

DP Series Precision Polishing Systems

The Logitech DP high speed polishing systems have been designed for semi automated final stage polishing of hard materials, such as sapphire, silicon carbide or gallium nitride, to epitaxy ready quality surfaces.

These systems can process material up to 300mm / 12" Ø (or multiple smaller samples) and are capable of applying up to 50Kg of download on each carrier head, resulting in the highest sample throughput of any of our polishing systems.

Reduced Processing Times

The Logitech DP systems have been developed to address the issue of polishing times when processing hard materials. The DP systems have special polishing heads that apply high levels of downforce onto the samples, whilst rotational speed and direction are fully controllable. The DP system also benefits from Logitech's latest control system, featuring an embedded PC running Labview software with a touchscreen interface and high levels of control and monitoring.

Typical capabilities

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

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

The single workstation system (DP1) generates a high level of back side pressure, dramatically reducing process times compared with traditional methods. In addition the DP four workstation system (DP4) is ideal for higher volume production as it allows for a high number of optical substrates or components to be polished with repeatable surface flatness and material removal rates. Furthermore, the DP's ability to polish both hard and soft materials ensures they can work with most optical or semiconductor materials.

User Friendly Interface

The DP's advanced touch screen user interface has been designed to provide optimum flexibility, with increased control and automation available through manual and automatic modes.

The manual mode provides access to individual process variables, thereby allowing operators maximum control over process parameters. The automatic mode allows for complex, linked recipes to be created and stored in memory. This enables the operator to build a recipe library of automated and repeatable processes, freeing up time to work on other tasks, safe in the knowledge that the samples will be polished to the required specification.

Industry Standard System Architecture

Door interlocks are installed, ensuring current health and safety regulations are adhered to, while the built-in fume cabinet caters for processes involving toxic materials.



- *Quick polishing time for hard materials such as SiC, GaN, AlN and Sapphire*
- *Process up to 48 x 2" or 4 x 8" wafers simultaneously*
- *Highly flexible with consistent results*

Furthermore, the DP systems are designed with chemo-mechanical based polishing processes in mind, as all parts and components are sodium hypochlorite resistant. An internal peristaltic pump is incorporated to deliver the slurry to the processing pad.

Typical Applications

As a high capacity unit, the DP4 is ideal for production environments as it offers a highly effective solution for polishing materials or components traditionally viewed as being hard to process.

With its variable download control, driven head technology and in-built automation, the DP systems are extremely versatile and capable of working with a wide range of polishing materials. The list below represents a cross section of the various applications it is suited to:

- Polish wafered materials to an epitaxy ready surface without losing geometric control
- Precision interference filter polishing for UV or IR colour discrimination in optical & electro-optical systems
- Exacting parallelism achieved when polishing plane parallel windows for use in optical systems as input / output windows for beamsplitters, filters & polarizers

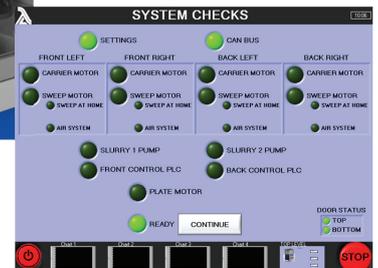
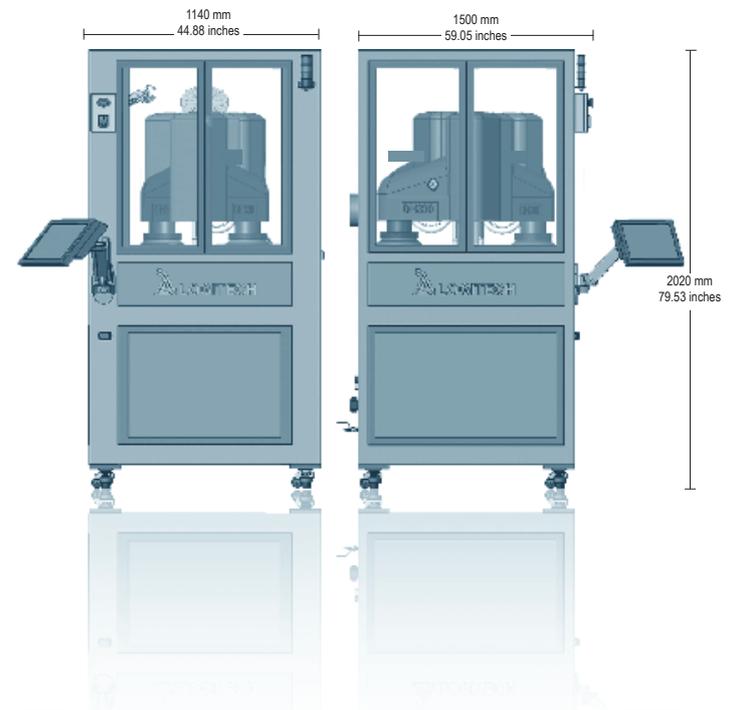
DP Series

Precision Polishing System

DP4

Technical Specifications

	DP1	DP4
Capacity:	300mm Carrier	4 x 260mm carriers
Power Supply	230v 16A max	400-500Vac, 3 Phase
Fuse rating	12.5A	25A per phase
Plate speed	160rpm	160rpm
Plate diameter	560mm (22")	700mm (27.6")
Plate rotation	Clockwise & Counter clockwise	
Carrier speed	10 - 125 rpm	10 - 60 rpm
Carrier rotation	clockwise & counter clockwise	
Min download	carrier dependent	
Max download	200kg	50kg
Height	2030mm	2020mm
Depth	1400mm	1500mm
Width	900mm	1140mm
Gross Packed Weight	670kg approx	971kg approx
Gross Machine Weight	470kg approx	580kg approx
Typical Plate Weight	31kg	76kg
Max slurry flow rate	500ml/min	500ml/min
Min slurry flow rate	20ml/min	20ml/min



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

Accessories & Components

- Range of grooved or un-grooved polishing plates and pads
- Sample carriers
- Single wafer template kit
- Multiple wafer template kit
- Range of wafer mounting plates
- Diamond conditioning plate

Consumables

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

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