

# High precision thickness gauge ensures flow accuracy

With the ultrasonic pipe wall thickness gauge from Siemens, accurate flow measurement is within reach. Simply turn on the computing unit, place the transducer gauge on the pipe and measure the thickness of any metallic or non-metallic pipes with the push of a button. Feed the flowmeter with this information and one of the key factors for accurate flow measurement has been fulfilled.



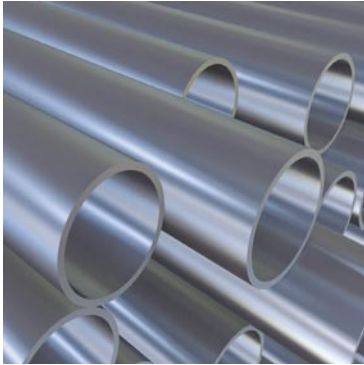
The easy-to-use digital ultrasonic pipe wall thickness gauge from Siemens is an indispensable tool in accurate clamp-on ultrasonic flow measurement. For a flowmeter to measure correctly it needs to know the exact wall thickness of the pipe it is measuring on. Since even the smallest miscalculation can have a

major effect on the flow reading, the pipe thickness gauge has to be extremely precise. This is why the standard probe operates at a 5 MHz frequency making it capable of measuring pipe thickness ranging from .03 to 7.9 inches (0.1 to 200 mm) with a very high resolution of up to 0.0004 inches (0.1 mm).

## SITRANS F

Answers for industry.

**SIEMENS**



Thickness measurement is based on the transit time ultrasonic wave propagation principle where a high frequency ultrasonic beam is shot into the pipe being measured through a probe acting as a sender and receiver of the ultrasonic signal. When the probe subsequently retrieves that same signal, an internal counter calculates the time taken for the signals to be sent and received through the pipe being measured. This value is used to evaluate the speed of sound through the pipe and consequently, the thickness of the pipe wall.

#### Designed for versatility

The hand-held micro-processor controlled gauge is designed to measure the thickness of various metallic or non-metallic pipe materials capable of acting as an

ultrasonic wave conductor. Such materials include steel, aluminum, titanium, plastics and ceramics. Measurement results are shown in either inches or millimeters; only a simple pre-calibration to a known thickness or sound velocity is required. The simple to read 4-digit LCD display featuring a basic user-friendly menu is easily navigable with only three conveniently located push buttons.

The lightweight computing unit weighs a mere 5.3 oz (150 g) making it ideal for quick and easy on-site pipe wall thickness measurement; and with two AAA alkaline batteries trouble-free operation is ensured for 250 hours. The thickness gauge can be used in any field application where there is a need for flow measurement including water and wastewater, energy measurement, and oil and gas industries.

The standard configuration of the thickness gauge includes the following items:

- The main computing unit
- A 5 MHz ultrasonic transducer
- An Integrated 0.15 inch (4 mm) steel calibration plate
- 2 x AAA dry cell batteries
- Ultrasonic couplant

#### Technical Specifications

Display Type	4-digit LCD
Display Resolution	0.001 inches (0.01 mm)
Measurement Units	Metric and Imperial
Sound Velocity Range	3,280 to 32,805 ft/s (1000 to 9999 m/s)
Operating Temperature	14 to 122 °F (-10 to 50 °C)
Update Range	4 Hz
Frequency	5 MHz
Power Source	2 X 1.5V AAA dry cells
Power Consumption	Working current is less than 3V
Battery Life	Approx. 250 hours on a set of batteries
Dimensions	2.4 w x 4.3 h x 1.1 d inches (61 w x 108 h x 28 d mm)
Weight	5.3 oz (150 g)

Siemens Energy & Automation, Inc.  
PI BU - CoC Ultrasonic Flow  
155 Plant Avenue  
Hauppauge, NY 11788  
USA

Subject to change without prior notice  
Order No.: E20001-A220-P730-X-7600  
Dispo 26100  
Printed in the USA  
© Siemens AG 2008

[www.siemens.com/automation](http://www.siemens.com/automation)

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens' AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.