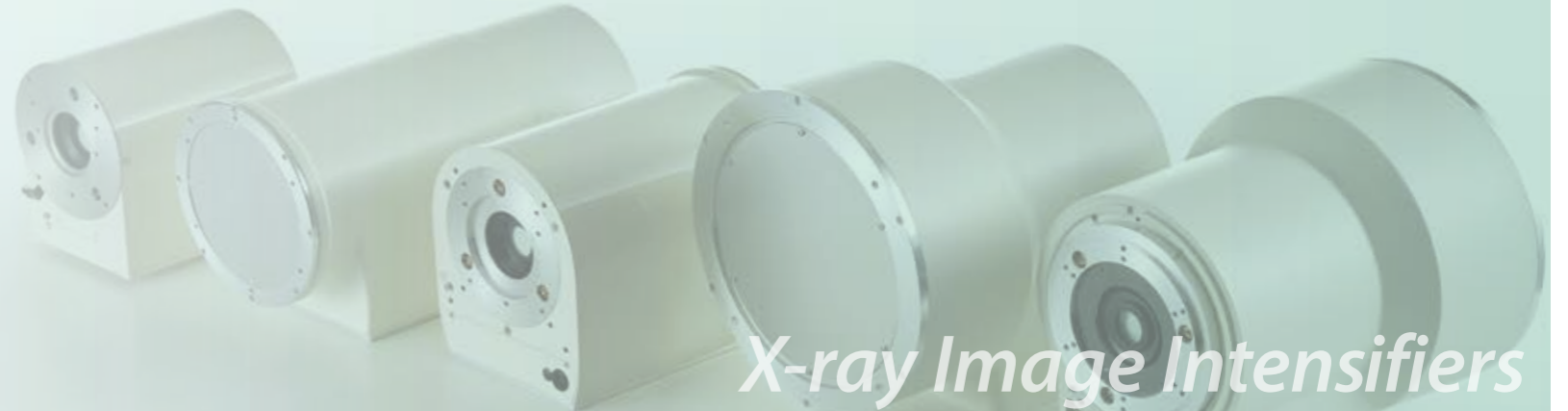
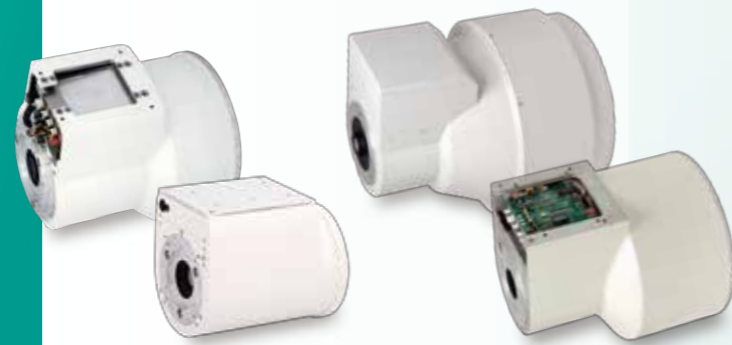
High-quality X-ray Tube
Assemblies and X-ray Tubes
for Medical and Industrial
X-ray Systems



X-ray Tube Assemblies / X-ray Tubes

X-ray Image Intensifiers

Highly Accurate Diagnosis
Enabled by Best-in-class
X-ray Image Intensifiers



X-ray Image Intensifiers

Proportional Counters for X-ray Ionization Chambers for X-ray

Long Life and High Stability
Shock-resistant Structure



*Proportional Counters for X-ray
Ionization Chambers for X-ray*

X-ray Flat Panel Detectors

High-quality FPDs
Increase Great Potential
for Digital Radiography

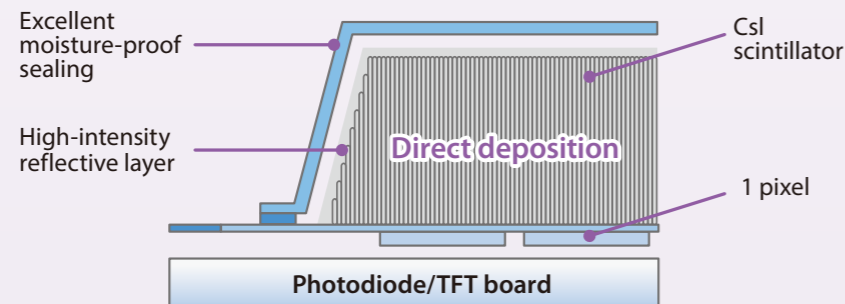


Our Flat Panel Detectors (FPDs) for radiographic applications provide high sensitivity, high resolution, and low noise. They produce images of unparalleled quality, allowing reduction of the radiation dose. These FPDs offer a new level of functionality and reliability to imaging system manufacturers.

The low-dose medical solution **Quadcel**

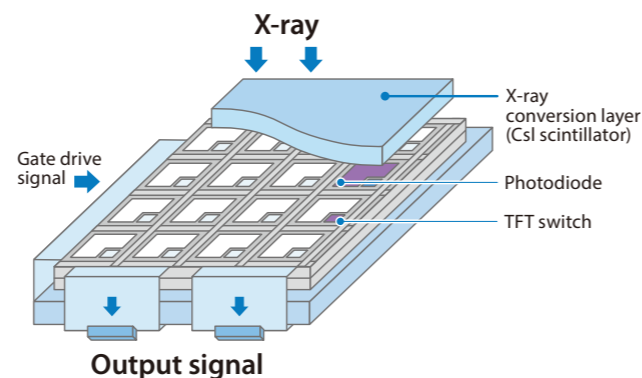
Quadcel cutting edge technology for your precious family.

Quadcel technology



Principle of Operation

X-rays are converted into light by a Csl scintillator. This light is then converted to electrical signals at the photodiode within each pixel. The electrical signals from each diode are read out through a thin-film transistor (TFT) switch connected to the photodiode via a signal wire, and A/D (analog/digital) conversion and low-noise amplification are then performed to produce the image.



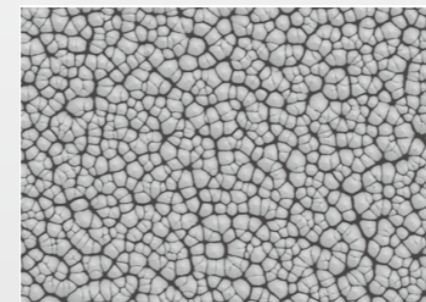
Quadcel technology (Core technologies)

Quadcel is the name for the four core technologies that improve the performance of our FPD products.

In-house Csl : Tl

High performance & Low dose

- Advanced in-house technology which is cultivated in long history and experience
- X-ray Scintillator produced by the optimum process control for Flat panel Detector
- The technology enables high performance & low dose

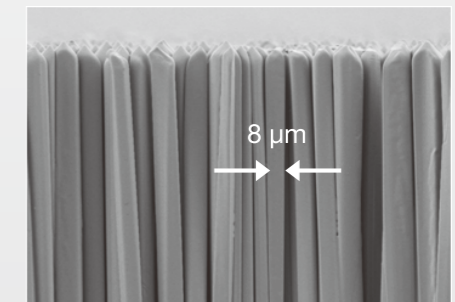


Superstructure (Top view)

Direct Csl : Tl vapor deposition

High performance & Low dose

- Fine Csl:Tl structure on Photodiode/TFT board manufactured by advanced process control
- The technology enables high performance & low dose

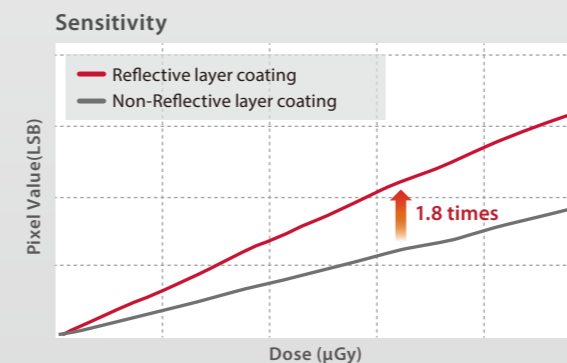


Superstructure (Side view)

Reflective layer coating

High sensitivity & Low dose

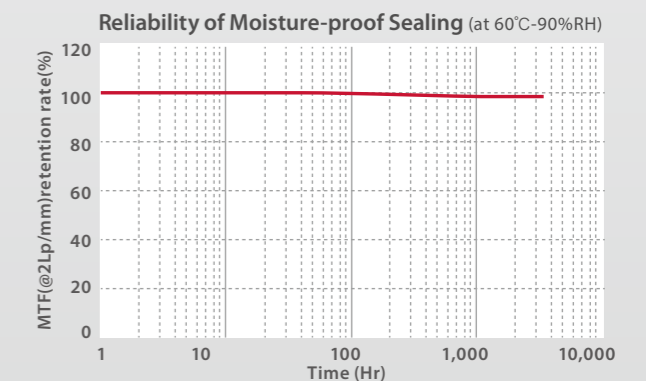
- 1.8 times sensitivity against Non-Reflective layer coating
- The technology enables high sensitivity & low dose



Moisture-proof sealing

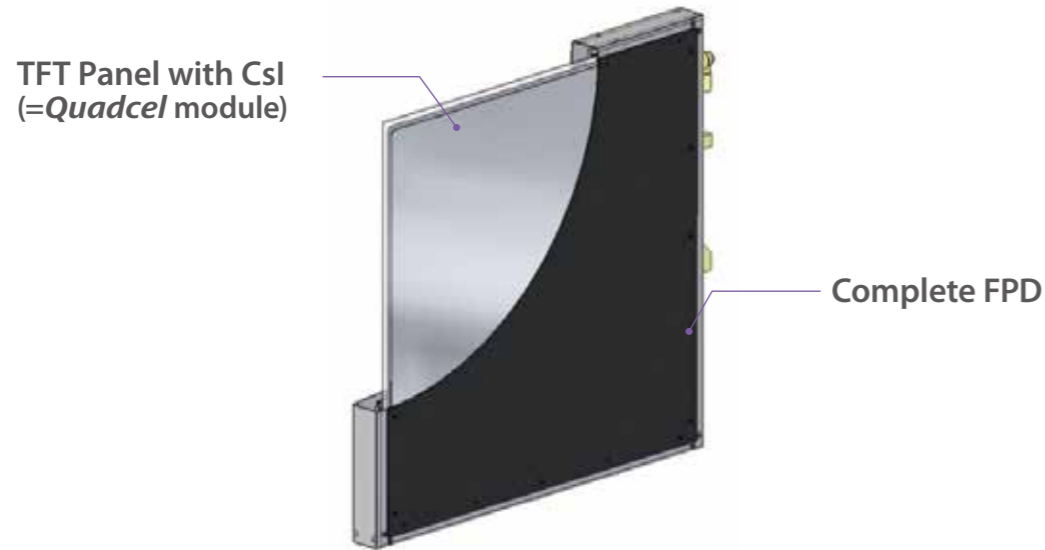
Long life & Stable high performance

- High reliability is achieved by advanced sealing
- The technology enables long life & stable high performance



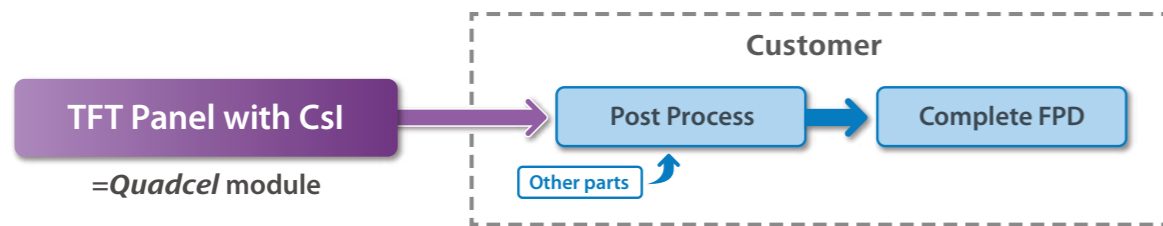
Quadcel Module (TFT Panel with CsI)

TFT Panel with CsI



Fast solution for high performance FPD development

- TFT panel with a-Si Photodiode and sealed CsI/Tl scintillator using *Quadcel* technology.
- Unparalleled image quality, allowing reduction of the radiation dose with your own FPD.
- Most favorable pixel size simultaneously achieve high sensitivity and high resolution sophisticated.

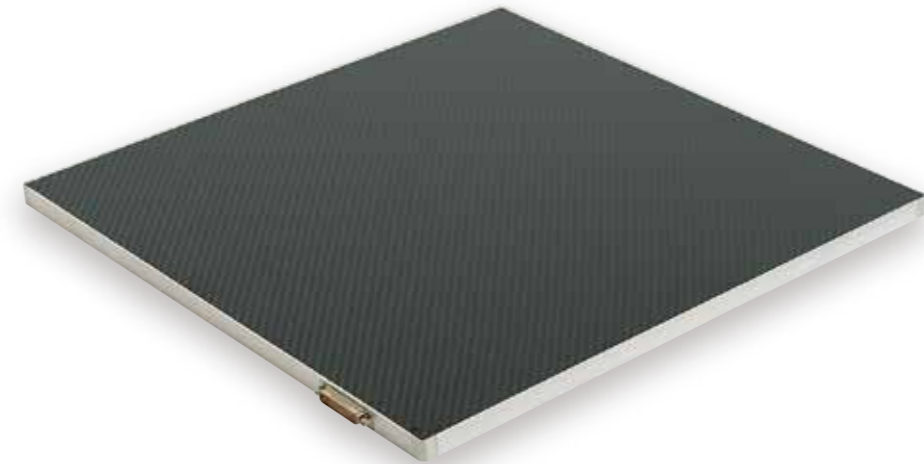


	FM2530S-D6S	FM3543S-D6S	FM4343S-D6S
Technology	Quadcel technology		
Pixel Pitch	140 μm		
Active area	25 (H) × 30 (V) cm (10 × 12 inches)	35 (H) × 43 (V) cm (14 × 17 inches)	43 (H) × 43 (V) cm (17 × 17 inches)
Active pixel matrix	1750 (H) × 2108 (V)	2466 (H) × 3040 (V)	3036 (H) × 3040 (V)
MTF (2lp/mm) (typical)	36 % *		
DQE (0) (typical)	70 % *		
Dimensions	258 × 309 × 1.6 mm	359 × 439 × 1.6 mm	438 × 439 × 1.6 mm
Dimensions (for shipment, with ESD protection)	340 × 440 × 1.6 mm	440 × 520 × 1.6 mm	520 × 520 × 1.6 mm

* According to internal test

X-ray Flat Panel Detectors

FDXA4343R

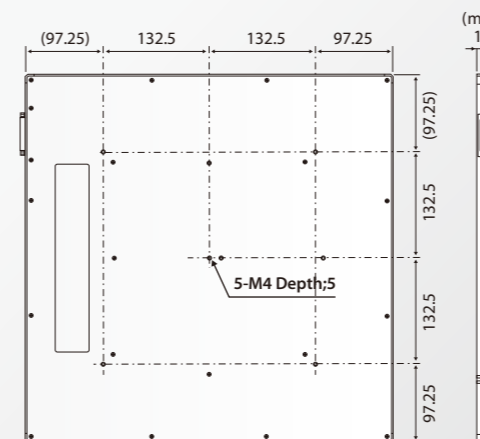


Leading the way in digital radiography

Our Flat Panel Detectors (FPDs) for radiographic applications provide high sensitivity, high resolution, and low noise. They produce images of unparalleled quality, allowing reduction of the radiation dose. These FPDs offer a new level of functionality and reliability to imaging system manufacturers.

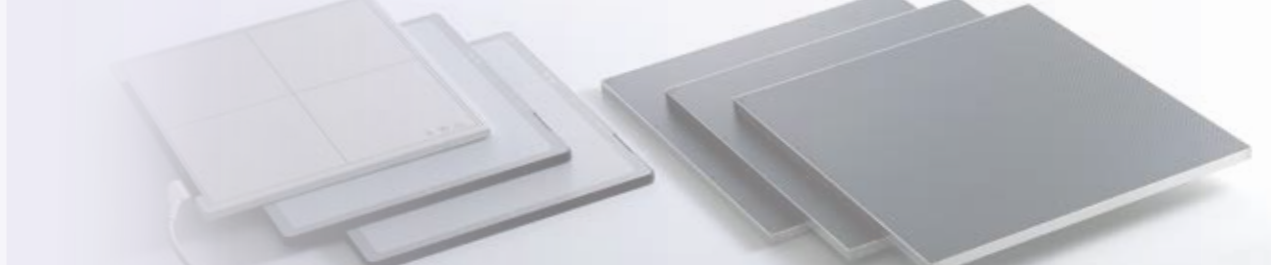
- Configure DR system with minimum efforts
- Excellent image quality
- Advanced AED technology simplifies the system configurations

Dimensions



		FDXA4343R
Application	General radiography	
Technology	Quadcel technology	
TFT	TFT array + Photodiode (a-Si)	
Pixel pitch	140 μm	
Active area	43 (H) × 43 (V) cm (17 × 17 inches)	
Active pixel matrix	3040 (H) × 3036 (V)	
A/D conversion	16 bits	
Cycle time (Single)	6 seconds	
Environment	Operation	10 to 35 °C 10 to 85 % RH (non-condensing)
	Storage	-20 to 70 °C 10 to 90 % RH (non-condensing)
Dimensions	460 × 460 × 16 mm	
Weight (approx.)	4.3 kg	
Other feature	Double exposure	
AED	Available	

X-ray Flat Panel Detectors



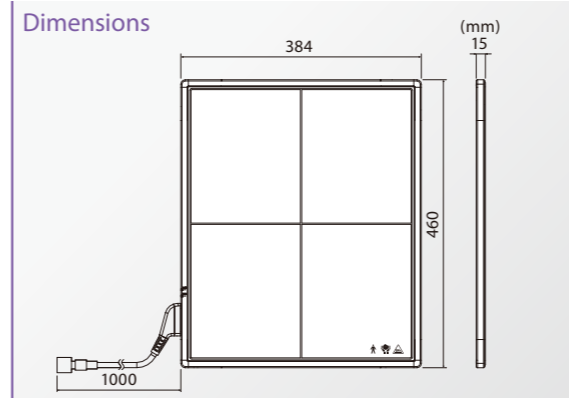
Wireless Flat Panel Detectors



- Quadcel technology is packaged in a cassette-sized wireless FPD with excellent image quality.
- Automatic switching between wireless mode and tethered mode.
- Short cycle time (less than 10 sec.) supports improved diagnostic efficiency.
- Compact and lightweight for easy handling.
- Compact, lightweight battery charger permits more flexible installation locations.
- Most favorable pixel size simultaneously achieve high sensitivity and high resolution sophisticated.

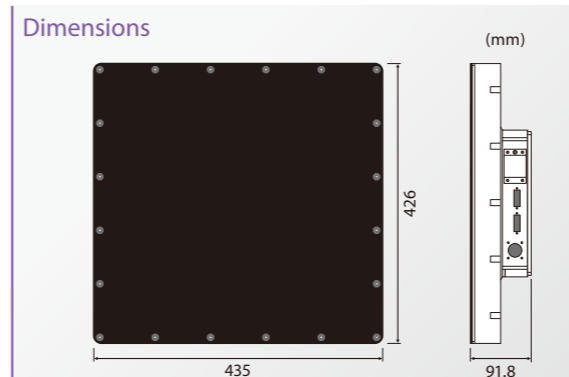
	FDX2530RPW	FDX3543RPW	FDX4343RPW
Application	Gneneral radiography		
Technology	Quadcel technology		
TFT	TFT array + Photodiode (a-Si)		
Pixel pitch	140 μm		
Active area	25 (H) × 30 (V) cm (10 × 12 inches)	35 (H) × 43 (V) cm (14 × 17 inches)	43 (H) × 43 (V) cm (17 × 17 inches)
Active pixel matrix	1750 (H) × 2108 (V)	2466 (H) × 3040 (V)	3036 (H) × 3040 (V)
A/D conversion	16 bits	14 bits	16 bits
Image output time	1.5 seconds for full image	3 seconds for full image	4 seconds for full image
Cycle time	8 seconds (Ethernet) 10 seconds (WLAN)	9 seconds (Ethernet) 12 seconds (WLAN)	
Environment	Operation	10 to 35°C 20 to 75 % RH (non-condensing)	
	Storage	-15 to 55°C 10 to 95 % RH (non-condensing)	
Dimensions	282 × 333 × 15 mm	384 × 460 × 15 mm	460 × 460 × 15 mm
Weight (approx.)	1.7 kg (include battery)	3.1 kg (include battery)	3.7 kg (include battery)
Mechanical load	150 kg over front panel 100 kg on 40 mm dia.		
Other feature	AED available		
Certification	IEC60601-1, IEC60601-1-2 MDD93/42/EEC (CE marking)		

Tethered Flat Panel Detectors



		FDX3543RP
Application	Gneneral radiography	
Technology	Quadcel technology	
TFT	TFT array + Photodiode (a-Si)	
Pixel pitch	143 μm	
Active area	35 (H) × 43 (V) cm (14 × 17 inches)	
Active pixel matrix	2448 (H) × 2984 (V)	
A/D conversion	16 bits	
Image output time	3 seconds for full image	
Cycle time	6 seconds	
Environment	Operation	10 to 35 °C 10 to 85 % RH (non-condensing)
	Storage	-15 to 55 °C 10 to 90 % RH (non-condensing)
Dimensions	384 × 460 × 15 mm	
Weight (approx.)	3.2 kg	
Mechanical load	150 kg over front panel 100 kg on 40 mm dia.	
Certification	IEC60601-1, IEC60601-1-2 MDD93/42/EEC (CE marking)	

Dynamic Flat Panel Detectors



		FDX3334RF
Application	Gneneral radiography and fluoroscopy	
Technology	Quadcel technology	
TFT	TFT array + Photodiode (a-Si)	
Pixel pitch	143 μm	
Active area	33 (H) × 34 (V) cm (13 × 13.5 inches)	
Active pixel matrix	2304 (H) × 2400 (V)	
Binning mode	2 × 2 (binning)	
Acquisition mode	30 fps (binning), 15 fps (nonbinning); 330 × 343 mm (full scan) 60 fps (binning), 30 fps (nonbinning); 330 × 146 mm (zoom scan)	
Cooling	Active air cooling	
A/D conversion	14 bits	
Environment	Operation	10 to 35 °C 30 to 85 % RH (non-condensing)
	Storage	-15 to 55 °C 10 to 90 % RH (non-condensing)
Dimensions	435 × 426 × 91.8 mm (with fan motor, 106 mm)	
Weight (approx.)	20 kg	
Certification	IEC60601-1, IEC60601-1-2 MDD93/42/EEC (CE marking)	

X-ray Tube Assemblies

X-ray Tubes

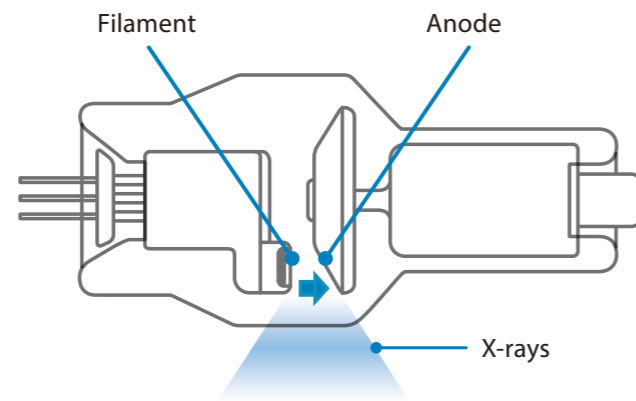
High-quality X-ray Tube Assemblies and X-ray Tubes for Medical and Industrial X-ray Systems



We have been at the forefront of X-ray tube development for over 100 years and are proud to be one of the world's largest manufacturers of X-ray tubes for medical and industrial X-ray systems.

Principle of Operation

X-ray occurred by as the result of electron (from filament) collision at anode.



Stationary Anode X-ray Tubes



Model Name	Focal Spot	Max. Rating (1 s) (W)	Max. Voltage (kV)	Max. Current (mA)	Circuit	Anode			Type		
						Angle (°)	Heat Content (kJ)	Cooling Rate (W)	without	S	SB
									Dimensions (mm) Length x Diameter		

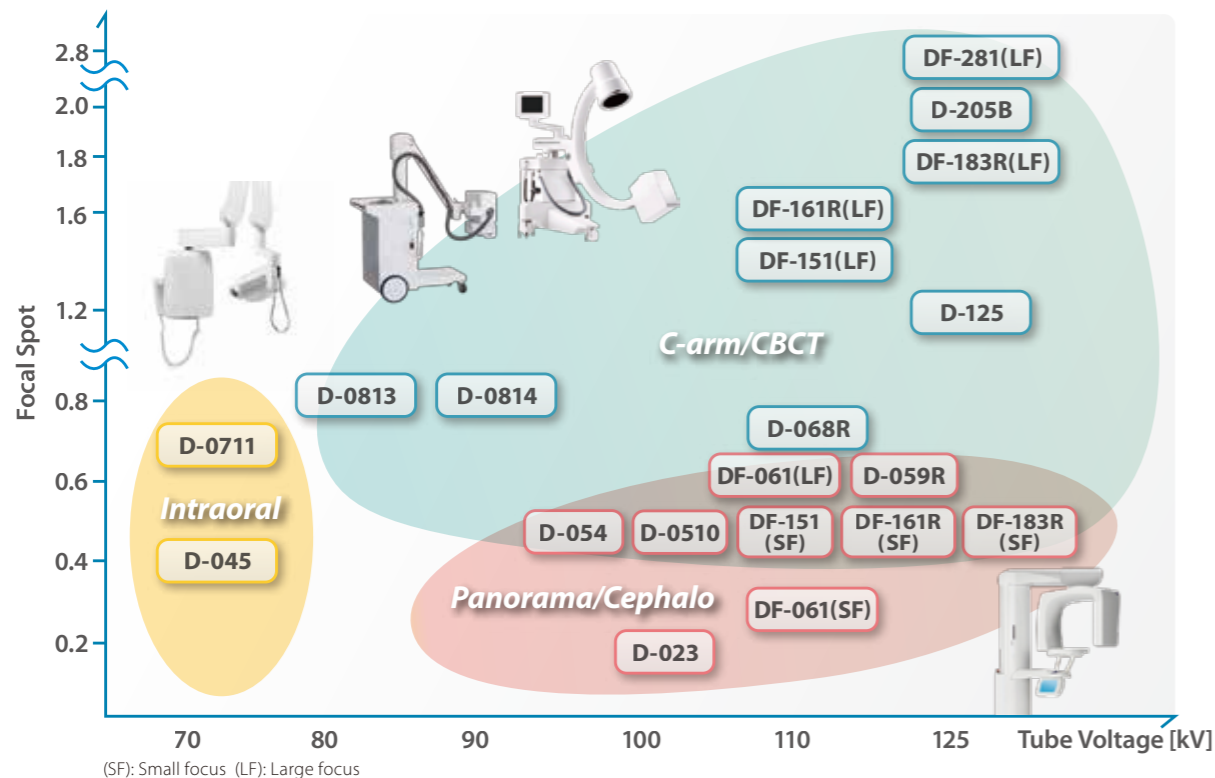
Intraoral											
D-045	0.4	585	70	12	C	12.5	4.3	100	66 x 31	-	-
D-0711	0.7	940	70	19.9	C	16	7	210	66 x 31	72 x 38	74 x 42
DG-073B-AC	0.7	398	70	8	AC	20	7	210	67 x 31	-	-
DG-073B-DC	0.7	560	70	8	C	20	7	210	67 x 31	-	-

Panorama / Cephalo											
D-023	0.2	387	100	4.3	C	10	35	250	138 x 45	-	146 x 58
D-058R	0.5	675	70	13	C	12.5	13	300	82 x 31	88 x 38	88 x 42
D-054	0.5	1750	100	22	C	5	35	250	138 x 45	146 x 54	146 x 58
		840		24	SF						
D-0510	0.5	1270	100	22	C	10	35	250	138 x 45	146 x 54	146 x 58
DF-061	0.3	600	110	10	C	12	28	265	139 x 52	-	145 x 64
	0.6	1200		20							
D-059R	0.5	1300	120	20	C	10	28	250	-	-	166 x 66

C-arm / CBCT											
D-0813	0.8	1350	80	33	C	16	7	210	66 x 31	72 x 38	74 x 42
D-0814	0.8	1350	90	33	C	16	7	210	90 x 37	-	-
D-068R	0.6	2020	110	30	C	9	60	600	162 x 52	-	176 x 64
D-125	1.2	2700	125	40	C	16	35	250	138 x 45	146 x 54	146 x 58
D-205B	2.0	3300	100	70	C						
		3000	125	80	SF	20	28	265	120 x 52	130 x 60	-
		2000	125	40	AC						
DF-151	0.5/1.5	680/3200	110	15/60	C	16	28	265	139 x 51	145 x 60	145 x 64
DF-151R	0.5/1.5	680/3200	110	15/60	C	16	35.5	600	160 x 51	166 x 60	166 x 64
DF-161R	0.5/1.6	700/4000	125	15/60	C	16	35.5	600	-	-	176 x 64
DF-183	0.5/1.8	1000/4200	125	15/100	C	16	28	265	139 x 52	-	-
DF-183R	0.5/1.8	1000/4200	125	15/100	C	16	35.5	600	160 x 52	-	176 x 64
DF-281	0.6/2.8	560/1750	125	15/100	C	15	28	265	139 x 52	-	-

Circuit C: Constant Potential High-Voltage Generator (All tubes are center grounded) SF: Two-peak high-voltage generator AC: One-Peak High-Voltage Generator (Self-rectified)

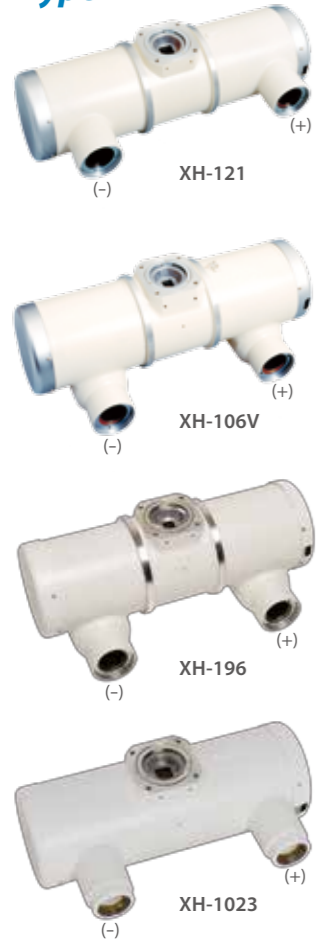
Selection Guide for Stationary Anode X-ray Tubes



General X-ray Tube Assemblies

3" X-ray Tube Assemblies

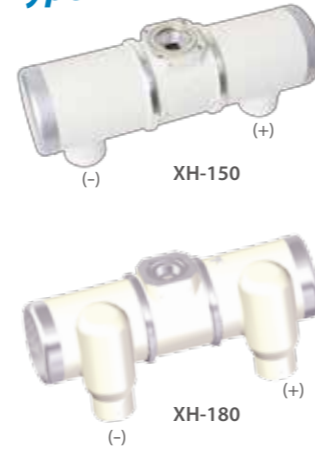
X-Type



FX-Type



GX-Type



Anode (+) is right side (except XH-183)

Model Name	Focal Spot	Max. Rating (0.1 s) (kW)	Max. Voltage (kV)	Max. Current (mA)	Anode			Heat Content (kHU)	Housing Assembly			Stator Type	
					Angle (°)	Heat Content			Min. Rotation Speed (min ⁻¹)	Housing Type			
						(kJ)	(kHU)			X-type	FX-type		GX-type
E7894X	0.6/1.2	15/30	150	200/500	12.5	100	140	3200	1260	XH-196	-	-	XS-BF
E7240X series	0.6/1.2	15/30	150	200/500	12	100	140	3200	1250	XH-121	XH-126	-	XS-AV
E7299X series	0.3/1.0	3.7/39	150	70/640	12	100	140	3200	1250	XH-121	XH-126	-	XS-AV
E7239X series	1.0/2.0	22.5/47	125	340/570	16	100	140	3200	1250	XH-121	XH-126	XH-150	XS-AV
E7843X	0.6/1.2	22/50	150	370/760	12	111	150	3200	1250	XH-121	-	-	XS-BA
E7242X series	0.6/1.5	18/50	125	290/800	14	142	200	3200	1250	XH-121	XH-126	XH-150	XS-RA
E7876X	0.6/1.2	22/54	150	300/700	12	163	230	3200	1250	XH-121	-	-	XS-RA
E7833X	0.3/0.6	8/22	125	100/250	10	210	300	3200	1600	XH-183	-	-	XS-BB
E7252X series	0.6/1.2	16/44.6 27/75	150	300/800 400/1000	12	210	300	3200 9700	1250	XH-106V	XH-181	XH-180	XS-RA/ XS-AL
E7884X series	0.6/1.2	22/54	150	300/700	12	210	300	3200	1250	XH-121	XH-126	XH-150	XS-AL
E7886X series	0.7/1.3	17/40	150	280/550	16	210	300	3200	1250	XH-121	XH-126	-	XS-AL
XRR-3331X	0.6/1.2	22/54 32/78	150	300/700 400/1000	12	210	300	3200 9700	1250	XH-121	-	-	XS-AL
XRR-3332X	0.6/1.2	20/46	150	300/600	14	210	300	3200	1056	XH-1023	-	-	XS-AL

Note: Rotation 3200 (min⁻¹) = 60 Hz / 9700 (min⁻¹) = 180 Hz

4" X-ray Tube Assemblies

X-Type



FX-Type



GX-Type



XH-157
 X-Type : Anode (+) is left side
 FX-Type : Anode (+) is left side
 GX-Type : Anode (+) is right side
XH-112V / XH-1019
 Anode (+) is right side

Model Name	Focal Spot	Max. Rating (0.1 s) (kW)	Max. Voltage (kV)	Max. Current (mA)	Anode			Heat Content (kHU)	Housing Assembly			Stator Type	
					Angle (°)	Heat Content			Min. Rotation Speed (min ⁻¹)	Housing Type			
						(kJ)	(kHU)			X-type	FX-type		GX-type
E7100X	0.6/1.2	24/59 40/100	150	400/800 500/1000	12	210	300	3200 9700	1508	XH-112V	-	-	XS-AG
E7255X series	0.6/1.2	21/55.5 40/102	150	400/800 500/1000	12	210	300	3200 9700	1339	XH-157(X)	XH-157(F)	XH-157(G)	XS-RB
E7254X series	0.6/1.2	23/60 40/102	150	400/800 500/1000	12	285	400	3200 9700	1339	XH-157(X)	XH-157(F)	XH-157(G)	XS-RB
E7864X	0.6/1.2	23/58 40/100	150	340/765 400/800	12	285	400	3200 9700	2000	XH-112V	-	-	XS-AG
XRR-4631G	0.6/1.2	23/58 40/100	150	340/765 400/800	12	285	400	3200 9700	2000	-	-	XH-1019	XS-BM/ XS-AG
XRR-6652X	0.3/0.8	6.5/30 12/52	150	100/500 150/700	12	420	600	3200 9700	2000	XH-1022	-	-	XS-AG*
E7869X	0.6/1.2	6.5/30 12/52	150	400/900 500/1000	12	420	600	3200 9700	2000	XH-112V	-	-	XS-AG

Note: Rotation 3200 (min⁻¹) = 60 Hz / 9700 (min⁻¹) = 180 Hz * With heat exchanger.

Rotating Anode X-ray Tubes



Model Name	Focal Spot	Max. Rating (0.1 s) (kW)	Max. Voltage (kV)	Max. Current (mA)	Anode				Cooling Rate (W)	Rotation Speed (min ⁻¹)	Circuit	Dimensions (mm) Length x Diameter
					Angle (°)	Diameter (mm)	Heat Content					
							(kJ)	(kHU)				
E7846	0.6/1.3	11/32	130	220/500	13.5	58	80	107	250	2700	T,C	220 x 81
XRR-1231	0.6/1.3	11/32	130	220/640	15.0	62	80	107	320	2700	T,C	220 x 81
XRR-2251	0.3/0.6	5/17	130	110/360	10.0	62	150	210	400	2700	T,C	200 x 81
XRR-3351	0.3/0.6	7.7/25 8.4/27.3	125	140/400	10.0	74	255	360	1000	2700 3000	T,C	216 x 95

Note: Rotation 2700 (min⁻¹) = 50 Hz

Computed Tomography (CT) Tube and Angiography X-ray Tube Assemblies

X-ray Tubes for Computed Tomography (CT) Scanners



XH-168

Hydrodynamic liquid metal bearing

The hydrodynamic liquid metal (LM) bearing is a core technology, created through integration of our development and manufacturing technologies. The X-ray tube assembly with LM bearing features long tube life, quiet operation, and continuous high-speed rotation while ensuring excellent stability and reliability.



- Compact X-ray tube assemblies for CT scanner feature extremely high cooling performance.
- Liquid metal bearings (LM bearings) are used in the anode rotation structure.

Model Name	Focal Spot	Max. Rating (kW)	Continuous Anode Input Power (kW)	X-ray Tube Voltage (kV)		Max. Tube Current (mA)	Anode				Max. G Proof in Gantry Rotation (G)	Housing Assembly				
				Min.	Max.		Angle (°)	Diameter (mm)	Max. Heat Content			Rotation Speed (min ⁻¹)	Max. Heat Dissipation (kW)	Housing Type	Weight* (kg)	
									(kJ)	(kHU)						
E79005X	L 1.7 × 1.7	36	2.0	80	135	300	7	132	1420	2000	4.0	2700	6.3	3.6	XH-168	38
	S 1.1 × 1.3	24														
E7830X	L 1.4 × 1.4	48	4.0	-	135	400	7	140	2840	4000	10.2	6360	6.3	4.0	XH-168	41
	S 0.9 × 0.7	30														
XRC-4551X	L 1.4 × 1.4	48	4.0	-	135	400	7	140	2840	4000	10.2	6360	8.6	4.0	XH-168	41
	S 0.9 × 0.7	30														
XRC-4552X	L 1.4 × 1.4	48	4.0	-	135	400	7	140	2840	4000	10.2	6360	12	4.0	XH-168	41
	S 0.9 × 0.7	30														

* Without heat exchanger.

The Anode Heat Content and Scan Speed (CT Application)

Scan Speed	Anode Heat Content	
	2000kHU	4000kHU
0.5s/r		XRC-4552X (6360min ⁻¹)*
0.6s/r		XRC-4551X (6360min ⁻¹)*
0.75s/r	E79005X (2700min ⁻¹)*	E7830X (6360min ⁻¹)*

* Rotation Speed

Depending on applications, it may be required to obtain approval in accordance with the laws and regulations of the countries in which products are used.

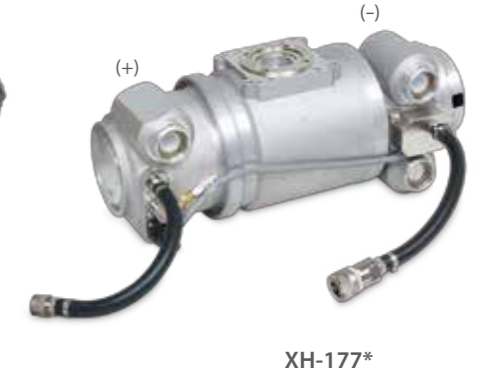
X-ray Tube Assemblies for Angiography Systems



XH-1008



XH-177



XH-177*

- Continuous high-speed rotation is made possible by the use of hydrodynamic liquid metal bearings.
- These tubes employ a grid control function that enables high-speed pulsed fluoroscopy, which is used in high-speed applications such as cine fluoroscopy.

Model Name	Focal Spot	Max. Rating (0.1 s) (kW)	Continuous Anode Input Power (kW)	Max. Voltage (kV)			Max. Tube Current (mA)	Anode				Housing Assembly				
				R	F			Angle (°)	Diameter (mm)	Max. Heat Content		Cooling Rate (W)	Min. Rotation Speed (min ⁻¹)	Max. Heat Dissipation (W)	Housing Type	Weight (kg)
					Continuous	Grid Control				(kJ)	(kHU)					
E79030X	L 1.0	102	2.2	125	125	110	850	11	140	2130	3000	5500	9000	3100	XH-177*	39
	S 0.6	48														
E79016X	L 1.0	100	2.2	125	125	120	1100	11	140	2130	3000	5500	9000	3500	XH-177	46
	M 0.6	48														
E7902X	L 0.8	90	2.2	125	125	110	950	8	140	2130	3000	5500	9000	3500	XH-177	46
	M 0.5	45														
E79036X	L 0.8	80	2.2	125	125	120	800	8	120	1500	2100	4500	9000	3000	XH-1008	38
	S 0.5	44														
E79039X	L 1.0	80	2.2	125	125	120	800	11	120	1500	2100	4500	9000	3000	XH-1008	38
	S 0.6	43														
XRV-7247F	L 0.8	100	2.2	125	125	120	860	8	140	2130	3000	5500	9000	3100	XH-177*	39
	S 0.5	50														

* Without heat exchanger.

The Anode Heat Content and Scan Speed (Angiography Application)

Coverage Target Angle	Anode Heat Content	
	2100kHU	3000kHU
8 (°)	E79036X 0.8 / 0.5	E7902X 0.8/0.5/0.5 XRV-7247F 0.8/0.5
11 (°)	E79039X 1.0 / 0.6	E79030X 1.0/0.6 E79016X 1.0/0.6/0.3

Industrial X-ray Tubes

Analytical X-ray Tubes

- Analytical X-ray tubes are used in research related to the structure of crystals, qualitative and quantitative analysis, and stress measurement.
- High X-ray transmission and a wide X-ray wavelength range are achieved by hermetically sealing the beryllium windows to the metal body.

Model Name	Target Material	Focal Spot (mm)	Max. Rating (kW)	Max. Voltage (kV)	Max. Current (mA)	Circuit	Ground	Target Angle (°)	Be Thickness (mm)	Dimensions (mm) Length x Diameter
A-26L	Cr/Cu	0.4 x 8	1.5	60	40	C	AG	0	0.3	230 x 65
	Fe	0.4 x 8	0.9	60	40	C	AG	0	0.3	230 x 65
	Co	0.4 x 8	1.2	60	40	C	AG	0	0.3	230 x 65
	Mo/W	0.4 x 8	2	60	40	C	AG	0	0.3	230 x 65
A-40	Cr/Cu	1 x 10	2	60	50	C	AG	0	0.3	217 x 65
	Fe	1 x 10	1.5	60	50	C	AG	0	0.3	217 x 65
	Co	1 x 10	1.8	60	50	C	AG	0	0.3	217 x 65
	Mo/W	1 x 10	2.4	60	50	C	AG	0	0.3	217 x 65
A-41L	Cr/Cu	1 x 10	2	60	50	C	AG	0	0.3	230 x 65
	Fe	1 x 10	1.5	60	50	C	AG	0	0.3	230 x 65
	Co	1 x 10	1.8	60	50	C	AG	0	0.3	230 x 65
	W	1 x 10	2.4	60	50	C	AG	0	0.3	230 x 65
AFX-66D	Mo/W	7 x 7.5	3	60	80	C	AG	26	1	498 x 89
	Cr	7 x 7.5	3	60	80	C	AG	26	0.3	498 x 89
E7340X	Rh	φ14	3	60	100	C	CG	90	0.127	459 x 103
E7341X	Rh	φ14	3	60	100	C	CG	90	0.06	459 x 103
E7350X	Rh	φ17	4	60	150	C	CG	90	0.05	459 x 103
A-140-Cu	Cu	0.4 x 12	2.2	60	50	C	AG	0	0.3	188 x 63

Notes: Circuit: C = DC
Ground: AG = Anode Ground, CG = Cathode Ground



A-40



E7340X

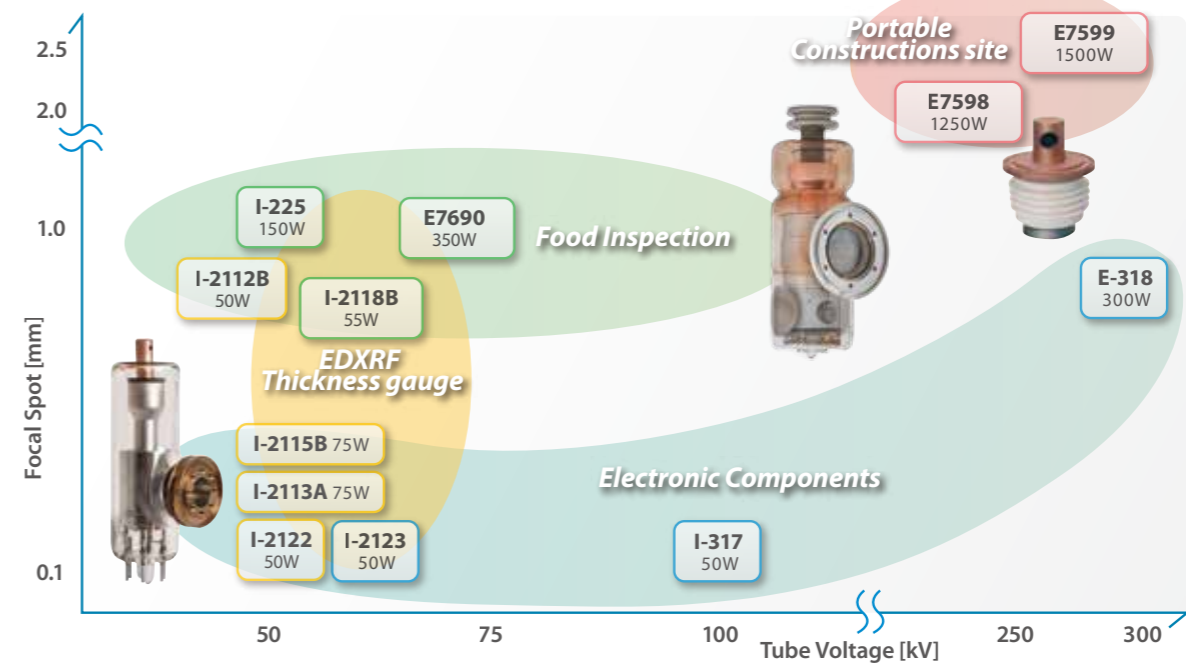
Industrial X-ray Tubes

- Industrial X-ray tubes are used for nondestructive testing, determining the thickness of coatings, and other applications.
- Ceramic tubes are mechanically strong and are therefore suitable for use in portable X-ray generators.

Model Name	Target Material	Focal Spot (mm)	Max. Rating (W)	Max. Voltage (kV)	Max. Current (mA)	Circuit	Ground	Target Angle (°)	Be Thickness (mm)	Dimensions (mm) Length x Diameter	Application
I-225	W	1	150	50	3.8	C	CG	20	0.5	165 x 40	F
I-2118B	W	1 x 0.7	55	55	1	C	N	20	Glass 1.65	96 x 30.5	F
E7690	W	1 x 1	350	75	8	C	CG	20	1	185 x 62	F
I-2112B	Rh	0.8	50	50	1	C	CG	33	0.05	96 x 33	A
I-2113A	Mo	0.15	75	50	1.5	C	CG	10	0.05	96 x 33	A
I-2115B	W / Mo	0.15	75	50	1.5	C	CG	10	0.2	96 x 33	A, T
I-2122	W	0.1	50	50	1	C	CG	16	0.2	96 x 30.5	A, T
I-2123	W	0.1 ^{*1}	50	60	1.2	C	CG	10	0.2	96 x 30.5	N
I-317	W	0.1 ^{*1}	50	100	0.83	C	CG	10	0.5	180 x 62	N
I-318	W	0.8	300	100	5	C	CG	25	1.5	180 x 59	N
E7598 ^{*2}	W	2	1250 ^{*3}	250 ^{*4}	5	S	AG	22	1	188 x 132	N
E7599 ^{*2}	W	2.5	1500 ^{*3}	300 ^{*4}	5	S	AG	22	1	198 x 132	N

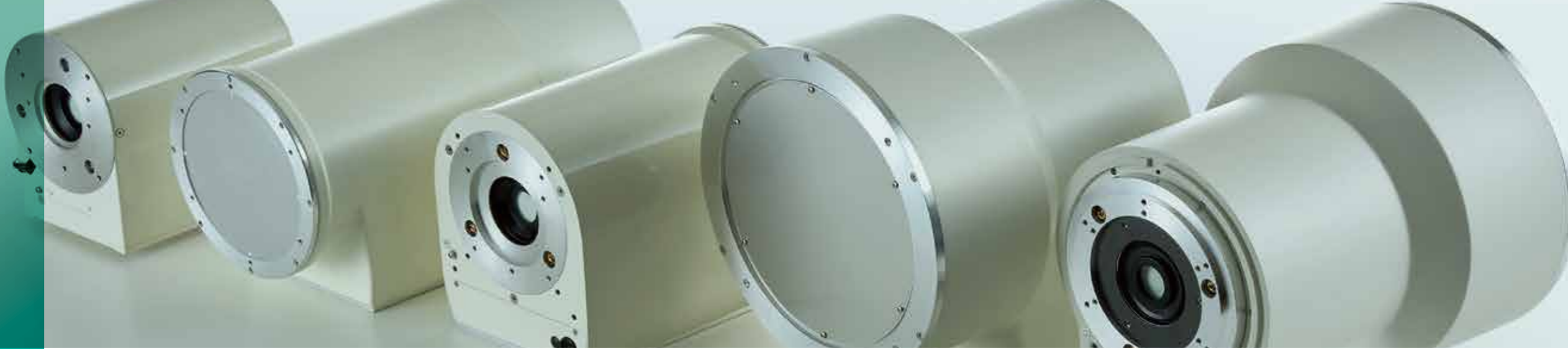
*1: Focusing bias *2: Ceramic Tube *3: Input peak power (1 pulse) *4: Pulse
Notes: Circuit: C = DC, S = Self Rectification
Ground: AG = Anode Ground, CG = Cathode Ground, N = Center Ground
Application: T = Thicknessmeter, A = Analysis, N = Nondestructive, F = Food Inspection

Selection Guide for Industrial X-ray Tubes



X-ray Image Intensifiers

Highly Accurate Diagnosis
Enabled by Best-in-class
X-ray Image Intensifiers



The input window of the image intensifier (I.I.) is a thin metal plate with excellent X-ray transparency to reduce X-ray scattering. The I.I. is provided with a thick input phosphor screen consisting of extremely fine pillar crystals. It is also provided with a thin output phosphor screen on a single thick glass output window with an antireflective coating.

Major features related to environmental performance (Chemicals)

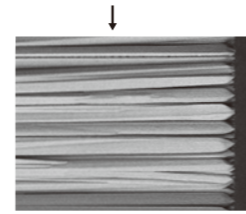
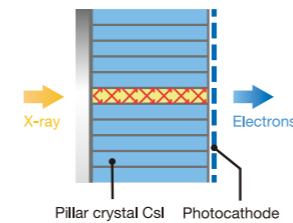
No RoHS-restricted substances

- Development of a photocathode surface forming process that does not contain Cr(VI)
- Development of an output phosphor that does not use Cd (currently exempted from RoHS)

No rare earths

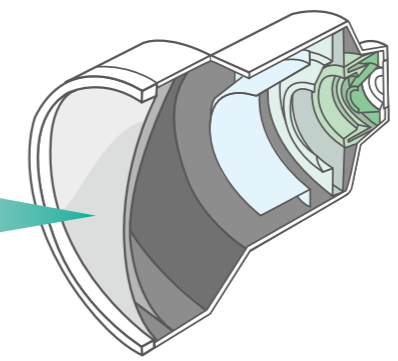
- Gd and Tb are not used.

Input Screen



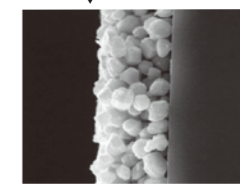
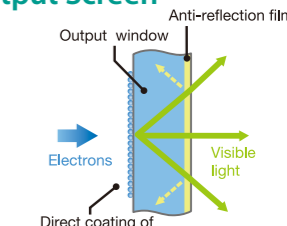
Cross-section of the structure of the input screen

Principle of Operation



X-ray image intensifier is an imaging component which converts X-rays into a visible image. Provides higher-contrast and clearer images than the previous model, making diagnostics easier.

Output Screen

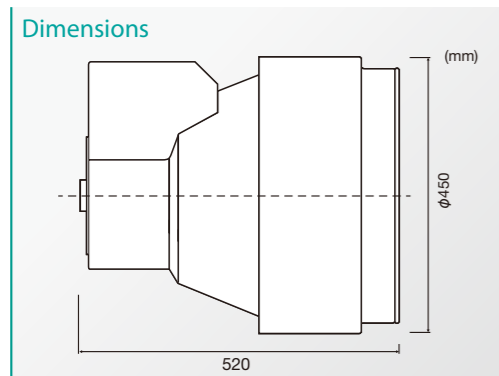


Cross-section of the structure of the output screen

16-inch



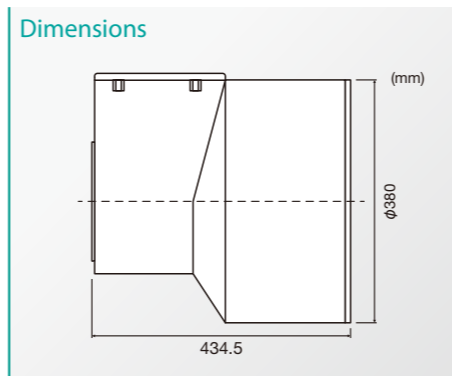
E5876SD-P1/P1A E5876SD-P2/P2A



		E5876SD-P1 ^{*1} E5876SD-P1A ^{*2}	E5876SD-P2 ^{*1} E5876SD-P2A ^{*2}
Size		Overall length 520 ±3 mm Maximum diameter 450 ±1.5 mm	
Optical Distance		1.75 ±0.25 mm	
Weight (Approx.)		43 kg	
Mounting Surface		Front of the image intensifier Side of the image intensifier	Front of the image intensifier
Application		C-arm/Fluoro table	Fluoro table
Nominal Entrance Field Size	N (16") mode	400 mm min.	
	M1 (12") mode	360 mm min.	
	M2 (9") mode	290 ±5 mm	
	M3 (6") mode	215 ±5 mm	
Useful Entrance Field Size	M1 (12") mode	290 ±5 mm	
	M2 (9") mode	215 ±5 mm	
	M3 (6") mode	160 ±5 mm	
	M3 (6") mode	160 ±5 mm	
Output Image Diameter		35 ±0.5 mm	
Central Resolution (typical)	N (16") mode	46 Lp/cm	
	M1 (12") mode	50 Lp/cm	
	M2 (9") mode	56 Lp/cm	
	M3 (6") mode	65 Lp/cm	
Conversion Factor (Gx) (typical)		35(cd/m ²)/(μGy/s)	
Contrast Ratio (typical)	10% area	30	
	10 mm dia.	18	
DQE (IEC Standard) (typical)		65 %	

*1 : 100-240V Vac input type.
*2 : 24 Vdc input type.

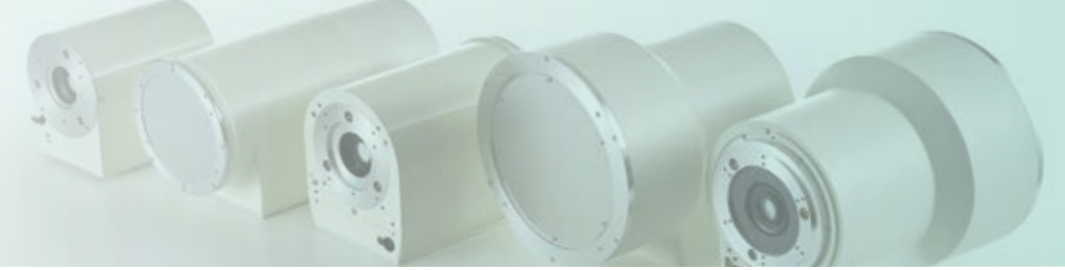
12-inch



		E5765SD-P2 ^{*1} E5765SD-P2A ^{*2}	E5796SD-P2 ^{*1} E5796SD-P2A ^{*2}
Size		Overall length 434.5 ±5 mm Maximum diameter 380 ±2 mm	
Optical Distance		10.4 ±0.25 mm	5.7 ±0.25 mm
Weight (Approx.)		31 kg	
Mounting Surface		Side of the image intensifier same side as the power supply box Front of the image intensifier	
Application		C-arm/Fluoro table/Simulator	
Nominal Entrance Field Size	N (12") mode	310 mm min.	
	M1 (9") mode	290 mm min.	
	M2 (6") mode	215 ±5 mm	
Useful Entrance Field Size	M1 (9") mode	215 ±5 mm	
	M2 (6") mode	160 ±5 mm	
	M2 (6") mode	160 ±5 mm	
Output Image Diameter		25 ±0.5 mm	
Central Resolution (typical)	N (12") mode	46 Lp/cm	
	M1 (9") mode	50 Lp/cm	
	M2 (6") mode	56 Lp/cm	
Conversion Factor (Gx) (typical)		29(cd/m ²)/(μGy/s)	34(cd/m ²)/(μGy/s)
Contrast Ratio (typical)	10% area	24	30
	10 mm dia.	15	18
DQE (IEC Standard) (typical)		65 %	

*1 : 100-240V Vac input type.
*2 : 24 Vdc input type.

X-ray Image Intensifiers

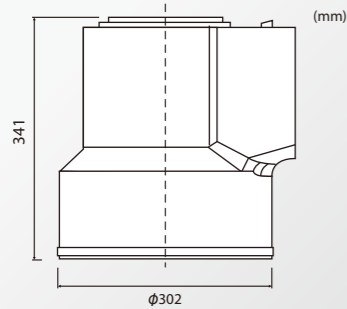


9-inch

Housing type : P7



Dimensions



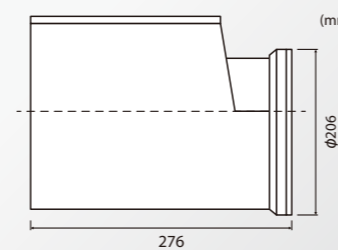
		E5830SD series*	E5764SD series*	E5804SD series*
Size (typical)		See Dimintions		
Weight (Approx.)		P7 = 18 kg / P6, P4, P3 = 20 kg		
Mounting Surface		Front of the image intensifier (except P7 type) Side of the image intensifier (except P6 type)		
Application		P7 = C-arm, P6 = Fluoro table / Simulator P4, P3 = C-arm / Simulator		
Nominal Entrance Field Size	N (9") mode	230 mm min.		
Useful Entrance Field Size	N (9") mode	215 mm min.		
	M1 (6") mode	160 ±5 mm	-	-
	M2 (4.5") mode	120 ±5 mm	-	-
Output Image Diameter		25 ±0.5 mm	20 ±0.5 mm	
Central Resolution (typical)	N (9") mode	52 Lp/cm	48 Lp/cm	
	M1 (6") mode	58 Lp/cm	56 Lp/cm	-
	M2 (4.5") mode	68 Lp/cm	66 Lp/cm	-
Conversion Factor (Gx) (typical)		29(cd/m ²)/(μGy/s)	28(cd/m ²)/(μGy/s)	
Contrast Ratio (typical)	10% area	30	25	
	10 mm dia.	19	16	
DQE (IEC Standard) (typical)		65 %		

* 24 Vdc input type. (100-240V Vac input type available)

6-inch



Dimensions



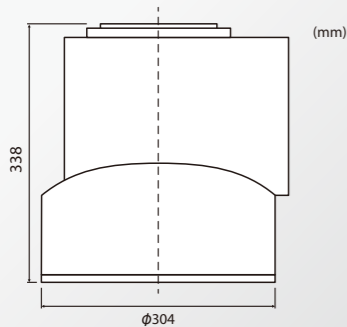
		E5863SD-P6 ^{*1} E5863SD-P6A ^{*2}	E5883SD-P6 ^{*1} E5883SD-P6A ^{*2}
Size		Overall length 276 ±5 mm Maximum diameter 206 ±2 mm	
Weight (Approx.)		11 kg	
Mounting Surface		Side of the image intensifier Front of the image intensifier	
Application		C-arm/Fluoro table	
Nominal Entrance Field Size	N (6") mode	150 mm min.	
Useful Entrance Field Size	N (6") mode	140 mm min.	
	M (4") mode	-	105 ±5 mm
Output Image Diameter		20 ±0.5 mm	
Central Resolution (typical)	N (6") mode	54 Lp/cm	
	M (4") mode	-	64 Lp/cm
Conversion Factor (Gx) (typical)		18 (cd/m ²)/(μGy/s)	21 (cd/m ²)/(μGy/s)
Contrast Ratio (typical)	10% area	30	
	10 mm dia.	20	
DQE (IEC Standard) (typical)		65 %	

*1 : 100-240V Vac input type.
*2 : 24 Vdc input type.

Housing type : P6



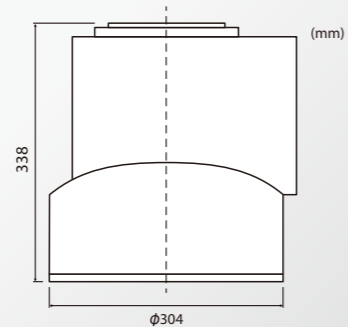
Dimensions



Housing type : P4



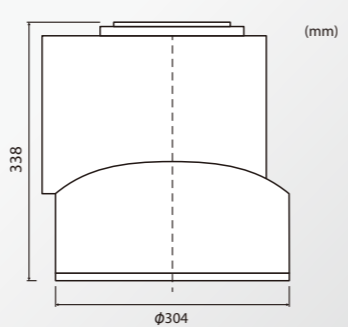
Dimensions



Housing type : P3



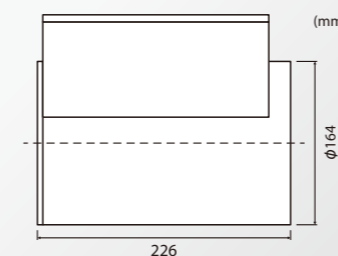
Dimensions



4-inch



Dimensions



		E5881J-P1A	E5877J-P1A
Size		Overall length 226 ±3 mm Maximum diameter 164 ±3 mm	
Weight (Approx.)		8 kg	
Mounting Surface		Side of the image intensifier	
Application		C-arm	
Nominal Entrance Field Size	N (4") mode	100 mm min.	
Useful Entrance Field Size	N (4") mode	95 mm min.	
	M (2") mode	-	50 ±5 mm
Output Image Diameter		20 ±1 mm	
Central Resolution (typical)	N (4") mode	77 Lp/cm	
	M (2") mode	-	110 Lp/cm
Conversion Factor (Gx) (typical)		10 (cd/m ²)/(μGy/s)	
Contrast Ratio (typical)	10% area	22	
	10 mm dia.	18	
DQE (IEC Standard) (typical)		42 %	

24 Vdc input type.

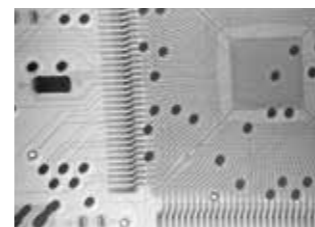
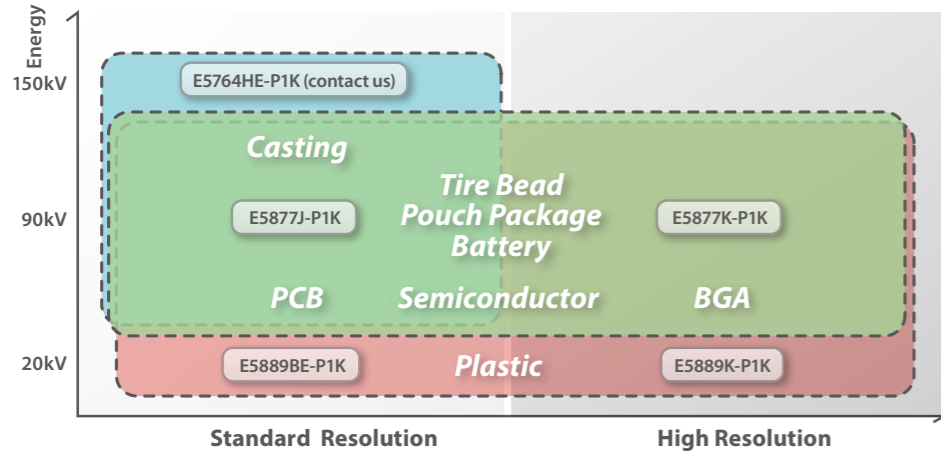
X-ray Image Intensifiers for Industrial Application

X-ray Image Intensifiers for Industrial Application

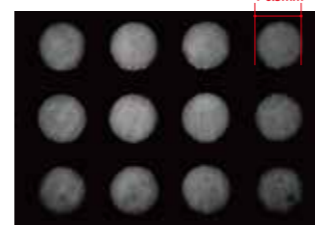
Industrial X-ray image intensifier are suitable for inspection and measurement applications, ranging from semiconductor chips and printed circuit boards to filling conditions of plastic bottles.

Aluminum(Al): Standard Aluminum input windows		Beryllium(Be): Beryllium input window for low energy/soft X-rays					
Standard: Standard CsI		High resolution: Super fine pillar CsI					
High speed response: High speed response with short luminance decay time		Wide dynamic range: color Phosphor					
		E5881J-P1K	E5877J-P1K	E5881K-P1K	E5877K-P1K	E5877RE-P1K	E5877CS-P1K
Material of Input Window		Aluminum (Al)					
Application		Standard		High Resolution		High Speed Response	Wide dynamic range
Central Resolution (typical)	N (4") mode	77 Lp/cm		92 Lp/cm		77 Lp/cm	75 Lp/cm
	M (2") mode	-	110 Lp/cm	-	125 Lp/cm	110 Lp/cm	
Conversion Factor (Gx) (typical)		10(cd/m ²)/(μGy/s)		10(cd/m ²)/(μGy/s)		1.5(cd/m ²)/(μGy/s)	30(cd/m ²)/(μGy/s)
Contrast Ratio (typical)	10% area	22		26		22	NA (color)
	10 mm dia.	18		19		16	NA (color)
		E5888BE-P1K	E5889BE-P1K	E5888K-P1K	E5889K-P1K	E5889BP-P1K	
Material of Input Window		Beryllium (Be)					
Application		Standard		High Resolution		High Speed Response	
Central Resolution (typical)	N (4") mode	77 Lp/cm		92 Lp/cm		77 Lp/cm	
	M (2") mode	-	110 Lp/cm	-	125 Lp/cm	110 Lp/cm	
Conversion Factor (Gx) (typical)		10 (cd/m ²)/(μGy/s)		10 (cd/m ²)/(μGy/s)		1.5 (cd/m ²)/(μGy/s)	
Contrast Ratio (typical)	10% area	22		26		22	
	10 mm dia.	18		19		18	

Selection Guide



PCB, BGA & Semiconductor

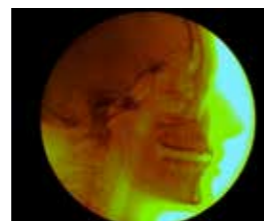


BGA magnified by Image Intensifier

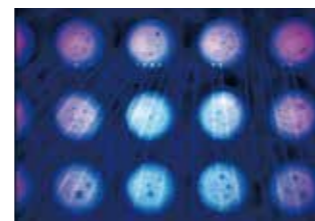
Color X-ray Image Intensifier

Wide dynamic range covered by 3 different output phosphors RGB phosphors make composite wide range image at a time.

- Red has quite high sensitivity from low dose region.
- Regular Green
- Blue has less sensitivity but high saturation level even at high dose.



Color output image



Color X-ray Image Intensifier

X-ray Imaging Systems

X-ray Imaging Systems

List of X-ray image intensifiers that can be used in combination with the VP-34509 and VP-34506 camera

Nominal Entrance Field Size

Output Image Diameter	Nominal Entrance Field Size			
	4 inch (100 mm)	6 inch (150 mm)	9 inch (230 mm)	12 inch (310 mm)
25 mm			E5830	E5765 E5796
20 mm	E5877 E5881	E5863 E5883	E5764 E5804	

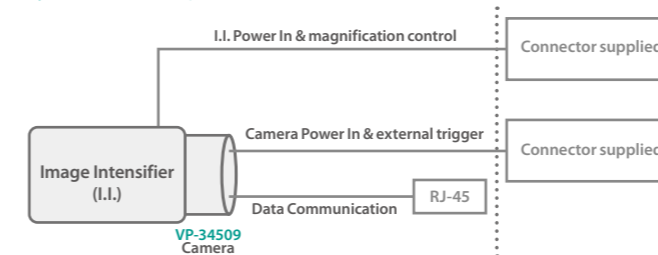
1M CCD Camera VP-34509

Type VP-34509 provides superior image quality and excellent solution in cost effectiveness.

- Gigabit Ethernet Interface
- 1,024 × 1,024 pixel CCD
- Optimal for digital fluoroscopy
- Simple capture system



System configuration of the Camera



VP-34509 Specifications

Application	General fluoroscopy & Non-destructive testing
Pixel pitch	5.5 × 5.5 μm
Pixels	1024 × 1024
Frame rate	30 fps (max.)
Dynamic range	60 dB
Operation modes	Free-running mode / External trigger mode
Interface	GigE Vision protocol and GenICam control
Input power	DC 24 ± 10%

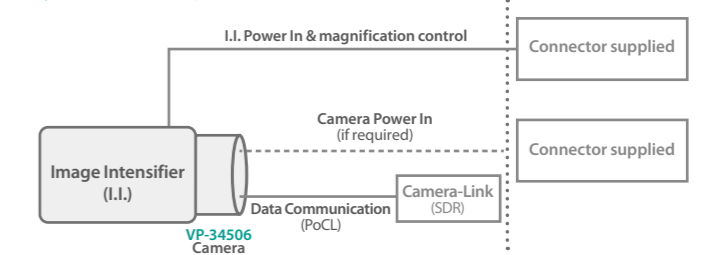
6.5M CMOS Camera VP-34506

Type VP-34506 can be used for Industrial purpose only Supreme image quality beyond Full HD resolution.

- Camera-Link interface for World-Wide
- 2,560 × 2,560 pixel CMOS technology
- High refresh rate, up to 85 fps
- Power over Camera-Link cable



System configuration of the Camera



VP-34506 Specifications

Application	Non-destructive testing
Pixel pitch	5 × 5 μm (CMOS)
Pixels	2560 × 2560
Frame rate	85 fps (max.)
Output data	12-bit
Operation modes	Free-running mode / External trigger mode
Interface	Camera Link
Input power	DC 12 ± 10% (Power over Camera Link)

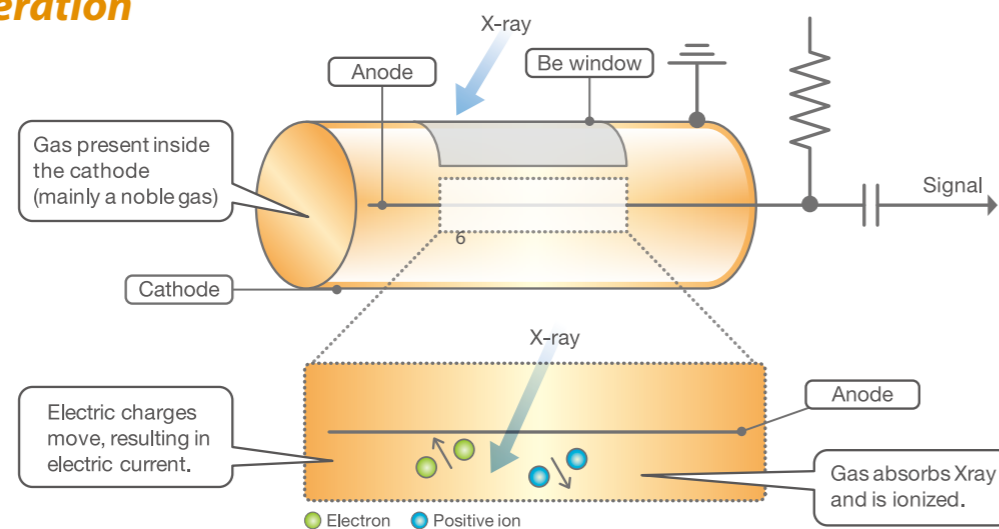
Proportional Counters for X-ray Ionization Chambers for X-ray

Long Life and High Stability
Shock-resistant Structure



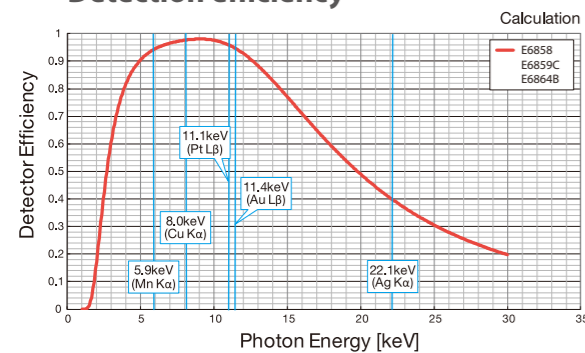
X-ray Proportional Counter (PC) is a detector which uses ionization caused by interaction between X-ray and internal gas. This detector is suitable for measuring thickness of metal plating.

Principle of Operation

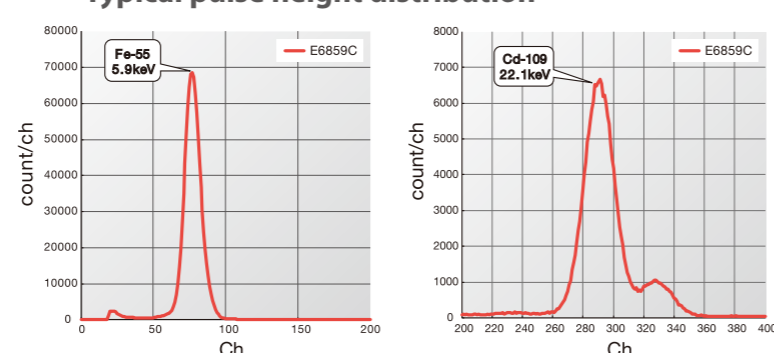


Proportional Counters

Detection efficiency



Typical pulse height distribution



Proportional Counters

Model Name	E6858	E6859B	E6859C	E6864B	E6860 (C)	E6860 (P)	E68931-12P
General Specification							
Fill Gas	Xe + additive gas				Ne + additive gas		
Housing Material	Stainless Steel						
Gas Pressure (Approx) [kPa]	100	90	100	100	70	70	150
Maximum Length [mm]	252	204	204	178	156	126	165
Maximum Diameter [mm]	50.8	50.8	50.8	50.8	38	38	25.4
Effective Length [mm]	175	142	142	116	75	75	100
Connector	Pin	MHV	MHV	MHV	MHV	Pin	Pin
Operating Temperature [°C]	-20 to 70				-20 to 70		

Window Specification							
Material	Beryllium						
Thickness [mm]	0.3	0.2	0.1	0.1	0.062	0.062	0.04
Dimension (W) x (L) [mm]	40 x 82	40 x 82	26 x 52	26 x 52	20 x 20	9.5 x 25.4	9.5 x 25.4

Electrical Specifications							
Operating Voltage Range [V]	1,900 to 2,300	1,800 to 2,100	1,900 to 2,300	1,900 to 2,300	1,100 to 1,400	1,100 to 1,400	1,500 to 1,700
Recommended Voltage [V]	2,000	1,850	2,000	2,000	1,300	1,300	1,600

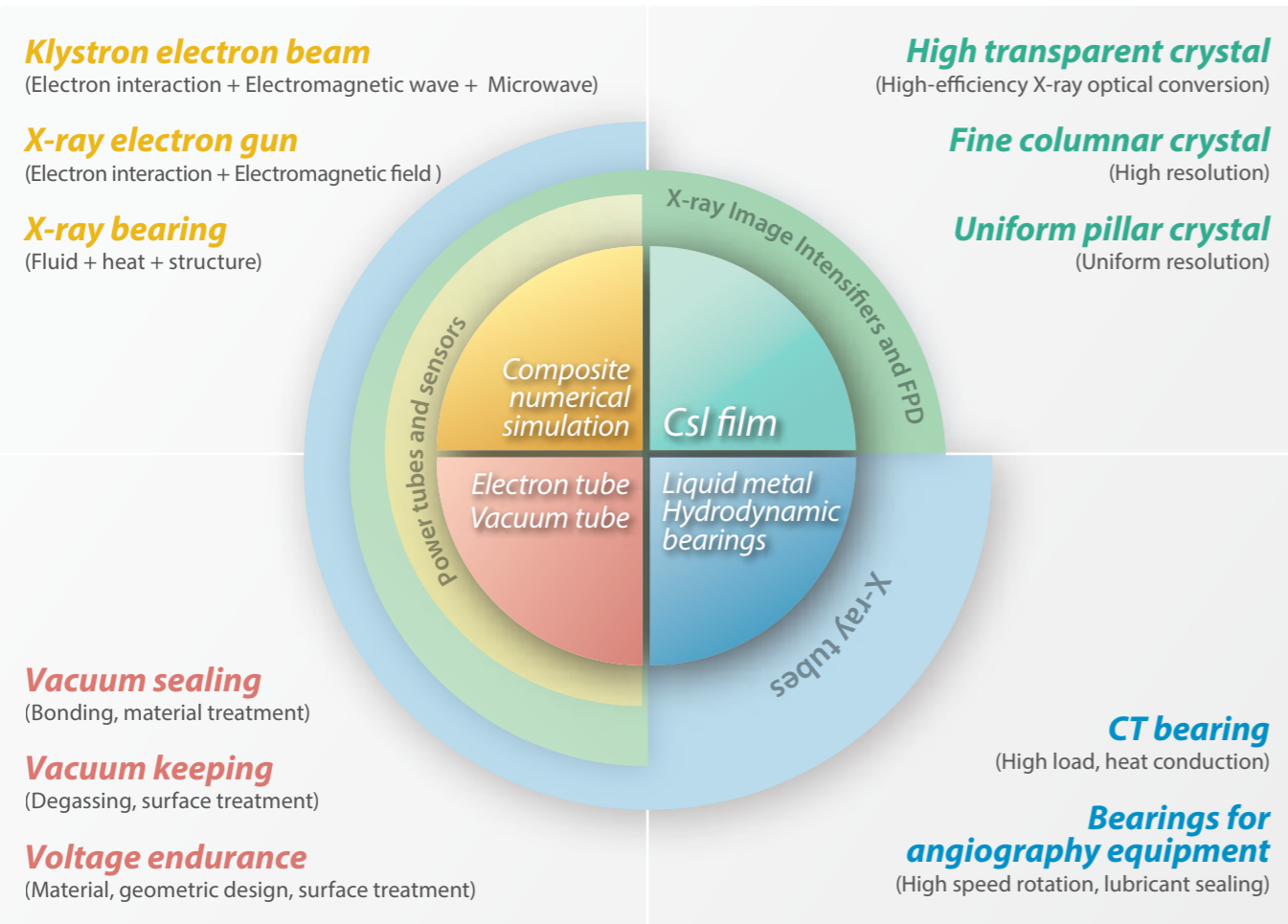
Resolution							
Fe-55 (5.9 keV) (Max) [%FWHM]	21	19	19	19	20	20	20
Cd-109 (22.1 keV) (Max) [%FWHM]	10	9	9	9	-	-	-

Ionization Chambers

Model Name	E6854	E6861	E6866A	E6866C	M4952F
General Specifications					
Fill Gas	100% Xe				
Housing Material	SGP	Al	SUS304		SGP
Gas Pressure (Approx) [MPa]	0.8	0.8	1.5	3.0	0.4
Maximum Length [mm]	209	220	174.5		220
Maximum Diameter [mm]	113	50	15		140
Effective Length [mm]	150	167	100		50
Operating Temperature [°C]	-20 to 70				
Window Specification					
Material	Beryllium	-	-		SUS304
Thickness [mm]	2.0	1.0	0.5		0.5
Dimension (W) x (L) [mm]	φ70	-	-		φ132
Electrical Specifications					
Operating Voltage Range [VDC]	200 to 700		300 to 700		100 to 300
Maximum Voltage [VDC]	1,500				

Technologies for Products

Core Technologies



World's Largest Shipment Volume Products (An internal investigation 2015)

World's largest shipment volume share based on long life, high reliability, superior cost performance



Environmental Consideration

Aiming at a Society to Hand on the Rich Earth to Future Generations

We are promoting the creation of environmentally friendly products. These products contribute to the realization of a low-carbon, resource circulation society, avoid chemical hazardous material rejection and prevent pollution. While being committed to reducing environmental burdens, we offer medical system components and other products that contribute to society in the fields of industrial and chemical technologies. Our focus is on creating products that contribute to society and enhance the total value of our customers' medical systems and others.

Environmentally Conscious Products Spawned from Core Technologies

Products Certified In-House for Outstanding Environmental Performance

2MHU-CT X-ray Tube Assemblies

Realization of Resource Circulation Society
Reduction in weight by downsizing from previous higher-end models
Development of technology to improve reliability of anode target
Development of technology to improve maintainability of cooler

Chemical Hazardous Material Rejection & Pollution Prevention
Conforms to the revised European RoHS2 Directive (2011/65/EU)

X-ray Flat Panel Detector

Realization of Low-Carbon Society
Low-dose imaging using Quadcel, our developed core technology. Reduces exposure of patients to radiation and saves energy through the use of a low-power technology

Realization of Resource Circulation Society
Compact sizing and product-life extending can be achieved with Quadcel technology

Chemical Hazardous Material Rejection & Pollution
Conforms to the revised European RoHS2 Directive (2011/65/EU)

X-ray Image Intensifiers

Realization of Low-Carbon Society
High sensitivity through technical improvements in the input fluorescent surface and photoelectric surface

Realization of Resource Circulation Society
Extended life through technical improvements in the output fluorescent

Chemical Hazardous Material Rejection & Pollution
Conforms to the revised European RoHS2 Directive (2011/65/EU)
First in the world to be free of Cd and Cr (VI). Cd-free output fluorescent surface
Photoelectric surface manufacturing process that does not leave behind any Cr (VI)

Multi-beam Klystron

Realization of Low-Carbon Society
Large power efficiency achieved with a low operating voltage

Realization of Resource Circulation Society
Extended life through optimization of the cathode loading

Chemical Hazardous Material Rejection & Pollution
Conformance with European RoHS2 Directive (2011/65/EU) from the prior period of application onwards

Company Profile

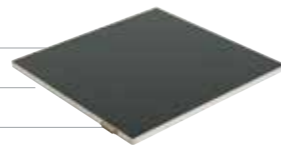
History

Our products, such as Japan's first commercially available X-ray tube in 1915, X-ray Image Intensifiers, Flat Panel Detectors, and electron tubes, have served as components in a wide range of equipment. Building on the reliability and business performance achieved so far, we will continue to pursue stable and continuous growth for the next 100 years.



GIBA X-ray Tube

- 1915** :Developed X-ray tube.
- 1954** :Developed X-ray Image Intensifiers (I.I.).
- 1977** :Succeeded in growing CsI crystals with a pillar structure and using them in the input phosphor.
- 1986** :Developed high DQE Super Metal X-ray image intensifier.
- 1990** :Developed high-Gx and high-contrast advanced super-metal I.I. (H-series).
- 1991** :Completely discontinued use of Freon and trichloroethane.
:Achieved production of a total of 200,000 rotating anode X-ray tubes.
- 1992** :Developed 4 inch I.I. for industrial-use soft X-ray (initial full-scale entry into industrial-use equipment market).
- 1994** :Developed 4 MHU CT tube with hydrodynamic pressure bearing (CSRX-7713D-H).
- 1995** :Developed high-DQE and high-contrast I.I. (J-series).
- 1996** :Obtained CE mark certification, BS 7750 certification, and ISO 14001 certification.
:Achieved compliance with the European Medical Devices Directive.
- 1998** :Developed SD series I.I. with high MTF and high image uniformity.
- 2001** :Developed LM cardiac tube.
- 2008** :Developed digital X-ray sensor with CsI and CMOS technology.
:Developed the world's first nano focus soft X-ray tube with a closed structure and thermal field emitter.
- 2009** :Commenced commercial production of 43 cm × 43 cm Flat Panel Detector for radiography (FDX4343R).
- 2012** :Commenced commercial production of 35 cm × 43 cm portable Flat Panel Detector for radiography (FDX3543RP).
- 2013** :Commenced commercial production of 35 cm × 43 cm portable Wireless Flat Panel Detector for radiography (FDX3543RPW).
- 2015** :100th anniversary
- 2016** :Developed 5.7 MHU CT tube with hydrodynamic pressure bearing (CXB-750U).
- 2017** :Commenced commercial production of 43 cm × 43 cm Flat Panel Detector for radiography(FDXA4343R)



Fixed Panel



CSRX-7713D-H 4MHU



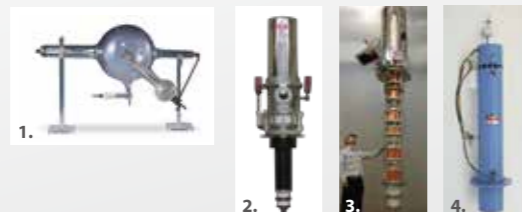
SD Series



Wireless Panel



Essential Historical Materials for Science and Technology (Mirai Technology Heritage) in Japan



1. GIBA X-ray Tube (Registered in 2010)
2. Collector Potential Depression (CPD) type gyrotron (Registered in 2009)
3. Klystron E3732 (Registered in 2014)
4. Traveling Wave Tube 1W50 (Registered in 2014)

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