

## DL Series

### Precision Lapping Systems

The Logitech DL precision lapping systems process materials with high geometric precision. These systems can process up to 4, 200mm / 8" Ø samples (or multiple smaller samples) simultaneously. The capacity range on the DL systems make these ideal for small research laboratories through to production environments.

#### Flexible Performance and Capabilities

The single workstation (DL1) and four workstation (DL4) systems are versatile machines capable of lapping samples up to 200mm / 8" Ø. The high level lapping functionality is based on Logitech's tried and tested precision lapping and polishing jigs, allowing for a high level of geometric control whilst removing material quickly and efficiently.

The lapping carrier is motor driven which ensures consistent sample rotation during processing, resulting in excellent wafer uniformity and wafer to wafer uniformity.

#### Typical capabilities

Materials	Surface Finish
Sapphire	<1nm
GaN	<1nm
SiC	<3nm

Material removal rates, typically: 4-10 microns per minute.

#### Sample quantities

	DL1	DL4
2"/50mm	10* (7)	40* (28)
3"/75mm	4	16
4"/100mm	2	8
6"/150mm	1	4
8"/200mm	1	4

\*These are the maximum number of samples per system, for best results we recommend allowing more space between samples to maximise slurry flow and ensure even material removal. Numbers in brackets are recommended sample quantities.

#### Flexible Abrasive Feed Systems

These systems are supplied with a highly flexible abrasive feed system with flow rate easily controlled and set through the system interface.

#### Industry Standard Safety Features

The DL1 and DL4 systems are fully enclosed with an exhaust port, allowing an extract connection to be fitted if required. This enables the DL systems to be used for the processing of hazardous materials such as gallium arsenide (GaAs) or indium phosphide (InP).

The enclosure and door interlocks provide additional safety protection for operators.

#### DL 1 & 4 Systems



- Automatic parallelism
- Driven lapping jig allows for high geometric accuracy
- Accepts samples up to 200mm / 8" Ø
- Digital gauge with 1µm resolution measures removal

Internationally recognised CANBUS protocols are utilised to allow for communication with the main drive units to determine parameters useful for machine monitoring and diagnostics, while an industry accepted traffic light tower provides machine status alerts.

#### Increased Accuracy

Material removal can be monitored and controlled to micron levels of accuracy. Individual jigs can be programmed to automatically lift when the set removal amount has been reached, preventing over-processing of samples.

#### Automated Feature Set

The DL's advanced user interface, accessed via a 10.4" LCD touch screen running the industry standard NI Labview software, has been designed to provide optimum flexibility. Graphical representation of key parameters displayed during processing offers improved monitoring and real-time analysis. To facilitate extra control, the system supports manual and automatic modes.

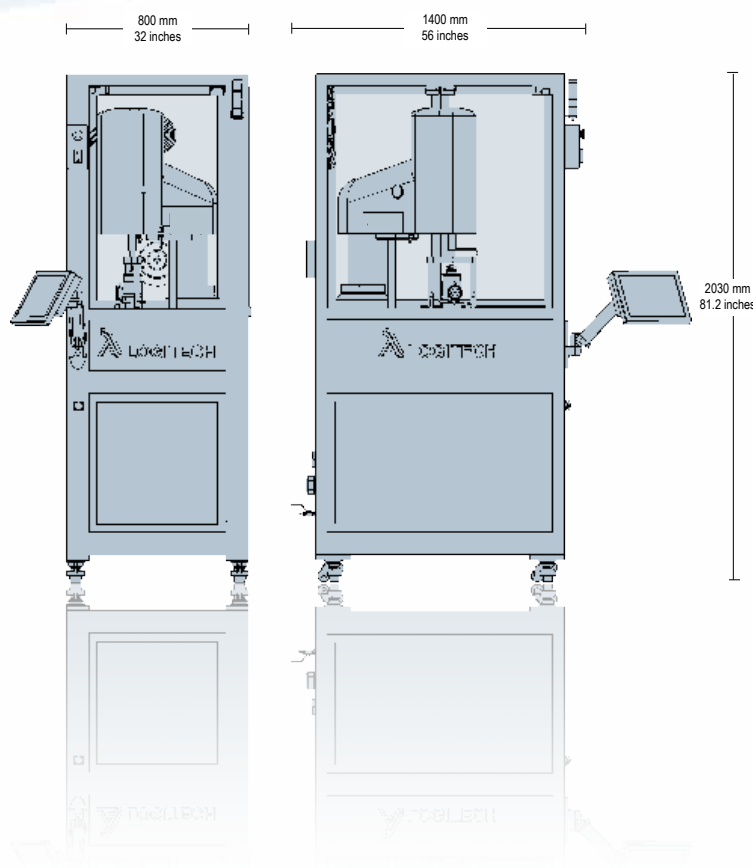
The manual mode provides access to individual process variables for maximum control over process parameters. The automatic mode, allows for complex recipes to be created and stored in memory. The ability to build a recipe library, automate the lapping process and reduce user input, make the DL systems premium Logitech products.

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### Technical Specifications

	DL1	DL4
Jig Capacity:		
PP9: Up to 8" Sample	1	4
<i>PP9 is suitable for multiple samples such as: 2" x 10; 3" x 4; 4" x 2 and 6" x 1 Further details on the Logitech jig range can be found at <a href="http://www.logitech.uk.com/jigs">www.logitech.uk.com/jigs</a></i>		
Power Supply	220-240v 13A max	400-500Vac, 3 Phase
Fuse rating	12.5A	25A
Plate speed	160rpm	0 to 100rpm
Plate diameter	560mm (22")	700mm (27.6")
Plate rotation	Counter clockwise	Counter clockwise
Carrier speed	10 - 125 rpm	10 - 60 rpm
Height	2030mm	2030mm
Depth	1400mm	1440mm
Width	800mm	1140mm
Gross Packed Weight	600kg approx	980kg approx
Gross Machine Weight	490kg approx	600kg approx
Typical Plate Weight	31kg	78kg approx
Max slurry flow rate	500ml/min	500ml/min
Min slurry flow rate	20ml/min	20ml/min
Jig Mass	25kg	25kg



PP9 Jig Multiple chuck sample arrangement

### Accessories, Components & Consumables

A comprehensive range of accessories, components and consumables are available to support these systems, enabling optimum results and longevity of the machines. A selection of supporting products can be found below, for a more comprehensive listing please go to [www.logitech.uk.com](http://www.logitech.uk.com)

#### Accessories & Components

- Range of grooved or un-grooved cast iron lapping plates
- Range of grooved or un-grooved glass lapping plates
- Standard lapping carrier
- Multiple sample lapping carrier with individual vacuum connections
- Flat lapping gauge
- Glass test block
- Cast iron test block
- Granite master flat block
- Loading weight for test block

#### Consumables

Logitech supply a vast range of consumables for lapping purposes. These tried and tested products ensure you achieve optimum results and maximum life-span from your Logitech system.

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