

The coating characteristics of ultrasonic spray system according to changes in process variables

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In this study, we designed and manufactured the ultrasonic spray nozzle device for PCB surface treatment and observed the changes in the width of the spray coating according to the number of nozzles of the device and spray solution flow rates. When droplet transport air pressure was fixed to 0.01MPa, the height between the coated substrate and the nozzle was fixed to 19cm, and the solution flow rates were changed to 5~110 ml/min, the coating width per nozzle was changed to 90~230mm. As the spacing of the nozzle was fixed to 12cm, and the number of nozzles increased from 2 to 4, the maximum coating width increased from 320 to 590mm. In condition where the height between the coated substrate and nozzle was 24cm with other variables fixed, as the solution flow rates were changed from 5 to 110ml/min, the coating width per nozzle was changed from 90 to 260mm, and as the number of nozzles increased from 2 to 4, the maximum coating width also increased from 380 to 600mm.