



## (1) EC-TYPE-EXAMINATION CERTIFICATE (Translation)

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**



(3) EC-type-examination Certificate Number:

**PTB 10 ATEX 1041 X**

(4) Equipment: Three-phase motor, types DEx 80 to DEx 132  
Three-phase motor, types DDEx 80 to DDEx 132

(5) Manufacturer: Herforder Elektromotoren-Werke GmbH u. Co. KG

(6) Address: Goebenstr. 106, 32051 Herford, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that 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 atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential assessment and test report PTB Ex 10-10175.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2006	EN 60079-1:2007	EN 60079-7:2007
EN 61241-0:2006	EN 61241-1:2004	

(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, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

II 2 G Ex d IIC T4 – T6 and Ex de IIC T4 – T6

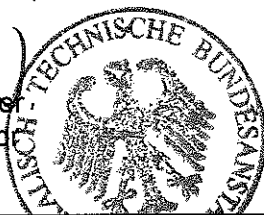
II 2 D Ex tD A21 IP6X T135°C

Zertifizierungssektor Explosionsschutz

Braunschweig, October 8, 2010

On behalf of PTB:

Dr.-Ing. U. Klausmeyer  
Direktor und Professor



sheet 1/3

EC-type-examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

- (13) **SCHEDULE**
- (14) **EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X**

(15) Description of equipment

The motor enclosure is designed to Flameproof Enclosure "d" type of protection for gas atmospheres and Protection by Enclosure "tD" for dust atmospheres. The grey cast iron enclosure is delimited on both sides by the end shields. The shaft rotates in rolling bearings. Together with the inner bearing caps, it forms the flameproof shaft joints on the drive and the non-drive ends. A terminal compartment of Flameproof Enclosure "d", Increased Safety "e" or Protection by Enclosure "tD" type of protection is provided for connection of the motor or direct cable entry is used for connection. For electric power input into the motor compartment, separately certified cable glands or conductor bushings are used.

The maximum permissible ambient temperatures for gas atmospheres are -50 °C to 60 °C and for dust atmospheres -30 °C to 60 °C. These temperature ranges may be limited as a result of the selected terminal boxes and components, or with the data sheet for the electrical ratings.

All electrical motor data, including the specifications for compliance with the temperature class, are defined in a data sheet that is attached to the EC Type Examination Certificate.

(16) Assessment and test report: PTB Ex 10-10175

(17) Special conditions for safe use

For repair of the flameproof joints due regard must be given to the structural specifications provided by the manufacturer. Repair on the basis of the values in tables 1 and 2 of EN 60079-1 is not accepted.

Additional notes for safe operation:

The screws used for delimitation of the flameproof enclosure must as a minimum comply with strength class 8.8. The operating instructions must include a note to this effect.

Components attached or installed (e.g. terminal compartments, bushings, cable glands, connectors) must be of a technical standard that complies with the specifications on the cover sheet. They must be suited for the operating conditions and be covered by a separate examination certificate. The special conditions specified for the components must be complied with, and the components have to be included in the type test, if necessary. This equally applies to the components mentioned in the technical description.

Monitoring devices must meet the requirements in Directive 94/9/EC and EN 1127-1.

# Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

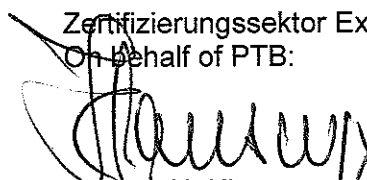
SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

(18) Essential health and safety requirements

Met by compliance with the afore-mentioned Standards.

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## DATA SHEET 01 TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

**Manufacturer:** Herforder Elektromotoren-Werke GmbH u. Co. KG  
Goebenstr. 106, 32051 Herford, Germany

for three-phase motor, types DEx 80 and DDEx 80

### Electrical data

The motors of type series DEx 80 resp. DDEx 80, produced by Herforder Elektromotoren-Werke GmbH u. Co. KG, 32051 Herford, are designed for ratings up to the following values:

Voltage (mains):	690	V
Voltage (converter):	565	V
Output:	1.1	kW
Frequency (mains):	50 / 60	Hz
Frequency (converter):	5 - 100	Hz
Duty type:	S1 - S10	

For every motor design, compliance with the governing regulations must be verified in the form of a type test. Due regard must in this connection be given to the code of practice "Merkblatt für die elektrische Auslegung und Prüfung von Motoren in der Zündschutzart Druckfeste Kapselung im Rahmen der EG-Baumusterprüfbescheinigung".

The motors may be employed only for the duty type and at the ambient conditions for which they were type tested. This includes operation with frequency converter.

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## DATA SHEET 02 TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

**Manufacturer:** Herforder Elektromotoren-Werke GmbH u. Co. KG  
Goebenstr. 106, 32051 Herford, Germany

for three-phase motor, types DEx 90 and DDEx 90

### Electrical data

The motors of type series DEx 90 resp. DDEx 90, produced by Herforder Elektromotoren-Werke GmbH u. Co. KG, 32051 Herford, are designed for ratings up to the following values:

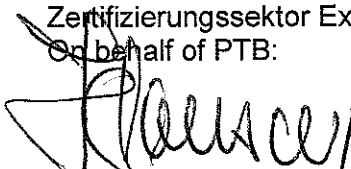
Voltage (mains):	690	V
Voltage (converter):	565	V
Output:	2.2	kW
Frequency (mains):	50 / 60	Hz
Frequency (converter):	5 - 100	Hz
Duty type:	S1 - S10	

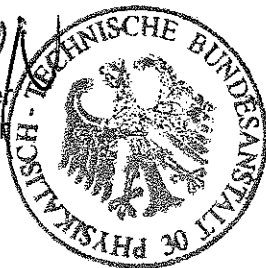
For every motor design, compliance with the governing regulations must be verified in the form of a type test. Due regard must in this connection be given to the code of practice "Merkblatt für die elektrische Auslegung und Prüfung von Motoren in der Zündschutzart Druckfeste Kapselung im Rahmen der EG-Baumusterprüfbescheinigung".

The motors may be employed only for the duty type and at the ambient conditions for which they were type tested. This includes operation with frequency converter.

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## DATA SHEET 03 TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

**Manufacturer:** Herforder Elektromotoren-Werke GmbH u. Co. KG  
Goebenstr. 106, 32051 Herford, Germany

for three-phase motor, types DEx 100 and DDEx 100

### Electrical data

The motors of type series DEx 100 resp. DDEx 100, produced by Herforder Elektromotoren-Werke GmbH u. Co. KG, 32051 Herford, are designed for ratings up to the following values:

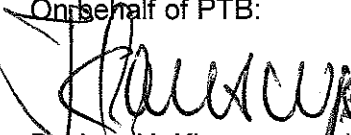
Voltage (mains):	690	V
Voltage (converter):	565	V
Output:	3.0	kW
Frequency (mains):	50 / 60	Hz
Frequency (converter):	5 - 100	Hz
Duty type:	S1 - S10	

For every motor design, compliance with the governing regulations must be verified in the form of a type test. Due regard must in this connection be given to the code of practice "Merkblatt für die elektrische Auslegung und Prüfung von Motoren in der Zündschutzart Druckfeste Kapselung im Rahmen der EG-Baumusterprüfbescheinigung".

The motors may be employed only for the duty type and at the ambient conditions for which they were type tested. This includes operation with frequency converter.

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## DATA SHEET 04 TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

**Manufacturer:** Herforder Elektromotoren-Werke GmbH u. Co. KG  
Goebenstr. 106, 32051 Herford, Germany

for three-phase motor, types DEx 112 and DDEx 112

### Electrical data

The motors of type series DEx 112 resp. DDEx 112, produced by Herforder Elektromotoren-Werke GmbH u. Co. KG, 32051 Herford, are designed for ratings up to the following values:

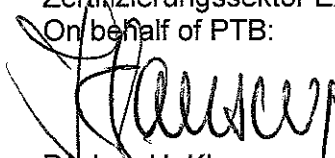
Voltage (mains):	690	V
Voltage (converter):	565	V
Output:	4.0	kW
Frequency (mains):	50 / 60	Hz
Frequency (converter):	5 - 100	Hz
Duty type:	S1 - S10	

For every motor design, compliance with the governing regulations must be verified in the form of a type test. Due regard must in this connection be given to the code of practice "Merkblatt für die elektrische Auslegung und Prüfung von Motoren in der Zündschutzart Druckfeste Kapselung im Rahmen der EG-Baumusterprüfbescheinigung".

The motors may be employed only for the duty type and at the ambient conditions for which they were type tested. This includes operation with frequency converter.

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## DATA SHEET 05 TO EC-TYPE-EXAMINATION CERTIFICATE PTB 10 ATEX 1041 X

**Manufacturer:** Herforder Elektromotoren-Werke GmbH u. Co. KG  
Goebenstr. 106, 32051 Herford, Germany

for three-phase motor, types DEx 132 and DDEx 132

### Electrical data

The motors of type series DEx 132 resp. DDEx 132, produced by Herforder Elektromotoren-Werke GmbH u. Co. KG, 32051 Herford, are designed for ratings up to the following values:

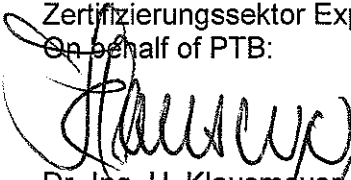
Voltage (mains):	690	V
Voltage (converter):	565	V
Output:	7.5	kW
Frequency (mains):	50 / 60	Hz
Frequency (converter):	5 - 100	Hz
Duty type:	S1 - S10	

For every motor design, compliance with the governing regulations must be verified in the form of a type test. Due regard must in this connection be given to the code of practice "Merkblatt für die elektrische Auslegung und Prüfung von Motoren in der Zündschutzart Druckfeste Kapselung im Rahmen der EG-Baumusterprüfbescheinigung".

The motors may be employed only for the duty type and at the ambient conditions for which they were type tested. This includes operation with frequency converter.

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