



## SUPPLEMENTARY PARTIAL EUROPEAN SEARCH REPORT

under Rule 62a and/or 63 of the European Patent Convention. This report shall be considered, for the purposes of subsequent proceedings, as the European search report

Application number:  
EP 18 74 53 41

### Classification of the application (IPC):

F28D 1/053, F25B 39/04, F28F 1/12, F25D 19/00, F28D 21/00, F28D 1/04, F28F 1/24

### Technical fields searched (IPC):

F28D, F28F, F25B, F25D

DOCUMENTS CONSIDERED TO BE RELEVANT		
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
X	CN 204421425 U (HANGZHOU SANHUA INSTITUTE CO., LTD.) 24 June 2015 (2015-06-24) * figures 1, 2, 12 *	12, 13
X	WO 2015004821 A1 (SMC CORP [JP]) 15 January 2015 (2015-01-15) * figure 9 *	12, 13
X	US 5086835 A (SHINMURA TOSHIHARU [JP]) 11 February 1992 (1992-02-11) * paragraph [0325]; figures 11, 12, 13 *	12, 13
X	EP 2696158 A1 (DENSO CORP [JP]) 12 February 2014 (2014-02-12) * figures 1, 5 *	12, 13
A	EP 1640683 A1 (SAMSUNG ELECTRONICS CO LTD [KR]) 29 March 2006 (2006-03-29) * the whole document *	12, 13
A	US 2016327343 A1 (HWANG SOONCHUL [KR] ET AL) 10 November 2016 (2016-11-10) * the whole document *	12, 13

### INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R. 62a, 63) has been carried out.

Claim(s) completely searchable: 12, 13

Claim(s) not searched: 1-11, 14, 15

#### Reason for the limitation of the search:

**[0001]** The applicant requests that independent claim 12 should be searched.

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search Munich	Date of completion of the search 24 February 2021	Examiner Delaitre, Maxime
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### CATEGORY OF CITED DOCUMENTS

X: particularly relevant if taken alone	P: intermediate document
Y: particularly relevant if combined with another document of the same category	T: theory or principle underlying the invention
A: technological background	E: earlier patent document, but published on, or after the filing date
O: non-written disclosure	D: document cited in the application
& : member of the same patent family, corresponding document	L: document cited for other reasons

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### INCOMPLETE SEARCH

**[0002]** Since the claims cannot be modified in search phase the search report and search opinion have been drafted with regard to claim 12 and his dependent claim 13 as requested by the applicant.

**[0003]** The applicant is however informed that although the search report and opinion have been drafted for claims 12 and 13 only, the rest of the claims and the description have been considered to perform the search.

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search Munich	Date of completion of the search 24 February 2021	Examiner Delaitre, Maxime
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O: non-written disclosure	D: document cited in the application
& : member of the same patent family, corresponding document	L: document cited for other reasons

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**ANNEX TO SUPPLEMENTARY PARTIAL  
EUROPEAN SEARCH REPORT**

 Application number:  
EP 18 74 53 41

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 24-02-2021  
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

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