

## SUPPLEMENTARY EUROPEAN SEARCH **REPORT**

Application number: EP 21 88 28 32

Classification of the application (IPC): F24F 11/49, F25B 49/02, F24F 11/62, F24F 140/20, F25B 13/00, F25B 29/00

Technical fields searched (IPC): F25B, F24F

DOCUMENTS CONSIDERED TO BE RELEVANT						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim				
Х	JP 2009127950 A (DENSO CORP) 11 June 2009 (2009-06-11)	1-4, 6				
Υ	* figures 1, 8 *	5, 7				
	* paragraph [0010] - paragraph [0011] *					
	* paragraph [0036] - paragraph [0091] *					
	* paragraph [0113] - paragraph [0136] *					
Х	US 9222711 B2 (OCHIAI YASUTAKA [JP]; UNEZAKI FUMITAKE [JP] ET	1-3, 6				
Y	AL.) 29 December 2015 (2015-12-29) * figures 1, 2, 5 *	4, 5, 7				
	* column 1, line 6 - line 11 *					
	* column 3, line 28 - column 8, line 46 *					
	* column 11, line 32 - column 14, line 67 *					
Х	EP 1970651 B1 (MITSUBISHI ELECTRIC CORP [JP])	1-3, 6				
Y	31 July 2019 (2019-07-31)	4, 5, 7				
	* figures 1, 2 *					
	* paragraph [0020] - paragraph [0049] *					
Υ	JP 2012229893 A (MITSUBISHI ELECTRIC CORP)	4, 5				
Α	22 November 2012 (2012-11-22)	1				
	* paragraph [0016] *					
	* paragraph [0107] *					
Υ	JP 2000130897 A (HITACHI LTD) 12 May 2000 (2000-05-12)	5				
	* paragraph [0034] - paragraph [0036] *					
Υ	JP 2012132601 A (SAMSUNG YOKOHAMA RES INST CO) 12 July 2012 (2012-07-12)	7				
	* paragraph [0016] - paragraph [0018] *					

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

Date of completion of the search Place of search Examiner The Hague 06 August 2024 Karspeck, Sabine

## **CATEGORY OF CITED DOCUMENTS**

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



## ANNEX TO SUPPLEMENTARY EUROPEAN **SEARCH REPORT**

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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 06-08-2024

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Patent document cited in search report			Publication date		Patent family member(s)	Publication date
JP	2009127950	Α	11-06-2009	JP JP	4882978 B2 2009127950 A	22-02-2012 11-06-2009
US	9222711	B2	29-12-2015	CN EP JP JP US WO	102792108 A 2546588 A1 5558555 B2 WO2011111114 A1 2012318011 A1 2011111114 A1	21-11-2012 16-01-2013 23-07-2014 27-06-2013 20-12-2012 15-09-2011
EP	1970651	B1	31-07-2019	EP ES JP JP WO	1970651 A1 2742529 T3 5063346 B2 WO2008035418 A1 2008035418 A1	17-09-2008 14-02-2020 31-10-2012 28-01-2010 27-03-2008
JP	2012229893	Α	22-11-2012	JP JP	5213990 B2 2012229893 A	19-06-2013 22-11-2012
JP	2000130897	Α	12-05-2000	NONE		]
JP	2012132601	A	12-07-2012	JP JP	5718629 B2 2012132601 A	13-05-2015 12-07-2012