“NANO” EMC-3020 Manual Video Machine

No. 22A, Jalan KS3A, Persiaran Kinrara Sek. 3, 47100, Puchong, Selangor, Darul Eshan, Malaysia Tel : +60(3)-8079 0326, 8079 0350 ; Fax : +60 (3)-8079 0335 ; Email : sales@vistainstrument.com

No. 31, Jalan Perniagaan Vorteks 4, 14100 Simpang Ampat, Pulau Pinang , Malaysia Tel : +60(4)-588 2168 ; Fax : +60 (4)-588 1008 ; Email : salespg@vistainstrument.com

1、 Main technical indicators

1.1 Fuselage

1.1.1 Airframe accuracy correction: 21 accuracy corrections

1.1.2. XYZ measurement stroke: 300 * 200 * 200mm

1.1.3 Overall dimensions L * W * H: 1360 * 720 * 1650mm

1.1.4. Host weight: 280Kg

1.1.5. Maximum bearing capacity of the machine: 20KG

1.1.6 Operation mode: manual

1.1.7. XY axis measurement accuracy: 2.8+L/200 μ m

1.1.8 Repetitive accuracy: 3 μ m

1.1.9 Machine: Grade 00 granite

1.1.10 Z-axis column: Grade 00 granite

1.1.11. Z-axis ball screw: grinding grade

1.1.12. X and Y axis locking device with toothless light rod: fine adjustment and fast movement

1.1.13. Three axis guide rail: grinding level

1.2. Electric control system

1.2.1 Protection: overload and leakage protection, emergency stop switch

1.2.2. Wiring method: integrated bus

1.2.3. Calculation system: refer to the specific configuration at the current stage; 23.8 High Definition Display

1.3 Lens

1.3.1 Lens: Manual telephoto lens, objective magnification 0.7-4.5

1.3.4 Optical magnification: 30-130 times

1.3.5 Camera: 400000 digital industrial high-definition

1.4 Light source system

1.4.1 Upper light source: 4-ring 8-zone LED cold light source with independent program control for each section, 256 level brightness adjustable surface light

1.4.2 Lower light source: 256 level brightness adjustable collimated parallel light

1.5 Control System

1.5.1. Grating ruler: 0.5 μ M absolute grating ruler

1.5.2 USB Integrated Control Board

1.6 Software System

1.6.1. Manual measurement commands: points, lines, circles, arcs, ellipses, keyways

1.6.2. Manual selection commands: automatic line, automatic circle, multi segment automatic circle, automatic arc, automatic multi segment ellipse

1.6.3. Automatic recognition commands: automatic line recognition, automatic circle recognition, automatic arc recognition, and point selection circle.

1.6.4. Box selection command: Box selection of lines, circles, arcs, ellipses

1.6.5 Fitting construction: points, lines, circles

1.6.6. Annotation function: distance, radius, diameter, coordinate points, text description, and editing.

1.6.7 Coordinate system: multi coordinate switching

1.6.8 Multiplication correction: manual

1.6.9 File input format: DXF contour comparison

1.6.10. Report output: Word, Excel, PDF, DXF

1.7. Warranty: 12 months

1.8. After sales: After receiving the user's repair request, immediately communicate and guide the solution by phone. If the problem cannot be solved by phone, provide a solution within two hours and arrive at the customer's site within 24 hours to solve the problem. (excluding national statutory rest days)

2、 Environmental conditions

2.1. Room temperature: 20 ± 2 C

2.1.1 Temperature gradient (time): 1 □ C/h

2.1.2 Temperature gradient (time): 2 □ C/24 hours

2.1.3. Temperature gradient (spatial): 1 □ C/m

2.2. Relative air temperature: 40-70%

2.3. Voltage: 220V ± 10%

2.4. Frequency: 50Hz

2.5. Vibration:<0.001g below 15Hz

2.6. Power consumption: 1000VA

2.7. Grounding resistance: less than 4 ohms

3、 Software features

Introduction to the Main Functions of Intelligent Measurement Software Nano 2D

1、 1、Basic functions:

● Cartesian coordinate/polar coordinate conversion ● Absolute/relative/working coordinate conversion

● Metric/English conversion ● Degrees/minutes/seconds conversion

● Point/point group ● Two point/multi point line finding

● Three point/multi point circle and arc calculation ● B-spline line

● Distance between two points ● Average distance between two lines

● Distance between points and lines ● Distance between the centers of two circles

● Distance between circular lines ● Angle and intersection point between two lines

2、 Special functions

1. Software controls the light source, with the upper light source being a four phase lamp and the lower light source being a straight light source, increasing the machine's adaptability.

2. The measured workpiece does not need to be adjusted for alignment, and the software provides coordinate translation, rotation, and alignment.

3. Directly label/move dimensions in the image and geometric area. Linear trimming and extension functions.

4. Geometric zone points, lines, circles/arcs, and line endpoints, midpoints, center points, and quadrant points are automatically captured.

5. Adjust CCD parameter settings to improve adaptability; Remove burrs function to accurately obtain measurement data.

6. Use image tools to quickly and automatically capture the boundary point of basic geometric contour, and directly fit them into lines, circles and arcs.

7. Magnify the measurement area workpiece and capture the graphical output, converting it into (. bmp,. jpg).

8. Output measurement data and convert it into WORD (. doc) or EXCEL (. xls).

9. SPC function, directly output control charts, process capability indices, and convert them into WORD and EXCEL

10. Directly output mechanical graphics in. dxf format, achieving 2D reading function, seamlessly connecting with other software such as AutoCAD.

11. It can be transferred to a. DXF format file for comparison with the actual workpiece or measurement graphics. And the error measurement value can be obtained directly from any two points in the image area.

12. Provide in-plane straightness, roundness, and angle analysis for effective quality inspection

13. Machine accuracy compensation to improve measurement accuracy.

14. The software can perform virtual measurements on multiple deformations, groove shapes, arc chamfers, and so on.

15. Re measurement function: This function can change the measurement method, lighting, magnification, etc. of the measured elements, and then refresh the measurement data, and the related element data will also be refreshed (for example, if one of the lines is re measured, the distance element data will also be refreshed).

16. Editing and viewing edge finding status: The software can modify and edit the edge finding range, light source brightness, magnification, etc. of any measurement element. You can also view the edge finding status of a previously measured element (including the position of the edge finding, the brightness of the light source used, the magnification, and the original point taken), so that users can control the entire measurement process

17. The element name and size name can be modified to match the customer's drawing: the customer can freely modify the element name and size name. For example, C1 (circle 1) can be modified to the name you want And the radius, diameter, perimeter, area, and other names of C1 can be changed to what you want, in order to fully meet the requirements of the drawing

Installation, check and acceptance standards of image measure instrument

1. Equipment check, acceptance and count, and equipment install, debugging, check and acceptance

1.1 Check and acceptance of equipment

The check and acceptance of equipment divided into two phase, means:first time and finally check and acceptance, execute the check and acceptance according to the technical agreement which agreed by both parties.

1.1.1 The first time check and acceptance:equipment check and acceptance qualified before leave factory,and after transported to buyer’s project field, both buyer and seller together open case and do inspection; should detail record short of goods, bad quality, damage and other problems, and immediately unconditionally change or completely add

supplement by seller, then check the reason and find out the personal liable. Till no doubt then first time check and acceptance qualified. At the same time, the seller provide the test report and product qualified certificate before leave factory;

1.1.2。Finally check and acceptance: install and debugging equipment and materials finished, reach to check and acceptance standards, both buyer and seller send staff together check and acceptance qualified, confirmed by both buyer and seller, the finally check and acceptance qualified.

2.1 Install, debugging, check and acceptance

The seller free cost to charge for finish equipment install and debugging works at buyer's field. The buyer should prepare well the basic facilities in advance at gas, electric and grounding protection for the install works at buyer's field, and inform seller through fax, communicate in advance at possible problems to confirm installation smoothly. Our company duty for install and debugging measure machine.All packed case only can be opened under the engineer's supervise and acceptance. According to requirements, the user need provide interior assemble and disassemble, transport and on position support. The finally check and acceptance will be executed according to both parties signed content of technical agreement, both parties together confirmed after finish check and acceptance, and representatives of both parties sign install, debugging, check and acceptance report.

Package and transporting scheme of image measure instrument

Package and transporting

1. Adopt better wood case package method, road transporting, guarantee well equipment. The problems of package and transporting duty by seller
2. Seller's people should arrive buyer's field within 1 working day after goods arrived buyer place, then do open case check goods, install and debugging equipment.

Install scheme and plan of image measure instrument, situation of installation, building organization institution and staffs

Install scheme

Please read this "Install notices" first before install instrument

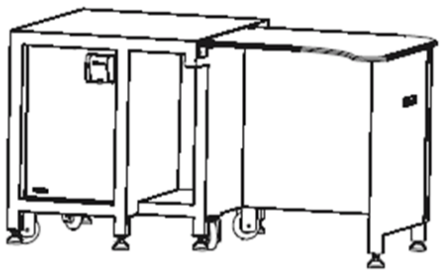
Install notices:

a. Please place this product at venting and dry place, do best keep environment temperature among 20℃-25℃.
b. Please don't place this product at where much more dust and wet.
c. This product use 220V,50-60HZ AC power supply, this product ask power supply has better grounding.
d. Please place this product at where far away strong electric field or strong electromagnetic disturb source, example AC electric cabinet, large scale machine, electric magnet and electric spark machine, etc.
e. To guarantee measure precision, please don't place this product at the place where far away shake source, example punching machine and vibrate machine, etc.

f. Please don’t self disassemble or adjust the product parts.

g. Please don’t use the fittings which not produced or provided by our company.

1. Install computer platform

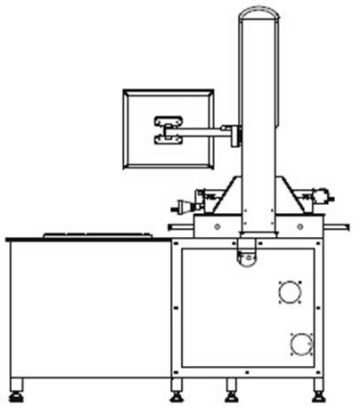


a. Overturn the computer platform (Bottom upward）, install joint feet well.

b. Align the computer platform which been installed joint feet well to the right direction.

c. Left/right revolve screws, make each foot of computer platform fully touched the ground, to guarantee evenly loaded.

2. Install electric control cabinet



a. Place the control cabinet on the hide ranks which behind the computer platform.

b. Corresponding well insert the power supply wire and signal wire respectively.

3. Install computer

a. Wiring well each part of computer.

b. Insert the video wire which draw out from 2D machine body in AV1 port of computer video joggle

Our company has excellent team formed with senior CNC engineer and customer manager, an

Training program and after-sales service

Build a foundation with quality, take talents as the driving force, seek development with innovation, build reputation with service, and win customers with honesty. Ningbo Easson Optoelectronic Technology Co., Ltd. is committed to the innovation of key technologies of measuring instruments, sincerely cooperates with customers, learns from each other, and forms a cohesive excellent team to serve customers well.

1. After the instrument arrives at the user's location, the user shall prepare the electricity and other conditions required for the normal operation of the instrument, and the professional engineer shall open a new box for the instrument to check the instrument.
2. After the engineer passes the inspection of the instrument site, he shall carry out installation, debugging and precision compensation, and test the precision again after installation.
3. The training equipment is consistent with the model and function of the instrument purchased by the user. Be responsible for providing comprehensive training to users on the basic principles, use, operation and maintenance of products.
4. Training operation standards, operation "should know".
5. Training contents: on/off operation, operation preparation, instrument calibration, measurement steps, matters needing attention, and common problem handling flow.
6. Instrument maintenance training: name of maintenance components, explanation of maintenance contents, maintenance cycle, maintenance methods and standards, and requirements for responsible positions of maintenance personnel.
7. Each instrument is accompanied by instructions, certificates of approval of goods, packing lists and other technical data;
8. Detailed inspection records have been made during the installation and commissioning of the equipment, and the commissioning inspection results conform to relevant national standards. And fill in the acceptance report and report it to the user manufacturer.

9. The warranty period shall not exceed 13 months from the date of arrival of the goods, and shall be responsible for the lifelong maintenance of the equipment. During the warranty period, maintenance fees will be waived and spare parts that are not artificially damaged will be replaced free of charge.

10. Immediately after receiving the repair report from the user, telephone communication and guidance will be given to solve the problem. If the telephone cannot solve the problem, a solution will be given within two hours and the problem will be solved at the customer's site within 24 hours. (except for national statutory rest days)