

PXB:7.5

PORTABLE X-RAY BETATRON

WIRELESS
OPTION AVAILABLE



SEE DEDICATED DATASHEET



7.5MeV Model For illustration purposes only

PXB:7.5 PORTABLE X-RAY BETATRON

PIPELINE CRAWLERS • BETATRON PORTABLE X-RAY • DIGITAL RADIOGRAPHY

The **PXB:7.5** portable X-Ray Betatron is designed to produce high energy ionising radiation for industrial radiographic non-destructive testing.

The **PXB:7.5** contains no moving parts (excluding cooling fan) and no circulating liquids, radiation outside the main beam are low, so safe working distances are moderate. After demarcation of dose rate boundaries, the betatron may be used at external sites or in fabrication workshops with little or no additional screening.

The **PXB:7.5** produces radiographs of very high contrast, sensitivity and resolution. Half Value Layer (HVL) STEEL: 32mm. The **PXB:7.5** is recommended for radiographic testing of weld joints and castings with a steel thickness of 50 to 300mm, concrete and other materials from 200 to 1200mm. The irradiation field equals 250mm x 250mm @ 1M focal distance. In operation the **PXB:7.5** has no need for compensating filters that improves the uniformity of the radiation field. The **PXB:7.5** is far less costly than other NDT accelerators such as 'Linacs'.

The **PXB:7.5** can replace cobalt isotope gamma sources which may not give acceptable quality and require costly periodic replenishment. Compared to cobalt, the Betatron's shot time is drastically reduced and the extremely small focal spot size provides a sharper, higher quality radiograph, thus increasing production rate and profit.

APPLICATIONS:

JME's range of Betatron systems have been supplied for a wide variety of applications within many sectors of the NDT industry. Examples of the work we have previously supplied systems for include but are not limited to the inspection of:

- Large Forgings ▪ Castings ▪ Valves ▪ Beams ▪ Ships Hulls ▪ Pressure Vessels
- Engine Blocks ▪ Thick Welds ▪ Composites ▪ Reinforced Concrete Buildings
- Bridges ▪ Cargo ▪ Security Scanning Solutions

ALSO AVAILABLE AS A 'WIRELESS' SYSTEM.



CONTACT JME FOR INFORMATION REGARDING SERVICE PACKAGES AND EXTENDED WARRANTIES

TECHNICAL SPECIFICATIONS

Maximum X-Ray Output	7.5 MeV
Dose Rate at 1m (3.3ft)	>5R/minute
Focal Spot Size	0.3 x 3 mm
Duty Cycle Radiation Beam	75% per hour
Beam Coverage	250 x 250mm @ 1m
Radiographic Sensitivity	Down to 1%
Supply Voltage	Single-phase, 110V or 220V, 50/60Hz
Adjustment Range of Energy	2.0 to 7.5MeV in 0.1MeV increments
Power Consumption	3.0kW 13.6A @220V, 27A @ 110V)
Standard Cable Length	PSU to Radiator 5m - PSU to Control Panel 15m Mains Supply to Power Unit 5m
Generator	Recommended 10kVA Please contact JME for more information.
Min Dose: (in air @ 1m per minute)	5R
Number of Pulses per second:	200
Time Between Pulses:	5mS
Pulse Duration:	1µS
Dose Per Pulse: (in air @ 1m)	0.416mR
DIMENSIONS AND WEIGHT	
Accelerator (Radiator)	700 x 430 x 355mm 109kg
Power Unit	607 x 450 x 570mm 94kg
Control Panel	305 x 275 x 150mm 4.2kg



PROUDLY SUPPLYING THE NDT INDUSTRY FOR OVER 35 YEARS



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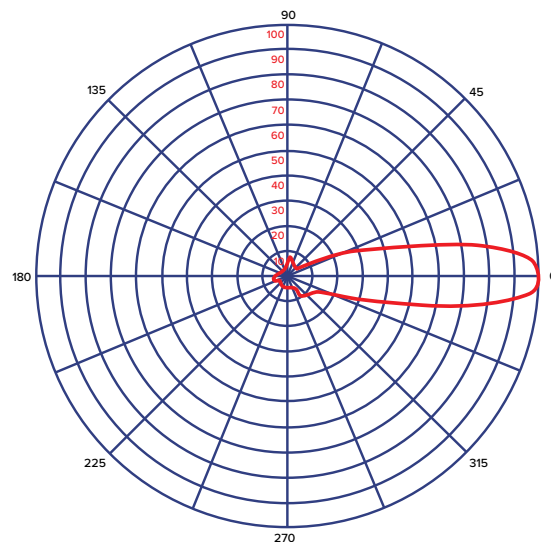
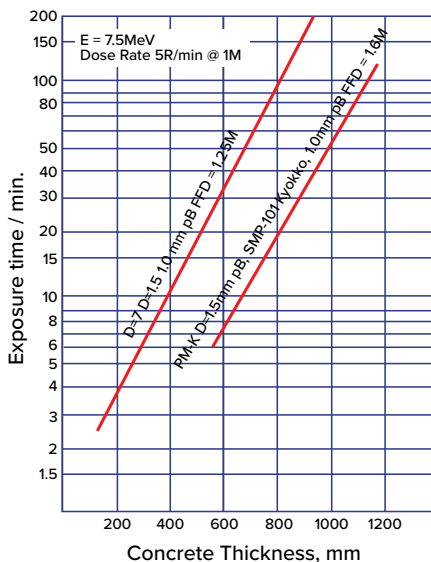
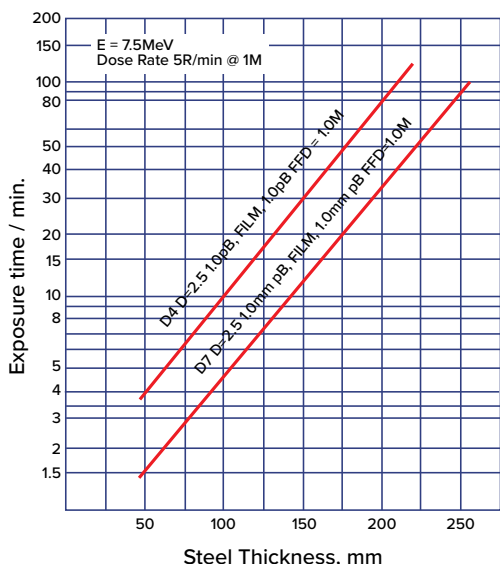
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VIEW MORE INFORMATION ABOUT THE PORTABLE X-RAY BETATRON SYSTEMS at www.jme.co.uk

PXB7.5D DOSE RATE DISTRIBUTION IN THE HORIZONTAL PLANE

Degrees	0	22.5	45	67.5	90	112.5	135	157.5
Dose rate %	100	23	6.7	6.3	2.9	2.5	3.5	4.5
Degrees	180	202.5	225	247.5	270	292.5	315	337.5
Dose rate %	4.3	3.3	3.5	5.5	4	5	10.5	17



FEATURES

- Inert when not powered
 - Instant Stop of X-Ray / Cut off
 - RF Wireless E-stop (optional extra)
 - CNSC Approved
 - Completely Portable
 - Output energy selectable up to 7.5 MeV
 - Excellent sensitivity and resolution
 - Penetrates up to 11.81 inch's (300mm) of steel, 39.37 inch's (1m) concrete*
- *Dependent on Model

REQUIRED RELATIVE DOSES IN COMPARISON WITH D7 FILM UNDER SIMILAR CONDITIONS

Film type	D4	MX5	AX	CX	PT-1	PT-4M
Dose coefficient relative to D7	2.65	2.8	1.25	0.57	0.53	1.6

AVAILABLE MODELS

PXB:2.5
PORTABLE X-RAY BETATRON

ALSO AVAILABLE AS WIRELESS AND BATTERY SYSTEM

RF
B

PXB:6
PORTABLE X-RAY BETATRON

ALSO AVAILABLE AS A WIRELESS SYSTEM

RF

PXB:9
PORTABLE X-RAY BETATRON

WIRELESS SYSTEM COMING SOON

RF



SALES AND MANUFACTURING
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