



# 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](http://www.iecex.com)

Certificate No.: IECEx BVS 15.0043X issue No.:0 Certificate history: .....

Status: **Current**

Date of Issue: 2015-05-19 Page 1 of 4

Applicant: **Herforder Elektromotoren-Werke GmbH & Co. KG**  
Goebenstraße 106  
32051 Herford  
Germany

Electrical Apparatus: **Brake-motors type B\*Ex\*\*\* \*\*\*/\*\*\*\* \*\* - BM\*\*\***  
Optional accessory:

Type of Protection: **Equipment protection by flameproof enclosures "d", Equipment dust ignition protection by enclosure "t", Equipment protection by increased safety "e"**

Marking: Ex d IIC T4-T6 Gb or Ex d IIB T4-T6 Gb or  
Ex de IIC T4-T6 Gb or Ex de IIB T4-T6 Gb resp.  
Ex tb IIIC T85°C - T135°C Db

Approved for issue on behalf of the IECEx Certification Body: G. Schumann  
Position: Deputy Head of Certification Body

Signature: *(for printed version)* 

Date: 2015-05-19

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:

**DEKRA EXAM GmbH**  
Dinnendahlstrasse 9  
44809 Bochum  
Germany





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Certificate No.: IECEx BVS 15.0043X  
Date of Issue: 2015-05-19 Issue No.: 0  
Page 2 of 4

Manufacturer: **Herforder Elektromotoren-Werke GmbH & Co. KG**  
Goebenstraße 106  
32051 Herford  
Germany

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:

<b>IEC 60079-0 : 2011</b> Edition: 6.0	Explosive atmospheres - Part 0: General requirements
<b>IEC 60079-1 : 2007-04</b> Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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:  
[DE/BVS/ExTR15.0039/00](#)

Quality Assessment Report:  
[DE/BVS/QAR14.0009/00](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx BVS 15.0043X

Date of Issue: 2015-05-19

Issue No.: 0

Page 3 of 4

## Schedule

### EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

#### Subject and Type

Brake motor type B\*Ex\*\*\* \*\*\*/\*\*\*\* \*\* - BM\*\*\*

Type designation to B\*<sup>1)</sup>Ex<sup>\*\*\*2)</sup> \*\*\*<sup>3)</sup>/<sup>\*\*\*\*4)</sup> \*\*\*<sup>5)</sup> - BM<sup>\*\*\*6)</sup>

(Identifier for the type designation are only used when applicable)

1): Explosion group

B: Flameproof enclosure for group IIB  
C: Flameproof enclosure for group IIC

Explosion group or for potentially explosive dust atmosphere

D: Flameproof enclosure for group IIC or applicable in the presence of combustible dust for group IIIC (e. g.: BDEx)

2): Frame size of motor

71	71 mm
80	80 mm
90	90 mm
100	100 mm
112	112 mm
132	132 mm

3): Identifier for Motor-variation

z. B. M - M-variation, only one package length available  
z. B. MA - M-variation with package length MA or MB  
z. B. MBH - M-variation with package length MB and efficiency level detection  
(All variations are also possible with package lengths K, L and S)

4): Quantity of poles:

2, 4, 6, 8 to max. 12-8)

5): Identifier for motor protection

6): Identifier for brake:

Torque, depending on brake settings

#### Description

The brake motors are an assembly of motors type D\*Ex\*\*\* \*\*\*/\*\*\*\* \*\* (IECEx BVS 14.0075 X) and the spring loaded brakes type 4BM \*\*\*/\*\* (IECEx BVS 14.0003 U).

#### CONDITIONS OF CERTIFICATION: YES as shown below:

The lengths of the flameproof joints are in parts longer and the gaps of the flameproof joints are in parts smaller than the values of table 2 of IEC 60079-1:2007. For information of the dimensions of the flameproof joints contact the manufacturer.

Fasteners with a minimum yield stress of 640 N/mm<sup>2</sup> must be used for the closing of the flameproof enclosure.

Motors which have to be equipped with a direct temperature control must be monitored by a separate certified trigger unit.

If the electrical machine will be cooled by forced ventilation, it has to be assured that the electrical machine can only run if the ventilation is running.



# IECEx Certificate of Conformity

Certificate No.: IECEx BVS 15.0043X

Date of Issue: 2015-05-19

Issue No.: 0

Page 4 of 4

## EQUIPMENT(continued):

### Parameters

#### Brake motor

Rated voltage	up to	690	V AC
Rated rotational speed	500	up to	3600 min <sup>-1</sup>
Rated rotational speed (with converter)	48	up to	6000 min <sup>-1</sup>
Frequency (mains)	50 / 60 Hz		
Frequency (converter)	5	up to	100 Hz
Duty type	S1	up to	S9
<b>Rated power</b>			
Frame size	50 Hz	60 Hz	
71	up to 0.55 kW	0.66 kW	
80	up to 1.1 kW	1.3 kW	
90	up to 2.2 kW	2.6 kW	
100	up to 3 kW	3.6 kW	
112	up to 4 kW	4.8 kW	
132	up to 7.5 kW	9 kW	

#### Brake

Rated voltage 24 VDC, 48 VDC, 180 VDC and 205 VDC

Size of the brake (suitable for motor frame size)	BM5 (71)	BM10 (80)	BM20 (90)	BM40 (100)	BM60 (112)	BM100 (132)
Power in Watt(at 20 °C)	22	28	34	42	50	76

#### Monitoring circuit

Temperature sensors (ptc thermistors) According to the specifications given in the certificate of the trigger unit and the electrical design

Circuits of the resistance thermometer (Pt100) According to the specifications given in the certificate of the trigger unit and the electrical design

Bimetal switch According to the specifications given in the certificate of the trigger unit and the electrical design  
 $U_{max} = 250 \text{ VAC}; I_{max} = 10 \text{ A}$

#### Thermal ratings

Type of protection	Explosion group	Lower limit of ambient temperature	Upper limit of ambient temperature
Ex de	IIIB / IIC	-20 °C	60 °C
Ex tb	IIIC	-30 °C	85 °C

#### Ambient temperature range, temperature class and surface temperature

The electrical data, the temperature class, the surface temperature and the ambient temperature range of the respective version is determined by a routine test carried out by the manufacturer.