ERESCO MF4

Reliable, Lightweight, Portable X-Ray Generator





ERESCO MF4 – For the toughest of tasks

The ERESCO MF4 portable X-ray units are designed for reliability in some of the world's toughest conditions. With the ERESCO MF4 line, mobile X-ray inspection becomes lighter in the true sense of the word. By using the latest display technology, the new user interface to control and monitor the X-ray setup, has been fully utilized and features graphic visualization and menu driven operation to optimize productivity.

The robust construction of the control and the tube heads make them suitable for hostile environments. Due to its low power consumption, not only is energy cost reduced, but

operation with portable power supplies are made easier. Special power electronics allow for an alternative operation in the field as well as integration in crawlers. Even with reduced weight, the new tube heads comply with the strict requirements of the European X-ray regulations.

Using modern compact electronics to minimize weight and provide a high power output with extremely low ripple, together with a sturdy metal ceramic X-ray tube, the ERESCO MF4 generates a high X-ray dose which allows the shortest exposure time, resulting in higher productivity.

A glance at the benefits





The **metal/ceramic technology** ensures both continuous operation and a long operating life.



The power electronics of ERESCO units provide extremely low power consumption between 1 to 2 kW/h.



The MF4 cooling system also assists in prolonging long trouble-free operation as its specially designed copper cooler optimises the air flow for maximum cooling effect.



The ERESCO MF technology allows the X-ray generator to be operated in power mode. because, unlike competitive generators, it can drive high tube currents. As a result, continuous power ratings of up to 900 W and high currents ensure that the ERESCO MF4 range of X-ray generators offer the best image definition in the 200 kV to 300 kV class.



Operation starts from 5 kV to enable optimized **exposure** of low-density materials, such as aluminum, composites and plastics resulting in high-contrast images.



Full graphic display and intuitive user interface for simple and guided operation.



On-Board exposure calculator for determination of the optimum exposure settings and further exposure time reduction through unique ERESCO power mode.

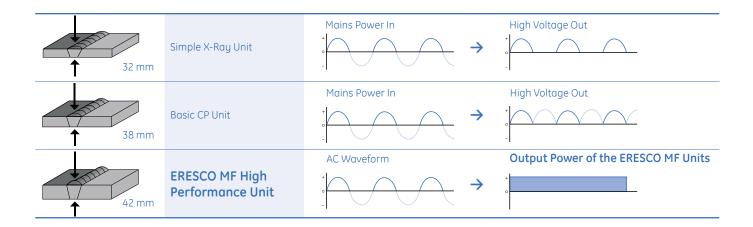
Several programming and reporting features to shorten X-ray setup and evaluation times.



Microprocessor platform enables fast and safe unit control providing intelligent features. such as automatic tube head identification, autonomous operation with event recording, multi-lingual user interface and different exposure programs.

MF Technology for constant potential high dose output

A medium frequency output (around 20 kHz) can be used to produce a high power output with extremely low ripple.



Control Unit

The portable ERESCO X-ray digital control can operate any X-ray generator in the MF4 range. It features modern, power electronics and is ruggedly constructed to withstand heavy use in the field.

The MF4 Control faciliates a ergonomical interaction concept for safe and efficient operation unit operation. Several on-board features, such as Exposure Calculator, Parameter Monitoring or Programming / Reporting tools are simplyifing inspections.

A large, back-lit, full graphic, transreflective display allows easy viewing even in very strong sunlight and provides details of the system status in up to 19 languages supporting different character-sets. All operating and setup parameters can be entered by means of function keys, an alphanumeric keypad and cursor keys. Menu driven interfaces complete the ease of use. Alternatively setup parameters can be retrieved from a bank of 250, pre-entered exposure programmes, stored in a non-volatile memory. In addition, these programs can be uniquely named or commented and can be downloaded, modified, uploaded and archieved. In power operation, the maximum tube current is calculated and set, so minimising exposure times. Besides interfaces for warning lamps, interlocks and pumps, the MF4 control also offers a serial interface for external control or communication with PC based tools.

Applications

The ERESCO MF4 range of X-ray generators finds application throughout the industrial spectrum in the inspection of welds and in the examinations for structural integrity.



 Standard radiographic inspections, such as those carried out in fabrication yards in the oil and gas segment, in power plants, in the automotive sector and in general engineering.



 Oil and Gas segments require inspections in extreme conditions, such as pipeline inspections - both offshore and land-based applications - where equipment have to withstand hostile environment like very low or very high ambient temperature or permanent exposure to salt-water, sand or dirt.



 Structural integrity testing in the aerospace segment, where special materials, honeycomb sections and composites demand exceptional tube performance.

With direct emission and panoramic emission models and water- cooled and air-cooled versions, as well as small focal spot radioscopy units, the ERESCO MF4 range offers a comprehensive solution to meet virtually all customer portable X-ray generation needs.



Features Summary

ERESCO MF4 generators

- Highest power output, with best image definition in its class
- High X-ray dose permitting short exposure times with associated increases in productivity
- Operation with 100% Duty Cycle at 30°C
- Light weighted and compact design
- Robust construction of control and tube heads allowing operation in hostile environments (IP65)
- Lower power consumption meaning low energy costs, long battery endurance and providing flexible operation with portable power supplies or battery packs
- On-Board power electronics allow autonomous operation and integration within crawlers
- Range of designs, including air-cooled, water cooled, panoramic output and small focal spot, suitable for radioscopy
- Wide range of accessories, including stands and carriages to facilitate positioning during exposure set-up

ERESCO MF4 Control Unit

- Intuitive and menu driven user interface with multifunction, numeric- and cursor keys input
- Transrefective, backlit, graphic display for contrast optimized indoor and outdoor operation
- Exposure Calculator
- Integrated, real time clock, enabling intelligent and automatic warm-up of the generating unit, taking past operational intervals into account
- Robust and ergonomic design for operation in different working position
- Automatic recognition of the type and serial number of the connected X-ray tube head
- Free configurable exposure programming mode
- Off-Line report generation and programming
- Multi-lingual graphical user interface
- Easily adapts to different mains supplies, including portable generators and batteries
- Built-in fail-safe warning lamp
- Emergency stop button, in compliance with international standards

Accessories

A wide range of accessories complements the ERESCO MF4 generators.



Four legged stands for tube heads to ensure stability



Laser centring device



Lead plug for the tube window



Remote warning flash lamp



Exchangeable lead diaphragms



Aluminium transport boxes



Remote control



Telescope centering device



Adapter cables



Transport and Positioning Cart

Other available accessories

- Caster extensions for the pipe carriage
- Portable power generator
- Carrying cradle for the MF3 tube
- Door contact cable
- Bracing belts
- Interface cables
- Diaphragm caps for panoramic units
- 20 m extension cable
- PC based exposure calculator
- MF4 Administrator Kit (Serial Interface cable and SW CD-ROM)
- Crawler integration kit
- Pipe inspection carriage to facilitate transport and set-up

Technical Specifications

ERESCO MF4 – Series		150 ME/ DW	200 ME/ B	200 ME/ BW/	72 ME/ C	(2 ME)
ERESCO Type	160 MF4-R	160 MF4-RW	200 MF4-R	200 MF4-RW	32 MF4-C	42 MF4
Description	A real time imaging device, with small focal Spot (EN12543), for applications requiring geometric enlargement	A water cooled real time Imaging device, with small focal Spot (EN12543), for applications requiring geometric enlargement	A real time imaging device, with small focal Spot (EN12543), for applications requiring geometric enlargement	A water cooled real time imaging device, with small focal spot (EN12543), for applications requiring geometric enlargement	Panoramic-Beam unit designed for pipeline and butt-weld inspection.	Air-Cooled unit, for a wide range of applications in weld inspection, Al casting and also composite materials
Emergent Beam	Direct Emission	Direct Emission	Direct Emission	Direct Emission	Panoramic Emission	Direct Emission
Penetration of Steel in 10 min	-	-	-	-	32 mm (1.26")	42 mm (1.65")
High Voltage Range	10 - 160 kV	10 - 160 kV	10 - 200 kV	10 - 200 kV	5 - 200 kV	5- 200 kV
Tube Current Range	0.5 – 10 mA	0.5 – 10 mA	0.5 - 10 mA	0.5 - 10 mA	0.5 - 10 mA	0.5 - 10 mA
Tube Current at U max	3.7 mA / 160 kV	3.7 mA / 160 kV	3.0 mA / 200 kV	3.0 mA / 200 kV	3.0 mA / 200 kV	4.5 mA / 200 kV
Continuous Rating	600 W	600 W	600 W	600 W	600 W	900 W
Nominal Focal Spot Value	1.0 mm (EN 12 543) 0.5 (IEC 336)	1.0 mm (EN 12 543) 0.5 (IEC 336)	1.0 mm (EN 12 543) 0.5 (IEC 336)	1.0 mm (EN 12 543) 0.5 (IEC 336)	0.4 x 4 mm (EN 12543)	3.0 mm (EN 12543) 1.5 (IEC 336)
Anode Material	Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)
Target Angle	20°	20°	20°	20°	22°	20°
Emergent Beam Range	Elliptical, 40° × 60°	Elliptical, 40° × 60°	Elliptical, 40° × 60°	Elliptical, 40° × 60°	40° × 360°	Elliptical, 40° × 60°
Inherent Filtration	0.8 mm ± 0.1 mm, Be	0.8 mm ± 0.1 mm, Be	0.8 ± 0.1mm, Be	0.8 ± 0.1mm, Be	0.4 mm Fe/Ni/Co + 2 mm Al	0.8 mm ± 0.1 mm, Be
Duty Cycle			1	00%		
Current and Voltage Stability			±	1 %		
Power Supply Requirements			160 V - 253 V AC, 80	V - 127 V AC, 50/60 Hz *		
Weight of Tube Head	26.8 kg (59.1 lbs)	26.8 kg (59.1 lbs)	26.8 kg (59.1 lbs)	26.8 kg (59.1 lbs)	31 kg (68.3 lbs)	26.8 kg (59.1 lbs)
Certifications		CE Conf	ormity, NFC 74100 **, E	BfS Certification (PTB Ap	proval) **	

 $^{^{\}star}$ Operation with reduced output $\,$ is possible at main voltages below 205 V and 108 V respectively $\,^{\star\star}$ Available for selected models



42 MF4-W	280 MF4-R	280 MF4-RW	52 MF4-CL	65 MF4	65 MF4-W
Water-Cooled unit, for a complete and flexible range of applications in weld inspection, Al casting and also composite materials	A real time limaging device, with small focal spot (EN12543), for applications requiring geometric enlargement	A water-cooled Real time imaging device, with small focal spot (EN12543), for applications requiring geometric enlargement	Panoramic unit designed for pipeline and butt-weld inspection where high penetration power is demanded	Air-Cooled unit for a wide range of applications in weld inspection, Al casting and composite materials, especially where high penetration power is demanded	Water-Cooled unit for a wide range of applications in weld inspection, Al casting and composite materials, especially where high penetration power is demanded
Direct Emission	Direct Emission	Direct Emission	Panoramic Emission	Direct Emission	Direct Emission
42 mm (1.65")	-	-	52 mm (2.04")	65 mm (2.55")	65 mm (2.55")
5 - 200 kV	10 - 280 kV	10 - 280 kV	5 - 300 kV	5 - 300 kV	5 - 300 kV
0.5 - 10 mA	0.5 - 4.5 mA	0.5 - 4.5 mA	0.5 - 6 mA	0.5 - 6 mA	0.5 - 6 mA
4.5 mA / 300 kV	1.2 mA /280 kV	1.2 mA /280 kV	2.0 mA / 300 kV	3.0 mA / 300 kV	3.0 mA / 300 kV
900 W	340 W	340 W	600 W	900 W	900 W
3.0 mm (EN 12543) 1.5 (IEC 336)	0.5 mm (EN 12543)	0.5 mm (EN 12543)	0.5 x 5.5 mm (EN 12543)	3.0 mm (EN 12543) 1.5 (IEC 336)	3.0 mm (EN 12543) 1.5 (IEC 336)
Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)	Tungsten (W)
20°	15°	15°	20°	20°	20°
Elliptical, 40° × 60°	Elliptical, 30° × 60°	Elliptical, 30° × 60°	38° × 360°	Elliptical, 40° × 60°	Elliptical, 40° × 60°
0.8 mm ± 0.1 mm, Be	0.8 mm ± 0.1 mm, Be	0.8 mm ± 0.1 mm, Be	0.4 mm Fe/Ni/Co + 3 mm Al	0.8 mm ± 0.1 mm, Be	0.8 mm ± 0.1 mm, Be
		10	00%		
±1%					
		160 V - 253 V AC, 80 V	/ - 127 V AC, 50/60 Hz *		
25.8 kg (56.9 lbs)	40 kg (88.2 lbs)	40 kg (88.2 lbs)	36 kg (79 lbs)	40 kg (88.2 lbs)	40 kg (88.2 lbs)
	CE Confe	ormity, NFC 74100 **, B	fS Certification (PTB Ap	oroval) **	

Sensing & Inspection Technologies

ERESCO MF4 Control

Portable X-ray Unit Digital Control



Features

- Robust and ergonomic design for operation in different working positions
- Transflective, backlit, graphic display for contrast optimized indoor and outdoor operation
- intuitive and menu driven user interface with multifunction-, numeric- and cursor keys input
- Multiple on-board features:
 - Exposure Calculator
 - Customizable exposure programs (supports off-line administration with PC tool including download, upload, archiving, reporting)
 - System parameter monitoring
 - Intelligent fully automatic warm-up program
 - RS-232 interface
 - Power mode for shortest possible exposure time
 - Supports 250 exposure programs
 - Supports 256 event and warm-up records each with synchronization to different radiation units
 - Supports off-line analysis of event and warm-up records (for reporting and documentation purpose)
 - Automatic recognition of connected X-ray tube head

- Small size, low weight and water / dust resistant (IP 65)
- Protective front panel cover
- Modern power electronics
- Microprocessor-controlled
- Built-in fail-safe warning lamp
- Easily adapts to different mains supplies, including portable generators
- Emergency-Stop in compliance with international standards

Certifications

- CE compliant acc. to EMC and Low Voltage Directive
- French Standard NFC 74100
- BfS certification (PTB approval) *)
- Produced under ISO 9001 certified quality management system

* in conjunction with radiation unit



Technical Data

Voltage, settable in steps of 1 kV	5 - 300 kV (depending on the tube head)
Current, settable in steps of 0.1 mA	0.5 - 10 mA (depending on the tube head)
Exposure time in 1 sec steps or as min/sec value	1 to 5994 sec (optional display 99 min / 99 sec)
Pre programmable exposure programs	max. 250
Memory Size for event and warm-up records	256 for each
Display	transflective, backlit, graphic-display, 320 x 240 pixel
Supported languages	19
Character Sets	4, European (ISO), Japanese, Chinese, Cyrillic
Exposure Calculator	on-board, Fe, Ti, Al pre programmed / 3 materials free programmable
Warm-up	fully automatic, based on real time clock
Tube head identification	automatic
Parameter monitoring	continuous, on-line display of temperatures, pressure and line-voltage
Serial interface RS 232	1
Safety interlocks	2 (primary also available)
Emergency-Stop button	1
Three-position key switch	OFF, STANDBY, ON
Power supply requirements *)	1 PE N, 160 V - 253 V AC, max. 13 A single phase with grounded neutral,
	1 PE N, 80 V - 127 V AC, max. 20 A, 50/60 Hz
Dimensions	see drawing
Weight	8.6 kg (19 lbs)
Protection class	IP65
Operating Temperature	-20°C to +70°C
Storage Temperature	-30°C to +80°C

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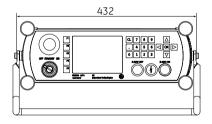
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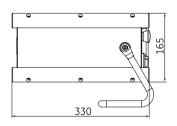
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Exemplary screenshots of user Interface

Standard Delivery Scope of complete X-ray unit

- ERESCO MF4 tube head (see sep. product information)
- Digital Control "ERESCO MF4 Control"
- Canvas bag
- Connecting cable for ERESCO MF4, various length up to 60 m (193 ft)
- Power connecting cable 230 V or 115 V, 10 m (32 ft) long
- Set of accessories containing: spare fuses, spare bulbs and Allen key





Options

- External fail-safe flashing warning lamp
- Aluminium transport box
- MF4 Administrator Kit (CD-ROM and Interface Cable)
- Connecting cable for door contacts
- Extension cable ERESCO MF4, 20 m / 10 m (64 ft / 32 ft)
- Portable electric power generator for ERESCO MF
- Exposure calculator (PC based)
- Primary interlock kit
- Adapter cable for ERESCO MF3 radiation unit,
 20 m / 0.5 m (64 ft / 1.6 ft) long



www.gesensinginspection.com

GEIT-30172EN (11/08)

^{*)} Operation with reduced output is possible at mains voltages below 205 V and 108 V respectively.

ISOVOLT mobil Industrial X-ray Equipment

The ISOVOLT mobil is designed for operations where access to the inspection point is difficult.

It is ideal for site use in the energy, mineral and petro-chemical industries where pipelines and container tanks require X-ray inspection.

The ISOVOLT mobil is equipped with a small X-ray tube and high voltage cable up to 20 m (64 ft) in length to allow positioning in hard to reach places not accessible by other types of X-ray equipment.





Standard Delivery Scope

1 High voltage generator 160 kV	2510940
1 ISOVOLT mobil control unit	2522860
1 WL 2001 water cooling pump	2540390
1 ISOVOLT 160 M2 X-ray tubehousing	2530360
1 High voltage cable, length 10 m (32 ft)	2512465

1 PVC protective hose for high voltage cable

and water hoses 9340110
1 Cart 2551340
1 Set cooling water hoses and accessories 7261020

Options

- Pipe inspection stand for tubehousing
- Extra-length high voltage cable (15 m (48 ft), 20 m (64 ft))
- Diaphragm and centering device
- External fail-safe warning flash lamp
- External fail-safe warning blinker lamp

Technical Equipment Data (not considering tube limit values)

Connected load: 230 V $\pm 10\%$; 50/60 Hz; 3.0 kVA; max. 16 A

Tube voltage: 5 - 160 kV, (in 1 kV steps)

Tube current: 0.5 - 10 mA, (in 0.1 mA steps)

Exposure time to be set: 0.1 to 99.9 min in 0.1 or 1 second increments

(optional display in min or sec)

Cooling output of WL 2001*: 1600 W at an ambient temperature of 25°C

Dimensions

1020 \times 300 mm (40.2" \times 11.8") (with clamp lever)

WL 2001 water cooling pump: $320 \times 305 \times 510 \text{ mm} (12.6" \times 12.0" \times 20.1") \text{ (WxDxH)}$

Control unit: $390 \times 319 \times 169 \text{ mm } 15.4" \times 12.6" \times 6.7") \text{ (WxDxH)}$ Cart: Maximum width approximately 620 mm (24.4")

High voltage cable: 10 m (option: 15 m (48 ft) / 20 m (64 ft))

Mains cable: 10 m (32 ft)

Total weight

With high voltage cable, 10 m:	approx. 151 kg (333 lbs)
With high voltage cable, 15 m:	approx. 158 kg (348 lbs)
With high voltage cable, 20 m:	approx. 165 kg (363 lbs)

^{*)} For further details see product information WL2001.

Available X-ray Tubehousings:

X-ray Tubehousing ISOVOLT 160 M2 0.4 / 1.5

Tube current (at U_{max}):

Maximum anode dissipation:

Direct radiating unit

Maximum tube voltage 160 kV

> **Small Focus Large Focus** 640 W 1600 W 4 mA 10 mA

> > 3.0 mm (≈ 1.5 IEC 336)

Focal spot size (EN 12 543): 1.00 mm (≈ 0.4 IEC 336)

Emergent beam angle: 40°

Inherent filtration: 1 mm Be

Weight: approx.. 8.5 kg (19 lbs)

For further details see separate Product Information.



X-ray Tubehousing ISOVOLT 160 MC 2

Panoramic radiating unit

Maximum tube voltage 160 kV Maximum anode dissipation: 1000 W Tube current (at U_may): 6 mA

 0.4×4.0 mm (at radiated angle of 0°) Focal spot size (EN 12 543):

Former focal spot designation: 0.3×3.0

Emergent beam angle: 40° x 360°, symmetrical

Inherent filtration: 0.5 mm Ti + 2 mm Al + 2 mm H₂O

approx. 8 kg (17.7 lbs) (with optional cable quick-lock) Weight:

For further details see separate Product Information.



At present, the control unit comes in two versions with eight languages each.

Version A: German, English, French, Spanish, Portuguese, Italian, Western Europe

Norwegian, Swedish

Eastern Europe German, English, Slovenian, Russian, Polish, Roumanian, Version B:

Czech, Hungarian

High Voltage Generator

The high voltage generator is oil-insulated. It features power and monitoring electronics, a filament transformer, electromagnetic focus change-over and a key switch to select the tube that is connected at the time.

High Voltage Cable

The high voltage cable, the cooling water hoses and the ground wire form a bundle that is sheathed in a plastic jacket for handling and protection.

Transport Cart

The ergonomic transport cart is light-weight and moves on air tires. An eyebolt allows easy lifting by a crane. The compact design enables access even through narrow doors. Horizontal transportation in a station wagon with adequate clearance is permissible.

Characteristics

- Low weight
- Simple compact design
- Access through narrow doors (> 650 mm)
- Short exposure times
- Dual-focus mode
- Change-over to operate different tube types
- Horizontal transportation possible
- Modern power electronics
- Microprocessor-controlled
- SMD technology
- Designed for continuous operation
- Fully automatic warm-up program with real-time clock
- Storage of 250 pre programmed exposure programs in a non-volatile memory
- Four-line LCD display with back light for clear text messages
- EMC-certified in compliance with EN 55011 / IEC 801 (electromagnetic compatibility)
- Produced under ISO 9001 certified quality management system









FEATURES AND SPECIFICATIONS

Size: 4.12" (104mm) high x 3.12" (80mm)

wide x 10.75" (273mm) long

Weight: 4 lb. 6 oz. (2.0 kg.)

Power Supply: 7.2 volt removable, rechargeable,

nickel cadmium battery pack. 2500

pulses per battery charge.

Battery Recharge

Time: 1 hour with supplied battery charger.

Output Dose: 1.0 milliroentgens per pulse at 1 foot

from source.

Pulse Rate: 10 pulses per second nominal.

Source Size: 2.2 mm.

Pulse Length: 60 nanoseconds.

Exposure Control: Electronic counter can be set for 3-297

Time Delay: User has the option of 15 or 60 second

time delay, allowing the user time to leave the area before the X-ray unit

fires.

Specifications subject to change at manufacturers discretion.

CONVENIENT

The XR150 X-ray source is a complete, single package, pulsed device for use in exposing conventional or instant type X-ray film. Weighing under five pounds, the XR150 makes an ideal X-ray source for various portable applications. The entire system fits into one carrying case and weighs just 30 pounds.

EASY TO OPERATE

This compact X-ray unit is very simple to use. Operation requires attaching the battery, setting the desired number of pulses, and firing the X-ray using either the remote cable or the time delay button.



HIGH OUTPUT

Despite its small size the XR150 has 150 KVP output which will penetrate 1/2 inch steel. The only power supply is a custom battery pack that fully recharges in one hour.

DEPENDABILITY

Golden Engineering has been manufacturing portable X-ray systems since 1973. Golden Engineering produces THE INSPECTOR® X-ray source Model 200 which is in use worldwide for security and industrial applications.



DETEK, Inc.

6805 Coolridge Drive Temple Hills, MD 20748-6940

800-638-0554 www.detek.com sales@detek.com

FAX 301-449-7011

XR200 X-Ray Source



- Battery Powered
- Lightweight 12 Pounds
- Entire System Fits into One Carrying Case (Including Instant Print Film System)
- Penetrates up to 1/2" of Steel
- Compatible With Film-Based and Digital Imaging Systems



DETEK, Inc.

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800-638-0554 FAX 301-449-7011 www.detek.com sales@detek.com

XR200 X-Ray Source

The XR200 is a 150kV, single-package, pulsed X-ray source used by military, law enforcement, corporate security, and industrial personnel for radiographic examination of various items. The option of use with conventional radiographic film, instant radiographic film, or digital inspection systems provides users with the flexibility to develop a complete radiographic system best suited to their individual needs. The combination of battery power and minimal weight allows the user to obtain radiographs in even the most remote location.

To operate, attach a charged battery, set the number of pulses, and fire the unit. The user can view a high quality X-ray image immediately when using a video inspection system or within two minutes when using the Polaroid instant radiographic film system.



SPECIFICATIONS

Size (Including battery pack)	12.5 in. (31.75 cm) x 4.5 in. (11.5 cm) x 7.5 in. (19 cm)
Y-ray source size	
Marriage and at an array	150 M/D
Maximum photon energy	150 KVP
X-ray pulse width	
Current draw	
Power supply	DeWalt® 14.4 volt, removable, rechargeable, nickel-cadmium battery
Battery recharge time	1 hour with standard DeWalt® charger, 15 minute charger available
	4000
Temperature range	-10 to 120 degrees F (-23 to 50 degrees C)
Maximum duty cycle	
	None required
X-ray leakage	3 mR per 100 pulses measured 2 inches behind the unit
Warranty	1 year limited warranty

XRS-3 X-Ray Source



- New Electronics Package Including Sealed Membrane Switch
- User Selectable Default Pulse Setting
- Backlit LCD
- Penetrates up to 1" of Steel
- Optional Thumbwheel Key
- Fully Battery Powered



DETEK, Inc.

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XRS-3 X-Ray Source

The XRS-3 is a light duty X-ray machine that requires little maintenance. The modular design makes component replacement easy and cost effective. The DeWalt® 14.4V battery and battery charger are commercially available in retail stores worldwide.

Lead shielding in the XRS-3 protects the user by minimizing radiation leakage outside of the X-ray beam while a time delay button and remote cable allow the operator to move a safe distance from the unit when it is in operation. Visual and audible indicators in the unit alert the operator when the XRS-3 is activated. Also, the XRS-3 contains no radioactive material. The unit produces radiation only when it is pulsing.



Specifications

Size (Including battery pack)	
	4.0 mR/pulse max, 2.6 mR/pulse min, measured 12 inches from source
Pulse rate	15 pulse per second nominal
X-ray source size	
Maximum photon energy	
X-ray pulse width	50 nanoseconds
Current draw	
Power supply	DeWalt® 14.4 volt, removable, rechargeable, nickel-cadmium battery
Battery recharge time	
	4000
	10 to 120 degrees F (-23 to 50 degrees C)
Maximum duty cycle	200 pulses every 4 minutes (3000 pulses per hr)
Warm-up	None required
	3 mR per 100 pulses measured 2 inches behind the unit
	1 year limited warranty
Transfer in international international in income	year minica warranty