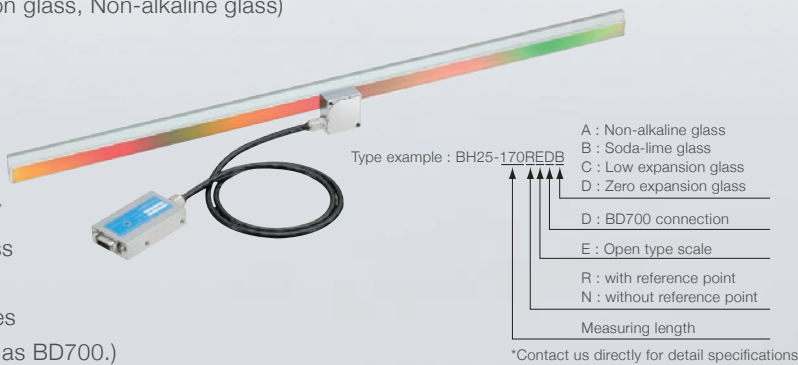


BH

BH25-RE / BH25-NE (with/without reference point)

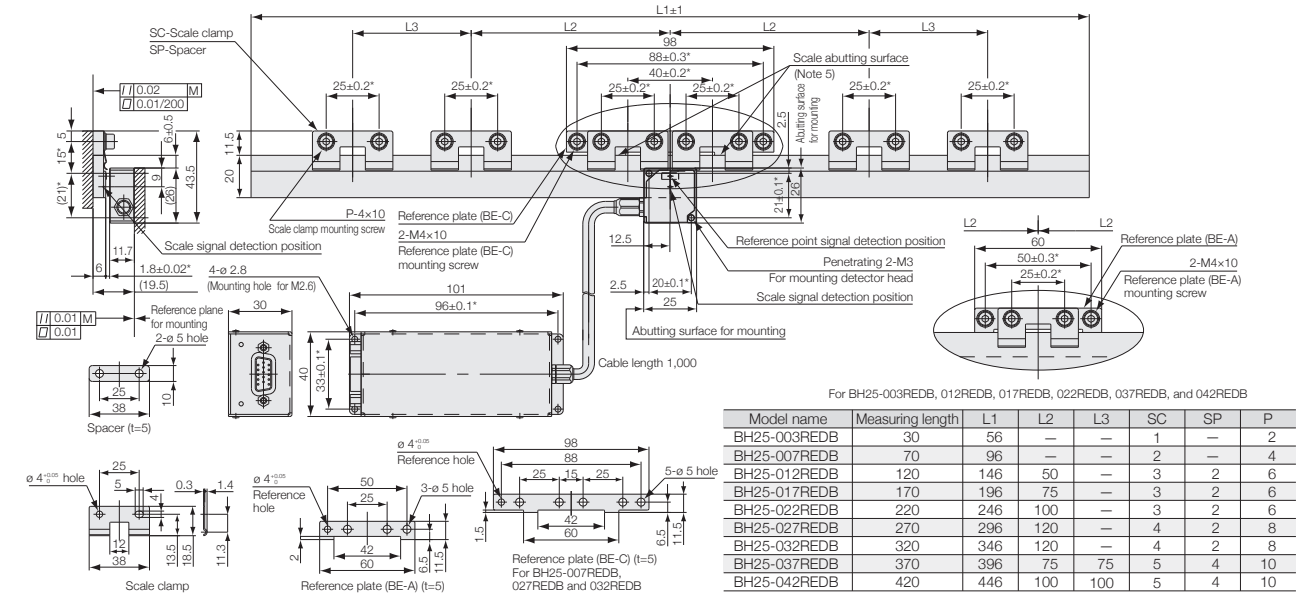
High-accuracy, reflective Laserscale with signal pitch of 250 nm
Ideal for low-profile stages, semiconductor back-end processing equipment
and precision microscopes

- Signal pitch : 250 nm
- High accuracy : $\pm 1 \mu\text{m}$ / 420 mm (Soda-lime glass, Low expansion glass)
 $\pm 5 \mu\text{m}$ / 640 mm (Zero expansion glass, Non-alkaline glass)
- High response speed : 1,800 mm/s
- Max. resolution : 3.8 μm
- Available : with/without reference point
- Completely non-contact design : Return error is theoretically eliminated.
- Scale : Soda-lime glass / Low expansion glass / Zero expansion glass / Non-alkaline glass
- Thin head with thickness of 12 mm
- Supporting various resolutions and output modes (Depending on the interpolator connected such as BD700.)
- Special vacuum-compatible models available



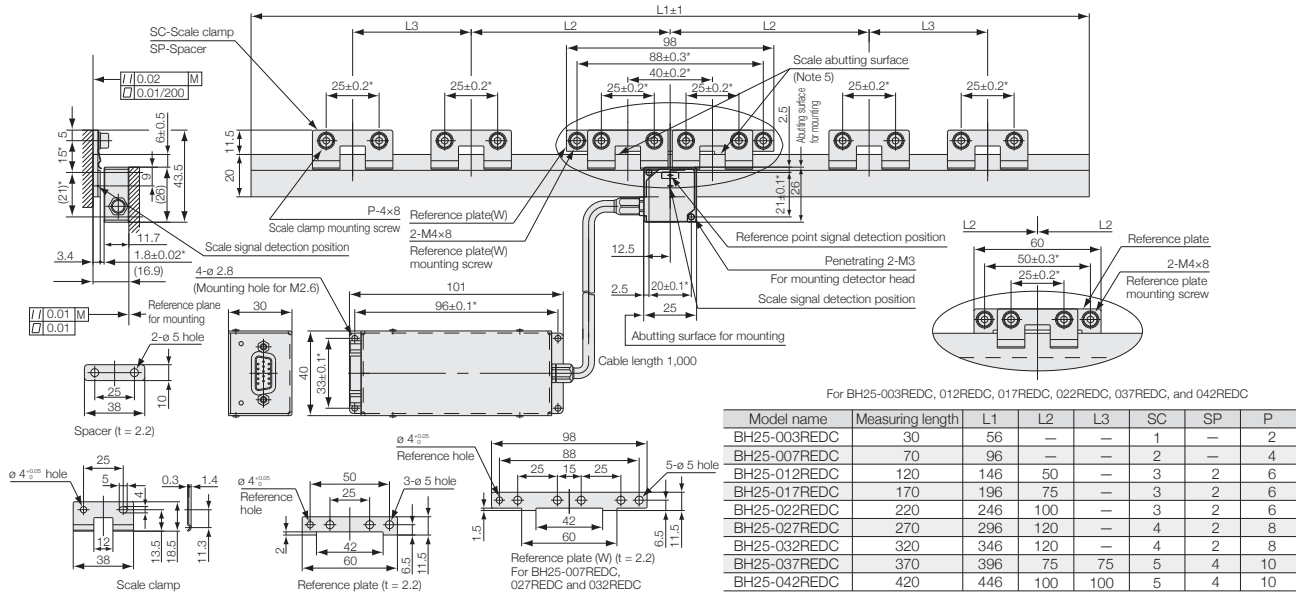
External Dimensions

● BH25-xxxREDB (Measuring length : 30/70/120/170/220/270/320/370/420 mm)



Note 1 : The items marked by an asterisk indicate the machining dimensions on the mounting surface. Note 2 : The surface properties of the scale mounting surface is $R_{\text{max}} = 6.3S$.
Note 3 : The surface properties of the detector head mounting surface is $R_{\text{max}} = 6.3S$. Note 4 : *M refers to the machine guide.
Note 5 : Mount and adjust the reference plate so that their reference surfaces have a parallelism of 0.01 or less with respect to the machine guide.

● BH25-xxxREDC (Measuring length : 30 / 70 / 120 / 170 / 220 / 270 / 320 / 370 / 420 mm)



Note 1 : The items marked by an asterisk indicate the machining dimensions on the mounting surface. Note 2 : The surface properties of the scale mounting surface is $R_{\text{max}} = 6.3S$.
Note 3 : The surface properties of the detector head mounting surface is $R_{\text{max}} = 6.3S$. Note 4 : *M refers to the machine guide.
Note 5 : Mount and adjust the reference plate so that their reference surfaces have a parallelism of 0.01 or less with respect to the machine guide.
The above is an example. Please contact us for other external dimensions.
Please contact us for the external dimensions of zero expansion glass and non-alkaline glass.

Main Specifications

Model	BH25-RED	BH25-NED
Measuring length	30/70/120/170/220/270/320/370/420 mm (Low expansion glass, Soda-lime glass) 30/70/120/170/220/270/320/370/420/470/520/570/640 (Zero expansion glass, Non-alkaline glass)	
Overall length	Measuring length +26 mm	
Max. travel	Measuring length +10 mm	
Scale accuracy (at 20°C)	$\pm 0.5 \mu\text{m}$ (30 to 170 mm) $\pm 1.0 \mu\text{m}$ (220 to 420 mm) $\pm 5.0 \mu\text{m}$ (470 to 640 mm)	
Grating pitch	1.0 μm	
Signal pitch	0.25 μm (250 nm)	
Reference point	With reference point	None
Reference point detection direction	Single direction	None
Thermal expansion coefficient	$-0.7 \times 10^{-5}/^{\circ}\text{C}$ (Low expansion glass) $8 \times 10^{-5}/^{\circ}\text{C}$ (Soda-lime glass) $0.1 \times 10^{-5}/^{\circ}\text{C}$ (Zero expansion glass) $3.7 \times 10^{-5}/^{\circ}\text{C}$ (Non-alkaline glass)	
Light source	Semiconductor laser : Wavelength 790 nm, Output 6 mW	
Detection principle	Diffraction grating scanning system	
Operating temperature	+10 to +30 °C (No condensation)	
Storage temperature	-10 to +50 °C (Humidity less than 60 %)	
Max. response speed	1,800 mm/s	
Output signal	Interpolator BD700	
Resolution	BD700 connection (Depend on the number of divisions)	

Magnescale reserves the right to change product specifications without prior notice.