Semi-Automatic Bridge Style CMM

Model-SBK564: 500*600*400mm

Recommend specification and price

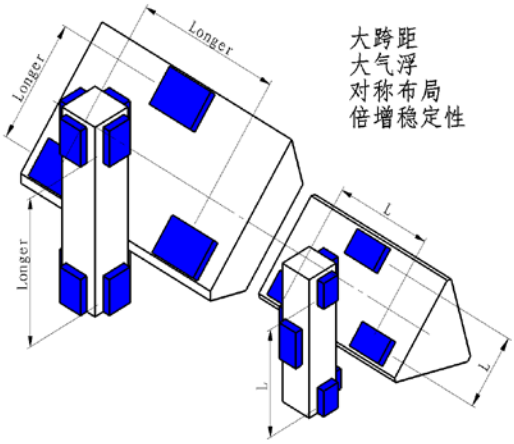
Customer Information	Company Name		Project manager	
	Address:		Tel	
	Post Code		Fax:	
Info	recommend specification	Model Name： SBK564 Coordinate Measuring Machine Probe System：MH20i(UK Renishaw) Control System：DCC(Germany Mora) Measuring range：500mm×600 mm×400 mm Load capacity：500 kg Dimension：1050mm×1410mm×2220mm resolution ：0.1μm MPEE≤2.2＋L/300μm MPEP≤2.2		
	Technical Description	SBK new-generated CNC CMM with a mature and word-class technology under mass production at AEH. This machine has adopted precision slant girder technology (Patented) designed by advanced F.E.M. (finite element method), which has the high precision, high performance and high steady characteristics. The machine's perfect style, strong rigidity, lightweight and close frame movable bridge structure, which configured with the world famous high-quality specific 3-D CMM control system and the world highest level self-owned intellectual property of AC-DMIS software, makes it become the highly appreciated product by comparing with its competitive price and high practical quality. It will meet customer's challenging demand with a comprehensive measurement solution.		
Commercial Terms	Quotation Validity	20 days		
	Delivery	45 days A. R. O		
	Payment Terms	50% of the total amount shall be paid before shipment as consignment money;50% of the total amount shall be paid before shipment;		
	Shipment Terms	packaging transportation and insurance will be covered by the Supplier.		
	Total Price	USD$:		

solution and parameters

1、Technical Description

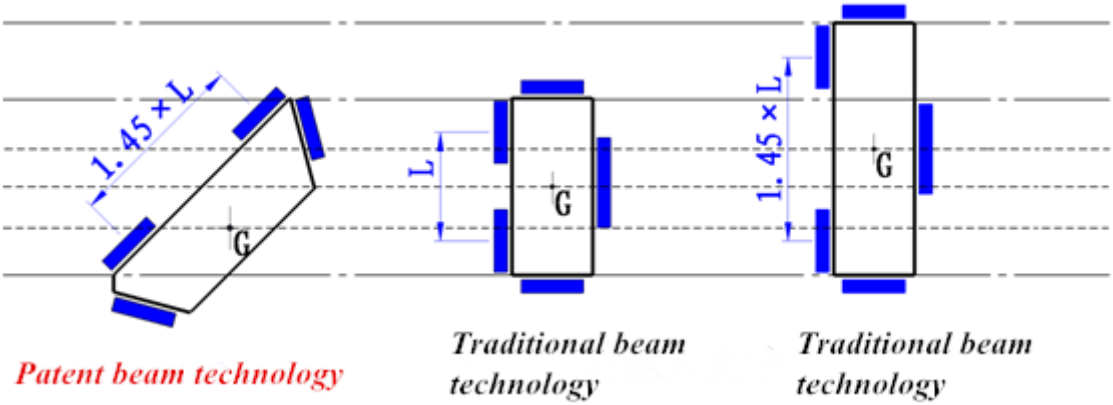
1.1 Basic Machine

- The workbench adopts 3+2 support point structure, and the three main support points are accurately calculated to ensure the minimum deformation of the workbench and the Y-axis guide rail, which improves the accuracy of the measuring machine. The spare auxiliary support points ensure the safety, reliability and stability of the equipment during operation.



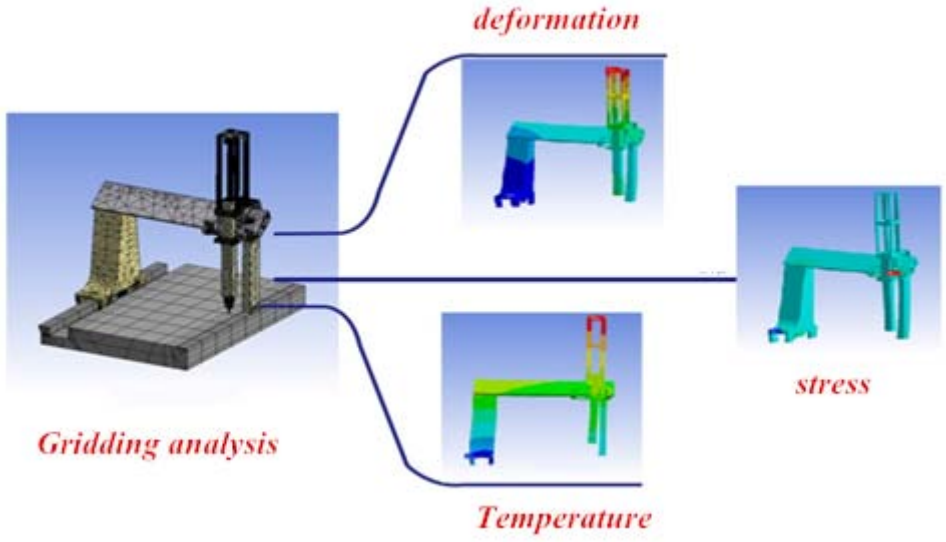
- The frame adopts a fully enclosed structure and use high-quality aluminum alloy material, which ensures the rigidity and reduce the weight of the frame, also improves the stability when frame moving, adopts the large-span symmetry design , to effectively improve the rigidity and reduce the rigidity. The deformation caused by the force is reduced, great improved the measuring accuracy
- The X, Y Z axis guideway all adopt precision grade granite air-floating guideway, and the isotropic three-axis has the same temperature effect, which ensures the accuracy of the measuring machine under different temperature gradients.
- equipped with precision-grade gas source filter. The oil and water filtration precision can reach 0.1um and the filtration rate reaches 99.93%, which ensures the safe and reliable operation of the air-floating guide.
- Air float layout of Granite air float guideway in strict accordance with the surface, line, point positioning principle, ensure the stability of the accuracy of the measuring machine
- Precision granite guideway has the characteristics of good stability, small deformation, high hardness, when the air float and guide rail are damaged due to friction , only need to replace the air float .Shorten maintenance time and reduce maintenance cost

- X beam adopts the patent technology, trapezoidal section 45 ° to place technology,It is 1.4 times the span of the same height and width of the rectangular beam, effectively improving the accuracy of the measuring machine.



Patent beam technology *Traditional beam technology* *Traditional beam technology*

- The z-axis adopts the balance gravity technology of low-friction cylinder, which can realize convenient and instant adjustment of balance gravity and improve the dynamic measurement accuracy of the measuring machine.
- The whole machine adopts advanced finite element analysis design to optimize the structure of the parts.



- Relying on the modern industrial design concept, the equipment fully considers the ergonomic characteristics, making the operation of the equipment more comfortable.
- The equipment adopts multiple protective measures, such as: Z-axis balancing cylinder pressure real-time detection and protection, starting air bearing delay ventilation protection, air bearing working pressure real-time detection, soft limit, electric limit, hard limit and other protection functions, long time no People operate a

number of protection functions such as power failure protection.

- The imported precision grating system with the highest resolution up to 0.001um and including automatic gain control (AGC) or automatic offset control (AOC) real-time signal conditioning technology provides an accurate and reliable length measurement reference for the measuring machine, ensuring machine measurement. Accuracy, repeatability;
- Before leaving the factory, the measuring machine is tested by the quality inspection department for 72 hours to ensure the stability of equipment operation.

Probe Head system

1Probe head: RENISHAW MH20i Manual double rotation indexable probe system

Technical Parameters

Item		parameter	
Probe part		MH20i 1PC	
Send Direction		±X ±Y +Z	
angular movement	A axes (Horizontal axis)	0° ～90° 15°/increment°	
	B axis(Vertical axis)	±180° 7.5°/increment°	
Total number of positions		168	
Weight		210g	

Technical parameter：

Item	Parameter	
Sense directions	±X ±Y ±Z	
Trigger pressure	M2	
Weight	22g	
Rated life	＞106 times	

2.stylus sit group

Order No	Model	Material	Measuring ball diameter	Length	Stick diameter	Effective length	Quantity（pc）

1) Stylus sit

Item	Model	Material	Ball diameter	length	Quantity（pc）
1	PS48R	Ruby ball / Tungsten carbide rod	1	20	1
2	PS2R	Ruby ball / Stainless steel rod	2	20	1
3	PS16R	Ruby ball / Stainless steel rod	3	20	1
4	PS17R	Ruby ball / Stainless steel rod	4	20	1
5	PS8R	Ruby ball / Stainless steel rod	2	10	4
6	PS1R	Ruby ball / Stainless steel rod	3	10	1

2) Stylus sit Extension rod(mm)

Item	Model	Material	Diameter	Length	Quantity（根）
1	SE7	Stainless steel rod	3	5	1
2	SE4	Stainless steel rod	3	10	1
3	SE5	Stainless steel rod	3	20	1
4	SE6	Stainless steel rod	3	30	1

3) Stylus kit center seat:

Model	Material	Center size	Effective length	Quantity（pc）
SC2	Stainless steel rod	7	7.5	1

3.calibrator: Φ 25 and universal ball Kit T5 1 set

Control System：

- DCC controller is specially designed and developed by MORA Metrology GmbH of Germany for China market which is with excellent performance.It can match with high performance and high reliability movement controlling solution.
- CMM's special CNC control adopts the advanced up-down dual computers control concept and using the Control layer and application layer stand-alone principle to largely satisfy the customers base it' s high efficiency、high-accuracy and high stability.
- Control unit、servo unit、interface board and CPU main board integrated into the compact housing to ensure the reliability and stability of the system by reducing the external line of the control system.
- Internal advanced continuous trajectory interpolation algorithm can be measured trajectory optimization and integration,automatic creating the reasonable measuring

track.

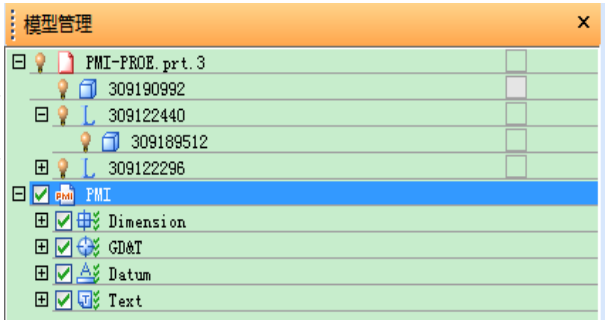
- The variety controlling modes and safeguard functions make control system safer and more reliable. The system can change to the safe mode within a short time when accident happens, and it has fault self-diagnosis and error correction function.
- Driving system adopts DC servo motor driving can make the motor move according to T- curve speed or S-curve speed., ensure the machine move in a steady condition maximum.
- Internal temperature monitoring system can avoid the control system being damaged from pressure or airstream shortage.
- TCP/IP and RS232/RS422 interface to achieve the PC networking and other device connection.
- Professional controlling box is with 12 self-define keys and can change the operating direction according to the different position between operator and machine to make the device operate more convenient and smooth.
- Variety optional interface can meet the needs of special devices and functions extension.
- Ultra strong anti-electromagnetic interference capability.
- DCC controller can support multi-measurement such as contacting,scanning,laser and optic measurement.
- DCC controller can support the communicating connection with the machine tools and with the G code and M code functions as machine tools.

Computer System

item	Required parameter
Computer	DELL
Operating System	Windows 7
Memory	8G
Hard disc	500G
Display	TNT/GERFORCE
graphics library	OPENGL
Display	19LCD display
Printe	HP A4 color inject printer

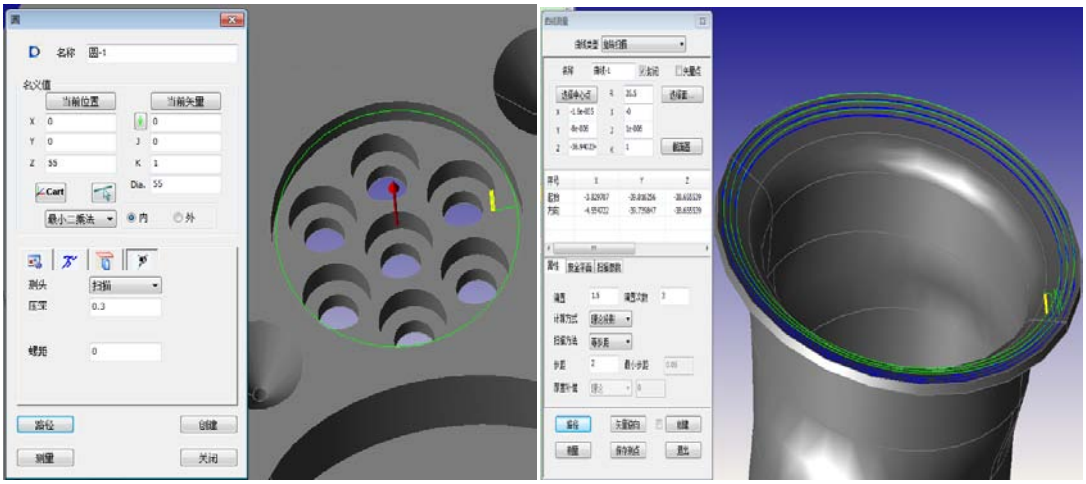
Measuring Software system: NET.DMIS

NET.DMIS is a new generation of multi-purpose measurement software package for 3D measurement and image measurement developed by AEH Group of Germany. **Main function as below** :

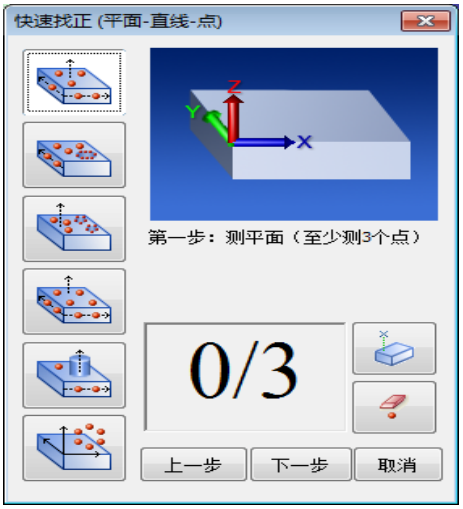


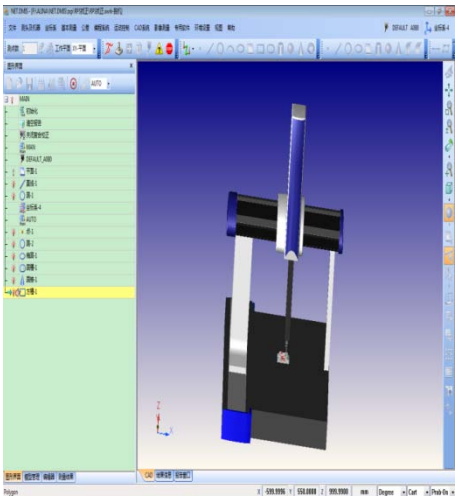
- Support for multi-controller systems: DCC、UCC、PANTEC、SB ect.
- Support for multi-Probe system, trigger mode, continuous scanning mode, image mode and laser scan, etc, to satisfy all measurement requirements;
- Modularized software structure with the capability to add special software (Temperature compensation, replacement rack, program mirroring, PC-DMIS conversion, PMI analysis, 3D model, turntable.) And all kinds of special software (line laser, statistics, precision check, EMRP, blade), and secondary development.

  With brief operation interface and traceability legible operation process track record;
- Workpiece measurement perioad , automatically records the measurement process and automatically saves the measurement file for next reuse
- With the CAD 3D model (SAT, IGES, STEP, STL) import function, you can use the mouse to directly pick up points, lines, curves, surfaces and other elements on the model, automatically generate programs and complete automatic measurement.
- Optional direct import of UG, Pro/E, CATIA V4, CATIA V5, SolidWorks, Parasolid, Inventor, VDA-FS, DXF, DWG 3D models
- Support multi-language switching, the choice of metric and British system, the choice of measurement in polar and vertical coordinates

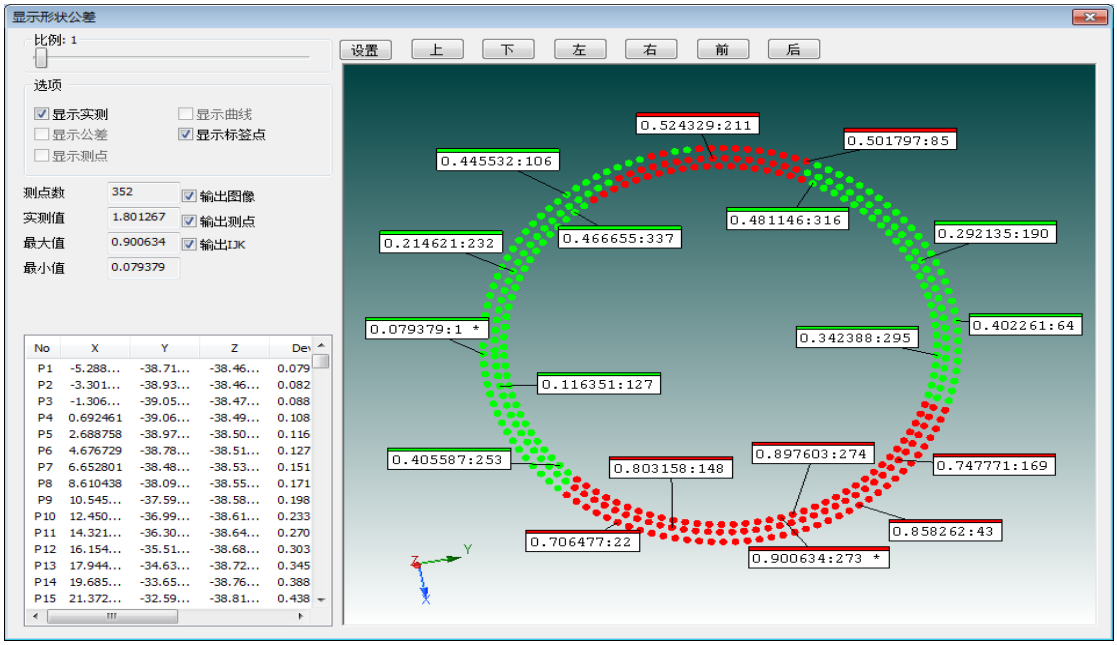


- measuring and constructing functions of points, lines, circles and other basic geometric elements, which support fitting, symmetry, projection and other construction methods.Curve and surface measurement supports multiple measurement methods, meeting the needs of different industries.
- continuous scanning of measuring lines, circles, curves, etc
- off-line programming and virtual measurement based on CAD models

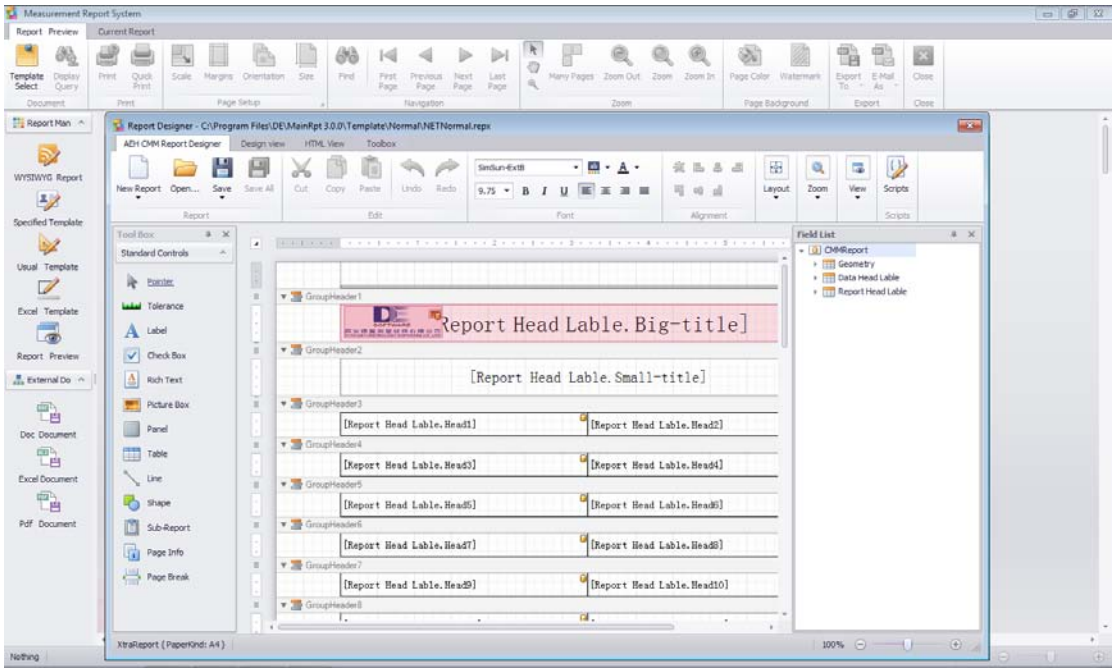




- dimensional tolerances, shape and position tolerances (straightness, flatness, roundness, cylindricity, curve contour, surface contour, verticality, parallelism, inclination, concentricity (coaxiality), symmetry, full runout, circle runout, position, compound position;Tolerance rules include the independent principle and the correlation principle), the Angle and the distance evaluation, the shape tolerance energy graphical display and the report output.



- simple and clear graphical program interface combined with standard DMIS program editor makes program modification and inspection more convenient and easier
- support graph export of measured data, able to export SAT, IGES, STEP format, or optional export vda-fs, DXF, DWG format, so as to make full preparation for reverse modeling
- MainRpt template report editing software is supported to meet the personalized report editing function of customers



- can output multiple report formats, such as WORD, EXCEL, PDF, RTF, TXT, BMP, etc
- optional q-das format file and DMO format file output
- support composite measurement of image probe and contact probe, Image measurement supports the use of a variety of mining methods to measure points, lines and other geometric elements, And labeling, navigation, save image and other functions, The image supports fixed zoom lens, manual zoom lens, automatic zoom lens, and zoom compensation for the automatic zoom lens

Environment requirement

Item	Details
Temperature	20±2℃0.5℃/h 0.5℃/m 1℃/24h
Power supply	220V±10%, 50HZ
Air supply	⩾0.55MPa

Partial customers