MAGNETIC SCANNERS OF SkM TYPE

Magnetic scanners are designed for detection of defects in the pipe walls, welded joints of mains and gathering oil and gas pipelines, sub-water parts of pipelines, storage reservoirs fabricated from sheets of ferromagnetic steel and alloys of different sort. Magnetic scanners provide not only location of defects but detection of flaws type and there parameters. Their is a number of different models of scanner:

SkM-2 for reservoirs with wall thickness up to 12 mm and for pipes with external diameter 1420 mm and wall thickness up to 12 mm.

SkM-T1 for pipes with external diameter 114 - 219 mm and wall thickness up to 12 mm.

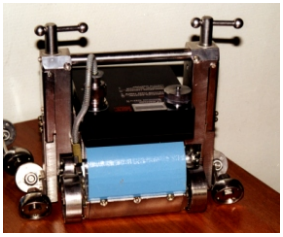
SkM-T2 for pipes with external diameter 245 - 426 mm and wall thickness up to 15 mm.

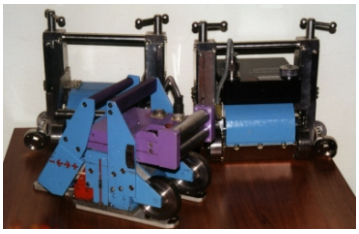
SkM-T3 for pipes with external diameter 450 - 1020 mm and wall thickness up to 16 mm.

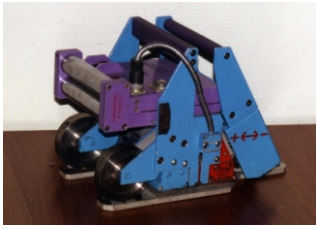
SkM-T4 for reservoirs and pipes with external diameter 1220 -1420 mm and wall thickness up to 18 mm.

SkM-J1 for inspection the welded joints and the area of welded join of reservoirs and pipes with external diameter 1020 - 1220 mm and wall thickness 6 - 12 mm.

SkM-J2 for inspection the welded joints and the area of welded join of reservoirs and pipes with external diameter 1420 - 1620 mm and wall thickness 6 - 18 mm.







Scanners have special execution "Increased reliability against explosion" and are dust and water protected. The scanner provide reliable and confident data collection while moving it manually along examined wall, the speed of motion is up to 0.5 m/sec.The width of at a time inspected area is:

For SkM-2, SkM-T4 - 130 mm;
For SkM-T1, SkM-T2, SkM-T3 - 110 mm;
For SkM-J1, SkM-J2 - 50 mm.

Scanners provide detection of damages of internal and external surfaces of the next types:

- General, pitting like and spring like corrosion with cavity depth of 0.1T+ with equivalent diameter of 1T+;
- Cracks oriented along the texture of the sheet and parallel to the welded joints with depth of 0.1T+ and length of 1T+, where T- is wall thickness.

Relative basic error of defect sizing is as follows:

-For external defects of longitudinal crack type 0,18T
-For internal defects of longitudinal crack type 0,23T;
-For external and internal defects like corrosion cavity, spring like and pitting corrosion 1%;

Relative additional error of sizing of external and internal defects is 1%.

Absolute error of defect coordinates detection in the direction of scanner pass at the distance of 15 m from the initial point is 0.02 m.

Relative error of defect coordinates detection in the direction of scanner pass at the distance of 15 m from the initial point is 0.15%.

Time of continuous scanner work (τ) from the self-contained power source under the environment temperature from -20 to + 50 C is as follows:

In the record operating mode, not less than 4 h;

In the data transfer operating mode (scanner is connected with PC and is motionless), not less than 8 h.

ONYX Technology Group, LLC
Distributor company of AUTOGAZ for North and South America

3520 129th Street
Urbandale, IA 50323 USA
email:onyxtechnology@mchsi.com