PCT WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : H01L 21/00 — A1

(11) International Publication Number: WO 99/43021

(43) International Publication Date: 26 August 1999 (26.08.99)

(21) International Application Number: PCT/US99/03114

(22) International Filing Date: 11 February 1999 (11.02.99)

(30) Priority Data:
09/025,320 18 February 1998 (18.02.98) US

(71) Applicant: APPLIED MATERIALS, INC. [US/US]; 3050 Bowers Avenue, Santa Clara, CA 95054 (US).

(72) Inventors: BRODINE, Jeff; 21441 Madrone Drive, Los Gatos, CA 95030 (US). MAROHL, Dan; 193 Heriong Avenue, San Jose, CA 95171 (US).

(74) Agents: BERNADICOU, Michael, A. et al.; Blakely, Sokoloff, Taylor & Zafman LLP, 7th floor, 12400 Wilshire Boulevard, Los Angeles, CA 90025 (US).

(81) Designated States: CN, JP, KR, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published
With international search report.
Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

(54) Title: END EFFECTOR FOR WAFER HANDLER IN PROCESSING SYSTEM

(57) Abstract

A vacuum processing system has one or more wafer handlers with an end effector that, starting at its fixed end, tapers inwardly to form side recesses on opposing sides of the end effector and then tapers outwardly to a free end that is wider than the fixed end. At its free end, the end effector has another recess defining a pair of fingers with wafer supports thereon. The free end recess extends into the wafer sense cutout area. The pair of fingers providing the wafer supports at the free end of the end effector are spaced wider than the innermost exclusion zones for a standard 300 mm wafer carrier, but closer together than the outermost exclusion zones. In one embodiment, the end effector has a three-point ball, or bump, support for the wafer.

