

Contour Measuring Instrument

CMI-Z40



Innovation Design R&D
Patented Technology Award



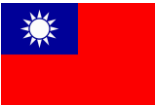
Measuring & Control System



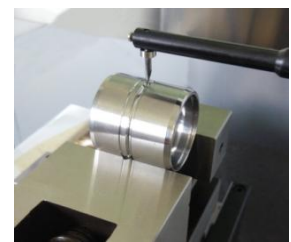
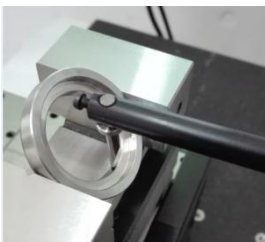
Step Motor Drive System



DIN00 Granite Structure



Manufacture 、 Assembly 、 Inspection



Measure principle

The measuring principle of this instrument is the rectangular coordinate measuring method, through X-axis, Z-axis sensor, mapping the surface contour coordinates point of the part under test, data transmission the coordinates point to the upper PC by electrical components. To do the mathematical treatment on the original collected coordinate data by software, marked with the required engineering survey projects.

Technical data:

Model: CMI-Z40

Item		Parameter
Measurement range	X axis	120mm
	Z1 axis	40mm
	Column	400mm
Straightness		1.5 μ m/100mm
Indication accuracy	X axis	$\pm (1.5+0.025L) \mu$ m
	Z1 axis	$\pm (1.2+ 0.04H) \mu$ m
Detection method	X axis	RENISHAW grating sensor / 0.2 μ m
	Z1 axis	RENISHAW grating sensor / 0.01 μ m
Driven speed	X axis	4 grade, speed is adjustable
	Column	4 grade, speed is adjustable
Measurement Speed		0.1, 0.2, 0.5, 1mm/s user-defined
Accessories	Probe	25 μ m hard metal alloy needle tip Spec: 17° uniplanar \emptyset 4*32 Rise angle: 72° Drop angle: 88°
	Measuring pole	Dia. 8mm
	Adjust table	Y direction adjustable, Turn Angle adjustable
	Precision sine flat	width 50mm depth 25mm Opening degree 60 Adjustable angle 0-45

Measuring function

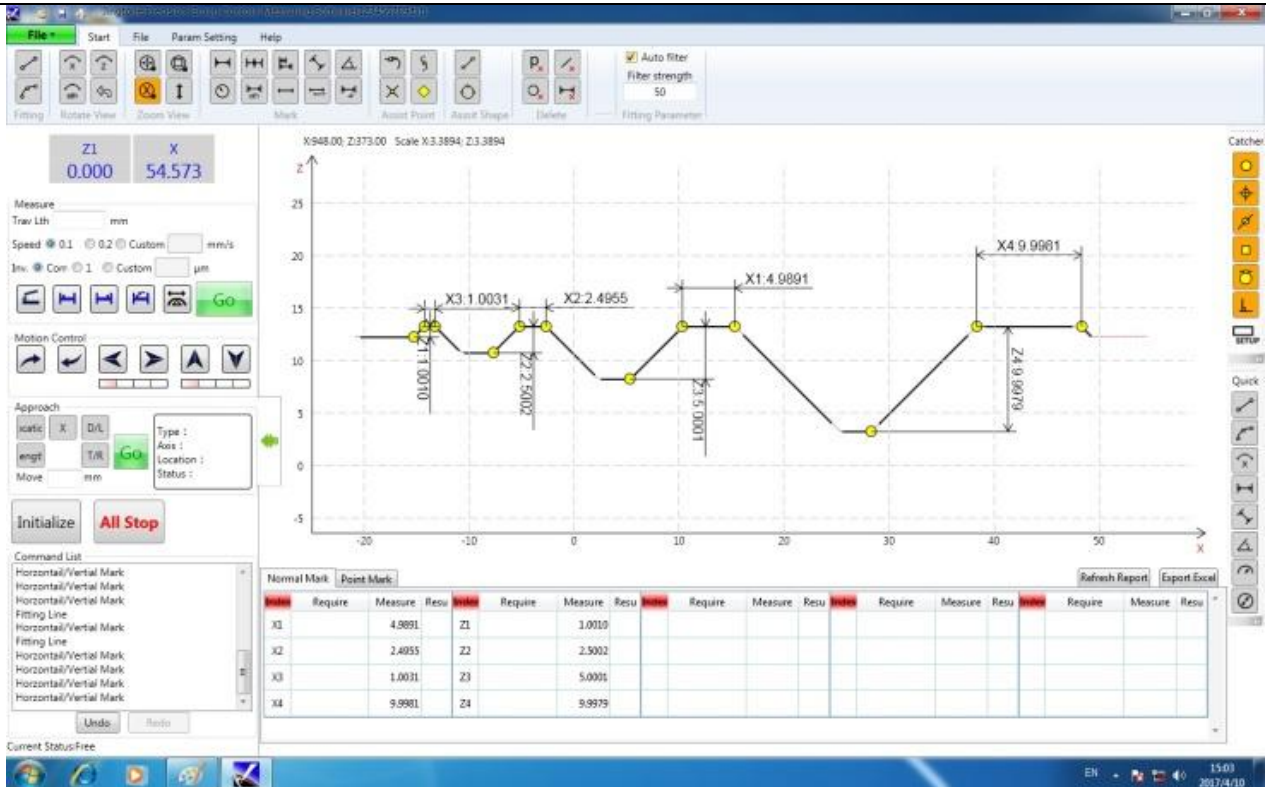
Size: contains the horizontal distance, vertical distance, linear distance, radius and diameter

Angle: horizontal Angle and vertical Angle, Angle

Position tolerance: contains the parallelism and perpendicularity

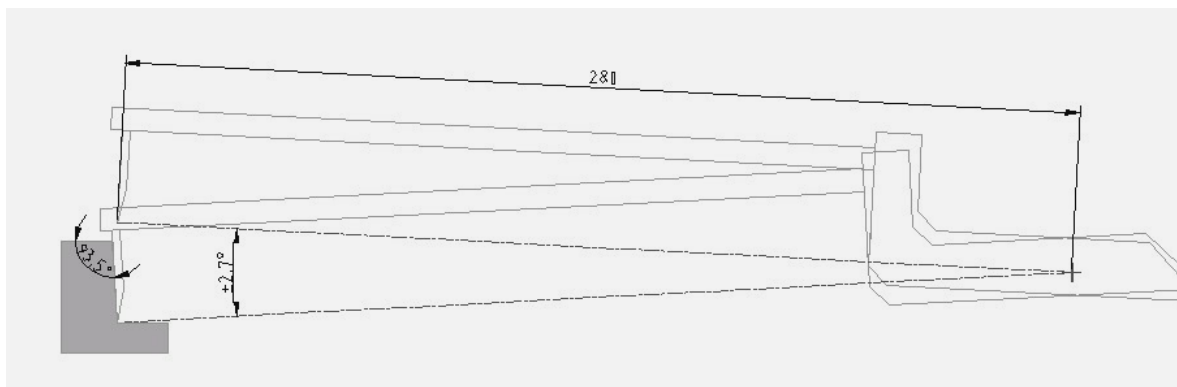
Shape tolerance: contains the straightness, crown, circular arc profile

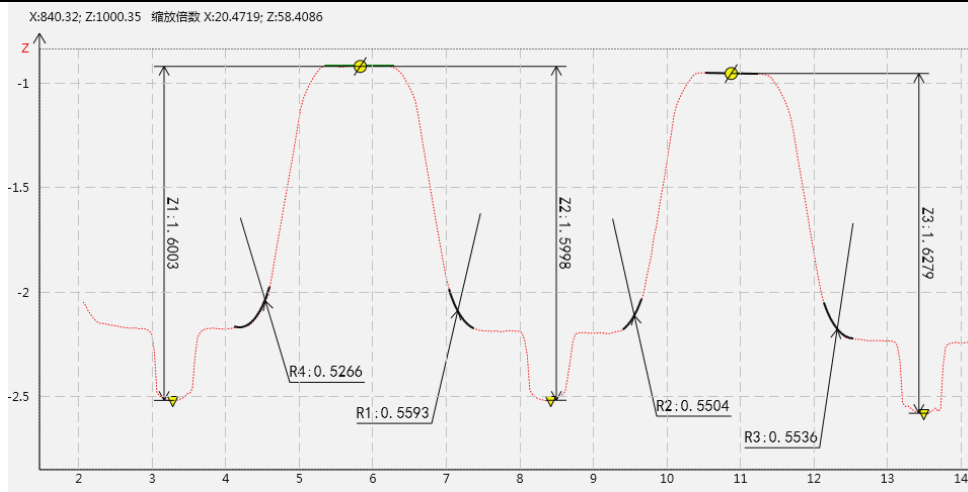
Auxiliary generation: contains the auxiliary point, auxiliary line, auxiliary circle



Technical characteristics:

1. X, Z1 adopt imported grating sensor, measurement range, high precision and reproducibility and stability;
2. Design in a wide range, leverage ratio is 1:2. 2, the maximum keep the original precision of the sensor;
3. High rigidity, high precision linear motion guide rail, high precision digital linear sensor;
4. Using high speed parallel data acquisition unit, high-speed sampling hardware trigger, hardware, without delay. Dense and stable source provide the most powerful guarantee for later data processing, calculation.
5. Z1 shaft sensor, the overall structure without any elastic element, to ensure that no matter measuring needle in any position, the load are constant.





Software Features:

1. Software support XP、win7、win8 system.
2. Software support Chinese and English language.
3. Automatic identification of circular arc, the line.
4. Fitting choice click or marquee.
5. Support continuous annotation and datum mark, support any insertion point.
6. Software add shortcuts, easy to use.
7. Software similarly marked with CAD.
8. Original data automatically saved, facilitate multiple labels.
9. Measurement graphic results can be transferred into DXF format; Measurement results can be output in EXECL form format.
10. The mirror function, can save after standard file.
11. Can monitor the current position of the Z1, X axis.
12. Measuring length can be set freely.
13. Needle automatic contact, automatic lift, automatic back.
14. The operation can be unlimited undo and restore.
15. Support the freedom of graphic rotation and coordinate rotation.
16. Support the coordinate points label.
17. Support pack up the menu and control operation, to enlarge the drawing effective area.
18. With capture switch, while capture switch is opened, automatically generated and capture the intersection point, circle, line midpoint, endpoint, circular intersection, midpoint, point of tangency feature points, etc.
19. Can close unnecessary feature points at feature points capture zone , convenient for the user according to the independent choice.
20. Added batch measurement and discontinuous measurement function.

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