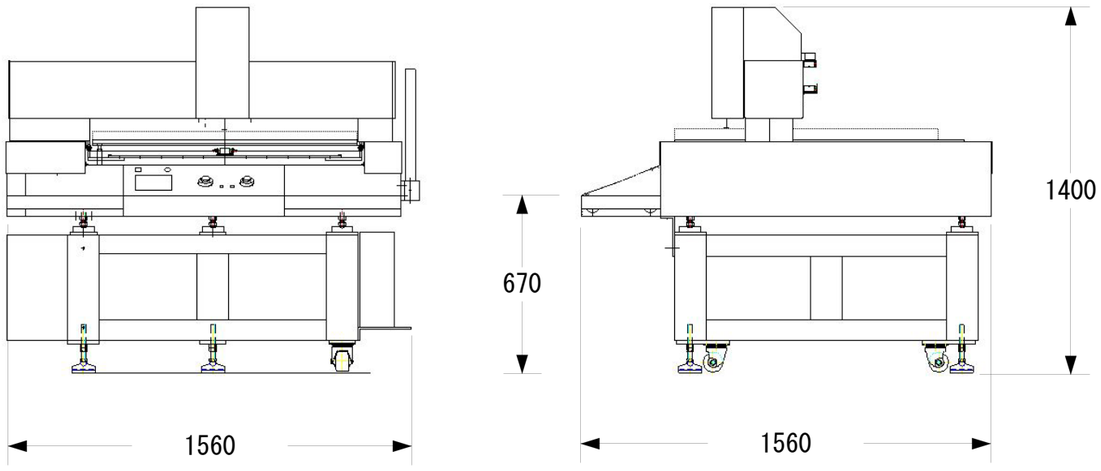
■Main specification

Type	TDS-7060G
Measurement range	X-direction, 700mm; Y-direction, 600mm
Measured object max. dimension	1000mm×1000mm, Depth 40mm
Minimum reading unit	0.0001㎜
Measurement accuracy	Within ±10μm, 20℃±1℃
Weight	Approx. 1600kg
Battery	AC100V 1.5kVA
Microscope	Power zoom microscope, magnification 0.75～4.5x, monitor magnification, approx. 50～280x (19 inch monitor)
Driving method	AC servomotor plus precision ball screw (XY axes), pulse motor, (zoom and focus)
Control Method	Touch panel: light setting, focus, zoom, preset position movement, and others Coarse dial: dial rotation switching, 3-speed setting of low, medium, and high (changeable) Fine dial: rotary encoder system (0.0002mm / pulse)
Camera	XGA 0.8 megapixel, 1/3" progressive scan CCD, max. resolution 1032×776
Lighting	Coaxial irradiation LED light, ring controlled LED reflected illumination, slave type LED transmitted illumination (digital dimming) Presetting function of light quantity and lighting pattern by the zoom magnification
Display	19 inch liquid crystal display (with swivel monitor arm)
Data processing	By dedicated PC and software (OS: WINDOWS XP)
Alignment	8 types of coordinate system setting mode (4 types for axis setting, 2 types for axis rotation, and 2 types of axis movement)
Measurement mode	6 types of measurement mode (coordinates, distance, pitch, circle, angle, and an angle where two lines intersect)
Input point	4 types of input point (point, midpoint between two points, center of a circle, and intersecting points of two lines)
Target form	Crossline, curb plate, double circle (color, dotted line, and angle setting possible)
Data Output	Monitor output, printer output, ticket printer output, log file output for EXCEL reading
Accessory	Complete set of dedicated PC, ticket printer, and foot switch
Option	Printer

■External Dimension



＊ Specifications and design details may be subject to change.

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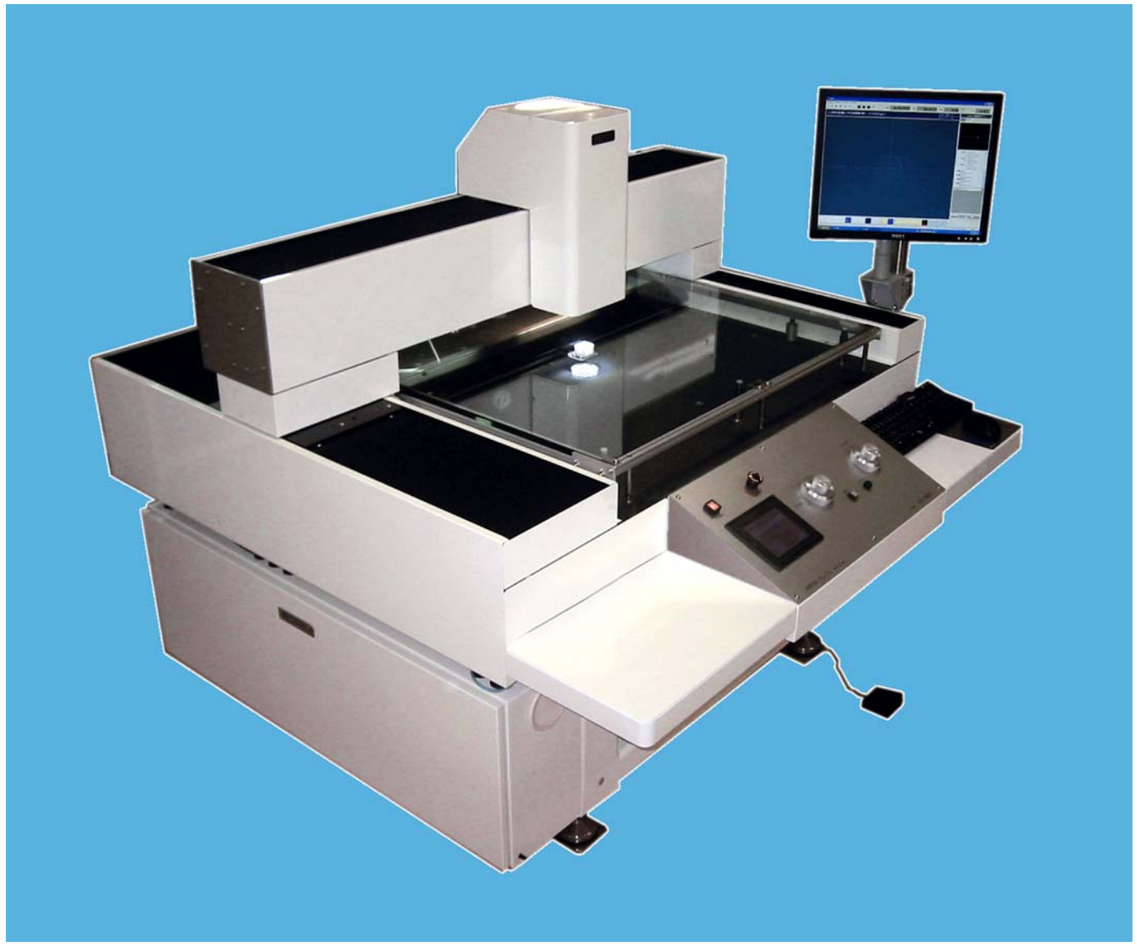
LENGTH

DIGITAL PRECISION MEASUREMENT MACHINE

PROTEC ENGINEERING

MODEL TDS-7060G

MODEL: TDS-7060G is a highly reliable 2-D coordinate measuring machine with accuracy and user-friendliness. It can be widely used to measure size, inspect hole pitches, and measure coordinates for print-circuit, liquid crystal glass substrate, precision photo mask, screen mask, films, artwork, printed paper, and other plate shaped products.



PROTECENG CO.,LTD.

No wasteful time and labor
New released TDS-7060G boosts basic performance to the extremes and user-friendliness.

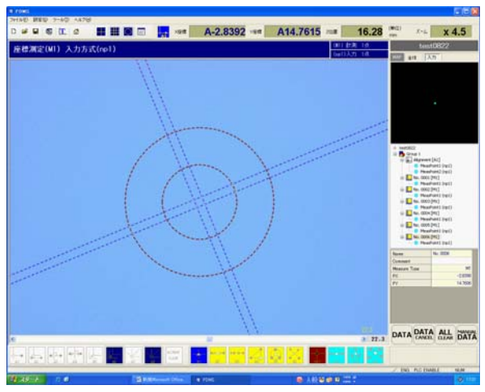
■Main standard feature

In the mainstream of image-processing of automatic measurement machines, TDS-7060G ventured to eliminate complicated functions in response to user's operationality.
It features several measurement modes as necessary and sufficient condition, switches that are easy to operate, coarse and fine dial handle, semi-auto function that can be used without change, and easy targeting (electronic lines). The base of the main unit employs natural stone that is commonly used for precision surface plate. It has high degree of accuracy, reproducibility that is no less than high-class machine, and operationality that automatic machine can never attain.

・Touch panel for main unit control
Lighting, focus and zoom control, preset position movement, and other functions are controlled by touch panel.Lighting can be programmed in association with zoom magnification.

・Large-sized objects for measurement
Response up to 1000mm-square as external dimension with 40t in depth. Measurement range includes 700mm in X-direction, and 600mm in Y-direction.That can cover screen masks and large-sized print circuits enough.

・Utmost attention to operationality
Lighting, optical system, and positioning can be operated by touch panel. Movement and positioning of each axis can be set up through servomotor and pulse encoder in 0.2μm unit. Also, coarse and fine handles are coaxial that can be operated without pain. Data input switch can be done without leaving a hand from handles. The image section shown on the PC monitor can add electronic lines with many functions. Double circle, curb plate, and cross line can be set up by dotted or solid line, and line thickness, color, and angle are also changeable.



・Features 3 type lighting with high reliability
3 types of LED lighting; coaxial irradiation LED light, ring controlled LED reflected illumination, and slave type LED transmitted illumination. Combination of these lights shows all kinds of objects clearly.

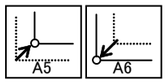
・Alignment (setting of coordinate system)

Setting of X-axis and origin by setting 2 points (A1)
X-axis is set up by 2 points. Setting the second inputting point as an origin (X0, Y0), Y-axis that is vertical to the X-axis is set up.

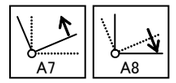
Setting of X-axis and origin by setting 3 points (A2)
Advanced version of A1. Move XY axes by setting third inputting point as an origin (X0, Y0)

Setting of X-axis and Y-axis by setting 3 points (A3)
Set X-axis by 2 points. Vertical line from third inputting point to the X-axis is Y-axis. Intersecting point between X-axis and Y-axis is the origin (X0, Y0).

Setting X-axis by a straight line between 2 points and setting Y-axis in the center of the straight line (A4)
Set X-axis by a straight line between 2 points and a bisector vertical to the straight line is the Y-axis. Intersecting point with X-axis is the origin (0.0).



Origin movement (A5) and origin movement cancel (A6)
Move origin of the existing coordinate system to the appointed point, or one of new coordinate system that is manually input. (A6) cancels the movement and back to the previous origin.



Angle movement (A7) and angle movement cancel (A8)
By inputting numerical values, coordinate system revolves around the central origin. (A8) cancel the movement and back to the previous coordinate system.

・Measurement mode

Coordinate measurement (M1)
When selecting this mode, coordinate value P (X, Y) is shown. If alignment is set up, the output value has alignment operation processed.

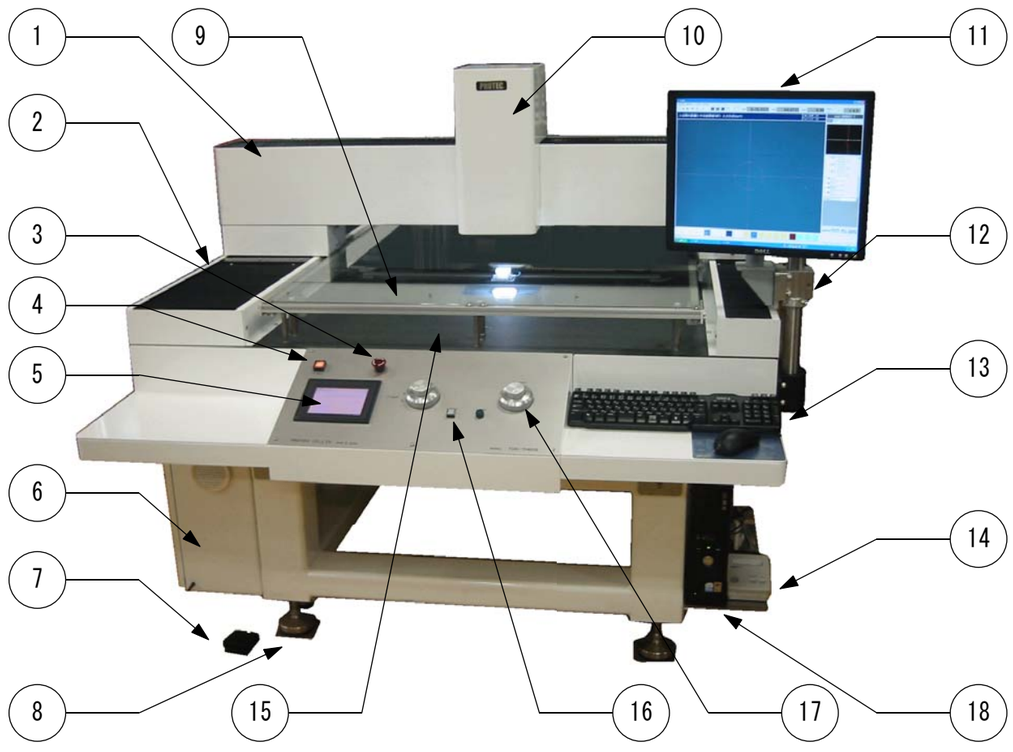
Distance between 2 points and midpoint coordinate value (M2)
Output distance (L) between 2 input points (P1, P2) and coordinate PL (LX, LY) of its midpoint.

Pitch measurement and total pitch measurement (M3)
Output distance between 2 input points (L) as L1, L2・・・Ln, and total distance (LT) from first input point as LT1, LT2・・・LTn.

Angle measurement (M4)
Output orthogonal distance of 3 points (LH) (LV) and orthogonal point PH (HX, VY) and angle (θ)

Circle measurement (M5)
Output a circle that passes through 3 points, or coordinate PR (RX, RY) of its center, diameter D (LD), and radius R (LR) of the circular arc.

Measurement for intersecting coordinate of 2 lines and intersecting angle (M6)
Take an intersecting point of 2 straight lines as PC (CX, CY), and output the intersecting angle as θ .



1. X-axis guide rail
2. Y-axis guide rail
3. Emergency stop switch
4. Power switch
5. Touch panel
6. Control board
7. Foot switch
8. Level adjuster
9. Measurement stand (glass table)
10. Microscope unit
11. 19 inch monitor
13. Keyboard and mouse
14. Ticket printer
15. Main unit base (natural stone)
16. Zero switch, data input switch
17. XY driving knob
18. Dedicated computer for control