



**INTERNATIONAL SEARCH REPORT**

Int: Application No  
PCT/IB 03/01598

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 B22D17/30 B22D17/20 B22D17/00 B29C45/53

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 B22D B29C

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)  
WPI Data, PAJ, EPO-Internal

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2001/052405 A1 (HAYASHI YUJI ET AL) 20 December 2001 (2001-12-20) paragraphs '0018!-'0031!; figures 1,2 ----	1-24
A	US 5 983 976 A (KONO KANAME) 16 November 1999 (1999-11-16) cited in the application claims 1-28; figure 1 ----	25-31
A	US 5 836 372 A (KONO KANAME) 17 November 1998 (1998-11-17) cited in the application column 3, line 9 -column 4, line 2; figure 1 -----	1,17

Further documents are listed in the continuation of box C.  Patent family members are listed in annex.

° Special categories of cited documents :

*A* document defining the general state of the art which is not considered to be of particular relevance	*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
*E* earlier document but published on or after the international filing date	*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
*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)	*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.
*O* document referring to an oral disclosure, use, exhibition or other means	*Z* document member of the same patent family
*P* document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search <b>7 April 2004</b>	Date of mailing of the international search report <b>15/04/2004</b>
--	---

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 <b>Mailliard, A</b>
--	---

## INTERNATIONAL SEARCH REPORT

Information on patent family members

In International Application No

PCT/IB 03/01598

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 2001052405	A1	20-12-2001	JP 2002011559 A	15-01-2002
US 5983976	A	16-11-1999	AU 748724 B2	13-06-2002
			AU 3439399 A	18-10-1999
			EP 0986444 A1	22-03-2000
			WO 9950006 A1	07-10-1999
			JP 3237017 B2	10-12-2001
			JP 2001506926 T	29-05-2001
			JP 2002001508 A	08-01-2002
			TW 434060 B	16-05-2001
			US 2003056932 A1	27-03-2003
			US 2003066620 A1	10-04-2003
			US 6283197 B1	04-09-2001
			US 2001015272 A1	23-08-2001
			US 2002026995 A1	07-03-2002
US 5836372	A	17-11-1998	US 6065526 A	23-05-2000
			US 6241001 B1	05-06-2001
			US 2001023755 A1	27-09-2001
			DE 69630926 D1	15-01-2004
			EP 1206989 A2	22-05-2002
			EP 0761344 A2	12-03-1997
			JP 9103859 A	22-04-1997