



Introducing the PM6  
**PRECISION LAPPING &  
POLISHING MACHINE**

OUR OBSESSION **IS PRECISION**



# PM6 - Precision Lapping & Polishing Machine

The PM6 is a single station benchtop, R&D level lapping and polishing machine capable of processing up to 4" samples suitable for small volume throughput. This system provides the ability to produce specimens repeatably and with a superior quality and surface finish. Precise plate setup options combined with an intuitive control system provide effortless consistency of results with a very high degree of accuracy.

## FULL CONTROL AND FUNCTIONALITY - ENHANCED RESULTS

Wherever there is a need for a controlled flat surface with a high quality finish, whether it be in semiconductor, opto-electronic, optical or geological applications, the PM6 range makes an invaluable investment. Typical applications include: wafer backthinning, geological thin section preparation, optics, laser rod polishing, MEMS, etc.

The PM6 system offers enhanced process performance through a combination of innovative design and intuitive operator controls, such as combined lapping and polishing options and Bluetooth enabled features such as the plate flatness monitor. All function and operational control of the PM6 is navigated via the touch screen graphical user interface. The interface shows a full menu of setup and process options. You can also build, save and recall multi-stage recipes allowing for easy process repeatability. The PM6 offers real time data feedback with the ability to plot, store and export - (target material to remove vs material removal vs time) and (plate shape - actual vs target vs time). This can be exported via the USB port for external data analysis. Full management of plate speed (5-100rpm) can also be set and controlled. Driven jig roller arm is fully controlled from the user interface.

## INCREASED FUNCTIONALITY AND AUTOMATION

When used with the Bluetooth micrometer gauge



Assisted drive jig roller arm for increased control, faster lapping rates, increased accuracy and process repeatability

feedback, the PM6 plate drive will switch off automatically when it receives the appropriate signal from the gauge (i.e. when the pre-set removal amount has been reached) offering the operator the option to leave the process running safely whilst unattended. Alternatively, the timer can be bypassed to leave the machine running for processing situations where the material is likely to be damaged by stopping the procedure without supervision. An alarm will alert the operator in both cases.

Additional features include Bluetooth enabled plate flatness monitor and Bluetooth digital indicator on PP series jigs for end point thickness control.

The PM6 features an assisted drive jig roller arm with a linear sweep for increased control, faster lapping and polishing rates, increased accuracy and process repeatability. To further enhance ease of use, the PM6 machines are supplied with fully integrated vacuum trap.

## EFFORTLESS OPERATOR CONTROL

Quick and efficient interchange of plates, specially designed for easy removal, allow the operator to move rapidly between different lapping processes, or to switch to polishing processes. This flexibility of control makes the PM6 system a prime choice for laboratories with limited space.

To cater for applications where hazardous or corrosive substances such as Gallium Arsenide or Chemlox are utilized, the PM6 system is also available in a sodium hypochlorite resistant configuration. This enables the system to be used in harsh working conditions without corrosion occurring.

## PRECISE, METERED SLURRY DELIVERY

The metered Abrasive Autofeed System ensures high control over the volume of abrasive which is delivered to the lapping plate, this allows for process repeatability. Abrasive cylinder has a capacity of 2L for longer, uninterrupted processes. There is also an option for dual abrasive cylinders facilitating multi-stage

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processing. The IR sensor drip detector automatically stops the plate rotating when the cylinder is empty, thereby avoiding any damage to the specimen by running it on a dry plate.

The addition of an integrated DI H2O gun facilitates cleaning of work area without having to remove accessories components from the work station.

## AUTOMATIC PLATE FLATNESS CONTROL

The PM6 system is also available with automatic plate flatness control, to continuously monitor the plate shape and automatically correct any deviation from the target plate shape set. This additional function removes the need to recondition plates before processing, maintaining the shape indefinitely to within +/-1 micron and increases accuracy. This can either be flat, concave or convex to a precise plate shape. The Bluetooth enabled plate flatness monitor seamlessly integrates with the automatic plate flatness control software, for improved working range and ease of use.

## FULL PARAMETER CONTROL ENSURES CONSISTENT RESULTS

For polishing applications, our experience and research have found that it is desirable for the specimens to reciprocate across the plate, thereby improving flatness of the sample and the pad/plate wear uniformity. For optimal results, the speed of reciprocation and the amplitude of the sweep movement can be precisely controlled - ensuring repeatability of results and greater consistency.

Further information on our precision lapping and polishing systems:

[www.logitech.uk.com](http://www.logitech.uk.com)

# Technical Specifications

The PM6 is a single station benchtop, R&D level lapping and polishing machine capable of processing up to 4" samples suitable for small volume.

<b>Power Supply</b>	220-240v 10A 110v 10A 50-60 HZ
<b>Jig type:</b>	PP5 (x1), PP6 (x1)
<b>Plate speed:</b>	5-100 rpm
<b>Plate sizes:</b> <i>(diameter)</i>	300mm
<b>Height:</b> <i>(including extraction port)</i>	915mm 965mm
<b>Depth:</b>	720mm
<b>Width</b>	802mm
<b>Mass</b> <i>(Excluding cylinders etc.)</i>	127Kg
<b>Plate flatness monitor:</b> <i>(Bluetooth enabled)</i>	0.1 Micron Resolution
<b>Abrasive delivery:</b>	Up to 2x 2L Cylinders, Measured flow  Peristaltic pump 1-100ml/min
<b>Colloidal delivery:</b>	Peristaltic pump 1-100 ml/min

