

TTXRC Series

[www.torontech.com/materials-testing/ndt-and-ultrasonic-testing/x-ray-pipe-line-crawlers](http://www.torontech.com/materials-testing/ndt-and-ultrasonic-testing/x-ray-pipe-line-crawlers)

### Application

X-Ray Pipe Line Crawling systems is an important instrument used to detect the quality of welding in long distance pipelines. Finding porosity and cracks in pipes made of different materials is one the most important task of the pipe line inspector in oil and gas industry.

There are several methods for finding these flaws. To accurately detect these issues, X-Ray method is one of the most reliable methods. X-Ray film technology is still mainly used to access areas which are frequently full of nooks and crannies.

**ToronX Series** is one of the best X-Ray Pipeline Crawler series that can be found on the market. All models come with the four-wheel drive system that allow the TTXRC crawlers can climb up to 40°. It can be used in all kinds of pipeline construction such as petroleum, natural gas, water or even slurry pipeline construction.

### Features

ToronX Series of X-Ray Pipeline Crawler supports industry Pipeline Safety Standards. To maintain the safety and security of oil pipelines, companies need to be able to assess the quality of welding in pipelines in real time to pre-emptively identify any possible issues. It is reliable in even the harshest environments, measuring pipeline integrity precisely through high-quality radiographic tests and accurate imaging capabilities.

With an impressive x-ray source up to of 300kv, which can penetrate pipes up to 42 mm thick, and an adjustable exposure time, a product that is efficient, cost-effective, and user-friendly, superior to other models of crawlers with high radiographic quality, high imaging sensitivity, and high work efficiency

Torontech's **TTXRC series of X-Ray Pipe Line Crawler** systems are safe, efficient, cost effective and easy to operate and maintain. TTXRC series of crawlers are manufactured with highest grade of materials to provide longer life and excellent finish. Military specified electronic components ensure reliability even in the harsh environment encountered during operation.

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TTXRC series have high radiographic quality, high imagining sensitivity, low failure rate and high work efficiently. These crawlers can be moved in the pipelines with great efficiently as they are PLC controlled and protected from voltage variations.

Easy to start, ensures accurate positioning at the same time as well as extends equipment life. KV regulating function in the X-Ray generator detects the cracks in different wall thicknesses. Adjustable exposure time. Automated warning signals or over current, high pressure, low battery, water contact, obstruction, etc.



## Technical Specifications

Model	TTXRCI	TTXRCII	TTXRCIII	TTXRCIV	TTXRCV
Pipe Diameter	Φ159 mm - Φ310 mm	Φ219 mm - Φ510 mm	Φ273 mm - Φ710 mm	Φ700 mm - Φ1016 mm	Φ700 mm - Φ1400 mm
Detection Range					
Max. Penetration (A3 steel)	12 mm	16 mm	24 mm	30 mm	42 mm
Crawling Distance	5 km (return trip)				
Crawling Speed	15-18 m/min				
X-Ray Source	X-Ray detector				
Positioning Error	± 5mm				
Power Supply	8 lead-acid batteries, 110 V, 10 AH		8 lead-acid batteries, 110 V, 22 AH		
Climbing Capacity	20°		25°	40°	
Turning Radius	≥ 8D				
Drive Train	AWD (All Wheel Drive)				
Delay Before Exposure	24s				
Exposure Time (can be timed outside the pipe)	1 - 300 s (continously adjustable)				
Location Accuracy	± 5 mm				
Crawling Distance	5 km				
Crawling Speed	15 m/min - 18 m/min				
Turning Radius	≥ 7D				
X-ray Source (Generator)	TTXRCI-XG	TTXRCII-XG	TTXRCIII-XG	TTXRCIV-XG	TTXRCV-XG
Tube Head Type	Panaromic, Glass tube				
Max. Output Voltage	100 kv	160 kv	200 kv	250 kv	300 kv
Max. Output Current	3 mA				
Input	1000Kw				
Focus Spot	1.0 mm x 2.0 mm			1.0 mm x 2 mm	1.0 mm x 2.5 mm
Beam Angle	360° × 30°				
Level Target	25° + 5°				
Cone Target	30° + 5°				
Operating Temperature	-40°C – 70°C				
Temparature Humidity	≤90%				
Battery Energy Capacity	96V, 7Ah	110V, 10Ah		110V, 22Ah	
Motor Power	100W continous	150W continous		250W continous	
Weight					
Generator	11.1kg	15kg	21kg	34kg	40kg
Controller	1.5kg	1.5kg	1.5kg	1.5kg	1.5kg
Overall Weight	42kg	55kg	75kg	125kg	154kg
Dimensions					
Generator	190×190×30mm	225×225×585mm	285×285×665mm	345×345×730mm	345×345×830mm
Controller	255×113×155mm				
Overall Dim.	1200×180×150mm + Φ150×540mm	1200×180×150mm + Φ178×570mm	1180×230×160mm + Φ198×635mm	1200×300×190mm + Φ240×700mm	1200×380×190mm + Φ275×765mm
Standard Configurations	<div><div><ul style="list-style-type: none"><li>X-ray Source 100/160/200/250/300kv 1pcs</li><li>Generator (included above X-ray Source) 1nos</li><li>25m interconnection cable with two plugs 1pcs</li><li>System controller 1nos</li><li>10m power supply cable with one plug 1pcs</li></ul></div><div><ul style="list-style-type: none"><li>Grouding cable 1pcs</li><li>Accessories bag 1pcs (Including: alarm lamp, 1 pcs; lead letter, 1 box; dark bag, 5 pcs; intensifying screen,5 pcs; Image quality indicator,1 set; fuse,1 set; Center indicator:1 pcs)</li></ul></div></div>				

