

快速光学图像测量仪



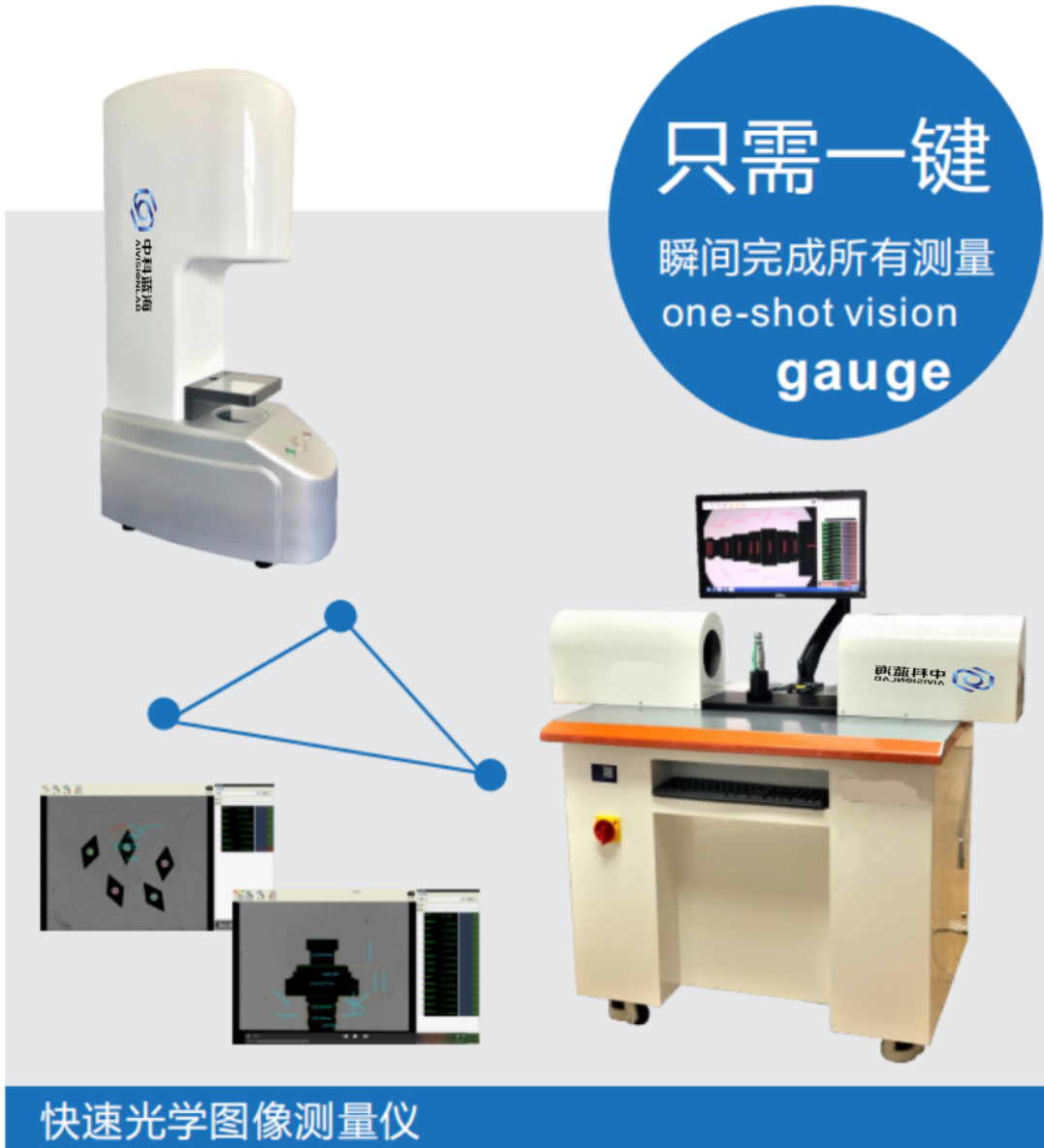
只需按一键

瞬间完成所有测量

只需一键

瞬间完成所有测量
one-shot vision
gauge

01



快速光学图像测量仪

作为中国一键式测量技术的倡导者，取消了传统XY坐标台运动式测量方式，开创了快速测量的新理念。通过将远心成像与智能图像处理软件的完美结合，任何繁琐的测量任务，都变得无比简单。只需把工件放置载物台，然后轻轻按一键，工件所有尺寸瞬间完成。

as a one-click measurement of China's advocate, cancelled the traditional x, y coordinates movement type measuring way, started the new idea of rapid measurement. By moving the telecentric imaging and the perfect combination of intelligent image processing software, any complicated measurement tasks, have become extremely simple. Simply place your artifact object stage, and then gently press a key, instantaneous artifacts all sizes.

MEASUREMENT IS SO SIMPLE

测量就这么简单

投影仪

手摇坐标台
费时费力



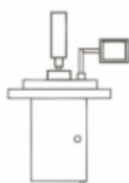
传统卡尺

只能简单的手动测量

克服了传统测量
工具所有的缺点

影像测量仪

效率低
无法批量检测



工具显微镜

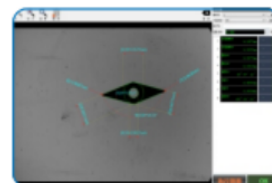
视线对准误差
焦距调节繁琐



快速光学图像测量仪能对工件的几何参数（如：长度，宽度，高度，弧度，直径，角度，孔距等）进行非接触式的微米级测量。能有效地解决一次成像范围与测量精度的矛盾，测量速度是传统测量仪器的10倍以上，大幅度提高了测量效率和精度，消除人为误差，实现了精密测量的自动化和智能化。本产品有立式，卧式两大类。

Rapid optical image measuring instrument can measure geometric parameters of workpiece (such as length, width, height, radian, diameter, angle, hole distance, etc.) in non-contact micron level. It can effectively solve the contradiction between the primary imaging range and the measuring accuracy. The measuring speed is more than 10 times that of the traditional measuring instruments. It greatly improves the measuring efficiency and precision, eliminates the human error, and realizes the automation and intellectualization of the precision measurement. This product has two categories: vertical and horizontal.

02



批量测量，只需两步

- 设置好工件需要测量的项目与公差，保存

Set up the workpiece to be measured in the project and tolerance, to save

- 连续放置工件，按一键即完成所有项目测量

Placed consecutively artifacts, press a key to complete all project measurement

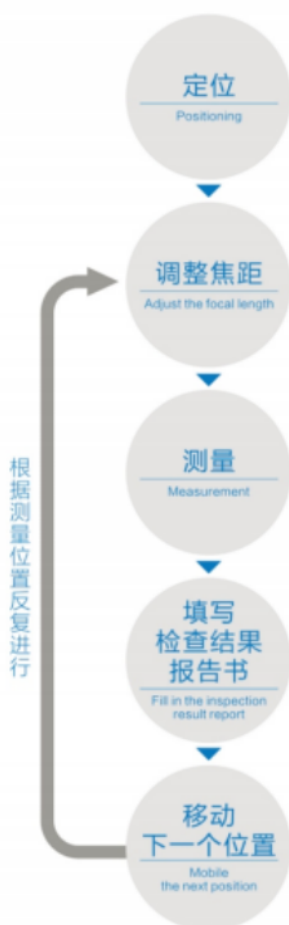
SHORTEN
THE MEASUREMENT TIME

放置后仅需按一键
即可瞬间完成所有测量

大幅缩短测量时间

只需一键
瞬间完成所有测量
one-shot vision
gauge

传统测量工具
The Traditional Measuring Tool



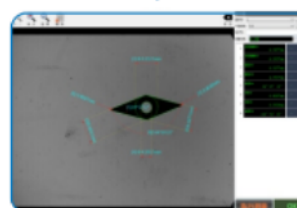
快速光学图像测量仪
One-click Measuring Instrument



放置后



仅按一键



瞬间测量所有尺寸

03

每个测量位置都需要花时间测量

开始测量时需要先确定测量对象的位置，然后移动坐标台来进行测量，因为每个位置的测量时间相应较长。如果需要调整焦距，则测量时间更长。

Start measuring when need to determine the position of the measured object, and then moving coordinate machine to measure, because each measurement time is longer than the corresponding position. if need to adjust the focallength, the measurement time is longer.

瞬间完成所有测量

将测量对象放在载物台上，对位置没有要求，可随意放置。然后按一键即可瞬间完成所有测量。任何操作人员均能在极短时间内轻松测量。

Will measure the object in the coordinale on the stage, press the button, can automatically adjust the position and direction. After leaving only press a key to all instantaneous measurement. ALL operators can be easily measured in a very short time.

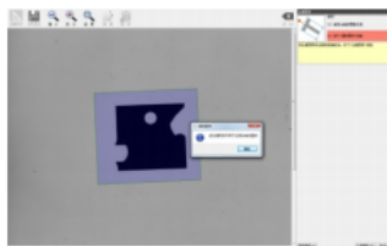
快速光学图像测量仪特点 A key to measuring instrument characteristics

大视野整体成像，一键测量

Wide Field Imaging A Key Measurement

影像测量仪，工具显微镜，投影仪等由于视野较窄，在测量和设置时难以掌握下一个测量位置，还必须边移坐标台，边逐个位置进行测量，极其耗时。快速光学图像测量仪最大成像范围达250mm，此范围以内的工件可整体成像按一键即可一次性测完所有尺寸，瞬间完成测量任务。

Image measuring instrument, tool microscope, projector and so on due to a narrow vision, difficult to grasp the next when measuring and setting up the measuring position, must also move coordinates, edge position is measured individually, extremely time-consuming. A key instrument for measuring the biggest imaging range up to 250mm, this within the scope of workpiece can be over all image according to the size of a key can all one-time test, instantaneous measurement task.



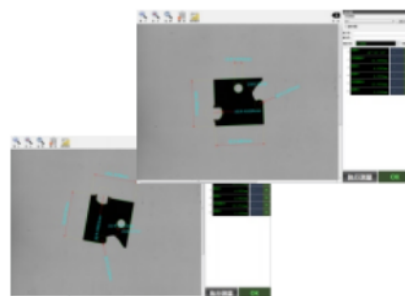
● 注册图样，图像自动配准，自动识别同类工件

无需夹具定位工件，可任意摆放

Without Fixture Locating Workpiece, Can Be Arbitrary

精确的自动配准算法，只需第一次注册了工件图样，即可在任意位置，任意角度摆放工件，配准算法均可锁定工件的位置，而不像传统测量仪器，每一次测量都需要夹具定位。

Precise automatic registration algorithm, only need to register, for the first time the workpiece pattern, can be in any position, the workpiece is put at any Angel, registration algorithm can lock the position of the workpiece, rather than the traditional measuring instruments, need every measuring fixture positioning.



● 可放置任务位置，无需夹具

一次性同时测量多个工件

Without Fixture Locating Workpiece, Can Be Arbitrary

可以一次性在载物台上摆放多个同类型的工件，对摆放位置和角度同样无任何要求。软件对每个工件位置进行锁定，一次性同时测量，大大提高了测量效率。

Multiple of the same type can be one-times is put on the slide table artifacts, to put the position and Angel also without any request. Software to lock the position of each artifact, one-time measurement at the same time, greatly improving the efficiency of the measurement.



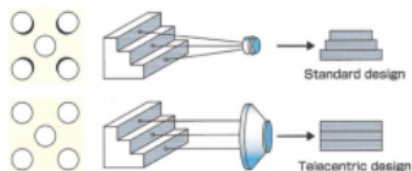
● 多个工件同时测量，瞬间完成

超大景深，无需调焦

Large Depth Of Field, No Need To Focus

最大景深可达200mm，目前是业界最大景深，只要被测工件高度在景深范围以内，无需任何调焦，整个工件上下均可清晰成像。

Maximum depth of up to 300mm is currently the industry's largest depth of field, as long as the workpiece to be measured within the scope of the depth of field, without any focusing up and down the workpiece can be clear imaging.



● 在远心光学系统中，调焦的过程不会引起放大率的变化。而且在整个工作距离内光学系统的放大率是不会发生变化的。因此物体的移动不会改变放大率。所有这种光学系统适用于高精度测量物体的场合。

国内
首创

国内
首创

业界
最深

核心技术保证精度 With the core technology to ensure accuracy

顶级远心光学系统，图像趋于零畸变

Top Telecentric Optical System, Image Tends To Zero Distortion

采用全球最高水准的双远心镜头，每一枚镜头的畸变系数（径向与梯形），远心度，放大倍率和分辨率都经严苛的实验程序与精密光学检测，再与千万级像素传感器相配，真正发挥远心的优势，成像几乎无畸变。

Adopt the world's highest level double telecentric lens, each lens distortion coefficient (radial and trapezoidal), far from heart, magnification and resolution are through rigorous laboratory procedures and precision optical detection, again with high pixels small pixel sensor suitable, real play to the advantages of far heart, almost no distortion.

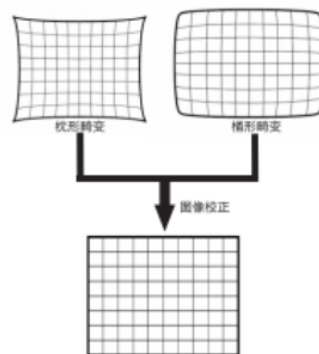


图像校正算法，精益求精

Image Correction Algorithm Strives For Perfection

虽然远心镜头的畸变系数极低，但由于视野较大，特别是视野边缘处，如常见的桶形和枕形畸变均会对测量精度存在细微的影响，我们采用高精度的棋盘格标定板，只需拍摄几张棋盘格标定板的图片，通过图像校正算法，即可校正镜头畸变和光学系统对位误差与光线不均匀带来的误差。

Although telecentric lens distortion coefficient is very low, but due to large field of vision, especially vision edges, such as common bucket and pincushion distortion will be have subtle influence on the accuracy of measurement, we adopt high precision checkerboard calibration board, through the image correction algorithm, can correct lens distortion and the optical system error registration error and uneven light.

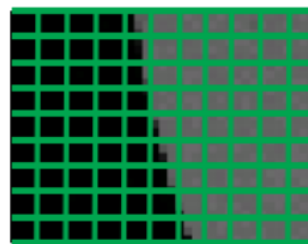


亚像素图像处理算法，每像素切割100份以上

Subpixel image processing algorithms, Each Pixel Cutting More Than 100

顶级远心光学系统+校正算法，确保了视野范围任何位置像素大小的一致性，但由于像素较大，以单个像素作为测量单位，在边缘处容易产生误差，我们采用了全新的亚像图像处理算法，每个像素细化切割到100份以上，确保高精度的边缘检测。

Top telecentric optical system + correction algorithm, ensure the consistency of visual filed any position pixel size, but due to large pixel, to a single pixel as a unit of measure, the edge prone error, we have adopted new like image processing algorithms, each pixel thinning cut to 100 above, to ensure the high precision of edge detection.



单像素分切成100份以上
精度超过0.01像素

超强的去毛边功能

Super Deflashing Function

对于有毛边或缺陷的被测工件，极易因毛边或缺陷，图像边缘凹凸不平，导致寻边不准而造成测量误差，可以通过设置上下阈值还原最真实的边缘，消除毛边或缺陷的影响。

Although telecentric lens distortion coefficient is very low, but due to large field of vision, especially vision edges, such as common bucket and pincushion distortion will be to have subtle influence on the accuracy of measurement, we adopt high precision checkerboard calibration board, need to take picture of a couple of checkerboard calibration board, through the image correction algorithm, can correct lens distortion and the optical system error registration error and unvern light.



不会因为毛边而造成寻边误差

功能介绍 Function introduced

向导式操作，3分钟便可学会操作

The Wizard Type Operation, 3 Minutes Can Learn To Operate

区别于传统的影像仪，工具显微镜等测量仪器，测量前需校正，测量时需要移动XY坐标台，操作复杂，繁琐。快速光学图像测量仪，无任何繁琐步骤，只需按向导，任何人可3分钟掌握。

Top telecentric optical system + correction algorithm, ensure the consistency of visual field any position pixel size, but due to large pixel, to a single pixel as a unit of measure, the edge prone to error, we have adopted new like image processing algorithms, each pixel thinning cut to 100 above, to ensure the high precision of edge detection.



导航界面

多种测量工具，任意组合

A variety of measurement tools, any combination

包含有图像上实际存在的点，线，圆等基本图形工具，也可以通过基本图形组合得到虚拟的辅助图形。通过这些图形工具，可以组合出几乎所有的几何图形，轻松完成各种复杂的测量任务。

Contains images on real dot, line, circle and other basic graphical tools, can also through the basic graphic combination to get the virtual auxiliary graph. Through these graphical tools, can be combined out almost all of the geometry, complex measurement task easily.



测量工具

SPC数据统计分析

Super Deflashing Function

内置SPC功能，可以在测量后读取指定的测量数据并可即时显示。并自动计算最大值，最小值，平均值，标准差，偏移值，Ca, Cp, Cpk等统计系数协助您完成报表编制。

The built-in function of SPC, can be read after measuring the specified measuring data and real-time display. And automatically calculate the maximum, minimum, average, standard deviation, the offset value, Ca, Cp and Cpk statistics such as coefficient to assist you to complete financial statements.



统计分析

报表导出

The output report

测量结果可以实时以Excel格式导出，报告格式可以编辑。也可以把数据直接导出到指定的Excel。

The measurement results can be exported in real time in Excel format, and the report format can be edited. You can also export data directly to the specified Excel.

XXX公司						
产品编号	批次号	测量点	标准	实际1	实际2	实际3
2014.08.28	16:01:20	1473	2.000	OK	19.9999	20.0001
2014.08.28	16:02:22	1473	2.000	OK	19.9999	20.0001
2014.08.28	16:03:26	1473	2.000	OK	19.9999	20.0001
2014.08.28	16:03:29	1473	2.000	OK	19.9999	20.0001

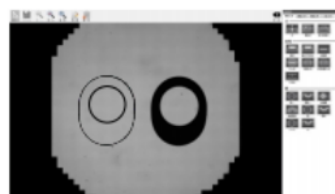
结果导出

CAD图纸导入

CAD drawing import

对于形状较复杂的工件，可以导入CAD图纸，以实物和CAD比对的方式，判断工件是否合格。同时也可以简化手动规划编程的过程。

For the workpiece with complex shape, CAD drawings can be imported to judge whether the workpiece is qualified by comparing the physical object with CAD. It also simplifies the manual programming process.



CAD比对

标准机型 Standard Model

立式ZKLS系列

立式ZKLS系列主要用于测量平面式产品，如精密机加件，冲压件，密封件，硬件合金刀具，粉末冶金件，陶瓷基片等。它具有速度快，操作简单等特点，极大的提高了测量效率



07

型号							
测量范围 (mm)	100X80	30X20	60X45	90X70	100X80	150X100	200X150
测量精度 (μm)	±5	±1	±3	±3	±5	±5	±5
重复精度 (μm)	±1	±0.3	±1	±1	±1	±1.5	±2
景深 (mm)	30	3	30	50	80	100	100
图像传感器	2000万像素		1000万像素		2000万像素		
照明系统	LED平行光源 (标配) / 表面多角度LED环形光源 (选配) / 表面LED同轴光源 (选配)						
软件	OVG图像测量软件						
外形尺寸 (长宽,cm)	25X45X80	15X35X65	25X45X70		90X75X185		
工作环境	温度5~35°C, 湿度20~80% (无凝结)						
保修期	一年						

L为座标台移动量(mm)

选配件 Accessories



同轴光源



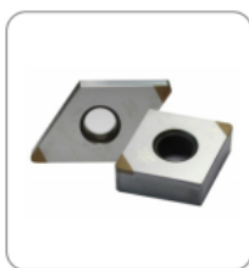
环形光源



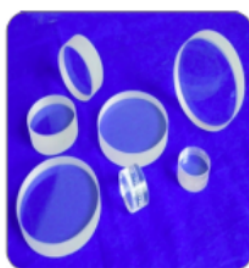
脚踏开关

行业应用Product Feature

● 模具及精密机械行业



数控刀片



玻璃冷加工件

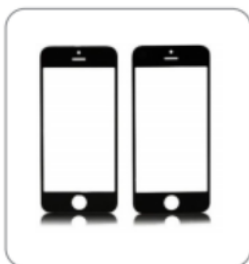


冲压件



粉末冶金

● 电子制造行业



触摸屏



连接器



精密机加件

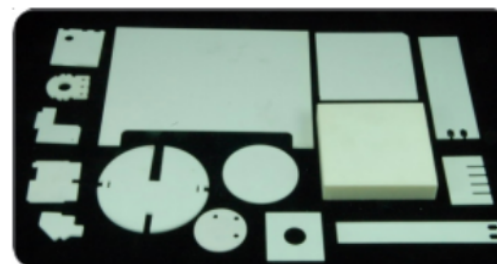


密封圈

● 特殊材料行业



磁性材料



陶瓷基片

标准机型 Standard Model

卧式ZKWS系列

卧式ZKWS系列的功能与立式的功能基本保持一或但由于结构的不同，所以在某些应用场合，卧式的优势更突出。

特别适用于圆柱，圆锥类的男竖着放置，不易平着放置的旋转曲面物体测量，如螺栓，精密微型轴，气门导管，油喷嘴，火花塞，测量该类物体直接竖着放置载物台即可测量，如果是用立式的测量，不宜水平放置，需要有工装夹具定位，既耗人耗时，又影响测量精度。

载物台较宽，工件左右放置均可以，不影响测量精度。



09

型号							
测量范围 (mm)	100X80	30X20	50X30	90X60	100X80	150X100	200X130
测量精度 (μm)	±5	±0.5	±1	±2	±3	±5	±5
重复精度 (μm)	±1	±0.3	±0.5	±0.7	±1	±1.5	±2
景深 (mm)	30	3	30	50	80	100	100
图像传感器	2000万像素		1000万像素		2000万像素		
照明系统	LED平行光源						
软件	OVG图像测量软件						
外形尺寸 (长,宽,高,cm)	80X21X37	70X15X25	125X75X112		190X75X112		
工作环境	温度5~35°C, 湿度20~80% (无凝结)						
保修期	一年						

L为座标台移动量(mm)

选配件 Accessories



旋转平台



脚踏开关

1. Especially suitable for cylindrical class easy to vertical placement, not easy to flat lying object measurement, such as bolts, valve guide, oil injection nozzle, spark plugs, etc., to measure the object with placed object stage can be measured directly, if it is a key instrument in vertical, flat lying is not level, must establish the corresponding fixture, jig its self exists error, each must be measured in jig stuck being measured, so that people time-consuming, and affect measurement accuracy.
2. The object stage is wide, placed around all can, do not affect the accuracy of measurement.
3. Can place, multilayer analyte put more, do not waste.

行业应用Product Feature

● 汽车制造行业



火花塞



喷油嘴



轴类件



气门导管

● 模具及精密机械行业



紧固件



微型轴



顶针



五金件