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**(88) Date of publication of the international search report:**

8 September 2006

# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2005/009841

## A. CLASSIFICATION OF SUBJECT MATTER

INV. G03F7/20

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)  
G03F G03B

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, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 685 895 A (HAGIWARA ET AL) 11 November 1997 (1997-11-11)	1-4, 9-29, 54-57, 61-63
Y	column 4, line 1 - line 20 column 5, line 56 - line 67 column 10, line 25 - column 15, line 58; figures 1,2 column 17, line 26 - column 20, line 18; figure 4 column 22, line 18 - line 34 ----- -/--	45-47

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents :

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*G\* document member of the same patent family

Date of the actual completion of the international search

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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2005/009841

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 1 220 038 A (ASML NETHERLANDS B.V) 3 July 2002 (2002-07-03)  paragraph [0019] paragraph [0031] - paragraph [0032] paragraph [0040] - paragraph [0054] -----	1-4, 12-24, 28,29, 54-57,63
X	US 2002/018189 A1 (MULKENS JOHANNES CATHARINUS HUBERTUS ET AL) 14 February 2002 (2002-02-14)  paragraph [0058] - paragraph [0062] -----	1-4, 12-24, 28,29, 54-57, 61-63
X	US 2003/035087 A1 (MURAYAMA MASAYUKI) 20 February 2003 (2003-02-20)  paragraph [0032] paragraph [0085] - paragraph [0089]; figures 1,2 paragraph [0109] -----	1-4, 9-16, 54-57, 61-63
X	WO 2004/044656 A (INFINEON TECHNOLOGIES AG; SCHEDEL, THORSTEN; SCHMIDT, SEBASTIAN; HRASC) 27 May 2004 (2004-05-27)  page 8, line 9 - line 28; figure 1 -----	1,2, 12-17, 20-24, 28,29, 54,55, 61,63
X	US 6 096 267 A (KISHKOVICH ET AL) 1 August 2000 (2000-08-01)	1-6, 12-16, 34-40, 54-63
Y	column 1, line 5 - line 62	7,8,43, 44
Y	column 4, line 61 - column 6, line 5 column 17, line 19 - line 66; figure 1 column 10, line 66 - column 12, line 17 -----	45-47
X	WO 2004/053958 A (NIKON CORPORATION; MIZUTANI, HIDEO; MAGOME, NOBUTAKA) 24 June 2004 (2004-06-24)	1,12-16, 34-40, 48,49, 54-56
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# INTERNATIONAL SEARCH REPORT

International application No  
PCT/EP2005/009841

## C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P, X	EP 1 522 894 A (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD) 13 April 2005 (2005-04-13)  paragraph [0045] paragraph [0066] - paragraph [0072]; figure 5  -----	1-6, 12-16, 34-42, 48, 49, 54-63
P, X	WO 2005/006026 A (NIKON RESEARCH CORPORATION OF AMERICA; SOGARD, MICHAEL) 20 January 2005 (2005-01-20) paragraph [0008] - paragraph [0009] paragraph [0022]; figure 3  -----	1, 34-42, 54, 58, 60, 61
P, X	US 2005/185155 A1 (KISHIKAWA YASUHIRO) 25 August 2005 (2005-08-25) paragraph [0021] - paragraph [0043]; figure 1  -----	1, 34-42, 54, 58
Y	US 4 396 579 A (SCHROEDER ET AL) 2 August 1983 (1983-08-02) the whole document  -----	7, 8, 43, 44
Y	PATENT ABSTRACTS OF JAPAN vol. 010, no. 302 (E-445), 15 October 1986 (1986-10-15) & JP 61 115326 A (OKI ELECTRIC IND CO LTD), 2 June 1986 (1986-06-02) abstract  -----	7, 8, 43, 44
A	US 5 065 140 A (NEUBURGER ET AL) 12 November 1991 (1991-11-12) the whole document  -----	9-11, 25-27

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/EP2005/009841

### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:  
1-29, 34-49, 54-63
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-4,9-29,54-57,61-63

Means of making available the data from a gas monitor in a lithographic projection apparatus  
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2. claims: 5-8,34-49,58-60

Control of a dispensing element in a liquid immersion lithographic projection apparatus using a liquid sensor  
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3. claims: 30-33,50-53,64-67

Dose control in a lithographic projection apparatus by coupling data from a chemical compound monitor to the radiation system  
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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/EP2005/009841

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