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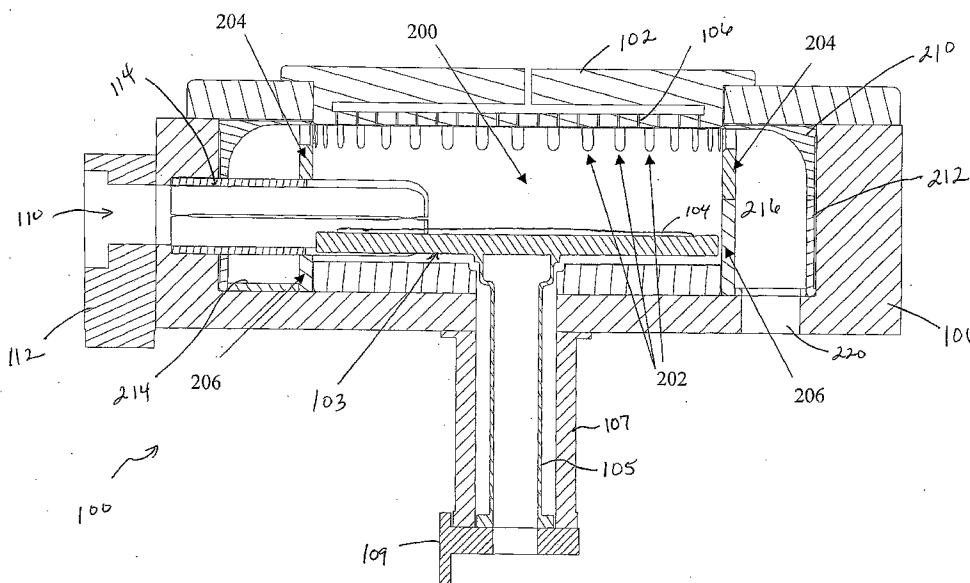
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[Continued on next page]

(54) Title: DEPOSITION APPARATUS FOR SEMICONDUCTOR PROCESSING



Down Position

(57) Abstract: The present invention relates generally to a deposition apparatus for semiconductor processing. More specifically, embodiments of the present invention relate to a deposition apparatus having a reduced reaction zone volume. In some embodiments a deposition apparatus is provided with a process chamber having a raised reaction zone. Other embodiments of the present invention provide a deposition apparatus with a process chamber having a vertical baffle ring. Embodiments of the present invention provide a reduced reaction zone or volume which promotes uniform gas flow pattern and faster gas exchange.

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**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
- *of inventorship (Rule 4.17(iv))*

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## INTERNATIONAL SEARCH REPORT

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<b>A. CLASSIFICATION OF SUBJECT MATTER</b> IPC(8) - C23C 16/00 (2007.01) USPC - 118/728 According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b> Minimum documentation searched (classification system followed by classification symbols) IPC(8) - C23C 16/00 (2007.01) USPC - 118/728 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched IPC(8) - C23C 16/00 (2007.01) - PGPB, USPT, EPAB, JPAB USPC - 118/728 - PGPB, USPT, EPAB, JPAB Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) USPTO - WEST - PGPB, USPT, EPAB, JPAB - terms: " deposition apparatus", "ALD", "wafer support", "wafer transfer", "gas distribution", "baffle ring", "baffle", "shield", "apertures", "plenum", query, search, refine		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/0194493 A1 (CHANG et al.) 16 October 2003 (16.10.2003), entire document, especially abstract, para [0012], [0032], [0034], [0036], [0038], [0041], [0069], and [0072].	1-12
Y	US 5,851,299 A (CHENG et al.) 22 December 1998 (22.12.1998), entire document, especially abstract, col 3, ln 9-11, col 4, ln 42-67, col 5, ln 1-4, col 6, ln 38-55, and col 7, ln 31-44.	1-12
Y	US 2003/0049372 A1 (COOK et al.) 13 March 2003 (13.03.2003), entire document, especially para [0079].	8-9, 11-12
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