

KONICA MINOLTA

WIRELESS DIGITAL RADIOGRAPHY SYSTEM

AeroDR3

1417HD / 1717HD / 1012HQ



2 WIRELESS DIGITAL RADIOGRAPHY SYSTEM



KonicaMinolta's next generation wireless FPD
AeroDR 3 1417HD / 1717HD / 1012HQ exceeds
the advantages of our current AeroDR series and incorporates
new features. It is the top-of-the-line model in the AeroDR series.

High Image Quality
High Resolution, High DQE, and Lower Radiation Doses

■
Lightweight and Robust Structure

■
Powerful and Reliable Workflow
Rapid cycle time, Selectable pixel size,
and Updated AeroSync® automatic exposure detection.

3 *AeroDR 3*



AeroDR 3 1417HD

Light weight at 2.6kg (5.7 lb)

■
Rapid cycle time of 4 s
in wireless operation*1



AeroDR 3 1717HD

Light weight at 3.2kg (7.0 lb)

■
Rapid cycle time of 4 s
in wireless operation*1



AeroDR 3 1012HQ

Light weight at 1.5kg (3.3 lb)

■
Rapid cycle time of 4 s
in wireless operation*1



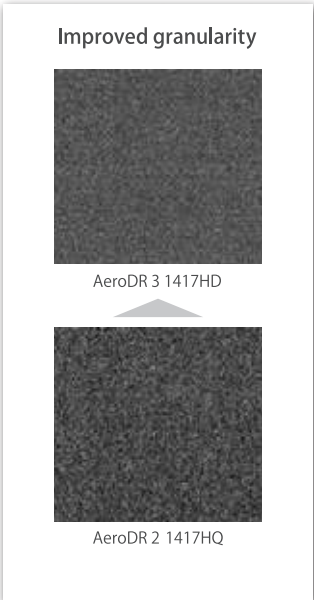
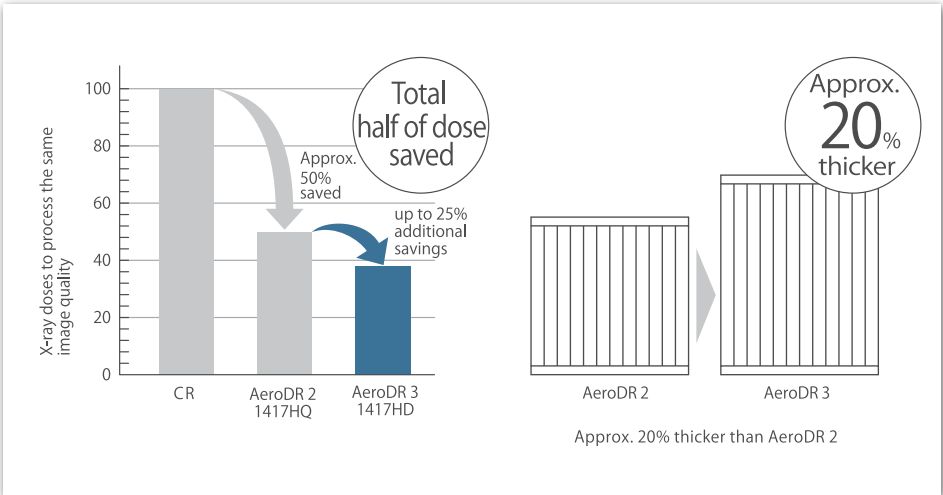
*1 Specifications may vary depending on system configuration or environment. The specifications described above assume that each AeroDR 3 panel (pixel size is select 200μm) is connected to an X-ray generator.

High Image Quality



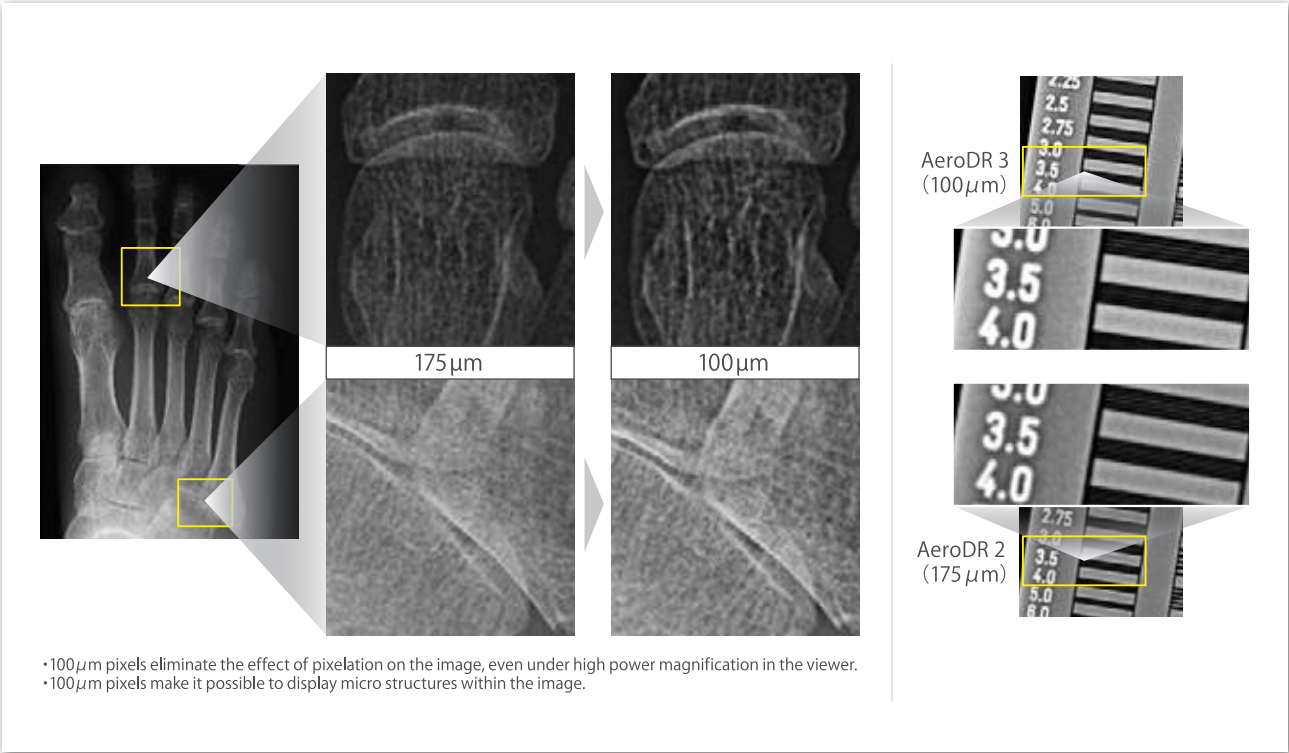
High DQE and Lower Doses

KonicaMinolta introduces the latest technological advances with the AeroDR 3 High sensitivity TFT panel. The thicker CsI scintillator and new ROIC can reduce the electrical noise level by 50% or more. Now we can provide patients and AeroDR users with high detector quantum efficiency (DQE) and half of dose with AeroDR 3 when compared with previously cleared KonicaMinolta systems.



Thicker CsI Scintillator

The scintillator material is evenly distributed from the bottom to the top of the panel, and it is more than 20% thicker than the AeroDR 2 1417HQ panel. This helps provide the high DQE.



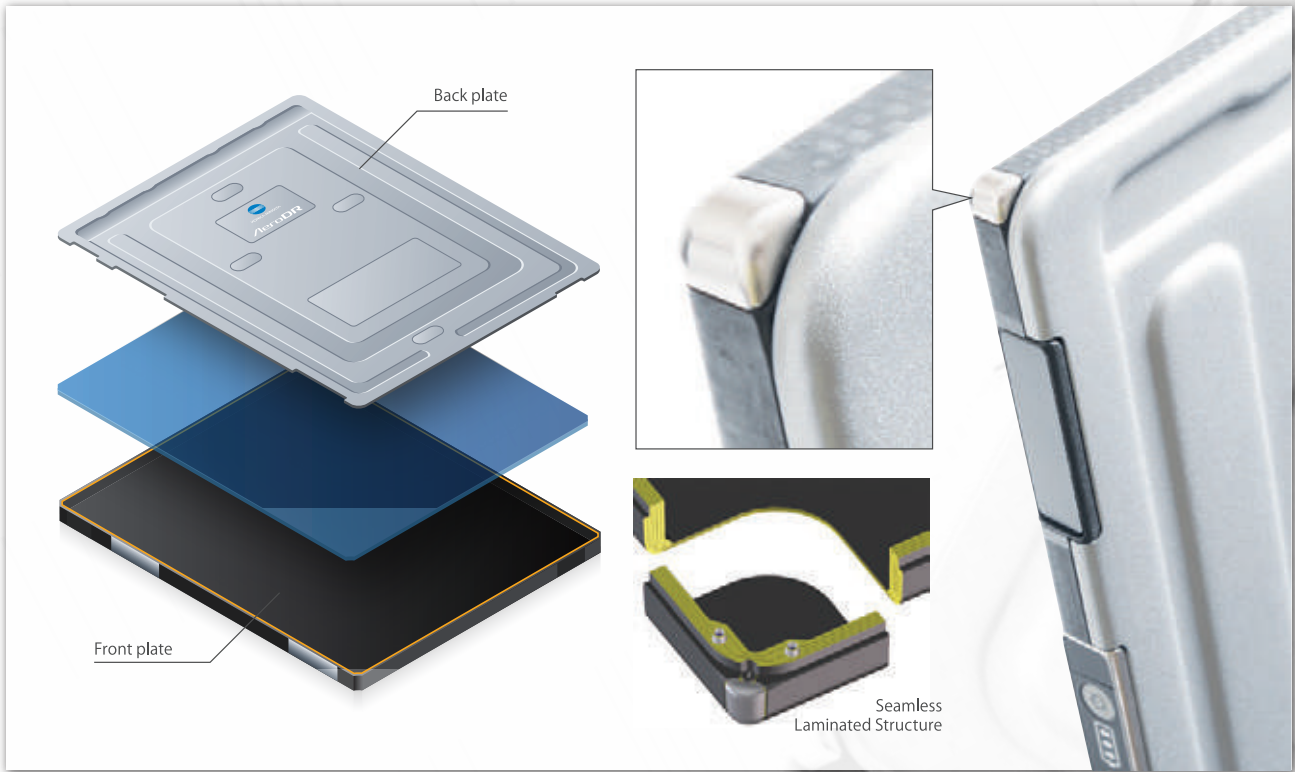
Performance of 100µm pixels

The pixels are 100µm across, and this small size helps ensure clear images.

Lightweight and Robust Structure

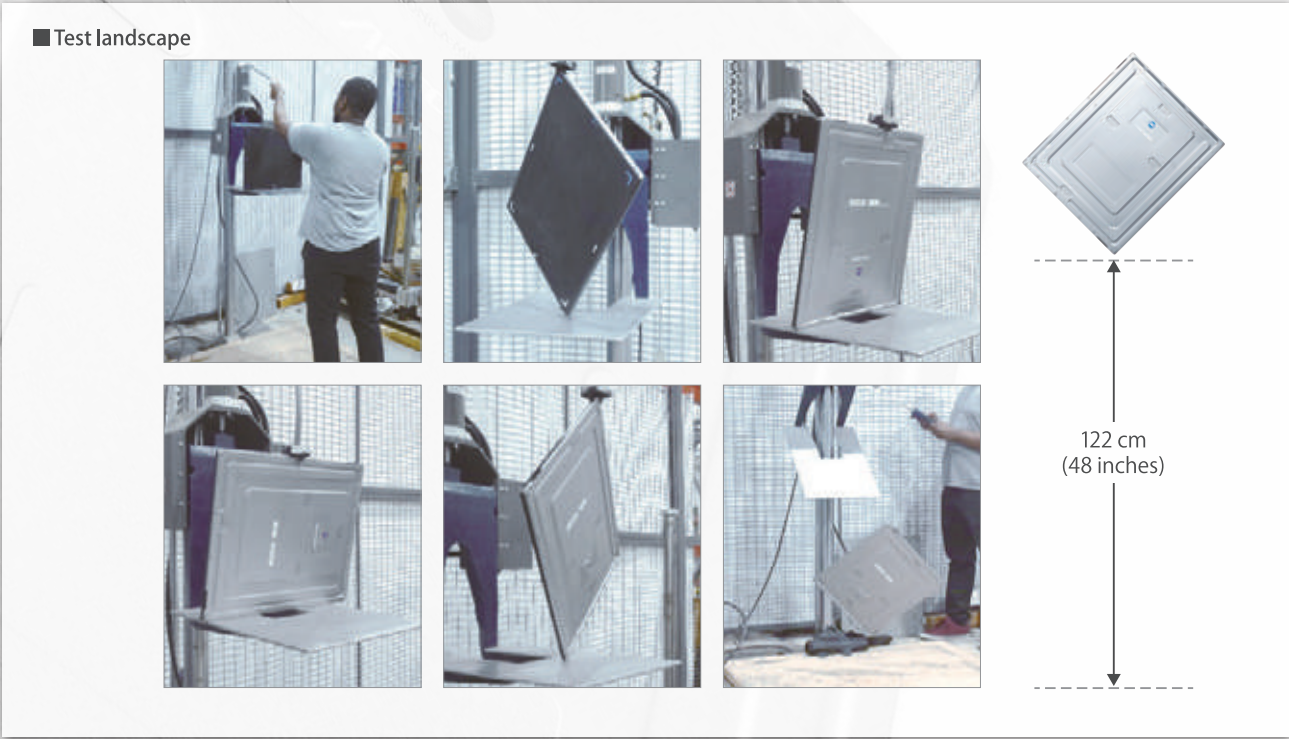
Super Monocoque Housing Structure

KonicaMinolta has developed a new detector design to provide easy handling and high durability.



Each AeroDR 3 panel has passed the MIL-STD-810G drop strength test

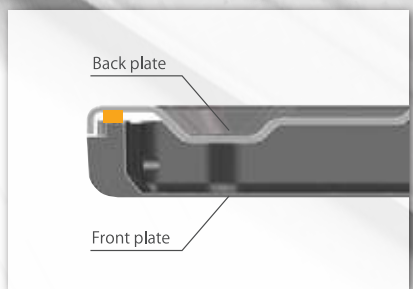
MIL-STD-810G is defined by the U.S. Department of Defense. Drop strength is one of the test items. (Drop strength test: it is dropped on a total of 26 places once each from the height of 122 cm (48 inches). The 26 places are 6 planes above plywood, 12 ridgelines, and 8 vertices.)



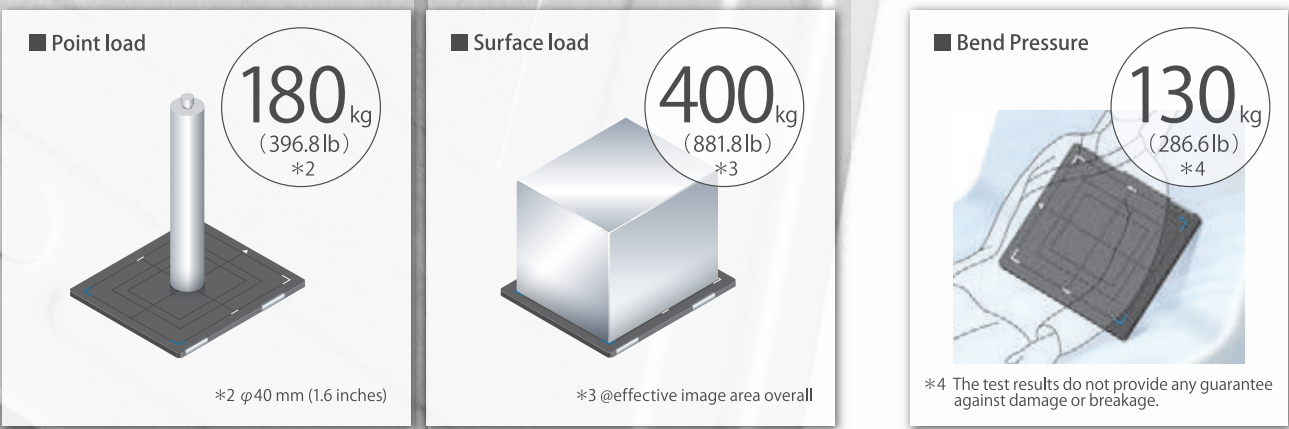
Sustain IPX6 waterproof compliance even after the panel was dropped from height of 1.0m.

The AeroDR 3 panel has cleared the durability test for water resistance after dropping it from a height of 1m. The structure of the AeroDR 3 panel does not allow liquids to penetrate or damage the main components.

※ The internal test condition is that the AeroDR 3 1417HD main body is dropped once onto a concrete floor that has a 2mm-thick sheet laid on it, after which the water resistance test is conducted. Depending upon the operating conditions and detector status, the IPX6 water resistance may be lost.



Enhanced waterproof performance
Waterproof performance has been enhanced by the structure enclosed by waterproof packing.



Load Resistance

The AeroDR 3 panel has undergone a variety of internal tests based on some assumed extreme operating scenarios.

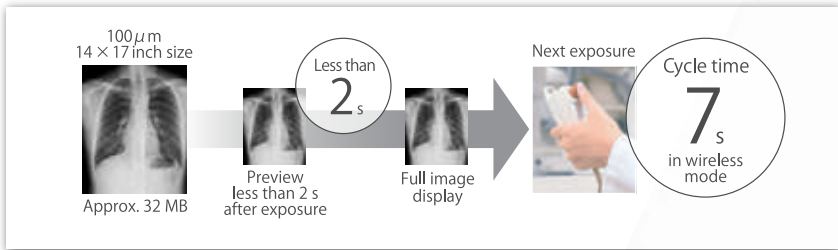
Bend Resistance

KonicaMinolta assumed an operating scenario in which a 130 kg patient lies on the AeroDR 3 panel main body for a bedside exposure, and designed the detector such that it would not affect the processed image or suffer internal damage.

Powerful and Reliable Workflow

Rapid Cycle Time

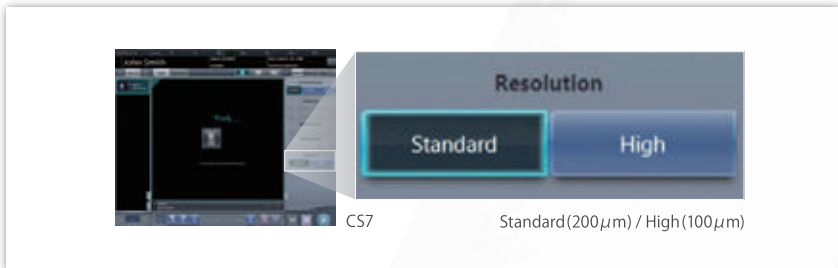
The AeroDR SYSTEM 3 can handle large image data and provide short cycle times even though the image data is taken at 100 μ m pixels.



※ With 200 μ m pixels and in wireless mode, the cycle time is 4 s.

The pixel size is selectable between 100 μ m or 200 μ m.

AeroDR 3 users can select a pixel size of 100 μ m or 200 μ m before taking an X-ray. This allows users to control the image data size if they need to save storage space. After taking the X-ray, the CS-7 image-processing workstation has options to output images to save data space.



High Performance Power Cell

The AeroDR 3 1417HD is powered by two lithium ion capacitors for high performance. The Lithium ion capacitors charge from 0 to 100% in 30 min.*5

*5 When using the AeroDR Battery Charger2 or interface cable 3

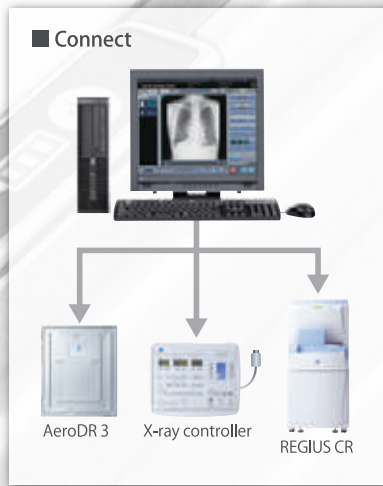


Its sophisticated functions will enrich your daily examination workflow

Integrated control station CS-7

CS-7 can control AeroDR detectors and connect to CR readers.

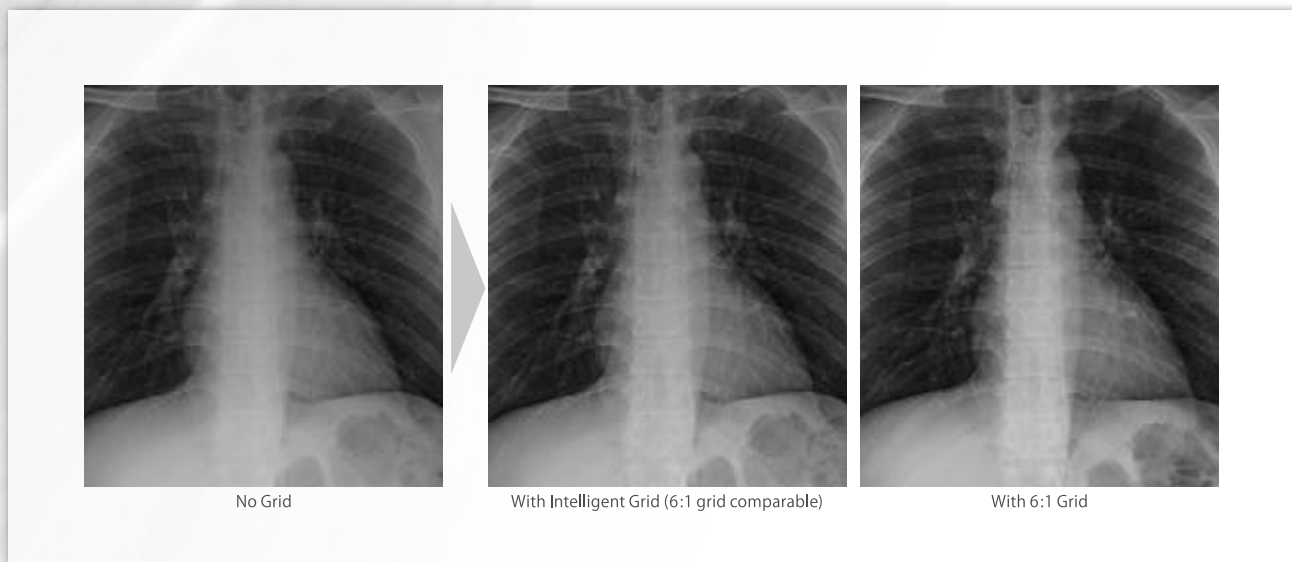
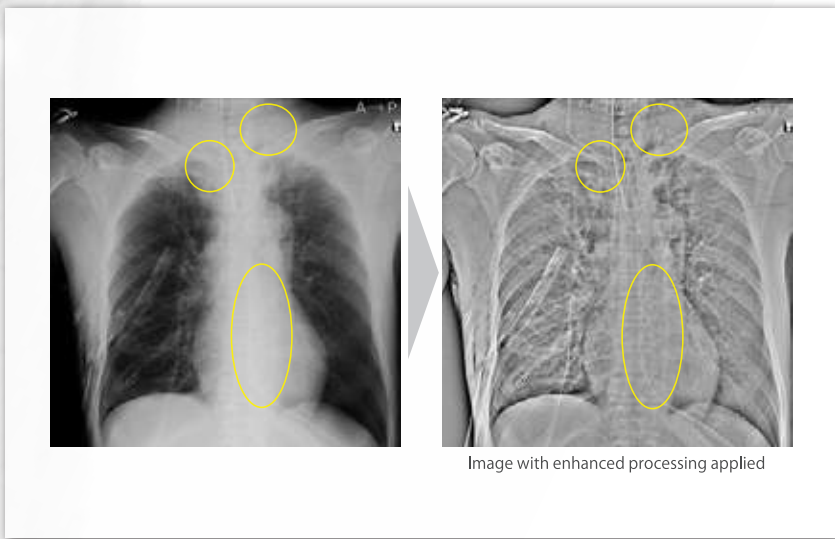
(Please contact your KonicaMinolta sales representative regarding which devices can connect to CS-7)



Tube and gauze image enhancement

CS-7 can highlight tube and gauze images that are difficult to be detected with normal images.

※Optional license is necessary to use this function



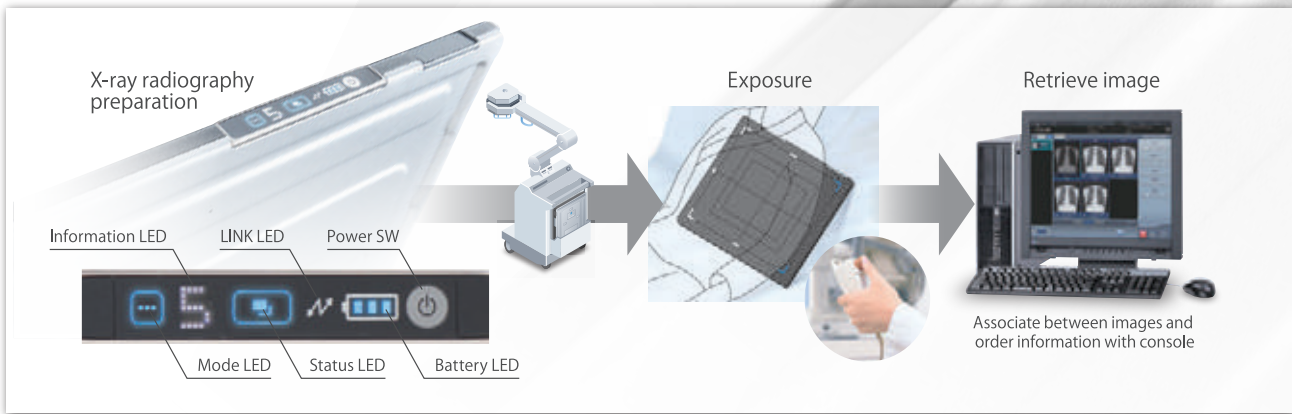
Intelligent Grid

This is image processing to improve contrast which is affected by scattered radiation without a grid. This function provides easy workflow, and the operator need not carry it to perform an exam. Three types of parameters are available from comparable grid ratios; 3:1/6:1/8:1/10:1/12:1.

※ The image quality processed by 'Intelligent Grid' is not guaranteed to be same as the image quality obtained by using a grid.

X-ray Radiography Possible without Console

"AeroStorage" X-ray Radiography in Emergencies. Switch the AeroDR 3 to Aero Storage mode, and perform exposure X-ray without a console. The number of saved images is 100.



New image processing engine “REALISM” × AeroDR 3 1417HD/1717HD/1012HQ



X-ray images to be more stereoscopic and clearer by “REALISM”

- 1 Depict whole image more clearly while also maintaining the contrast
- 2 Optimize the high definition pixel size 100μm of AeroDR 3 series through sharpness enhancing technology.
- 3 Control the granularity deterioration with updated HE/HF processing

High sharpness technology which is maximized panel resolution

RF processing (frequency processing of REALISM processing)

REALISM processing



Hybrid processing (Conventional)



Both technology to draw whole image + maintain contrast

RE processing (compression processing of REALISM processing), introducing New LUT



AeroDR SYSTEM 3 Specifications

AeroDR SYSTEM 3 *6

Product name (model name) *7	
Detection method	
Scintillator	
External dimensions (W×D×H)	
Weight	
Pixel size	
Image area size	
AD conversion	
Usable grid frequency	
Communication	
W-LAN encryption	
Auto Exposure Detection	
Expected product life time	
Durability	Point load*8
	Face load
	MIL-STD
	Water resistance*9
Cycle time*10	100 μm
	200 μm
Battery performance	Operating time*11 (200 μm with wireless LAN connection)
	Charging time empty to full
	Maximum stand by time*12

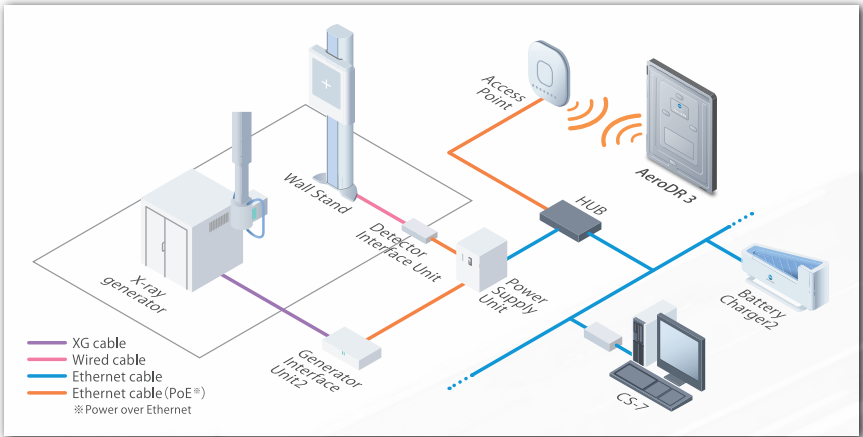
*6 AeroDR SYSTEM 3 is the commercial product name of SKR 3000. *7 AeroDR 3 1417HD / AeroDR 3 1717HD / AeroDR 3 1012HQ is the commercial name of P-61 / P-71 / P-81 of SKR3000. With regard to the tested *8 Dead loading does not affect the processed image or panel. Robustness against loading of the AeroDR 3 1417HD / AeroDR 3 1717HD / AeroDR 3 1012HQ does not provide any guarantees against damage or breakage. 1717HD / AeroDR 3 1012HQ does not provide any guarantees of perfect water resistance, nor that it cannot be damaged or broken. *10 Specifications may vary depending on system configuration or environment. The 1717HD / AeroDR 3 1012HQ is connected to an X-ray generator. *11 The specifications assume that 3 exposures are taken within one study and that the time between studies is 5 min. They also assume that it takes AeroDR 3 1717HD / AeroDR 3 1012HQ is linked to an X-ray generator and is also connected to a CS-7 Image processing workstation. *12 The specifications described above are based on a full battery charge and may

AeroDR 3 1417HD	
AeroDR 3 1417HD (P-61)	
Indirect conversion method	
CsI	
384 × 460 × 15mm (15.1 × 18.1 × 0.6 inches)	
2.6kg (5.7lb)	
100 / 200 μm	
348.8 × 425.6mm (13.7 × 16.8 inches)	
16 bit (65,536 gradients)	
60 / 40 / 34 lp/cm	
Dedicated wired Ethernet connection / Wireless LAN (IEEE802.11a / 802.11n compliant)	
Wireless encryption method: AES / Authentication method: WPA2-PSK	
Available (AeroSync)	
Same as the lifetime of AeroDR 3 1417HD main body	
180 kg @ φ40 mm	
400 kg @ effective image area overall	
Acquisition	
IPX6 including power cell	
Approx. 6s with dedicated wired connection Approx. 7s with wireless LAN connection	
Approx. 4s with dedicated wired connection Approx. 4s with wireless LAN connection	
Approx. 309 images / 8.6 h	
*Assuming that the AeroDR system is connected to an X-ray system, the interval between studies is 5 min, and three images are captured in each study, and assuming 20s for each exposure to position the patient.	
Within 30 min	
Approx. 13 h	

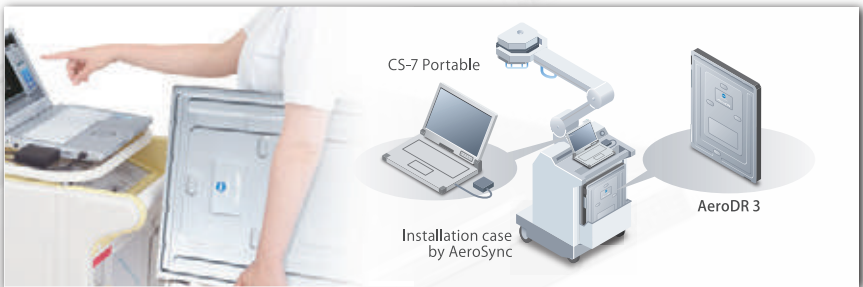
AeroDR 3 1717HD	
AeroDR 3 1717HD (P-71)	
Indirect conversion method	
CsI	
460 × 460 × 15mm (18.1 × 18.1 × 0.6 inches)	
3.2kg (7.0 lb)	
100 / 200 μm	
424.8 × 424.8mm (16.7 × 16.7 inches)	
16 bit (65,536 gradients)	
60 / 40 / 34 lp/cm	
Dedicated wired Ethernet connection / Wireless LAN (IEEE802.11a / 802.11n compliant)	
Wireless encryption method: AES / Authentication method: WPA2-PSK	
Available (AeroSync)	
Same as the lifetime of AeroDR 3 1717HD main body	
180 kg @ φ40 mm	
400 kg @ effective image area overall	
Acquisition	
IPX6 including power cell	
Approx. 6s with dedicated wired connection Approx. 7s with wireless LAN connection	
Approx. 4s with dedicated wired connection Approx. 5s with wireless LAN connection	
Approx. 276 images / 7.6 h	
*Assuming that the AeroDR system is connected to an X-ray system, the interval between studies is 5 min, and three images are captured in each study, and assuming 20s for each exposure to position the patient.	
Within 30 min	
Approx. 12 h	

AeroDR 3 1012HQ	
AeroDR 3 1012HQ (P-81)	
Indirect conversion method	
CsI	
282 × 333 × 15mm (11.1 × 13.1 × 0.6 inches)	
1.5kg (3.3 lb)	
100 / 200 μm	
245.6 × 296.8mm (9.6 × 11.6 inches)	
16 bit (65,536 gradients)	
60 / 40 / 34 lp/cm	
Dedicated wired Ethernet connection / Wireless LAN (IEEE802.11a / 802.11n compliant)	
Wireless encryption method: AES / Authentication method: WPA2-PSK	
Available (AeroSync)	
Same as the lifetime of AeroDR 3 1012HQ main body	
180 kg @ φ40 mm	
400 kg @ effective image area overall	
Acquisition	
IPX6 including power cell	
Approx. 5s with dedicated wired connection Approx. 5s with wireless LAN connection	
Approx. 4s with dedicated wired connection Approx. 4s with wireless LAN connection	
Approx. 165 images / 4.5 h	
*Assuming that the AeroDR system is connected to an X-ray system, the interval between studies is 5 min, and three images are captured in each study, and assuming 20s for each exposure to position the patient.	
Within 20 min	
Approx. 6 h	

values listed above, measurement methods follow KonicaMinolta standards. *9 The water resistance performance of AeroDR 3 1417HD / AeroDR 3 specifications described above assume that AeroDR 3 1417HD / AeroDR 3 20s to position the patient. This also assumes that the AeroDR 3 1417HD / vary depending on system configuration and environment.



■ **In-room solution:** One of KonicaMinolta's proposals for an in-room solution is to retrofit DR systems which can utilize existing X-ray systems. We can provide high image quality and rapid cycle time and eliminate the need to handle CR cassettes. When a simple configuration is suitable for small X-ray rooms, KonicaMinolta can propose the AeroSync in-room system with a minimum configuration such as a panel, console, AP and battery charger.



■ **Portable system solution:** KonicaMinolta has two solutions to digitize analogue portable X-ray units. One is a proposal using a portable upgrade kit. When a simple configuration is suitable for customers, we can propose a simple AeroSync portable solution with only a panel, console and small AP. Customers can carry the system to the parking spot of the portable X-ray unit easily.



■ **Mobile solution:** KonicaMinolta has suitable AeroDR solution for X-ray studies outside HP such as home care and disaster medicine. The system configuration is made very compact by AeroSync. Users can carry the whole AeroDR system packed in a carrying bag to exposure site. After arriving at the exposure site, users can unpack the AeroDR system and prepare the X-ray exams quickly.

AeroDR SYSTEM 3 Specifications

AeroDR Battery Charger2

Power	AC 100 / 110 / 115 / 120 / 200 / 220 / 230 / 240 V ± 10% Single Phase 50 / 60 Hz
External dimensions (W × D × H)	474.2 × 200 × 206.7mm (18.7 × 7.9 × 8.1 inches)
Weight	6 kg (13.2 lb)



Power Supply Unit

External dimensions (W×D×H)	185 × 105 × 150mm (7.3 × 4.1 × 5.9 inches)
Weight	2.0kg (4.4 lb)
Power requirements	AC 100–240 V±10% Single phase 50/60 Hz
LAN interface	3 ports



Detector Interface Unit

External dimensions (W×D×H)	160 × 60 × 24mm (6.3 × 2.3 × 0.9 inches)
Weight	0.3 kg (0.7lb)
Power requirements	DC 24 V (When dedicated AC adapter is used) DC 48 V (When dedicated Power Supply Unit is used)
LAN interface	1 port



Interface Cable 3

Length	8m (315 inches)
Weight	1.0 kg (2.2lb)

AeroDR Generator Interface Unit2

Power requirements	AC 100 / 110 / 115 / 120 / 200 / 220 / 230 / 240V ± 10% Single phase 50/60Hz
Power consumption	Approx. 72VA (100-240V)
External dimensions (W × D × H)	210 × 150 × 50mm (8.3 × 5.9 × 2.0 inches)
Weight	0.9kg (1.9 lb)
Dedicated AC adapter specifications	Dimensions : 78 × 50 × 35mm (3.1 × 2.0 × 1.3 inches) Input : AC 100-240 V 0.6-0.3A 50-60Hz Output : DC 5V 3A



Control Station CS-7

Image processing	Auto-gradation processing, Frequency processing (F processing), Equalization processing (E processing), Hybrid processing (HF processing - HE processing), Hybrid smoothing processing (HS processing) REALISM processing, Grid removal processing, Automatic exposure field recognition processing, Tube and Gauze image enhancement (option), Intelligent Grid (option)
Image output	Host: max 4 ch / Printer: max 2 ch
DICOM support	DICOM Storage SCU, DICOM basic Grayscale Print Management SCU, DICOM Modality Worklist Management SCU, DICOM Modality Performed Procedure Step SCU
Readable devices	AeroDR detector REGIUS MODEL 170, REGIUS MODEL 190, REGIUS MODEL 210, REGIUS MODEL 110 REGIUS MODEL 110HQ, REGIUS SIGMA, REGIUS SIGMA2

