

THIS SHEET HAS BEEN
REPLACED

Abstract of the Disclosure

A circuit board (26) is wave soldered as it is carried by a conveyor (30) through a solder wave (16) established in a solder reservoir. Disposed on both sides of the solder wave are gas plenums (240, 250) which discharge shield gas. Each gas plenum includes a top wall (245, 255), a side wall (246, 254), and a bottom wall (243, 253). The side wall is spaced horizontally from the wave, and the bottom wall is submerged within the solder (11). The side and (optionally) top walls include orifices (245, 255) for directing shield gas: (i) at high velocity toward the solder wave to protect the solder wave with an atmosphere of shield gas, and (ii) upwardly toward an underside of the circuit board to strip entrained air therefrom. Instead of being submerged within the solder, the bottom wall could be spaced above the solder and provided with orifices to emit shield gas downwardly between the plenum and solder reservoir to create an inert atmosphere above the solder. A divider (70, 270) disposed within the plenum forms sub-chambers communicating with orifices in respective walls of the plenum so that different gas velocities can be entitiled from the orifices. The gas plenums can be rotatably adjustable and further adjustable either vertically or horizontally.

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