DNV·GL

Certificate No:
TAE00000XX

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Motor

with type designation(s)
BFG, BFGC4, BFGC8, W22XdB and W22XdC

Issued to
WEGeuro - Industria Electrica, S.A.
Maia, **Portugal**

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Enclosure class	**IP55 - IP66**
Insulation class	**F**
Temp. class (°C)	**155**
Voltage (V)	**220 - 690**
Power (kW)	**0,12 - 710**
Frequency (Hz)	**50 - 60**
Speed (RPM)	**500 - 3600**

This Certificate is valid until **2020-12-21**.

Issued at **Høvik** on **2016-02-11**

for **DNV GL**

DNV GL local station: **Lisbon**

Approval Engineer: **Marta Alonso Pontes**

Marit Laumann
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.

Job Id: **262.1-008963-6**
Certificate No: **TAE00000XX**

Product description

BFG, BFGC4, BGFC8, W22XdB and W22XdC induction motors for use in hazardous areas:

Frame size:	71, 80, 90, 100, 112, 132, 160, 180, 200, 225, 250, 280, 315, (BFG, BFGC) 90-132, 160-200, 225, 250, 280, 315, 355, 400, 450, 500 (W22)
Number of poles:	2, 4, 6, 8, 10, 12 and combinations
Duty type:	S1, S2…min, S3-..%, S6-..%
Material:	Cast iron

Ex certification:

Name	Frame Size	Ex Certificate	Marking
W22 XdB	90-132	IECEx BAS 13.0045X	Ex d II C T4 Gb Ta -55ºC to +80ºC or Ex de II C Gb T4 ta -55ºC to +80ºC; Ex tb III C Db IP66 T125ºC Ta -55ºC to +80ºC see schedule
	225-250	IECEx BAS 14.0096X	Ex d II C T4 Gb Ta -20ºC to + 80ºC or Ex de II C T4 Gb ta -20ºC to +80ºC; Ex tb III C T125ºC Db IP66 Ta -55ºC to +80ºC see schedule
	315-500	INERIS 12ATEX0051X IECExINE120037X	Ex II 2 G or II 2 GD; Ex d IIB T4 or Ex de IIB T4 or Ex d Mb or Ex d e I Mb; Ex tb III C T125ºC or T135ºC Db IP 6X
W22 XdC	90-132	IECExBAS130045X	Ex d II C T4 Gb Ta -55ºC to +80ºC or Ex de II C Gb T4 ta -55ºC to +80ºC; Ex tb III C Db IP66 T125ºC Ta -55ºC to +80ºC see schedule
	160-200	IECExBAS130142X	Ex d II C T4 Gb Ta -55ºC to +80ºC or Ex de II C T4 Gb Ta -55ºC to 80ºC; Ex tb III C T135ºC Db IP66 Ta -55ºC to 80ºC see schedule
	225-250	IECExBAS140096X	Ex d II C T4 Gb Ta -20ºC to + 80ºC or Ex de II C T4 Gb Ta -20ºC to +80ºC; Ex tb III C T125ºC Db IP66 Ta -55ºC to +80ºC see schedule
	315-500	INERIS 12ATEX0052X, IECExINE120038X	Ex II 2G or II 2GD; Ex d IIC T4 Gb or Ex d e II C T4 Gb; Ex tb III C T125ºC or T135ºC Db IP 6X
BFGC4	250	INERIS06ATEX0063X	Ex II 2 G or 2 GD; Ex d IIC or de II C T4 IP65 T 125ºC or T135ºC
	280	INERIS10ATEX0033X	Ex II 2 G or Ex II 2 GD; Ex d IIC T4 or Ex d e II C T4; Ex tD A21 IP 6X T125ºC or T135ºC
	315	INERIS10ATEX0032X	Ex II 2 G or Ex II 2 GD; Ex d IIC T4 or Ex d e II C T4; Ex tD A21 IP 6X T125ºC or T135ºC
BFGC8	71	PTB12ATEX1002X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II D Ex tD A21 IP6X T135ºC
	80-112	PTB12ATEX1003X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II D Ex tD A21 IP6X T135ºC - T85ºC
	132	PTB12ATEX1003X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II D Ex tD A21 IP6X T135ºC - T85ºC
	160	PTB12ATEX1002X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II D Ex tD A21 IP6X T135ºC
	180	PTB12ATEX1005X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II 2 D Ex tD A21 IP6X T135ºC
	200	PTB12ATEX1004X	Ex II 2 G Ex d II C T4-T6 resp. Exd e II C T4-T6; Ex II 2 D Ex tD A21 IP6X T135ºC

Name	Frame Size	Ex Certificate	Marking
	225	PTB12ATEX1006X	Ex II 2 G; Ex d II C T4-T6 resp. or Ex d e II C T4-T6; Ex II 2 D EX tD A21 IP6 X T135ºC

Application/Limitation
For installation in non-hazardous area or in zone 2 or 1.
Conditions in the Ex certificates issued by notified bodies to be observed.

Type Approval documentation
Tests carried out
Temperature rise, overload, over-speed, insulation resistance, winding resistance, no load, degree of protection.

Marking of product
WEG – type designation – technical data including rated voltage, RPM, rated power, ambient temperature, rated current, rated frequency, insulation class and degree of protection.

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 Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and 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