

FLASH X-RAY SYSTEMS

Different voltages, X-Ray Tubes and radiography that captures difficult to document events

150kV, 300kV, 450kV and 1.2MV

These systems include 150kV, 300kV, 450kV, and 1.2MV pulsers. The X-ray tube can be mounted in the pulser or in a remote or demountable head. All control systems come in a standard 19 in. rackmount console. The X-ray pulse width (FWHM) is 70ns for 150kV pulsers, and 25ns for the 300kV, 450kV, and 1.2MV pulsers.

The advantage of X-ray tubes is that they are easily replaceable and are offered in multiple spot sizes for increasing resolution to meet customer needs (1mm – 5mm). Both soft and hard X-ray tubes are available. User configurable, pump down heads are also available.

The Flash X-ray system uses standard X-ray film cassettes and phosphorus screens. The ScanX HC (laser spot = 50µm) and ScanX HR (laser spot =14µm) scanners can scan a 14 in. x 17 in. screen in under one minute. The scanners work with Fisica proprietary PixelRay® digital imaging software. These events vary with target material density, penetration requirements, and source to detector distances.

System	FTSD	Penetration in AL	Penetration in Steel
150kV	3 ft.	1.5 in	0.2 in
300kV Single	3 ft.	3.7 in	0.8 in
300kV Dual	3 ft.	1.9 in	0.4 in
450kV Single	10 ft.	2.7 in	0.6 in
450kV Dual	10 ft.	1.7 in	0.4 in
450kV Super	10 ft.	3.2 in	1 in
1.2MV	10 ft.	4.0 in	1.4 in
1.2MV Super	10 ft.	5.2 in	1.8 in

OPTIONS AND ACCESSORIES

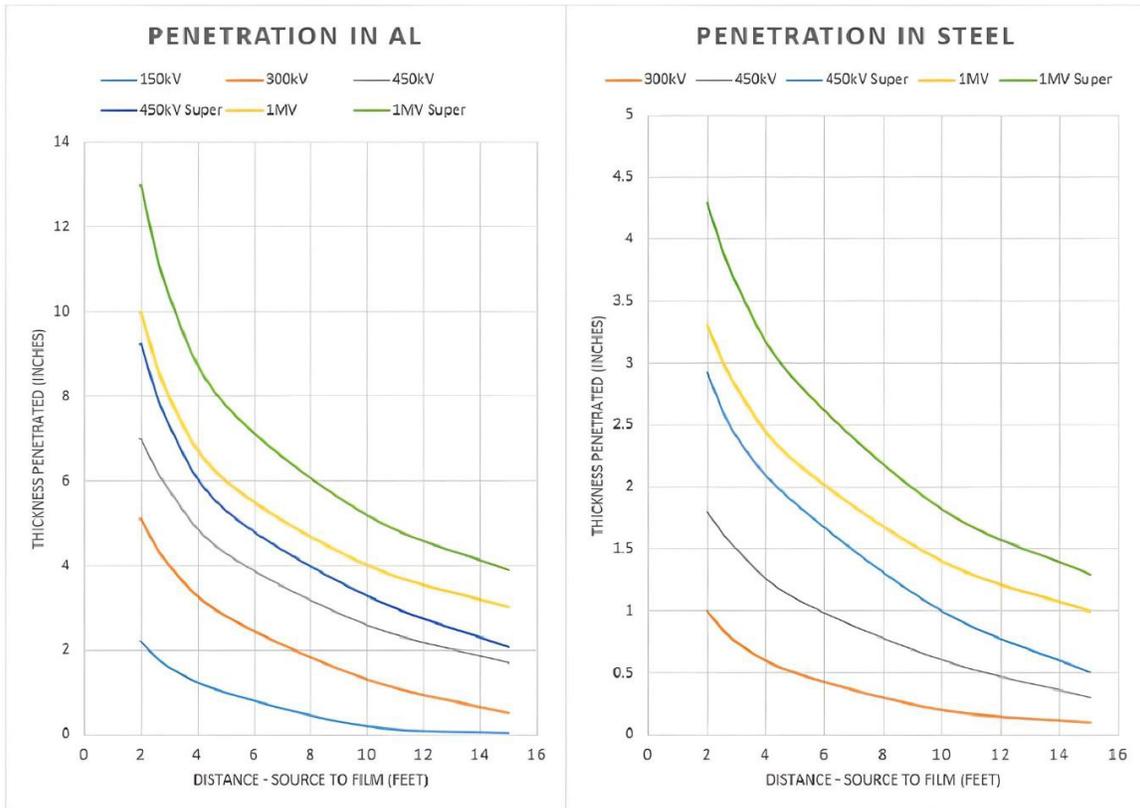
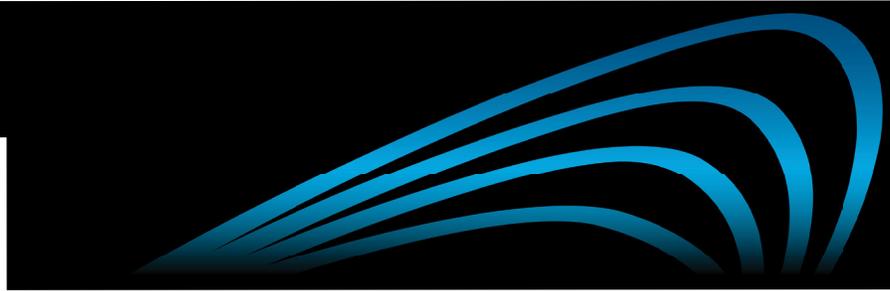
Code	Description
001	Add-on channel
008	220 Vac, 50-60Hz operation + CE Mark
020	Added length console-to-pulsar cable
032	Single remote tubehead
034	Add length tubehead cable
035	Dual remote tube heads
Special option	Demountable tube with variable source size - contact factory



Custom built mobile container labs for all pulser configurations (available with all pulsar voltages).

Single Channel System (Stand Alone System)
Control console cabinet
AC power panel with surge protector
High voltage power supply
Dielectric gas pressurization controls
XCON (X-ray controller)
Trigger transformer
Trigger pendant
FXR pulser
9m (30ft) control cable and air line bundle
X-ray tube
Resistive load

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Type of Study	Flash X-Ray System Used	Data Generated
Internal ballistics (projectile in-bore)	High voltage Tube in pulser	Integrity of projectile and sabot velocity & acceleration
Intermediate ballistics (projectile exiting gun)	Medium voltage Remote tubeheads Severe protection problem	Sabot separation Deployment of fins Projectile integrity Velocity, spin, pitch
External ballistics	Low voltage (150kV–300kV)	Integrity Velocity, pitch, yaw Deceleration Arming of internal fuses
Terminal ballistics	High voltage Orthogonal view Remote tubeheads Severe protection problem	Impact Armor penetration Dispersion of fragments