

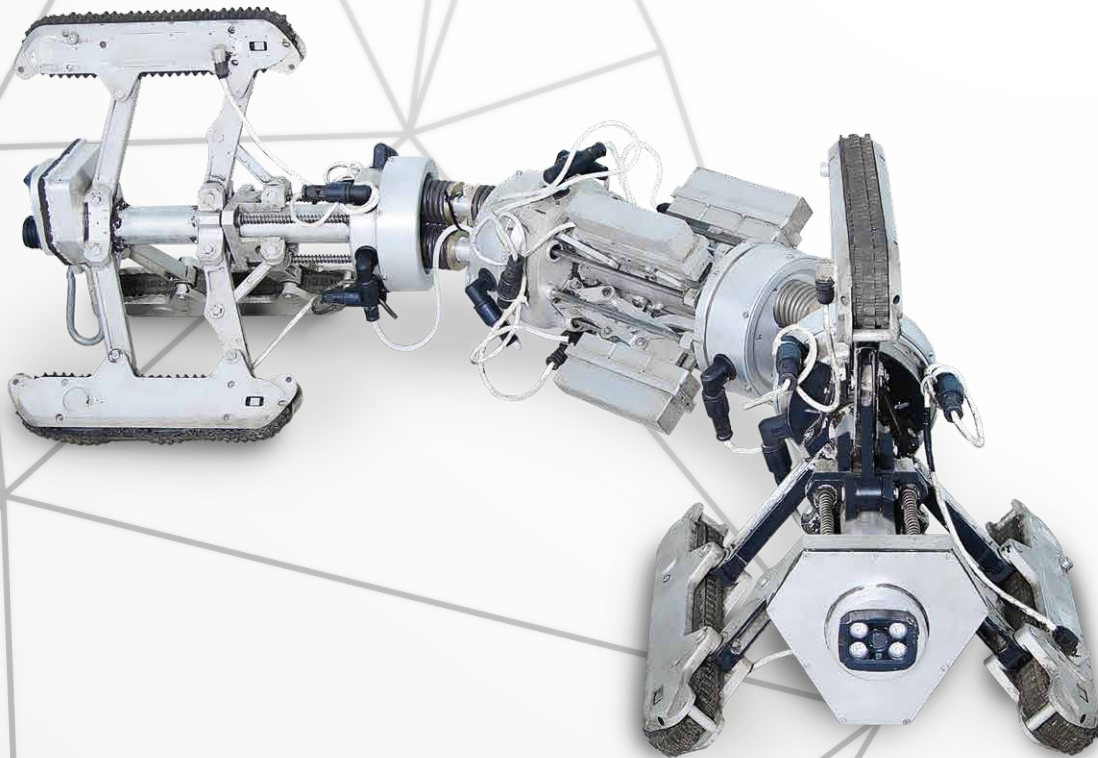


OKTANTA

> Design and manufacture of
non-destructive testing equipment

HeatScan internal pipe inspection system

Our technical capability and experience will help you to prevent incidents and accidents on **pipelines and heating networks**, and extend the life of worn areas without any major repairs.



The Oktanta company has carried out heat network diagnostics in several Russian cities. Diagnostics revealed dozens of critical defects, including those located in the zones of welding seams and fixed supports.

The HeatScan system is designed to detect steel pipe defects by a diagnostic robot and evaluate the remaining service life of defective areas. It uses a modified magnetic test method which requires no preliminary preparation of the pipe. The technology allows testing the condition of metal through a deposit layer of up to 35 mm. The system's diagnostic robot has six tracks and can traverse areas with significant contamination.

The robot is controlled by an operator in an autolab placed at the robot loading point. The robot is loaded through a 400x600 mm cut in the pipe made in a heat chamber, or via a pit.



The system consists of:

> The auto laboratory

- The control panel
- A probing current generator
- A cable reel with a power supply and a 300 m cable
- A gas generator

> The robotic delivery vehicle

- Two motion modules
- A measuring module

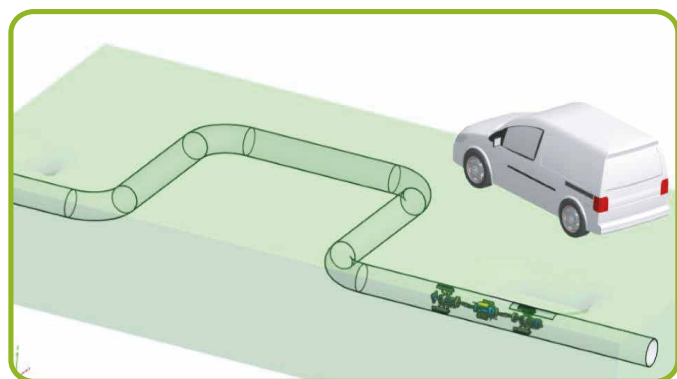
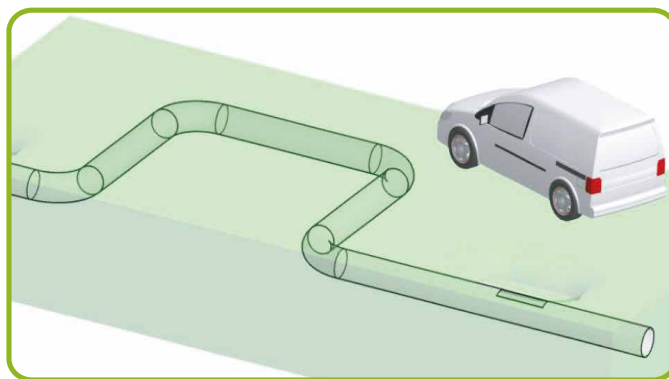


Oktanta provides services in heat network diagnostics and rental of the pipe inspection system based on a category B vehicle. The rental contract includes training for your specialists (an engineer, a driver-mechanic) on the base of your objects.

Diagnostocs technology:

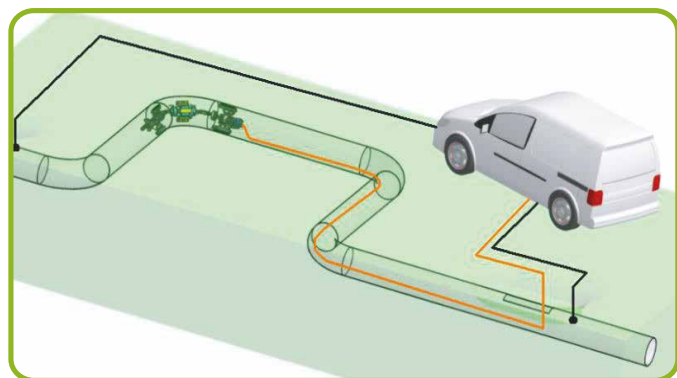
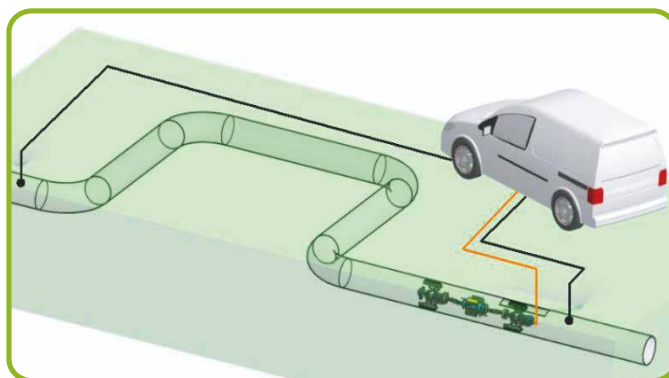
Inspection requires access to the pipe: the robot is loaded through a 400x600 mm cut in the pipe. The cut can be made in a heat chamber or via a pit.

The diagnostic system, including the control panel, is located in the auto laboratory based on a category B vehicle.



The robot can use one loading point to scan up to 300 meters in every direction starting from the cut.

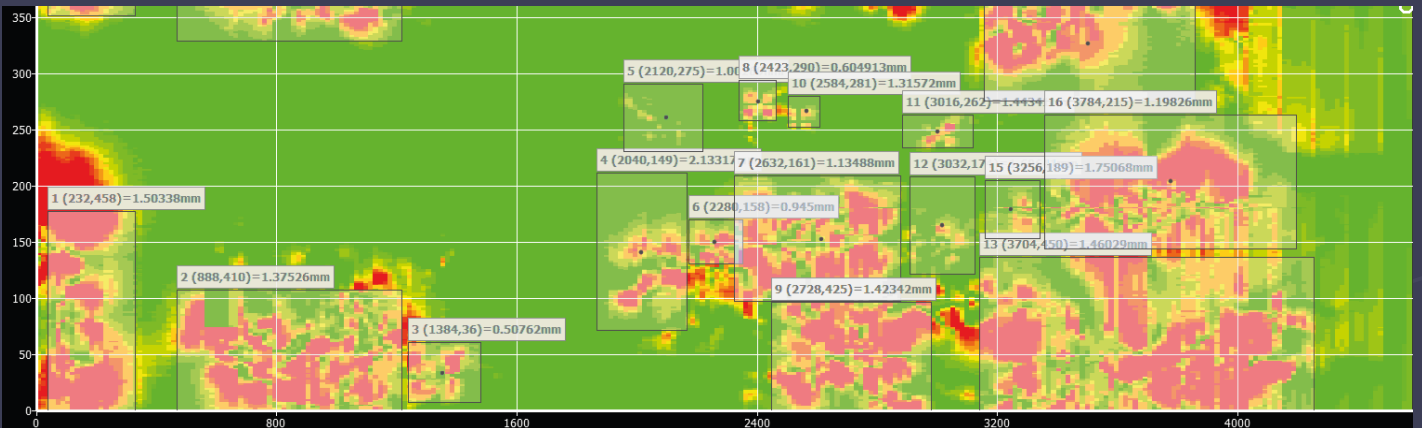
Electrical wires must be connected to the ends of the tested pipe section. Electrical current is transmitted through the pipe; this is necessary to excite magnetic fields, the distribution of which is read by the sensors of robot located inside the pipe.



The diagnostic robot moves inside the pipe scanning 100% of the pipe area. The sensors detect magnetic field anomalies in defect areas. Using a special algorithm, the program determines the residual metal thickness.

Technical specifications:

Range of tested diameters	DN400-DN1400
Range of pipe wall thicknesses	1,5 - 16 mm
Thrust distance	300 m
Amount of deposits on the internal pipe surface	up to 35 mm
Sizes of detected/measured defects	– penetration defect, diameter 6 mm – corrosion damage, diameter 30 mm and depth 20% of the wall thickness
Performance	up to 120 m/h
Number of passable bends	2 pcs
Tee passing	yes
Measurement error with remaining thickness in the defect zone	15% of the remaining thickness
Relative Humidity	100%
Range of operating temperature	-20°C ... +70°C



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