● **BS78-xxxR(RS)(measuring length：40／120／170／220／370／420)**

Reference plate (for 70, 270, and 320) t=2 (0.079")

Reference plate t=2 (0.079")

Spacer t=2 (0.079")

Scale Clamp

(BS78-70R(RS)/270R(RS)/320R(RS))

Model	L1	L2	L3	N
BS78-40R (RS)	66	—	—	2
BS78-70R (RS)	96	—	—	4
BS78-120R (RS)	146	50	—	6
BS78-170R (RS)	196	75	—	6
BS78-220R (RS)	246	100	—	6
BS78-270R (RS)	296	120	—	8
BS78-320R (RS)	346	120	—	8
BS78-370R (RS)	396	75	75	10
BS78-420R (RS)	446	100	100	10
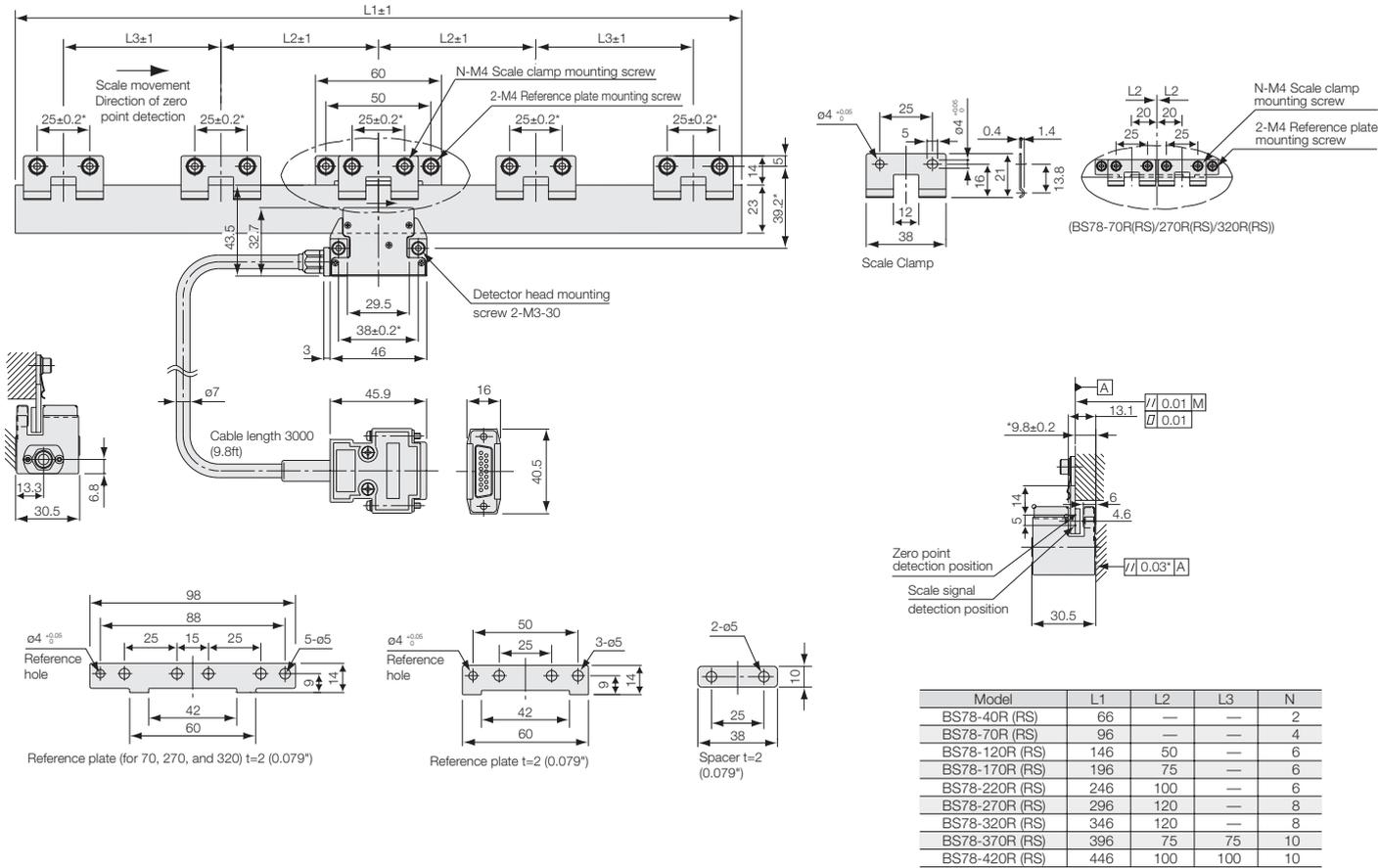
Unit: mm

Note 1: The asterisked items indicate the machining dimensions on the mounting surface. Note 2: The surface roughness of the scale mounting surface is Rmax = 6.3 S (250μ inch).
Note 3: The surface roughness of the detector head mounting surface is Rmax = 12.5 S (500μ inch). Note 4: "M" refers to the machine guide.
Note 5: Direction of zero point detection: standard (scale movement direction → with the head stationary)

Main specifications

Model	BS78	
Measuring length	10(only N/NS)/40/70/120/170/220/270/320/370/420	
Overall length	58mm / 2.28"(Measuring length 10mm/0.39") Measuring length + 26mm (Measuring length 40mm / 1.57" to 420mm / 16.53")	
Max. travel length	Measuring length + 2mm / 0.07" (Measuring length 10mm/0.39") Measuring length +10mm / 0.39" (Measuring length 40mm / 1.57" to 420mm / 16.53")	
Accuracy(at 20℃)	NS type, RS type : ± 0.03μm or less (NS type) ± 0.04μm or less ± 0.10μm or less ± 0.18μm or less ± 0.25μm or less ± 0.34μm or less ± 0.39μm or less ± 0.44μm or less	N type, R type : ± 0.06μm or less ± 0.08μm or less ± 0.20μm or less ± 0.35μm or less ± 0.50μm or less ± 0.65μm or less
Zero point accuracy	± 0.1μm (Only R/RS type)	
Zero point position	At the center, and every 50mm from the center to the left and to the right (BS78 models with measuring lengths of 320, 370, 420mm: 20mm offset from the center at 50mm intervals)	
Reference point detection direction	Single direction	
Return error	In principle, No Return error.	
Repeatability	In principle, No Return error.	
Temperature coefficient	-0.7×10^{-6}/℃	
Light source	Semiconductor laser Wavelength, 780nm, Maximum output 10nw	
Radiation power	DHHS class 1	
Detection type	Diffraction grating scan type	
Operating temperature	10℃ to 30℃ (No condensation)	
Storage temperature	-10℃ to 50℃ (Humidity 60% or less)	
Weight (kg/lbs)	0.4/0.41/0.42/0.43/0.44/0.45/0.46/0.47/0.48kg (including head)	