

APD2

Precision annular or peripheral saw

The APD2 Precision Saws are ideal for both research and production purposes. Available in either annular or peripheral modes, the APD2 provides a high degree of versatility in material wafering or dicing and provides extremely accurate, repeatable cuts with minimal material wastage.

Accurate slicing with minimum surface damage

The **APD2 annular saw** enables specimens to be accurately and thinly sliced, with the minimum of surface damage and kerf loss, cutting wafer boules up to 78mm in diameter.

The **APD2 peripheral saw**, reproduces chips as small as 1 x 2mm on a unit which accepts samples of up to 152 x 152mm.

Both units offer a combination of high positional accuracy 10µm in the x-axis and 10µm in the y-axis, with minimal material wastage.

Ease of operation is paramount. One key press can initiate a series of cuts, allowing unattended operation throughout. The cut depth, cut thickness and the number of cuts required are easily set from the control panel, with all relevant data clearly shown at all times.

In each configuration, the sample's movement towards the blade uses a stepper motor controlled x-y table, offering smooth operation with optimum control. An optional rotary table for the peripheral unit allows the user to make cuts at any angle, making the APD2 invaluable to laboratories in cutting along a crystal axis or "brewster's angle". The rotary table has additional manual height variation in the z-axis to within 10µm.

Coolant is delivered to the sample by a coolant recirculation unit. The coolant is directed on to the sample through movable nozzles. A 25 litre capacity coolant tank, guarantees a constant flow rate, and prevents damage during the cutting process.

Applications

In its annular configuration, the APD2 can be used to wafer fragile and expensive infra-red or semiconductor materials, such as lithium niobate or gallium arsenide. It can slice from the boule with minimal kerf loss and sample damage. This saw is ideal for the light emitting diode market where materials such as gallium nitride need to be cut.

Demand has also increased for wafers cut from very hard materials, such as silicon carbide or sapphire, to supply reflective surfaces for the laser industry, or from materials such as cadmium zinc telluride for use in infra-red imaging and x-ray detection devices.



- *Capacity to dice chips to 1mm x 2mm with minimal edge chipping*
- *High positional accuracy*
- *Slice wafers to 300 microns with minimal kerf loss*
- *Semi-automatic operation*

There is also an increasing demand for the dicing of semiconductor wafers, such as gallium arsenide, germanium, indium phosphide and gallium nitride, or of opto-electronic materials such as lithium niobate.

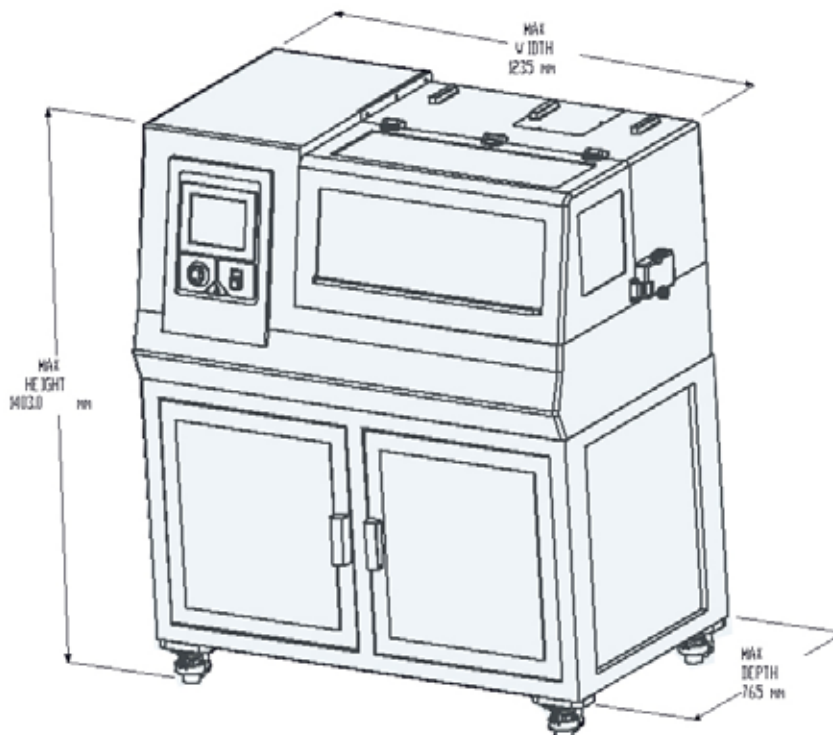
In its peripheral configuration, the APD2 can dice wafers of up to 152mm in diameter, down to sizes as small as 1mm x 2mm, with minimal edge chipping. It can also be used for slotting to precise depths on glass or similar samples.

In addition, the APD2 is not only suitable for cutting ceramics to supply both the avionics and space research industries but also for cutting a wide range of other materials: quartz, ferrites, minerals, rock samples, archaeological samples, fossils, calcified tissue, and other crystal materials.

The APD2 is an invaluable tool in helping research and industrial establishments increase both their sample output and quality, in order to meet the growing demands of today's market.

ADP2

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Technical Specifications

Power Supply	220/240V, 50Hz or 110v, 50-60Hz	Net Weight:	360kg
Main drive motor:	1.1kw	Tank capacity:	25 litres
Min drum speed:	600rpm	Positional accuracy:	y-axis 10 microns, x-axis 10 microns
Max drum speed:	3000rpm	Annular Saw	
Min feed rate:	0.005mm/sec	Max depth of cut:	78mm
Max feed rate:	1.0mm/sec	Max. ingot length:	90mm
Height:	1403 mm	Ingot orientation:	+/- 15 eg. horizontal plane scale graduated in 2.5 deg.
Depth:	765 mm	Peripheral Saw	
Width:	1235 mm	Max depth of cut:	152mm

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.

Further information can be found at www.logitech.uk.com

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