

Dynatex DXE 9 Series Wafer Expander

The DXE 9 Series wafer expander is used for expanding wafers after the singulation/dicing process. This prevents die-edge chipping during shipping or the pick and place operation. The 9 Series expander accommodates a wide variety of hoops and film frames, and custom configurations are available upon request.

Functionality:

- The DXE 9 Series has been designed to expand the space between diced semiconductor die by omni-directional stretching of the plastic film on which these die 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 150 +/- 5° F (66 +/- 2.5° C). Operation at 150° F (66° C) is recommended for most films. The temperature is adjustable to accommodate a wide range of tapes and films.

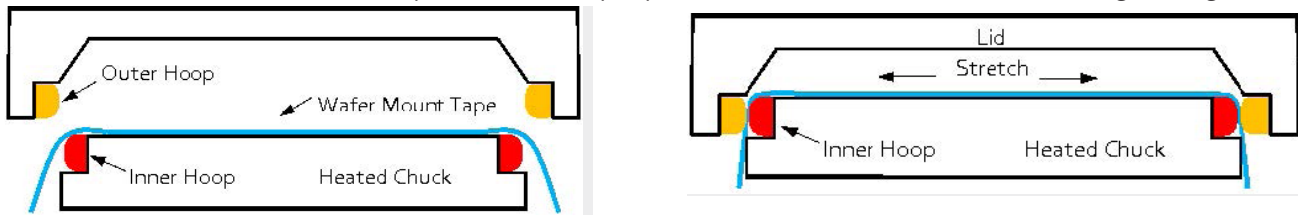


Applications:

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

Mounting wafer tape to the hoops:

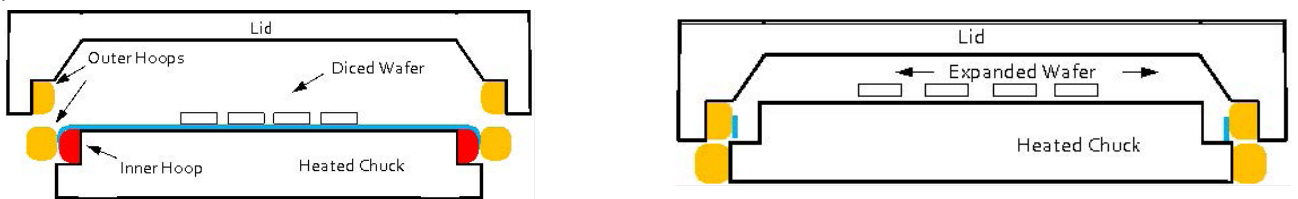
The inner hoop is placed on the heated chuck with the rounded edge facing up. The wafer mount tape is positioned over the heated chuck and the inner hoop. The outer hoop is placed inside the lid with the rounded edge facing down.



The lid is pneumatically actuated, forcing the outer hoop over the inner hoop. The tape is mounted with the adhesive side up and smooth side down. The outer hoop comes in contact with the adhesive surface. The outer hoop grips the tape and pulls it down over the inner hoop. The tape slides over the inner hoop thereby becoming stretched.

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 or grip rings simply load the outer hoop in the lid and the inner hoop on the heated chuck, insert the wafer and film frame then actuate 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
Operating Temperature	150 +/- 5° F (66 +/- 2.5°C)
Air	80 psi to 100 psi
Height	381 mm (15 in)
Width	445 mm (17.5 in)
Depth	470 mm (18.5 in)

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