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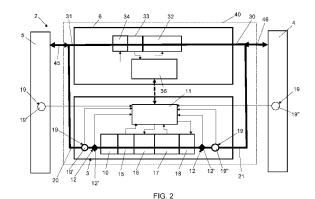
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(54) APPARATUS FOR A PLANT FOR THE GAS MANAGEMENT

- (57) Apparatus (3) for a plant (2) for the management of gases produced in a decentralized way, in particular renewable gases, said plant (2) comprising a first higher pressure network (4) and a second lower pressure network (5), said apparatus (3) is characterized by the fact that it:
- is configured to be connected upstream with said second lower pressure network (5) and downstream with said first higher pressure network (4),
- is configured to return the gas from and/or circulating in said second lower pressure network (5) to said first higher pressure network (4),
- comprises a compression unit (16) connected to a control unit (11), the latter being configured so that, on the basis of the measurements (19) of the gas pressure and/or flow rate made upstream of said compression unit (16), correspondingly controls the activation/deactivation of said compression unit (16) and/or the modulation of its flow rate.
- comprises a purification module (10) for removing from the gas from the second lower pressure network (5) the substances and/or compounds not accepted by the first higher pressure network (4).



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	Citation of document with indication	on where appropriate	Relevant	CLASSIFICATION OF THE
Category	of relevant passages	,ioio appiopilato,	to claim	APPLICATION (IPC)
x	DE 10 2009 038128 A1 (E	NDW AC IDE!	1-15	INV.
••	24 February 2011 (2011-		1 19	F17D1/04
	-	· ·		,
	* paragraph [0030]; fig			F17D1/07
	* paragraph [0031]; fig			
	* paragraph [0009]; fig	ure 1 * 		
x	FR 3 035 598 A1 (ENDEL	[FR])	1-15	
	4 November 2016 (2016-1	1-04)		
	* figures 1,2 *			
x	DE 10 2008 058736 B3 (U		1-15	
	[DE]) 5 August 2010 (20			
	* paragraph [0038]; fig	ure 1 *		
	* paragraph [0039] *			
A	Jens Darocha ET AL: "T	 he Power Pioneers	1-15	
	Bio-Natural Gas Plant E			
	biogas into the natural	_		
	Emmertsbühl, 27 th Apri			
	Gas Plant Emmertsbühl",			
	,			TECHNICAL FIELDS SEARCHED (IPC)
	27 April 2012 (2012-04-			, ,
	Retrieved from the Inte			F17D
	URL: The present applica			
	the criteria of patenta	- :		
	subject-matter of claim			
	involve an inventive st	-		
	[retrieved on 2019-04-1 * the whole document *	51		
x	DE 10 2013 011289 A1 (V	ATTENFALL EUROP NEW	1-15	
	ENERGY GMBH [DE])			
	8 January 2015 (2015-01	-08)		
	* figure 2 *			
	* paragraph [0042] *			
	* paragraph [0034] *			
		-/		
			-	
	The present search report has been d			
	Place of search	Date of completion of the search		Examiner
	Munich	29 January 2024	For	sberg, Peter
	ATEGORY OF CITED DOCUMENTS	T : theory or principl	e underlying the cument, but publi	
C				J. 154 Oll, Ol
X : part	icularly relevant if taken alone	after the filing da	te	
X : part Y : part			n the application	
X : part Y : part doci A : tech	icularly relevant if taken alone icularly relevant if combined with another	after the filing da D : document cited i L : document cited f	n the application or other reasons	v. corresponding

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EUROPEAN SEARCH REPORT

Application Number

EP 23 20 1971

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		DOCUMENTS CONSIDE			
	Category	Citation of document with ind of relevant passa		Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
10	x	US 2016/247167 A1 (F 25 August 2016 (2016 * paragraph [0005]; * paragraph [0055] * * paragraph [0043] *	-08-25) figure 1 *	1-15	
15	A	Phil Winnard: "IFI PROJECT MP TO IP NET, 17 October 2012 (201 Retrieved from the I	WORK COMPRESSION", 2-10-17), XP055558364,	1-15	
20		URL:http://www.bioga	s.org.uk/images/upload hin-Network-Compressor 2-18]		
25	A	DE 10 2009 048833 A1 [AT]; SALZBURG AG FU 22 April 2010 (2010-	ER EN VERKEHR UN [AT])	1-15	
		* the whole document			TECHNICAL FIELDS SEARCHED (IPC)
30					
35					
40					
45	3	The present search report has be	en drawn up for all claims		
	3 =	Place of search	Date of completion of the search		Examiner
	P04CC	Munich	29 January 2024	For	sberg, Peter
50	85 80 92 1	ATEGORY OF CITED DOCUMENTS ticularly relevant if taken alone ticularly relevant if combined with anothe ument of the same category nnological background n-written disclosure rmediate document	L : document cited f	cument, but publi te n the application or other reasons	shed on, or

55

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EP 4 290 122 A3

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

EP 23 20 1971

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

29-01-2024

10		Patent document ted in search report		Publication date	Patent family member(s)		Publication date
	DE	: 102009038128			NONE	'	
15	FR	3035598		04-11-2016			
	DE	: 102008058736			NONE		
	DE	: 102013011289			NONE		
20	บร	2016247167	A1	25-08-2016	US 2016247167	A1	29-12-2015 25-08-2016
				22-04-2010	AT 10733 DE 102009048833	U1 A1	15-09-2009 22-04-2010
25							
30							
35							
40							
45							
50							
00							
	P0459						
55	FORM P0459						

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