

(11) **EP 2 551 526 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: **09.08.2017 Bulletin 2017/32**

(51) Int Cl.: **F04C** 18/356 (2006.01) **F04C** 28/06 (2006.01)

F04C 28/26 (2006.01) F04C 23/00 (2006.01)

(43) Date of publication A2: 30.01.2013 Bulletin 2013/05

(21) Application number: 12167431.1

(22) Date of filing: 10.05.2012

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR Designated Extension States:

BA ME

(30) Priority: 28.07.2011 JP 2011165094

(71) Applicant: Mitsubishi Electric Corporation

Chiyoda-ku Tokyo 100-8310 (JP) (72) Inventors:

 Fukaya, Atsuyoshi Tokyo, Tokyo 100-8310 (JP)

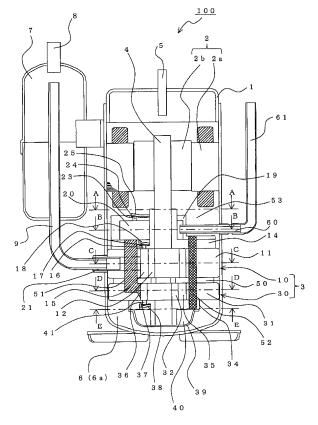
 Tani, Masao Tokyo, Tokyo 100-8310 (JP)

(74) Representative: Pfenning, Meinig & Partner mbB
Patent- und Rechtsanwälte
Theresienhöhe 11a
80339 München (DE)

(54) Two stage rotary compressor

(57) A two stage rotary compressor (100) of the internal high-pressure type includes a low stage cover (19) that covers a low stage outlet port (16) and forms a low stage discharge space (20) therein. Further, the two stage compressor (100) includes a compression mechanism (3) provided with an intermediate passage (51) that connects the low stage discharge space (20) and the high stage compression chamber (35) and a bypass mechanism (a bypass port (23), a bypass valve (24), and a bypass valve guard (25)) in the low stage cover (19), in which the bypass mechanism opens when a load is smaller than a predetermined load and in which the bypass mechanism connects the low stage discharge space (20) and a discharge pressure space (53).







EUROPEAN SEARCH REPORT

Application Number

EP 12 16 7431

10	
15	
20	
25	
30	
35	
40	
45	
50	

55

5

	DOCUMENTS CONSIDERE	D TO BE RELEVANT		
Category	Citation of document with indicati of relevant passages	on, where appropriate,	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	WO 2011/055444 A1 (MIT CORP [JP]; TANI MASAO ATSUYOSHI [JP];) 12 Mages 3,4 * -& EP 2 497 955 A1 (MI CORP [JP]) 12 Septembe * paragraph [0015] - pa	[JP]; FUKAYA y 2011 (2011-05-12) TSUBISHI ELECTRIC r 2012 (2012-09-12)	1-7	INV. F04C18/356 F04C28/26 F04C28/06 F04C23/00
Α	JP 2003 097471 A (MATS CO LTD) 3 April 2003 (* paragraph [0039]; fi	2003-04-03)	1-7	
A	JP H10 141270 A (MATSU CO LTD) 26 May 1998 (1 * abstract; figures 2,	998-05-26)	1-7	
A	US 2010/284847 A1 (HAN AL) 11 November 2010 (** paragraphs [0058],	2010-11-11)	1-7	TECHNICAL FIELDS SEARCHED (IPC) F04C
	The present search report has been o	drawn up for all claims		
Place of search Munich		Date of completion of the search		Examiner
		5 July 2017	5 July 2017 Des	
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		E : earlier patent doo after the filing date D : document cited in L : document cited fo 	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	

EP 2 551 526 A3

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

EP 12 16 7431

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.

05-07-2017

,	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
	WO 2011055444 A1	12-05-2011	CN 102597524 A EP 2497955 A1 JP 5306478 B2 JP W02011055444 A1 KR 20120048039 A W0 2011055444 A1	18-07-2012 12-09-2012 02-10-2013 21-03-2013 14-05-2012 12-05-2011
)	EP 2497955 A1	12-09-2012	CN 102597524 A EP 2497955 A1 JP 5306478 B2 JP W02011055444 A1 KR 20120048039 A W0 2011055444 A1	18-07-2012 12-09-2012 02-10-2013 21-03-2013 14-05-2012 12-05-2011
i	JP 2003097471 A	03-04-2003	JP 4300726 B2 JP 2003097471 A	22-07-2009 03-04-2003
	JP H10141270 A	26-05-1998	NONE	
	US 2010284847 A1	11-11-2010	CN 101835988 A KR 20090049411 A US 2010284847 A1 WO 2009064042 A1	15-09-2010 18-05-2009 11-11-2010 22-05-2009
;				
OPM P0459				

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82