Digital Measuring Projector

CPJ-3000 CPJ-3000Z series projector

Rational ®
WANHAO

Usage

CPJ-3000Z series of projectors are photoelectric measuring system of high precision and efficiency. The image on the screen is in the same direction with the work pieces . It is widely used in the trade of mechanism , meter , electricity, light industry, college , research institute and measurement-inspecting department.This instrument can inspect all kinds of surface and outline of complicated work-pieces such as template , pressing work-pieces,cam, thread, gear, milling cutter and so on.

Specialities

CPJ-3000Z series projector is famous for its excellent quality of the optical system . It is processed of clear image and accurate magnification. The error of the contour measuring is under 0.08% under the illumination . The indication error of the coordinate is under $(3+L/75)$ µm, (L is the length of the work pieces to be measured, unit: mm). This instrument provides the DC-3000 date processing system and foot-switch,which are convenient to output and gather the data.

Ideal table:
Loading weight>250kg
Dimension:800(L)*550(W)*650(H)mm

Specification

Model	Reverse image	CPJ-3007	CPJ-3010	CPJ-3015
	Erect image	CPJ-3007Z	CPJ-3010Z	CPJ-3015Z
Working table	The metal table's size(mm)	260*152	306*152	340*152
	The glass table's size(mm)	125*100	175*100	196*96
	X-axis travel (mm)	75	100	150
	Y-axis travel (mm)	50	50	50
	Z-axis travel (mm)	90(for focus)	90(for focus)	90(for focus)
	Measuring accuracy(µm)	3+L/75	3+L/50	4+L/25
	Resolution (X-axis,Y-axis)	0.5µm		
Projector screen	Screen size (mm)	Ø312　used range> Ø300(with the meter line)		
	Screen rotary range	0°~350°		
	Rotary angle resolution	1' or 0.01°		
Lens	Magnification	10X(option)	20X(option)	50X(option) 100X(option)
	Object view (mm)	Ø30	Ø15	Ø6　Ø3
	Working distance(mm)	77.7	44.3	38.4　25.3
	Max. Workpiece height	90mm	90mm	90mm　90mm
Dimension L*W*H(mm)		770*550*1100	770*550*1100	770*550*1100
Weight　Unit: kg		120	125	130

Data processing system	DC-3000 multi-function data processing system,appearing in Chinese, can be used to gather the data and measure the point,line,circle,angle and distance.
Illumination	The illumination of transmission and reflection:24V/150W-halogen lamp.
Power	110V/220V (AC)　50/60Hz　total power=400W
Cooling	By three fans
Option	Mini-printer,Edge detector,M2D software and so on,please refer to accessories for projector for more details

Digital Measuring Projector

CPJ-3020W horizontal projector

Usage

CPJ-3020W ø 300mm horizontal projector is a photoelectric measuring system of high precision and efficiency. It is widely used in the trade of mechanism, mould, tool, electricity and light industry. It is a must in the checking department and workshop. The instrument can inspect all kinds of surface and outline of the complicated work-pieces, such as template, cam, tread, gear, milling cutter and so on.

Specification

Working table	Working table size (mm)	400*150			
	X-axis's travel (mm)	200			
	Y-axis's travel (mm)	100			
	Z-axis's travel (mm)	75(for focus)			
	Turning range	±15°			
	Resolution(X-axis,Z-axis)	0.5 μm			
	The indication error of coordinate(μm)	$<=(4+L/25)$			
Projector screen	Screen size (mm)	ø300			
	Screen rotary range	0°~360°			
	Rotary angle resolution	1' or 0.01°			
Lens	Magnification	10X(option)	20X(option)	50X(option)	100X(option)
	Object view (mm)	ø30	ø15	ø6	ø3
	Working distance(mm)	77.7	44.3	38.4	25.3
Dimension Weight	L*W*H (mm)	1090*830*1010			
	Unit (kg)	160			
Data processing system	DC-3000 multi-function data processing system, appearing in Chinese, can be used to gather the data and measure the point, line, circle, angle and distance.				
Illumination	The illumination of transmission:24V/150W-halogen lamp. The illumination of reflection:21V/150W-halogen lamp (By two fibers)				
Power	110V/220V (AC) 50/60Hz total power=400W				
Option	Mini-printer,Edge detector,M2D software and so on, please refer to accessories for projector for more details				

Digital Measuring Projector
CPJ-4025W horizontal projector

Rational WANHAO

Usage

CPJ-4025W ⌀400mm horizontal projector is a photoelectric measuring system of high precision and efficiency . It is widely used in the trade of mechanism,mould,tool,electricity and light industry . It is a must in the checking department and workshop.The instrument can inspect all kinds of surface and outline of the complicated work-pieces , such as template, cam, tread, gear, milling cutter and so on.

Ideal table:
Loading weight>350kg
Dimension:1100(L)*550(W)*500(H)mm

Specification

Working table	Working table size (mm)	450*200				
	X-axis's travel (mm)	250				
	Y-axis's travel (mm)	150				
	Z-axis's travel (mm)	100(for focus)				
	Turning range	$\pm 15°$				
	Resolution(X-axis,Z-axis)	0.5 μm				
	The indication error of coordinate(μm)	$<=(4+L/25)$				
Projector screen	Screen size (mm)	⌀400				
	Screen rotary range	$0°\sim 360°$				
	Rotary angle resolution	$1'$ or $0.01°$				
Lens	Magnification	5X(option)	10X(option)	20X(option)	50X(option)	100X(option)
	Object view (mm)	⌀80	⌀40	⌀20	⌀8	⌀4
	Working distance(mm)	93.7	103.9	95.1	65.7	35.0
Dimension Weight	L*W*H (mm)	1215*646*1210				
	Unit (kg)	240				
Data processing system		DC-3000 multi-function data processing system,appearing in Chinese, can be used to gather the data and measure the point,line,circle,angle and distance.				
Illumination		Transmission:24V/150W, cooling by fans. Reflection:21V/150W,illuminated by two fibers,cooling by fans.				
Power		110V/220V (AC) 50/60Hz total power=400W				
Option		Mini-printer,Edge detector,M2D software and so on,please refer to accessories for projector for more details				

Digital Measuring Projector

Rational WANHAO ®

CPJ-3000A CPJ-3000AZ series projector

Full erect	*Not be affected by upside down and division in the left and right*
High precision	*(3+L/75) µm is comparable to the accuracy of the foreign similar proc*
Large travel	*250*150*100(for the focus)*
Large load	*The accuracy remains stationary under the press of 50kg*
Projection box	*Adjust the focus by ascending and descending*
Edge detetor	*Automatically aim and gather the data*

Specialities

This series of projectors are famous. It`s for excellent quality of the optical system. It is processed of clear image and accurate magnification. The error of the contour measuring is under 0.08% under the illumination of transmission. This instrument provides the foot-switch,which are convenient to gather the data . You can adjust the focus by ascending and descending the projection box. The projector is with big travel and stationary performance because the working stable doesn`t ascend or descend , and the instrument can also measure the big range with high precision.

Ideal table:
Loading weight>250kg
Dimension:800(L)*550(W)*650(H)mm

Specification

Model	Reverse image Erect image	CPJ-3015A CPJ-3015AZ	CPJ-3020A CPJ-3020AZ	CPJ-3025A CPJ-3025AZ
Working table	The metal table`s size(mm)	354*228	404*228	450*280
	The glass table`s size(mm)	210*160	260*160	306*196
	X-axis travel (mm)	150	200	250
	Y-axis travel (mm)	100	100	150
	Z-axis travel (mm)	100(for focus)	100(for focus)	100(for focus)
	Measuring accuracy(µm)	3+L/75	3+L/75	3+L/75
	Resolution (X-axis,Y-axis)	0.5 µm		
Projector screen	Screen size (mm)	Ø312　used range> Ø300(with the meter line)		
	Screen rotary range	0°~360°		
	Rotary angle resolution	1° or 0.01°		
Lens	Magnification	10X(option)	20X(option)　50X(option)　100X(option)	
	Object view (mm)	Ø30	Ø15　Ø6　Ø3	
	Working distance(mm)	77.7	44.3　38.4　25.3	
	Max. Workpiece height	100mm	100mm　100mm　100mm	
Dimension Weight	L*W*H(mm)	780*780*1100	780*780*1100	780*780*1100
	Unit: kg	160	160	160
Data processing system		DC-3000 multi-function data processing system, appearing in Chinese, can be used to gather the data and measure the point, line, circle, angle and distance.		
Illumination		The illumination of transmission and reflection:24V/150W-halogen lamp.		
Power		110V/220V (AC)　50/60Hz　total power=400W		
Cooling		By three fans		
Accessories		Mini-printer(option),Edge detector(option),M2D software(option) and so on, please refer to accessories for projector for more details		

Multi-functional Digital Readout
DC-3000 DC-5000

Rational WANHAO

DC-3000 is appropriate for digital linear scales measuring system and the video measuring system. It can analyze and process the 2D measuring data, and it is widely used in the projector, the tool microscope, CCD measuring instruments and other two-dimension measuring instrument. DC-5000 is the upgrade of DC-3000 with large LCD.It can display the data in English and simplified Chinese. Employed with 24-bit counter ,the reading speed can reach 4m/s with 0.001mm resolution.

Specialities
Systematic anti-jamming in power and signal can reach 2200V or above
Can recall the current position after power failure
Can work between 100V and 240V

Functions
Measure, preset and construct the graphic elements such as the point, line, circle, angle, distance, rectangle, thread and so on
The functions of Axis-skew and Coordinate-shift are very convenient
Connect to foot-switch and edge detector, so can quickly gather the data
Can print the user program, graphic elements and 3-coordinate displaying data
The users can record the program and measure the same workpiece in large quantity
Many coordinate displaying ways: Polarity and Cartesian, INC coordinate and ABS, Metric unit and British measurement unit
Linear error correction and segmental linear error correction
Z-axis can be connected with linear scales or rotary encode`s degree
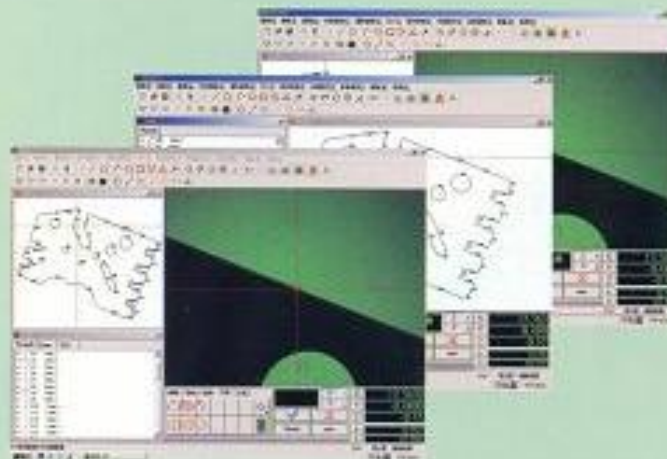Store 100 permanent data and 10 temporary data

Specification

	DC-3000	DC-5000
Voltage Power Input scales signal Resolution (μm)	AC 100V-240V The most is 15W Orthogonality TTL,frequency <2MHz,current>1mA 0.1, 0.2, 0.5, 1, 2, 5, 10	
Weight Dimension	1.49kg 295*185*68(mm)	1.8kg 295*185*68(mm)

M2D-CPJ. AT. IMG

M2D measuring application software which base on Windows environment is developed by our company. it can visually analysis the 2D measuring data. It is used in the scanning of dies. It is suitable for the instruments with RS232 interface.

Specialities

Measure the point, line, circle, arc and ellipse feather with multi-point
The functions of Axis-skew and coordinate-shift are very convenient
The functions of element-combination can enhance the efficiency
MACRO function
Save as *.dxf and edit in Auto CAD
The data can be sent to Excel, can draw easy Xbar-S graph
Shift between in English and Chinese
Record, edit and run the program

Functions

		M2D-CPJ	M2D-IMG	M2D-AT
Functions	Element measure:	Can measure the Point, Line, Circle, Arc, Angle Can measure the rectangle with stated points Can identify the Point, Line, Circle and the Arc automatically		
	Element construct:	Construct the Center, Point of intersection, Midpoint, Line, Circle, Angle		
	Element preset:	Point, Line, Arc, Angle		
	Graph manage:	Coordinate move and coordinate skew, any axis skew		
	Graph operation:	Zoom in, Zoom out, Move, Print, Select, Cancel select, Delete		
			Set the image's grayness, saturation, contrast. The image can be saved as *.bmp, the image support S-video input, the image is 640*480	
			Cross detecting The color of the edge changes Gather the point by manual	Multiple ways of detecting Can gather the point automatically

Computer configuration

Hardware:	CPU-P4 1.7G Memory-128M Serial interface USB interface PCI slots
Operation system:	Windows 2000 Windows xp
Application:	Excel AutoCAD

Measuring function

Can measure the Point, Line, Arc, Ellipse, Rectangle, Distance, Angle.
Can detect the graph element automatically.
Can construct the Center, Point of intersection, Midpoint, Line, Circle, Angle.

Outputting the data

The graph can be sent AutoCAD.
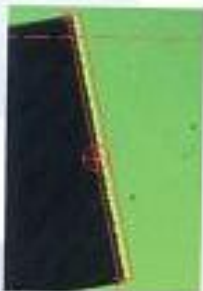The data can be sent to Notebook, Excel, Word.
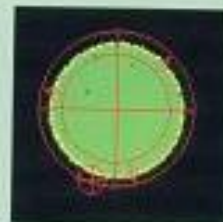
Only function for M2D-AT:

Scanning 2D graph

Can scan 2D graph, all are points.
Can be stored as *.DXF and then managed in AutoCAD.

Image detecting automatically

Can automatically detect the Line, Circle, Arc and then grab the image. By putting the mouse on the edge of the image.

Contrasting function

Can import *.DXF to the program, contrasting with the image, and then standard and the tolerance appear in the Result Column.

Labeling dimension

Can label the dimensions in Graph area and imag area.

Direction Indicator

Indicate the position of the next work pieces when with macro measurement.