

Logitech Wafer Bonder Operating Instructions

Do not use excessive force on upper chamber locking screw.

Do not run above 188 degrees C.

Do not set pressure above 15psi.

Do not use the tool without filter paper covering the top of your part.

Ensure you take necessary safety precautions regarding high temperatures.

Clean all excess bonding material that may be in the process chamber.

Ensure that the O-rings are properly in place prior to closing the chamber lid.

1. Open Logitech Bonder chamber:
 - a. Unscrew clamp until higher than clamp arm,
 - b. Swing front of clamp arm to the left (Difficult to disengage),
 - c. Lift bonder lid (also takes some force to open - ignore vacuum reading on digital display)
2. Place 6" filter paper on the glass plate of the Logitech (not needed for all processes).
3. Place wafers to be bonded on top of the filter paper, on the glass plate of the Logitech bonder.
4. Place 6" filter paper on top of the wafers. Wafers should have filter paper on top and bottom to catch excess wax (when bonding full wafers)
5. Ensure that the O-rings are in their proper place.
6. Close and lock Logitech bonder hatch, be careful not to over tighten the locking screw.
7. Turn on Logitech bonder power (bottom right of machine chassis)
8. On the front panel of the Logitech bonder, confirm that Applied Pressure gauge is set to 5 psi (this is a sufficient setting for most processes, 15psi is the max allowable setting without prior staff approval).
9. Enter the process settings (this should be the default settings):

[setup] -> [Temp]

Bonding: 120°C

Endpoint: 65°C

Offset: 20°C

Units: C

[setup] -> [Vac Thres]

Proceed if Below: 2.4E+01 mBar

Abort if Below: 3.2E+01 mBar

[setup] -> [Process Control]

Process: Heat + Outgas

Soak: 5min

Bond: 15min

O.G. Limit: 20min

P.P. del: 1min

[setup] -> [Heads]

Heads 1 On

10. Start Process: [Process] -> [Start]
11. Process takes about 45min
 - a. Unload when it displays *Status: Ready*
 - b. It is normal to see wax on the filter paper, indicating full/over-coverage. However you might need to adjust the wax amount to prevent too much wax escaping the wafer and causing too thick a bonding layer. About ~1cm of leaking wax on the filter paper is ideal.
12. If wax leaked onto the glass plate: remove glass plate and clean with Acetone+Wipe. The surfaces must be very clean of wax when you're done, or else the lid or wafers may get stuck on the next run.
13. Turn off Logitech bonder (bottom right of machine chassis)
 - a. Close lid and clamp (ensure that the o-rings are in their proper positions, and do not over tighten the lid).
14. Fill out the logbook.