

Apparatus for Mounting of Semiconductor Chips**ABSTRACT**

An apparatus for the mounting of semiconductor chips comprises a bondhead (5) with a pick-up tool (6) with a longitudinal drill hole (9) to which vacuum can be applied for the gripping and transport of a semiconductor chip (7). To detect whether the pick-up tool (6) has gripped the semiconductor chip (7), a body (15) with a reflecting surface is arranged in the longitudinal drill hole (9) of the pick-up tool (6) which, when passing over the light source (10) on absence of the semiconductor chip (7) deflects light shining from underneath into the longitudinal drill hole (9) of the pick-up tool (6) into a horizontal plane (17). The pick-up tool (6) has locations which are pervious to the deflected light of the light source (10). At least one optical element (19; 19.1, 19.2) is arranged on the bondhead (5) which concentrates at least part of the deflected light emerging laterally from the pick-up tool (6) onto a photosensor (18).

(Fig. 2)