

TST FDSYS.P™

FOR

PORTABLE WIRE ROPE INSPECTION



TST FLAW DETECTION TECHNOLOGY CO.,LTD.

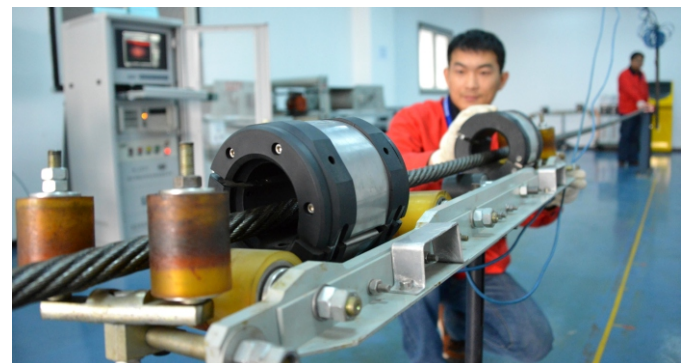


ABOUT US



TST Flaw Detection Technology Co., LTD (TST) incorporated in 2010 is specialized in designing, manufacturing and marketing the flaw detection systems for wire ropes and rope core conveyor belts. TST's mission is to continually develop flaw detection solutions for the safest wire rope operation and the most cost-efficient business outcome for wire rope and steel-cord conveyor belt users. With years of experience in the fields, TST realizes that the company's responsibility is not just a technical answer to safety inspection but a comprehensive business solution with full regards of people and environment, which means that our system must firstly be the keeper of the safe wire rope operations, furthermore our solution should be the enhancer for the business achievements and prosperity.

In the catalog of TST-FDSys™(Flaw Detection System) and TST-FDSol™(Flaw Detection Solution), we are providing a wide range of solutions that can be applied to different industries and diverse wire rope and steel-cord conveyor belt operating scenes. The applications include open-pit mine conveyor-belts, underground conveyor belts, underground mine hoisters, port cranes, construction cranes, residential and commercial elevators, cableways and etc. TST-FDSys™ and TST-FDSol™ can be installed in the forms of portable, realtime wire-rope, realtime conveyor-belt, real-time elevator or customized detecting systems for specific tasks. The commitment of TST Team is to find solutions for more efficient and safer wire rope operations, and materialize real economic benefits from the improvement of safety management.



INTRODUCTION



System Description

TST FDSys.P Flaw Detection System is developed on basis of magnetic inductive sensing technology and MFL(magnetic flux leakage) wire rope inspection technique. The system can be applied for the portable inspection of steel wire ropes and steel pipes for the physical damages or material deteriorations.

TS-X1124\X1142\X1160(X) are the 3 standard models in the portable series for the inspection of steel wire ropes with diameters of 6mm-70mm.

Customized models can be developed based on specific applications of the clients, such as for extra wide wire ropes up to 120mm, and for environments that require Intrinsic Safe and Explosion Proof design.

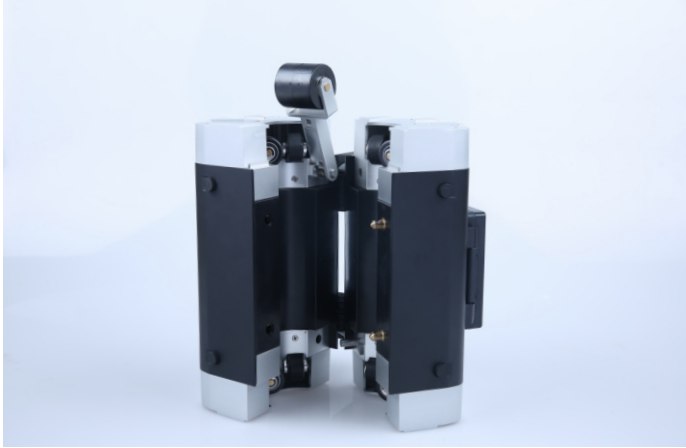


Customized Model for Intrinsic Safe and Explosion Proof



Customized Model for Extra Wide Wire Rope

SYSTEM FEATURES



General

- Nondestructive inspection of wire rope with diameter from 6-70mm
- Detection powered by TST sensor array
- Portable detection of various flaw types including broken wire, corrosion, pitting, abrasion, fatigue etc. for which a magnetic signature will be left due to the occurrence of a flaw event.
- Instant monitoring and evaluation of inspection process with portable 'Control Panel' and 'Screen'
- Data processing with built-in signal processor for portable application
- Evaluating and reporting with built-in and PC software set for portable application

Inspection Speed

- < 15 m/s (or as limited for safe operation)

Defect Types

- LF(Local Fault) LMA(Loss of Metallic Area)
- Physical Damages: Broken wire, Abrasion, Structure Deformation
- Material Deteriorations: Corrosion, Fatigue

Flaw Detection

- Qualitative Flaw Detection
- Quantitative Flaw Detection
- High Repeatability
- High Accuracy
- Waveform Inspection Diagram Output
- Statistical Inspection Result Table Output

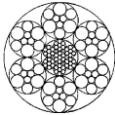
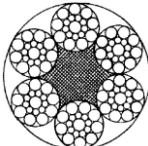
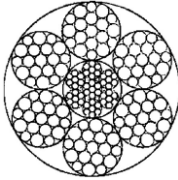
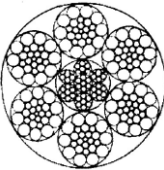
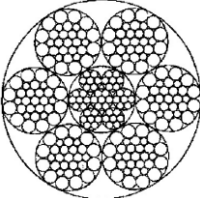
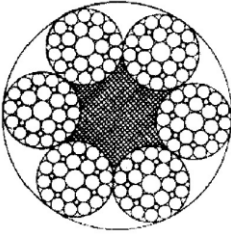
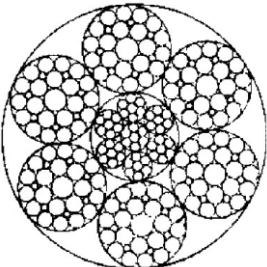
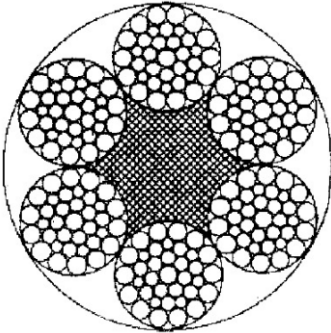
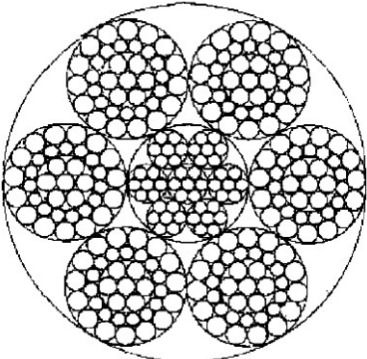
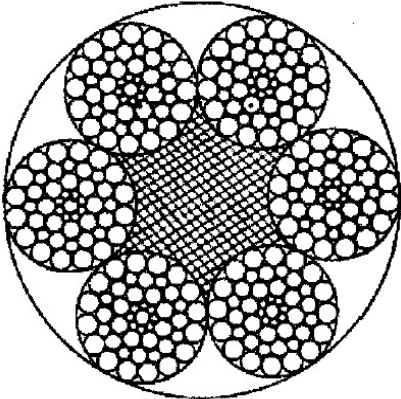
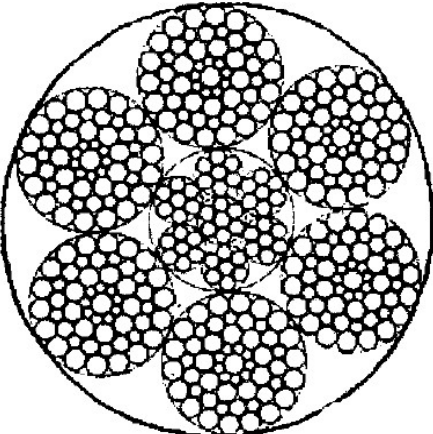


SYSTEM FEATURES

M-Regulator Field Strength	< 50mT	Sensor Dissipation Power	<50mW
Continual Detection Capacity	>10 ⁴ m	Sensing Range	0-30mm
Detection Response Time	≤0.5ms	Sensor Lifetime	>27 *10 ⁴ hours
E/M Sensitivity	≥1.0V/mT	S/N Ratio	S/N>85dB
Working Temperature	-20-50 °C	Relative Humidity	<95%
Storage Temperature	-40-60 °C	Cleaning	Volatile organic solvent (ABS safe, Insulation safe, Non-toxic, Non-conductive)
Charge Time:	4-5 hours	Service Time:	>8 hours



PRODUCT SPECIFICATIONS

MODEL	ROPE DIAMETER SPECS	SAMPLE REMARK			
TS- X1124	φ 6mm - 24mm				
		6×7+FC φ8	6×9W+IWR φ15	6×19S+FC φ20	6×19W+IWR φ24
TS- X1142	φ 22mm - 42mm				
		6×26WS+IWR φ25	6×31WS+IWR φ30	6×29Fi+FC φ35	6×29Fi+IWR φ40
TS- X1160	φ 40mm - 65mm				
		6×36WS+FC φ45	6×37S+IWR φ50		
TS- X1160X	φ 40mm - 70mm				
		6×49SWS+FC φ55	6×55SWS+IWR φ60		

SYSTEM PERFORMANCE

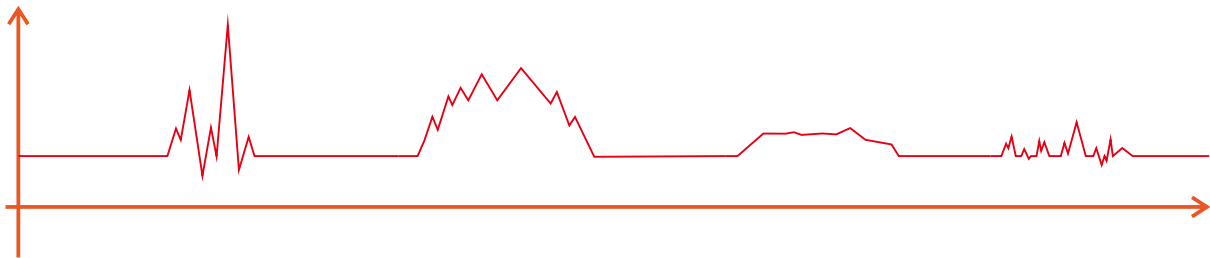
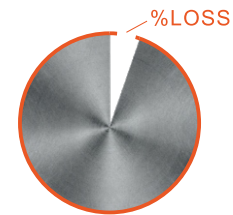
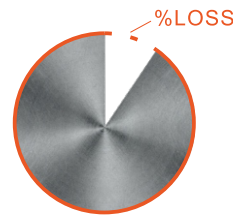
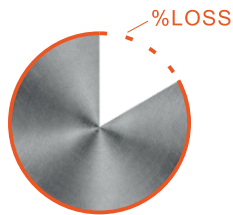
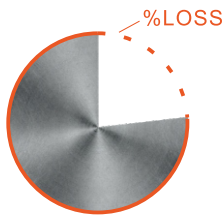


— Broken Wire

— Fatigue

— Abrasion

— Corrosion

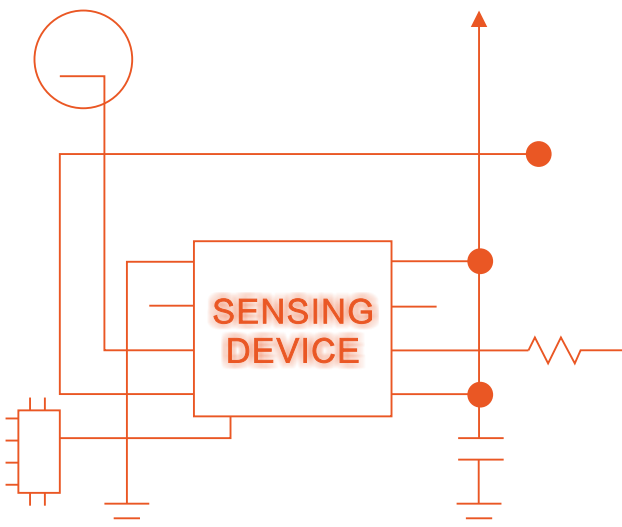


Qualitative Inspection

FDSys.P is able to inspect the wire rope and determine the defect types, such as Local Fault(LF) or Loss of Matallic Area (LMA).

Quantitative Inspection

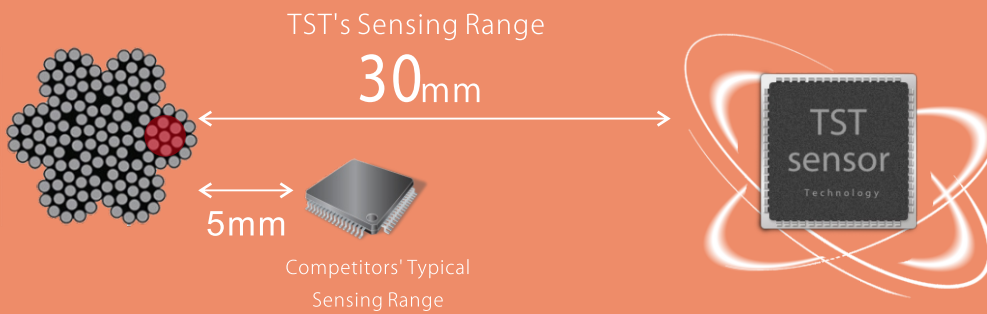
FDSys.P is able to inspect the wire rope and determine the respective defect values and severity with respect to the % loss of cross sectional metallic area and output in the statistical table with % values and positions.



Reliable Inspection

With the advanced sensor technology, FDSys.P is able to detect the defects with high repeatability and accuracy

SYSTEM PERFORMANCE

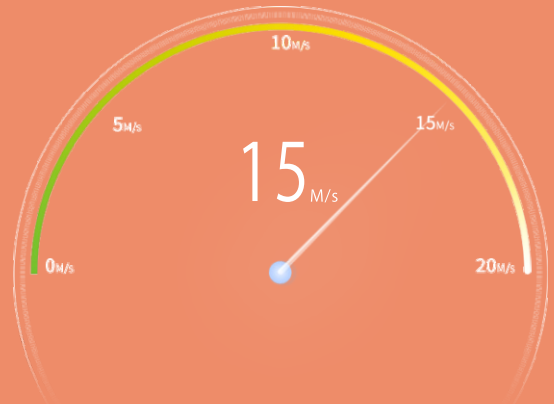


Wide Range Inspection

Due to the optimization of sensor array, the sensor of FDSys.P is able to pick up signals at wide range from the target and inspect the wire rope without interfering the relative movement between rope and device so that good passing ability is achieved. Work efficiency and operation safety is assured.

High Speed Inspection

FDSys.P is able to inspect the wire rope at a high speed without compromising the inspection performance and result.

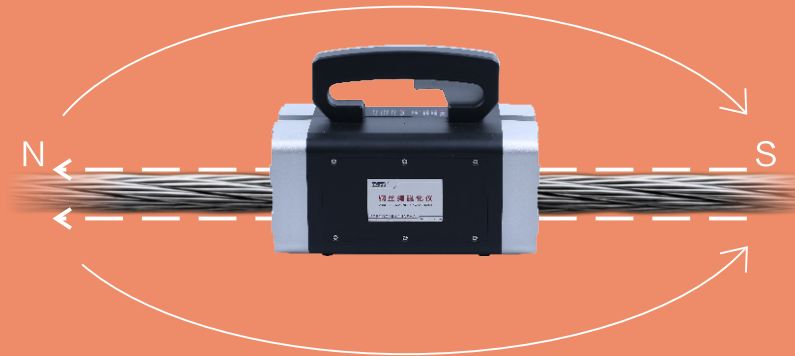


Intelligent Inspection

FDSys.P is integrated with intelligent data analysis and processing algorithm on a user-friendly operating interface to provide a unmatched inspection experience and solution.

INSPECTION PROCESS

1



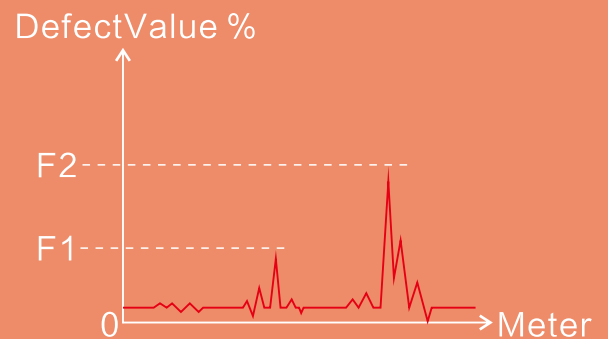
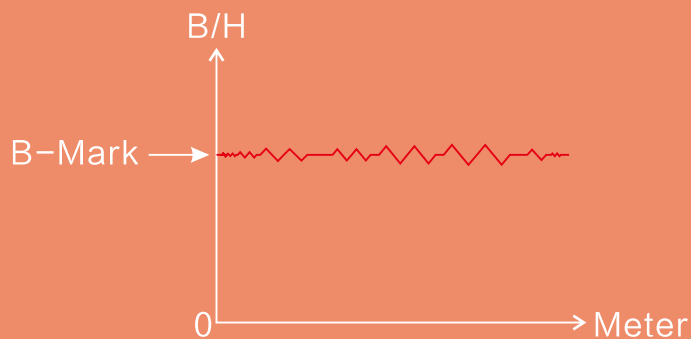
Field Regulating (Magnetizing)

2



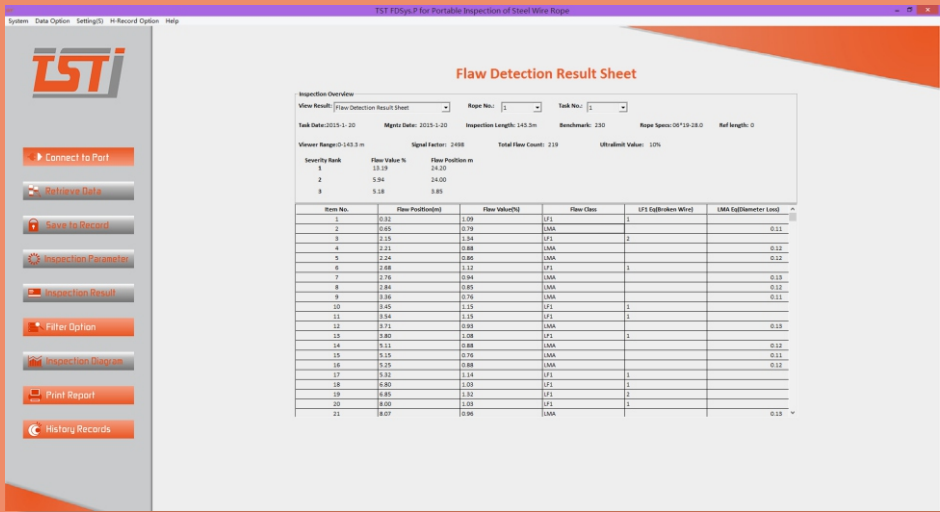
BENCHMARKING

INSPECTING



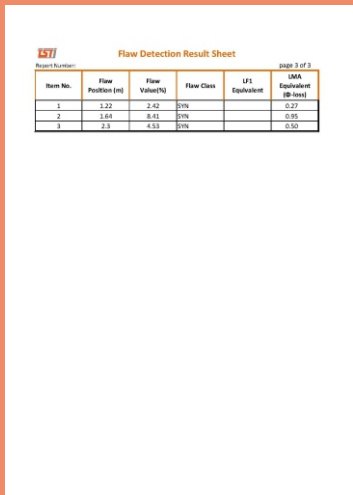
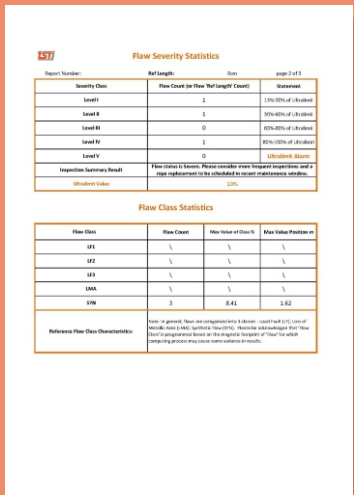
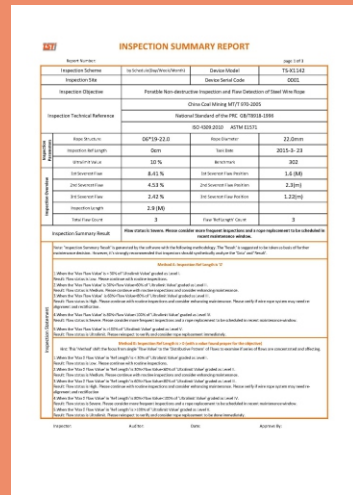
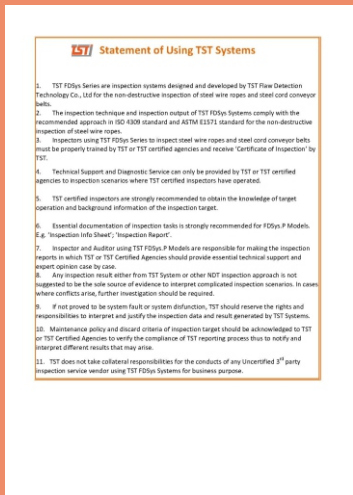
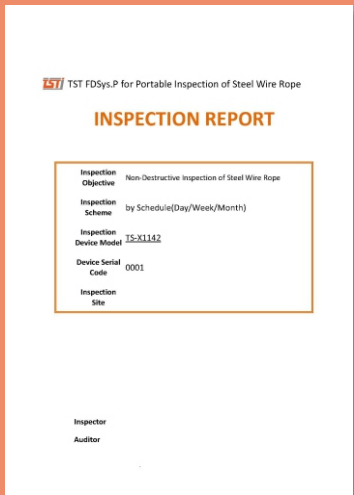
INSPECTION PROCESS

3



Data Uploading & Analysis

4



Inspection report

FIELD APPLICATIONS





CONTACT US

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