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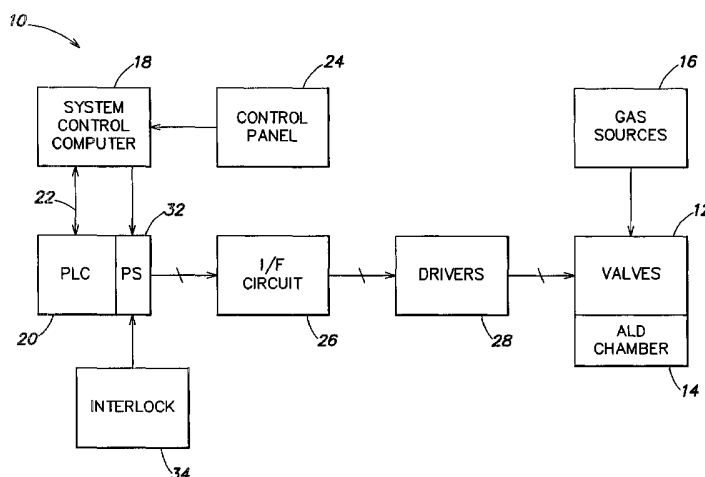
(43) International Publication Date
19 September 2002 (19.09.2002)

PCT

(10) International Publication Number
WO 02/073329 A3

- (51) International Patent Classification⁷: G05D 7/06
 - (21) International Application Number: PCT/US02/06778
 - (22) International Filing Date: 6 March 2002 (06.03.2002)
 - (25) Filing Language: English
 - (26) Publication Language: English
 - (30) Priority Data:
09/800,881 7 March 2001 (07.03.2001) US
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 - (81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ,
DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,
TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
 - (84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR,
GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent
(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR,
NE, SN, TD, TG).
- Published:**
— with international search report
- (88) Date of publication of the international search report:
11 December 2003
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: VALVE CONTROL SYSTEM FOR ATOMIC LAYER DEPOSITION CHAMBER



(57) Abstract: A valve control system (10) for a semiconductor processing chamber (14) includes a system control computer (18) and a plurality of electrically controlled valves (12) associated with the processing chamber. The system further includes a programmable logic controller (20) in communication with the system control computer and operatively coupled to the electrically controlled valves. The refresh time for control of the valves may be less than 10 milliseconds. Consequently, valve control operations do not significantly extend the period of time required for highly repetitive cycling in atomic layer deposition processes. A hardware interlock (34) may be implemented through the output power supply of the programmable logic controller.

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 02/06778

A. CLASSIFICATION OF SUBJECT MATTER IPC 7 G05D7/06				
According to International Patent Classification (IPC) or to both national classification and IPC				
B. FIELDS SEARCHED				
Minimum documentation searched (classification system followed by classification symbols) IPC 7 G05D				
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched				
Electronic data base consulted during the international search (name of data base and, where practical, search terms used) EPO-Internal				
C. DOCUMENTS CONSIDERED TO BE RELEVANT				
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.		
X	US 4 571 319 A (BALUCH DONALD T ET AL) 18 February 1986 (1986-02-18) the whole document ----	1-4, 8-13, 18		
X	US 6 142 162 A (ARNOLD JOE F) 7 November 2000 (2000-11-07) the whole document ---	14-17, 19-24		
A	US 5 071 320 A (ANDERSON JR HERBERT E) 10 December 1991 (1991-12-10) the whole document ---	1-24		
A	US 4 263 091 A (KING WILLIAM R) 21 April 1981 (1981-04-21) the whole document ---	1, 3, 4		
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<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.				
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Date of the actual completion of the international search <p style="text-align: center;">21 March 2003</p>	Date of mailing of the international search report <p style="text-align: center;">03/04/2003</p>			
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Authorized officer <p style="text-align: center;">Philippot, B</p>			

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/06778

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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Information on patent family members

International Application No

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