www.logitech.uk.com

WSB

Wafer Substrate Bonding Unit

The Logitech WSB unit offer premium bonding for the processing of fragile semiconductor wafers such as Silicon and Gallium Arsenide.

The bonding unit is designed to minimise breakage with these expensive materials, whilst retaining the highest quality of sample yield.

Flexible, reliable and operator friendly

The Logitech Wafer Substrate Bonding Unit has been designed to meet the stringent requirements of todays wafer processes. Available as a single or three station unit, this highly automated bonder incorporates both vacuum and pressure bonding facilities.

The capability of mounting and bonding up to three part or whole wafers to to a diameter of 152mm (6”) ensures that the WSB is a vital part of your process. A key feature of this unit is its consistency in producing a high standard of wafer to support carrier parallelism, irrespective of whether it is a whole wafer or a number of small wafers of varing thickness.

The touch display screen control enables the operator to easily set the bonding temperature and vacuum required for the specific sample.

The WSB unit provides consistency of bond thickness and excellent dimensional accuracy, due to the precise control of a flexible diaphragm within the bonding chambers. The diaphragm ensures that wafers are pressed into the wax layer in a controlled manner, providing a uniform, parallel cushion to protect the wafer and its devices.

The pressure bonding facility built into the unit is designed to achieve the best possible results using vacuum and positive pressure. Each of the chambers accept 4” or 6” diameter by 8mm thick support discs,depending on the model used.

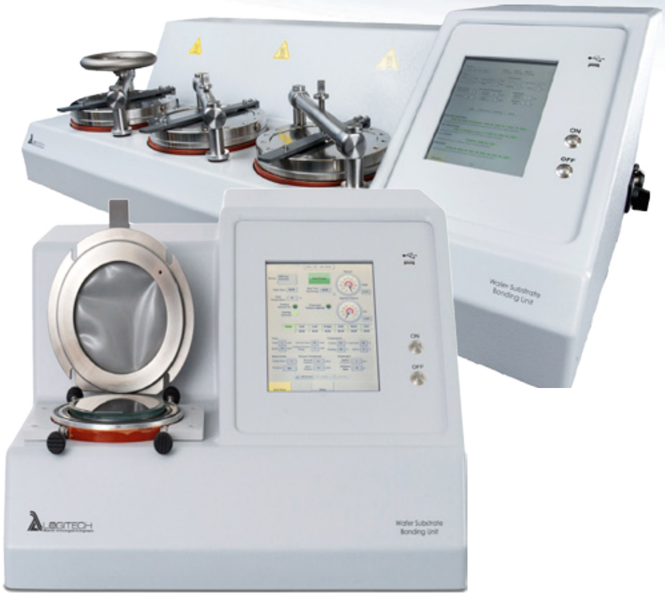
The bonding process - evacuation of the wafer chamber, heating, pressure bonding and cooling can be completed automatically by the WSB in 45 minutes, (depending on the mounting media, wafer size and parameter combination).

WSB Range

Single station unit with pump: 220V 50Hz
Single station unit with pump: 110V 60Hz
Single station unit for 6” substrates with pump: 220V 50Hz
Three station unit with pump: 220V 50Hz
Three station unit with pump: 110V 60Hz
Three station unit for 6” substrates with pump: 220V 50Hz

Accessories, Components and Consumables

A comprehensive range of accessories, components and consumables are available to support all Logitech machines and systems, enabling optimum results and longevity of products. For a more comprehensive listing or to order consumables online please go to www.logitech.uk.com



- **Automated process cycle**
- **Excellent wafer to support disc parallelism**
- **Process Repeatability**
- **4” or 6” wafer capacity**
- **Single or multiple wafer bonding**

	4” Model	6” Model
Power Supply	*Single station unit* 0.72kW (240V) / 0.66kW (110V)	3.12kW (240V)
	Three Station Unit 1.4kW (240V) / 1.44kW (110V)	*Three Station Unit* 3.12kW (240V)
Water Supply	Mains Pressure Cold Water/	
Pressurised Air	Regulated to 2bar +/- 0.2bar maximum	
	Single Station	Three Station
Height	350mm(13.78”)	390mm (15.6”)
Depth	580mm (22.83”)	600mm (24”)
Width	652mm (25.5”)	1160mm (46.4”)
Net Weight *(not inc plate)*	58kg	80kg
Gross Packed Weight *(not inc plate)*	93kg approx	117kg approx
Vacuum Pump (RV3)	Torr 1.5 x 10^{-3}	mbar 2.0 x 10^{-3}

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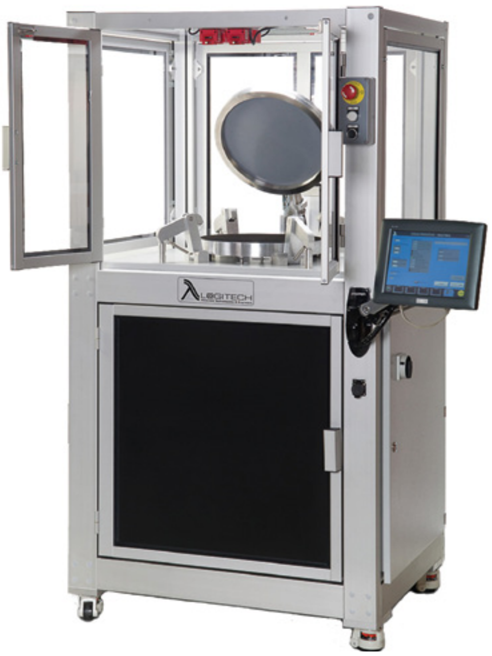
WSB300

Wafer Substrate Bonding Unit

The WSB300 Wafer Substrate Bonder allows operators to bond materials and wafers up to 300 mm (12”) in diameter to the same exacting standards achieved by the Logitech bench-top bonding systems. The primary aim of the WSB300 is to retain the highest quality of wafer to carrier yield whilst minimising breakage to cleavage of these highly expensive wafers.



- **Automated process cycle**
- **Excellent wafer to support disc parallelism**
- **Touch screen control**
- **Up to 12” wafer capacity**
- **Single or multiple wafer bonding**

Power Supply	220-240V	
Water Supply	Mains Pressure Cold Water	
Pressurised Air	5 - 8Bar	
Height	1750mm (69”)	
Depth	1100mm (43”)	
Width	930mm (36.5”)	
Net Weight *(not inc plate)*	250kg	
Vacuum Pump (RV3)	Torr 1.5×10^{-3}	mbar 2.0×10^{-3}

Consistent bonding results, automatically

The Logitech WSB300 Wafer Substrate Bonding Unit has been designed to supply consistent wafer yields, without compromise. Available as a single-station unit, this highly automated machine incorporates vacuum, pressure and resin bonding facilities. It allows the operator to mount and bond a single wafer onto a glass substrate prior to further processing.

The system produces consistently high standards of wafer to glass support disc parallelism, across the large diameter of wafer being mounted and bonded. The touch screen panel allows all process parameters to be accurately controlled, including a programmable bonding temperature and vacuum. This flexibility allows bond optimisation for a specific wafer/carrier temperature bonding media combination.

Quality components - exacting results, every time

The elimination of cleavage of ultra-thin wafers, repeatability of bond thickness and production of excellent dimensional accuracy are achieved through precise control of the flexible diaphragm within the bonding chamber of the WSB300 Wafer Substrate Bonding Unit. The diaphragm ensures that the wafer is pressed into the wax layer in a controlled manner providing a uniform, parallel cushion to protect the wafer and its devices. The unit has been designed to ensure that the wafer / substrate and device architecture do not come in contact with the support disc, resulting in less wafer damage.

Clear operator functionality - full control at your fingertips

Using the touch screen options, the operator can programme the unit to bond samples over a wide range of temperatures and applied load. The pressure bonding facility built into the WSB300 Wafer Substrate Bonding Unit is designed to achieve the best possible results using vacuum and positive pressure.

The vacuum/pressure chambers accepts support discs of up to 300mm diameter, and up to 12mm thick. Once a sample has been placed within the vacuum / pressure chamber, the control system increases the vacuum and increases the temperature to the previously programmed values. The process time varies depending on the mounting media, wafer size and parameter combination.

Controllable process sequences - reduced operator intervention

Full process control of the complete bonding sequence can be achieved with regards time, temperature and wax outgassing. The ability to modify, regulate and customise the process also extends through to the cooling phase and complete high quality automated results can be achieved in around 60 minutes.

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