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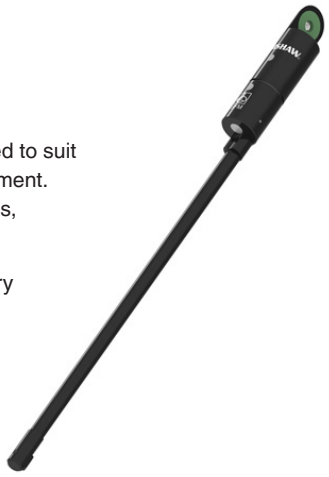
SFM-E2
Surface finish probe module

Enhanced access and inspection capability for integrated surface finish measurement

The SFP2 system consists of a probe and a range of SFM modules which have been designed to suit the demands of specific parts and features encountered in a precision manufacturing environment. The probe and modules can be automatically interchanged with all other REVO® probe options, providing the flexibility to easily select the optimum tool to inspect a wide range of features.

Each SFM module is its own miniature measuring device, incorporating Renishaw's proprietary encoder system to transduce the motion of the stylus tip.



Features

The E-series of modules use dual skids with a central stylus. This makes them ideal for short scans on small to medium sized bores which may be deep within the workpiece.

Due to the extreme length of this module, Renishaw recommends that the CMM's capability to use the SFM-E2 should be verified before full implementation.

NOTES: Not compatible with SFH-2.
Scan speeds may need to be reduced for finer finishes.

Typical applications

Automatic transmission valve bodies, minimum feature access (mm): Ø9 × 122 (max. depth).

Specification

Diamond tip radius (µm)	5
Surface finish measurement range (µm)	6.3 to 0.10 Ra
Typical surface finish accuracy (of nominal Ra) *	±(20% + 60 nm)
Skid / stylus arrangement	Stylus central to dual skids
Skid material	DLC coated stainless steel
Nominal stylus tip protrusion beyond skid (mm)	0.6
Minimum feature access (mm)	Ø9 × 122 (maximum depth)
Skid length / radius (mm)	4.6 / 40
Skid width / radius (mm)	5.0 (total) / n/a
Skid contact force (N)	0.15
Stylus contact force (N)	0.01
SFM / SFH knuckle adjustment range	±90°
Weight (g)	13
Resolution (nm)	1
Measurement speed (mm/s)	Up to 0.5
Stylus holder compatibility	SFH-1 only
Lateral scanning capability	No

* Accuracy values are dependent upon a number of system variables. These include the machine size and configuration, scan orientation, condition of stylus tip, part fixturing system and environmental noise.

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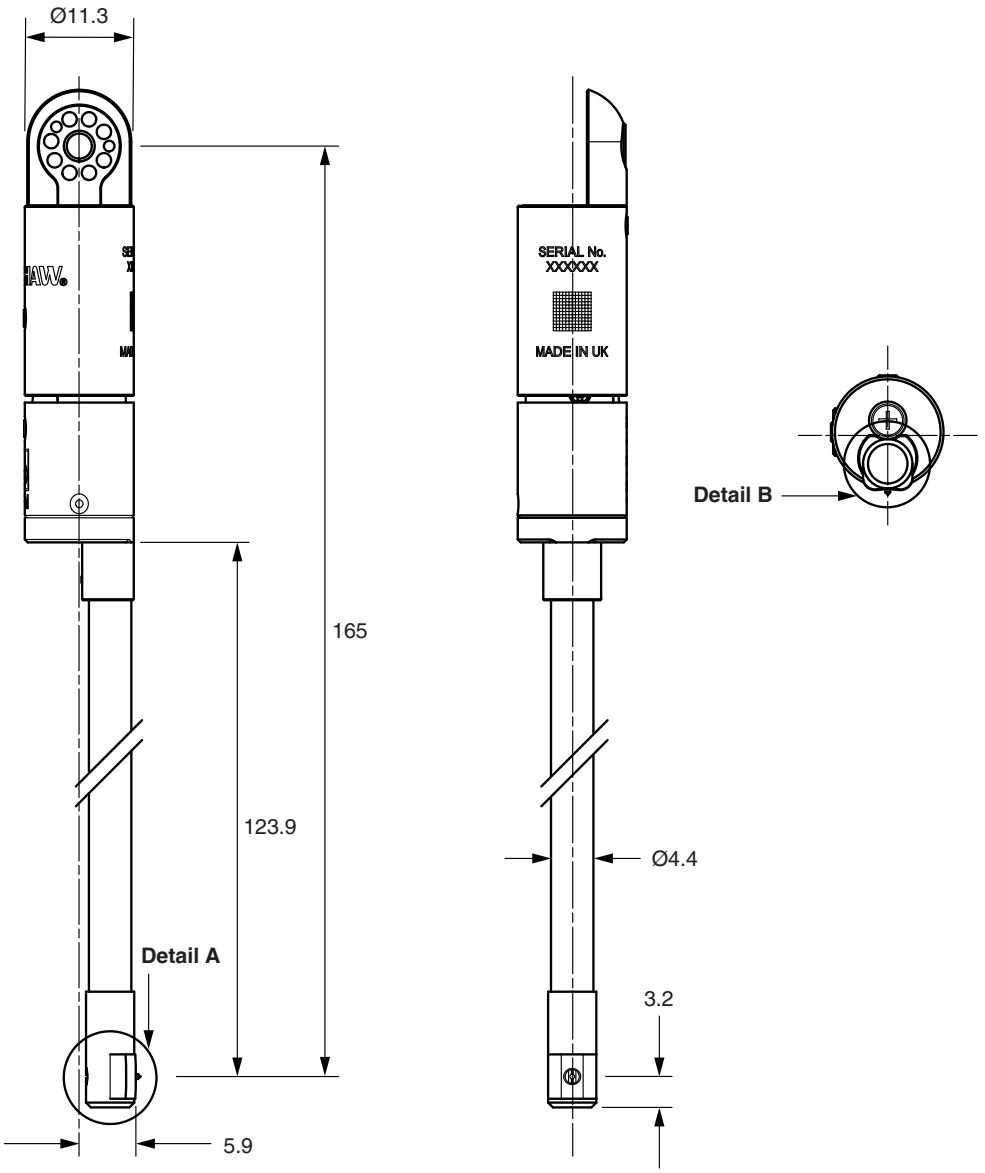
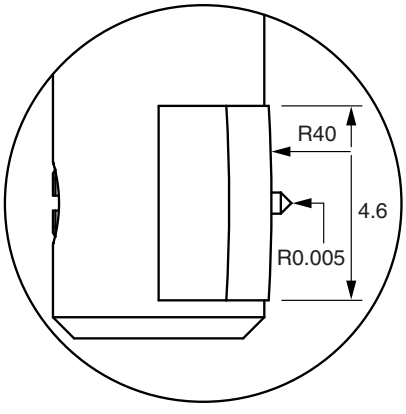
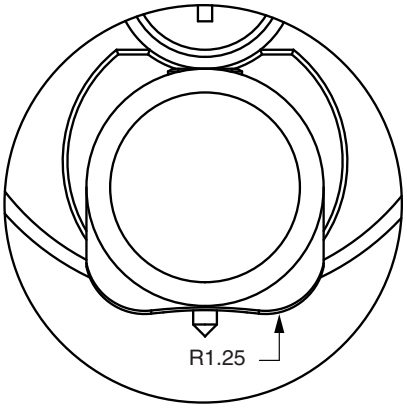
All dimensions in mm.





Detail A



Detail B

www.renishaw.com/SFP2

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