

Dynatex DXE 9 Series Wafer Expander by CLT

The DXE 9 Series wafer expander is used for expanding wafers after the singulation/dicing process. Wafer expansion creates space between die for pick-and-place operation and helps prevent die-edge chipping during shipping or the pick-and-place operation. The DXE 9 Series by CLT expander accommodates a wide variety of film frames and hoop sets up to 200 mm (8 inch) wafer, and custom configurations are available upon request.

Functionality:

- The DXE 9 Series is designed to expand the space between diced semiconductor dies by omnidirectional stretching of the plastic film on which these dies have been mounted. The stretching is done over concentric hoop sets that retain the stretched plastic films.
- The DXE 9 Series heats the tape to improve the tape flexibility during the expansion process. It has been preset at the factory for 65° C +/- 2.5° C (150° F +/- 5°). Operation at 65° C (150° F) is recommended for most films. The temperature is adjustable to accommodate a wide range of tapes and films.
- The DXE 9 Series transfers wafers from film frames to hoops.
- Multiple sizes range from 5 - 9-inch hoops.

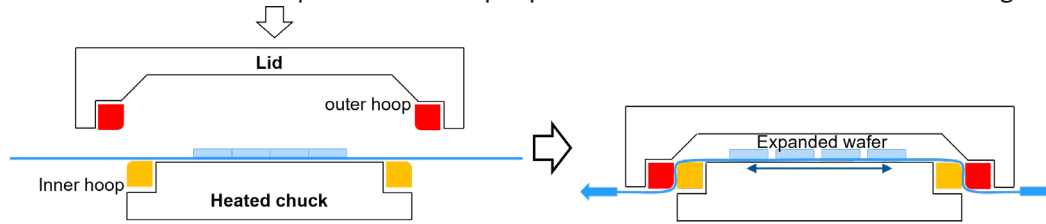


Applications:

- Semiconductor devices and optical system with wafer-based glass
- Laser diodes
- LED's
- MEMS

Mounting wafer tape to the hoops:

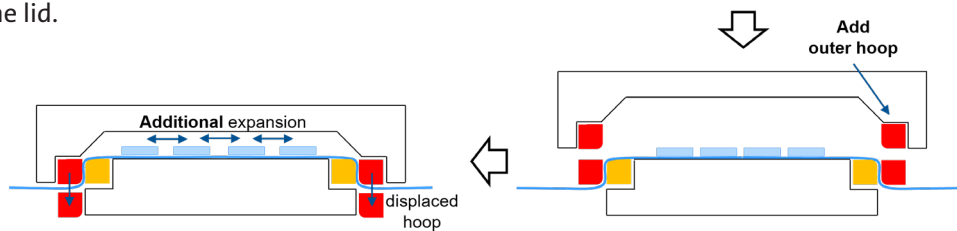
- The inner hoop is placed on the heated chuck with the rounded edge facing up. The wafer mount tape is positioned over the heated chuck and the inner hoop. The outer hoop is placed inside the lid with the rounded edge facing down.



- The lid is pneumatically activated, forcing the outer hoop over the inner hoop. The tape is mounted with the adhesive side up and smooth side down. The outer hoop, placed in force head, is compressed over the inner hoop, placed on the heater base. Thus, the outer hoop grips the adhesive side of tape and pulls it down and slides the tape over the inner hoop until the hoops lock together. Thereby radially stretching the tape and expanding the space between die on the tape.

Expanding a wafer:

- The hoop set with the wafer mount tape and a diced wafer is placed onto the heated chuck. An additional outer hoop is placed inside the lid.



- The lid is actuated, forcing the outer hoop over the inner hoop and pushing the first outer hoop down and off the inner hoop. This action pulls the tape down over the inner hoop, stretching the tape and thereby expanding the wafer. This step can be repeated to expand the wafer by the desired amount.

Transferring from film frames to hoops:

- To transfer a wafer from film frame to hoops simply load the outer hoop in the lid and the inner hoop on the heated chuck, insert the wafer and film frame then activate by depressing both start buttons, as a safety feature.

System Specifications:

Power Required	100/120 VAC 3 amp or 220/240 VAC 1.5 amp, 50/60 Hz
Environment	21° C +/- 6° C
Compressed Air	80 psi to 100 psi
Height	445 mm (17.5 inch)
Width	479 mm (18.5 inch)
Depth	381 mm (15 inch)

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