



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx KGS 16.0009 issue No.:0 Certificate history: _____

Status: **Current**

Date of Issue: **2016-10-05** Page 1 of 3

Applicant: **HIGEN Motor Co., Ltd.**
57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si,
Gyeongsangnam-do,
Korea, Republic of

Equipment: **Three Phase Induction Motor (315 Frame)**
Optional accessory: TB3*315M****FC****/** or TB3*315M****FC****/**

Type of Protection: **Ex tb**

Marking: **Ex tb IIIB or IIIC T125°C Db**
Tamb : -20 °C ~ +50 °C

Approved for issue on behalf of the IECEx
Certification Body: Gi-hoi, Kim

Position: General Manager

Signature:
(for printed version)

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

Korea Gas Safety Corporation
1390 Wonjung-ro,
Maengdong-myeon,
Eumseong-gun,
Chungcheongbuk-do
KOREA 369-811
Korea, Republic of





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Manufacturer: **HIGEN Motor Co., Ltd.**
57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si,
Gyeongsangnam-do,
Korea, Republic of

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-31 : 2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition: 2

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
[KR/KGS/ExTR16.0009/00](#)

Quality Assessment Report:
[KR/KGS/QAR08.0002/05](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

General Specifications

Three-phase asynchronous motors series 315 supplied by mains or by inverter.

IEC frame sizes : 315 Frame

Maximum rated voltage : 11 000 V

Rated Frequency : 50 / 60 Hz

Methods of cooling (IC CODE) : TEFC(IC411)

Nominal power : 140 ~ 390 kW

Number of poles : 4, 6, 8 Poles

Duty type : S1

Speed : 750 ~ 1800 rpm

Ingress Protection Code : IP65 or IP66

※ This equipment has been considered to meet at IP65 or IP66 degrees in accordance with IEC 60529 and IEC 60034-5.

Enclosure

Dust ignition protection motors. The motors are made of grey cast iron, steel with separate compartments; motor enclosure and terminal box. The rotor is supported by a pedestal mounted anti-friction bearings at both ends.

Cooling Method

TEFC : External fan is attached to the shaft end for the circulation of air around the enclosure.

* Duty Types : TEFC(S1)

Terminal Box

The enclosure consists of a cast iron or a steel cover with secure bolts. Terminal box is connected to the frame and bolt. The cover is a removable structure.

Thermal Motor Protection

The motors supplied by inverter shown the rating data on a supplementary plate and shall be provided, inside the stator winding, with PTC or PT 100 thermal detectors for temperature control.

Auxiliaries

The motors can be equipped with auxiliary devices (heaters, thermal detectors, etc.).

CONDITIONS OF CERTIFICATION: NO

Annex: Annex to IECEx KGS 16.0009 issue 0.pdf



Annex to
IECEX KGS 16.0009 issue 0



Applicant : HIGEN Motor Co., Ltd.
 Address : 57, Gongdan-ro 473 bun-gil, Seongsan-gu, Changwon-si,
 Gyeongsangnam-do, Korea
 Electrical Apparatus : Three Phase Induction Motor (315 Frame)

[Description]

1. Nomenclature

T	B	3	*	315	M	**	***	FC	****	/	**
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		⑩

or

T	B	3	*	315	M	**	***	FC	*****	/	**
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩		⑩

- 1st : T: Dust ignition protection
- 2nd : Equipment protection level, A:Zone 20, B:Zone 21, C:Zone 22
- 3rd : Three phase 1 speed
- 4th : Dust subdivisions, A:IIIA, B:IIIB, C:IIIC
- 5th : Frame number
- 6th : Frame length
- 7th : Number of poles, 02:2 Poles, 04:4 Poles, 06:6 Poles, 08:8 Poles
- 8th : Mounting, B3*, B5*, B35
- 9th : Ventilation, FC:TEFC, NV:TENV, AO:TEAO
- 10th : Voltage & Frequency

2. Duty Type: S1

3. Methods of Cooling: TEFC(IC411)

4. Service Factor: 1,0 ~ 1,15

5. Insulation Class: F



6. Output

315 Frame Output Table				
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
4 P	185	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
		1 500	50	11 000
		1 800	60	3 300
		1 800	60	6 600
		1 800	60	11 000
	200	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
		1 500	50	11 000
		1 800	60	3 300
		1 800	60	6 600
		1 800	60	11 000
	220	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
		1 500	50	11 000
		1 800	60	3 300
		1 800	60	6 600
		1 800	60	11 000
	250	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
1 500		50	11 000	
1 800		60	3 300	
1 800		60	6 600	
1 800		60	11 000	



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315 Frame Output Table				
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)
4 P	280	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
		1 800	60	3 300
		1 800	60	6 600
		1 800	60	11 000
	320	1 500	50	3 000
		1 500	50	3 300
		1 500	50	6 000
		1 500	50	6 600
		1 800	60	3 300
		1 800	60	6 600
		1 800	60	11 000
390	1 800	60	3 300	
	1 800	60	6 600	
6 P	190	1 000	50	3 000
		1 000	50	3 300
		1 000	50	6 000
		1 000	50	6 600
		1 000	50	11 000
		1 200	60	3 300
		1 200	60	6 600
		1 200	60	11 000
	220	1 000	50	3 000
		1 000	50	3 300
		1 000	50	6 000
		1 000	50	6 600
		1 200	60	3 300
		1 200	60	6 600
1 200	60	11 000		



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315 Frame Output Table					
Pole (P)	Output (kW)	Speed (rpm)	Frequency (Hz)	Voltage (V)	
6 P	240	1 000	50	3 000	
		1 000	50	3 300	
		1 000	50	6 000	
		1 000	50	6 600	
		1 200	60	3 300	
		1 200	60	6 600	
	300	1 200	60	3 300	
		1 200	60	6 600	
8 P	140	750	50	3 000	
		750	50	3 300	
		750	50	6 000	
		750	50	6 600	
		750	50	11 000	
		900	60	3 300	
		900	60	6 600	
		900	60	11 000	
	160	750	50	3 000	
		750	50	3 300	
		750	50	6 000	
		750	50	6 600	
		900	60	3 300	
		900	60	6 600	
		900	60	11 000	
		180	750	50	3 000
			750	50	3 300
			750	50	6 000
	750		50	6 600	
	900		60	3 300	
	900		60	6 600	
	220	900	60	3 300	
		900	60	6 600	