

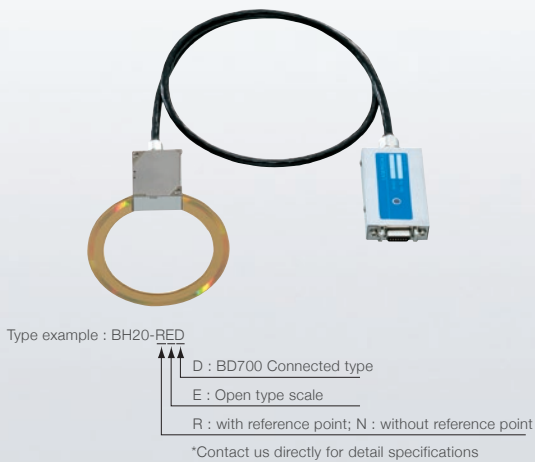
# BH

BH20-RE / BH20-NE  
(with/without reference point)

Compact, reflective rotary Laserscale featuring high accuracy, high resolution and high response speed.  
Ideal for high-resolution angle measuring in HDD manufacturing equipment, precision measuring instruments, and aspheric surface processing machines.



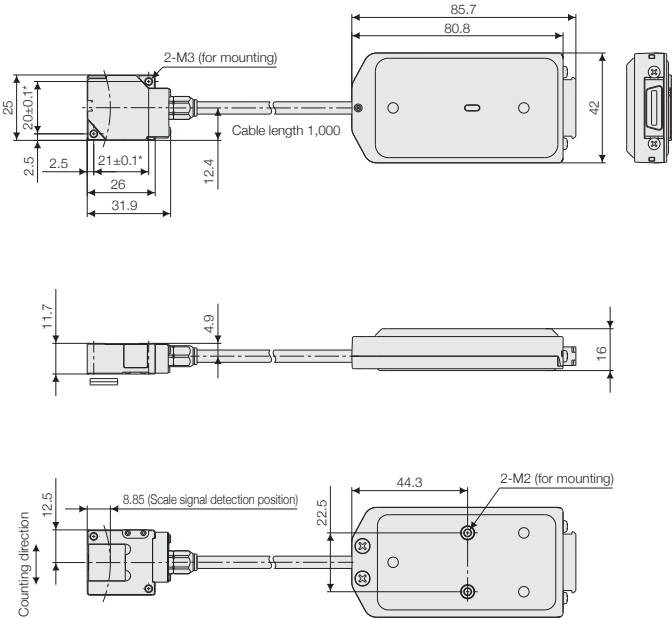
- Signal pitch : 250 nm
- High response speed : 1,800 mm/s  
411 rpm (when using r=41 mm scale)  
1,428 rpm (when using r=12 mm scale)
- High resolution : 68,719,476,736 pulses/rotation  
(when using r=41 mm scale, divisions=65,536)  
= 0.09 nrad
- Available with/without reference point
- Thin head with thickness of 12 mm
- Interpolators with various resolutions and output modes available (BD700)
- Special vacuum-compatible models available



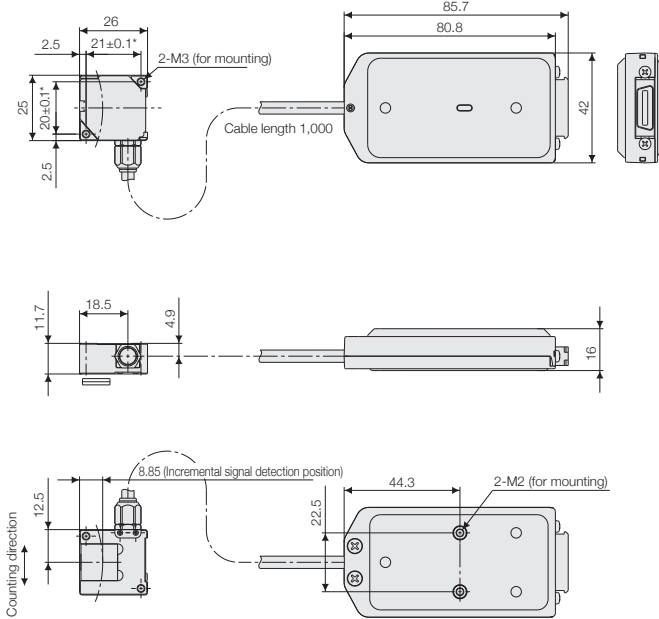
## External Dimensions

### •BH20-NED

#### Straight cable exit



#### Lateral cable exit



Note : The items marked by an asterisk indicate the machining dimensions on the mounting surface.

Unit : mm

## Main Specifications

### Detector head

Model	BH20-RED	BH20-NED
Signal pitch	250 nm	
Reference point	With reference point	None
Reference point detection direction	Single direction	None
Light source	Semiconductor laser : Wavelength 790 nm, Output 5 mW	
Detection principle	Diffraction grating scanning system	
Operating temperature	+10 to +30 °C (No condensation)	
Storage temperature	0 to +50 °C (No condensation)	
Max. response speed	1,800 mm/s	

### Signal scale (BE10)

Detection radius		6.016 mm	12.032 mm	27.073 mm	36.097 mm	41.723 mm
External form	Internal diameter	Contact us.	8.5 mm	37 mm	57 mm	68 mm
	External diameter	Contact us.	27 mm	60 mm	78 mm	89 mm
Grating pitch		1.0 μm				
Number of output pulse of one rotation		151,200	302,400	680,400	907,200	1,048,576
Max. response speed* (Note1)		2.854 rpm	1,428 rpm	634 rpm	476 rpm	411 rpm

Note 1 : When using cable length 1 m and Analog output. If the maximum cable length is 3 m, the speed will be 1 m cable 2/3.  
Note 2 : When the scale and the detector head are purchased separately, signal adjustment is required.  
Magnescale reserves the right to change product specifications without prior notice.

