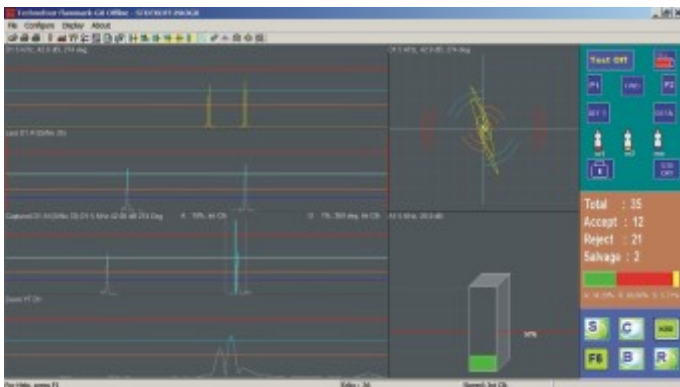
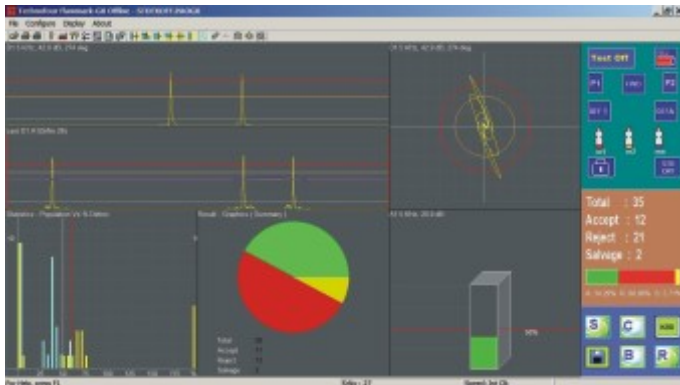


Flawmark-GX

Non-destructive Eddy Current Test System for Tubes, Bars and Wires



Flawmark-GX is a major upgrade from Technofour utilising a breakthrough in signal processing technology that enables unparalleled stability and signal-to-noise performance. This eighth generation Flawmark redefines reliable Eddy Current Inspection of metal tubes, wires and bars. Supporting completely touch-operated user interface, the system can transmit real-time data over internet or intranet. It can send email reports of work-shift statistics and events. SPC displays help production managers with inspection history up to past 24 hours. The system can also be used to provide feedback to welding lines if the weld quality deteriorates from optimal condition.

Flawmark-GX can detect cracks, pin-holes, open welds, voids, inclusions, concentrated porosity, weld defects, slivers, opened up skin laminations, deep pittings as well as mechanical damage in metal tubes, bars and wires. Ferromagnetic, non-ferromagnetic as well as austenitic materials can be inspected by the system in Online, Offline, Inline and Spool-to-spool configurations. The inspection can be carried out as per API, ASTM, DIN, BS, ETTC, JIS, IS or other standards. All data is logged to a Hard Disk. Test reports can be generated in Microsoft Excel format.

An absolute channel can be configured for Online systems for detection of open welds etc. Multifrequency and multichannel options are available for advanced use.

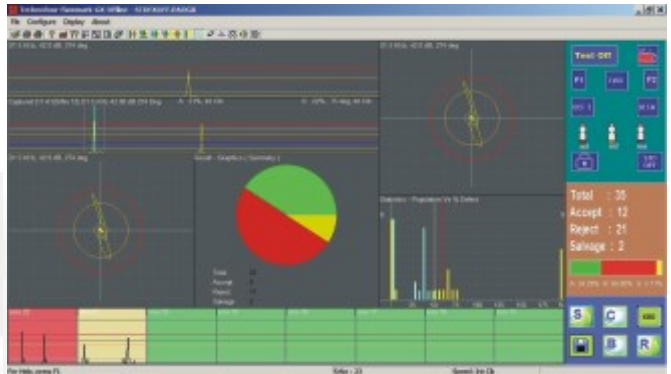
- Proprietary D3 Signal Processing Technology
- Differential as well as Absolute channels
- Encircling as well as Segment Test Heads
- Multifrequency and multichannel options
- Four Evaluation Modes
- Three thresholds for differential channels
- Automatic Setup
- Online, Offline, Inline and Spool-to-spool schemes
- Windows® operating system
- Online manual and context sensitive help
- Extensive Data logging and reporting
- TCP/IP servers over Ethernet
- OPC-UA server for Industry 4.0 integration
- ODBC interface for local/remote SQL servers
- Optional grade-sorter channel for offline systems



Segment and Encircling Test Heads

FLAWMARK-GX TECHNICAL DATA

Frequency Range	1 KHz to 1000 KHz
Test Channels	1 Differential + 1 Absolute Optional simultaneous multi-frequency operation (up to 4 frequencies / 8 channels)
Differential Gain	0 dB to 89.9 dB in steps of 0.1 dB
Absolute Gain	0 dB to 89.9 dB in steps of 0.1 dB
Phase	0 deg to 359 deg in steps of 1 deg
Filters	Independently adjustable High Pass and Low Pass. Can Auto-track in online configurations.
Thresholds	Upper, Lower, Third, Sector, Multiple sector
Evaluation Modes	Phase Sensitive (differential channels) Amplitude (all channels) Sector (Phase + Amplitude) (differential only) Advanced Sector (Multiple adjustable sectors)
Balance	Smart Auto-balance
Data Storage	Hard Disk, USB flash drive
Setup	Manual, Visual and Automatic
Tube Diameters	1mm to 219mm for encircling test heads 25mm to 520mm for segment test heads
Test capability	API 5L/5LX, ASTM A450, BS 3889, ETTCC, JIS and several other international standards
Operating System	Windows®
User Interface	Keyboard and Mouse / Touch
Screen	16:9 LCD with Touch option
Digital Outputs	Threshold Crossings, Result, Paint Markers
Test Automation	External PLC
Connectivity	Intranet / Internet over Ethernet OPC-UA over Ethernet for Industry 4.0 integration
Variants	Flawmark-GX : Single frequency at a time Flawmark-GX-2 : Two frequencies simultaneous Flawmark-GX-4 : Four frequencies simultaneous



Flawmark-GX displays are quite configurable. Test signals in vector and strip-chart form with thresholds for any channels can be viewed as well as SPC, test results and statistics

Magnetic Saturation and Demagnetization
Magnetic saturation is required for testing ferromagnetic tubes in all cases. Technofour offer several sizes of saturation coils and yokes for using with encircling as well as segment test heads. Demagnetization is then required for all offline systems and may be necessary for some online applications. Smaller Saturation and Demagnetization coils are air-cooled, while larger coils are water-cooled.

Optional Grade Sorter Channel
One channel can be added to offline systems for grade sorting. This channel can offer a frequency range of 10 Hz to 100 KHz with a circular Go/No-Go threshold.

Technofour also manufacture automation and mechanical handling systems for offline or inline Flawmark-GX system configurations.



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Magnetic Saturation Coil