

# WAFER SUBSTRATE BONDING UNITS



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

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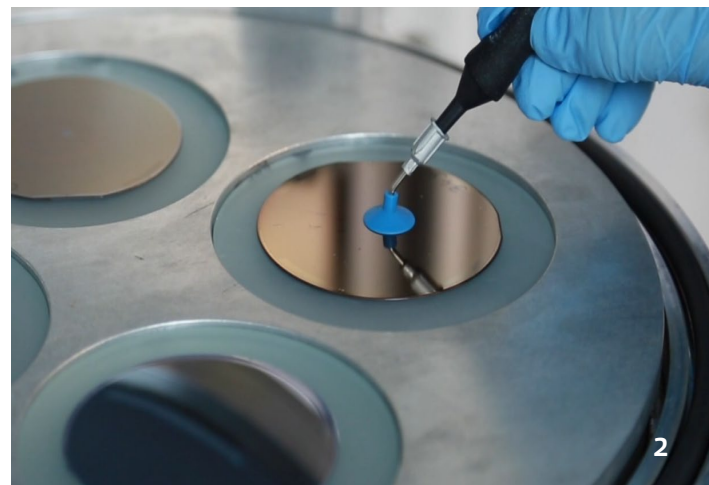
# WAFER

# 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 or three station unit, this highly automated bonder incorporates both vacuum and pressure bonding facilities.



## 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 WSBU range allows operators to bond single or multiple wafers simultaneously.
- The WSBU range provide consistent bond thickness and excellent dimensional accuracy due to precise control of a flexible diaphragm within the bonding chamber.
- The recipe mode on the WSBU's 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.
- Process conditions set and controlled via the Graphical User Interface - including bonding temperature up to 200°C and required vacuum.
- Full pressure bonding process completed within the bonding chamber; when the bonding temperature has been reached and the mounting adhesive applied the sample is place upon 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 entered as the temperature is maintained as positive downward pressure is then applied to the sample from the diaphragm chamber, once the bond is completed the unit then enters the 'cooling' phase to the predetermined temperature and then the bonded sample can be safely removed from the chamber.

→ The full bonding process - evacuation of wafer chamber, heating, pressure bonding and cooling can be completed automatically by the WSBU's in 45 minutes (depending on the mounting media, wafer size and parameter combination).

1: Single station Wafer Substrate Bonding Unit

2: Bond multiple samples simultaneously on the WSB300

3: Triple station Wafer Substrate Bonding Unit

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

## TECHNICAL SPECIFICATIONS

System	Single Station WSBU	Triple Station WSBU	WSB3000
Height	350mm	390mm	1750mm
Width	652mm	1160mm	930mm
Depth	580mm	600mm	1110mm
Net Weight (not including plate)	58kg	80kg	250kg
Power Supply	240v/110v Single Phase	240v/110v Single Phase	240v/110v Single Phase
Water Supply	Mains Pressure Cold Water	Mains Pressure Cold Water	Mains Pressure Cold Water
Pressurised Air	Regulated to 2bar +/- 0.2bar max	Regulated to 2bar +/- 0.2bar max	5-8bar
Vacuum Pump	4" model:Torr $1.5 \times 10^{-3}$ 6" model:mbar $2.0 \times 10^{-3}$	Torr $1.5 \times 10^{-3}$	mbar $2.0 \times 10^{-3}$

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