

# LAPMASTER®

## MODEL 24

### PRECISION OPEN FACE DIAMOND FLAT LAPPING/POLISHING MACHINE



- The Model 24 diamond flat lapping/polishing machine is a popular choice for lapping of mechanical seal faces and a variety of valve components, eg: pressure relief valve bodies and caps, and parallel slide valves, both in original manufacture and in maintenance and repair workshops.
- Diamond's hardness and its highly repetitive performance as an abrasive make it ideally suited for processing the wide range of materials encountered in these applications. For example, typical mechanical seal faces include carbon, tungsten carbide, high alumina ceramic, silicon carbide, chrome oxide, stellite, Ni-resist and phosphor bronze.
- The machine is constructed with a rigid welded tubular section steel frame, which supports the gearbox, drive motor and worktable. It also has the standard free abrasive feed system, and waste tank. (This is used to periodically recondition the surface of the composite lap plate, or to change to a different grade of diamond slurry if required.)

- The machine is equipped with the following diamond processing accessories:

#### LIQUID DIAMOND DISPENSING UNIT

Lapmaster electronic liquid diamond dispensing units are designed for the precise application of diamond slurry and lubricant to the lapping/polishing plate. This precise metering of diamond slurry to within 0.2 grams controls costs whilst maintaining exact surface finish requirements. The microprocessor circuitry and touch-panel design will give longlasting consistent performance.

#### STIRRER UNIT

The Lapmaster stirrer unit is capable of accommodating reservoirs of both diamond slurry and lubricant. The diamond slurry mixture is kept in suspension by means of a magnetic stirring bar, driven by an electric motor. The ability to keep a proper dispersion of diamond grains ensures consistent stock removal and surface finish at all times.

#### DISPENSING BARS

This is used in conjunction with the electronic control unit and stirrer described above. For this size of machine a single short version dispensing bar is utilised, and can be used with solid or serrated lapping/polishing plates.

#### LAPPING/POLISHING PLATES

Traditional grey cast iron lap plates, as used in free abrasive lapping are still preferred for some applications. However, a range of special composite plates is available. These offer several advantages including the ability to lap hard or soft materials on the same system, and the diamond particles imbed into the plate giving consistent stock removal and surface finish. Composite plates are manufactured from a homogeneous mix of synthetic resins and metal particles, which are bonded to a cast iron base plate. This machine is also available in a pneumatic lift version.

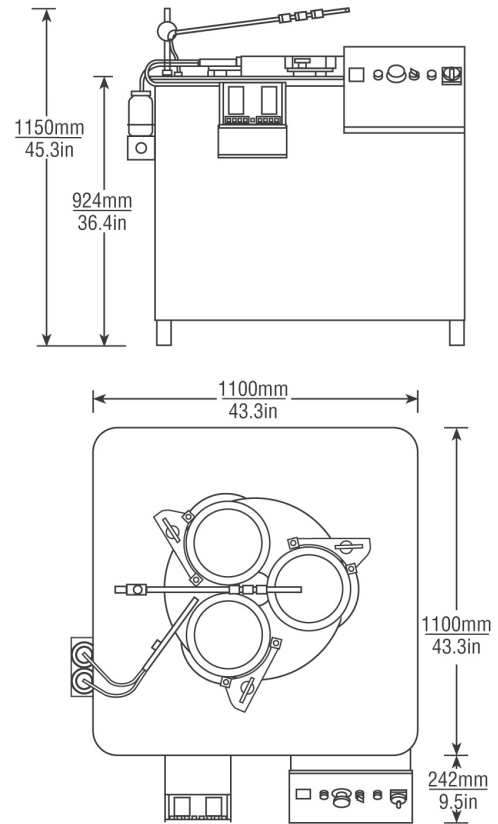


## MODEL 24 STANDARD FEATURES

- Heavy duty tubular steel floor standing base with integrally mounted drive motor, reduction gearbox, abrasive feed system with storage tank and complete with control panel.
- Heavy duty worktable, adjustable vertically.
- Three conditioning rings, with adjustable roller bearing yoke assemblies to maintain lap plate flatness.
- Diamond dispensing system, comprising electronic control unit, electric motor stirrer unit, and one short dispensing bar.
- Abrasive system, complete with pump, tank and multiple point distribution. (Optional.)
- Electrical system wired for 230/460V 60 Hz, 3 phase with operator controls at 110V, complies with EN60 204.
- Operator control panel with start and stop controls and multiple range, automatic cycle timer.
- High torque drive unit consisting of 1.5kW/2hp motor and heavy duty, sealed for life, maintenance free reduction gearbox. Lap plate speed 70 rpm.
- Removable waste container.

### STANDARD TOOLING

- Lap plate: Type varies according to application 610mm OD x 114mm ID/ 24"OD x 4.5"ID.
- Three cast iron serrated conditioning rings 286mm OD x 248mm ID/ 11.25"OD x 9.75"ID. Wear life 35mm/1.4".
- Three cast iron pressure plates.
- Three blank workholders.
- Three felt pads.
- Lap plate lifting tool.
- Set of Allen keys.
- Operation and maintenance manual.



Weight: 565 kg/1245 lbs  
 Gross weight: 740 kg/1631 lbs  
 Shipping Weight: 740 kg/1631 lbs  
 Export packed in one wooden crate:  
 1760mm x 1350mm x 1440mm  
 69in. x 53in. x 57in.

### AVAILABLE OPTIONS

- 4-ring Model.
- Electronic soft start unit.
- Variable speed lap plate drive 0-70 RPM (using frequency inverter).
- Water cooled lap plate.
- Enlarged, moveable work table to improve multiple parts handling.
- Non-standard voltages.
- Customized machines and tooling.



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