TYPE EXAMINATION CERTIFICATE

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2 **Equipment Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 Type Examination Certificate Number : **BAS02ATEX3304X**

4 Equipment: **AEHBXC AND AEUBXC 80-250 RANGE OF HIGH EFFICIENCY CAGE INDUCTION MOTORS**

5 Manufacturer: **TECO ELECTRIC & MACHINERY CO, LTD**

6 Address: **Factory Number I, 11 An Tung Road, Chung Li Industrial District, Taoyuan, Taiwan**

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

8 The Electrical Equipment Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of Category 3 intended for use in potentially explosive atmospheres given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential Report N°

00(C)0605 dated 20 August 2002

9 Compliance with the Essential Health and Safety Requirements has been assessed by reference to:

EN 50021: 1999

except in respect of those requirements listed at item 18 of the Schedule.

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 of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:-

Ex II 3 G EEx nA T3 T_{amb} -20°C to 55°C

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 3903/03/002

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I M CLEARE
DIRECTOR
23 September 2002

Electrical Equipment Certification Service
Health and Safety Executive
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13 **Schedule**

14 **TYPE EXAMINATION CERTIFICATE N° BAS02ATEX3304X**

15 **Description of Equipment**

The AEHBXC and AEUBXC Range of High Efficiency Cage Induction Motors, frame sizes 80-250, are continuously rated for S1 duty up to 75kW, 3600 rpm and are designed for use up to 690V on a 3 phase 50 or 60 Hz supply.

Construction

The motors may be foot and or flange mounted either horizontally or vertically and are totally enclosed with a cast iron stator frame incorporating cooling fins on the external surface. Cast iron end brackets supporting the shaft bearings are fixed to the stator frame at each end. A terminal box for the connection of supply cables is provided on one side of the stator casing. A shaft mounted fan, external to the motor enclosure, circulates cooling air over the stator casing fins. The fan is protected by a pressed steel cover which is fixed to the non-drive end bracket.

Frame sizes 80 to 132 have through bolts which pass the length of the stator frame and clamp the end brackets to the stator. Frame size 160 to 250 machines have tapped holes in the stator frame. The end brackets are manufactured from cast iron and are located by spigot joint.

Drain plugs may be fitted in the bottom of the stator or end bracket.

Bearings

For 80 to 180 (4+ poles) frame sizes ball bearings are mounted in the stator end brackets. V-ring viton seals are fitted on the shaft and pressed up against each end bracket.

The 180 (2 pole) to 250 frame sizes may have ball bearings at each end or a ball bearing and a roller bearing. These are mounted in cast iron covers which are bolted each side of the bearings and are secured by through bolts locked with spring washers. The inner bearing covers have an integral labyrinth seal. V-ring or oil seals manufactured from viton are fitted on the shaft and pressed up against each outer bearing cover.

Ventilation

The motor is cooled by air passing over the external surface of the stator frame and a shaft mounted fan is provided to drive the airflow. The fan is secured by a clamp and screw and enclosed by a pressed steel cover which is fixed to the stator end bracket. Air is drawn through the punched openings and expelled through gaps between the cooling fins on the stator. For vertical shaft down machines a steel canopy is fixed over the fan cover to prevent foreign bodies from falling directly into the ventilation openings.

The shaft mounted fan may be manufactured from anti-static polypropylene or phosphor bronze.

TYPE EXAMINATION CERTIFICATE

Equipment Intended for use in Potentially Explosive Atmospheres
Directive 94/9/EC

3 Type Examination Certificate Number : **BAS02ATEX3305X**

4 Equipment: **AEHDXC AND AEUJXC 280-315 RANGE OF HIGH EFFICIENCY CAGE INDUCTION MOTORS**

5 Manufacturer: **TECO ELECTRIC & MACHINERY CO, LTD**

6 Address: **Factory Number II, 11 An Tung Road, Chung Li Industrial District, Taoyuan, Taiwan**

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

8 The Electrical Equipment Certification Service certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment of Category 3 intended for use in potentially explosive atmospheres given in Annex II to European Union Directive 94/9/EC of 23 March 1994.

The examination and test results are recorded in confidential Report N°

00(C)0606 dated 20 August 2002

9 Compliance with the Essential Health and Safety Requirements has been assessed by reference to:

EN 50021: 1999

except in respect of those requirements listed at item 18 of the Schedule.

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 of the specified equipment, and not to specific items of equipment subsequently manufactured.

12 The marking of the equipment shall include the following:-

⟨Ex⟩ II 3 G EEx nA T3 T_{amb} -20°C to 55°C

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 3949/03/003

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

HSE Health & Safety Executive

Electrical Equipment Certification Service
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I M CLEARE
DIRECTOR
23 September 2002

13 **Schedule**

14 **TYPE EXAMINATION CERTIFICATE N° BAS02ATEX3305X**

15 **Description of Equipment**

The AEHDXC and AEUJXC Range of High Efficiency Cage Induction Motors, frame sizes 280-315, are continuously rated for S1 duty up to 185kW, 3600 rpm and are designed for use up to 690V on a 3 phase 50 or 60 Hz supply.

Construction

The motors may be foot and/or flange mounted either horizontally or vertically and are totally enclosed with a cast iron stator frame incorporating cooling fins on the external surface. Cast iron end brackets supporting the shaft bearings are fixed to the stator frame at each end. A terminal box for the connection of supply cables is provided on one side of the stator casing. A shaft mounted fan, external to the motor enclosure, circulates cooling air over the stator casing fins. The fan is protected by a pressed steel cover which is fixed to the non-drive end bracket.

The stator frame has tapped holes which provide the mounting points for end brackets. The end brackets are manufactured from cast iron and are located by spigot joint and secured with bolts.

Drain plugs may be fitted in the bottom of the stator or end bracket.

Bearings

The machines are fitted with ball bearings at each end or a ball bearing and a roller bearing. These are mounted in the end brackets and cast iron covers are bolted each side of the bearing. The inner bearing covers have an integral labyrinth seal and the outer bearing covers are fitted with a non rubbing seal.

An oil drain cover, sealed by a rubber gasket and secured by two screws is fitted to each outer bearing cover.

Ventilation

The motor is cooled by air passing over the external surface of the stator frame and a shaft mounted fan is provided to drive the airflow. The fan is secured by a clamp and screw and enclosed by a fabricated or pressed steel cover which is fixed to the stator end bracket. The fan cover may contain sound insulation fixed to the sides. Air is drawn through the openings in the fan cover and expelled through gaps between the cooling fins on the stator. For vertical shaft down machines a steel canopy is fixed over the fan cover to prevent foreign bodies from falling directly into the ventilation openings.

The shaft mounted fan is manufactured from anti-static polypropylene or phosphor bronze.

Stator

The stator core is laminated, with insulated windings and is dipped in an insulating varnish before being pressed into the stator frame. Windings are class F insulated.