

MX-10

Ultrasonic Thickness Gauge



Special Features

The Centurion NDT Model MX-10 Ultrasonic Thickness Gauge combines the most advanced microprocessor and ultrasonic technology available. The MX-10 is purposely designed compact and lightweight enough to let you hold it in one hand and punch in commands with your thumb.

- Gauging accuracy of ± 0.001 inch.
- Measurements appear on a high-contrast liquid crystal display.
- Standard transducer withstands temperatures up to 600°F (316°C)
- Operates on two “AA” alkaline batteries.
- Extruded aluminum enclosure for strength and durability in harsh environments.

Applications

The Centurion NDT MX-10 is a microprocessor-based ultrasonic thickness gauge capable of measuring up to 9.999 inches in steel with an accuracy of ± 0.001 ". The MX-10 standard transducer will meet most needs and it withstands temperatures up to 600°F (316°C). Other transducers are available for tight locations, small tubing, high-attenuation materials and extremely hot surfaces - 1000°F (538°C).

Because it so accurately detects materials thinning due to corrosion, erosion and pitting action, the MX-10 is suited to a broad range of jobs. Its precision and convenience are specially designed for demanding work in refineries, on pipelines or construction jobs. This instrument is well suited for many applications in shipyards, foundries, automotive, power plants, heavy machinery and dozens of other industries.

Operation

The transducer's transmitter (T) sends a short pulse of ultrasound into the material. Due to physical characteristics of any dual element transducer, the pulse, reflected as an echo from the opposite surface or backwall, does not follow a path which is perpendicular, but rather a vector path. The difference between the vector time as measured and the perpendicular path time (actual thickness) is automatically computed by the microprocessor during each reading. Thus the MX-10 combines the advantages of a dual element transducer with the absolute accuracy of a single element.

Specifications

Operating Principle	Pulse-Echo Ultrasonic, Dual-Element Transducer	Auto-Velocity Compensation	Microprocessor Program to Optimize for Impedance/Refraction Differences in Certain Materials
Electronic Design	Microprocessor-Based	Auto-Shutoff	Gauge Power Turned Off Several Minutes After Last Reading
Display	High-Contrast, Four Digit Liquid Crystal Display (LCD)	Power / Operating Time	200 Hours Typical Operation from Two AA-size Alkaline Batteries
Gauging Range	0.020 to 9.999 inches (Depending on Material and Transducer)	Low Battery Indicator	Blinking "BAT" Annunciator in Display when 8 Hours Battery Life remain
Gauging Resolution	±0.001 inch	Marginal Battery Cutoff	Gauge Turned Off when Marginal Battery Power Remaining
Material Velocity Range	Up to 0.9999 in/microsecond	Reference Samples Transducers	Built into Face of Gauge Standard Transducer for Surface Temperature to Approximately 600°F (316°C), Mini-Probe, Hi Power Probe, Ultra Thin Probe
Display Response Speed	Approximately ¼ second	Operating Temperature Range	14°F to 140°F (-10°C to 60°C)
Controls	Membrane-sealed Push-button	Instrument Case	Aluminum Extrusion with Gasketed End-Caps
Auto-Zero	Push-button Transducer Zero Set, Zero Feedback to Display	Size	5 x 2-5/8 x 1-1/4 in. (127 x 67x 32 mm) (H x W x D)
Velocity/thickness Adjust	Bi-Directional Push-Button Digital Scrolling	Weight	11 ounces (312 grams)
Control Lock	Push-Button Code with "L" Annunciator in Display		
Penetrating Power Override	Push-Button Manual Override with Annunciator in Display		
Auto-Hold	Display Holds Last Thickness Reading		
Coupling Indicator	Bar Symbol Annunciator in Display showing Ultrasonic Contact		
Auto-Accuracy Correction	Microprocessor Program to Further Linearize Thickness Response		