ADCOLE
TRUSTED ACCURACY

www.adcole.com

1100-S High-Performance Vertical CCMM*

MODEL 1100-S

The Adcole 1100-S automated measurement solution

The 1100-S provides radial accuracies of ± 0.5 µm

The Adcole Model 1100-S gage is engineered to provide advanced manufacturers with an accurate and reliable gage for production floor or metrology laboratory use. Engineered with the same exacting standards built into every one of Adcole's "Trusted Accuracy" gage models, the 1100-S helps organizations improve part quality, reduce scrap, and increase manufacturing efficiency at a lower price-point.

The Model 1100-S is ideal for measuring challenging features on:

- Crankshafts
- Camshafts
- Electric vehicle rotor shafts
- Eccentric shafts
- Transmission output shafts
- Other cylindrical parts

Features:

- Fully automated push-of-a-button metrology solution
- Length capacities of up to 900mm on the 1M version, and 1500mm on the 1.5M version
- Operates with a high-precision linear glass scale encoder for optimal follower position tracking
- Collects 3,600 data points per revolution (every 1/10 of a degree), particularly useful in complex harmonics and chatter analysis
- Small gage footprint saves valuable production floor space
- Exceptionally durable and precise mechanical ball bearing spindle
- Accommodates a wide range of part lengths with an adjustable tailstock
- Optional enclosed measuring chamber with interlocked, easy-swing door ensuring a safe and clean gage measurement environment
- Includes diagnostic routines for improved ease-of-use
- Optional bar code scanner for part identification capabilities
- Available with either tambour-top or sealed industrial control cabinet

Benefits:

- Glass scale linear encoder-based design offers submicron radial accuracy (±0.5 µm)
- Offers fast cycle times and rapid part evaluation
- Rugged and adaptable design that accepts optional expanded measurement capabilities such as Camtracker and the DiaMetric™ Follower System
- Reduces labor and material costs with superior gage accuracy and reliability
- Ball bearing spindle provides air bearing runout performance in a maintenance-free, high-load capacity design (up to 225kg/500 lbs)
- Optional Program Builder and 3D Color Map software data analysis provides reporting, including part summary, part programming, inspection packages, dimensions, and calculated values for elements
- Improves measurement repeatability by reducing or eliminating operator error with one button testing, concise pass/fail inspection reports, and more
- Provides numerical and graphical representation
- Enables manufacturers to measure multiple part types and complex geometries using a flexible gage platform

*CCMM = Cylindrical Coordinate Measuring Machine

1100-S Gage Specifications

	Parameter	1100-S (1M)	1100-S (1.5M)
Gage Accuracy Specifications	Radial Accuracy[1]	± 0.5 µm (± 20 µin)	± 0.5 µm (± 20 µin)
	Radial Resolution	0.016 µm (0.6 µin)	0.016 µm (0.6 µin)
	Diametric Accuracy[1,2,3]	± 1 µm (± 40 µin)	± 1 µm (± 40 µin)
	Angular Accuracy	< 1 arc second (< 0.0003°)	< 1 arc second (< 0.0003°)
	Angular Resolution	< 0.036 arc second (< 0.00001°)	< 0.036 arc second (< 0.00001°)
	Spindle Total Runout	< 0.1 µm (< 3.9 µin)	< 0.1 µm (< 3.9 µin)
	Linear Straightness[1]	1 µm / 100 mm (40 µin / 3.94")	1 µm / 100 mm (40 µin / 3.94")
	Axial Accuracy[1]	± 2 µm / 100 mm (± 80 µin / 3.94")	± 2 µm / 100 mm (± 80 µin / 3.94")
	Axial Resolution	0.1 µm (3.9 µin)	0.1 µm (3.9 µin)
General Specifications	Axis of Rotation	Vertical	Vertical
	Follower Slide Stroke	190 mm (7.5")	190 mm (7.5")
	Follower Width (Max)	171.5 mm (6.75")	171.5 mm (6.75")
	Swing Diameter	300 mm (11.8")	300 mm (11.8")
	Part Length (Max)	900 mm (35.4")	1500 mm (59.1")
	Part Weight (Max)	225 KG (500 LB)	225 KG (500 LB)
	Headstock Rotational Speed	1 to 30 RPM (Max 40 RPM)	1 to 30 RPM (Max 40 RPM)
	Carriage Traverse Speed	4570 mm/min (180"/min)	4570 mm/min (180"/min)
Main Gage Dimensions **(Excluding any Peripheral Cabinets)**	Gage Height	2425 mm (95.5")	2934 mm (115.5")
	Gage Width	1087 mm (42.8")	1087 mm (42.8")
	Gage Depth	1264 mm (49.8")	1264 mm (49.8")
	Gage Weight	2676 KG (5,900 LB)	3330 KG (7,340 LB)

Measured Crankshaft Parameters		Measured Camshaft Parameters	
• Center Deviation (hourglass/barrel) • FFT Chatter • Concentricity • Length • Diameter (LSC, 2-Point Max/Min) • Perpendicularity • Parallelism • Roundness (LSC,MIC,MCC,MZC)	• Runout (axial, radial) • Straightness • Taper • Coaxiality • Cylindricity • Eccentricity • Index Angle • Radius • Throw • Stroke	• Center Deviation (hourglass/barrel) • Concentricity • Cylindricity • Diameter (LSC, 2-Point Max/Min) • FFT Chatter • Length • Lobe Angle • Lobe Lift • Lobe Velocity	• Lobing • Parallelism • Radius • Roundness (LSC, MIC, MCC, MZC) • Runout (axial, radial) • Straightness • Taper

Adcole Machine Support

Adcole machine support is provided by a factory trained field service team that is backed by 50 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.

[1] Temperature 20±1 C°, Relative Humidity 40%-60%, Pressure 86KPa-10KPa

[2] 2 Gage Performance Based on 10% of typical industry part tolerance or 2 µm if tolerance less than 20 µm

[3] Gage R&R Acceptance Criteria based on a data distribution of 4σ (95%)

669 Forest Street, Marlborough, MA 01752 USA

Tel: 508.485.9100 | Email: info@adcole.com | www.adcole.com