THERMO SCIENTIFIC MARK III INDUSTRIAL SCANNER

PRODUCT SFM11-XX

The Thermo Scientific Mark III Industrial Scanner is a high-performance measurement platform that supports the complete family of web gauging sensors.

The MARK III is a robust exoskeleton structure with a transport carriage head supported by tubular steel rails with precise x, y & z measurement stability. The entire beam structure is welded, heat treated and precision-machined, eliminating the need for shimming or rail adjustment. The sensor carriage incorporates linear bearings for smooth, reliable movement while limit switches and a digital encoder are used to accurately control the head position.

The intelligent MARKIII scanner broadcasts its final measurement values for displays, controls and information and to other compliant systems across an open Ethernet network. Intelligent measurement also eliminates the requirement for a secondary supervisory computer. The Thermo Scientific Exactrax peer-to-peer measurement synchronization network delivers millisecond head position timing for precise multi scanner profile alignment for coat weight measurement.

Installation and routine running costs are minimized, as air, water or nitrogen and proprietary cables are not required.

MARK III Industrial Scanner
Shown with Beta Sensor

FEATURES AND BENEFITS

- Intelligent measurement provides an efficient, maintainable installation
- Modular electronics reduce the average time to repair for greater measurement availability
- Standard Ethernet interface provides open network measurement connectivity
- Exoskeleton design isolates mechanical and electrical components from the environment
- Factory laser rail alignment ensures precise sensor alignment
- DC drive system allows scan speeds of up to 500 mm/sec (20 in/sec)
- Steel-reinforced drive belts ensure accurate head alignment and positioning
- Chainflex® continuous-flex signal cables provide reliable, high integrity, measurement performance
- 90° and 45° Passline angle options are available
- Blower-purged and hazard-reduced electronics are available for demanding environments

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DESCRIPTION

The MARK III utilizes a unique exoskeleton design. This thick tubular steel structure provides high rigidity and dimensional stability, while shielding mechanical and electrical components from the environment.

SCANNING PERFORMANCE AND RELIABILITY

The MARK III Industrial Scanner is designed to complement the accuracy and resolution of the Thermo Scientific sensor family. A precision drive system permits scan speeds of up to 500 mm/s (20 in/s), to produce frequent measurement information for responsive control and process optimization. An optical encoder provides sensor head feedback position with 395pulses/cm resolution for precise profile alignment. An intelligent processor performs high-speed processing for fast, high-resolution measurement. This functionality may be located either in the scanner or in an optional remote enclosure. A standard Ethernet interface provides the necessary data acquisition bandwidth for optimum performance to all the platform nodes.

RELIABILITY

The sensor carriage travels along 25 mm (1 in) diameter ground and hardened steel rails supported by precision linear bearings. This durable design ensures that the scanner maintains tight alignment tolerances throughout its life cycle. Scanning reliability and precision is further enhanced by steel reinforced drive belts, which are not subject to elongation or failure.

MAINTAINABILITY

The MARK III's reliability and maintainability reflect both sound mechanical design and robust electronics. Its intelligent processor effectively simplifies the hardware to a single-service module.

The MARK III exoskeleton design with its thick tubular steel structure provides high rigidity and dimensional stability, while shielding the mechanical and electrical components from the environment.

SPECIFICATIONS

Maximum Web Width ---------- 10 m (32 ft)
Maximum Weight --------- 3780 kg (8330 lbs)
Passline Angle---------- 0-90°

Measurement Alignment Tolerances:
- Scan Direction ---------1.02 mm (.017 in)
- Machine Direction -----0.30 mm (.012 in)
- Gap Direction ----------0.30 mm (.012 in)

Scan Speed --------up to 500 mm/s (20 in/s)
Position Feedback ---------- 395 pulses/cm (1000pulses/in)
Position Repeatability ---±1.3mm (±0.050 in)
Ambient Temperature ---------- 50°C (122°F)
Humidity ---------- 95% non-condensing

Electrical Requirements:
115 Vac ± 10%, 60 Hz
230 Vac ± 10%, 50 Hz

Dimensions
- Machine Direction ------27.4 cm (10.8 in)
- Height ----------111.8 cm (44 in.)

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