INNOVATIVE TECHNOLOGIES
IN X-RAY NON-DESTRUCTIVE
TESTING

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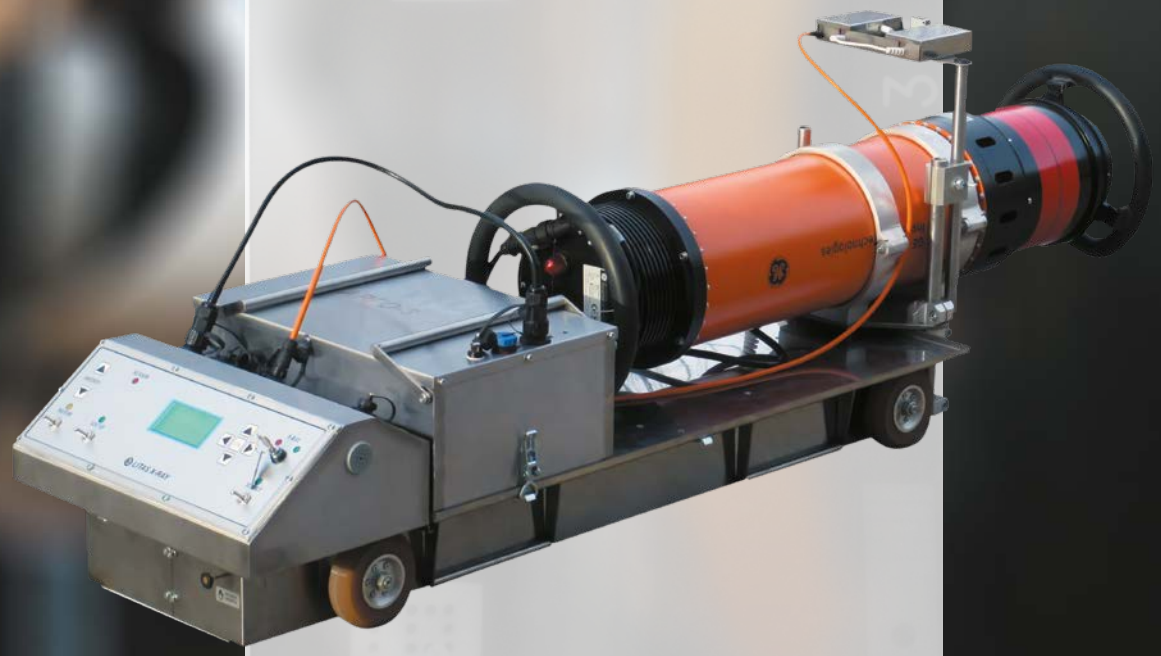
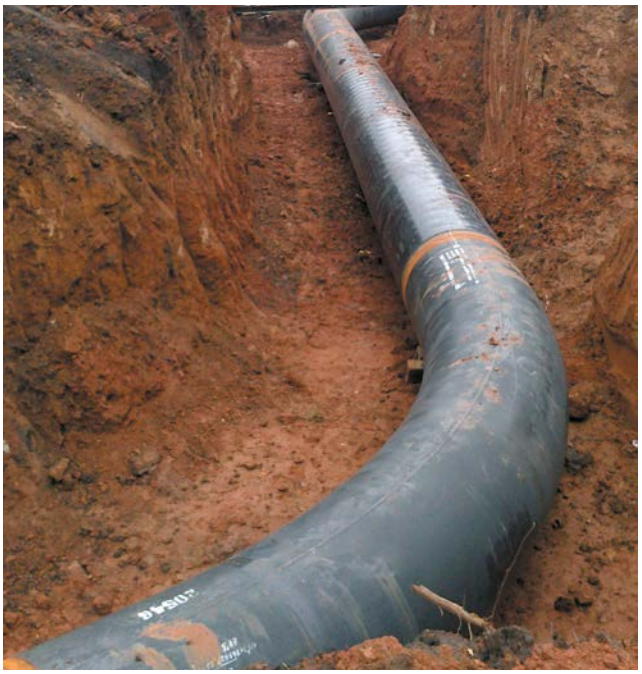


X-RAY CRAWLER

ARGO



- Weight is 30% lighter
- Distance of movement without recharge is distinctly longer
- Minimal turning radius is lesser
- Stability is much improved
- Jam and non-return protection is highly advanced
- Corrosion protection is reliable

ARGO is a series of crawlers meant for pipe welds radiographic testing in the field. The latest electronic innovations implemented in the ARGO make it possible to eliminate deficiencies and inconveniencies of competing crawlers.

The crawler is a self-propelled chassis with an electromagnetic control receiver and a battery pack units mounted on.

Crawler's positioning within a pipe is realized with electromagnetic controller instead of usually used isotope sources.

UNIQUE FEATURES OF ARGO CRAWLERS

Smart allocation of components on the chassis makes it possible to lower the center of gravity. This prevents the crawler from toppling over inside the pipe and eliminates the need for additional support attachments present in other crawlers. Separate control of the left and right wheel pairs together with the low center of gravity enable a crawler to align quickly and make turns inside bends.

The time needed to prepare the crawler for work is very short because the number of blocks comprising the crawler is kept to a minimum, which simplifies assembly and disassembly.

The distance of autonomous movement is increased due to gearboxes employed in the crawlers. The gearboxes are maintenance-free, provide high reliability, and require no interference throughout the entire service life. The crawlers' design allows controlling engine according to the path inclination, which significantly lowers energy consumption on straight path segments. Controllable high drive torque makes it possible to use the crawler on mountainous terrain without re-fitting with mountain gearboxes or changing the gearbox ratio, and an inclination measurement system coupled with a smart drive controller allows it to distinguish between an inclination and an obstacle with certainty. The controller remembers the relief along the forward direction and calculates the required residual battery capacity for returning the crawler, which together with the separate chassis power supply ensures the reliability of the crawler trip.

A system for disabling the drives and unlocking the wheels when power is absent makes it possible to easily wheel the crawler out of the pipe in emergency situations. Obstacle and high water level sensors prevent the crawler from being stuck and failing inside the pipe, and pipe start and end sensors protect it from falling out of the pipe.

SPECIFICATIONS

Pipe diameter, mm: . . . . . 530 – 1420

Distant of movement without recharge:
one-way on flat ground, km: 3
roundtrip, km. 6

Maximum allowable inclination, %: . . . . . ≥ 30

Motor, W (Hp): . . . . . 2 × 250 (2 × 0.34)

Wheels: . . . . . molded polyurethane

Travel speed, m/min: . . . . . up to 20

Positioning accuracy, mm: . . . . . ±5
smooth braking

Operating temperature, °C: . . . . . -40 to +70

Main chassis weight, kg:. 59
(with motor power supply batteries)

X-ray unit battery pack weight, kg: 26
(with 20 A·h $LiFePO_4$ batteries)