

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Motor**

with type designation(s)

D*Ex 63 up to D*Ex 315, B*Ex 71 up to B*Ex 132, DEx 250, 280, 315

Issued to

**Herforder Elektromotoren-Werke GmbH & Co. KG
Herford, Germany**

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.**

Enclosure class	IP 55, IP 56, IP 65, IP 66
Insulation class	155 (F)
Temp. class (°C)	155 (F), temperature rise 130 (B)
Voltage (V)	110 V up to 690 V
Power (kW)	0,06 kW up to 200 kW (S1)
Frequency (Hz)	50 Hz, 60 Hz
Speed (RPM)	750 1/min up to 3600 1/min

This Certificate is valid until **2021-09-27**.Issued at **Hamburg** on **2016-09-28**DNV GL local station: **Magdeburg**Approval Engineer: **Heinz-Dieter Hesse**for **DNV GL**

Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

Cast iron motor, Ex-protected
 Type; **D*Ex 63 up to D*Ex 315**
B*Ex 71 up to B*Ex 132
DEx 250, DEx 280, DEx 315

Rated voltage	110 V up to 690 V
Rated power	0,06 kW up to 200 kW (S1)
Synchronous speed	750 1/min up to 3600 1/min
Rated frequency	50 Hz, 60 Hz
Ambient temperature	45 °C
Duty type	S1 - S9
Thermal class	155 (F), temperature rise 130 (B)
Degree of protection	IP 55, IP 56, IP 65, IP 66
No. of poles	2, 4, 6, 8, 10, 12, multiple poles

Application/Limitation

For installation in hazardous areas according to the certificates issued by DEKRA EXAM GmbH, PTB and SiQ

Type Approval documentation

Drawings, descriptions and technical data
 M0854/08.12.04; M0860/09.12.04; M0933/20.01.05
 M2519/11.08.09; M2541/17.08.09; M3037/08.09.10; M4267/07.01.2013

Catalogues:
 HEW "Explosiongeschützte Elektromotoren 03_2009" and "Gesamtkatalog-HEW-2013" (section 16-23)

Type of motors	ATEX Certificate No.	
D*Ex 63	SIQ 16 ATEX 142 X	II 2G Ex db IIC T4-T6 Gb or Ex db e IIC T4-T6 Gb II 2D Ex tb IIIC T135°C-T85°C Db
D*Ex 71 - 225	BVS 14 ATEX E 114 X	II 2G Ex d IIC T* Gb resp. Ex de IIC T* Gb II 2D Ex tb IIIC T*°C Db
DEx 250	PTB 12 ATEX 1031 X	II 2G Ex d IIC T4 Gb or Ex de IIC T4 Gb
DEx 280	PTB 10 ATEX 1046 X	II 2G Ex d IIC T4-T6 and Ex de IIC T4-T6
DEx 315	PTB 10 ATEX 1047 X	II 2G Ex d IIC T4-T6 and Ex de IIC T4-T6
B*Ex 71 - 132	BVS 15 ATEX E 053 X	II 2G Ex d IIC T4-T6 Gb or Ex de IIC T4-T6 Gb II 2D Ex tb IIIC T85°C-T1355°C Db

Type of motors	IECEX Certificate. No.	
D*Ex 63	IECEX SIQ 16.0002X	Ex db IIC T4-T6 Gb or Ex db e IIC T4-T6 Gb Ex tb IIIC T135°C-T85°C Db
D*Ex 71 - 225	IECEX BVS 14.0075X	Ex d IIC T* Gb resp. Ex de IIC T* Gb Ex tb IIIC T*°C Db
B*Ex 71 - 132	IECEX BVS 15.0043X	Ex d IIC T4-T6 Gb or Ex de IIC T4-T6 Gb Ex tb IIIC T85°C-T1355°C Db

Job Id: **262.1-023297-1**
Certificate No: **TAE00001E4**

Tests carried out

Test reports VS0802038 of Ser. No. 9743, 428, 106 dated 27.06.2006

Marking of product

According to IEC 60034-1 clause 10.2.

According to the EC-Type Examination Certificates (clause (12)) or the IECEx Certificates of Conformity (marking) issued by SiQ, DEKRA EXAM GmbH and PTB.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable).
- Results from Routine Tests (RT) checked (if not available tests according to RT to be carried out).
- Review of type approval documentation.
- Review of possible change in design, materials and performance.
- Ensuring traceability between manufacturer's product type marking and Type Approval

Certificate. Assessment to be performed at least every second year.

END OF CERTIFICATE