

(1) TYPE EXAMINATION CERTIFICATE



- (2) Equipment and Protective Systems intended for use in
Potentially Explosive Atmosphere - **Directive 2014/34/EU**
- (3) Type Examination Certificate Number

TÜV 21 ATEX 8642 X

Issue: 00

- (4) Equipment: **Explosion-proof servo motor**
Type(s): HYA series
- (5) Manufacturer: **ABB Electrical Machines Ltd.**
- (6) Address: **No. 380, Tianxing Road, Minhang District, Shanghai, China**

- (7) This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- (8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which 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 GC/Ex8642.00/21

- (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 60079-0:2018

EN 60079-7: 2015/A1 2018

EN 60079-31:2014

- (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 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 3 G Ex ec IIC T4 Gc
II 3 D Ex tc IIIC T130°C Dc IP65

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2021-07-12


Dipl.-Ing. He Mei



This Type Examination Certificate without signature and stamp shall not be valid.
This Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the
TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
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(13) Annex

(14) **Type Examination Certificate**
TÜV 21 ATEX 8642 X Issue: 00

(15) Description of equipment

15.1 Equipment and type:

Explosion-proof servo motor

Type(s): HYA655030A, HYA101030A, HYA101730A, HYB132820B, HYB185020B,
 HYB186520B, HYB188020B

15.2 Description

General product information

HYA series is increased safety "ec" in compliance with the technical criteria according to ATEX standards. The equipment is intended to be used combustible gas environment in 2 and dust environment Zone 22, explosive air/dust mixture IIC/IIIC of the temperature class T4.

The motors are intended to be used with a frequency converter. The acceptable converter types are drives MFE180-04AN manufactured by ABB, or other type of drives made of other manufacturers. The comparable converters in reference to the conversion frequency, output voltage and current specifications are shown in the below table

Model of motor	Output voltage	Output current	Output frequency	conversion frequency	DC link voltage
HYA655030A	3ph 0~400VAC	6.4A	0~500Hz	4-8kHz	270-550VDC
HYA101030A	3ph 0~400VAC	14A	0~500Hz	4-8kHz	270-550VDC
HYA101730A	3ph 0~400VAC	14A	0~500Hz	4-8kHz	270-550VDC
HYB132820B	3ph 0~400VAC	41A	0~500Hz	4-8kHz	270-550VDC
HYB185020B	3ph 0~400VAC	41A	0~500Hz	4-8kHz	270-550VDC
HYB186520B	3ph 0~400VAC	62A	0~500Hz	4-8kHz	270-550VDC
HYB188020B	3ph 0~400VAC	62A	0~500Hz	4-8kHz	270-550VDC

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Technical Data

Input voltage: 230VAC / 400VAC
Rated torque: 1.6Nm to 38.5Nm
Rated speed: 2000r/min / 3000r/min
Rated power: 0.5kW to 8kW
Poles number: 10
Duty type: S1

Ambient temperature: -20°C to +40°C
Ingress protection: IP65

(16) Test-Report No. GC/Ex8642.00/19

(17) Special Conditions for safe use

1. Frequency converter must be chosen according to the parameters specified in this certificate.
2. The brakes are intended to be used only as parking device.
3. Under explosive dust circumstances, the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz

Cologne, 2021-07-12

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