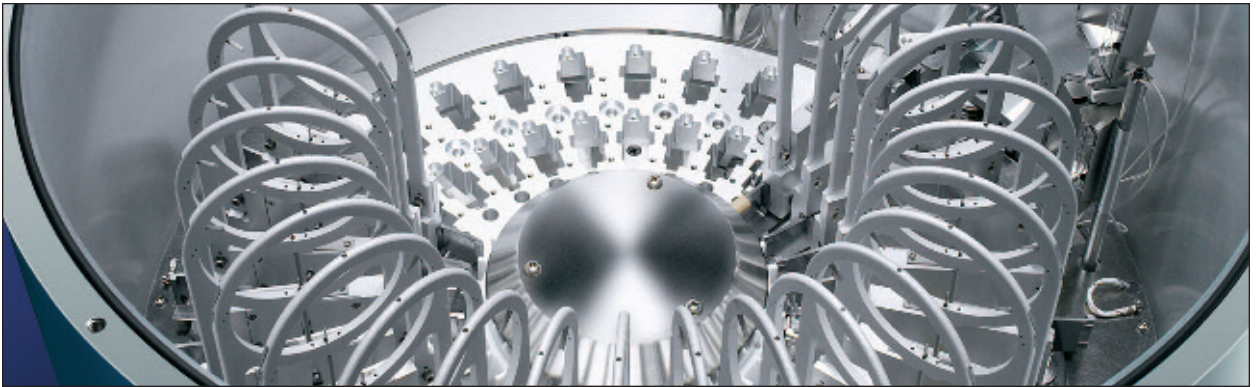


200 | LEAN 
// THINK LEAN—CREATE VALUE

The hard disk drive industry is currently going through the most significant changes since its inception. Perpendicular media recording technology, smaller form factor disks for consumer products and ever-increasing demands on productivity and costs are driving new ways of thinking about the hard disk manufacturing environment.



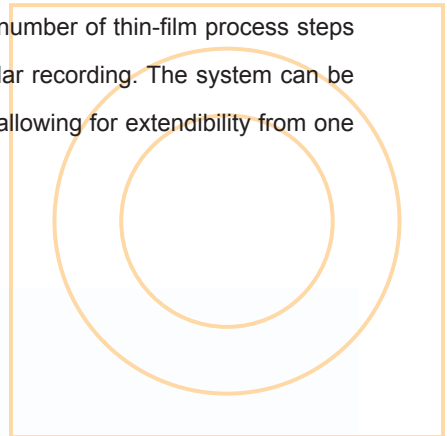
THE 200 LEAN®
// LEADING THE WAY IN HARD DISK MANUFACTURING

- ☉ Advanced media technology
- ☉ Lean Design—Flexible & Modular
- ☉ Small Footprint & Low Total Cost of Ownership



THE 200 LEAN® // PRODUCTION PROVEN FOR PERPENDICULAR

High technology today is pervading all aspects of consumer life from home entertainment and gaming to mobile communication and computing. As new devices find widespread adoption, the pressure is on hard disk drive manufacturers to keep pace with the latest in technology. While technology offers promising solutions, it also poses challenges. In order to be successful, manufacturers have to equip themselves with systems that are technologically advanced and production proven. The 200 Lean is today the leading production proven system for perpendicular processing. The 200 Lean provides higher throughput from a smaller footprint enabling more magnetic disks to be manufactured per square-foot of factory floor space and reducing overall cost of ownership. Designed from the ground up with lean principles, the 200 Lean offers the ultimate in flexibility with a highly modular and fully extendible architecture. The modular design accommodates the production of multiple disk sizes, both aluminum and glass disks, and the growing number of thin-film process steps required by advanced technologies such as perpendicular recording. The system can be configured with four process stations or as many as 24 allowing for extendibility from one generation to the next in advanced media processing.



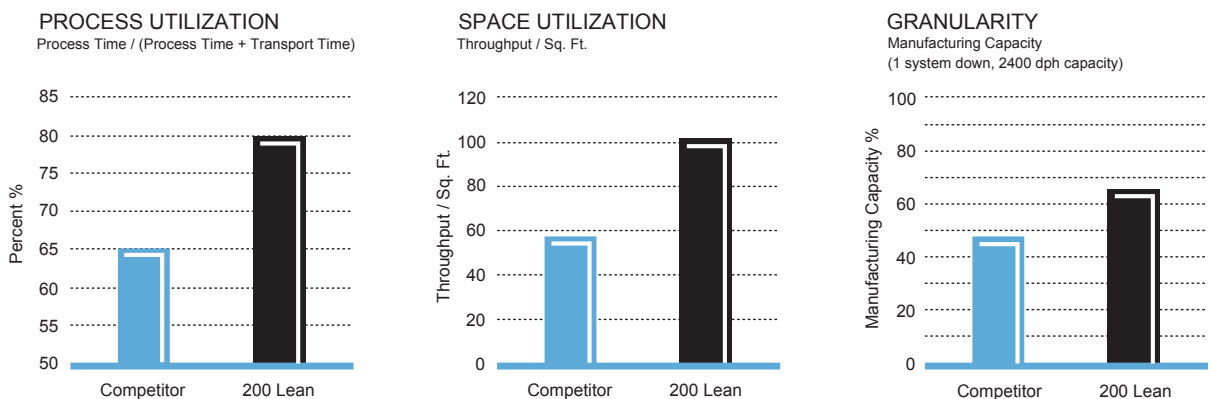


THE 200 LEAN® // OFFERING THE LOWEST TOTAL COST OF OWNERSHIP

The 200 Lean is designed with lean manufacturing principles at its core. A linear system with a small footprint that is just 1/3rd that of the nearest competitors' tool, the 200 Lean is able to achieve the highest space utilization of 20 dph/sq ft. Improved space utilization saves precious clean room space and reduces overall cost of ownership. A modular architecture allows for addition of new process stations without redesign and without impacting the footprint significantly. Optimization of system footprint and throughput provide higher manufacturing granularity minimizing impact of system downtime.

Competition on the other hand offers tools that are excessively large and rigid. Process utilization is increased over competitive systems by reducing the time taken to transport disks between process stations to just one second. This improves process utilization from about 65% to 80%. Reducing non-value added activities like transport optimizes system time and leads to higher levels of efficiency. The 200 Lean's unique carrier exchange module provides a mechanism to ensure a regular supply of clean carriers that do not have any unwanted particle build-up. This improves overall system availability.

MEASUREMENT OF LEAN MANUFACTURING



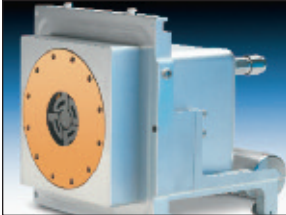
THE 200 LEAN® // SOURCE TECHNOLOGY

Perpendicular media technologies are driving new requirements for hard disk manufacturing. Solutions are needed for high utilization thick soft underlayers, uniform film deposition and for accommodating as many as 24 process steps. The 200 Lean solves these challenges, providing low cost, extendible technology solutions for advanced media.



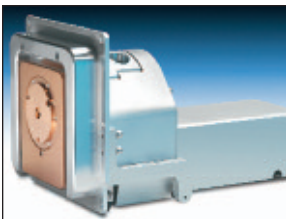
UNIVERSAL SOURCE

Reducing cost / disk through high target utilization & full surface erosion.



DISK HEATER

Efficient and uniform heating for glass & aluminum disk substrates



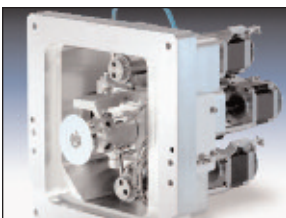
DYNAMIC COOLING STATION

High rate cooling chamber for efficient and rapid cooling; capable of cooling under a magnetic field



NCT CARBON

Ultra-thin (22 Å) high-density carbon overcoat technology



ROTATION STATION

Designed for glass disk processing

// FEATURES

// BENEFITS

Modular Architecture	Flexibility for Future Media Requirements
Linear Design	Ease of Serviceability
4 to 24+ Process Stations	Complex Perpendicular Stack Capability
Single-disk Processing and Handling	Uniform, Repeatable Films
Compact Small Footprint	Low Total Cost of Ownership, High Space Utilization

INTEVAC SURPASSES ITS COMPETITORS IN PRODUCTION EFFICIENCY

Process Stations	4 to 24+
Disk Form factors (mm)	95, 84, 70, 65, 27, 21
Maximum Throughput (dph) @ 3.5 sec process time	>800
Transport Time (secs)	1.0
Base Vacuum (Torr)	7x10 ⁻⁸
Process Type	Single Disk
System Availability (%)	≥ 90
Footprint)m ² . 20 stations	12.4
MDP-250B Source Compatibility	All Supported
Magnetic Alloy Thickness Uniformity (%)	≤ ±3%
Non-Magnetic Alloy Thickness Uniformity (%)	≤ ±3%
Carbon Thickness Uniformity (%)	≤ ±3%

INTEVAC

// YOUR PARTNER FOR THE DRIVES AHEAD

Intevac leads the industry with the highest install base of sputtering equipment (Over 50% of the world's disk output). With a solid base in sputtering developed over the last 15 years, we have taken the next step in preparing customers for future decades of hard disk manufacturing with the patented 200 Lean advanced disk sputtering system. The 200 Lean was the first to successfully deliver PMR thin film deposition technology. We are now gearing up for new technologies such as HAMR and Patterned Media so that our customers are well equipped for the road ahead.





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