

**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 310587	<b>FOR FURTHER ACTION</b>		See item 4 below
International application No. PCT/EP2005/011178	International filing date ( <i>day/month/year</i> ) 18 October 2005 (18.10.2005)	Priority date ( <i>day/month/year</i> ) 27 October 2004 (27.10.2004)	
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237			
Applicant BOSCH REXROTH AG			

<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 9 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 checked="" type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td><input checked="" 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 checked="" type="checkbox"/>	Box No. II	Priority	<input checked="" 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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<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																						

	Date of issuance of this report 01 May 2007 (01.05.2007)
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**PATENT COOPERATION TREATY**

**TRANSLATION**

From the  
INTERNATIONAL SEARCHING AUTHORITY

**PCT**

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing (day/month/year) **See form PCT/ISA/210**

Applicant's or agent's file reference <b>310587</b>		<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. <b>PCT/EP2005/011178</b>	International filing date (day/month/year) <b>18.10.2005</b>	Priority date (day/month/year) <b>27.10.2004</b>
International Patent Classification (IPC) or both national classification and IPC <b>G05B19/048</b>		
Applicant <b>BOSCH REXROTH AG</b>		

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 or 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.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/EP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE  
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Box No. I	Basis of this opinion
1.	With regard to the <b>language</b> , this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
<input type="checkbox"/>	This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2.	With regard to any <b>nucleotide and/or amino acid sequence</b> disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
a.	type of material
<input type="checkbox"/>	a sequence listing
<input type="checkbox"/>	table(s) related to the sequence listing
b.	format of material
<input type="checkbox"/>	in written format
<input type="checkbox"/>	in computer readable form
c.	time of filing/furnishing
<input type="checkbox"/>	contained in the international application as filed.
<input type="checkbox"/>	filed together with the international application in computer readable form.
<input type="checkbox"/>	furnished subsequently to this Authority for the purposes of search.
3.	<input type="checkbox"/> In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto 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.
4.	Additional comments:

WRITTEN OPINION OF THE  
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Box No. II	Priority
1.	<input type="checkbox"/> The following document has not yet been furnished: <input type="checkbox"/> copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)). <input type="checkbox"/> translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)). Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date in the claimed priority date.
2.	<input type="checkbox"/> This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3.	Additional observations, if necessary:  The validity of the priority claim has not been considered because the International Searching Authority does not have in its possession a copy of the earlier application whose priority has been claimed or, where required, a translation of that earlier application. This opinion has nevertheless been established on the assumption that the relevant date (Rules 43bis.1 and 64.1) is the claimed priority date.

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Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

the entire international application

claims Nos. 1-11

because:

the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 1-11  
are so unclear that no meaningful opinion could be formed (*specify*):

See supplemental sheet

the claims, or said claims Nos. \_\_\_\_\_ are so inadequately supported  
by the description that no meaningful opinion could be formed.

no international search report has been established for said claims Nos. \_\_\_\_\_

the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form  has not been furnished  
 does not comply with the standard

the computer readable form  has not been furnished  
 does not comply with the standard

the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

See Supplemental Box for further details.

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Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
	Novelty (N)	Claims <u>14-16</u> Claims <u>12, 13</u>	YES NO
	Inventive step (IS)	Claims _____ Claims <u>12-16</u>	YES NO
	Industrial applicability (IA)	Claims <u>12-16</u> Claims _____	YES NO
2. Citations and explanations:	<p>1 Reference is made to the following documents:</p> <p>D1: DE 41 34 811 A1 (LICENTIA PATENT-VERWALTUNGS- GMBH, 6000 FRANKFURT, DE) 29 April 1993 (1993-04-29)</p> <p>D2: DE 195 33 787 A1 (KUKA SCHWEISANLAGEN + ROBOTER GMBH, 86165 AUGSBURG, DE; MERCEDES- BENZ) 20 March 1997 (1997-03-20)</p> <p>2 <b>INDEPENDENT CLAIM 12</b></p> <p>2.1 The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claim <b>12</b> is not novel within the meaning of PCT Article 33(2).</p> <p>Document D1 discloses (the references between parentheses refer to this document):</p> <p style="text-align: center;"><i>an apparatus for carrying out step chains (see page 5, lines 61-63) and a criteria analysis (see page 2, lines 20-23 and 38) of errors that have occurred in programmable control for</i></p>		

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

*machine control,*  
*in which inputs for recording of machine states are provided in the apparatus (see page 6, lines 31-34, with each input variable representing one machine state).*

The subject matter of claim **12** is therefore disclosed in D1.

3 **DEPENDENT CLAIMS 13-16**

Claims **13-16** do not contain any features which, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step.

3.1 Document D1 discloses that, in the apparatus according to claim 12,

*the management of the step chains is constructed in the form of a state machine (see page 5, lines 44-60).*

The subject matter of claim **13** is therefore disclosed in D1.

3.2 The subject matter of claims **14-16** does not involve an inventive step because the additionally defined features are known by a person skilled in the art and their addition does not involve an inventive step.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

Box III

1 It is not possible to establish a worthwhile expert opinion on novelty and inventive step for claims **1-11**, because the claims lack clarity for the following reasons:

1.1 claim 1 defines a *method for carrying out step chains... in which machine states are additionally recorded and are continuously monitored in the step chain.*

The wording "in the step chain" does not clearly define where the machine states are recorded. In addition, it is not clear from the description whether the states are determined within the step chain on the basis of recorded conditions (see page 3, lines 5-8 and page 8, lines 29-31), or whether the machine states are read into the step chain (see page 6, lines 8-9).

The expression "machine states" is not clear with respect to the description, where it describes the start preconditions and the basic setting (see page 5, lines 29-31).

The machine states are "additionally" recorded. This wording suggests that other information is also recorded, but is not defined. This leaves doubt as



Supplemental Box

to the subject matter of the claim.

- 1.2 Claims 2 to 11 all refer directly to claim 1. The additional features in these dependent claims do not allow the lack of clarity in claim 1 to be overcome. Claims 2 to 11 therefore likewise lack clarity.