

Multi-Mode Diameter Gauge For Tube And Pipe Mills

STEELMASTER SMO 310-N2-NT for Diameters / Dimensions up to approx. 310 mm (12.2 in.)

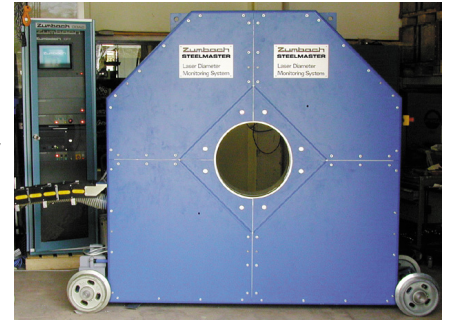
This system is specially designed for operation under tough mill conditions and other applications with tough environments. It is the result of many years experience in developing measurement solutions for the steel and metal industry. Hi-tech laser technology and a unique protection system make this system superior to ordinary optical systems in terms of accuracy and reliability under steel mill conditions.

The solution

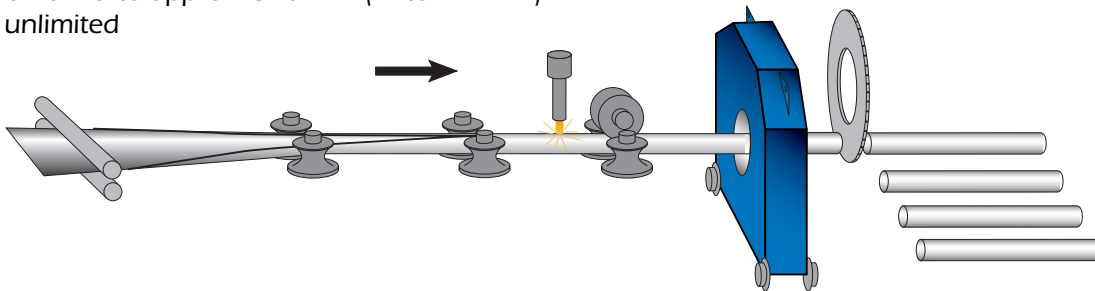
Monitoring of Diameter, Width, Height etc. on cold tube/pipe of any type. Typical solutions are in ERW welded tube mills and in NDT inspection sections of any tube/pipe mill.

For round products the diameter profile over full circumference will be captured and displayed, for non-round tubes the width, height, diagonal etc.

- Temperatures up to 65° C (149° F)
- Round, hexagonal, square rectangles etc.
- Diameters from 5 to approx. 310 mm (.4 to 12.2 in.)
- Speed = unlimited



Measuring unit with STEELMASTER system in cabinet

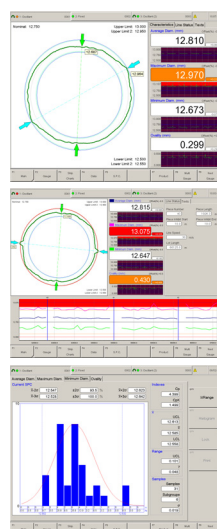


Outstanding Advantages

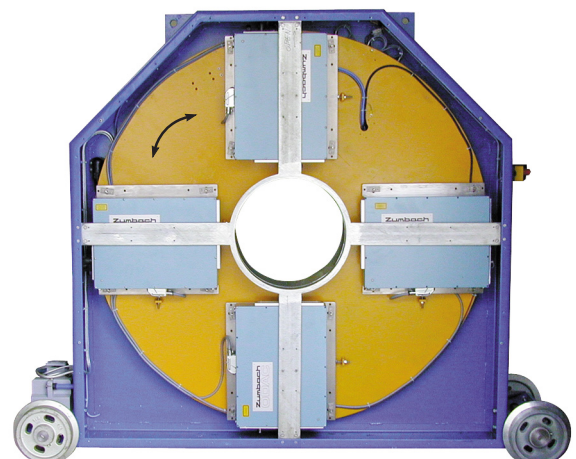
- Three measuring modes at choice:
 - A) Static mode shows evolution over 1 tube/pipe
 - B) Oscillating mode shows full section of profile
 - C) Selective oscillation over programmable angle shows critical dimensions, especially for non-round products
- Very reliable thanks to unique protection design
- Large measuring field, uncritical guiding
- Two measuring heads under 90° in same plane i.e. ovality is known any time and all diameters captured within only 90° rotation
- Double safety and backup
- Higher immunity to mill conditions than conventional systems
- Higher accuracy than conventional systems
- No wear, minimal maintenance



STEELMASTER PC system in cabinet



Typical screens



Measuring unit (open)

Standard System

Measuring Unit

A robust, welded structure ensures protection of the two laser heads against environmental influences such as dust, scale and splashes. It guarantees reliable functioning thanks to an air purging system at the apertures.

The structure is equipped with:

- Drive system for oscillation over 90°
- Sealed compartments for laser heads
- Air-purged laser aperture
- 1 connection panel for electricals, signals, air

2 Measuring Heads ODAC 310

- 1 emitter / 1 receiver for each unit
- Light source: visible laser, class II
- Principle: Laser scanner

STEELMASTER PC Data Processing and Display System comprising:

- Industrial PC
- UPS unit
- Telephone modem
- High resolution 17" color flat screen
- Built into cabinet or mounted separately if required
- RS-232 outputs for computer communication and printer
- ETHERNET network board (protocol = optional)
- Graphic section display
- Numerical data display
- Statistical screens incl. SPC
- Trend displays

Filter / Blower Unit GE 4

- For providing filtered air at high volume to purge the laser aperture
- For fixed mounting up to 10 m from measuring unit (connected by air hose)

Electronics Cabinet for STEELMASTER PC Heavy duty, 19" floor standing cabinet

- Fan unit
- Keyboard in drawer
- Space for STEELMASTER PC data and display system
- Status and alarm panel
- Power stabilization and distribution
- Space for optional printer

STEELMASTER Software

The standard screen languages are English, German, French, Spanish, Chinese. The following functions are supported:

- Pre-treatment of the readings from the measuring heads and of an angular encoder
- Suppression of both ends of each bar/rod
- Computation of diameters, height, width, diagonal, depending on the product
- Display of measurements on a selectable screen, depending product
- Min./Max. alarms
- Statistics
- Optional Software: For SPC, ETHERNET TCP/IP protocol

Options

MULTIGAUGE Extension

For the connection of up to 3 gauges to the same PC unit.

Temperature Measurement

Pyrometer, interface and software for conversion to cold values (20° C / 68° F).

Traversing System

For positioning or withdrawing the measuring unit.

Remote Repeater Screen

For mounting and operation in a harsh industrial environment, up to 150 m (490 ft.) away.

Remote Giant Display

Box with 3 groups of 4 digits for AVG, OVALITY, MIN or MAX.

STEELDATABASE Software

For archiving and viewing of the measuring data.

Main Data

| | |
|------------------------|---|
| Measuring principle | Laser scanning, 2 Lasers under 90° oscillating through 90° |
| Oscillation time | approx. 4 s / 90° |
| Laser | Visible laser, class II |
| Measuring field | 310 x 310 mm (12.2 x 12.2 in.) |
| Scanning rate | 2 x 1000 s |
| Repeatability (static) | ± 0.005 mm (.0002 in.) |
| Processor | Real time preprocessor plus industrial PC as user interface. VGA color screen |
| Data processing | Full real time presentation plus SPC statistics, control charts, data logging, computer communication |

▪ Technical specifications are subject to change without notice

Dimensions

