

KASON 9182CNC Coordinate Measuring Machine

KASONTTEST®



I Summary

Machine

This series coordinate measuring machine combines single-point probing and analog scanning in a single high performance measuring machine also can equipped with contact and non-contact probe system. Based on the new generation of controller combines and optimizes temperature and accuracy compensation systems and advanced algorithms to support high-speed, high- accuracy analog open and closed loop scanning.

Design Characteristics

- Granite fixed worktable, all three axes are made of high performance granite, good temperature characteristic, has the same coefficient of thermal expansion.
- Granite worktable with integral "dovetail" guide in X axis, eliminate the pitch and yaw, also provides superior motion stability.
- Z axis air-balance with self-protection, improve motion capability.
- High precise, rigid, and pre-loaded air bearings on all axes, can ensure the guidance never be damped
- RENISHAW steel scale
- Famous parts from all over the world are used in every important sub systems

II Technical Description

Machine

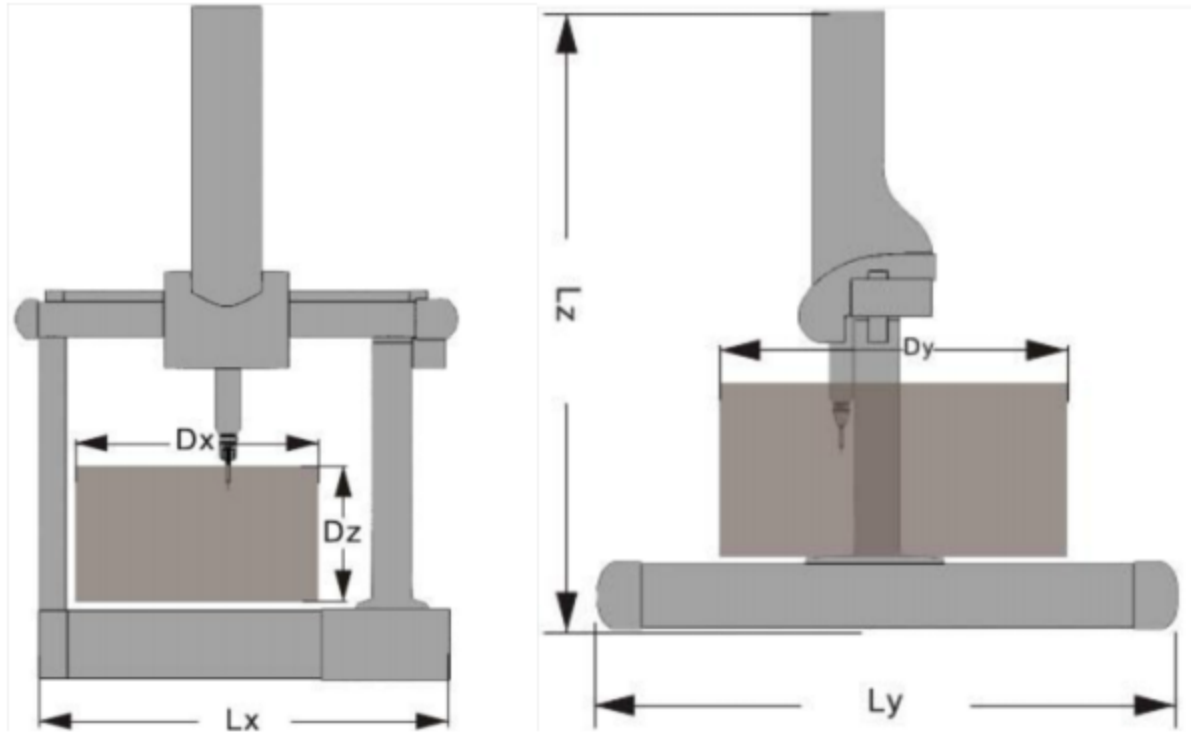
Coordinate Measuring Machine (CMM)

- High performance granite fixed worktable and all three axes are made in TAIWAN.
- RENISHAW scale and readhead, Resloution: 0.5um
- Pneumatic system made
- Pricing filter
- Full screen and high soft cable towline

Specification:

Model	KASON 9128
Resloution(um)	0.5
Indication Error(um)*	2.3+3.3L/1000
Measurement Error(um) *	2.3
Measuring Range (Dx*Dy*Dz, mm)	900*1200*800
Load Capacity(kg)	1500
Dimension(Lx*Ly*Lz,mm)	1692*2289*3026
Weight(kg)	approx. 2240kg

* All data tested according to Standard DIN EN ISO 10360-2.



Computer System

DELL™ Computer

- CPU: Dual-Core \geq 2.5G Hz
- OS: Windows 10/11 Pro.
- RAM: \geq 8GB
- Hard Disk: \geq 1TB
- Graphic Card: Integrated one
- Graphic Database: OPENGL
- Monitor: DELL™ \geq 21.5' ' LCD Monitor

Probe System

- (1) Renishaw™ PH10M/MH20i probe head with TP20 probe system from U.K.
- (2) Renishaw™ Probe Styli Kit from U.K.
. 1.2.3.4MM STYLI KIT
- (3) Automatic Rack changer system, SCR 200 kit-6 ports SCR200 stylus changing rack-1x TP20 STD force modules.

Software System

PH10M or MH20i probe head

Highly repeatable, UK made, index able probe head PH10M

Characteristics:

Model	PH10M(auto)	MH20i(manual)
• Index able A axis (Pitch)	from +90°to - 115°, 7.5°step	from +90°to - 115°, 15°step
• Index able B axis (Roll)	± 180°, 7.5°step	± 180°, 15°step
• Total number of positions	720	720
• Position Repeatability	0.5 μm	0.5 μm
• Extension Rods	Max. 300 mm	Max. 300 mm

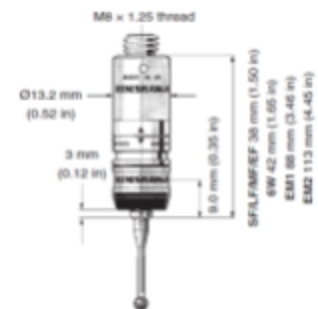


TP20 Probe Kit

Capability of automatic styli changes through detachable probing force modules

Characteristics (Standard Force):

• 2D FORM Deviation	±0.4 μm	
• 3D FORM Deviation	± 0.65 μm	
• Measuring direction	6 ways, ±X, ±Y, ±Z	
• Repeatability 2 sigma	0.3 μm	
• Weight	22 gram	
• Trigger Force	XY	0.02N at 50 mm stylus length
	Z	0.07N at 50 mm stylus length



Software System

- (1) RationalDMIS Software Package(for Windows OS)
- (2) Support Chinese, English, Spanish, Dutch,Russian etc.

RationalDMIS CMM Software for WINDOWS™

Main Functions of RationalDMIS:

- Configuration of measuring environment parameter and movement parameter.
- Probing system configuration and calibration.
- Capture of measuring point.
- Basic geometry element.
- Element' s formation, transformation, review, projection, storage,

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transfer and relevant calculation.

- Setup, storage and transformation of coordinate system and work piece coordinate system.
- Assessment of dimension tolerance and position tolerance.
- Store and input of measuring result file.
- Import and convert CAD 3D model
- Coherence between Model coordinate system and part coordinate system
- Pickup of Features and curved surface points on the model.
- Creation and measurement of section surface line
- Creation and measurement of curved surface
- Offline Programming based on CAD model
- Measuring routine display and simulated measuring run.
- Output of visualized and graphic report for measuring result.
- Output of coordinate three dimension modeling data file in IGES and STEP format.
- Output of data file in DAT format.
- Measuring result report template in word and excel format.
- Parameter auto measuring for characteristic element.
- Program and program controlled measuring for measuring program.
- Intellectualized self study measuring.



Control System: RENISHAW UCC Control System for CMM

- RENISHAW UCC control system for CMM
- Excellent functionality and super powerful anti-interference capability
- Internationally advanced up-down dual computers control system
- Support of multiple probe systems: touch-trigger probe, scanning probe, optical CCD probe, laser measuring system.
- Software of Built-in control technology to realize the servo drive for 4 axis and optimal regulation of motion status and adjustment of servo parameter to make automatic optimization
- RENISHAW probe controller embedded to support the full series connected with PICS.
- Intelligent scanning control system embedded to achieve the automatic scanning control of spatial contour curve/surface
- Adoption of advanced interpolation algorithms for continuous motion track to optimize the measuring track and automatically generate logical measuring motion track
- Multiple control modes to provide multiple safety functionality
- The functional self-diagnosis and self-correction for malfunction
- Monitoring system of interior temperature
- Multiple interface standards for intercommunication to ease computer' s network and upgrade.



- Specialized three-axis-linked joystick and the operation box with button panel
- Favorable electrical reliability, stability, security and super powerful capability of anti-interference and against electromagnetism in conformity with European EC standard.

Environment Specifications





Room required specifications

- Average room temperature: 20 - 22 ° C
- Maximum thermal gradients: 1 ° C/hour, 2 ° C/day, 1 ° C/m,
- Air supply system
- (Min. air pressure) : 0.55 MPa
- (Min. air consumption) : 0.4 m³/min
- Electrical requirements
- (Voltage) : 220 Vac 10%
- (Frequency) : 50 Hz-60 Hz
- (Current) : 15 A

Allowed Maximum Floor Vibration

- (Frequency Range): 0 ~ 19 Hz 19~75 Hz > 75 Hz
- (Maximum Amplitude): 0.0011mm 0.0011~0.002mm 0.002mm

III. Standard Accessories

No.	Items	Description	Brand	Qty	Picture	
1	Probe System	Probe Head	PH10M automatic double-circle probe head	Renishaw	1 set	
		Probe Kit	TP20 Standard Module	Renishaw	1 set	
		Styli Kit	refer to styli list	Renishaw	1 set	/
		Datum Ball	Datum Ball Base φ25mm		1 set	
2	Control System	RENISHAW UCC T3 Plus	Renishaw	1 set		

3	Computer System	Computer	Dualcore2.5G/2G/500G	DELL	1 set	
		Printer	A4 Inkjet Printer	USA HP	1 set	
4	Software System	RATIONALDMIS		USA	1 set	
5	Technical	Installation & Maintenance Manuals			1 set	/
	Material	Operation Manual			1 pcs	/
6	Certificates	Qualification Certificate			1 set	
7	Cable Connector	SPCF- 10-02+SBT- 10-02			1 set	/
	Clipper	φ16 ~ φ25			1 set	/
	Air Cable	φ10			1.5m	/

Stylus List:

RENISHAW Stylus Kit (mm):

Stylus extension bar (mm):

Part No.	Model	Material	Dia.	Length	Qty.
M-5004-7586	SE5	Stainless steel	3	20	1
M-5004-7591	SE6	Stainless steel	3	30	1

Stylus(mm):

Part No.	Model	Material	Ball Dia.	Length	Stem Dia.	Effective Length	Qty.
A-5000-7806	PS9R	Ruby ball styli / Stainless steel stem	1	10	1	6	1
A-5000-7807	PS2R	Ruby ball styli / Stainless steel stem	2	10	1.5	6	4

A-5000-4160	PS16R	Ruby ball styli / Stainless steel stem	3	20	1.5	17.5	1
A-5000-4161	PS17R	Ruby ball styli / Stainless steel stem	4	20	1.5	20	1


Stylus Center: 1 piece of SC2:

Part No.	Model	Material	Center size	Effective length	Qty.
A-5000-3627	SC2	Stainless steel	7	7.5	1

IV. Optional Parts List

Code	Description	Specifications	Brand	Qty	Pictures
4001207	Laser Sensor (Including laser scanning module of RationalDMIS)	F-Scan	Header	1	
4001208	CCD Sensor (Including CCD module of RationalDMIS)	Manual-PMS	HST	1	
4001204	Scanning Probe System	SP25M	RENISHAW	1	
8004510	Calibration Sphere	φ25mm	RENISHAW	1	

8004811	Probe Module Change Rack	Automatic probe module replacement MCR20	RENISHAW	1	
8004812	Probe Module Change Rack	Model: FCR25-L6 with PA25-SH (for SP25M)	RENISHAW	1	
A-1371-0271	Probe Module	TP20 Probe Module Medium Force	RENISHAW	1	
8005329	SPC Module	RationalDMIS	USA	1	
8005331	Blade Module	RationalDMIS	USA	1	
8005332	Pipe Module	RationalDMIS	USA	1	
8004420	ONE Series CMM Flexible Clamping System	A SET 1. Comprising 60 elements 2. Supplied in a case	HST	1	
8004421	ONE Series CMM Flexible Clamping System	B SET 1. Comprising 106 elements 2. Complete and highly versatile kit	HST	1	

		3.Supplied in a case			
10107	One Series Bottom Plate	1.Size: 300*200*16mm 2.Flatness \leq 0.03mm	HST	1	
10085		1.Size: 400*300*16mm 2.Flatness \leq 0.04mm		1	
10087		1.Size: 500*400*16mm 2.Flatness \leq 0.05mm		1	
10089		1.Size: 600*475*16mm 2.Flatness \leq 0.06mm		1	
10091		1.Size: 800*600*22mm 2.Flatness \leq 0.06mm		1	
10092		1.Size: 1000*800*25mm 2.Flatness \leq 0.06mm		1	

Stylus (mm)

Part No.	Model	Material	Ball Dia.	Stem Dia.	Working Effective Length	Qty
A-5003-0033	PS48R	Ruby measuring ball/ tungsten carbide	1	0.8	12.5	1
A-5000-3603	PS2R	Ruby measuring ball/ stainless steel rod	2	1.4	14	1
A-5000-4160	PS16R	Ruby ball styli/ Stainless steel stem	3	1.5	17.5	1
A-5000-4161	PS17R	Ruby ball styli/ Stainless steel stem	4	1.5	20	1
A-5000-7807	PS8R	Ruby ball styli/ Stainless steel stem	2	1	6	4

A-5000-3604	PS1R	Ruby ball styli/ Stainless steel stem	3	1.5	7.5	1
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Stylus Extension (mm)

Part No.	Model	Material	Dia.	Qty
M-5000-7634	SE7	Stainless steel rod	3	1
M-5000-3647	SE4	Stainless steel rod	3	1
M-5000-3648	SE5	Stainless steel rod	3	1
M-5000-4162	SE6	Stainless steel rod	3	1

Stylus Center Kit: SC2 1PC:

Part No.	Model	Material	Center Dimension	Qty
A-5000-3627	SC2	Stainless steel	/	1

P. S. For extra part not included in this list, please contact Foreign Trade Dept., DG-HST for detail.

FOCUS IN MATERIAL TEST

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