



# zonotip



## The Smartest and most Accurate Ultrasonic Thickness Gauge

The Zonotip with its shockproof housing, fast processor and state-of-the-art transducers delivers the most reliable results on the market.

### Measuring ferrous and non-ferrous Metals

The Zonotip and the Zonotip+ (with additional features) are designed to measure the thickness of ferrous and non-ferrous metals as well as parts made from polymers, glass, ice, and other materials with a low ultrasonic attenuation. The product's measuring range on steel is from 0.7 mm to 300 mm.

The automation processes in the Zonotip make measuring very convenient. The patented algorithm of automatic adaptation to the surface curvature and roughness make measurements for instance on corroded surfaces possible, without the need for specific adjustments.

The Zonotip's large, high-contrast color display ensures easy real-time visual control of the inspection process.

### Benefits to the Customer

**Uniqueness:** The first thickness gauge that offers a broad range of measurement possibilities in a compact housing.

**Versatility:** Two different probes are available: the standard dual-element 4.0 MHz transducer and the compact single-element 2.5 MHz transducer. In addition, various measuring modes (NORM, MEMORY, A-SCAN) can be selected.

**Robustness:** The Zonotip features a very robust and shock-proof housing which allows the instrument to be used in the most demanding environments.

**Multi-language:** Like all Proceq products, the Zonotip can be operated in eight different languages.

**Software:** The included PC software Zonolink addresses professional data management needs.

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## Key Features of Zonotip

- Solid body of light, shock-proof plastic
- Suitable for difficult weather conditions (frost- and heat-proof)
- Large high-contrast color display ensures visual control of the inspection process
- Memory for 50'000 measurements
- 4.0 MHz dual-element transducer
- Automatic adaptation to the surface curvature and roughness
- Automatic logging of max and min values while scanning the object
- Measuring of the ultrasonic pulse velocity on a sample with known thickness
- Color, sound and vibration indication when set limits are exceeded
- USB connection to PC for data transfer
- 8 different languages selectable
- Metric and imperial units
- Signal strength indication
- Battery level indication and automatic switch off function

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## Additional Features of Zonotip+

- Smaller 2.5 MHz single-element transducer
- A-Scan mode showing waveform on display and saves images to memory
- Metal thickness measuring through surface coating (e.g. paint) in A-Scan mode

## Two different Transducers

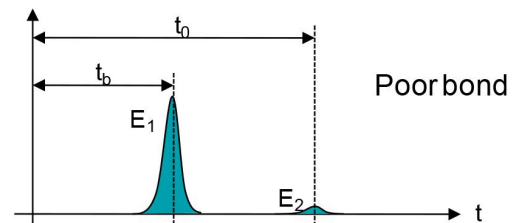
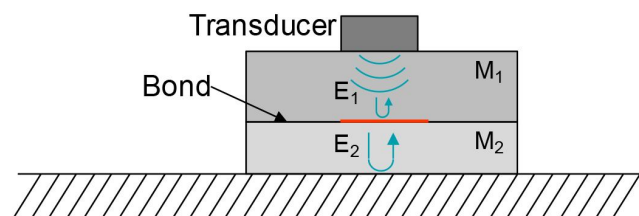
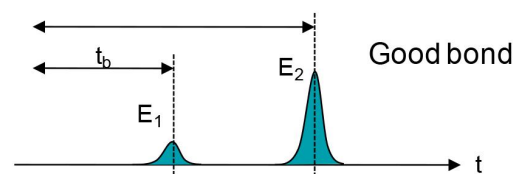
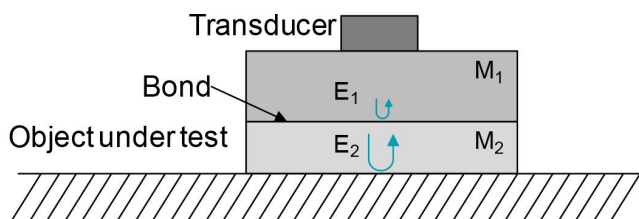


The standard 4.0 MHz **dual-element** transducer allows measuring the thickness of metals, cast iron and other materials with high ultrasound attenuation.



The 2.5 MHz **single-element** transducer is more compact, requires only one cable and is therefore more suited for measuring in confined spaces.

The **dual-element** transducer is also ideal for inspecting bonds in layered materials.



- The pulse is reflected at the bond as well as at the back side of the sample.
- Good bond: Echoes E<sub>1</sub> and E<sub>2</sub> are detected.
- Poor bond: Only echo E<sub>1</sub> is detected.

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## Three different operating modes

The instrument can operate in three different modes, either displaying the current reading as digital numbers or as real-time graphical images (A-Scan). The A-Scan feature allows ruling out false results. This helps to increase the reliability of the inspection. In addition, this mode allows to quickly detect inclusions or de-laminations and to obtain precise readings through polymeric, varnish, paint or other types of surface layers.



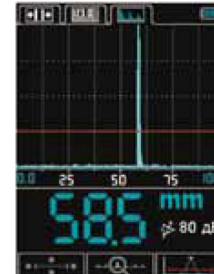
### NORM mode

For quick thickness measurements. If readings exceed preset limits, it will be indicated by optical and acoustical alarms.



### MEMORY mode

In addition to the thickness measurement, the results can be stored and organized.



### A-SCAN mode (only Zonotip\*)

The real time wave form display allows the most advanced signal analysis and an extended range of measuring applications.

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The easy-to-use Zonolink Software, included in the package, offers data download and further analysis on a PC. Communication with the computer is provided through a USB port.

## Technical Information Zonotip

Instrument		
Operating temperature	-20 °C to 50 °C (-4 °F to 122 °F)	
Humidity	up to 85% RH with a temperature of 25 °C (77 °F)	
Battery operation period	9 h	
Power	built-in LiPol accumulator	
Operation supply voltage	3.7 V	
Dimension	157 x 70x 23 mm (6.1 x 2.7 x 0.9 inch)	
Weight	250 g	
Display type	TFT	
Permissible surface roughness	R <sub>a</sub> 160 / N12 / R <sub>a</sub> = 50 µm	
Minimum curvature radius	10 mm (0.4 inch)	
Ultrasonic velocity range	from 1000 to 9999 m/s	
Data memory	100 groups each max. 500 measurements	
Interface type	USB	
Thickness resolution	< 99.99 mm: 0.01 mm	
	> 100.0 mm: 0.1 mm	
Transducer		
Type	Dual-element	Single-element (only Zonotip*)
Frequency	<b>4.0 MHz</b>	<b>2.5 MHz</b>
Measurement range (steel)	0.7 - 300 mm	0.7 - 300 mm
Diameter of ultrasonic element	16 mm (0.6 inch)	10 mm (0.4 inch)
Connector type	LEMO type 00.250	LEMO type 00.250
Size	45 x Ø23 mm (1.8 x Ø0.9 inch)	24 x Ø16 mm (0.9 x Ø0.6 inch)
Weight	23 g	16 g

## Ordering Information



**Part No.: 790 10 000**

**Zonotip** unit consisting of: Indicating device with calibration sample, transducer 4.0 MHz, transducer cable 2pol 1.2 m, couplant, battery charger with USB cable, carrying strap, data carrier with software, documentation, protective pouch, carrying case



**Part No.: 790 20 000**

**Zonotip+** unit consisting of: Indicating device with calibration sample, transducer 4.0 MHz, transducer cable 2pol 1.2 m, transducer 2.5 MHz, transducer cable 1pol 1.2 m, couplant, battery charger with USB cable, carrying strap, data carrier with software, documentation, protective pouch, carrying case

## Parts and Accessories

Part No.	Description
790 11 001	D1771 Ultrasonic Transducer 4 MHz
790 12 001	S3567 Ultrasonic Transducer 2.5 MHz
710 10 031	Ultrasound couplant, 250 ml
790 10 813	Protective Pouch for Indicating Device
790 80 001	Step Test Block (inches)
790 80 002	Step Test Block (mm)

## Standards and Regulations applied

- ASTM E 797
- EN 15317

## Service and Warranty Information

The standard warranty covers the electronic portion of the instrument for 24 month and the mechanical portion of the instrument for 6 month. An extended warranty for one, two or three years for the electronic portion of the instrument may be purchased up to 90 days of purchase.

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