



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 00 3502

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
D,Y	US 6 068 453 A (AHN ET AL) 30 May 2000 (2000-05-30) * column 5, line 31 - column 6, line 16; figures 4-6 *	1-10	F04B39/00 F04B27/12 F04B27/10
Y	US 4 610 604 A (IWAMORI ET AL) 9 September 1986 (1986-09-09) * column 3, lines 51-54,64-68; figures 3,5 *	1-10	
A	US 6 293 768 B1 (SHINTOKU NORIYUKI ET AL) 25 September 2001 (2001-09-25) * the whole document *		
A	US 6 296 457 B1 (SHINTOKU NORIYUKI ET AL) 2 October 2001 (2001-10-02) * the whole document *		
A	US 4 929 157 A (STEELE ET AL) 29 May 1990 (1990-05-29) * the whole document *		
A	US 6 077 049 A (NAKAMURA ET AL) 20 June 2000 (2000-06-20) * the whole document *		
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			F04B
Place of search		Date of completion of the search	Examiner
Munich		30 August 2005	Olona Laglera, C
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

1
EPO FORM 1503 03.02 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 04 00 3502

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

30-08-2005

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6068453	A	30-05-2000	JP 3094288 B2	03-10-2000
			JP 11153086 A	08-06-1999
US 4610604	A	09-09-1986	JP 4052471 Y2	09-12-1992
			JP 60152077 U	09-10-1985
			DE 3510027 A1	10-10-1985
US 6293768	B1	25-09-2001	JP 2000320456 A	21-11-2000
			CN 1273327 A	15-11-2000
			DE 10018008 A1	14-12-2000
US 6296457	B1	02-10-2001	JP 2000297755 A	24-10-2000
			CN 1272596 A	08-11-2000
			DE 10017704 A1	22-02-2001
US 4929157	A	29-05-1990	DE 3839500 A1	01-06-1989
			GB 2212564 A ,B	26-07-1989
US 6077049	A	20-06-2000	JP 10103228 A	21-04-1998
			CN 1187584 A ,C	15-07-1998
			KR 258053 B1	01-06-2000