



L3HARRIS®
FAST. FORWARD.

PULSERAD™ MODEL 43734A FLASH X-RAY (FXR) SYSTEM

The 450kV pulser is well-suited for stop-motion radiography of high-speed projectiles and fragments, internal components in operating machinery, and many other applications involving the study of moving objects.

The 450kV pulser belongs to a family of four Flash X-ray systems rated at 150kV, 300kV, 450kV, and 1MV. These systems provide successively greater penetration and are capable of operating at larger film-to-source distances (FTSD).

The Model 43734A Flash X-ray System provides a 25nanosecond “burst” of 450 kV X-rays. As shown in the penetration curve on the next page, it will give radiographs through 0.7 inches (18 millimeters) of steel at 8 feet (2.5 meters) FTSD (film-to-source distance), or a shadowgraph at FTSDs up to 30 feet (9 meters). The system may be operated with the flash X-ray tube in the pulser (basic system configuration), in a remote tubehead configuration (option 032), or with X-ray tubes in two remote tubeheads (option 35). In the dual configuration (option 035), both tubes are fired simultaneously by the same pulser and can be used to obtain orthogonal radiographs of rapidly moving objects. The resulting radiographs enable accurate position location of the object under study.

SYSTEM SPECIFICATIONS

Effective source size (tube in pulser)	5 mm (also available in 1mm and 3mm)
Exposure time (pulse width)	~25 x 10 ⁻⁹ sec
Dose at 1 meter	20 mR/pulse

OPTIONS

001	Add-on channels
008	220 VAC, 50-60 Hz Operation
020	Added length console-to-pulser cable
031	Demountable X-ray tube with variable source size for use in remote tubehead
032	Single remote tubehead
034	Added length tubehead cable
035	Dual remote tubehead
130-314700-#700	Computer remote control of H.V. power supply

ACCESSORIES

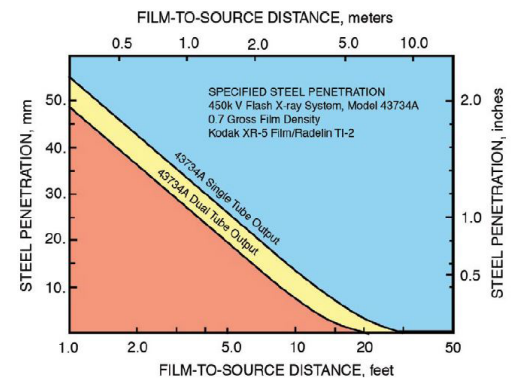
Gas regulators



SYSTEM CHARACTERISTICS

- > Peak output voltage: 450 kV
- > Dose at 1 meter: 20 mR
- > Pulser diameter: 20 in (550 mm)
- > Pulser length: 47 in (1.2 m)
- > Pulser weight: 500 lbs (230 kg)

All hardware required for system operation is furnished. This includes the control equipment, housed in a 6 foot (1.8-meter) cabinet, the X-ray generator, and a 30 foot (9meter) interconnecting cable bundle input. The Model 43734A system comes standard with all hardware required for operation, including the X-ray tube and a Model 43210A X-ray Controller (XCON), which provides both a delayed trigger for the X-ray pulser and a pulsed event timer to monitor the actual firing time of the pulser. The XCON provides a firing time delay variable from zero to 1000 milliseconds in 100nanosecond increments and monitors the actual pulser firing time with 10nanosecond accuracy. Delay time setting and pulsed event time monitoring can be accomplished with the user's PC via an Ethernet connection. Customer-furnished items are limited to regulated dry air and AC power (110 VAC, 60 Hertz). Up to three additional 450 kV X-ray generators (option 001) share the same control cabinet and power supply to minimize cost and floor space. Option 008 permits operation at a 220 Volts Alternating Current (VAC), 50-60 Hertz (Hz) line voltage.



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
Pulse generator
30 ft (9 m) control console to pulser cable
Pulser-mounted X-ray tube
Resistive load and interconnecting cabling

ADD-ON CHANNELS (NO. 2, 3, 4)
XCON (X-ray controller)
• Delay trigger generator
• Trigger amplifier
• Pulsed event timer
Trigger transformer
Pulse generator
30 ft (9 m) control console to pulser cable
Pulser-mounted X-ray tube
Resistive load and interconnecting cabling

Note: Remote X-ray tubehead with nominal 6.1-meter (20-ft.) pulser-to-tubehead interconnecting cable assembly available for basic and add-on channels as an optional accessory. Contact the Pulserad FXR Product Manager if system of more than four channels is required.

SYSTEM SELECTION			
System	FTSD	Penetration in AL	Penetration in Steel
150 kV	10 ft	0.1 in	N/R
300 kV Single	10 ft	1.2 in	0.2 in
300 kV Dual	10 ft	0.7 in	0.1 in
450 kV Single	10 ft	2.7 in	0.6 in
450 kV Dual	10 ft	1.7 in	0.4 in
450 kV Super	10 ft	3.2 in	1.0 in
1 MV	10 ft	4.0 in	1.4 in
1 MV Super	10 ft	5.2 in	1.8 in

Pulse Model 43734A Flash X-Ray (FXR) System

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Nonexport-controlled Information

L3Harris Technologies is a Trusted Disruptor for the global aerospace and defense industry. With customers' mission-critical needs always in mind, our 46,000 employees deliver end-to-end technology solutions connecting the space, air, land, sea and cyber domains.



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