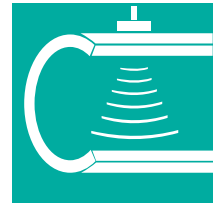


Sonoscope™ Transverse Flaw Detection

System Overview

The Tuboscope™ Sonoscope™ is an automated, non-destructive electromagnetic induction (EMI) inspection unit that detects, evaluates, classifies and report transverse and tri-dimensional flaws in ferrous-steel pipe and tubes in accordance with API, ASTM and other international industry standards.



System Specifications

Standard Configuration for Pipe Sizes (OD)	
Size I	2 3/8" (60 mm) to 7" (165 mm)
Size II	2 3/8" (60 mm) to 13 3/8" (339 mm) or 4 1/2" (114 mm) to 16" (406 mm)
Size II+	4 1/2" (114 mm) to 18" (460 mm)
Size III	10 3/4" (273 mm) to 24" (610 mm)
<i>(Consult with factory for other size ranges)</i>	
Line Speed	Up to 400 FPM (2 m/s)
Maximum Pipe Temperature	180° F (82 °C)
Number of shoes	Maximum 16
Shoe Control Mode	PLC Actuated
Shoe Up/Down Control	Pneumatic Solenoid
Number of inspecting channels	Maximum 128
Signal Process	
Automated Calibration	Yes
Manual Adjustment	Yes
System Diagnostic	Yes
Operation Diagnostic	Yes
Maintenance Diagnostic	Yes
Alarms	Audible and Visual
Output Signal Sorting	Yes
Database Architecture	
	MS-SQL



System Operations:

The Sonoscope inspection unit is equipped with an air-actuated, multi-shoe detection system, installed within a stationary encircling coil assembly. The coils induce a high-strength longitudinal magnetic field into the wall thickness of the pipe, while the detector shoes, incorporating proprietary sensor coils, detect transverse and tridimensional surface-breaking flaws on both the inside and outside pipe surfaces. The signals generated by the sensor coils are amplified, digitized and filtered; and then transmitted to processor electronics within Tuboscope's server based computer cabinet.

System Features:

The combination of the Sonoscope EMI inspection unit with the server-based digital instrumentation system offers the pipe and tube producer or processor:

- ID/OD flaw detection and discrimination
- On-board digital gain/filtration control
- Capability for data storage and traceability
- Ability for process control and final inspection, with interface to a host (mill) computer