



Test Maschinen Technik GmbH

SLOFEC®

Pipe Testing Systems

2021

SLOFEC® Pipe Testing Systems



Company Profile

TMT Test Maschinen Technik GmbH is a specialized provider of innovative electro-magnetic inspection equipment. TMT is the inventor of the SLOFEC® technology standing for **Saturation Low Frequency Eddy Current** technique and is delivering advanced non-destructive testing solutions to the worldwide process industries including the Oil & Gas (on- & offshore) industry, refineries, petrochemical and power plants since 1982.



The range of high performance SLOFEC® tank floor and pipe scanners are designed and built by our in-house R&D team. The experience and feedback from more than 15 years tank floor inspection service has been integrated into our equipment to offer our clients superior equipment for reliable and thorough inspection tools.

The SLOFEC® floor scanners are designed to cover maximum testable areas with minimal dead zones on the floor plates adjacent to the tank shell, under obstacles and on floor plate overlaps. The unique computer aided SLOFEC signal data analysis and reporting software allows the defect depth determination on highest level and comprehensive mapping of topside and underside defects inclusive indication lists.

An additional advantage of the SLOFEC® technique in practice is that only low preparation and limited cleaning of the surface to be inspected is required.

Products

- SLOFEC® tank floor scanner
- SLOFEC® hand scanner for testing of overlap welds
- SLOFEC® tank wall scanner
- SLOFEC® pipe scanner
- CRIS® weld scanner for surface crack detection

Consolidated Companies



TMT Test Maschinen Technik GmbH

Equipment Sales



Kontrolltechnik GmbH

Inspection Services



TER Test Equipment Rentals GmbH

Equipment Lease and Rentals

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SLOFEC® Pipe Testing Systems



Pipe Scanner PS200EM.V1

Main Features

The PS200EM.V1 pipe scanner is designed to cover the full range of thick walled and thick coated pipes up to 25mm pipe wall thickness and 10mm non-metallic coating thickness. The design of the PS200EM.V1 pipe scanner allows fast setup of the equipment and easy change to different pipe diameter for accurate and cost effective operation.

- effective testing by 200 mm scanning width
- 8-channel sensor array for high defect resolution (optional 16-channel sensor array)
- applicable to wall thicknesses up to 20 mm
- pole shoes and sensor fixture exchangeable
- applicable to diameter from 8 inch
- trigger wheel for distances constant scanning
- water-proof configuration upon request

Technical Data

Scanner Unit PS200EM.V1

magnetization : electro-magnet
 weight : 43 kg
 dimensions : 80 x 300 x 220 mm LxWxH
 (without hand grips)
 number of sensors : 8 (16 optional)
 sensor width : 25 mm each

Power Supply Unit

power supply : 110VAC - 240VAC
 (outside the tank)
 40 VDC
 (scanner magnetization)
 24 VDC (motor + electronics)
 weight : 22 kg
 dimensions : 500 x 250 x 500 mm LxWxH

Signal Cable

length : 30 - 150 m (maximal)
 weight : 1 kg/m

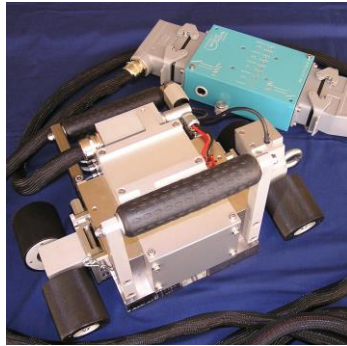
Data Acquisition and Analysis Unit

type : eddyMax "The Box"
 no. of channels : 8 (optional 16)
 computer : Notebook
 (upon customer spec.)

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Pipe Scanner LS150EM.V1

Main Features

The pipe scanner LS150EM.V1 is designed to get a handable tool for testing of thick-walled pipes, vessel and storage tanks. By the optimized design, testing up to 18 mm pipe wall or plate thickness or 8 mm non-metallic coating thickness is possible. Due to the adjustable magnetization the pipe scanner LS150EM.V1 can be applied to a wide range of inspections task within the wall thickness range.

- effective operation by 150 mm scanning width
- small scanner height for access to small gaps by detachable electronic box.
- 8-channel sensor array for high defect resolution (optional 16-channel sensor array)
- applicable to wall thicknesses up to 18 mm
- pole shoes and sensor fixture exchangeable
- applicable to diameter from 1" to flat
- trigger wheel for distances constant scanning

Technical Data

Scanner Unit LS150EM.V1

magnetization	: electro-magnets
weight	: 25 kg
dimensions	: 350 x 220 x 120 mm LxWxH (without hand grips)
number of sensors	: 8
sensor width	: 18,75 mm each

Power Supply Unit

power supply	: 110VAC - 240VAC 40 VDC (magnetization) 24 VDC (electronics)
weight	: 22 kg
dimensions	: 400 x 500 x 170 mm LxWxH

Signal Cable

length	: 30 - 100 m (maximal)
weight	: 0,25 kg/m

Data Acquisition and Analysis Unit



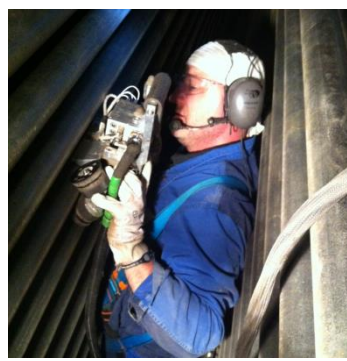
type	: eddyMax "The Box"
no. of channels	: 8 (optional 16)
computer	: Notebook (upon customer spec.)

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Pipe Testing Systems

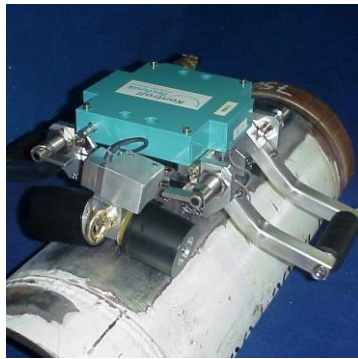
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Pipe Scanner Type LS120EM.V1		
Main Features	Technical Data	
<p>The pipe scanner LS120EM.V1 is designed to get a small, lightweight and easy to adapt tool for testing of pipes, boiler wall pipes, vessel and storage tanks. By the optimized design, testing up to 12 mm pipe wall or plate thickness or 6 mm non-metallic coating thickness is possible.</p> <ul style="list-style-type: none"> ▪ effective operation by 100 mm scanning width ▪ small scanner height for access to small gaps by detachable electronic box ▪ 8-channel sensor array for high defect resolution ▪ applicable up to wall thicknesses up to 14 mm ▪ pole shoes and sensor fixture exchangeable ▪ applicable to diameter from 1" to flat ▪ trigger wheel for distances constant scanning 	<p>Scanner Unit LS120EM.V1</p> <p>magnetization : electro-magnets weight : 15 kg dimensions : 300 x 190 x 170 mm (LxWxH) (without hand grips) 300 x 190 x 100 mm (LxWxH) (without electronic box and hand grips)</p> <p>number of sensors : 8 sensor width : 12,5 mm each</p> <p>Power Supply Unit</p> <p>power supply : 110VAC - 240VAC 40 VDC (magnetization) 24 VDC (electronics)</p> <p>weight : 16,5 kg dimensions : 580 x 500 x 110 mm LxWxH</p> <p>Signal Cable</p> <p>length : 30 - 100 m (maximal) weight : 0,25 kg/m</p> <p>Data Acquisition and Analysis Unit</p> <p>type : eddyMax "The Box" no. of channels : 8 computer : Notebook (upon customer spec.)</p>	

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Pipe Scanner Type LS120PM.V1

Main Features

The pipe scanner LS120PM.V1 is designed to have a small, lightweight and easy to adapt tool for testing of pipes, vessel and storage tanks. By the optimized design, testing up to 10 mm pipe wall or plate thickness or 5 mm non-metallic coating thickness is possible. As the magnetization is generated by permanent no power supply unit is necessary

- effective operation by 100 mm scanning width
- small scanner height for access to small gaps
- 4-channel sensor array for high defect resolution (optional 8-channel sensor array)
- applicable up to wall thicknesses up to 12 mm
- pole shoes and sensor fixture exchangeable
- applicable to diameter from 1" to flat
- trigger wheel for distances constant scanning

Technical Data

Scanner Unit LS120PM.V1

magnetization	: permanent magnets
weight	: 15 kg
dimensions	: 220 x 130 x 140 mm LxWxH (without hand grips)
number of sensors	: 4
sensor width	: 25 mm each

Signal Cable

length	: 30 - 100 m (maximal)
weight	: 0,25 kg/m




Data Acquisition and Analysis Unit

type	: eddyMax "The Box"
no. of channels	: 4 (optional 8)
computer	: Notebook (upon customer spec.)

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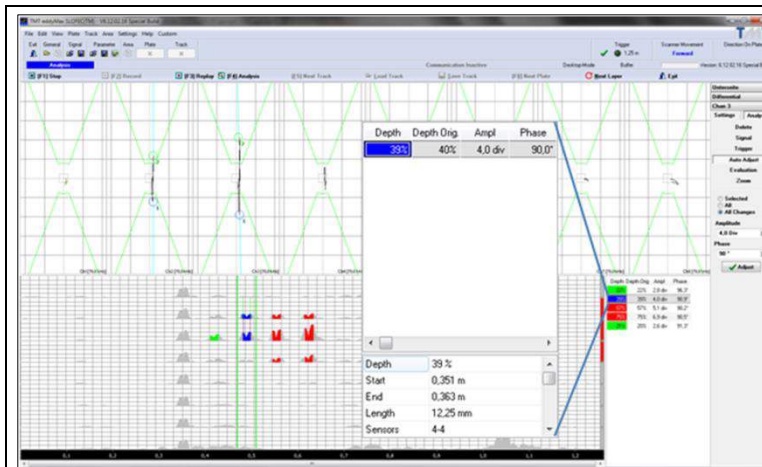
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Pipe Scanner Type LS100PM.V1		
Main Features	Technical Data	
<p>The pipe scanner LS100PM.V1 is the smallest and most lightweight and easiest to handle tool for testing of pipes, vessel and storage tanks. By the optimized design, testing up to 8 mm pipe wall or plate thickness or 4 mm non-metallic coating thickness is possible. As the magnetization is generated by permanent no power supply unit is necessary</p> <ul style="list-style-type: none"> ▪ effective operation by 80 mm scanning width ▪ small scanner height for access to small gaps ▪ 4-channel sensor array for high defect resolution (optional 8-channel sensor array) ▪ applicable up to wall thicknesses up to 8 mm ▪ pole shoes and sensor fixture exchangeable ▪ applicable to diameter from 1" to flat ▪ trigger wheel for distances constant scanning 	<p>Scanner Unit LS100PM.V1</p> <p>magnetization : permanent magnets weight : 8 kg dimensions : 150 x 80 x 80 mm LxWxH (without hand grips) number of sensors : 4 sensor width : 20 mm each</p> <p>Signal Cable</p> <p>length : 30 - 100 m (maximal) weight : 0,25 kg/m</p> <p>Data Acquisition and Analysis Unit</p> <p>type : eddyMax "The Box" no. of channels : 8 (optional 16) computer : Notebook (upon customer spec.)</p>	

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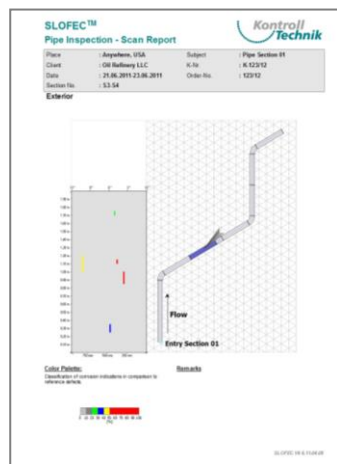
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The SLOFEC® Software
Version 6
Data Acquisition and Signal
Analysis Screen

The SLOFEC® Software
Version 6
Report Output



No.	Indication	Ref.	Depth	Phase	Color	Type	Method	Remark
1	SLIP	1.15	100	90	Red	Surface	SLIP	
2	SLIP	1.15	100	90	Red	Surface	SLIP	
3	SLIP	1.15	100	90	Red	Surface	SLIP	
4	SLIP	1.15	100	90	Red	Surface	SLIP	
5	SLIP	1.15	100	90	Red	Surface	SLIP	

The SLOFEC® C-Scan Data Acquisition Signal Analysis and Reporting Software

Main Features

The SLOFEC™ system is prepared to fulfill all documentation requirements. Signal data from each scanned track can be either processed online or stored data can be retrieved and processed in a later stage. The SLOFEC® signal analysis software supports the operator by automatic signal detection and depth evaluation function. Evaluated defect depths are automatically stored and directly ready for a comprehensive color scan documentation of the complete tankfloor and each tested plate.

- generation of pipe maps and scan tracks
- signal data storage on computer
- online signal detection and depth evaluation separate for subsurface and surface defects
- output of tank defect map, single plate report and feature list
- change of color palette after inspection
- input of installations on different layer
- laptop version for independent documentation

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