ADCOLE 1000

TACTILE SURFACE ROUGHNESS GAGE

The Adcole Model 1000 is a high precision surface roughness measurement gage engineered to inspect camshafts, crankshafts and other precise cylindrical components. This horizontally loaded gage offers very fast surface measurement times, and delivers extremely accurate part measurement data.

Featuring tactile, stylus-based measurements, the gage is a comprehensive quality inspection solution. The Model 1000 includes a rugged, self-standing horizontal granite surface plate with affixed headstock, tailstock and carriage.

Features

- Gage uses commonly available stylus tip sizes: 2 µm, 5 µm, or 10 µm radius diamond tipped, ruby skidded probes, or through skid probe types in 2 µm and 5 tip µm radii
- Automated, push-of-a-button gage provides high density part data – 2,000 data points per mm
- Model 1000 sits on isolator mounts to eliminate vibration
- Self-contained, sealed and air-conditioned operator console is available for both shop floor and lab environments
- Windows-based interface affords flexibility and compatibility

Benefits

- Fast cycle times for improved part inspection throughput
- Statistical data can be maintained for process control, or forwarded to centralized SPC data collection point
- Stylus tips are calibrated and verified using a multi-patch master
- Simple menu-driven utility programs for making changes or setting up a new part
- Easy-to-use operator interface and software

THE MODEL 1000 IS IDEAL FOR MEASURING FEATURES ON:

- Camshafts
- Crankshafts
- Gears & Transmission Shafts
- Precision Hydraulic Cylinders
- Balance Shafts
- Eccentric Shafts
- Robotic Shafts & Cylinders
- Pump Lobes / Pump Shafts

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Model 1000 Gage Specifications

Accuracy Specifications			
Vertical Resolution	<1 nm		
Range	40 µm		
Lateral Resolution	0.5 µm		
Vertical Resolution	<1 nm		
Overall Error	<10% of typical industry part tolerance		
General Specifications			
Axis of Rotation	Horizontal		
Swing Diameter	170mm (6.7”)		
Part Length Max.[ii]	915mm (36”)		
Part Weight Max.	100 kg (222 lb)		
Rotational Speed	1 to 20 rpm		
Measuring Speed	1mm/s (adjustable)		
Technical Specifications			
Tip Radius	2, 5 or 10 micrometers	Evaluation Length	4 mm (adjustable)
Stylus Force	0.7mN to 1 mN selectable	Filter	2CR, Gaussian, Robust Gaussian
Stylus Lift-off	Automatic / Programmable	Probe Types	2 µm, 5 µm, 10 µm radius diamond tipped, ruby skidded inductive probes. 2 µm, 5 µm radius through skid probe types
Cut-off Value	0.08 to 8.0 mm (0.003” to 0.3”) configurable		
Base Gage Dimensions			
Gage Height	1,575mm (62”)		
Gage Width	762mm (30”)		
Gage Depth	1,321mm (52”)		
Gage Weight	2,495 kg (5,500 lb)		

Gage Capacities

Features Measured	Roughness Parameters (Tactile)		
Main bearing journals	Ra	Rpm	MR1
Pin journal sidewalls	Rp	RzDIN	MR2
Post and flange diameters	Tp (Rmr)	Rp/Rt	R3z
Rod journals	Rsk	Rk	RzJIS
Thrust faces	Htp-1/2/3/4/5/6 (Rdc)	Rpk	
Camshaft journals and lobes	Rt	Rvk	

Gage Support

Adcole machine support is provided by a factory trained field service team that is backed by more than 60 years of industry experience and ISO 9000 certification. Machine and application support, machine retrofit and upgrade services, plus part inspection and gage recertification services are offered to our global customer base. Adcole‘s support regions include Japan, Korea, China, Brazil, Mexico, India, Europe and North America. Regular and after hours email and phone support is available 8am-11pm EST.

i Max. part length is approximate. Actual length is dependent on center tooling style, part center hole configuration, amount of TS travel needed to clear customer part, etc.

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