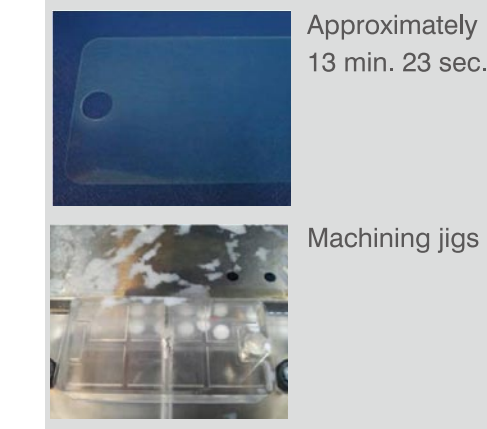


Machining Applications

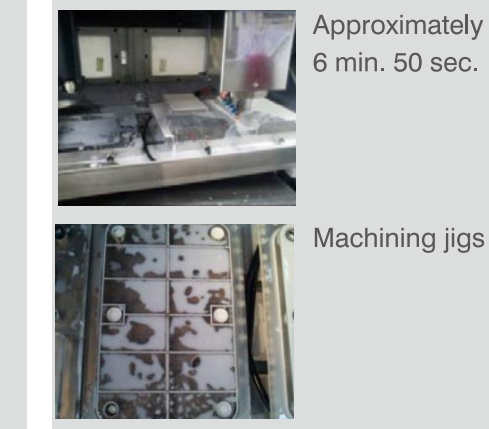
Actual machining time and process for smart phone panels



Approximately 13 min. 23 sec.

Machining jigs

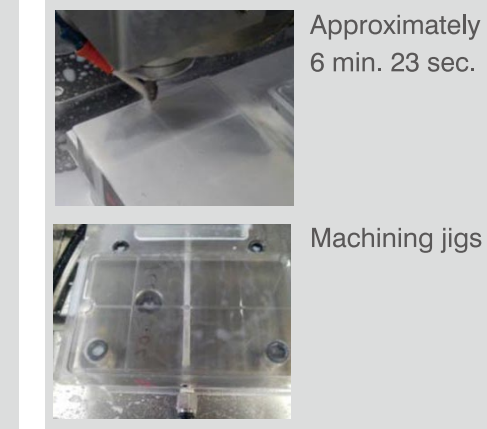
Actual machining time and process for PC tablet panels



Approximately 6 min. 50 sec.

Machining jigs

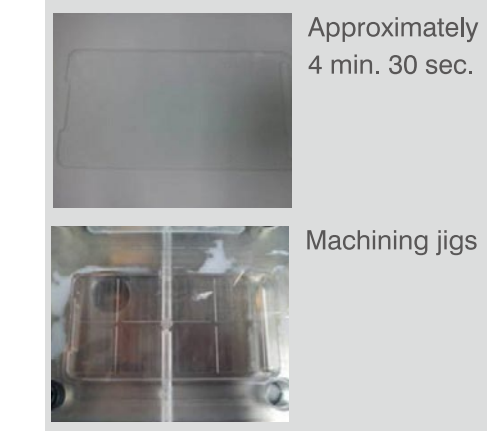
Actual machining time and process for PC tablet panels



Approximately 6 min. 23 sec.

Machining jigs

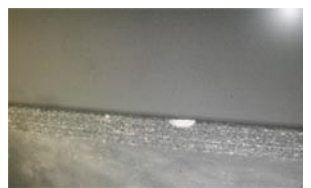
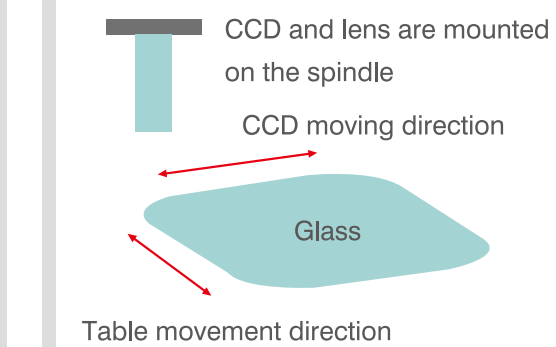
Actual machining time and process for cell phone panels



Approximately 4 min. 30 sec.

Machining jigs

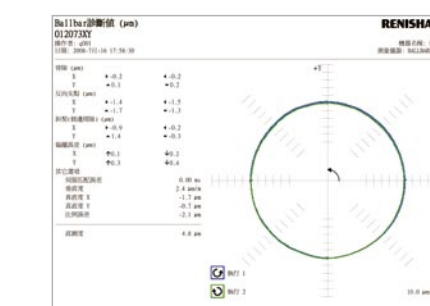
Side tearing tolerance



Chamfer tearing: Less than 0.03 mm

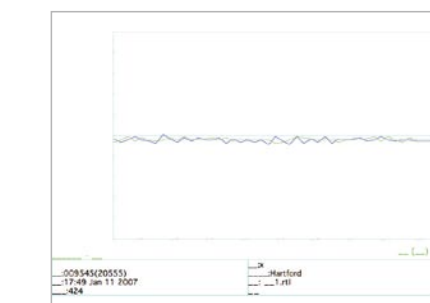
Rigorous Quality Control Throughout

During the manufacturing process, we apply sophisticated inspection instruments to inspect the quality of each part of the machine. What we do is to ensure that the machine performance will fully meet customers' rigorous requirements.



Geometric Accuracy Inspection

The geometric accuracy of the machine is thoroughly inspected to achieve the highest standards of accuracy. Accuracy inspections are implemented according to JIS and VDI standards. Inspecting items for each axis include: straightness, squareness, parallelism and flatness.



High-Tech Laser/High Precision Ball Bar Inspections

Hartford employs world famous laser instruments when inspecting positioning accuracy and repeatability. The tested data provides a compensation for geometric accuracy. Hartford QC department also applies a world famous ball bar tester to inspect the geometric error and servo match between two perpendicular axes. The ball bar tester ensures superior circular accuracy through parameter adjustment.

Hartford
The machining center company



EGV-10

HIGH SPEED GLASS PROCESSING MACHINE

- Excellent for panel machining in 3C industries
- Twin spindle configuration for double output
- Double column construction features maximum stability
- 60,000 rpm built-in high speed spindle



CAT. NO. EGV-050212E01

Machine Specifications

MODEL	UNIT	EGV-10
Table		
Working surface	mm	940 x 440
T-slot (size x number x pitch)	mm	8 x 5 x 100
Max. table load	kg	100
Travel		
X-axis travel	mm	500
Y-axis travel	mm	500
Z-axis travel	mm	200
Distance from spindle to table	mm	40~240
Distance from spindle center to column	mm	270
Spindle		
Spindle speed	rpm	60000
Cooling system		Circulated water cooling
Bearing type		Ceramic
Feed rate		
Cutting feed rate	mm/min.	1~10000
Rapid traverse rate	mm/min.	15000
Motor		
Spindle motor (twin spindle)	kW	1.2 x 2
Three axis servo motors (twin Z-axis)	W	400 x 4
Other		
Required air pressure	kg/cm ²	6.5
Electric power requirements	KVA	5
Machine weight	kg	1500
Floor space occupied	mm	2350 x 2150

Standard Accessories

- Semi-enclosed splash guard
- Manual lubrication system
- Work lamp
- Coolant jets around spindle
- Operation finish lamp
- Circulated water cooling system for spindle
- Ethernet interface
- Operation manual and electric drawings
- Leveling bolts and blocks
- Automatic tool length measurement system

Optional Accessories

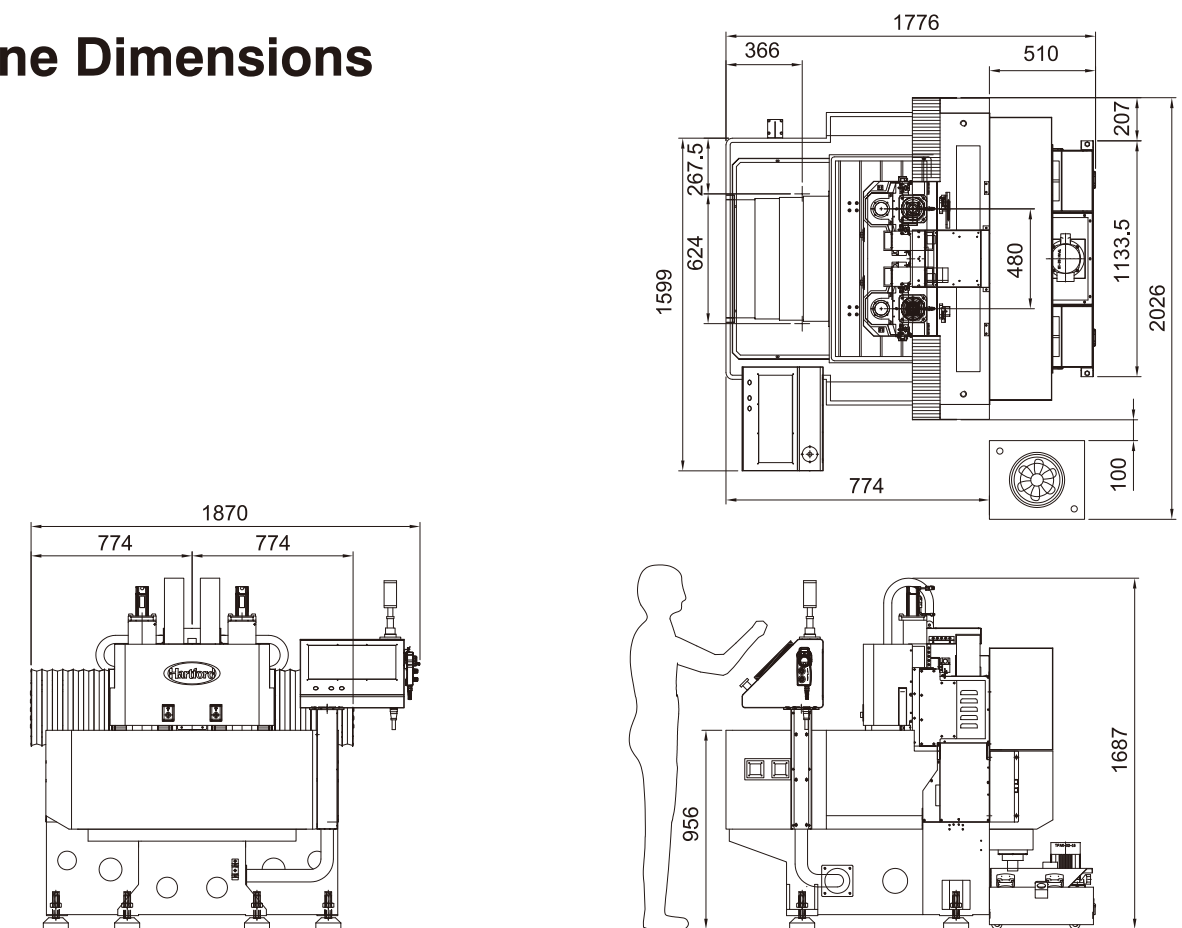
- Fully enclosed splash guard
- Handy coolant gun
- Air gun
- Coolant tank (chip tray)
- RS-232 interface

HARTFORD

Hartford has sold over 44,000 machines globally, resulting in over 36,000 satisfied customers and a wealth of feedback that has added to our arsenal of experience and fine craftsmanship. In accordance with our insistence on providing only the highest quality of machining centers, every possible resource is utilized to constantly upgrade our technological levels in manufacturing and other applications.

Machine Dimensions

Unit: mm



Hartford

The machining center company

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HEADQUARTERS

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EGV-10

Designed and Built for Panel Machining in 3C Industries

The new generation of high speed glass processing machine from Hartford is an advanced machine, designed specifically for precision machining in 3C industries. No matter what application in contour carving or panel cutting, the Hartford EGV-10 will present its extraordinary performance customers have come to expect.

High Accuracy

- Positioning accuracy: 0.02 mm/full travel
- Repeatability: 0.01 mm/full travel
- Roundness: 0.02 mm/300 mm

Glass Machining Applications

- Glass edge grinding and chamfering
- Touch screen contour grinding
- Aluminum and magnesium alloy contour machining



Applicable Products



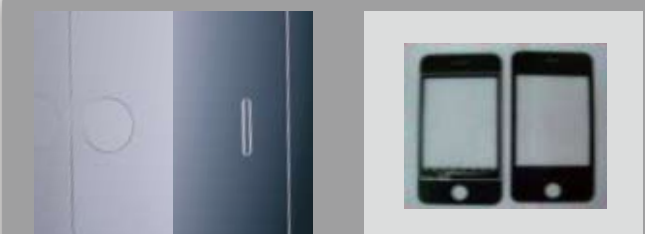
Cell phone panels



PC tablet panels



Touch screens

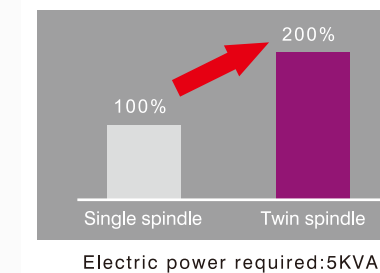


Miniature hole drilling and cutting for glass



Double Column Construction

- The double column construction exhibits outstanding structural rigidity and machining stability in high speed machining.
- The box type beam provides a solid support for double spindles.
- Table is precision milled for dependable accuracy.
- All structural parts are manufactured from high quality cast iron and stress relieved to ensure the machine remains deformation free for years to come.



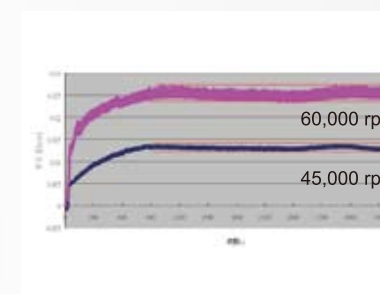
One Machine Works like Two High Investment Efficiency

The Hartford EGV-10 is specially designed with two spindles for double the machining efficiency. An extra-large working area is available to mount more jigs at a time. With the investment on only one machine, it can create the double throughput of two machines.



Coolant Jets around Spindle

The coolant jets provide a powerful chip flush for thoroughly removing chips. Another benefit is it also provides excellent cooling on the tool.



Thermal Displacement Test for Spindle

The test is made according to the ASME B5.54-1992 standard. Spindle speed is set at 75% of its maximum speed.

Thermal Displacement Test Results

- Within 2 mm (at 45,000 rpm)
- Within 4 mm (at 60,000 rpm)



60,000 rpm Built-In Spindle

- The built-in type spindle is capable of resisting longtime continuous running at high speeds.
- It features water and dustproof protection for the spindle bearings.
- The water cooling system dramatically reduces the spindle temperature growth.
- The spindle runs on special bearings, providing excellent resistance for axial and radial loads.



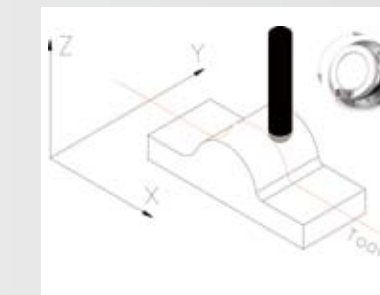
PC-Based Control

The Hartford EGV-10 is equipped with a powerful PC-based control. It is user-friendly and easy to operate.



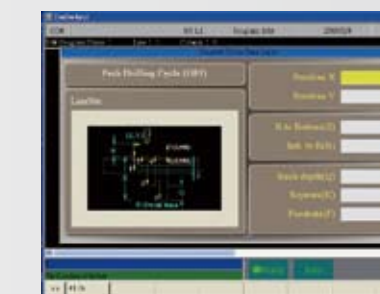
Interface of CF Card and USB Reader

The controller provides an interface for CF cards (standard: 256 MB, maximum: 2 GB) as well as a USB reader. These help increase program transfer speeds for upgraded convenience and stability (PC based system)



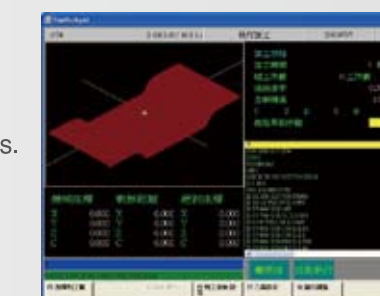
Handwheel Simulation

The control also features handwheel simulation, graphical conversational interface and graphical simulation. With the handwheel simulation function, the operator may use the handwheel speed to determine the machining speed. In addition, turning the handwheel clockwise and counter-clockwise may control the forward/backward tool movement for convenient machining testing.



Graphical Conversational Interface

- The interface contains over 50 standard machining cycles.
- After inputting machining parameters through graphical guidance, machining programs will generate automatically.
- The operator does not need to memorize any G/M code.



Graphical Simulation

- The function permits the operator to simulate and inspect cutting paths in advance.
- The operator can also check cutting movement conditions during machining.



Control Circuit Meets European Standards

- The control circuit meets IEC, 204-1 and other related standards.
- The electronic components meet European safety regulations.
- Fully enclosed dustproof heat exchanger allows the controller to work at a constant temperature.
- The control system features alarm and self-diagnostic features for added safety.