

WAFER SUBSTRATE BONDING UNITS



Premium bonding for the processing of fragile semiconductor wafers while retaining the highest quality of sample yield.

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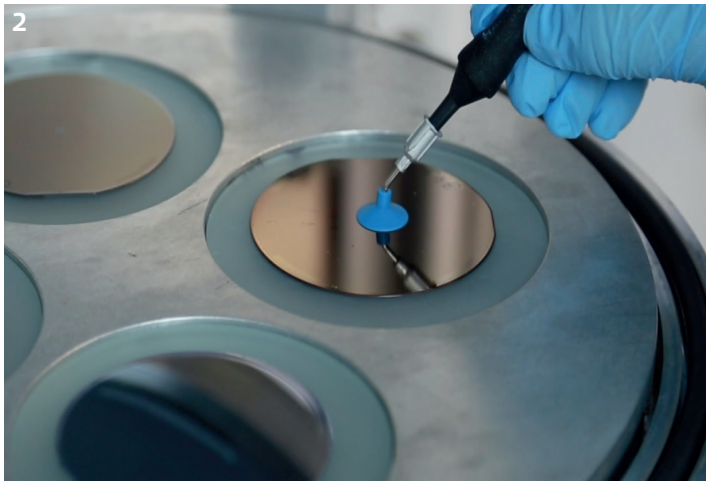
Wafer Substrate Bonding Units

The Logitech Wafer Substrate Bonding Units (WSBU's) offer premium bonding for the processing of fragile semiconductor materials such as indium phosphide and gallium arsenide. The bonding units are designed to minimise breakage with these expensive materials, whilst retaining the highest quality of sample yield.

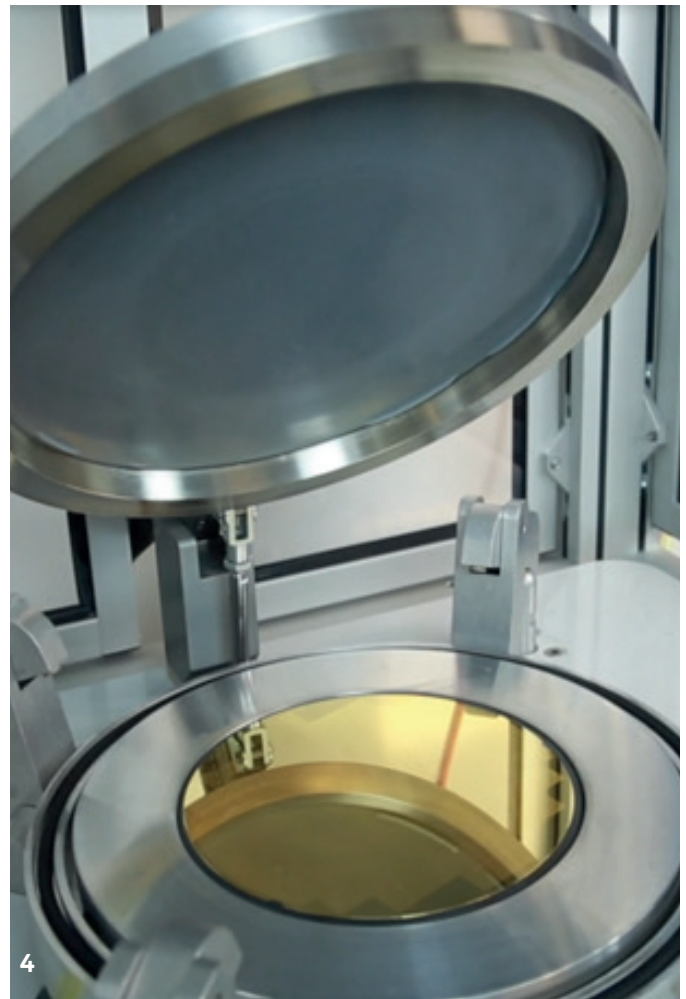
The WSBU's are designed to meet the stringent requirements of today's wafer processes. Available as a single, three station, or floor standing model, this highly automated bonder incorporates both vacuum and pressure bonding facilities.



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1: Single station Wafer Substrate Bonding Unit

2: Bond multiple sample types simultaneously on the WSB300

3: Triple station Wafer Substrate Bonding Unit

4: The WSB300 has the ability to bond wafers up to 300mm(12")

Key Features & Functionality

- Available as a single or three station benchtop unit with a wafer process capacity of 4"/100mm or 6"/150mm - bond three part or whole wafers consistently with a high standard of support carrier parallelism.
- The WSB300 floor standing model allows operators to bond materials and wafers up to 300mm/12" (or smaller multiple samples using a template) in diameter to the exacting standards achieved by the benchtop WSBUs - this makes the WSB300 ideal for high throughput bonding requirements.
- The WSBUs range allows operators to bond single or multiple wafers simultaneously.
- The WSBUs range provide consistent bond thickness and excellent dimensional accuracy due to precise control of a flexible diaphragm within the bonding chamber.
- The full bonding process - evacuation of wafer chamber, heating, pressure bonding and cooling can be completed automatically by the WSBUs in 45 minutes (depending on the mounting media, wafer size and parameter combination).
- Improved software options enable full customisation of the process, providing greater operator control and process repeatability.
- Process conditions set and controlled via the Graphical User Interface - including bonding temperature up to 200°C and required vacuum.
- Our latest environmentally conscious upgrade: the 12" bonder now features an updated cooling system, replacing the oil-based heat exchangers.
- Dry pump option now available upon request, completely eliminating reliance on oil-based products. This means not only enhanced performance but also a significant reduction in our environmental footprint.
- The recipe mode on the WSBUs allows users to create and re-call recipes to ensure easy process repeatability and consistency, even across different operators. These can be exported and uploaded via the USB port.
- The full pressure bonding process completed within the bonding chamber. Once the bonding temperature is reached and the mounting adhesive applied, the sample is placed on the carrier within the chamber. Air is then evacuated from the sample chamber, creating a vacuum. The unit then enters the 'soak' phase, where the bonding temperature is maintained along with the vacuum. The bond phase is then initiated as positive downward pressure is applied to the sample from the diaphragm chamber. Once the bond is completed, the unit enters the 'cooling' phase to the predetermined temperature, and then the bonded sample can be safely removed from the chamber.

Technical Specifications

	Single Station WSBUs (4" & 6")	Triple Station WSBUs (4" & 6")	Single Station WSB300 (12")
Height	4" - 345 mm 6" - 400 mm	4" - 345 mm 6" - 370 mm	1740 mm
Width	4" - 520 mm* 6" - 740 mm*	4" - 940 mm* 6" - 1160 mm*	1185 mm**
Depth	4" - 580 mm 6" - 600 mm	4" - 580 mm 6" - 600 mm	750mm
Net Weight (not including plate)	4" - 30 kg 6" - 77 kg	4" - 110 kg 6" - 110 kg	250 kg
Power Supply	240v/110v Single Phase		240v/ Single Phase
Water Supply	Mains Pressure Cold Water		
Pressurised Air	Regulated to 2bar +/- 0.2bar max		5-8bar
Vacuum Pump	<p>Single Station WSBUs 4" - RV3 pump or nXDS6i Pump</p> <p>Single Station WSBUs 6" / Triple Station WSBUs 4" & 6" / Single Station WSB300 12" RV8 pump or nXDS10i Pump</p> <p>Vacuum Level in all bonding chambers during bonding sequence <0.1mbar</p>		

*Add 200 mm for services pipework

** Includes Services



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