

Certificate

Quality Assurance Notification

Directive 94/9/EC

Certificate Registr. No. **01 220 1344514**

The Certification Body for Explosion Protection
of TÜV Rheinland Industrie Service GmbH
Reported under no. 0035
certifies:

Certificate Holder:



HANBELL Precise Machinery Co., LTD.
No.5 Kongsan Road, Kuan-Yin Industrial Park.
Kuan-Yin Shiang, Tao-Yuan Hsien
Taiwan, R.O.C.

Scope:

Final inspection and testing of compressor type RC2-200Ex;
RC2-300Ex
Types of protection: d, e, c

An audit was performed, Report No. 1344514. Proof has been
furnished that the requirements according to Directive 94/9/EC
Annex IV are fulfilled.

The due date for all future audits is 10th October

Validity:

The certificate is valid from 2013-12-09 until 2016-10-10
First certification 2013

Wuppertal, 2013-12-09

TÜV Rheinland Industrie Service GmbH
Am Grauen Stein, D-51105 Cologne
Dipl.-Ing. Andreas Maschke

(1) EC-TYPE EXAMINATION CERTIFICATE



(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 94/9/EC**

(3) EC-Type-Examination Certificate Number

TÜV 13 ATEX 7305 X

(4) Equipment: **Ex Series Screw Compressor**
Model: **RC2-300Ex and RC2-200Ex**
(5) Manufacturer: **HANBELL Precise Machinery Co., LTD.**
(6) Address: **No.5 Konsan Road, Kuan-Yin Industrial Park, Kuan-Yin Shiang, Tao-Yuan Hsien, Taiwan, R.O.C**

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV Rheinland Notified Body for ex-protected products of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmosphere, given in Annex II to the Directive.
The examination and test results are recorded in the confidential report 557/Ex305.00/13X

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0: 2009
EN 13463-1: 2009

EN 60079-1: 2007
EN 13463-5: 2003

EN 60079-7: 2007

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type-Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

(12) The marking of the equipment shall include the following:



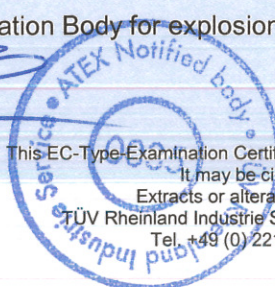
II 2 G **c IIB T4**
II 2 G **Ex de IIB T4 Gb**

Remark: Equipment is an integral unit and cannot be separated from each other.

TÜV Rheinland Certification Body for explosion protected equipment

Cologne, 19th July 2013

Dipl.-Ing. Heinz Farke



(Translation)

This EC-Type-Examination Certificate without signature and stamp shall not be valid.
It may be circulated only without alteration.

Extracts or alterations are subject to approval by the:
TÜV Rheinland Industrie Service GmbH, Am Grauen Stein, 51105 Köln
Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114



(13) Annex

(14) **EC - Type Examination Certificate**
TÜV 13 ATEX 7305 X

(15) Description of equipment:

15.1 Equipment and type:

Ex Series Screw Compressor

Model: RC2-300Ex, RC2-200Ex

15.2 Description

The screw compressor models RC2-200Ex and RC2-300Ex are semi-hermetic compressors, which are designed for the usage with a terminal box. The terminal box is fixed to the refrigeration compressor housing at the exit of the sealed terminals associated with the compressor motor.

HANBELL RC2 series semi-hermetic screw compressors are developed especially for applications in air-conditioning and refrigeration. RC2 series compressors are equipped with separated radial and axial bearings, liquid injection and economizer connection, PTC motor and discharge temperature thermistors, a motor protector, and oil level switch. It can be additionally equipped with an oil pressure differential switch connector and other accessories. The compressor includes standard and optional fittings.

The compressor combines two types of protection, one is type "d" for the enclosure and the other is type "e" with IP66 for the junction box. The junction box is connected to the motor by glass sealed bushings of different size. External connections are made via suitably certified and dimensioned plug devices.

In order to protect the compressor, each RC2 series compressor contains three PTC temperature sensors inside the motor coil and another one at the discharge side of the compressor.

The junction box of screw compressor is evaluated by the standards EN 60079-0:2009 and EN 60079-7:2007 and the enclosure of compressor is evaluated by standards EN 60079-0:2009 and EN 60079-1:2007.

The mechanical parts of screw compressor are evaluated by the standards EN13463-1:2009 and EN13463-5:2003.

This equipment is an integral unit that cannot be separated from each other. Therefore it has been certified in a common certificate.

This Type-Examination Certificate without signature and official stamp shall not be valid.
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TÜV Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH,

15.3 Technical Data

Ambient temperature: $-20\text{ °C} \leq T_{\text{amb}} \leq +60\text{ °C}$

MODEL	COMPRESSOR					MOTOR								Lubricant Charge	Oil Heater	Hydrostatic Pressure test	Weight
	Displacement 60 / 50Hz	Rated Speed 60 / 50Hz	VI	Cap. Control (%)		Type	Nominal Hp		Starting	Voltage(V)		Insulation	Protection	L	W	Kg/cm ² G	kg
				STEP	STEPLESS		60Hz	50Hz		60Hz	50Hz						
RC2-200Ex	233/193	3550/2950	2.2	25, 50, 75, 100	25-100	3 Phase, 2 Pole, Squirrel Cage, Induction Motor	70	58	Y-Δ	208 220 230 380 440 460 480 575	380 400 415	Class F	PTC Protection	8	150/300	42	415
RC2-300Ex	352/293		2.6				107	89	PWS DOL	16				600			
			3.0														
			3.5														

Model	50Hz						60Hz																		Unit: Ampere
	380V		400V		415V		208V		220V		230V		380V		440V		460V		480V		575V				
	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA	MCC	LRA			
RC2-200Ex	128	465	122	485	117	445	282	1000	266	1055	255	1105	154	575	133	465	127	485	122	445	102	380			
RC2-300Ex	193	780	183	815	177	790	424	1710	401	1810	384	1890	232	1030	200	780	192	815	184	790	153	650			

List of certified equipment:

Equipment:	Type:	Marking:	Certificate:
Solenoid valve	495900 and 495905	Ex d mb IIC T*Gb Ex tb IIIC*Db	LCIE 03 ATEX 6451 X

(16) Test Report No.

557/Ex 305.00/12

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(17) Special Conditions for safe use / Remarks for safe usage:

1. The assembly shall be equipped with ATEX certified cable glands suitable for the intended use.
2. Before charging the refrigerant, the operator shall pump out the air and moisture from the system, and keep the pressure in the enclosure higher than atmospheric pressure. The end user shall check that the settings on each pressure switch are correct to maintain the normal pressure in operation.
3. The special conditions of the already certified equipment have to be observed.
4. The PTC sensors shall be connected to a suitable Safety Device to provide a safe motor shutdown. The safety function must be designed according to EN 13463-6:2005 with at least IPL 1. Auto reset of the device is not allowed.

The Safety Device has to be located outside of the hazardous area or has to be sufficiently protected and certified by a separate ATEX – certificate.

(18) Basic Safety and Health Requirements

Fulfilled by afore mentioned standards.

TÜV Rheinland Ex CB

Cologne, 19th July 2013


Dipl.-Ing. Heinz Farke


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TÜV Zertifizierungsstelle of TÜV Rheinland Industrie Service GmbH,



DECLARATION OF CONFORMITY

According to Annex III of ATEX Directive 94/9/EC



Product Name: Refrigerant Screw Compressor

Model Name: RC2-200Ex · RC2-300Ex

Manufacturer : Hanbell Precise Machinery Co., Ltd.

Manufacturer plant : No.5 Kongsan Road, Kuan-Yin Industrial Park, Kuan-Yin Shiang, Tao-Yuan Hsien,
Taiwan, R.O.C.

Characteristics of Equipment :

EX Series is approved by PED (97/23/EC, certificate No: 01 202 973/B-05/4901 Rev. 01) with high efficiency screw rotor profile. Radial bearings at both suction and discharge ends as well as angular contact ball bearings ensure high compressor reliability. Optimal slot design for passage of refrigerant inside motor casing provides the most efficient motor cooling.

Applicable Directive: 94/9/EC

ATEX Mark: CE 0035  II 2 G c IIB T4

 II 2 G Ex de IIB T4 Gb

Conformity of Assessment procedure:

The Technical Construction File had been sent to The following Notified body:

Notified Body : TÜV Rheinland Industrie Service GmbH

The Applicable standards and Technical specification:

EU Directives:

- * Low Voltage Directive(LVD) 2006/95/EC
- * Electromagnetic Compatibility Directive(EMC) 2004/108/EC
- * Machinery Directive (MD)2006/42/EC
- * Pressure Equipment Directive (PED) 97/23/EC

Harmonized Standards:

- * EN12693

ATEX Standards:

- * EN60079-0:2009;EN60079-1:2007;EN60079-7:2007;
- * EN13463-1:2009;EN13463-5:2003;

We, Hanbell Precise Machinery Co., Ltd., declare that the design, manufacturing and inspection of the pressure equipment described above is in conformity with the provisions of Annex II of ATEX Directive 94/9/EC.

Alex Tseng

Hanbell Precise Machinery Co., Ltd.