

Type Approval Certificate Extension

This is to certify that Certificate No. 04/10088 for the undenoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER ABB Motors (Shanghai) Co., Ltd.

PLACE OF PRODUCTION No.88 Tian Ning Road, Min Hang Economic & Technical Development Zone, Shanghai, P.R. China 200245

DESCRIPTION Three Phase Induction Marine Motors

TYPE M2QA

APPLICATION Marine, offshore and Industrial Use.

STANDARD Manufacturer's Technical Specification for M2QA Series (IP55)
3-Phase Asynchronous Marine Motors
(Frame Center Height from 80 to 355), Code: Q/IBQS 33-2003

RATINGS

| | |
|--------------------------|------------------|
| Rated Voltage (AC, V) | 380 and 440 |
| Rated Power (kW) (50 Hz) | 0.37 up to 315 |
| Rated Power (kW) (60 Hz) | 0.43 up to 362.5 |
| Rated Frequency (Hz) | 50 and 60 |
| Number of Poles | 2, 4, 6 and 8 |
| Speed (rpm) | 750 up to 3600 |
| Insulation Class | F |
| Ambient temperature(°C) | 50 |
| Degree of Protection | IP55 |
| Frame Size | 80 up to 355 |
| Duty Type | S1 |

Certificate No. 04/10088(E1)

Issue Date 25 November 2009

Expiry Date 24 November 2014

Sheet 1 of 3



H. Murase

Yokohama Design Support Office
Lloyd's Register

Lloyd's Register, registered office:
71 Fenchurch Street, London EC3M 4BS

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Note: * =Pole number i.e. 2, 4, 6 or 8

| Type | 50/60 Hz Output (kW) | | | |
|-------------|----------------------|-----------|-----------|-----------|
| | 2 Pole | 4 Pole | 6 Pole | 8 Pole |
| M2QA 80M*A | 0.75/0.86 | 0.55/0.63 | 0.37/0.43 | - |
| M2QA 80M*B | 1.1/1.27 | 0.75/0.86 | 0.55/0.63 | - |
| M2QA 90S*A | 1.5/1.73 | 1.1/1.27 | 0.75/0.86 | - |
| M2QA 90L*A | 2.2/2.53 | 1.5/1.73 | 1.1/1.27 | - |
| M2QA 100L*A | 3/3.45 | 2.2/2.53 | 1.5/1.73 | 0.75/0.86 |
| M2QA 100L*B | - | 3/3.45 | - | 1.1/1.27 |
| M2QA 112M*A | 4/4.60 | 4/4.60 | 2.2/2.53 | 1.5/1.73 |
| M2QA 132S*A | 5.5/6.33 | 5.5/6.33 | 3/3.45 | 2.2/2.53 |
| M2QA 132S*B | 7.5/8.6 | - | - | - |
| M2QA 132M*A | - | 7.5/8.6 | 4/4.60 | 3/3.45 |
| M2QA 132M*B | - | - | 5.5/6.33 | - |
| M2QA 160M*A | 11/12.7 | 11/12.7 | 7.5/8.6 | 4/4.60 |
| M2QA 160M*B | 15/17.3 | - | - | 5.5/6.33 |
| M2QA 160L*A | 18.5/21.3 | 15/17.3 | 11/12.7 | 7.5/8.6 |
| M2QA 180M*A | 22/25.3 | 18.5/21.3 | - | - |
| M2QA 180L*A | - | 22/25.3 | 15/17.3 | 11/12.7 |
| M2QA 200L*A | 30/34.5 | 30/34.5 | 18.5/21.3 | 15/17.3 |
| M2QA 200L*B | 37/42.6 | - | 22/25.3 | - |
| M2QA 225S*A | - | 37/42.6 | - | 18.5/21.3 |
| M2QA 225M*A | 45/51.8 | 45/51.8 | 30/34.5 | 22/25.3 |
| M2QA 250M*A | 55/63 | 55/63 | 37/42.6 | 30/34.5 |
| M2QA 280S*A | 75/86 | 75/86 | 45/51.8 | 37/42.6 |
| M2QA 280M*A | 90/104 | 90/104 | 55/63 | 45/51.8 |
| M2QA 315S*A | 110/127 | 110/127 | 75/86 | 55/63 |
| M2QA 315M*A | 132/152 | 132/152 | 90/104 | 75/86 |
| M2QA 315L*A | 160/184 | 160/184 | 110/127 | 90/104 |
| M2QA 315L*B | 200/230 | 200/230 | 132/152 | 110/127 |
| M2QA 355M*A | 250/287.5 | 250/287.5 | 160/184 | - |
| M2QA 355M*B | - | - | 200/230 | - |
| M2QA 355L*A | 315/362.5 | 315/362.5 | 250/287.5 | - |

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NOTE

Environmental tests including electromagnetic immunity tests and emission tests were not done.

Ratings in excess of 100 kW have to satisfy additional requirements as specified in LR Rules and Regulations for Classification of Ships, Part 6, Chapter 2, when installed in LR Classed Ship.

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 04/10088(E1) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

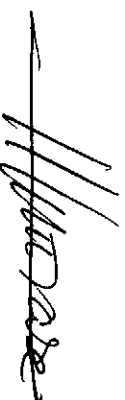
All other details remain as the previous Certificate No. 04/10088 to which this extension should be attached.

Certificate No. 04/10088(E1)

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A handwritten signature in black ink, appearing to read "H. Murase", written in a cursive style.

H. Murase
Yokohama Design Support Office
Lloyd's Register

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Marine Design Appraisal Document

Lloyd's Register
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Yokohama, 220-6010 Japan
Tel: +81-(0)45-682-5273, Fax: +81-(0)45-682-5279

Date
25 November 2009

Quote this reference on all future communications
YDS/T/SFZ/106292(E04-71)

THE LR TYPE APPROVAL SYSTEM, 2002. Issued to: ABB MOTORS (SHANGHAI) CO., LTD for: THREE PHASE INDUCTION MARINE MOTORS, TYPE M2QA TYPE APPROVAL CERTIFICATE No. 04/10088(E1)

The undernoted documents have been reviewed for compliance with the requirements of the LR Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

| | |
|---|------------------|
| Request for Quotation (Form 6606) | 26 October 2009 |
| Request for Marine Services (Form 2502) | 6 April 2010 |
| Attached Documents for Approval of Manufacturers | - |
| Including Manufacturer's Technical Specification for M2QA Series (IP55) | - |
| 3-Phase Asynchronous Marine Motors | - |
| (Frame Center Height from 80 to 355), Code: Q/JBQS 33-2003 | - |
| Attached Documents for Approval of Production A, B, C | - |
| Report of Inspection and Surveillance of Production Facilities | 16 November 2004 |

TEST REPORTS

CEMQS Test Report No. WYY02-260
ABB Test Report No. OAD127-206/02-1
CEMQS Test Report No. WYY03-124
CEMQS Test Report No. WY2000-052
CEMQS Test Report No. WYY01-547
CEMQS Test Report No. WYY02-327
CEMQS Test Report No. WYY03-115
CEMQS Test Report No. WYY02-282
CEMQS Test Report No. WYY03-158
CEMQS Test Report No. WYY02-006
CEMQS Test Report No. WYY03-274
CEMQS Test Report No. WYY03-157
CEMQS Test Report No. WYY03-148
CEMQS Test Report No. WYY02-179
CEMQS Test Report No. WYY01-541

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Date
25 November 2009

Quote this reference on all future communications
YDS/7/SFZ/106292(E04-71)

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CEMQS Test Report No. WYY02-333
CEMQS Test Report No. WYY03-136
CEMQS Test Report No. WYY02-736
CEMQS Test Report No. WYY03-143
CEMQS Test Report No. WYY03-261
CEMQS Test Report No. WYY03-250
STIEE Test Report No. CT000023(S)
SIPAI Test Report No. A01-060-WT
SIPAI Test Report No. A02-011-WT
SIPAI Test Report No. A01-088-WT
CAL Test Report No. 9902502
MA Test Report No. WY01-538
Test Report No. 9902503

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

S. Fujii


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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPENDS ON SATISFACTORY SURVEY AND TESTING

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Part 1
 Electrical Equipment (Not Environmentally Tested)
 Electric Motors (Part 1B)

| Producer/Licence No. | Description of Product | | | | Cert. No. |
|--|------------------------|--|-------------------------------------|--|--------------|
| | Type | Details of Approval | Application | Remarks | |
| ABB Motors (Shanghai) Co., Ltd. No.88 Tian Ning Road, Min Hang Economic & Technical Development Zone, Shanghai, P.R. China 200245 | M2QA | Three Phase Induction Marine Motors Rated Voltage (AC, V): 380 and 440 Rated Power (kW) (50Hz): 0.37 up to 315 Rated Power (kW) (60Hz): 0.43 up to 362.5 Rated Frequency (Hz): 50 and 60 Number of Poles: 2, 4, 6 and 8 Speed (rpm): 750 upto 3600 Insulation Class: F Ambient temperature(°C): 50°C Degree of Protection: IP55 Frame Size: 80 upto 355 Duty Type: S1 | Marine, offshore and Industrial Use | Expires: 24 November 2014 Ratings in excess of 100 kW have to satisfy additional requirements as specified in LR Rules and Regulations for Classification of Ships, Part 6, Chapter 2, when installed in LR Classed Ship. See manufacturer's Technical Specification for M2QA Series (IP55) 3-Phase Asynchronous Marine Motors (Frame Center Height from 80 to 355) Code: Q/JBQS 33-2003 | 04/10088(E1) |

Lloyd's Register
 NOV. 25. 2009
 Yokohama Design Support Office

