

RSLA absolute high accuracy stainless steel scale

System features

- Single track optical absolute scale
- 30 μm scale pitch ensures exceptional motion control performance
- Robust special composition stainless steel with defined coefficient of thermal expansion (10.8 $\mu\text{m}/\text{m}/^\circ\text{C}$)
- Coilable for simple storage and handling
- Available in defined lengths up to 5 m
- ± 40 nm sub-divisional error for smooth velocity control
- Resolution to 1 nm
- Maximum speed of 100 m/s

RSLA absolute high accuracy stainless steel scale is compatible with Renishaw's revolutionary new, true absolute optical encoder system, **RESOLUTE™**.

RSLA stainless steel scale is available in a range of lengths up to 5 m, with 5 m lengths having an overall accuracy better than ± 4 μm - an industry first! Combined with readheads featuring low sub-divisional error (± 40 nm), advanced optics, resolution to 1 nm and simple installation and setup, RSLA provides outstanding motion control performance.

RSLA offers the ease of use of a tape scale yet has the performance of a glass spar; the scale can be coiled for simple storage and handling yet behaves as a spar once uncoiled. The choice of mechanical or adhesive mounting makes RSLA perfect for long-travel applications where metrology cannot be compromised.

Data sheet

RSLA absolute high accuracy stainless steel scale

Specifications

Scale	Track	Single, absolute optical track
	Pitch	30 μm
	Form	1.5 mm \times 14.9 mm (H \times W)
	Maximum length	5 m
	Accuracy	$\pm 1.5 \mu\text{m}$ up to 1 m $\pm 2.25 \mu\text{m}$ up to 2 m $\pm 3 \mu\text{m}$ up to 3 m $\pm 4 \mu\text{m}$ up to 5 m (includes slope and linearity) @ 20 °C, calibration traceable to International Standards
	Material	Hard martensitic stainless steel
	Thermal expansion	$\sim 10.8 \mu\text{m}/\text{m}/^\circ\text{C}$
	Mounting	Epoxy datum point and adhesive tape (nominal thickness 0.2 mm) or datum clamp and mounting clips
	Mass	173 g/m
	Storage	Lengths over 1.8 m are coiled (>500 mm diameter)

Linear scale part numbers

Part number is A-9765-xxxx where xxxx is the total scale length in mm (see Actual spar length table below)

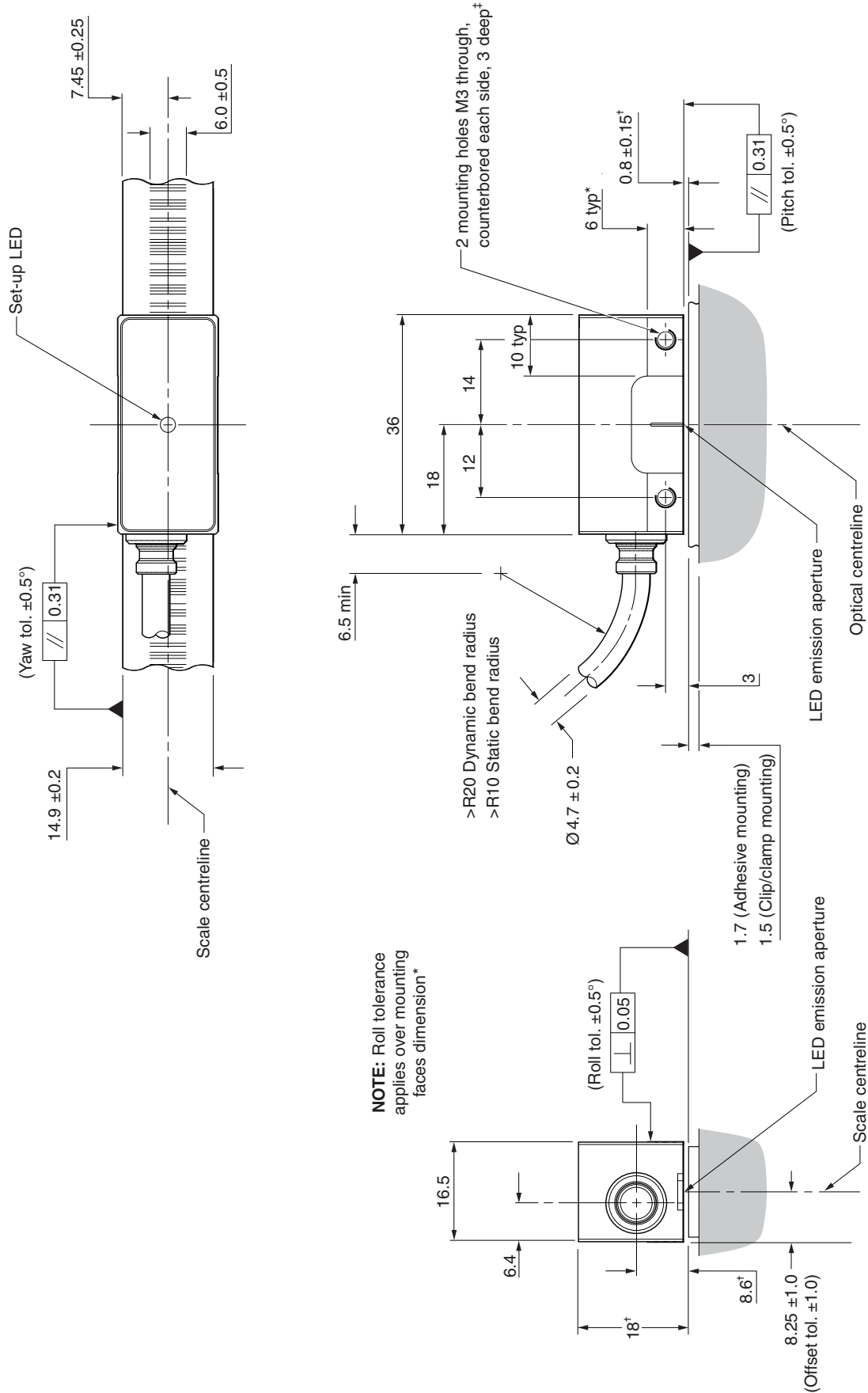
Actual spar length (mm)

0080	0680	1500	2700	3900
0130	0730	1600	2800	4000
0180	0780	1700	2900	4100
0230	0830	1800	3000	4200
0280	0880	1900	3100	4300
0330	0930	2000	3200	4400
0380	0980	2100	3300	4500
0430	1030	2200	3400	4600
0480	1130	2300	3500	4700
0530	1230	2400	3600	4800
0580	1330	2500	3700	4900
0630	1430	2600	3800	5000

For further information on installation and mounting options, please refer to the RESOLUTE installation guide (M-9553-9128), which can be downloaded from www.renishaw.com or www.renishawsupport.com

RESOLUTE installation drawing (on RSLA scale)

Dimensions and tolerances in mm



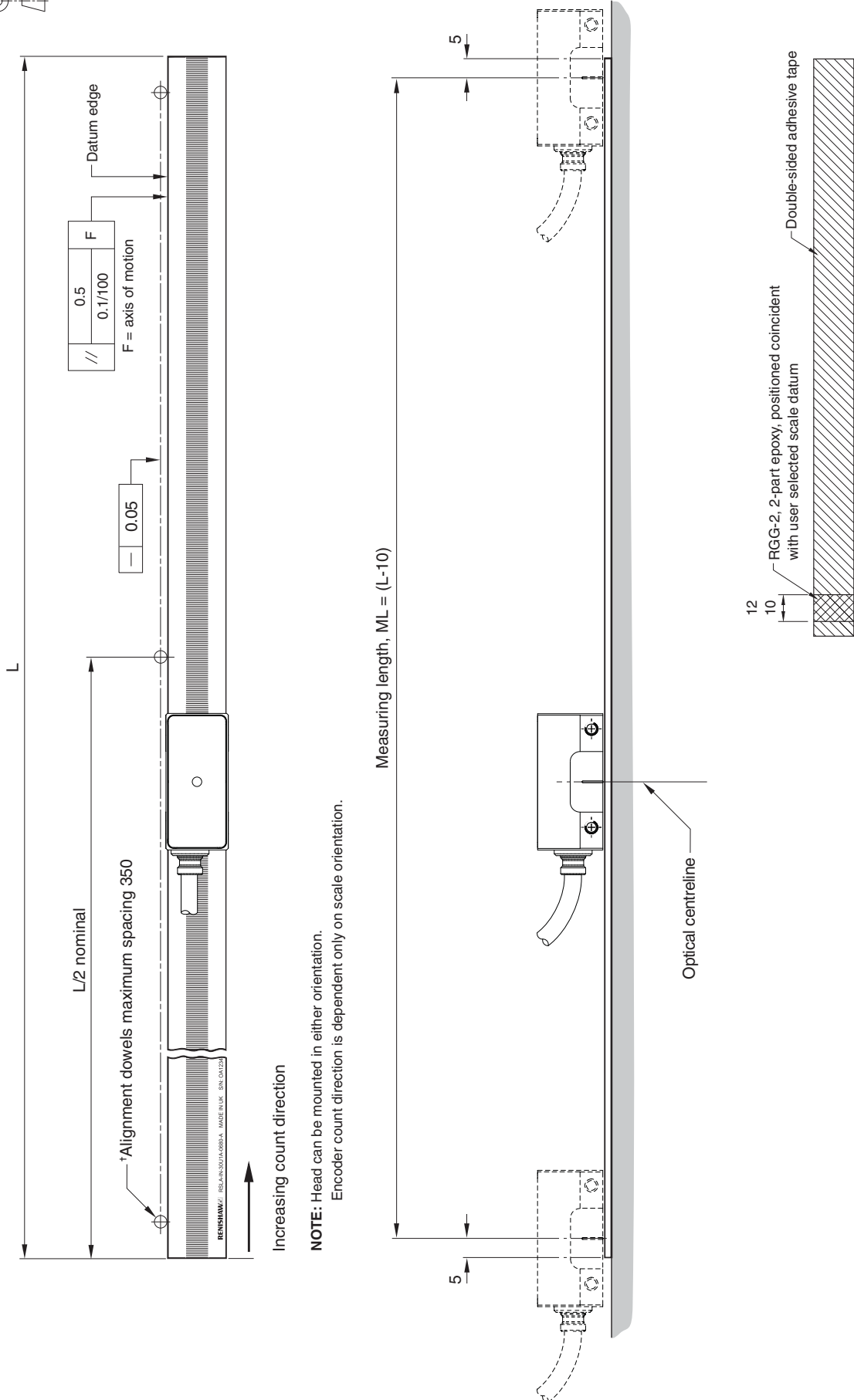
†Dimensions from scale surface. ‡Recommended thread engagement 5 min (8 mm including counterbore). Recommended tightening torque 0.5 to 1.0 Nm.

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RSLA installation drawing (adhesive mount)

Dimensions and tolerances in mm



NOTE: Head can be mounted in either orientation.
Encoder count direction is dependent only on scale orientation.

NOTE: Adhesive mounted scale should not be reused after installation.
*When scale is to be mounted vertically, position the dowels so that the datum edge is supported.

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Installation guide M-9553-9128
FANUC Data sheet L-9517-9442
BiSS Data sheet L-9517-9448
Panasonic Data sheet L-9517-9460
Mitsubishi Data sheet L-9517-9454

For worldwide contact details, please visit our main website at www.renishaw.com/contact

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