



Crossing Automation Optimizes Vacuum Wafer Transport

MOUNTAIN VIEW, Calif.—January 21, 2009—Crossing Automation, Inc., (www.crossinginc.com) today launched ExpressConnect™, a modular building block family of automation components for vacuum wafer handling systems. Their configuration neutral approach replaces the conventional centralized wafer transfer designs found in most cluster tools, and provides a 20 to 70 percent smaller footprint; greater flexibility; lower cost; higher productivity; and throughput up to 250 wafers per hour.

“While process technology has advanced, wafer level automation has seen little notable change or progress toward standardization, since automation platforms have historically been customized to accommodate divergent process tool designs,” stated Larry Dulmage, vice president of marketing for Crossing Automation. “In ExpressConnect, we bring to the market a set of automation building blocks that allow the flexibility of customization, while reducing costs by implementing a standardized set of tools. It is this, along with our deep understanding of wafer automation, which allows us to provide optimized wafer handling performance, so OEMs can focus on delivering systems designed to optimize process results.”

ExpressConnect Family of Components

ExpressConnect is a suite of five building blocks that are combined to generate unlimited configurations for wafer automation. The system architecture uses simple linear transfer devices and simplified control algorithms to improve efficiencies and control reliability.

The five components include:

- Shuttle-Lock™: The core component of ExpressConnect, it performs all wafer transfer functions.
- SEC-1000 Equipment Controller: A powerful, easily configured control device that is paired with all modules.
- Trans-Center™: A six to nine wafer load-lock module that offers a radial cluster tool approach to wafer automation.
- Multi-Wafer Buffer: A four wafer transfer module that serves as the branch point in linear system configurations.
- Dual Wafer Load-Lock: The entrance and exit point in most vacuum-based systems.



ExpressConnect Subsystems

Crossing delivers ExpressConnect's modular sub-systems in a number of basic configurations that serve as the standard foundation for tool-level wafer automation, providing the vacuum transfer system and its management. This allows equipment manufacturers to retain full control over the upstream and downstream parameters within their own process tool, and to develop proprietary configurations to achieve a market advantage.

Basic subsystems include:

- SL (Shuttle-Lock): A standalone Shuttle-Lock to fulfill applications from process development to operation as a module in an inline system.
- SL/LL (Shuttle-Lock/Load Lock): Since Shuttle-Lock may come as a 2, 3 or 4 sided device, the SL/LL is an ideal compact low cost platform for non-critical process steps and is a convenient building block for more complex tools.
- SL/MWB (Shuttle-Lock/Multi Wafer Buffer): The SL/MWB offers a solution to the typical in-line system where a bottleneck is created when robots are placed in-line at all points along the backbone. The four sided MWB allows a clear path at those crossing points, and thus relieves the bottlenecks.
- LL/SL/LL (Load Lock/Shuttle-Lock/Load Lock): This variation of the SL/LL would be used either to enhance throughput or for situations when incoming and outgoing wafers are incompatible.
- SL/TC (Shuttle-Lock/Trans-Center): The SL/TC offers a unique tool design for high temperature process steps where cool down steps may impact throughput.

“The current market opportunity is significant for wafer handling systems, especially as OEMs and IDMs look to keep up with “Moore’s Law,” to implement 300 mm prime initiatives and as they drive toward a transition to 450 mm,” added Dulmage. “As an outsource partner to the process equipment manufacturers, we believe our building-block approach to platforms provides a standardized solution that addresses both OEM and IDM requirements at the same time.”



ExpressConnect also gives OEMs the opportunity to create proprietary modules that have the potential to obtain a market advantage. The components provide greater than 90 percent reuse of the common building blocks, ensuring mass customization and enabling very short manufacturing cycles. They integrate with current and future system architectures and significantly reduce reconfiguration costs.

ABOUT CROSSING AUTOMATION:

Crossing Automation delivers efficient, cost-effective integrated vacuum wafer handling systems to high volume manufacturers of vacuum process tools, including etch, CVD, clean and RTP. Crossing's approach to the critical wafer automation subsystem has been productized in its modular ExpressConnect™ integrated vacuum wafer handling systems, which offer a building block approach to wafer automation. This novel concept offers an alternative to conventional "cluster tool" technology and simplifies OEMs' tool configurations with its ability to most effectively meet a wide variety of process requirements. Crossing's modules deliver critical manufacturing flexibility to OEMs and IC manufacturers alike with more reliable and more efficient wafer movement on a considerably smaller footprint than that offered by traditional approaches to wafer management.

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