



# RENISHAW SFM-C3 Surface Finish Probe Module Installation Guide

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**RENISHAW SFM-C3 Surface Finish Probe Module**



## 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 C-series of modules have the ability to locate the stylus in small diameter bores. The skid and stylus are inline so that both travel along the axis of the bore.

The SFM-C3 is a replacement for SFM-C2, offering more stylus range and increased robustness without any degradation in performance.

## Typical applications

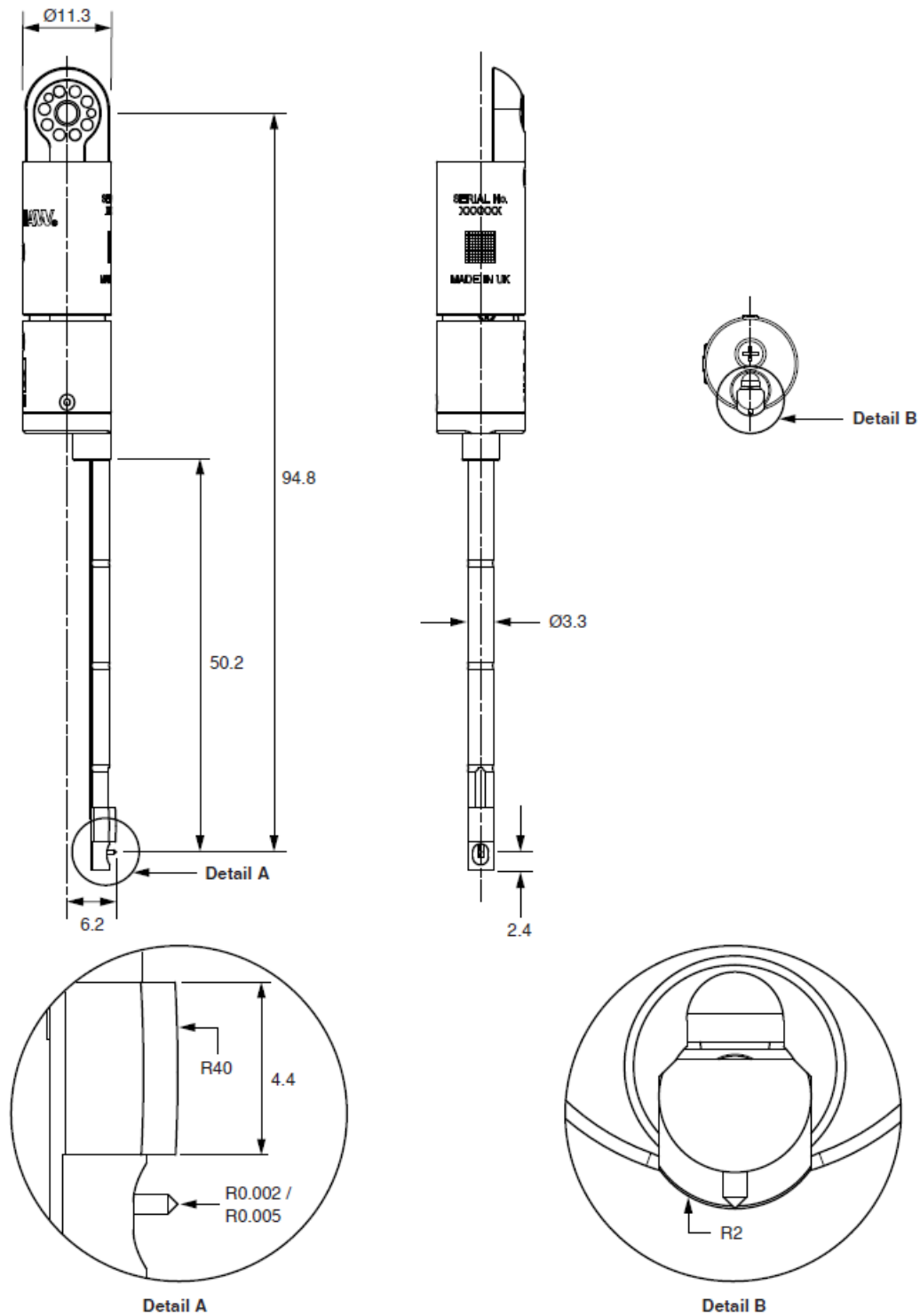
Automotive engine valve guideways.

## Specification

<b>Diamond tip radius (µm)</b>		2 or 5
<b>Surface finish measurement range (µm)</b>	<b>2 µm modules</b>	6.3 to 0.05 Ra
	<b>5 µm modules</b>	6.3 to 0.10 Ra
<b>Typical surface finish accuracy (of nominal Ra) *</b>		±(10% + 35 nm)
<b>Skid / stylus arrangement</b>		In-line (stylus lagging skid)
<b>Skid material</b>		DLC coated stainless steel
<b>Nominal stylus tip protrusion beyond skid (mm)</b>		0.5
<b>Minimum feature access (mm)</b>		Ø5 × 50
<b>Skid length / radius (mm)</b>		4.4 / 40
<b>Skid width / radius (mm)</b>		3.3 / 2
<b>Skid contact force (N)</b>		0.15
<b>Stylus contact force (N)</b>		0.003
<b>SFM / SFH knuckle adjustment range</b>		±90°
<b>Weight (g)</b>		12
<b>Resolution (nm)</b>		1
<b>Measurement speed (mm/s)</b>		Up to 1
<b>Stylus holder compatibility</b>		SFH-1 only
<b>Lateral scanning capability</b>		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.

**All dimensions in mm**



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## Documents / Resources

	<a href="#">RENISHAW SFM-C3 Surface Finish Probe Module</a> [pdf] Installation Guide SFM-C3, Surface Finish Probe Module, SFM-C3 Surface Finish Probe Module
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## References

-  [SFP2 surface finish probe for the REVOÂ® system](#)