

HYPREZ MICROTECH AM-15 LAPPING & POLISHING MACHINE

For Advanced Materials



This bench-top or modular cart-top machine is the newest product from Engis Corporation and is designed to accommodate a variety of surface preparation requirements. Specifically, it is capable of backthinning, lapping and/or polishing of:

- ▶ Semiconductor (silicon, germanium, etc.) materials
- ▶ Compound Semiconductor (GaAs, GaN & InP) materials
- ▶ Electro-Optics (LiNbo3, BBO, etc.)
- ▶ Ceramics, Silicon Carbide, Sapphire & Glass

This system is excellent for R&D work at Universities, Research Centers and for prototype and small volume work in the commercial sector, especially when development is needed without conflicting with production capability. It is a fully functional, rigid, yet compact, bench-top machine with advanced features and standard 15" diameter platen.



Engis of Canada Ltd.

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033005-003AM15/EOC

STANDARD FEATURES of the AM-15 System

- **Digital Readout Cycle Timer**, adjustable digital readout and auto-reset capability
 - **Powered Pressure Plate Module & Controller**
 - **Direct Drive Variable Speed Motor Control** with Slow Start Feature
 - **Cartridge Type Spindle** with Low Run-Out
 - **Quality Design** and integrated components for maximum up-time and service life
 - **“Spin-Up” Feature** for Pressure Plate allows non-movement of piece-parts at cycle completion
- ▶ The system design enables controlled removal rates due to the *Modular Powered Pressure Plate System*. This system provides both variable down-pressure pneumatically and a direct drive variable speed control. It is a unique kinematic design for a bench-top R&D machine.
 - ▶ A pressure range of 0-120 lbs. of down force can be achieved in increments of 0.1 lb. accuracy using an LED read-out.
 - ▶ Pressure Plate Swivel and Shaft Universal Joint ensure optimum TTV and parallelism of work piece.
 - ▶ Construction: Our equipment utilizes a cast aluminum base, heavy-gage plastic work-table and cast aluminum roller yokes. The drain trough is also made on the non-corrosive aluminum material. This reduces oxidation-related contamination, enhances the equipment service life and maintains a better appearance in any environment that requires a “clean” or professional appearance
 - ▶ *Cost of Ownership/Value*: Due to the high quality and durability, the cost of ownership is substantially reduced. With our system, day-to-day reliability is maximized, downtime is non-existent and processed parts quality is enhanced.



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MACHINE MODEL #AM-15

- ▶ Maximum Platen Diameter: 15"
- ▶ Standard Conditioning Ring OD/ID: 7.0" x 5.5"
- ▶ # of Work Stations/Rings: 2 (1 power, 1 manual)
- ▶ Plate RPM Range (with optional VSD): 3-120 in 120 preset speeds
- ▶ Power Station Motorized RPM Range: 3-100 RPM (reversible)
- ▶ Power Station Down-Pressure Range: 10-100 pounds
- ▶ Power Station Pressure and Speed Ramp-Up Adjustable
- ▶ Programmable Main Drive Motor (H.P. rating): 0.5 H.P.
- ▶ Air-Cooled Operating Voltage: 115VAC, 1 Phase, 50/60 Hz
- ▶ FLC @ 115VAC (60 Hz): 8.6 A
- ▶ Required Air Pressure: 60 PSI
- ▶ Power Station Air Consumption (in SCFM): < 2NL/minute
- ▶ Optional Water Cooling Rate @ 10PSI: < 2 GPM
- ▶ Touch-Screen Operator's Control Panel Standard
- ▶ PLC Interface
- ▶ Electronic Slow-Start Platen Drive System Standard, Adjustable
- ▶ Power Station Pressure/Speed Ramping Synchronous or Asynchronous
- ▶ Independent Tapered Bearing Platen Spindle Standard
- ▶ Non-Corrosive Work Area and Exterior Materials Standard
- ▶ Wax, Vacuum or Sizing Block Chuck Universal Interface
- ▶ AM-15 Safety Compliance-CE Compliant
- ▶ Dimensions (LxWxH): 31" x 30.5" x 36"
- ▶ Estimated Shipping Weight: 550 lbs.



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ENGIS IS ABLE TO DELIVER A COMPLETE SYSTEM TO FIT EACH CUSTOMER'S UNIQUE REQUIREMENTS AND OPTIMIZE THE MOST DEMANDING APPLICATIONS

- ▶ Hyprez Composite Lap Plates
- ▶ Diamond and Colloidal Lapping & Polishing Slurries
- ▶ Lubricants & Cleaners
- ▶ Polishing Pads/Cloths
- ▶ Wafer Mounting Equipment
- ▶ Conditioning Rings

ALL BACKED BY ENGIS PROCESS APPLICATION EXPERIENCE AND SUPPORT

Introduction to Engis CMP-D

Engis is pioneering the use of CMP-D slurries to replace or augment costly traditional CMP polishing with the efficiency of precisely graded micron diamond in specially formulated slurries.

Benefits

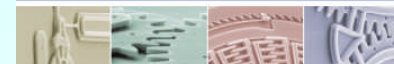
- Cost reduction
 - Reduced slurry consumption and waste disposal
 - Lower cycle times result in lower labor costs per piece
- Throughput improvement
 - Shorter cycle times
 - Faster material removal rates
- Easier cleaning
 - Slurries do not require acid cleaning steps like colloids
 - Does not set up on the wafers like colloids
 - Cleaning problems are the number one reason for wafer returns
- Effective on hard-to-polish materials
 - Chemical resisting materials
 - Extremely hard materials



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