

HIGH

PRECISION

SAW



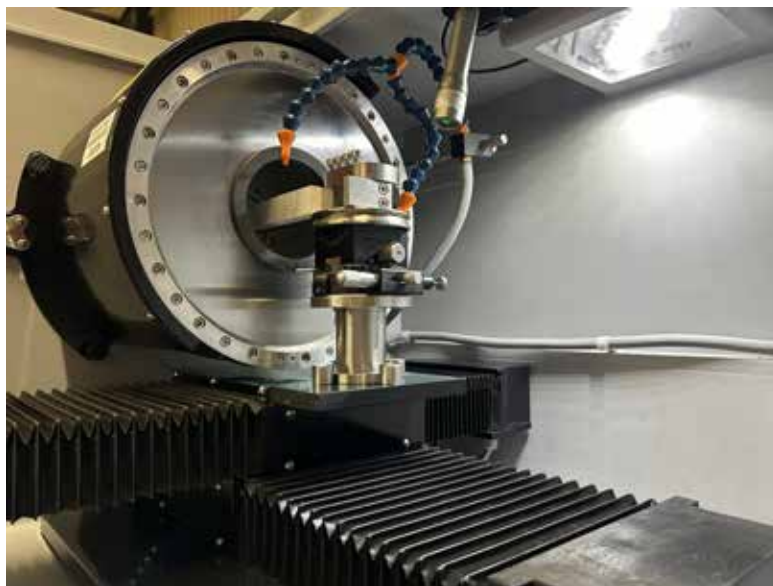
Versatile and precise cutting
for research and production,
suitable for semiconductors,
optics, and optoelectronics.

High Precision Saw

Annular and Peripheral Saw Configuration Kit Options

The High Precision Saw (HPS) is the perfect solution for advancing technologies in both research and production environments, offering unparalleled versatility and precision with the ability to operate in either annular or peripheral configurations.

The HPS is designed to handle a wide range of materials, delivering extremely accurate and repeatable cuts for applications including custom optics, optoelectronics, and semiconductors. Its unique design ensures minimal material wastage and kerf loss, maximizing efficiency and reducing costs.



1. Logitech High Precision Saw (HPS).
2. Featuring annular and peripheral configurations, this system delivers high positional accuracy of $10\mu\text{m}$ in both the x-axis and y-axis, ensuring minimal material wastage. Complete with a laser alignment tool for exact sample positioning.
3. Coolant recirculation unit with 25L capacity tank ensures steady flow and protects during cutting.
4. Features guard interlock ensuring safe operation.



Key Features & Functionality

- The HPS comes as a fully equipped base unit, featuring a robust cabinet, an integrated power system, and pre-installed software, across both Annular and Peripheral configurations.
- To fully customise your setup, we offer five specialised saw kits, allowing you to tailor the machine to your specific cutting needs and receive a complete, ready-to-use unit. Whether for precision dicing or wafering, the HPS offers ultimate flexibility based on your intended use.
- Both configurations offer high positional accuracy of 10µm in the x-axis and 10µm in the y-axis, with minimal material wastage.
- In each configuration, the sample's movement towards the blade uses a stepper motor controlled x-y table, offering smooth operation with optimum control.
- Align samples to the cutting blade effortlessly with the laser alignment tool. Designed to work seamlessly with the goniometer for precise targeting of crystal boundaries, it also features adjustable brightness to ensure optimal visibility and sharpness of the laser line. Users can easily create a perfectly parallel surface for flawless alignment.
- Coolant is delivered to the sample by a coolant recirculation unit and directed onto the sample through movable nozzles. The 25 litre capacity tank guarantees a constant flow rate and prevents damage during the cutting process.

PERIPHERAL CONFIGURATION

- In its peripheral configuration, the HPS 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.

- An optional rotary table allows the user to make cuts at any angle, making it invaluable for laboratories when cutting along a crystal axis or "Brewster's Angle". This rotary table also offers manual height variation in the z-axis to within 10µm.

ANNULAR CONFIGURATION

- The HPS annular saw enables specimens to be sliced accurately and thinly, with minimum surface damage and kerf loss, cutting wafer boules of up to 78mm in diameter.
- In its annular configuration, the HPS can be used to wafer fragile and expensive infrared or semiconductor materials, such as lithium niobate or gallium arsenide. It can slice 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.
- The annular configuration is ideal for custom optic applications, enabling the manufacturability of lenses, filters, and prisms/crystals.

CONFIGURATION KITS OPTIONS

- **ADS1 Kit Annular / Dicing Standard Kit**
Annular and peripheral accessories + standard tool post + rotary table for dicing
- **1ADG1-KIT Annular / Dicing Goniometer Kit**
Annular and peripheral accessories + goniometer tool post + rotary table for dicing
- **1SA1-KIT - Standard Annular Kit**
Appropriate guard & drum + standard tool post
- **1SD1-KIT - Standard Peripheral Kit**
Appropriate guard & extension parts + rotary table for dicing
- **1GA1-Kit- Goniometer Annular Kit**
Appropriate guard & drum + goniometer tool post

Technical Specifications

Power Supply	220/240V, 50Hz
Height	1403 mm
Width	1235 mm
Depth	765 mm
Net Weight	360 kg
Tank Capacity	25 Litres
Positional Accuracy	10 µm x 10 µm (y-axis and x-axis)
Saw Drive	1.1kW
Min. Feed Rate.	0.005 mm/sec
Max. Feed Rate	1.0 mm/sec

Annular	
Min. Spindle Speed	600 rpm
Max. Spindle Speed	3000 rpm
Max. Depth of Cut	78 mm
Max. Ingot Length	90 mm
Peripheral	
Min. Spindle Speed	600 rpm
Max. Spindle Speed	5000 rpm
Max. Length of Cut	152 mm



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