

# TLC Phoenix-600® Gen-3 High-Precision Mechanical Glass-Cutting Machine

Proudly made in the USA

The **TLC Phoenix-600® Gen-3** is designed and built to meet high-accuracy cutting requirements of specialty thin flat glass industries. The machine is extremely versatile, easy to use and simple to maintain. The **24 in. x 24 in. / 600 mm x 600 mm** stationary (non-rotating) stage allows unobstructed surface load/unload, with capacity to accommodate conventional Gen-3 substrate sizes. Proprietary TLC custom software allows scribe programs to be written and adjusted by the operator. PC Windows®-based user-friendly graphic user interface (GUI) screens and the standard AutoCAD® .dxf conversion program make it possible to set up programs to scribe almost any shape—rectilinear, circular and free-form. Close-tolerance scribing quickly produces pristine afterbreak edge quality and high throughput yields. It features two axes of travel (X-Y) and Theta movement with TLC's unique rotating head and a tungsten carbide wheel. The cutting head incorporates a CCD camera for accurate fiducial alignment and on-stage

measurement and inspection. The machine is equipped to auto-calibrate wheel placement accuracy after changing wheels or cutting head assemblies. Two adjustable air pressure gauges control cutting and a float/vacuum stage to hold substrates in place for more precise consistency in the scribe/break process. The **TLC Phoenix-600® Gen-3** is ideally suited for R&D labs, clean rooms, start-up and/or full-production glass processing facilities.



## Key Features:

- Cut X-Y and shapes on 0.10mm-5.00mm thick glass with  $\pm 0.05$  mm tolerance
- Cut single sheet/laminate substrates with various coatings and protective tapes
- Set-up scribe program quickly with AutoCAD®
- Use Plug & Play Program for X-Y, circular, and filet-corner rectangles with fast resizing
- Clustering/nesting software for maximum substrate utilization
- CCD camera incorporated in rotating cutting head for accurate fiducial alignment and on-stage measurement & inspection.
- Easy Operation & simple maintenance

## Scribing Applications:

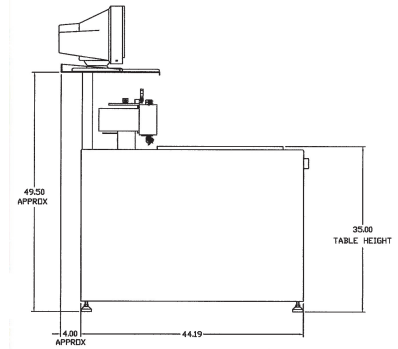
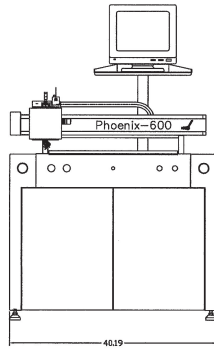
- Glass laminates for flat panel displays: (TFT/OLED/PDP/TN)
- Glass color filters/lenses/optics/microwindows
- Touch panels / touch screens
- Glass mirror: electrochromic, front-back surface/thermal transfer/laser/cosmetic
- Medical/laboratory glass: digital X-ray, microslide, cover slips
- Military/Aerospace: ruggedized displays



**TLC Phoenix-600®**

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Affordable Accuracy...with the SHAPE of the future!



SPECIFICATIONS	ENGLISH	METRIC
Number of cutting heads	One (1) rotating	One (1) rotating
Cutting head motion	X-Y (dual-direction) and SHAPES	X-Y (dual-direction) and SHAPES
CCD camera	Incorporated in cutting head	Incorporated in cutting head
Stationary stage (does not rotate)	24 in. x 24 in.	600 mm x 600 mm
Easy load/unload	Unobstructed surface	Unobstructed surface
Operating system	PC Windows® -based	PC Windows® -based
Drawing program interface	AutoCAD® / AutoCAD® Lite	AutoCAD® / AutoCAD® Lite
Program capacity	Unlimited	Unlimited
<b>SCRIBE ACCURACY</b>		
Rectilinear	± 0.002 in.	± 0.0508 mm
SHAPES	± 0.003 in.	± 0.0762 mm
<b>SCRIBE SPEED</b>		
X-Y	0.00 in. – 20.0 in. per second	0.00 mm – 500 mm per second
SHAPES	Dependent on shape and size	Dependent on shape and size
<b>SUBSTRATE (Single sheet/laminate)</b>		
Maximum size	24 in. x 24 in.	600 mm x 600 mm
Maximum thickness	0.008 in. – 0.200 in.	0.20 mm – 5.00 mm
<b>UTILITIES REQUIRED</b>		
Electrical (Standard)	110V, 50/60 Hz., 15 A	110V, 50/60 Hz., 15 A
Vacuum	25 in. Hg.	635.6 mm/Hg.
Air/Nitrogen	100 lbs./sq. in. / 8 cfm.	7.033 kgs. /sq. cm / .25 cmm
<b>DIMENSIONS</b>		
Machine (L x W x H)	44 in. x 40 in. x 48 in.	112 mm x 102 mm x 122 mm
Shipping crate (L x W x H)	52 in. x 57 in. x 60 in.	132 mm x 144 mm x 152 mm
<b>WEIGHT</b>		
Machine (stand alone)	600 lbs.	272 kgs.
Shipping (crated)	900 lbs.	447 kgs.

Specifications subject to change without notice.



## TLC International

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