

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference PIDM3164474P	FOR FURTHER ACTION		See item 4 below
International application No. PCT/CN2016/108734	International filing date (<i>day/month/year</i>) 06 December 2016 (06.12.2016)	Priority date (<i>day/month/year</i>) 31 August 2016 (31.08.2016)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant ANHUI MEIZHI COMPRESSOR CO., LTD.			

<p>1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.</p>																								
<p>3. This report contains indications relating to the following items:</p> <table> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. I</td> <td>Basis of the report</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table> <p>4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).</p>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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	Date of issuance of this report 05 March 2019 (05.03.2019)
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From the INTERNATIONAL SEARCHING AUTHORITY

To:

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing <i>(day/month/year)</i> 22 May 2017	
Applicant's or agent's file reference PIDM3164474P	FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/CN2016/108734	International filing date <i>(day/month/year)</i> 06 December 2016
Priority date <i>(day/month/year)</i> 31 August 2016	
International Patent Classification (IPC) or both national classification and IPC F04B 39/00(2006.01)i; F04B 35/04(2006.01)i	
Applicant ANHUI MEIZHI COMPRESSOR CO., LTD.	

1. This opinion contains indications relating to the following items:

- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA/	Date of completion of this opinion	Authorized officer

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2016/108734

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a)).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:
 - a. (means)
 - on paper
 - in electronic form
 - b. (time)
 - in the international application as filed
 - together with the international application in electronic form
 - subsequently to this Authority for the purposes of search
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/CN2016/108734

Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement		
1. Statement	Novelty (N)	Claims	1-11 None None 1-11 1-11 None
			YES NO YES NO YES NO
2. Citations and explanations :			
	[1] Reference is made to the following documents:		
	[2] D1: CN 104989623 A		
	[3] D2: CN 1566645 A		
	[4] 1. Novelty		
	[5] 1.1 Claim 1 relates to a frame for a reciprocating compressor. D1 discloses a frame for a reciprocating compressor (see description, paragraphs [0034] - [0053], and figures 1-4): the frame comprising a main frame body 1 (equivalent to a bearing support) and a bearing 2, wherein the main frame body 1 comprises an installation plate 11 and two support legs 12 (equivalent to a supporting frame); the two support legs 12 and the installation plate 11 are all made of metal plates; the support legs 12 are in the shape of arc-shaped plate, and the installation plate 11 is provided with a through hole 111; and the bearing 2 is made of a metal tube, and is fixed in the through hole 111. The difference between claim 1 and D1 lies in that a supporting frame is formed as a flat plate and is perpendicularly arranged below an installation plate so as to support the installation plate. Therefore, claim 1 is novel under PCT Article 33(2).		
	[6] 1.2 Claims 2-10, which are dependent on claim 1, and independent claim 11, which refers to claims 1-10, are also novel under PCT Article 33(2).		
	[7] 2. Inventive step		
	[8] 2.1 Based on the above-mentioned difference, the technical problem to be actually solved by claim 1 is to provide an alternative structure for stable supporting. D2 discloses a frame for a compressor (see description, page 5, line 22 to page 7, line 14, claim 1, and figures 1-4): the frame comprising a main frame body 31, wherein connection leg portions 38 (equivalent to a supporting frame) at two end portions are formed as flat plates, and are perpendicularly arranged below the main frame body 31 to support the main frame body 31; reinforcing ribs 50 are formed at joints of the main frame body 31 and the connection leg portions 38; and fixing sheets 39 are provided at lower ends of the connection leg portions 38, and the fixing sheets 39 are folded outwards. The function of the above-mentioned contents in D2 is the same as the function thereof in the present application, in both cases being to use a reinforcement structure and a flanging at a joint to enhance the strength of a flat-plate-shaped supporting frame, providing the technical motivation of using the above-mentioned structure to replace arc-shaped support legs in D1. Therefore, on the basis of D1 combined with D2, it would have been obvious to a person skilled in the art to arrive at the technical solution of claim 1, and claim 1 does not involve an inventive step under PCT Article 33(3).		
	[9] 2.2 With regard to claims 2 and 6, D1 further discloses: the installation plate 11 is generally rectangular; the two support legs 12 are respectively arranged at two ends in a lengthwise direction of the installation plate 11; and the installation plate 11 and the support legs 12 are provided with uniform thicknesses, and have the same thickness.		
	[10] With regard to claims 3 and 4, in order to enhance the strength of a plate-shaped member, arranging, in a lengthwise direction, reinforcing ribs on two side edges thereof is a common technical means in the art.		
	[11] With regard to claim 5, D1 has disclosed arranging two positioning sheets 112 on the installation plate to enable positioning and mounting of a cylinder body on the installation plate (see description, paragraph		

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/CN2016/108734

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step and industrial applicability;
citations and explanations supporting such statement

[0050]). Using a limiting emboss to replace a positioning sheet is only a simple substitution for a limiting structure.

[12] All the additional technical features of dependent claims 7-10 have been disclosed in D2.

[13] Therefore, dependent claims 2-10 also do not involve an inventive step under PCT Article 33(3).

[14] 2.3 Claim 11 relates to a reciprocating compressor. D1 discloses a reciprocating compressor. Insofar as the frame claimed in any one of claims 1-10 does not involve an inventive step, claim 11 does not involve an inventive step under PCT Article 33(3).

[15] 3. Industrial applicability

[16] The subject matter involved in claims 1-11 can be made and used in the field of compressors, and is therefore industrially applicable under PCT Article 33(4).