

YD200B 圆度仪

YD200B Roundness Measuring Instrument



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YD200B Roundness Measuring Instrument

401-018

YD200型圆度仪是一种转台式的通用性精密仪器。广泛适用于科学研究和工业测量。

该仪器能测量圆度、同心度、同轴度、平面度、垂直度、轴线直线度、跳动和波度。可在100到20000的放大倍率之间，任选一档进行测量。

仪器特点：操作方便，通用性强。配置微型计算机，可计算四种参考圆（最小区域、最小二乘、最小外接、最大内切）和相对各参考圆度和偏心量。运算快速可靠，并附有多种附加功能。

该仪器结构精巧，轻便易搬，维护简单。仪器还装有防震装置，对操作环境要求不高，因此也适宜在车间使用。

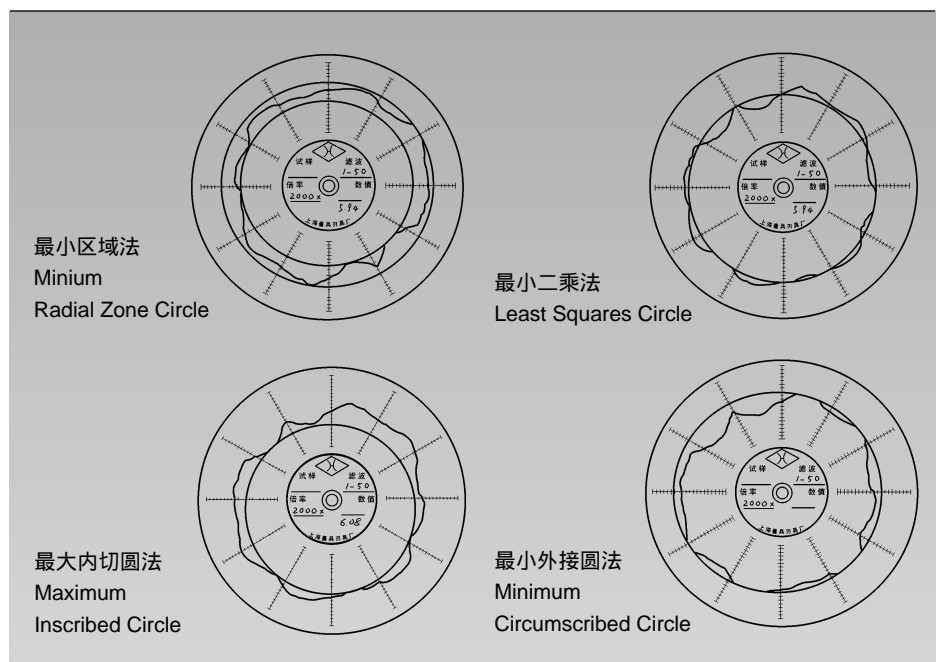
Roundness Measuring Instrument YD200 is a versatile rotating turntable instrument which can cover a wide range of applications for scientific research and industrial measurement.

With it you can measure roundness, concentricity, axiality, flatness, parallelism, runout and waviness at any of magnifications from 100 to 20000.

Features: Easy operation and versatility, combined with the computer to provide fast and results. The analyzer will compute four reference circles (the minimum zone, least squares, circumscribed and inscribed), the out-of-roundness and eccentricity value relative to any of the four references are presented both quickly and reliable.

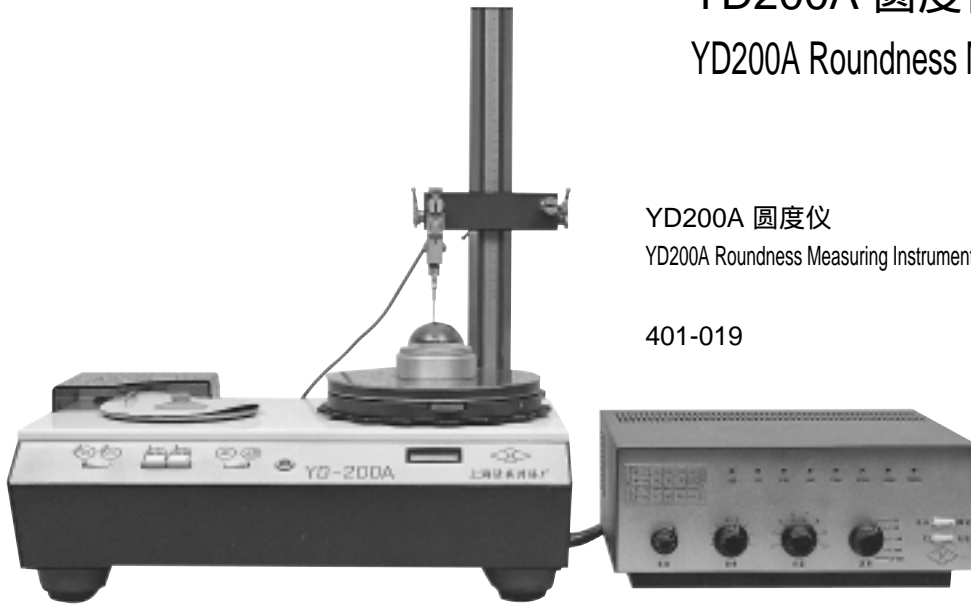
The instrument is designed with compact structure, portability and convenient maintenance. It is yet shockproof so as to suit workshops.

- | | | |
|---|-------|-------------------|
| ○ | 圆度 | Roundness |
| ◎ | 同轴度 | Axiality |
| □ | 平面度 | Flatness |
| ⊥ | 垂直度 | Squareness |
| — | 轴线直线度 | Axis straightness |
| ↗ | 跳动 | Runout |



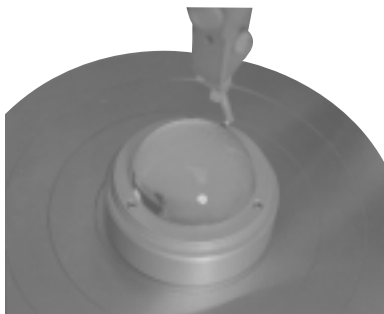
YD200A 圆度仪

YD200A Roundness Measuring Instrument



YD200A 圆度仪
YD200A Roundness Measuring Instrument

401-019

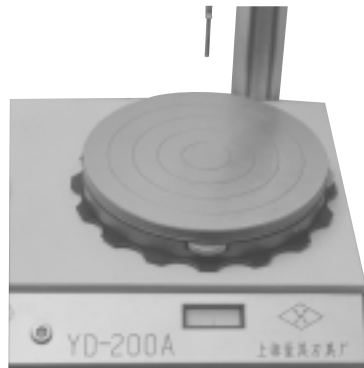


校正球

校正球为精研加工成的玻璃球。精度为 $\pm 0.025\text{mm}$ 。用于校验转台径向精度。

Correction sphere

It is a glass hemisphere lapped with accuracy $\pm 0.025\text{mm}$, for verifying the radial accuracy of rotary table.



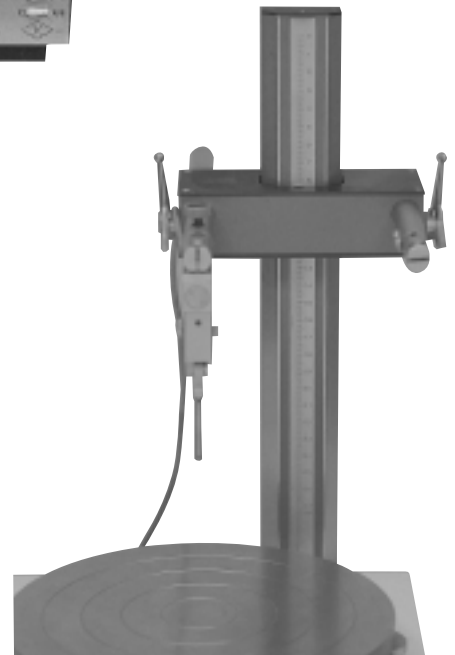
精密转台

转台直径为200mm，承载工件的最大重量10kg。转台下端装有精密转轴，其转速为2.5转/秒。转台上相隔 90° 二个调节钮，可调节台面倾斜。调节范围 ± 2 圈($\pm 40'$)。

Precision rotary table

Its diameter is 200mm, and the max. load for part reaches 10 kg. A precision spindle is mounted on low end of the rotary table. The speed of the table is 2.5 rps. There are two knobs spaced 90° on the table. they can adjust declination for table surface.

Adjustable range is ± 2 rev. (approx. $\pm 40'$).



立柱

立柱上装有滑座，旋动升降钮可使滑座沿立柱作升降移动并可用锁紧手柄锁紧。立柱上标有位移高度指示。全程位移250mm。

Column

The sliding bracket is installed on the column. By turning knob, the bracket can move along column up or down, also can be fixed with the lock handle. A scale which shows moving height is mounted on the column, the full displacement is 250mm.

YD200 圆度仪

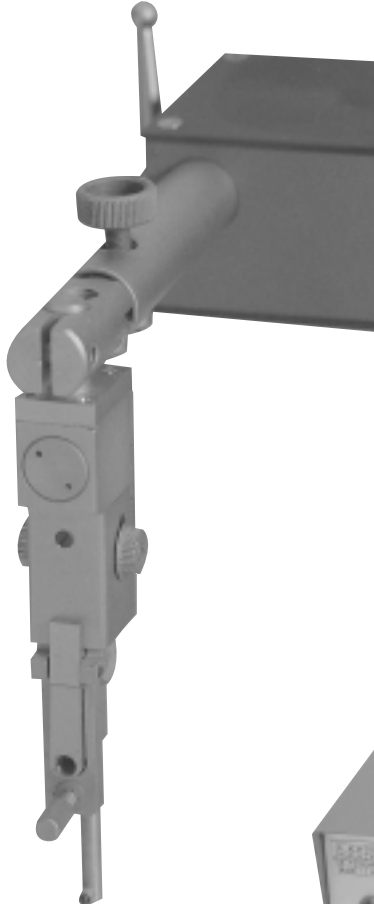
YD200 Roundness Measuring Instrument

传感器

传感器是旁测式电感传感器。可垂直或水平安装。测杆可在测量面内容易地转位到某一位置，装上限位装置可测断续表面。

Pick-up

This is a side-measuring electroinduction pick-up. It can be mounted vertically or horizontally. In order to measure various shape, the stylus arm can be turned to certain position on measured surface easily. After mounting stylus stop attachment interrupted surface can be measured.

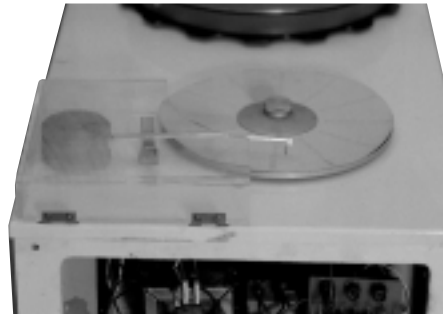


记录器

被测工件的轮廓和相应的参考圆记录在直径为 $\varnothing 150\text{mm}$ 的火花记录纸上。圆形记录宽度为40mm。记录纸的驱动和主轴同步。

Recorder

The profile of measured part and relative reference circle are recorded on the polar Chart in diameter 150mm. The width of the recording zone is 40mm. The chart rotation is synchronous with spindle.



电子部件

面板上有8个指示灯，显示从100到20000八档相应的放大倍率。有一个记录笔笔移调节钮。滤波器钮可选择滤波特性。这些滤波特性被大多数国家认定为国家标准。

Electronic unit

Eight pilot lamps located on panel show their respective magnification in eight scales from $\times 100$ to $\times 20000$. Pen shift adjusts position of recording pen. Filter selector can select filtration characteristics, which are defined as the state standard by many countries.



微型计算机

这是一台通用微型计算机并配有24针窄行打印机。操作者只要根据需要，选择相应的菜单进行测量或分析可分别或同时选择最小区域、最小二乘、最小外接、最大内切四种方法进行评定。测量结果有圆度P+V、峰值P、谷值V、圆心偏心量X、Y。软件系统还附有频谱分析、主轴误差分离、定标等功能。

Microcomputer

It is a general purpose microcomputer. Operator can select the relative function menu to measure or analyze according to requirements. Results includes roundness P+V, peak P, valley V, graphic. Software also contains functions of FFT, error distraction of main axis and calibration.



YD200 圆度仪

YD200 Roundness Measuring Instrument

技术参数

YD200 Technical Specifications

测量范围	高度 :	250mm
Measuring capacity	Height:	
外径 :	转台载荷 :	10Kg
External diameter:	Table load:	
内径 :	偏载 :	15Kg.mm
Internal diameter:	Max. offset load:	

测量系统

当倍率补偿位置1.0倍时记录值与真实值之间的误差不超过±5%，量值±1%量程。

System accuracy:

When multiple rate compensation keeps 1.0, the error between recording and true values less than ±5% of displacement of stylus tip ±1% measuring range.

转台精度

按ISO最小区域法
 0.1μm±0.0005μm/mm × H (H 为测量面离台面的高度<mm>)。

Spindle accuracy:

ISO roundness error 0.1μm+0.0005 μm/mm H. (H--Height above tilt turntable). Radial distance between two concentric circles comprising indicated from true roundness.

传感器

测杆最大安置转角：
 80° (在测量面内)

测量范围
 0.4mm (使用60mm长度测杆)

测端的测力：
 可变0.02-0.08N

Pick-up:

Stylus arm positional range:
 80° (in the measuring plane)

Measuring range:
 0.4mm (60mm stylus arm)

Force of stylus tip:
 varies with 0.02-0.08N

电子部件

径向放大倍率(使用60mm长度测杆时)：
 × 100 , × 200 , × 400 , × 1000 ,
 × 2000 , × 4000 , × 10000 ,
 × 20000

滤波器通带：
 1-500 , 1-150 , 1-50 , 1-15 ,
 15-500
 波度/每周

极坐标记录器：
 转速2.5转/分

记录纸直径：
 150mm

径向记录范围：
 40mm

Electronic device:

Diametral magnification using 60mm stylus arm:

× 100 , × 200 , × 400 ,
 × 1000 , × 2000 , × 4000 ,
 × 10000 , × 20000

Filter transmission polar chart:
 1-500 , 1-150 , 1-50 , 1-15 ,
 15-500
 undulations/rev.

Recorder:
 2.5rev/min

Paper diameter:
 150mm

Diametral range:
 40mm

YD200B 圆度仪

YD200B Roundness Measuring Instrument

圆度仪微型计算机

硬件

586以上微机，标准VGA显示器，EPSON 24针90列打印机。

软件

系统执行文件 D.EXE

调试执行文件 AD.EXE DA.EXE
DAAD.EXE

实现功能

1.测量

可选择采样圈数，采样点数及波度，倍率由采样板自动探测。

2.输入

即从计算机硬盘中读入原存储的数据。

3.输出

包括存盘，打印图形，记录仪输出，打印数据。

4.圆度评定

任意选用最小区域，最小二乘，最小外接，最小内切圆度评定方法，能算圆形的偏心量X,Y最大峰值P，谷值V，圆度(P+V)，最小二乘法还可算中线均值。评定结束后，可对计算结果直角作标，算结果打印或记录仪输出，圆度(P+V)单位为 μm

5.频谱分析

6.主轴误差分

对高精度被测工件，选用多步法或二步法分离主轴误差，提高测量精度。

7.其它

对测量结果去除非正常段，微量椭圆补偿，计算椭圆度。

8.定标

运用最小区域，最小二乘，最小外接，最大内切四种方法进行定标。

9.退出

退出本系统并返回到DOS状态。

Micro computer for roundness tester
Hardware:

586 computer,VGA display,EPSON 24 printer,
Accuracy $\pm 1.5\%$

Software:

System excution file :D. ExE
Setting up excution file:
AD.EXE.DA.EXE<DAAD>EXE.

Function:

1. Measurement

Can to select sampling turns
No.samphing undulation per
revolution magnification.

2. Input

Read in stored datd from hard disk
of computer.

3. Output

Storing data, printing graph, output
of recorder, printing datd.

4.Parameter for Roundness circles:

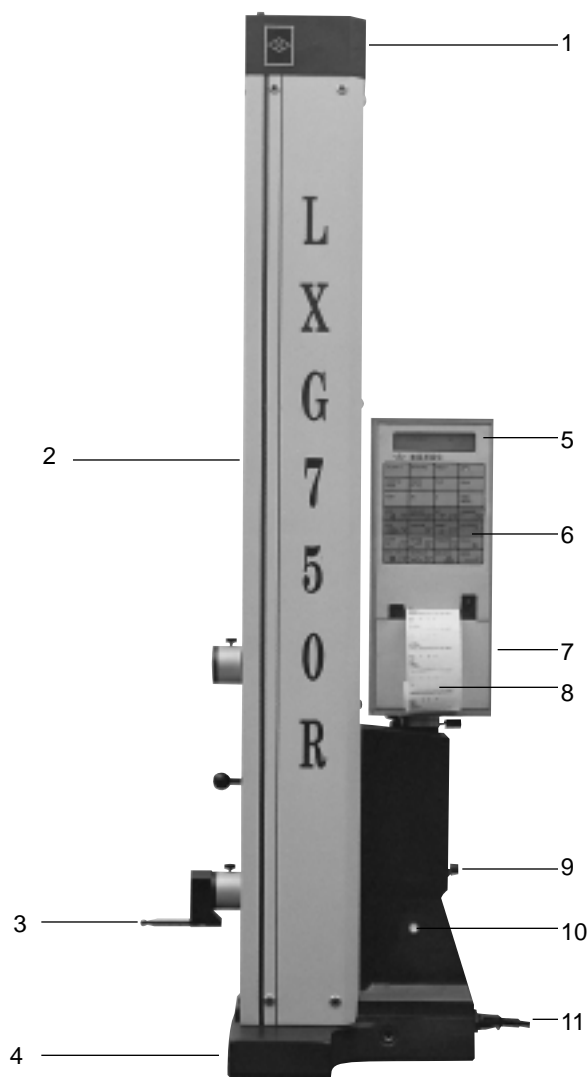
The minimum zone, leastsquares,
circumscibed and inscribed as well
as eccentricity value X,Y, max. peak
value P, max. vaiiey vaiue V,
roundness (P+V). The least squares
also can compute mean value of
middle line.Coruerting roctanglar
Coordinrts to Pola Coorinrtes results
are printed or output from recorder.



5. Frequency spectrum analysis
6. Analysis of error on spindle
Muti steps or two steps method is
adopted to analyze error on spindle.
7. Others
Processing abnormal section and
calculate and compensate ellipticity
8. Callibration
Calibrated by 4 assessment :the
minimum zone, least squares,
circumscibed and inscribed
reference circle.
9. Quitting
Quit from the system and return to
DOS.

数显测高仪

Electronic Digital Height Measuring Instrument



仪器特点

- 采用高精度容栅位移测量系统
- 电气驱动测头移动，方便可靠
- 大屏幕点阵液晶显示，触摸式功能按键，实现简单的人机对话
- 丰富的统计分析软件

· 两维数据处理

- 测量结果打印输出

· 标准RS232输出

- 内置气泵

1 测力调节

2 测头座

3 测头

4 气垫

5 大屏幕液晶显示

6 触摸开关

7 RS-232输出

8 打印机

9 驱动开关

10 气泵开关

11 电源

Features

- With highly precision capacitive measuring system
- Probe driven by power moves easily and reliably
- large dot matrix LCD and touch keyboard for men-machine dialogue

- With statistical and analyzing software

- Processing for two dimensional data

- Print and output for results measured

- Output for standard RS-232

- With built-in pneumatic pump

1 Adjustment for measuring force

2 Support of probe

3 Probe

4 Air bearing base

5 Dot matrix LCD

6 Touch keyboard

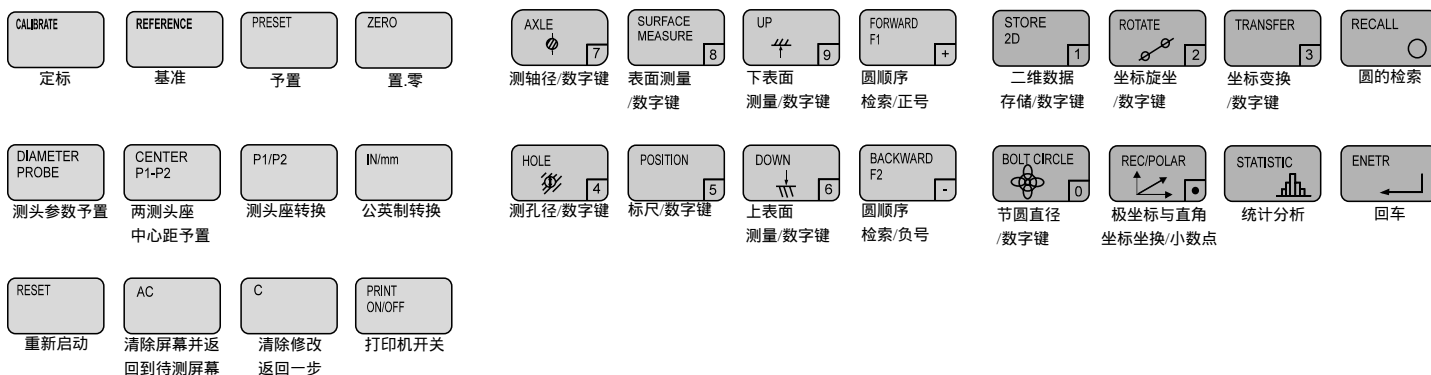
7 Output for RS-232

8 Printer

9 Drive switch

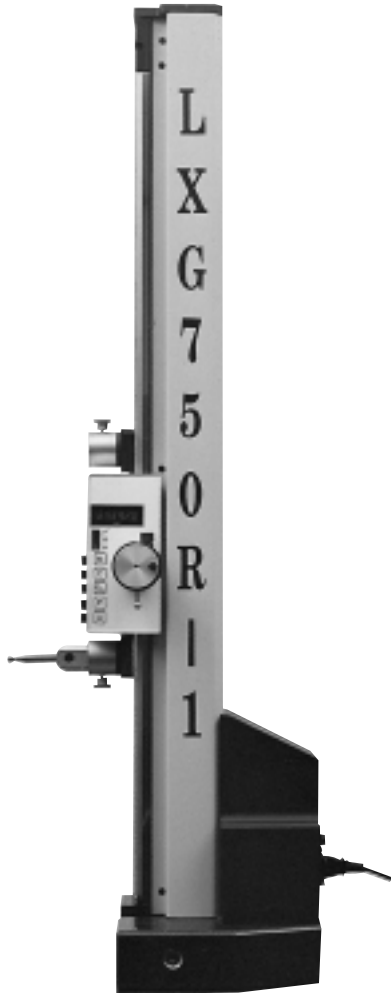
10 Pneumatic button

11 Power



数显测高仪

Electronic Digital Height Measuring Instrument



数显测高仪运用了高精度的容栅式测量系统，其内置的单片机固化有多种测量模式，使仪器能在垂直方向上完成面与面，点与面，孔中心到面，轴中心到面，孔中心距，以及孔径和轴径的测量。当工件置于标准的90°量块上时，仪器可实现二维数据的测量并能直角坐标与极坐标的转换，坐标变换，节圆直径的测量，二维数据的统计分析等。该仪器特别适合箱体类零件的测量，其特有的价格性能比是各大中小型企业的首选。

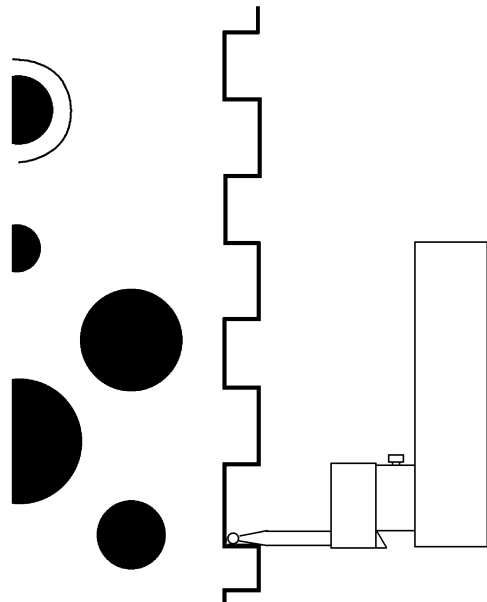
The Electronic Digital Height Measuring Instrument is fitted with the highly precision capacitive measuring system. The built-in micro computer and chips with multi modes make it measuring in perpendicular direction between both surfaces, point and surface, hole center and surface, axle center and surface, also for center distance of hole, diameter of bore and axle. As parts being on standard 90° measuring block, it can measure and analyze two dimensional data, convert between polar and rectangular coordinate, transfer coordinates, measure diameter of bolt circle and process for two dimensional data. It is particularly suited for measuring some parts as case shape. Its ratio of price and performance is the optimal option for enterprises.

技术参数

1. 量程 750mm
2. 分辨率 0.001mm
3. 示值误差 0.0075mm
4. 示值重复性 0.002mm (2)
5. 测量力 1~3N可调
6. 测量滑架的
最大速度 1米/秒
7. 电源 AC 220V , 50HZ

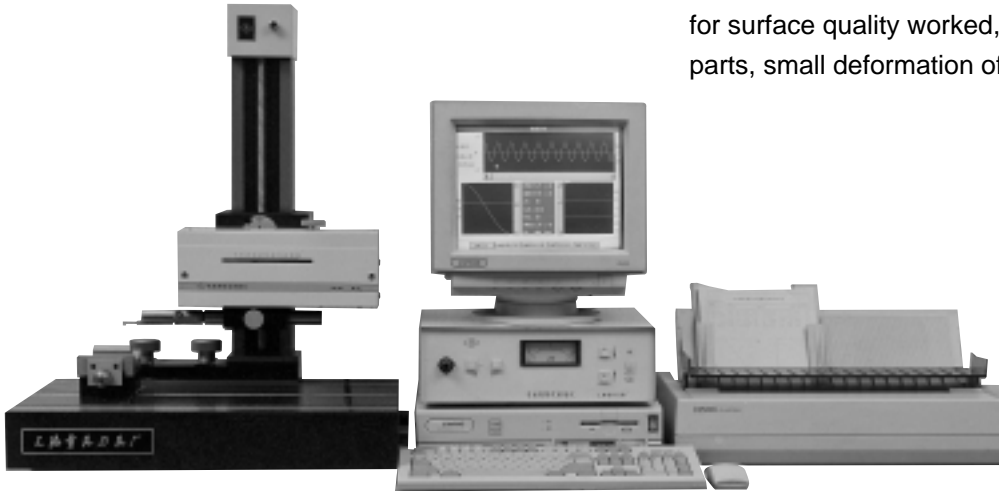
Technical

- | | |
|--|-----------------|
| Measuring range | 750mm |
| Resolution | 0.001mm |
| Indication error | 0.0075mm |
| Repeatability | 0.002mm |
| Measuring force | 1-3N.adjustable |
| Max. moving speed
of measuring slider | 1M/Sec |
| Power | AC 220V, 50HZ |



表面粗糙度测量仪

Surface Roughness Tester



BDO25 表面粗糙度测量仪是一种对工件表面形貌进行测量和分析的最有效的仪器，它特别适宜于研究工件表面的加工质量，工件间的摩擦、磨损、润滑性以及材料表面的微变形等。

BDO25 Surface Roughness Tester is the most efficient instrument which can measure or analyze the form and texture of parts surface. It is particularly applied to study for surface quality worked, friction, wear, lubricity of parts, small deformation of material surface, etc.

主要特点

· 精度高，量程大

仪器虚假信号仅为Ra 0.005mm，示值误差为 5%
仪器的分辨率为0.001mm，而量程可达±128mm
仪器传感器水平滑移的直线度为1Um/100mm，而其量程可达100mm。

· 用途广泛，功能齐全

仪器可对工件的平面，斜面，外圆柱面，凹槽底面，f6以上的内孔表面进行粗糙度测量和对工件表面进行直线度测量，仪器测量后可同时得到tp曲线和幅度分布曲线以及22种参数，如：

- Ra Rz Ry Rt Rtm Rq Rpm Rv Rvm R3y R3z
- Ia Iq Sm S
- Da Dq Sk Rku tp Pc等。

· 微机处理、窗口显示

仪器的测量结果由486微机处理，屏幕采用窗口显示，鼠标驱动，软件功能强大，可进行统计分析，数据及图形动态显示。

· 操作方便、价格适中

仪器驱动箱可自动升降及对零，倾斜度可调。测量工件装夹方便。测量结果可存盘，检索及打印。性能价格比为同类仪器中最高。

Features

· High Precision, Large Measuring Range

False signal Ra 0.005mm, Indication error 5%,
Resolution 0.001mm, Measuring range ±128mm,
Straightness of pick-up in sliding mm/100mm. Range 100mm.

· Great Verastility, Multi-function

Can measure flat, oblique, cylindrical, grooved surface.
Can measure roughness of bored surface above f6 and straightness of parts surface. Can analyze tp curve, amplitude distribution curve and 22 parameters such as

- Ra Rz Ry Rt Rtm Rq Rp Rpm Rv Rvm R3y R3z
- Ia Iq Sm S
- Da Dq Sk Rku tp Pc

· Computer Processing, Window Display

Results measured are processed by 486 DX Computer, with Windows™ display and mouse driven. Powerful software gives the statistical data analysis and dynamic graphical display.

· Easy Operation, Moderate Price

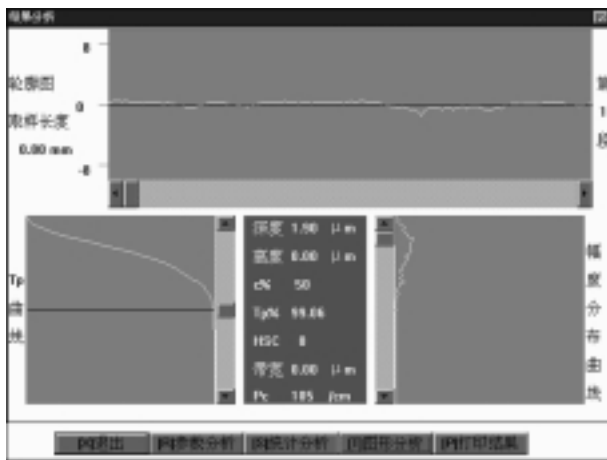
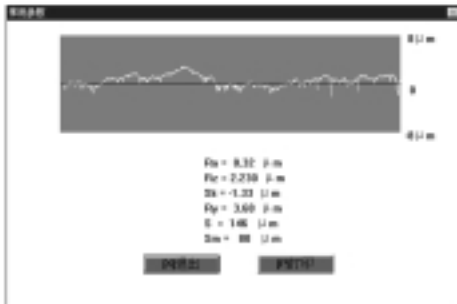
The driving box of instrument is moved up or down, and adjusted to zero automatically and can be tilted in vertical plane. The parts to be measured is easily set. The results measured can be saved, searched and printed. The feature/price ratio is highest in same kind of instruments.

表面粗糙度测量仪

Surface Roughness Tester



窗口显示
Windows™ display



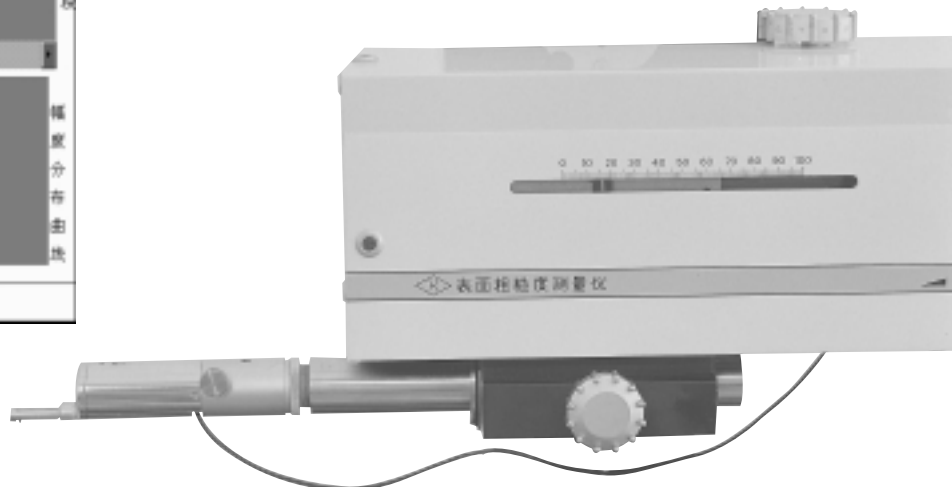
图形分析
Graphic analysis

技术参数

1 电源电压	AC 220V 50HZ
2 仪器体积	600 × 400 × 780 (长 × 宽 × 高)
3 驱动箱行程	100mm
4 驱动速度	0.5mm/Sec
5 传感器滑行直线性	1 $\mu\text{m}/100\text{mm}$
6 测头	镶金刚石触针
	触针夹角 90°
	针尖半径 2 μm
	针尖静压力 0.0007N
7 导头	红宝石导头
	导头压力 0.5N
8 取样长度	0.25 0.80 2.50
9 最大垂直放大倍数	Vv=100000
10 仪器分辨率	0.001 μm
11 仪器量程	4、16、64、 256(μm)
12 仪器虚假信号	Ra 0.005 μm
13 仪器示值误差	5%
14 仪器示值变动性	3%
15 仪器示值稳定性	2%

Technical Data

1 Power and voltage	AC 220V 50HZ
2 Dimensions	600 × 400 × 780 (长 × 宽 × 高)
3 Travel of driving box	100mm
4 driving speed	0.5mm/Sec
5 Straightness of pick-up in sliding	1 $\mu\text{m}/100\text{mm}$
6 Probe	stylus set with diamond
	Included angle of stylus 90°
	Radius of tip 2 μm
	Static pressure of tip 0.0007N
7 Guide	Ruby guide
	Pressure 0.5N
8 Sampling length	0.25 0.80 2.50
9 Max. magnification in perpendicular direction	Vv=100000
10 Resolution	0.001 μm
11 Measuring scale	4、16、64、 256(μm)
12 False signal	Ra 0.005 μm
13 Indication error	5%
14 Variation of value	3%
15 Stableness of value	2%



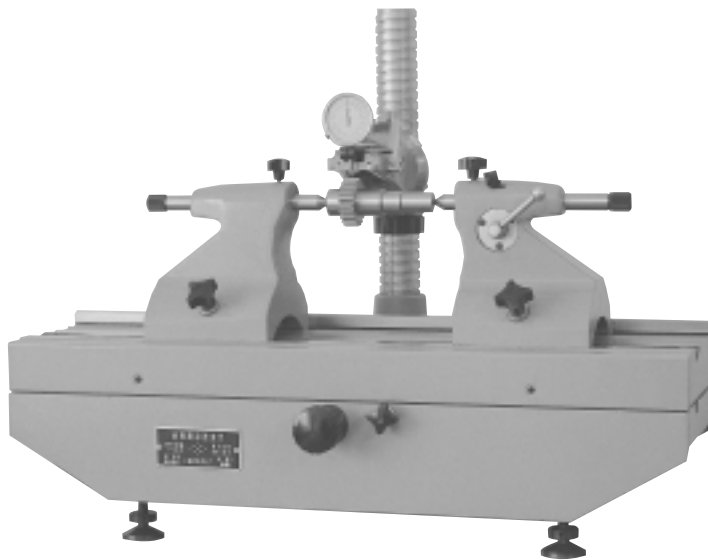
齿轮跳动检查仪

Gear Runout Testers

m 0,3-2 Code No. 402-003

m 1-6 Code No. 402-004

402-004



用于检查6级或6级以下精度圆柱，圆锥外齿轮及蜗轮蜗杆的径向跳动或端面跳动。

For measuring radial or face runout of out engaging cylindric and tapered gears, worm and worm gear (Accuracy: class 6).

主要技术参数

Main technical parameter:

被测齿轮模数 measuring gear module	0, 3-2 mm, 1-6 mm	齿轮最大直径 Max. Diameter of gear	150mm,300mm
测架转动范围 Swivel range of measuring stand	±90 °	指示表分度值 Division Value of indicator	0.001mm

仪器示值变化在10次测量过程中，不大于下列规定：

测光滑表面：		测齿轮：
不用杠杆	用杠杆	不用杠杆
1 μm	2 μm	3 μm

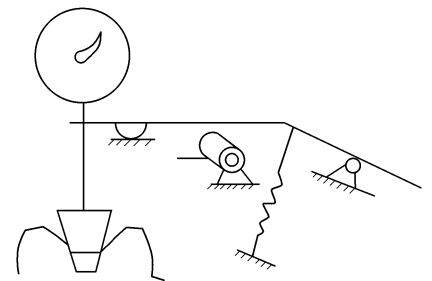
The variation of indication value of the tester during measuring 10 times does not exceed the value shown in following table:

Testing smooth surface:		Testing gear:
Without lever	With lever	Without lever
1 μm	2 μm	3 μm

仪器工作原理

Operating principle

齿轮径向跳动DFr，在齿轮一转范围内，测头在齿槽内或齿轮上，与齿高中部双面接触，测头相对于齿轮轴线的最大变动量。为此，齿径向跳动的检查是借具有原始齿条齿形的测量头进行。图所示，为用于这种检查仪的原理示意图。检查时，将装在芯轴上的被检查齿轮，固定在仪器两顶针间，把具有原始齿条齿形的测量头，依次插入齿轮的齿间内，并用指示表示出测量头位置对齿轮转动轴线的跳动量。



Radial runout DFr of gear ring is the maximum variation of distance from the center gear to the gage head which contacts the gear tooth at middle tooth profile of standard gear rack, testing radial runout of gear ring is put into practice. Operating principle is shown as Fig. 1. When checking fix the tested gear placed on the arbor between centers of the tester, inserting gagge head into space of both teeth in turn, then runout of the gage head relative to ratary axis of the gear is shown by the indicator.

齿轮基节检查仪

(便携式齿轮基节测量仪)

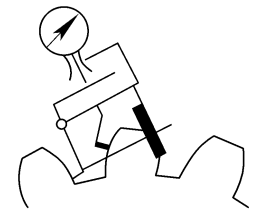
Gear Base Pitch Tester (Portable)



Code No. 403-005

本仪器附有调整仪器用的高精度的校对块和块规座。

This tester is supplied by accuracy correcting blocks and gauge block.



用于检查直齿及斜齿的外齿合圆柱齿轮的基节偏差，并使用高精度的测微表指示。仪器结构紧凑，操作方便。可适用于各工厂计量室及车间。

This tester is suitable to measuring the base pitch deviation of straight and helical circular gear, the accuracy value has been indicated. This tester is available to meter rooms and workshops with compact structure, simple and easy operation.

主要技术参数

Main technical parameter:

1	被测齿轮模数 Measuring gear module		1-16mm
2	仪器指示表测量范围 Tester indicating		±0.05mm
		任意20分度内	±0.02mm
		任意50分度内	±0.05mm
3	仪器的示值误差，分度值 Error indicating and dividing		±0.002mm ±0.003mm
4	前后对块工作面重合度误差 Correcting block error		±0.0005mm

仪器工作原理

Operating principle

利用一个与齿廓相切的测量面以及一沿齿面摆动的测量触头量得最小距离从而反映出基节偏差值。

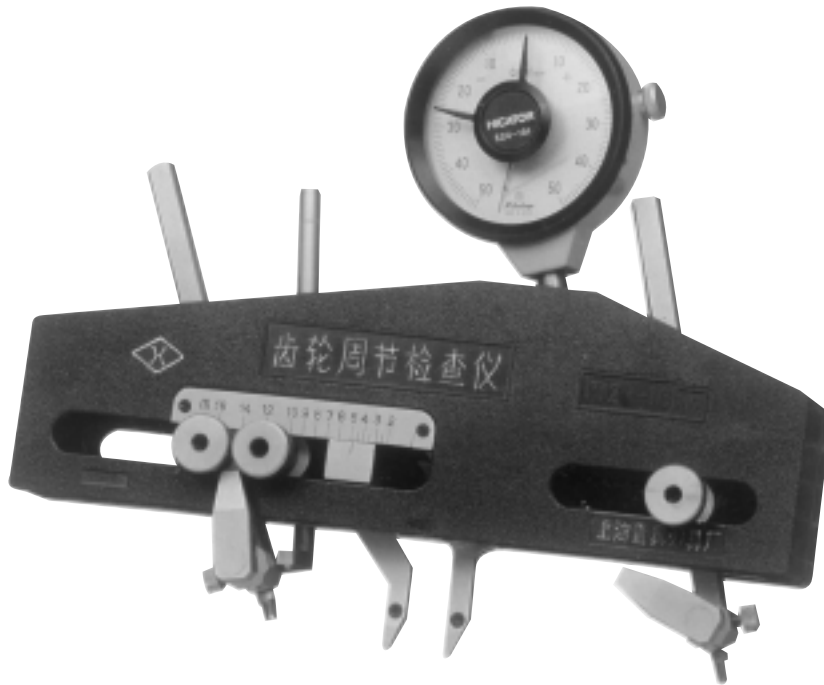
By way of a measuring face tangent with flauk profile and a measuring contact jiggling along the tooth facem the minimum distance can be measured to show the base pitch deviation.

齿轮周节检查仪

(便携式齿轮周节测量仪)

Gear Pitch Tester (Portable)

Code No. 404-006

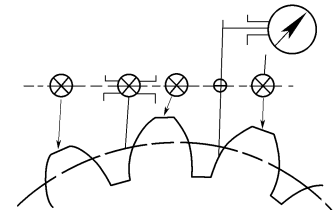


仪器工作原理

Operating principle

仪器工作时齿顶圆顶上取三点作为定位基准，以被测齿轮任意一个周节调整仪器对零，来比较其它各齿周节与第一对周节的大小，最后进行数据处理，即可得到您所需测量周节的结果。

Three points should be selected as base at the cylindrical top while the tester is working, setting any pitch tester of measuring gear to zero, to compare the size of other pitch with the first pitch. The satisfied measuring results are obtained after data processing finished.



适用于检查7级或低于7级精度的内外齿合直齿与斜齿圆柱齿轮的周节偏差。操作简便，易于维修，可供各工厂计量室及车间使用。

This tester is suitable to measure accuracies of pitch deviation with inside and outside straight helical circular gear among seventh degree. Easy to operate and maintenance.

主要技术参数

Main technical parameter:

1	被测齿轮模数 Measuring gear module	2-16mm
2	仪器指示表的分度值 Tester indicating	0.001mm
3	仪器示值误差 Error indicating	
	在千分表任意0.1mm范围内允差 Within any 0.1mm microgauge range	±0.003mm
	在千分表全行程范围内允差 Within ful distance range	±0.01mm

3Z400E 齿轮周节检查仪

3Z400E Pitch Measuring Instrument

Code No. 405-007



3Z400E 齿轮周节检查仪适用于在计量室和生产车间对齿轮的周节偏差 f_{pt} ，周节累积误差 F_p (F_{pk}) 进行测量，并能自动进行计算和以打印及绘图形式输出测量结果。

The 3Z400E Pitch Measuring Instrument is capable of Measuring Computing Recording on Chart Printing out of Pitch Variation f_{pt} and Accumulated pitch error. f_p (F_{pk}) in Production and Inspection Departments.

主要技术参数

Main technical parameter:

(1) 测量范围

Measuring range

模数	45mm
Module max.	
齿数	999
Number of teeth max.	
工件直径	400mm
Diameter of workpiece max.	

(2) 仪器参数

Instrument data

测量速度	20/min
Slide stroke frequency, max.	
传感器量程	$\pm 100\text{mm}$
Measuring pick-up capacity, max.	
测量分辨率	$\pm 0.1\text{mm}$
Measuring resolution	

(3) 测量精度

Measuring accuracy

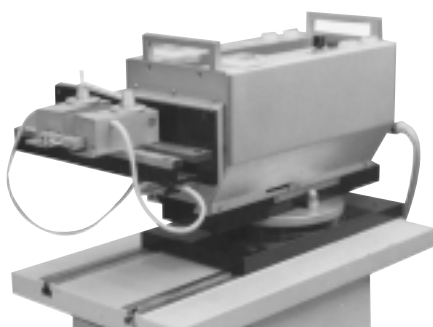
单齿测量复杂性	$2s$	0.5mm
Repeatability of single pitch test		
周节偏差测量精度		1mm
Measuring accuracy of f_{pt}		

可作上置式测量的齿轮周节测量机

Pitch Tester Set-up On Gear

Production Machine

Code No. 405-008



周节测量机可以安装在齿轮加工机床上，对齿轮的现场测量，在控制电箱控制下能自动完成。被测齿轮直径不限。

The Pitch Tester can be installed on gear production machine and can complete the entire pitch measuring operation automatically under constant control by the Control Unit. The diameter of workpiece is not limited.

电容式线位移测量仪

Capacitive Linear Displacement Measuring Device



Code No. 414-017

主要功能

Main function

- 能进行绝对测量和相对测量。
- 绝对测量时，即使电源切断，该测量值仍能保持。相对测量时，可在测量范围内的任何位置置零。
- 能进行0.1mm和1mm分辨率的转换。
- 能进行公制和英制读数的转换。
- 利用预制拨盘可将所需值引入到测量值中去。
- 具有模拟电压及BCD码数据输出功能，以便功能扩展。如数据打印、模拟指示、曲线记录、与计算机通讯等。
- It can be used for absolute & relative measurement.
- For absolute measurement, the measured value is held even as power is cut off.
- For relative measurement, it can set zero at any position within measuring range.
- Either the resolution 0.1mm or 1mm can be selected.
- Either metric or inch reading can be selected.
- Desired value can be added to the value measured by preset dial.
- The output of measured value can be analog voltage and BCD code in order to expend function such as data printing, analog indication, graphic recording, computer communication, etc.

其它测量

Other measurement:

根据用户需要，可以满足各种特殊测量要求。如内孔测量，形状及轮廓测量，小测力测量，曲线动态测量与控制等。
 Suited for various special measurement is required by user, such as measurement for bore, form and profile, small measuring force, linear dynamic, control, etc.

工作原理

电容式位移测量仪是一种由电容式传感器将线性位移量转换成极套间的电容讯号变化，通过电子系统用数字显示的长度测量仪器。

Working principle

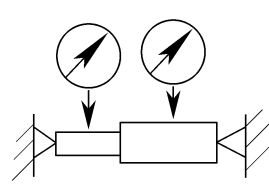
The Capacitive Linear Displacement Measuring Device is applied to length measurement, for which a capacitive sensor changes linear displacement for capacitive signals varying between polar sleeves, and displaying in digits via electronic system

测量范围 Measuring Range	0-1 μ m	0-10mm	0-25mm
示值总误差 Indication error	1 μ m	1.5 μ m	2 μ m
测量力 Measuring force	0.08-0.11N	0.4-0.9 ^N	0.4-1.2 ^N
分辨率 Resolution	0.1 μ m/1 μ m		
示值变动性 Indication variation	0-2 μ m	0.3 μ m	
显示 Display	6位LED显示 LED display in 6 digits		
夹持直径 Clamping diameter	8h ₆ , 12h ₆		
工作位置 Working position	任意方向Any direction		

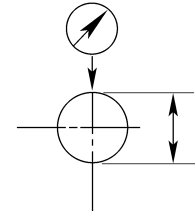
电容式线位移测量仪

Capacitive Linear

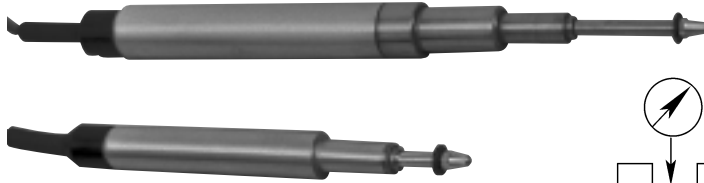
Displacement Measuring Device



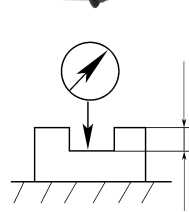
· 同轴度测量
Axiality measurement



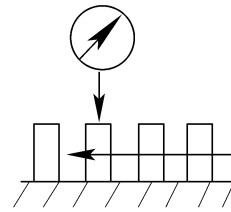
· 直径测量
Diameter measurement



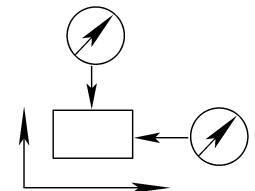
轴向式传感器



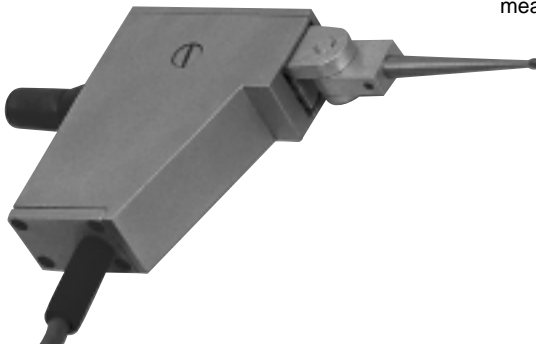
· 深度 (高度) 测量
Depth (height) measurement



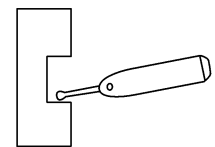
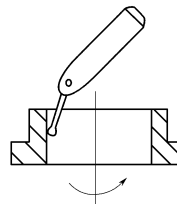
· 公差测量
Tolerance measurement



· 坐标测量
Coordinate measurement



旁向式传感器



模拟指示器

与仪器连接，通过电表指针指示量值。可通过拨盘选择不同量程的测量档，并可在任意位置置零。在比较测量和工件的圆跳动测量中尤为理想。

Analog indicator

Value measured is indicated by pointer when be connected with instruments. Can to select different measuring range and zero setting at any position. Ideal for measurement of comparison and circle runout.

公差限制器

与仪器连接，通过两拨盘预置最大极限尺寸和最小极限尺寸。对于批量工件的尺寸测量极为适宜。

Tolerance limiter

Can be connected with instruments. Max. and Min. dimension can be presetted by both dials. It is suitable to measure parts in batch.



MRX1000容栅多功能数显表

MRX1000 Capacitive Digital Display Device



用于连接各种容栅型数显量具，实现测量值大屏幕LED显示，并通过RS232串行接口向计算机传输。由于具有6位显示值，一定条件下还能扩大容栅的测量范围或提高分辨率。

特点

- MRX1000能够识别并控制容栅电路的快慢速工作模式的转换，并在两种工作模式下置零。
- 多达8个MRX1000的可通过串行通讯串联扩充，并最终与计算机相连，可通过呼叫不同的传呼码，获取任一台的显示值。
- 可与具有串行口的打印机（如TP系列维型打印机）联机使用。

It is used to connect various capacitive digital measuring tools to display the measured value by LED or transmit to PC computer through RS232 serial port.

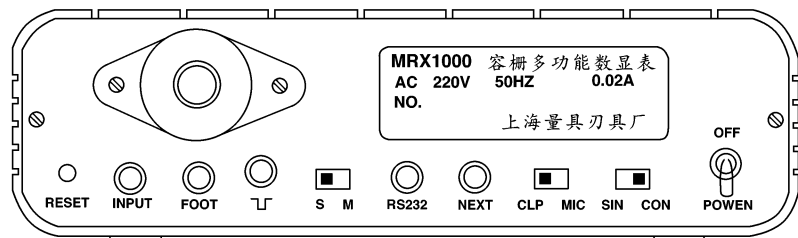
FEATURES

- WITH 6 bits LED digital display possible to expend measuring or resolution.
- Can recognize and control the Fast/Slow mode and set zero for each mode.
- Up to eight MRX 1000 can be connected to each other and to PC computer through serial port. Using different code each MRX 1000 can be called by computer. Serial port can be connected with TP series mini printers.



MRX1000容栅多功能数显表

MRX1000 Capacitive Digital Display Device



技术参数

显示范围	卡尺类	公制	±999.99 mm
		英制	±99.9995 inch
	千分尺类	公制	±99.9999 mm
		英制	±9.99999 inch
分辨率	卡尺类	公制	0.01 mm
		英制	0.0005 inch
	千分尺类	公制	0.0001 mm (0.1m)
		英制	0.00001 inch
精度	由容栅电路决定，MRX1000不附加新的误差		
取样频率	慢模式	4次/秒	
	快模式	50次/秒	
串行口波特率	1200, 2400, 4800, 9600		
串行口发送命令	脚踏开关，外同步脉冲，自动连续，串行口传呼码 呼叫		
工作温度	0 ~ 40		
电源	220V±10%	50±3HZ	<0.02A
	(按用户要求可改为110V)		
外形尺寸	157 × 108 × 48mm		
	(长 × 宽 × 高)		

Technical data

Display Range	Caliper	Metric	±999.99 mm
		Inch	±99.9995 inch
	Micrometer	Metric	±99.9999 mm
		Inch	±9.99999 inch
Resolution	Caliper	Metric	0.01 mm
		Inch	0.0005 inch
	Micrometer	Metric	0.0001 mm (0.1m)
		Inch	0.00001 inch
Accuracy	Depend on capacitive circuit, no additional error		
Sampling frequency	Slow mode	4times/s	
	Fast mode	50times/s	
Baud rate of serial port	1200, 2400, 4800, 9600		
Transmit command	Foot pedal switch, external sync pulse, auto		
from serial port by	continually transmitting, call code calls at serial port		
Working temperature	0 ~ 40		
Power	220V±10%	50±3HZ	<0.02A
	(Can be changed to 110V as requested)		
Dimension	157 × 108 × 48mm (L × W × H)		

电子数显量具接口

Special Interface For Electronic Digital Measuring Instrument



用途

主要用于电子数显卡尺，电子数显千分尺等各种电子数显量具与计算机的连接通讯。从而使管理控制实现自动化。

工作原理

采用点线结合并行通讯方式采样，将数显量具输出的数据经过 I 448转换成ASCII码通过中断控制的串行通讯方式与计算机相连。

主要规格和技术参数

- 1.输出：RS232C标准接口
- 2.电源：220±10%
- 3.整机电流：700mA
- 4.采样速度：1次/秒
- 5.输出数据精度：与数显量具显示值保持一致
- 6.环境温度：0-40
- 7.波特率：300波特、1200波特、2400波特、4800波特可调

Application

It is mainly used to communicate informations between PC computer and the digital measuring tools such as digital calipers, digital micrometers, etc. Especially it is useful in quality control system.

Working Principle

Using the Bus and Parallel communication sampling, to transfer the data output of standard ASCII code. By interrupt control and serial communication connect to PC computer.

Specifications

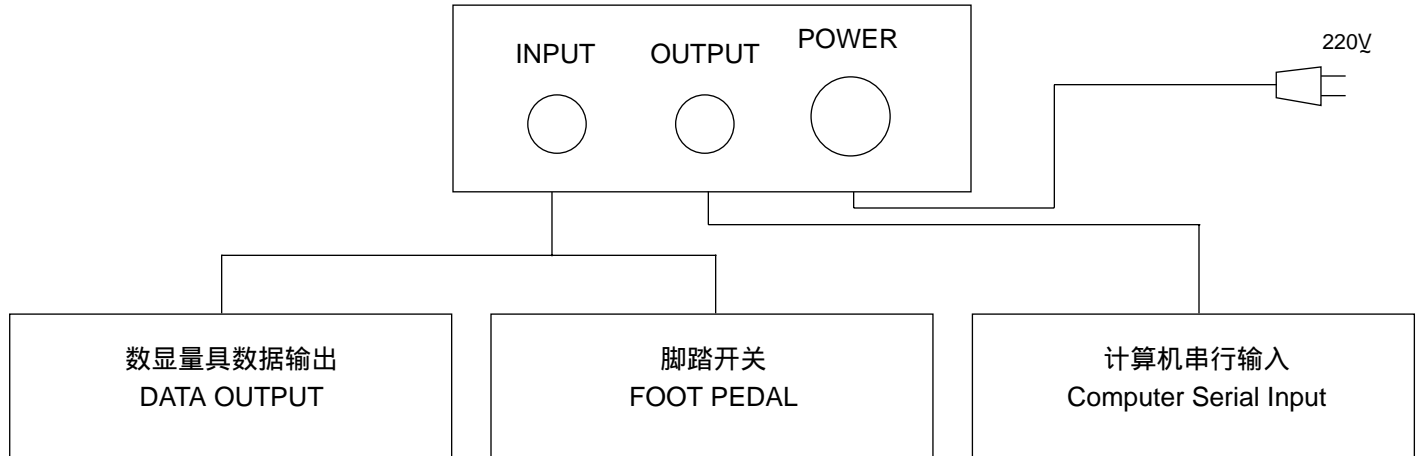
Output:	standard
Power supply:	220V±10%
Current:	700mA
Sampling speed:	once per second
Output accuracy:	same as digital measuring instruments
Ambient temperature:	0-40
Baud rate:	300,1200,2400,4800,adjustable



电子数显接口

Special Interface For Electronic

Digital Measuring Instrument



主要规格和技术参数

输出： RS232C标准接口
 电源： 220V±10%
 整机电流： 700mA
 采样速度： 1次/秒
 输出数据精度： 与数显量具显示值保持一致
 环境温度： 0-40
 波特率： 300波特、1200波特、2400波特、4800波特可调

Specification

Output	RS232C Standard interface
Power	220V±10%
Current	700mA
Sampling speed	Once per second
Output accuracy	Same as digital measuring instrument
Ambient temperature	0-40
Baud rate	300,1200,2400,4800,adjustable

操作使用

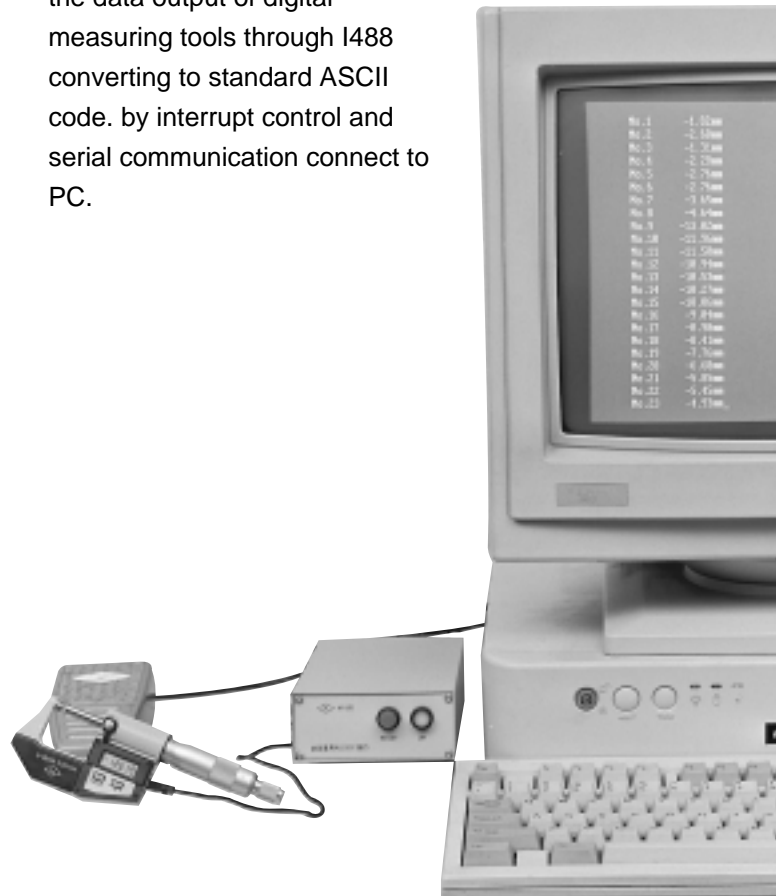
整个系统如图一连接好以后先检查工作是否正常（改变尺寸时显示值是否相应变化，按下置零按钮时量具能否置零）。然后打开KA101的电源开关（POWER），并操作计算机让用户接收程序运行，并处于等待状态，测量就可以正式开始了。在测量过程中，每踏一次脚踏开关机内蜂鸣器即叫一次（采样一次）。

计算机用户接收程序的使用：

本系统配置用户接收程序软盘，用户可在软盘驱动器中调出使用，也可拷入硬盘中使用。

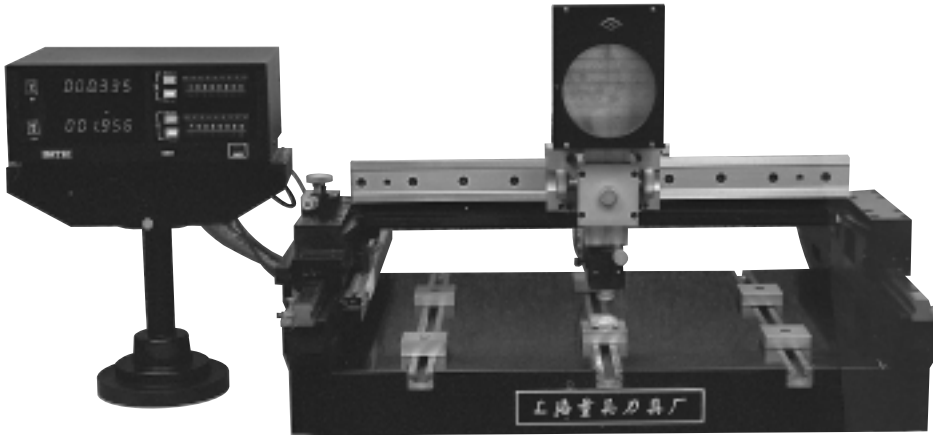
Working principle

Using the Bus and Parallel communication sampling to transfer the data output of digital measuring tools through 1488 converting to standard ASCII code. by interrupt control and serial communication connect to PC.



二座标孔距测量仪

Two Coordinate Bore Distance Measuring Instrument



本仪器用于检测印刷线路板，模板，照相底片等各种板状零件的孔，线条及沟槽的相互位置及尺寸。

It is used to measure mutual position and dimension of bores, slots, lines of printing boards, templates, negatives or any plates.

原理

仪器采用反射光，将被测工件的图象放大后投影在大屏幕上。通过X，Y二个方向的移动，从高精度线型磁栅尺及其数显表上分别读取X，Y方向的移动量，从而确定被测工件的座标位置和尺寸。

Working principle

Images of parts is magnified and projected to the screen by reflected light. Displacement in X and Y direction is read from linear magnetic grid and its digital indicator to define the coordinate position and dimension of parts measured.

特点

- 花岗石平板为底座，稳固，精密。
- 反射投影，屏幕放大显示，观察清晰，快捷。
- 可根据用户需要增加BCD码输出口板，以便与计算机配套使用。

Feature

- With granite base, rigid and precision
- projected by reflection, magnified on screen
- Interface for BCD code output connected to computer is on requested.

二坐标孔距测量仪

Two Coordinate Bore Distance Measuring

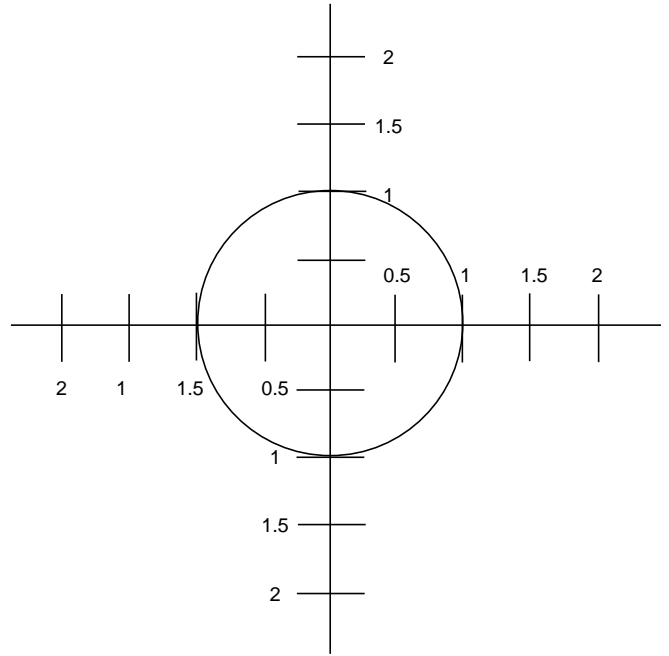
Instrument

主要技术规范

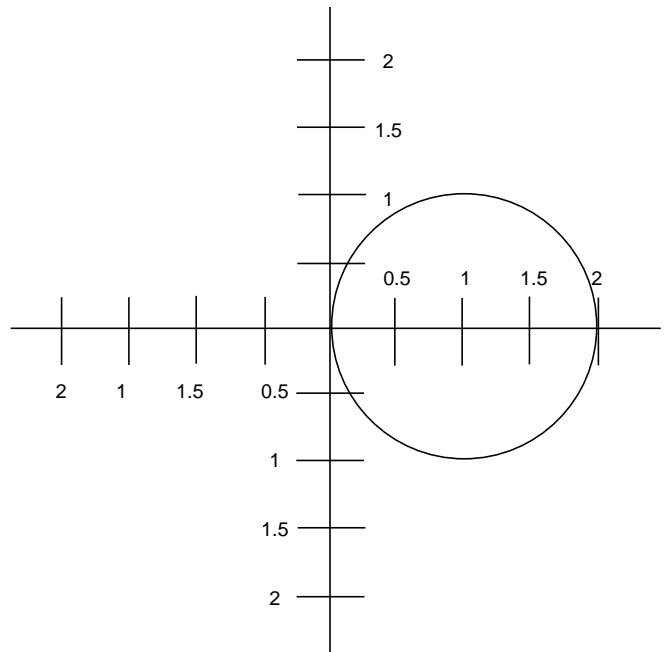
- 被测工件最大尺寸 500 × 400 × 25 (长 × 宽 × 高)
- 最大位移量 X向450mm, Y向350mm.
- 放大屏幕放大倍率 20倍
- 放大屏幕调焦距离 ±10mm
- 线型磁栅系统累积精度 $\pm(2.5+2.5)\mu\text{m}$ (L为有效长度, 单位为米)
- 磁栅数显表分辨率 $1\mu / 10\mu$ (切换选用)

Specifications

- Max. dimension of parts measured 500x400x25 mm (LxWxD)
- Max. displacement 450 in X direction
350 in Y direction
- Magnification x 20
- Focal length of screen $\pm 10\text{mm}$
- Accumulated accuracy of magnetic grid $\pm (2.5+2.5L)\mu\text{m}$
(L:available length.
Unit: meter)
- Resolution of indicator $1\mu / 10\mu$ (switchable)



用十字对中法测孔距

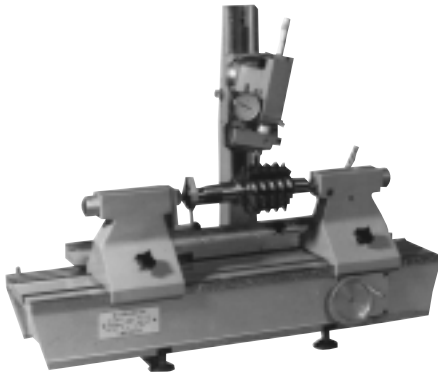


边缘切线法测孔距

滚刀、齿轮两用检查仪

Hob & Gear Tester

Code No. 408-011



本仪器可测量0.2-10mm模数，直径小于等于300mm的外齿合圆柱齿轮的齿圈径向跳动，周节偏差，周节累积误差，齿向等单项参数及螺旋导程大于等于300mm滚刀的单项参数。

It is enabled to measure single parameter such as radial runout, pitch deviation, pitch cumulative errors, tooth direction, etc. of outside measuring cylindrical gear (gear mm). The single parameter of hob (whose spiral lead 300mm) also can be measured.

主要技术参数

Main technical parameter:

两顶尖间最大距离： Max. distance between centers:	500mm
两顶尖中心高： Centre height of both centers:	150mm
仪器单齿测量极限误差： Limit error for single tooth:	
光滑圆柱： Smooth cylinder:	0.001mm
其它： Others:	0.002mm

平行性检查仪

Parallelism Tester

Code No. 413-016



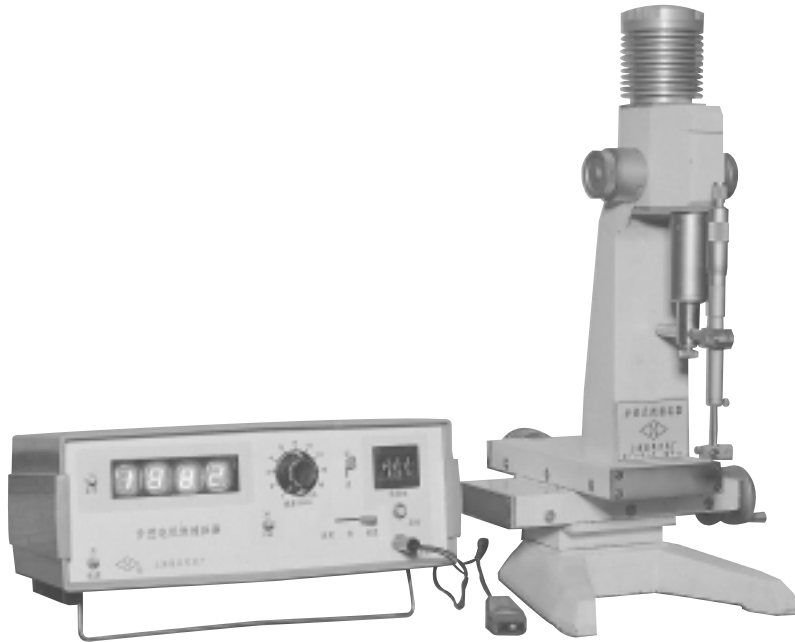
外径千分尺测量面平行性检查仪主要用于100~200mm外径千分尺测量面的不平行度检查。该仪器是根据光学的自准直原理，以测量千分尺测量面间的微小夹角来确定其不平行度。仪器装有钨灯，采用投影放大及公差分划板，所以操作方便，检定效率高。

This teste is mainly applied to test parallalism of 100-200mm outside micrometer ' s measuring faces. With reference to principle of optical alignment, it measures the micro angle included between micrometer ' s measuring faces so as to verify the parallelism. It is equipped with indium lamp, adopting the projection magnification and the tolerance plate, so has advantages as easy operation and high efficiency for inspection.

微电极操纵器

Micropole Controller

Code No. 407-010



仪器用于生理、药理、病理和毒理方面的离体标本细胞的研究。其精度高，稳定性好，操作简便可靠。

This instrument is applied to research for cell in vitro within some areas such as physiology, pharmacology, pathology and toxicology. It is designed with high accuracy, well stability, easy and reliable performance.

主要技术参数

Main technical parameter:

纵横拖板行程：	00mm
Longitudinal / Traverse slider travel:	00mm
垂直行程：	50mm
Vertical travel:	50mm
最小读数：	0.01mm
Min. reading:	0.01mm
测头每步移动量：	0.0005mm/step
Displacement of measuring head:	0.0005mm/step
换向空程量不大于：	0.0005
Clearance for changing direction:	0.0005
自动进给速度：每秒1 - 200步	1-200steps/sec.
Auto feed rate:	1-200steps/sec.

扭簧比较仪

Torsional Type Spring Indicator

Code No. 409-012

扭簧比较仪用于测量高精度工件的几何形状误差和零件相互位置的正确性，并可用比较法测量长度，特别适用于检定工件的跳动量。

Torsional Spring Type Indicator is used for measuring geometric form error of highly precision parts and correction of parts relative position, as well as length

by adopting comparing method; particularly applied to inspect runout of parts.

主要技术参数

Main technical parameter:

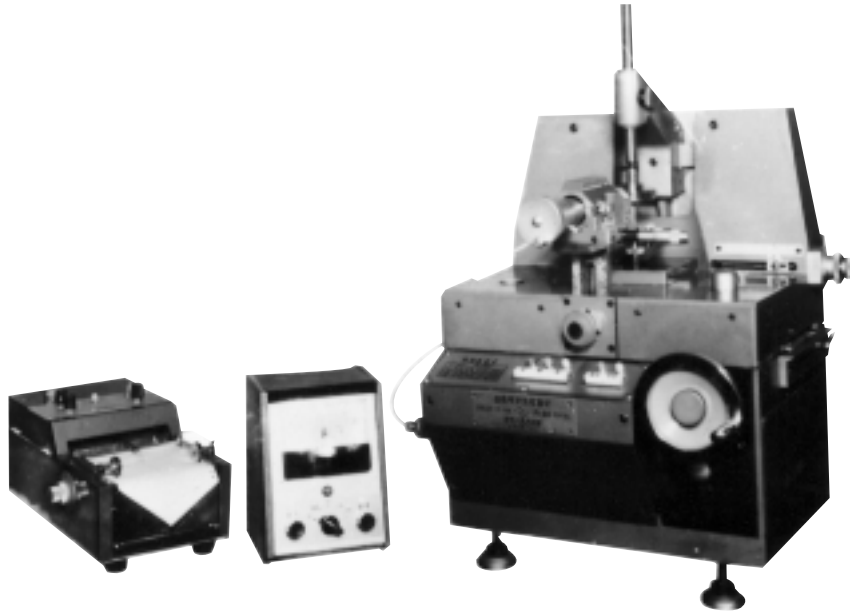
仪器刻度值	0.001mm
Resolution	0.001mm
示值范围	±0.03mm
Measuring range	±0.03mm
示值误差	±0.0004mm
Reading	±0.0004mm
外套配合直径	28mm
Mating diameter of outside sleeve:	28mm



小模数齿轮渐开线检查仪

Fine Pitch Gear Involute Tester

Code No. 410-013



本仪器适用于检查小模数外齿合直斜圆柱齿轮渐开线齿形，仪器所指示的为实际齿形对理论齿形的偏差。此检查仪为万能式，采用坐标对闭调整原理。利用电容式传感器作定位基准和测量，并应用了电子自动记录。由于标准渐开线运动采用封闭调整原理，所以提高了仪器标准渐开线运动的精确性，同时，还综合补偿一部分由导轨、轴系、直尺等产生的传动误差和阿贝、温度等带来的误差。

It is suitable for inspecting introduce tooth form of fine pitch outside engaging straight/bevel cylindric gear the device indicates the deviation of actual tooth form to theoretical tooth form. This tester is a kind of universal type designed in principle of coordinate enclosed adjustment, which uses capacitance pick-up for positioning reference and

measurement, electronic automatic recording is used as well. Since adopting the principle of enclosed adjustment in involute motion, the correction of standard involute

motion gets raised. Additionally, it compensates synthetically partial drive error caused by rail, axle train, ruler, etc., and error by Abbe and temperature.

主要技术参数

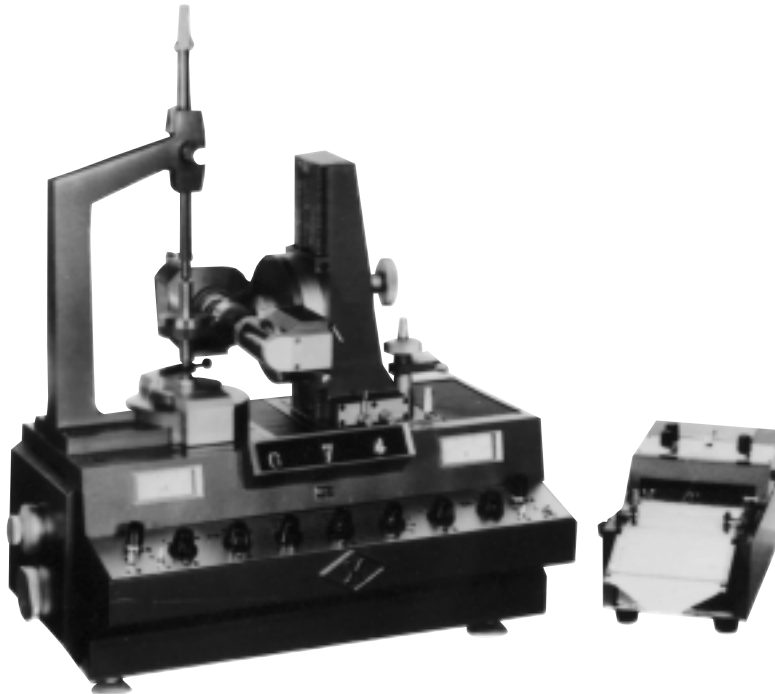
Main technical parameter:

仪器精度 Accuracy	1-1.5mm
被测齿轮模数 Module of gear tested	0.2-1mm
被测齿轮最大直径 Max. diameter of gear tested	120mm
顶针间距 Distance between centers	125mm
仪器指示示值 Indication value	0.001mm
记录器放大倍率 Magnification of recorder	2000 ×

齿轮单面齿合检查仪

Gear Running Tester With Single Flank Meshing

Code No. 411-114



本仪器应用了新的单面齿合测量方法，用精密圆光栅作为讯号转换，采用标准蜗杆作为连续回转，进行齿轮的动态测量，这样测量时的齿合形式符合齿轮的实际工作状态，所以是一种比较理想的测量方法。

本仪器是一种绝对的齿轮动态测量仪器，它可以直接由自动记录仪测出齿轮的动态全误差曲线，从而可以迅速且全面地分出齿轮各项误差。

This instrument uses the new method to measure the gear in single side meshing, put precise circular optical grid as signal transfer, and adopt the standard worm as standard component to revolve continuously with the gear measured. The principal of measuring accords with the actual gear meshing so it is an ideal

method of measurement. It is one kind of instrument to achieve absolute running error of the gear. The complete error curve of

gear running can be plotted by the automatic recorder so as to rapidly and comprehensively find out any separate item error of pitch.

主要技术参数

Main technical parameter:

被测齿轮模数 Measured gear module	0.2-2mm
被测齿轮最大直径 Max. diameter of gear measured	200mm
被测齿轮齿数不大于 Teeth number of gear measured: not more than	900
可测斜齿轮螺旋角 Spiral angle of bevel gear measured	$\pm 30^\circ$

刀具预调测量仪

Cutting-Tool Presetter

技术参数

Specifications:

主轴锥度: (JT69) 7:24	50# (40# 45#)
Spindle Taper: (JT69) 7:24	50# (40# 45#)
横向行程:	
Cross Travel:	150mm (250mm, 300mm)
纵向行程:	
Longitudinal Travel:	400mm 450mm
最小读数:	感应同步器数字显示 (光栅数字显示)
	X向和Z向0.005-0.001mm
Min Reading:	Inductosyn Digital Display:
	X or Z-axis: 0.005-0.001mm
刀刃定位对零	刀刃放大后的轮廓影象投影到影屏面十字中心线上对准。
Zero-setting of Cutting-edge:	The magnified contour of cutting-edge is projected on screen and is in alignment with the cross centre lines.

投影屏放大倍数

Magnification of Projection

Screen: 10倍

外形尺寸 (mm)

Overall Dimensions TSDT 700 × 400 × 1750mm

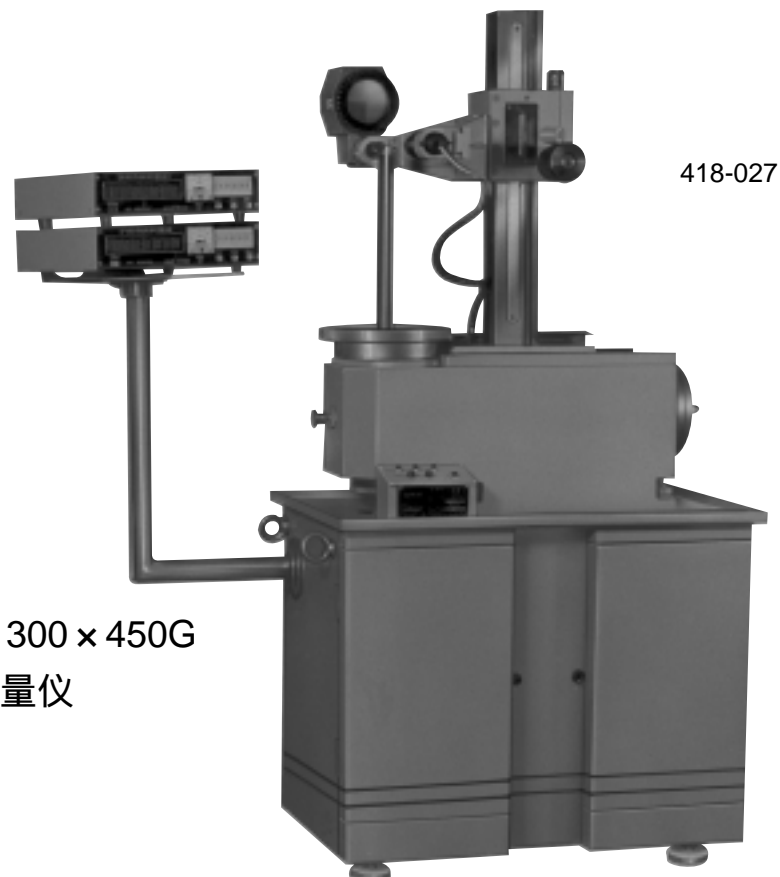
净重

Net Weight: 290Kg

TSDT型数字显示刀具预调仪是数控机床机外预调刀具尺寸的精密仪器,适用于加工中心和数控机床。通过机外预调,可节省辅助时间,更好地发挥主机作用及效率。

Characteristics and Applications:

Model TSDT digital tool presettors are precision instruments for presetting tools outside NC machine tools. By means of presetting tools outside the machine, much auxiliary time can be saved, and the performance and efficiency of the machine can be better displayed.



TSDT · 5 · 300 × 450G
 刀具预调测量仪

刀具预调测量仪

Cutting-Tool Presetter

特点：

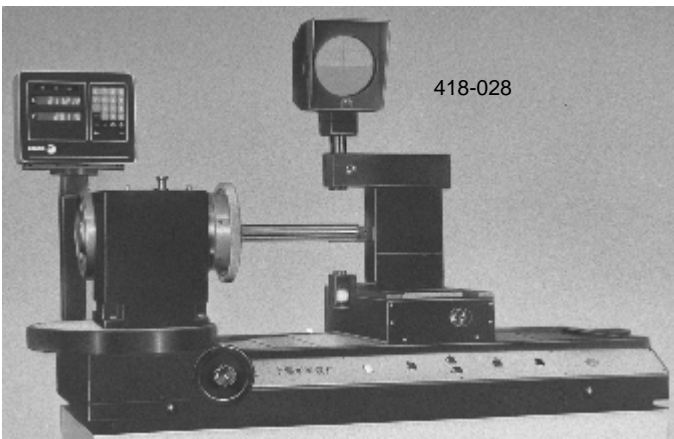
本仪器适用于数控加工中心或其他数控机床的刀具预调工作。

仪器采用模块化设计，在规格，功能上可作较大幅度的变化，用户可视实际需要选取规格和功能。

Feature

It is used to preset the tool for Measuring Center or other CNC machine.

With modular design, It is capable of changing specification or performance according to the requirement of customers.



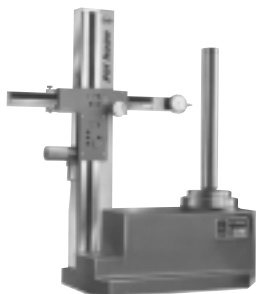
QHDT · 300 × 500

技术参数：

轴向最大测量范围：	500mm
径向最大测量范围：	Ø300mm
多工位转台：	Ø400
主轴孔锥度：	7:24
坐标位移最小读数：	0.001mm
坐标位移读数方式：	光栅数显，具有记忆，打印微机联网功能。
刀刃对零方法：	20倍投影屏瞄准。
	物方视场6mm
	物距100mm
外型尺寸：	1460 × 860 × 1580

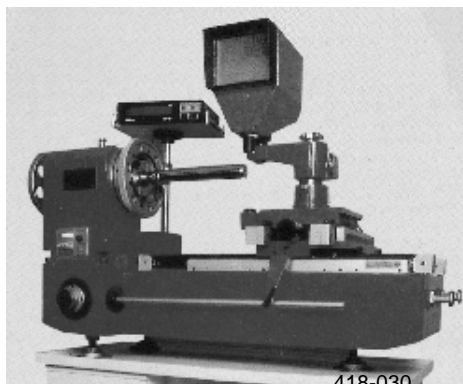
Specifications

Max. axial measuring range	500mm
Max. radial measuring range	ø300mm
Rotary table	ø400mm
Taper of bore of spindle	7:24
Min. movement of coordinate	0.001mm
Coordinate movement read by	digital display via raster, with remembrance, printing and connect to mini computer.
Zero setting of tool edge	by aiming at x20 projection screen.
View field of object	6mm
Distance of object	100mm
Outside dimension	1460x860x1580



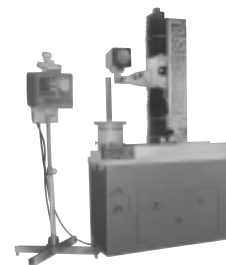
418-029

TSDT · 5 · 200 × 300Q



418-030

TDDT · 300 × 450



418-031

TSDT · 5 · 300 × 600

SK型框式水平仪 Frame-Type Spirit Level

产品特点及用途

水平仪主要应用于检验各种机床及其它类型设备导轨的直线度和设备安装的水平位置，垂直位置。它也能应用于小角度的测量和带有V型槽的工作面，还可测量圆柱工件的安装平行度，以及安装的水平位置和垂直位置。

Characteristics and Applications:

The frame-type level is intended mainly to inspect the guide-way straightness of various machine tools and other equipment, and to inspect the horizontal or perpendicular position after the installation of the equipment. It can also be used for measuring small angles, the working surface with V-shaped slot and the mounting parallelism, horizontal or perpendicular position of cylinders.



规格 Specification	编号 Code No.	分度值 Graduation
150mm	419-032	0.02mm/m
200mm	419-033	0.02mm/m
250mm	419-034	0.02mm/m
300mm	419-035	0.02mm/m

ST型条式水平仪 Ruler-Type Spirit Level

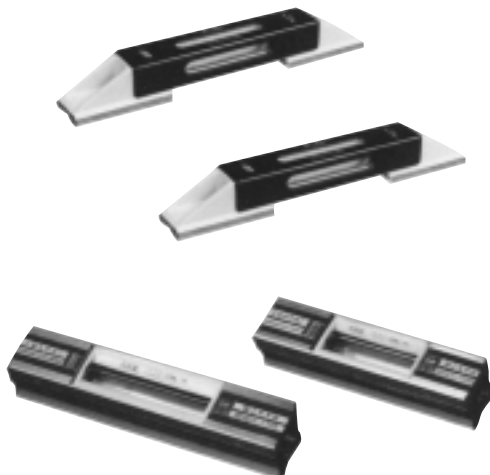
产品特点及用途

条式水平仪可测量各种机床导轨的直线度，平行度及平整其它设备安装的水平位置。V型工作面还可测量圆柱体的平行度及水平安装位置的准确性。

本仪器采用双偏心调节式结构，使用方便，性能可靠。

Characteristics and Applications:

The ruler-type spirit level can be used to measure the straightness and parallelism of the guide ways of various kinds of machine tools, and to level the other equipment. With the V-shaped working surface, it can also be used to measure the parallelism of cylinders and the horizontal mounting position. This instrument has an adjustable two-eccentric structure with the features of easy operation and reliable performance.



规格 Specification	编号 Code No.	分度值 Graduation
150mm	420-036	0.02mm/m
200mm	420-037	0.02mm/m
250mm	420-038	0.02mm/m
300mm	420-039	0.02mm/m

电子水平仪

Electronic Level



421-040

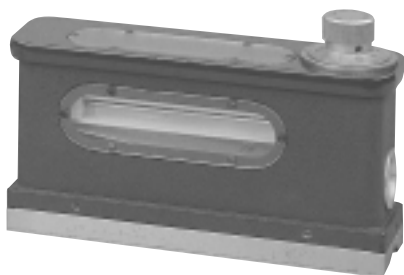
JDZ-B型指针式电子水平仪是将微小的位移变成电信号经放大后指示仪表读数的一种角度计量仪器。应用于测量机体表面的不直度，直线度和设备安装水平位置的微小倾角。

The electronic level model JDZ-B is an indicator type angle measuring instrument. It can convert tiny angular displacement into electrical signals which are magnified and shown by readable digits on the meter. It is used for measuring the flatness or straightness of a workpiece surface and for measuring the installation horizontal position of equipment or for measuring tiny inclination of a workpiece.

分度值 Graduation	量程 Measuring Capacity
I 0.005mm/m	+0.05mm/m
II 0.01mm/m	+0.10mm/m
III 0.02mm/m	+0.20mm/m
电源 Power Supply	4F22 6V电池2节 Two 4F22 6V Battery
工件面尺寸 Working Surface	150 × 46(mm)

光学合像水平仪

Composite Image Level



422-041

合像水平仪广泛应用于测量机件表面的平面度、直线度和设备安装水平位置的准确度及测量工件的微小倾角。

The composite image levels have been generally accepted as tools for use in precision mechanical industry. They provide a quick and accurate means of checking workpieces for flatness, alignment as well as measuring installation position of equipment, or measuring tiny inclination of workpieces.

分度值 Graduation	0.01mm/m
最大测量范围 Max. Measuring Capacity	+5mm/m
工作面尺寸 Workpiece Surface	16 × 647(mm)

GJF系列光栅角位移传感器

Photoelectric Pulse Generator

(原名：MCZ或MCJ型光电脉冲发生器)



GJF-1A
423-042

GJF-2
423-043

GJF-3
423-044

光电脉冲发生器又称增量式光电编码器，它是采用圆光栅通过光电转换将轴转角位移转换成电脉冲信号的仪器。已广泛应用于数控机床，机器人自动控制自动检测中。

技术参数：

- 每转脉冲数 40~5400
- 工作电压: +5V, +12V, +24V
- 每分钟最高转速分档 a(600) b(1000) c(2000) d(3000) e(5000)
- 输出信号路数
 - I -- A一路方波
 - II -- A,B二路相位差90°方波
 - III -- A,B,C二路方波和一路零位脉冲
 - IV -- A,C一路方波一路零位脉冲
 - V -- A,B,C,A',B'二路方波，一路零位脉冲和二路辨向脉冲
 - VI -- A,B,C,A,B,C,二路方波，一路零位脉冲及其反向信号

Characteristics and Applications:

GJF series Optical Grating Angular Displacement Encoder(formerly named as MCZ,MCJ photoelectric Pulse Generator or Incremental Photoelectric Encoder) adopts round grating and converts axial angular displacement into electric pulse signals by means of photoelectric conversion. It has been widely applied to NC machine tools, automatic control of robots and automatic measuring.

Technical Data:

Pulse/Rev:40~5400

Working Voltage:+5V, +12V, +24V

Max, Rev/Min: a(600), b(1000), c(2000), d(3000),e(5000)

Channels of Output Signals:

- I -- A: One square wave
- II -- A,B: Two square wave out of phase of 90°
- III -- A,B,C: Two square wave out of phase of 90° and one zero index signal
- IV -- A,C: One square wave and one zero index signal
- V -- A,B,C,A',B': Two square wave out of phase of 90°, one zero index signal and two direction differentiating signals
- VI -- A,B,C,A,B,C,: Two square wave out of phase of 90°, one zero index signal and their reversed signals

结构形式 Construction	GJF-1A 423-042	GJF-2 423-043	GJF-3 423-044	GJF-5A 423-045
每转脉冲数 Pulse/Rev	60, 100, 360, 500, 600, 720, 800, 900, 1000, 1024, 1200, 1500, 1600, 3000, 3200, 3600, 5000, 5400	40, 60, 100, 200, 240, 250, 300, 360, 500, 600, 720, 800, 900, 1000, 1024, 1200, 1800, 1250, 2000, 2048, 2500	60, 100, 360, 500, 600, 720, 800, 900, 1000, 1024, 1200, 1500, 1600, 3000, 3200, 3600, 5000, 5400	40, 60, 100, 200, 240, 250, 300, 360, 500, 600, 720, 800, 900, 1000, 1024, 1200, 1250, 1800, 2000, 2048, 2500

GJF系列光栅角位移传感器

Photoelectric Pulse Generator

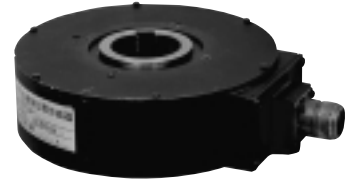
(原名：MCZ或MCJ型光电脉冲发生器)



GJF-7
423-046



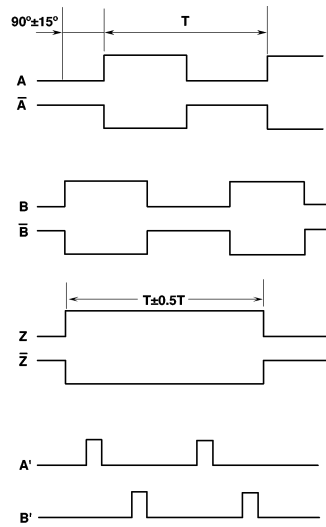
GJK-8
423-048



GJF-21
423-049

技术参数： Technical Data:

1. 输出波形 Waveform



2. 输出电平 Output Pulse Fluctuation

	"1"	"0"
5V	≥4.5V	≤0.3V
12V	≥10V	≤1V
15V	≥13.5V	≤1.2V
24V	≥21.5V	≤1.8V

3. 输出方式 Output Methods

输出方式 Output Methods	电压输出 Voltage Output	集电极开路输出 Collector open-circuit output	长线驱动器输出 Longwire driver output	互补输出 Mutual compensation output
电路 circuit				

4. 负载能力

Load Capacity: ≥10mA

5. 电源电压

Power Voltage: DC 5V±8% 12V±6% 15V±6% 24V±6%

6. 响应频率

Repetition Frequency: ≥50KHz

7. 工作温度

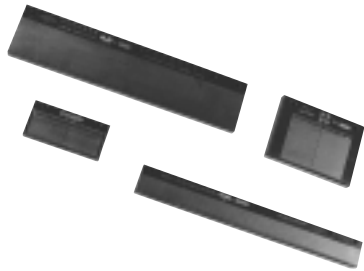
Operating temperature: 0°~50°C

结构形式 Construction	GJF-7 423-046	GJF-7•H 423-047	GJK-8 423-048	GJF-21 423-049
每转脉冲数 Pulse/Rev	60,100,200,240, 250,300,360,500, 600,720,800,900, 1000,1024,1200,1250, 1800,2000,2048,2500	40,60,100,200, 240,250,300,360, 500,600,720,800, 900,1000,1024,1200, 1250,1500,1800,2000, 2048,2500	1600,2400,3000	40,512,60,100, 360,500,600,720, 800,900,1000,1024, 1200,1500,1600, 3000,3200,3600, 5000,5400

GZ D/H 系列

直线式感应同步器

Series Linear Inductosyn

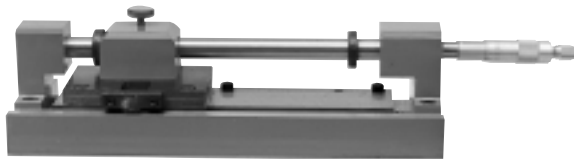


Types	编号 Code No.	长 Length	宽 Width	厚 Thickness
GZD-1 scale 定尺	424-050	250	58.4	9.45
GZH-1 slider 滑尺	424-051	101.6	73	9.5
GZD-2 scale 定尺	424-052	250	29.92	9.45
GZH-2 slider 滑尺	424-053	101.6	37.24	9.5
GZH-1 slider 双滑尺	424-054	238	73	9.6

Types	零级 Grade Zero	一级 Grade One
GZD-1 scale 定尺	±1.5mm (GZD-2±3mm)	±2.5mm (GZD-2±5mm)
GZH-1 slider 滑尺	±0.8mm (GZH-2±1.5mm)	±1.5mm (GZH-2±2.5mm)

感应同步器调试架

Inductosyn testing stand



1.用途：

本调试架可检查感应同步器数显装置的各种逻辑功能的工作状态及数值精度等。

2.主要技巧参数

- 刻度示值0.01mm
- 定滑尺绕组对铁基板的绝缘电阻大于100kΩ，滑尺两绕组的直流电阻差值小于0.1Ω
- 最大行程：微分螺杆25mm，滑块150mm
- 综合精度：0.01mm

产品特点及用途

GZ系列直线式感应同步器有定尺和滑尺耦合组成，它是一种利用电磁感应原理把直线位移精确地转换成电信号的新颖精密位置检测元件。由于它具有精度高，重复性好，抗干扰性强，耐油、耐污，便于接长，维修简单等一系列特点，因而它在机械加工、测量仪器、闭环数控和数字显示系统中得到及其广泛的应用。

Characteristics and Applications

GZ series linear inductosyn consists of scale and slider coupled with each other. It is a kind of novel precision instrument for inspecting and measuring a position by applying the magnetism induction principle in converting the linear displacement into signals accurately. Characterized by high precision, excellent repeatability, anti-interference, being oil-proof and filth-proof, and being extended and maintained easily, the GZ series linear inductosyn is far much widely used in machining, measuring, close-loop and digital display system.

技术参数 Technical Data

- 额定技术数据

检测周期	2mm
激磁频率	10kHz
激磁电压	0.8V
- Rated Technical Data:

Inspecting & Measuring Period:	2mm
Stimulation frequency:	10kHz
Stimulation Voltage:	0.8V
- 定尺、滑尺的绝缘电阻

Insulation Resistance:	定、滑尺绕组对铁基板及滑尺两相绕组间的绝缘电阻值 >100K
	The insulation resistance either between the scale winding and its iron substrate, or between the slider winding and its iron substrate, or between the two phase windings of the slider, is greater than 100K
- 直流电阻

D.C. Resistance	滑尺两相绕组直流电阻的差值不大于0.10
	The difference of D.C. resistance between two phase windings of the slider is not greater than 0.10

1.Application

To test logic function, value accuracy, etc of digital display device inductosyn.

2.Techinc date

- Graduation 0.01mm
- Isolation resistance between Winding of body and slider and base plate: >100KΩ
- Max travel : mirco screw 25mm
sliding block 150mm
- Accuracy 0.01mm

光学零件 Optical Parts

- 加工各种光学零件，如高精度基准球
- 刻划及复制各种光栅度盘
- 加工各类管状水准泡
- Supply Optical parts such as reference sphere
- Making, scaling and copying of round glass grid
- Supply assorted tube bubbles

