LASER Series 2000

Diameter measurement in new dimensions

Highest precision, reliability and continuous functionality are the outstanding features of the 2-axis and 3-axis gauge heads of the LASER Series 2000 for extruded products with a diameter from 0.05 to 500 mm.

High-quality laser technology

A high-quality laser technology with a unique non-contact and non-destructive measuring principle that inspires. For the measurement of the diameter the ideal system for quality assurance, process optimization and stability.

Your Benefits

- Extremely short exposure times
- CCD measuring technique combined with pulse-driven laser light sources
- Stand-alone data processing
- No moving parts: Free from maintenance and calibration

Specifications for LASER Series 2000 XY

With the LASER Series 2000 XY, SIKORA offers gauge heads for a precise diameter measurement in two planes. The diameter is calculated by diffraction analysis directly from the shadow image.

Power Supply:
100 – 240 V AC ± 10 %, 50/60 Hz, 30 VA

Interfaces:
RS485, RS232; optionally analog interface, Profibus-DP or Profinet IO, alternatively industrial field busses such as CANopen, EtherNet/IP, DeviceNET, OPC UA

	LASER 2005 XY	LASER 2010 XY	LASER 2030 XY	LASER 2050 XY	LASER 2100 XY	LASER 2200 XY	LASER 2300 XY	LASER 2500 XY
Product Diameter	0.05 - 5 mm	0.2 - 10 mm	0.2 - 25 mm	0.5 - 50 mm	1,0 - 100 mm	5,0 - 190 mm	50 - 300 mm	50 - 500 mm
Accuracy	± 0.25 µm	± 0.5 µm	± 1,0 µm	± 2.5 µm	± 5,0 µm	± 10 µm	± 20 µm	± 50 µm
Repeatability	± 0,1 µm	± 0.1 µm	± 0.2 µm	± 0.5 µm	± 1,0 µm	± 2,0 µm	± 4,0 µm	± 10 µm
Exposure Time	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec
Measuring Rate	1,200/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis
Dimensions (W x H x D)	140 x 140 x 63 mm	140 x 140 x 63 mm	468 x 285 x 37 mm	468 x 285 x 37 mm	714 x 633 x 55 mm	714 x 633 x 55 mm	920 x 920 x 133 mm	1520 x 1640 x 115 mm

Specifications for LASER Series 2000 T

With the LASER Series 2000 T, SIKORA offers 3-axis gauge heads for a precise diameter measurement including the minimum and maximum values. The focus is on the measurement of the ovality of extruded prodcuts. The oval is defined by 5 tangents. Accordingly, with 3 measuring axis and 6 tangents, not only the minimum and maximum value but also the orientation of the oval are determined.

Power Supply:
100 – 240 V AC ± 10 %, 50/60 Hz, 30 VA

Interfaces:
RS485, RS232; optionally analog interface, Profibus-DP or Profinet IO, alternatively industrial field busses such as CANopen, EtherNet/IP, DeviceNET, OPC UA

	LASER 2010 T	LASER 2025 T	LASER 2050 T	LASER 2100 T
Product Diameter	0.2 - 10 mm	0.2 - 25 mm	0.5 - 50 mm	1,0 - 100 mm
Accuracy	± 0.5 µm	± 1,0 µm	± 2.5 µm	± 5,0 µm
Repeatability	± 0.1 µm	± 0.2 µm	± 0.5 µm	± 1.0 µm
Exposure Time	0.2 µsec	0.2 µsec	0.2 µsec	0.2 µsec
Measuring Rate	500/sec/axis	500/sec/axis	500/sec/axis	500/sec/axis
Dimensions (W x H x D)	250 x 182 x 62.5 mm	360 x 290 x 38.5 mm	472 x 496 x 41 mm	635 x 621 x 53 mm

Specifications for LASER Series 2000 F/R

For the online measurement of double, triple or multi-wire flat cables as well as for round conductors or flat hose profiles, SIKORA offers the LASER Series 2000 F/R for a constant and precise measurement of the width and height of the measurement object respectively the diameter of round products. Fascinating are the precision of the width and height measurement as well as the measurement of flat products even if they are twisted up to ± 15 degrees.

Power Supply:
100 – 240 V AC ± 10 %, 50/60 Hz, 30 VA

Interfaces:
RS485, RS232; optionally analog interface, Profibus-DP or Profinet IO, alternatively industrial field busses such as CANopen, EtherNet/IP, DeviceNET, OPC UA

	LASER 2030 F/R	LASER 2050 F/R
Product Diameter	0.2 - 25 mm (round), 0.5 - 20 mm (flat: width), 0,25 - 10 mm (flat: thickness)	0.5 - 50 mm (round), 1,0 - 50 mm (flat: width), 0,5 - 25 mm (flat: thickness)
Accuracy	round: ± 1,0 µm profiles: ± 5,0 µm	round: ± 2,5 µm profiles: ± 10,0 µm
Exposure Time	0.2 µsec	0.2 µsec
Measuring Rate	500/sec/axis	500/sec/axis

Dimensions (W x H x D)	481 x 305 x 36 mm	481 x 350 x 36 mm

Specifications for LASER Series 2000 S/R (Wire and Cable only)

The LASER Series 2000 S/R is an intelligent technology for the measurement of the height of straight sector conductors. Even if the conductor turns up to ± 15 degrees the height is precisely defined. Fascinating is the fact that the gauge head does not need to be swiveled.

Power Supply:
100 – 240 V AC ± 10 %, 50/60 Hz, 30 VA

Interfaces:
RS485, RS232; optionally analog interface, Profibus-DP or Profinet IO, alternatively industrial field busses such as CANopen, EtherNet/IP, DeviceNET, OPC UA

	LASER 2050 S/R	LASER 2100 S/R
Product Diameter	1.0 - 35 mm (sector), 0.5 - 50 mm (round)	1.0 - 35 mm (sector), 1.0 - 100 mm (round)
Accuracy	± 20 µm (sector), ± 2.5 µm (round)	± 20 µm (sector), ± 5.0 µm (round)
Repeatability	± 4,0 µm (sector), ± 0.5 µm (round)	± 4.0 µm (sector), ± 1.0 µm (round)
Exposure Time	0.2 µsec	0.2 µsec
Measuring Rate	500/sec/axis	500/sec/axis
Dimensions (W x H x D)	435 x 385 x 41 mm	635 x 621 x 93 mm

Technical Articles

Cable Production
Classic and high-end – Online diameter control during wire and cable production