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SFP2 surface finish probe

Enhanced access and inspection capability for integrated surface finish measurement

The SFP2 probe increases the surface finish measurement ability of the REVO® system, which offers multi-sensor capability providing touch-trigger, high speed tactile scanning and non-contact vision measurement on a single CMM.

Powered by 5-axis measurement technology, the SFP2's automated surface finish inspection offers significant time savings, reduced part handling and greater return on CMM investment.

The SFP2 system consists of a probe and a range of modules and is automatically interchangeable with all other probe options available for REVO, providing the flexibility to easily select the optimum tool to inspect a wide range of features, all on one CMM platform. Data from multiple sensors is automatically referenced to a common datum.

The surface finish system is managed by the same I++ DME compliant interface as the REVO system, and full user functionality is provided by Renishaw's MODUS metrology software.

Key benefits

Unrivalled feature access

SFP2 benefits from REVO's infinite positioning and 5-axis movement, and features an integral motorised C-axis. The SFM variants offer a range of tip arrangements which, combined with the knuckle joint between module and holder, provide access to the features most difficult to reach.

Operator independent data collection

CMM programs can now include automated and operator-independent surface finish measurement. All results, including surface finish data, are recorded and stored in a single location for easy retrieval.

Greater return on investment in CMMs

Integrated surface finish and dimensional inspection can remove the need for dedicated surface measurement equipment, reducing factory footprint, part handling and associated costs.

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Specification

SFM-A1 and SFM-A2 modules		
Surface finish range	0.05 - 6.3 µm Ra	
Surface finish accuracy (of nominal Ra)	± (5% +15 nm)	
Surface forces (nominal)	Skid:	0.2 N
	Stylus tip:	0.003 N
Encoder resolution	1 nm	
Nominal stylus tip protrusion beyond skid	0.5 mm	
Measurement speed	Up to 1 mm/s	
SFM range of adjustment	± 90° at the knuckle joint	

SFP2 probe		
C-axis positioning accuracy	± 0.25°	
C-axis rotation speed	Up to 90°/sec	
Rotational capability	A-axis (from REVO-2):	+120° / -110°
	B-axis (from REVO-2):	Infinite positioning
	C-axis:	± 180˚
Mounting (probe and holder)	Magnetised coupling	

System fefatures		
Probe head	REVO-2 only	
Change rack	MRS2 recommended for full capability	
Software compatibility	UCCsuite 5.2 onwards MODUS 1.8 onwards	
Weight	SFP2 probe:	330 g
	SFH1 holder:	33 g
	SFM-A1 module:	12 g
	SFM-A2 module:	12 g
Operating temperature range	+10 ˚C to +40 ˚C	
Storage temperature range	-25 ˚C to +70 ˚C	
Operating humidity	0% to 80% (non-condensing)	
Calibration and verification artifacts	SFA1:	3.0 µm Ra sinusoid
	SFA2:	0.5 µm Ra sinusoid
	SFA3:	0.4 µm Ra sawtooth
	TFP:	Uses LF TP20 module; PICS interface to SPA3 amplifier
Outputs	MODUS basic:	Ra, Rms(Rq)
	MODUS standard surface texture:	Rt, R3z, Rz, Rz1max, RzDIN, RzJIS, Rseg Rp, Rv Rpm, Rvm, Rc, Rsm
	MODUS advanced surface texture:	Rk, Rpk, Rvk, Rmr, Rmr1, Rmr2, Rpq, Rvq, Rmq, Rvoid, Rvdd, Rvddl, Rcvx, Rcvxl
Sampling rate	4 kHz	

www.renishaw.com/SFP2

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