

Dispenser 'PFD-10' allows for thick and flat dispense

~It is possible to perform uniform and thick film dispense
with a flat nozzle made by PFA and dispense volume control with a motor~

PFA CORPORATION has developed Flat Dispenser 'PFD-10' which dispenses sintering paste to expand into a sintering market that has been gathering attention recently. In addition to sintering paste, it can be used for dispensing TIM (Thermal Interface Material) for heat dissipation or protection of high performance semiconductors and power semiconductors.

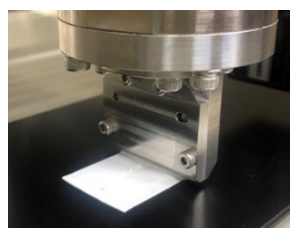
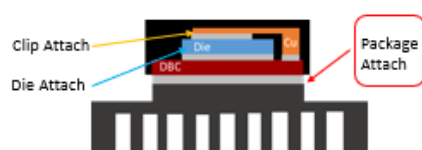
You can adjust dispense width according to the dedicated nozzle. The structure inside the nozzle allows for uniform and thick film dispense ranging from about 200 to 500 μ m. It performs height measurement before the dispense with a displacement gauge so that it can dispense on the substrate with uneven areas. It also dispenses paste locally, so it can reduce material loss of 20 to 30%, which contributes to material cost down.



Flat Dispenser 'PFD-10'

Market background and equipment outline

Power modules for automotive applications have a structure in which we attach a cooling device to a package in which semiconductor chips are mounted on the board. As the bonding material, we often use sintering paste which has excellent heat resistance and heat dissipation. Especially, in the process of bonding a cooling device and the substrate called 'Package attach,' thin film dispense is lack of bonding reliability due to the warpage of the cooling device. To meet the demand for thick film dispensers, we have developed the 'PFD-10' which can flatly dispense sintering paste on the cooling devices.



PFD-10's key features

1. Possible to control dispense volume with a motor control
2. Mechanism unaffected by changes in material viscosity is adopted
 - Dispensing is pulseless, stable, and good liquid exhaustion.
3. Substrate height correction with a displacement gauge
 - Cooling devices often have protrusion, so it measures the height before dispensing and it dispenses according to the measurement. It is possible to measure its thickness after dispensing.
4. Possible to dispense thick films from 200 to 500μm
 - Suitable for 'Package attach' in a sintering process in which thick film dispense is desirable.
5. Original flat nozzle made by PFA is adopted
 - The structure inside the nozzle allows for uniform dispensing. The dispense width depends on the nozzle width.
6. Possible to transfer a large and heavy substrate up to 300×300mm

Standard specifications

Model name	Flat Dispenser
Type	PFD-10
Equipment dimension	W1002×D1256×H1600mm (For your information)
Working height	900±20mm
Substrate size	300×300mm T=65mm *Please consult other sizes.
Dispenser head	Fixed quantity mechanical dispenser *Please select the optimum pump size according to dispense shape.
Syringe size	30cc, 50cc, 70cc syringe or 6oz, 12oz barrel
Nozzle width	2~50mm *Please consult 2mm or less and 50mm or more.
Included functions	Substrate height measurement/Nozzle position calibration/Trial shot Nozzle cleaning/Conveyor width adjustable
Options	Nozzle rotation mechanism/Inspection function

*A part of appearance or specifications can be changed for performance improvement.

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