

LDP 150

Large Device Bonding Press

The LDP150 is an Electrical Press especially designed for bonding large light or radiation detectors (50 ~ 150 mm). It uses compression process at room temperature (thermo-compression option available).

A predefined gap can be achieved between two components previously pre-bonded using a high accuracy device bonder such as the SET FC150. The devices are pressed together at room temperature while preserving the initial high accuracy alignment and parallelism.

The LDP 150 is able to apply pressure up to 100,000 N.



Features & Benefits

- Self leveling sphere moving on air bearing and locked by vacuum preserves the initial parallelism of the component stack
- High force (up to 100,000N) and controlled force profile ensure bond join quality
- Granite base and rigid stiff steel structure maintain the initial high accuracy of the assembly
XY : $\pm 1 \mu\text{m}$
Parallelism : $\pm 1 \mu\text{m}$
independent of component size

Bonding Processes

- Room Temperature Compression
- Thermo-Compression (optional)
- Bonding is achieved by pressing the components together with accurate control of the force profile
- Priority can be given either to the force or to the gap variation
- Parallelism and gap are monitored at all time during the bonding sequence

Applications

- Large Infrared Focal Plane Arrays (military or aerospace applications)
- Large XY, UV, detectors
- Others ...

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Technical Specifications

Process station

Component Size / Tooling

Component Size	50 ~ 150 mm
Component Thickness	Up to 40 mm
Tool Thickness	15 mm
Planarity	< 1 µm
Vacuum Area	(application specific)

Bonding Arm: (Z-AXIS)

Resolution	20 nm
Speed (maximum)	0.01 m/s
Bonding profile	Up to 10 Steps
	Each step includes ramp and plateau

Parallelism Sphere

Travel	± 1.5 degrees
Pivoting torque On air bearing (active)	0.5 N.cm

Force Measurement

Force range selected by Force Sensor Exchange
Sensor exchange is assisted by software and is achieved within around 30 minutes

10 kN Sensor

Range	100 ~ 10 000 N
Sensitivity	10 N
Accuracy	100 N

50 kN Sensor

Range	500 ~ 50 000 N
Sensitivity	50 N
Accuracy	500 N

100 kN Sensor

Range	1 000 ~ 100 000 N
Sensitivity	100 N
Accuracy	1 000 N

General Characteristics

Machine Footprint	1415 mm x 1240 mm
Machine height	1820 mm
Machine Total weight	2300 kg
Electrical Power Supply	208 V/230 V - 13 A 50/60 Hz - 3 phases



*Process or Configuration Dependent

Data, design and specifications depend on individual process conditions and can vary according to equipment configurations. Not all specifications may be valid simultaneously. Illustrations, photos and specifications in this datasheet are not legally binding. Specifications are subject to change without prior notice.

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