

LAPMASTER®

MODEL LSP-12

PRECISION DUAL FACE FLAT LAPPING/POLISHING MACHINE



- The Lapmaster Model LSP 12 is a 3-way, planetary, dual face lapping and polishing machine with a sophisticated control system. It can execute complex lapping and polishing routines while producing precise and repeatable results. The LSP12 can lap or polish a wide range of materials to very tight specifications.
- The LSP 12 is driven by three, variable speed motors for maximum process control flexibility. All three rotating machine components, the bottom plate, sun gear, and ring gear, are independently controlled. The top plate is fixed, suspended with a continuous wire. This unique suspension method (patent pending) allows the top plate to follow the movements of the bottom plate typically associated with run-out and uneven incoming part sizes more accurately than traditional dual face machine designs. As an option, a fourth motor is available for driving the top plate in order to create a 4-way motion machine configuration.
- The LSP 12 incorporates a hydrodynamic plain bearing to support the bottom plate. This unique design virtually eliminates both plate run-out and vibration that are typically associated with ball bearing or table bearing designs. This system levitates the bottom plate with hydraulic force, ensuring minimal bearing deformation under load.
- The machine is operated through a graphical interface to a programmable controller. The custom designed software prompts the operator for specific operating parameters and stores up to 8 different lapping and polishing routines containing up to 20 different process steps which can be recalled for later use.
- The six work carriers are gear driven for smooth action while processing fragile parts. Plate and carrier speeds and acceleration are precisely controlled through AC frequency inverters for gentle machine cycle start and end steps. The outer gear drive drops below the plate for the facilitation of machine loading and unloading. The top plate down pressure is continuously monitored and adjusted through the control system to maintain constant weight on the parts.
- The machine is built on a heavy duty, cast and fabricated frame. Wetted parts and hardware are made from corrosion resistant materials. The entire head assembly is supported by a heavy-duty fabricated bridge design. The overhead arm suspending the head assembly can be swung out of the way for easy lapping plate or polishing pad replacement.
- Slurry is fed through the top plate by a variable speed, peristaltic pumping system. A propeller type agitator keeps the abrasive suspended until use.
- A part thickness sizing device to automatically shut off the machine, a water rinse at the end of each run to assist in cleaning, and 316 Stainless Steel wetted components are also available options.
- Custom lapping and polishing plates are available upon request, as are special electrical services. Each machine comes complete with a set of four conditioning gears, a flatness gauge, and a starter kit of abrasive, vehicle, and carriers.



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STANDARD FEATURES

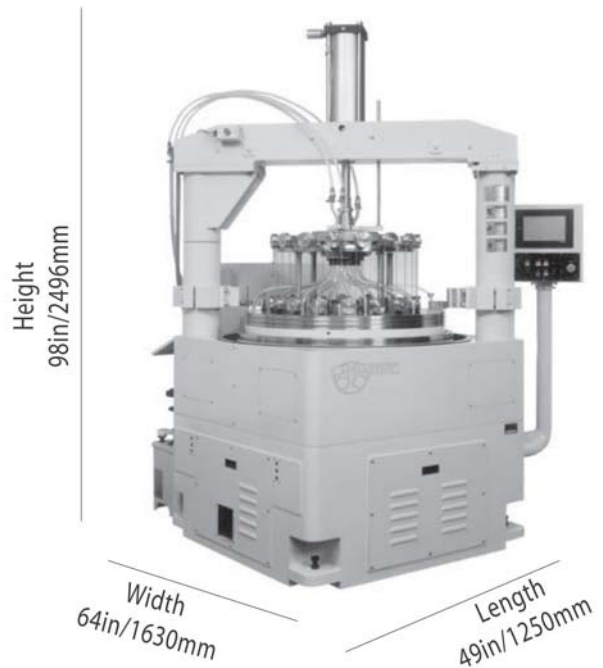
- Programmable process controller with graphical user interface.
- Pneumatic top plate control with precise in-process monitoring.
- Top plate wire suspension system.
- Bottom plate hydrodynamic plain bearing system.
- In-process lap plate flattening.
- Three, independently controlled lapping/polishing plate and carrier drives.
- Abrasive slurry distribution system with propeller type agitator, variable speed pump.
- Retractable ring gear for loading and unloading.
- Adjustable sun gear
- Corrosion-resistant wetted parts and hardware.
- Retractable ring gear for loading and unloading.
- Anti-vibration mounting and leveling pads.

STANDARD TOOLING / ACCESSORIES

- Two cast iron cross hatched lap plates or two aluminum solid polishing plates :-
Lap: 36.4"/925mm O/D x 14"/358mm I/D x 1.6"/40mm Thick
Polish: 36.7"/933mm O/D x 13.8"/349mm I/D x 1.6"/40mm Thick
- Set of four, serrated, cast iron dressing gears (diamond pellet coated on one side - polishing configuration).
- Starter set of six blank, gear type work carriers.
- Dial type, precision flatness gauge.
- Starter sample of Lapmaster abrasive or polishing compound.
- Starter sample of Lapmaster lapping vehicle or polishing media.
- Set of Allen keys.
- Operating and maintenance manual.

ELECTRICAL SERVICES

- 3 phase, 50/60 Hz, 200/220 volts
- Single phase, 60 Hz, 110 volt controls & slurry system
- NEMA 12/J.I.C. electrical enclosure
- 5.5 kW (7.5 HP) bottom plate drive (10-60 rpm)
- 1.5 kW (2 HP) sun gear drive (5-30 rpm)
- 1.5 kW (2 HP) ring gear drive (5-45 rpm)



Weight: 7079lb/3218kg
Net weight: 6600lb/3000kg

AVAILABLE OPTIONS

- Automatic thickness control.
- Rinse at end of cycle.
- Custom lapping or polishing plate materials and configurations.
- Machine to suit electrical supplies.
- 316 Stainless Steel wetted components.
- Fourth motor to drive the upper plate (5.5 kW/7.5 HP)



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Lapmaster has a policy of continued development and the specifications outlined above are subject to change without notice.