

# E.T. 1000 & 2000 Wafer Transfer System

For 100mm, 125mm,  
and 150mm  
Wafers

- Computer controlled design, one or two stage  
E.T. 1000 - One Stage  
E.T. 2000 - Two Stage
- Simplified control panel
- Stepper motor precision
- Operates robotically via RS-232 interface port

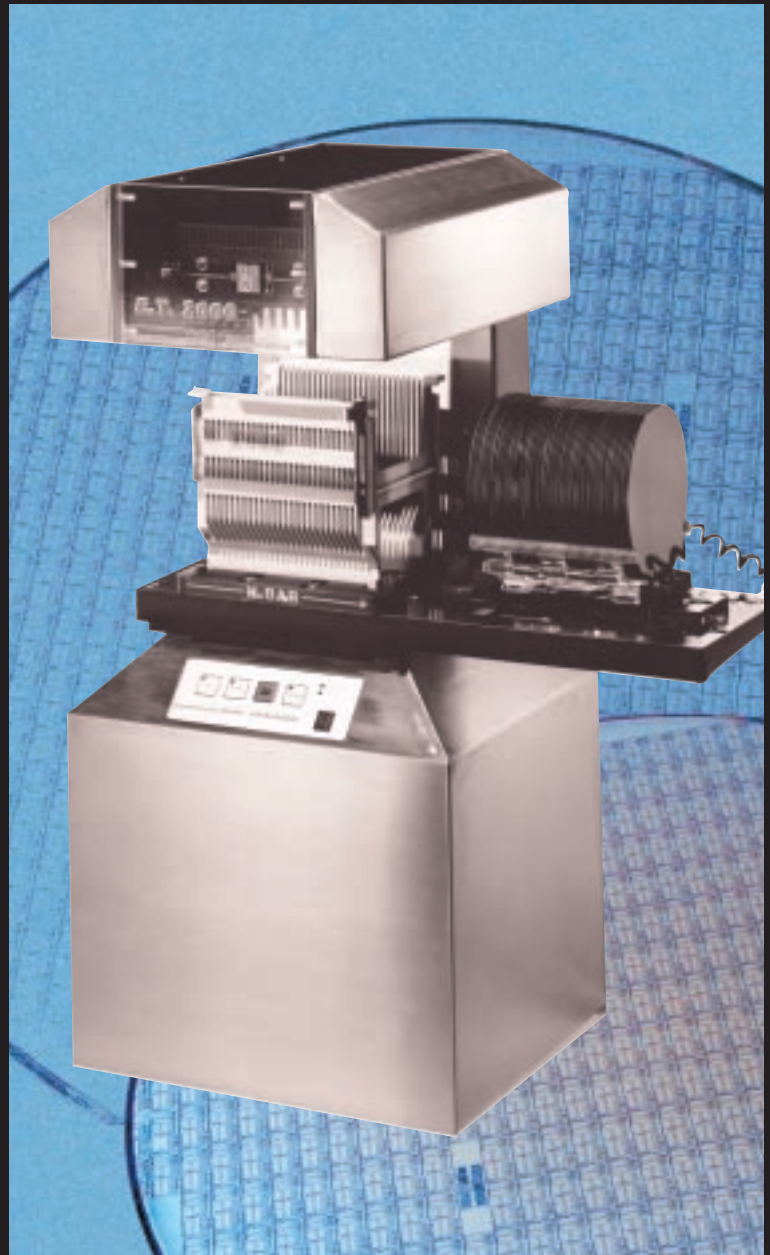
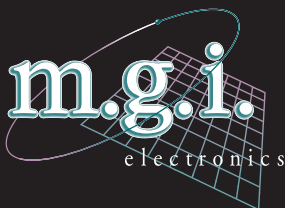
For high-reliability wafer transfer with a minimum of human interaction, MGI's E.T. (Easy Transfer) 1000 and 2000 mass wafer transfer systems combine solid state technology, robotic control interfaces and precision stepper motor positioning to move wafers from carrier to carrier.

The E.T. advanced on-board computer, positioning sensors and precisely tooled wafer contact parts deliver proven wafer handling techniques and enhance yields.

The E.T. 1000 and 2000 series wafer transfer systems can become part of a completely integrated, automated environment via a nine-pin RS-232 serial port.

MGI's E.T. series accepts standard, angle or contiguous carriers and can be configured for a variety of wafer transfer needs:

- 25-25
- 25-50
- 12-13
- Back-to-back proximity
- 13-26 (300mm only)
- Teflon coated for CMP and wet decks



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## Enhanced, Simple-To-Operate Keyboard

For production mode operation, a simple push-button keyboard gives the operator reliable control over wafer transfer operations. A simple mode select switch allows the operator to select transfer between process carrier to process carrier.

## Space Efficient and Smart

With a footprint of 11.80" wide, 11.40" deep and 25.62" high, the compact E.T. 1000 and 2000 systems weigh only 40 lbs. The E.T. 2000's smooth-running stepper motors are computer controlled with built-in logic features that prevent damage to the system or wafers. For example, if the controls sense an unscheduled stop or obstruction in either stage, the E.T.'s elevator will reverse automatically and return to the starting position. Similar safety features prevent reloading accidents after power failures or system interrupts.

## E.T. 1000 and 2000 Models for 100mm, 125MM and 150MM Wafers

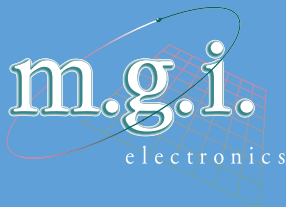
E.T. 1000 and 2000 models are available for 100mm, 125mm and 150mm wafers. These machines are designed to accommodate contiguous (angle) quartz, silicon carbide, polysilicon and entegris plastic carriers.

## Custom Design Available

For unique applications, MGI offers custom design and manufacturing using our proprietary E.T. 1000 and 2000 transfer technology. E.T. 1000 and 2000 systems have been modified for diverse semiconductor applications

## MGI, Inc. - A World Leader In Wafer Handling Since 1974

In 1974, MGI developed the first wafer transfer unit which revolutionized the semiconductor industry. Since that time the company has delivered over 7,000 wafer transfer systems, flat aligners, notch aligners and custom systems to semiconductor manufacturers throughout the world. With patented technology and precisely-tooled wafer contact and handling components, MGI has become a first choice among FAB managers.



## Service, Support and Warranty

MGI's service warranty coverage includes all parts, excluding wafer contact parts, and labor required for repair of systems used within the manufacturer's warranty requirements. Extended post-warranty service and support are available with optional service and maintenance agreements.

Additional post-warranty service and support are available for the life of the product.

## Specifications

### Uptime = 99.6% = Equipment-Dependent Uptime

$$\% \text{ Uptime} = \frac{\text{Uptime}}{\text{Total time} - \text{Logistic time}}$$

### MTBF = 2,000 hours = Mean Time Between Failure

$$\text{MTBF} = \frac{\text{Uptime}}{\text{Number of Failures}}$$

### MTBA = 100 hours = Mean Time Between Assists

$$\text{MTBA} = \frac{\text{Uptime}}{\text{Number of Assists}}$$

### MTTR = .5 hours = Mean Time to Repair

$$\text{MTTR} = \frac{\text{Unscheduled Downtime}}{\text{Number of Failures}}$$

### MTTA = .01 hours = Mean Time to Assist

$$\text{MTTA} = \frac{\text{Total Assist Time}}{\text{Number of Assists}}$$

$$\text{Throughput} = \begin{matrix} 25 \text{ to } 25 \text{ wafer load time } 50 \text{ sec.} \\ 25 \text{ to } 50 \text{ wafer load time } 1 \text{ min. } 40 \text{ sec.} \end{matrix}$$

## Contamination Specification

The MGI E.T. 1000 and 2000 Wafer Transfer Systems add, on an average <1 particle 0.3µm or larger per wafer per 25 transfers. Complete statistical data can be provided upon request.

## Dimensions for E.T. 2000, 100MM to 150MM Systems

Width:	11.80" (299.72mm)
Slide Table Width:	17" (431.80mm)
Height:	25.62" (650.75mm)
Depth:	11.40" (289.56mm)
Weight:	40lbs (18.16kg)

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Height:	25.62" (650.75mm)
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Weight:	40lbs (18.16kg)

## Power Source

110-120 VAC - 1.5 Amp fuse size  
220-240 VAC - 0.75 Amp fuse size

For more information, pricing and custom design options contact:

## MGI Electronics

1203 W. Geneva Drive

Tempe, AZ 85282

(480) 967-8011 FAX (480) 967-8015

Web site <http://www.mgielectronics.com>