

# Calibration and capability artefacts for SFP2 surface finish probe

## Surface finish on CMMs

Surface finish measurement has traditionally involved the use of hand-held sensors or has required the part to be moved onto a costly dedicated measuring machine.

The SFP2 probe for the REVO® 5-axis system changes all this, making surface finish inspection an integral part of CMM measurement, enabling the automatic switching between scanning, optical non-contact and surface finish measurement probe types.

This unique capability allows the surface finish analysis to be fully integrated into a single measurement report.

## Calibration and capability artefacts

Renishaw provides a range of products that support the use of REVO SFP2 surface finish measurement probes on CMMs.

The artefact plates are used for calibrating surface finish modules, independently verifying the calibration, checking linearity and tip condition monitoring.

Additionally, Renishaw's condition checking artefact can be used to position optical flats and calibration plates throughout the CMM volume. This may be useful in assessing a machine's capability for surface roughness measurement.

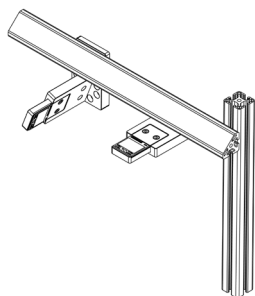
The TFP tip find probe comprises a TP20 probe with low force module. It is used to map the SFP2 probe C-axis and calibrate the geometry of module / holder configurations.

## Key benefits

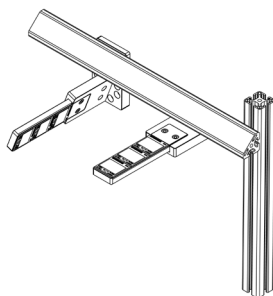
- \* Comprehensive range of tools to support surface finish measurement on CMMs
- \* Calibration of the full range of surface finish modules
- \* Independent linearity and calibration verification plus tip condition monitoring
- \* Machine capability testing and fault finding



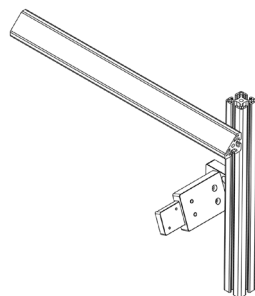
Single artefact on MRS2 rail



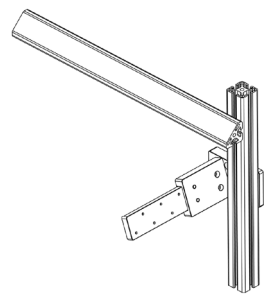
Triple artefact on MRS2 rail



Single artefact on MRS2 leg



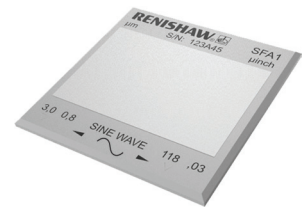
Triple artefact on MRS2 leg



## Specification

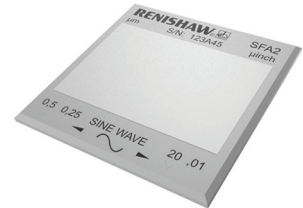
### Calibration plate SFA1 \*

<b>Function</b>	Used for calibrating SFM surface finish modules.
<b>Surface details</b>	3.0 µm Ra sinusoidal profile. Electroformed nickel surface.
<b>Traceability</b>	UKAS calibration certificate provided.



### Checking plate SFA2 \*

<b>Function</b>	Used for checking calibration linearity.
<b>Surface details</b>	0.5 µm Ra sinusoidal profile. Electroformed nickel surface.
<b>Traceability</b>	UKAS calibration certificate provided.



### Verification plate SFA3 \*

<b>Function</b>	Used for periodic tip condition checking.
<b>Surface details</b>	0.4 µm Ra saw tooth profile. Electroformed nickel surface.
<b>Traceability</b>	UKAS calibration certificate provided.



### CMM condition checking artefact OFA \*\*

<b>Function</b>	A service tool for verifying machine capability and fault finding. It houses six optical flats located within a cube and has mounting holes for additional calibration and checking artefacts.
<b>Surface details</b>	λ/20 fused silica optical flat Diameter 50 mm
<b>Traceability</b>	Optical flats are supplied with calibration certificates.





#### Location options:

- \* SFA1, SFA2 and SFA3 can be fixed to an MRS2 rail, MRS2 leg or the OFA artefact. These artefacts and mounts can be supplied within comprehensive system kits or individually.
- \*\* OFA can be mounted directly to the bed of a CMM, to a fixture plate or to a universal calibration tower. The OFA is available to special order only. Contact Renishaw for availability.

[www.renishaw.com/SFP2](http://www.renishaw.com/SFP2)

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