

Pulserad™

FLASH X-RAY SYSTEMS

1 MV
MODEL 43710A



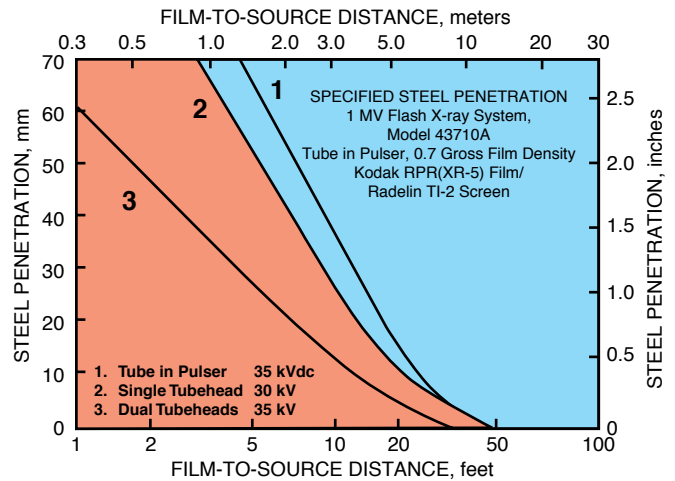
DESCRIPTION

The 1 MV Model 43710A Flash X-ray System belongs to a family of four Flash X-ray Systems rated at 150 kV, 300 kV, 450 kV and 1 MV, which provide successively greater penetration and are capable of operating at increasing film-to-source distances (FTSD).

The 1 MV system is the most powerful standard system. The X-ray tube is used in the high voltage pulse generator in the basic system configuration. Remote single and dual tubehead operation (options 32 and 35) is possible with the purchase of optional equipment. Remote operation protects the equipment from damage caused by fragments or intense shock waves. The same tube (Model 5081-9551) is used in all three configurations.

All hardware required for the system operation is furnished with the basic system. This includes the control equipment, housed in a 1.8 meter (6 ft.) cabinet, the X-ray generator and a 9 meter (30 ft.) interconnecting cable bundle input.

The Model 43731A 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 100 nanosecond increments and monitors the actual pulser firing time with 10 nanosecond accuracy. Delay time setting and pulsed event time monitoring can be accomplished with the users PC via an Ethernet connection.

Customer furnished equipment is limited to regulated compressed dry air and regulated sulfur hexafluoride (SF₆), plus AC power (117 Vac, 60 Hz standard). Up to three additional 1 MV X-ray generators, (option 001) may share the same control cabinet and power supply to minimize cost and floor space. Option 008 permits operation at a 220 Vac, 50-60 Hz line voltage.

SYSTEM CHARACTERISTICS (nominal)

Peak output voltage.....	1 MV
Peak current.....	6000 A
Dose at 1 meter — tube in pulser.....	55 mR
Dose at 1 meter through 40 mm of steel/ Tube in pulser.....	5 mR
Effective source size (standard sealed X-ray tube).....	5 mm
Exposure time (X-ray pulse width).....	25 nsec

PULSER DIMENSIONS

Diameter.....	550 mm (20")
Length.....	1.4 m (55")
Weight.....	270 kg (600 lbs)

MAJOR OPTIONS AND ACCESSORIES

MAJOR OPTIONS

Option 001—Add-on 1 MV Channel

Option 008—220 Vac, 60-60 Hz Operation

Option 020—Added Length Console-to-Pulser Cable

Option 032—Single Remote Tubehead

Option 034—Added Length Tubehead Cable

Option 035—Dual Remote Tubeheads

Special Option—Demountable tube with variable source size - contact factory

130-314700-#700—Computer Remote Control of H.V. Power Supply

ACCESSORIES

Gas Regulators

BASIC FIRST (SINGLE) CHANNEL SYSTEM

A fully operational,
stand-alone system

Includes:

- Control console cabinet
- AC power panel with surge protector
- High-voltage power supply
- Dielectric gas pressurization controls
- XCON (X-ray controller)
 - Delay trigger generator
 - Trigger amplifier
 - Pulsed event timer
- Trigger transformer
- Trigger initiation pendant
- Pulse generator
- Pulser-mounted X-ray tube
- 9m (30 ft.) control-console-to-pulser cable
- Resistive load and interconnecting cabling

ADD-ON CHANNELS (No. 2, 3, and 4)

For operation only in conjunction with
basic (first) channel system

Includes:

- XCON (X-ray controller)
 - Delay trigger generator
 - Trigger amplifier
 - Pulsed event timer
- Trigger transformer
- Pulse generator
- Pulser-mounted X-ray tube
- 9m (30 ft.) control-console-to-pulser cable
- Resistive load and all 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.



communications

Applied Technologies
Pulse Sciences

2700 Merced St. • San Leandro, CA 94577-0599 • Phone (510) 577-7150 • Fax (510) 577-7129 • www.titanpsd.com

1MV_fact.indd/2006