

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/JP2020/003200

**A. CLASSIFICATION OF SUBJECT MATTER**

Int. Cl. F04D29/056 (2006.01) i, F04D29/28 (2006.01) i  
 FI: F04D29/056 B, F04D29/28 C

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)

Int. Cl. F04D29/056, F04D29/28

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan 1922-1996  
 Published unexamined utility model applications of Japan 1971-2020  
 Registered utility model specifications of Japan 1996-2020  
 Published registered utility model applications of Japan 1994-2020

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 2012-251529 A (DAIKIN INDUSTRIES, LTD.) 20 December 2012, fig. 1-6	1-5
Y	US 2016/0201686 A1 (ROBERT BOSCH GMBH) 14 July 2016, paragraph [0001], fig. 1-3	1-5
Y	JP 2004-162559 A (ISHIKAWAJIMA-HARIMA HEAVY INDUSTRIES CO., LTD.) 10 June 2004, paragraphs [0025]-[0027], fig. 2-4	1-5
A	JP 53-28801 Y1 (HITACHI, LTD.) 20 July 1978, fig. 1	1-5
A	JP 48-12964 Y1 (HITACHI, LTD.) 09 April 1973, fig. 1, 2	1-5

Further documents are listed in the continuation of Box C.       See patent family annex.

<p>* Special categories of cited documents:</p> <p>“A” document defining the general state of the art which is not considered to be of particular relevance</p> <p>“E” earlier application or patent but published on or after the international filing date</p> <p>“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)</p> <p>“O” document referring to an oral disclosure, use, exhibition or other means</p> <p>“P” document published prior to the international filing date but later than the priority date claimed</p>	<p>“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</p> <p>“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</p> <p>“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</p> <p>“&amp;” document member of the same patent family</p>
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Date of the actual completion of the international search 10.03.2020	Date of mailing of the international search report 31.03.2020
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Name and mailing address of the ISA/ Japan Patent Office 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer  Telephone No.
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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 11-62877 A (KOBE STEEL, LTD.) 05 March 1999, fig. 2	1-5
A	JP 2003-247426 A (FUJI HEAVY INDUSTRIES LTD.) 05 September 2003, fig. 1	1-5

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
PCT/JP2020/003200

Patent Documents referred to in the Report	Publication Date	Patent Family	Publication Date
JP 2012-251529 A	20.12.2012	(Family: none)	
US 2016/0201686 A1	14.07.2016	WO 2015/028169 A1 description, page 1, lines 10-21, fig. 1-3 DE 102013217261 A1 CN 105492777 A	
JP 2004-162559 A	10.06.2004	(Family: none)	
JP 53-28801 Y1	20.07.1978	(Family: none)	
JP 48-12964 Y1	09.04.1973	(Family: none)	
JP 11-62877 A	05.03.1999	(Family: none)	
JP 2003-247426 A	05.09.2003	(Family: none)	