

HEIDENHAIN-SPECTO

Length Gauges with $\pm 1 \mu\text{m}$ Accuracy

- Very compact dimensions
- Splash-proof

Thanks to their very small dimensions, the HEIDENHAIN-SPECTO length gauges are the product of choice for multipoint inspection apparatus and testing equipment.

Plunger actuation

The length gauges of the **ST 12x8** and **ST 30x8** series feature a spring-tensioned plunger that is extended at rest.

In the pneumatic length gauges **ST 12x7** and **ST 30x7** the plunger is retracted to its rest position by the integral spring. It is extended to the measuring position by the application of compressed air.

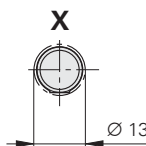
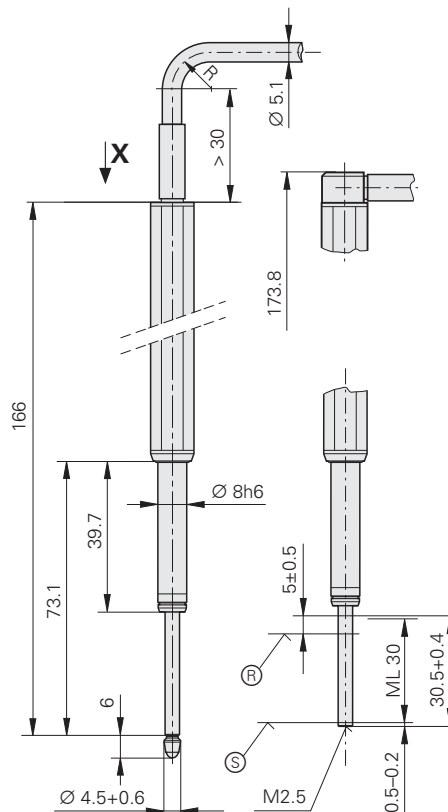
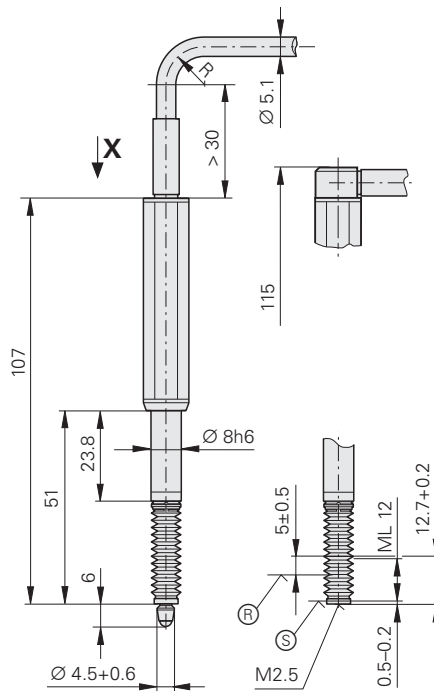
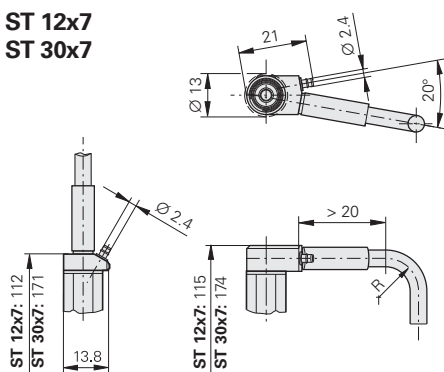
Mounting

The HEIDENHAIN-SPECTO length gauges are fastened by their 8h6 standard clamping shank.

Output signals

The HEIDENHAIN-SPECTO length gauges are available with various output signals. The **ST 128x** and **ST 308x** length gauges provide sinusoidal voltage signals with **1V_{PP}** levels, which permit high interpolation. The **ST 127x** and **ST 307x** feature integrated digitizing and interpolation electronics with 5-fold or 10-fold interpolation (as ordered) and square-wave signals in **TTL** levels.

ST 12x7
ST 30x7



Dimensions in mm



Tolerancing ISO 8015

ISO 2768 - m H

< 6 mm: ± 0.2 mm

Ⓡ = Reference mark position

Ⓢ = Beginning of measuring length

Mechanical Data

Plunger actuation

Position of plunger at rest

Measuring standard

System accuracy

Reference mark

Measuring range

Gauging force with retracting plunger¹⁾

Vertically downward

Vertically upward

Horizontal

Radial force

Operating attitude

Vibration 55 to 2000 Hz

Shock 11 ms

Protection EN 60529

Operating temperature

Fastening

Weight without cable

Electrical Data

For length gauges

Incremental signals*

Signal period

Recommended measuring step

Mech. permissible traversing speed

Edge separation a at scanning frequency*/traverse speed

100 kHz $\leq 72 \text{ m/min}^3$

50 kHz $\leq 60 \text{ m/min}$

25 kHz $\leq 30 \text{ m/min}$

Electrical connection*









Cable outlet*






Cable length

Power supply

* Please indicate when ordering

¹⁾ See also *Gauging Force—Plunger Actuation*

ST 1278  ST 1288  1 V _{PP}		ST 3078  ST 3088  1 V _{PP}		ST 1277  ST 1287  1 V _{PP}		ST 3077  ST 3087  1 V _{PP}	
By measured object Extended				Pneumatic Retracted			
DIADUR grating on glass; grating period 20 μm							
± 1 μm							
Approx. 5 mm below upper stop							
12 mm		30 mm		12 mm		30 mm	
0.6 to 2.4 N 0.4 to 2.2 N 0.5 to 2.3 N		0.6 to 1.4 N 0.4 to 1.2 N 0.5 to 1.3 N		0.4 to 3.0 N (depending on pressure and operating attitude)		0.4 to 3.0 N (depending on pressure and operating attitude)	
≤ 0.8 N (mechanically permissible)							
Any							
≤ 100 m/s ² (EN 60068-2-6) ≤ 1000 m/s ² (EN 60068-2-27)							
IP 64 (for connecting elements see <i>Connecting Elements and Cables</i>)							
10 to 40 °C; ref. temperature 20 °C							
Clamping shank Ø 8h8							
40 g		50 g		40 g		50 g	

 ST 127x ST 307x		 1 V _{PP} ST 128x ST 308x	
 x 5 4 μm	 x 10 2 μm	 1 V _{PP} 20 μm	
1 μm ²⁾	0.5 μm ²⁾	1 μm/0.5 μm	
≤ 72 m/min			
≥ 0.48 μs ≥ 0.98 μs ≥ 1.98 μs	≥ 0.23 μs ≥ 0.48 μs ≥ 0.98 μs	-	
Cable, 1.5 m, with 15-pin D-sub connector (interface electronics integrated)		Cable 1.5 m with • D-sub connector, 15-pin • M23 connector, 12 pin	
Axial or radial			
≤ 30 m with HEIDENHAIN cable			
5 V ± 10 % / < 230 mA (without load)		5 V ± 10 % / < 90 mA	

²⁾ After 4-fold evaluation
³⁾ Mechanically limited

ST 1200



ST 3000



Representante oficial de:



HEIDENHAIN

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