

LASERSCALE

BS75A-RS BS75A-R

Linear Scales

High accuracy laser scales with a low expansion coefficient that provide reliable, high-precision measuring with a resolution selectable from 0.0086 μm* and 0.1 μm (BD60)

- Comparable to a laser interferometer in accuracy and resolution.
 - Accuracy: ± (0.025 + 0.1L)/100 μm or less (BS75A/ -RS Series)
± (0.05 + 0.2L)/100 μm or less (BS75A/ -R Series)
(L=measuring length in mm)
 - Resolution: 0.0086 μm*
 - The scale glass used has an expansion coefficient of -0.7 x 10⁻⁶ °C
 - Measuring length: 30 mm to 410 mm / 1.18" to 16.14" (9 models)
 - Easy installation
 - Little affected by disturbed air and changing atmospheric pressure.
- *A resolution of 0.00028 μm is available using BD15-T detector.

Specifications

Model	BS75A	
	-30RS to -410RS	-30R to -410R
Measuring length L mm (inch)	30/60/110/160/210/260/310/360/410 (1.18/2.36/4.33/6.29/8.26/10.23/12.20/14.17/16.14)	
Overall length	L + 36 mm/ 1.4"	
Max. travel	L + 10 mm/ 0.39"	
Accuracy (at 20 °C / 68 °F)	± (0.025 + 0.1 L/100) μm	± (0.05 + 0.2 L/100) μm
Resolution	0.1 μm (with BD 60)	
Return error	0.02 μm (with 0.01 μm resolution) and 0.05 μm (with 0.05 μm resolution)	
Repeatability	0.01 μm (2 σ) (with 0.01 μm resolution) and 0.05 μm (2 σ) (with 0.05 μm resolution)	
Zero point	In the center and every 50 mm to the right and left of the center	
Zero point accuracy	± 0.1 μm	
Zero point detection	Unidirectional	
Expansion coefficient	-0.7 x 10 ⁻⁶ / °C	
Light source	Semiconductor laser	
Detection method	Diffraction grating scan	
Design	Exposed scale	
Operating temperature	10 °C to 30 °C / 50 °F to 86 °F (condensation not allowed)	
Storage temperature	-10 °C to 50 °C / 14 °F to 122 °F	
Cable length	3 m/ 9.8'	
Mass	0.44/0.44/0.45/0.46/0.47/0.48/0.49/0.50/0.51 kg (0.97/0.97/1.00/1.01/1.03/1.05/1.08/1.10/1.12 lbs)	

Dimensions

BS75A-30RS (R) ~410RS (R)

Model	L1	L2	L3	N
BS75A-30R/ RS	66/ 2.60	—	—	2
BS75A-60R/ RS	96/ 3.78	—	—	4
BS75A-110R/ RS	146/ 5.75	50/ 1.97	—	6
BS75A-160R/ RS	196/ 7.72	75/ 2.95	—	6
BS75A-210R/ RS	246/ 9.69	100/ 3.94	—	6
BS75A-260R/ RS	296/ 11.65	120/ 4.72	—	8
BS75A-310R/ RS	346/ 13.62	120/ 4.72	—	8
BS75A-360R/ RS	396/ 15.59	75/ 2.95	75/ 2.95	10
BS75A-410R/ RS	446/ 17.56	100/ 3.94	100/ 3.94	10

*The reference plates vary with the measuring length. Unit : mm/inch

