

X-ray Generator for Pipeline Inspection

JX-5



Product Outline

Radiography Inspection (γ -ray /X-ray) has been utilized as one of the NDT methods for welds of gas pipelines, oil pipelines, petrochemical pipelines, etc. According to the different factors, such as place for welding work (factory or field), pipe diameter, thickness of material, place for inspection work, etc., the radiography inspection has been made with an external X-ray source or an internal X-ray source. For improving the operating efficiency and the accuracy of inspection as well as maintaining the good safety management for inspection of thick wall pipelines with the size of 400A and 500A, model JX-5 was newly developed as a self propelling X-ray generator on the inner surface of pipelines having internal X-ray source to make radiographies of welded part.

Its standard workable range is 30m, however, it can be extended up to 50m by using optional main cables, which enables a remarkable improvement of operating efficiency and ensures safety.

JX-5 also has a camera for monitoring the position of radiation point. Camera image is displayed on the LCD monitor in Driver attachment.

Specifications:

Power Source: AC200V ϕ 1 50/60Hz 10A	
Applicable Pipe	400A, 500A
Travel Step	4mm (penetration welding)
Travel Distance	Normal 30m ※
Travel Speed	ca. 9m/min for horizontal position, No speed control function
Driving Unit	3 DC motors in parallel operation
Driving Motor	Type: HR-14-3002-B-SP Rating: 60 kg-cm
Camera	B/W camera for monitoring of exposed position (welded part)
Speed Control	Built-in brake for individual motor
Brake	Open at power-off
Size/Weight	Length: ca. 780mm Weight: ca. 27.2 kg
X-ray Generator	Type: RIX-200NM/PC Rating: 200kV 3mA
Monitor	5" LCD color Type: TM-5000 (CAMOS)
Breaker	Ground-fault interrupter 2P-30A
X-ray Controller	Type: RIX-200NM/PC
Size/Weight	Outside Dimension: 565(W) × 280(D) × 250(H) [mm] weight: 28.5 kg

Cables	Combined cable 20 wires + coaxial Tension reinforcement: ϕ 4 Nylon rope, Tensile strength: 250 kg
Weight	11.3 kg

Specifications and Performance of X-ray Generator

Output	Max, Rating Tube voltage: 200kV (100kV ~ 200kV) 5kV step Tube current: 3mA (constant)
Power Source	AC190 ~ 240V
Focus Size	1mm × 3.5mm
Beam Angle	(20° + 30°) × 360° panorama
X-ray transmission	Steel 20mm 200kV × 5 minutes density 2.0 Fuji #100, pb0.03mm, FFD600mm
High-tension Circuit	Grounded plate • Self-rectifying
Insulation	SF6 gas
Cooling	Natural cooling of tube anode radiator
Size/Weight	X-ray Generator: 535 × 250 × 250mm ca. 16 kg X-ray Controller: 390 × 349 × 207mm ca. 16 kg



TORECK Co., Ltd.

5-6-20, Tsumashima-higashi, Kohoku-ku, Yokohama 223 0052 Japan

PHONE: +81 45-531-8041 FAX: +81 45-531-3922

URL: <http://www.toreck.co.jp>

Pat No. 3084157

Licensed from: JFE Koken