

LP50 Auto Precision Lapping & Polishing Machine

- Automatic plate flatness control
- Variable speed 35.6cm (14") or 37cm (14.6") diameter plate capacity
- Three workstations
- Integral vacuum system
- Integral abrasive autofeed with infra-red plate cut-out
- Touch panel controls

The LP50 auto provides materials processing laboratories with the ultimate lapping and polishing facility, providing the highest repeatable sample quality with the lowest requirement of operator time of any lapping and polishing machine.

The automatic plate flatness control system constantly monitors the plate shape and automatically corrects any deviations from the required shape set by the operator. This removes the need to recondition the plate before processing, maintaining the shape indefinitely to within ± 1 micron of the operator's target. This can either be flat, or concave or convex to a precise degree, and the ease with which the value can be set combines with the savings in operator time to allow a greater sample output.

With three workstations and a 35.6cm (14") or 37cm (14.6") diameter plate, the LP50 auto can accommodate up to three standard PLJ2 lapping or PP5 polishing jigs, or two larger PLJ7 or PP6 jigs, simultaneously. The machine is thus able to provide the high volumes required in a production environment, whilst at the same time offering the flexibility which is essential to the research-orientated laboratory.

The LP50 auto is operated from a touch panel display, conveniently divided into sectors - each of which controls particular aspects of the machine's functions. The operator thus has full command of all processing variables, enabling the repeatable production of high quality samples.

Plate speed, controlled from the main drive sector of the touch panel, can be set at any value between 0 and 70 rpm, according to the requirements of each individual process. The process time is also regulated from here, allowing the machine to be set to run for up to 10 hours, with the time elapsed being displayed on a separate LCD. Constant supervision by the operator is therefore unnecessary, as processing will stop automatically after the

In many polishing operations the flatness of both the plate and sample can be improved by causing the sample to reciprocate across the plate surface. The LP50 auto eccentric drive, available as an option, operates on all three workstations and is controlled from the **Process Data** sector of the touch panel. This sector also governs the lapping plate flatness control system.

Operation of the **abrasive autofeed system** is regulated from a further sector on the touch panel. The continuous slow rotation of the autofeed cylinder agitates the lapping suspension contained within and ensures a constant flow of fluid at a controlled rate. This is directed to the plate via a twin slurry chute to give even distribution of abrasive. The greatly increased cylinder capacity also means a considerably longer period of operation before a recharge is necessary.

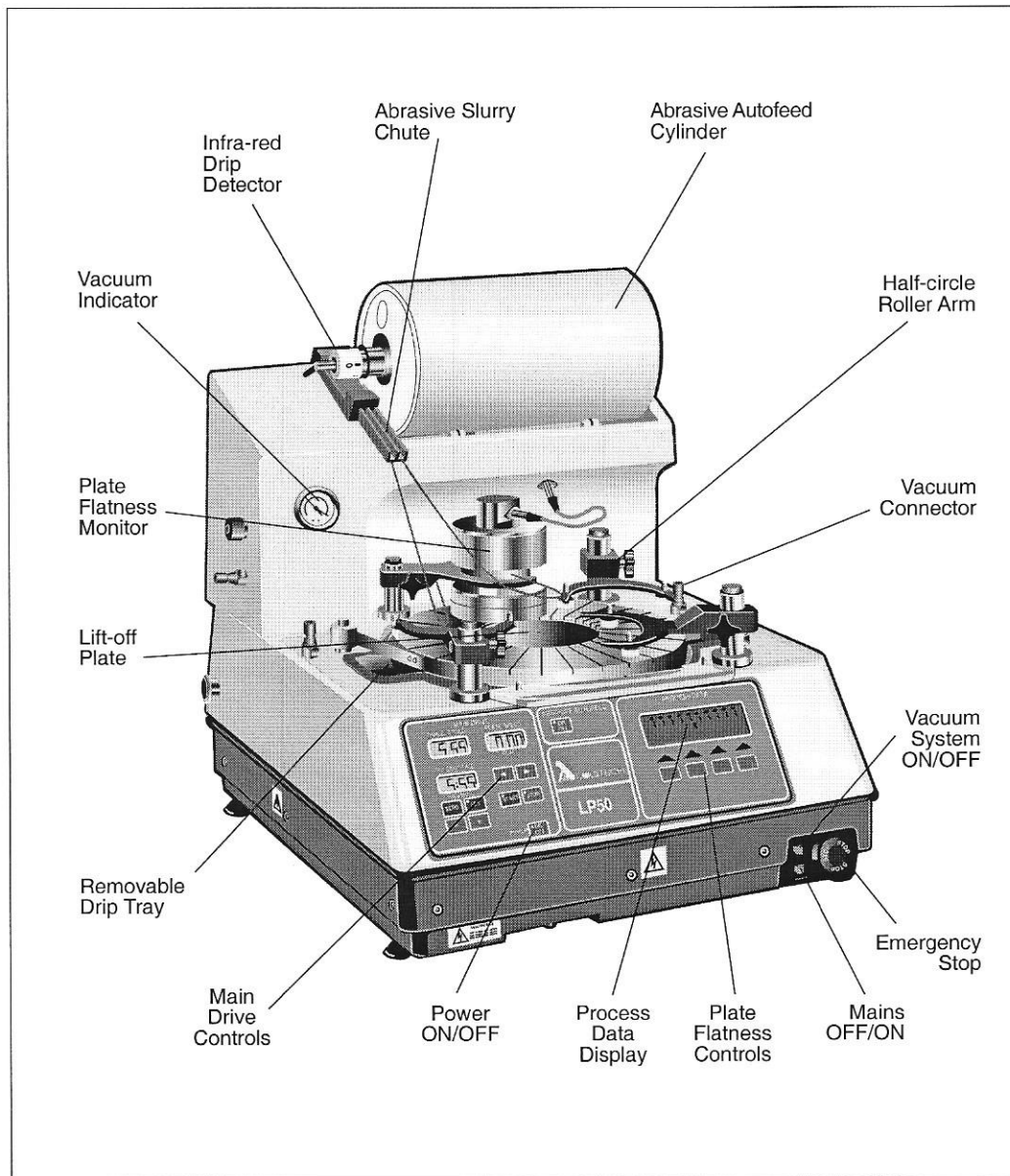
An infra-red **drip detect unit** monitors the fluid flow from the abrasive cylinder, switching off the machine when this varies significantly from the rate set by the operator. This guards against the plate becoming dry during processing, protecting the samples and reducing the operator supervision required.

An **integral vacuum system** and water separator enable the convenient use of vacuum holding fixtures.

If PP5 or PP6 jigs equipped with Programmable Sample Monitors are used on the LP50 auto, a cutout option is available. This switches off the plate drive automatically when a preset thickness has been reached on any of the samples.

The machine's **rigid polyurethane casing** facilitates cleaning, and includes a removable drip tray which catches spent lapping fluid, channelling it into a waste slurry pipe. This robust, modern construction is suitable for the most

Technical Data



Specifications

Power supply:	220/240V, 50/60Hz 110V, 50/60Hz
Fuse rating:	10A
Plate speed:	0-70rpm
Timer:	0-10hours
Plate size:	356mm (14")/ 370mm (14.6")
Height:	568mm (22.3") (not including autofeed)
Height:	635mm (25") (including autofeed)
Depth:	662mm (26")
Width:	616mm (24.2")
Packed volume:	0.54m ³
Net weight:	87kg (not inc. plate)
Gross packed weight	124kg approx. (not inc. plate)



Certificate No. FM 12025

Ordering Data:

1LA51

LP50 auto Precision Lapping Machine with automatic plate flatness control, complete with vacuum system and abrasive autofeed cylinder. 220V/50Hz

1LA54

LP50 auto Precision Lapping and Polishing Machine with automatic plate flatness control, complete with vacuum system and abrasive autofeed cylinder, with eccentric sweep facility on three workstations. Suitable for use with sodium hypochlorite - based polishing fluids. 220V/50Hz

1LA511

LP50 auto Precision Lapping and Polishing Machine with automatic plate flatness control and eccentric sweep facility, complete with abrasive autofeed cylinder, without integral vacuum system. 220V/50Hz

1LA517

LP50 auto Precision Lapping Machine with automatic plate flatness control and abrasive autofeed cylinder, without eccentric sweep facility or integral vacuum system. 220V/50Hz

1LA521

LP50 auto Precision Lapping and Polishing Machine with automatic plate flatness control, complete with abrasive autofeed cylinder, eccentric sweep facility and integral vacuum system. 220V/50Hz

1LA52

LP50 auto Precision Lapping Machine (as above). 110V/50-60Hz

1LA55

LP50 auto Precision Lapping and Polishing Machine (as above). 110V/50-60Hz

1LA512

LP50 auto Precision Lapping and Polishing Machine (as above). 110V/50-60Hz

1LA518

LP50 auto Precision Lapping Machine (as above). 110V/50-60Hz

1LA52

LP50 auto Precision Lapping and Polishing Machine (as above). 110V/50-60Hz