

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2018/069838

A. CLASSIFICATION OF SUBJECT MATTER**F02M 63/00**(2006.01)i; **F02M 47/02**(2006.01)i

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)

F02M

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 practicable, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 102015113980 A1 (DENSO CORP [JP]; NIPPON SOKEN [JP]) 03 March 2016 (2016-03-03) paragraphs [0064] - [0087], [0121]; claims 1-8; figures 1-10 paragraph [0292]	1-15
X	EP 3150839 A1 (DELPHI INT OPERATIONS LUXEMBOURG S À R L [LU]) 05 April 2017 (2017-04-05) claim 1; figures 1-4	1-15
X	EP 2628940 A1 (BOSCH GMBH ROBERT [DE]) 21 August 2013 (2013-08-21) paragraphs [0017] - [0020]; claim 8; figures 2-4	1-15
X	WO 2016026595 A1 (DELPHI INTERNAT OPERATIONS LUXEMBOURG S À R L [LU]) 25 February 2016 (2016-02-25)	1-10,13
A	page 7, line 10 - page 8, line 28; claim 1; figures 1,3	11,12,14,15
X	DE 19823937 A1 (SIEMENS AG [DE]) 02 December 1999 (1999-12-02) claim 1; figure 3a	1
A	DE 102012209841 A1 (BOSCH GMBH ROBERT [DE]) 12 December 2013 (2013-12-12) figures 1-4	1-14

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"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)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"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

"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

"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

"&" document member of the same patent family

Date of the actual completion of the international search

28 September 2018

Date of mailing of the international search report

09 October 2018

Name and mailing address of the ISA/EP

European Patent Office
p.b. 5818, Patentlaan 2, 2280 HV Rijswijk
Netherlands

Telephone No. (+31-70)340-2040

Facsimile No. (+31-70)340-3016

Authorized officer

Boye, Michael

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/EP2018/069838

C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 03004857 A1 (BOSCH GMBH ROBERT [DE]; BOECKING FRIEDRICH [DE]) 16 January 2003 (2003-01-16) page 5, line 9 - page 6, line 38; claim 1; figure 3	1,6
A	WO 2007098621 A1 (GANSER HYDROMAG [CH]; GANSER MARCO [CH]) 07 September 2007 (2007-09-07) page 13, line 29 - page 15, line 6; figure 2	6

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/EP2018/069838

Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
DE	102015113980	A1	03 March 2016	NONE			
EP	3150839	A1	05 April 2017	NONE			
EP	2628940	A1	21 August 2013	DE	102012202538	A1	22 August 2013
				EP	2628940	A1	21 August 2013
WO	2016026595	A1	25 February 2016	CN	106795841	A	31 May 2017
				EP	3183450	A1	28 June 2017
				KR	20170041882	A	17 April 2017
				WO	2016026595	A1	25 February 2016
DE	19823937	A1	02 December 1999	NONE			
DE	102012209841	A1	12 December 2013	NONE			
WO	03004857	A1	16 January 2003	DE	10131619	A1	23 January 2003
				EP	1404962	A1	07 April 2004
				WO	03004857	A1	16 January 2003
WO	2007098621	A1	07 September 2007	BR	PI0708551	A2	31 May 2011
				CN	101395366	A	25 March 2009
				CN	102828872	A	19 December 2012
				EP	1991773	A1	19 November 2008
				JP	5110321	B2	26 December 2012
				JP	2009528480	A	06 August 2009
				RU	2008139317	A	10 April 2010
				US	2009065614	A1	12 March 2009
				WO	2007098621	A1	07 September 2007
				ZA	200807310	B	25 November 2009