Certificate No: LR26112153TA
Issue Date: 17/03/2026
Expiry Date: 28/09/2030

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**Rotor B.V.**
Address	Mors 2, Eibergen, 7151 MX, Netherlands
Place of Production	Rotor B.V. Mors 2, Eibergen, 7151 MX, Netherlands
Type	Electric Motors
Description	Rotor 23RN Marathon DM IP23
Trade Name	Asynchronous low-voltage motors
Application	Marine, Offshore and Industrial use
Specified Standard	IEC 60034-1:2022 with all relevant parts IEC 60092-301:1980/ AMD2:1995
Ratings	11-852kW Degree of protection: IP23 acc NEN-EN60034-5 Shaft heights [mm] 160,180, 200, 225, 250, 280, 315, 355 Frame sizes : acc NEN-EN-IEC10072-1 Insulation class F,H acc IEC-EN60034-1 Chapter 7.10 table 6

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CHETAN WAGH

Senior Specialist Electrical & Control to Lloyd's Register Marine and Offshore India LLP

Units 1702-1704, 17th Floor (Level-13), Building Q2, Aurum Q Parc; Gen 4/1 TTC, Thane-Belapur Road, Ghansoli, Navi Mumbai, 400710, India

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Voltage: Any voltage between 110 and 1000V (standard on stock 3x400V 50Hz/ 3x460V 60Hz). Motors for inverter use with voltages above 500V and larger than IEC frame 225 will be provided with special precautions such as a special winding insulation and/ or an isolated bearing construction.
Frequency: 50Hz or 60Hz
Speed: 500 up to and incl 3600 rpm
Number of poles 12,10,8,6,4,2 and combinations such as: 4 and 2 pole; 6 and 4 pole: 8 and 4 pole, etc
Number of phases 3 phase motors
Current: depends on output and voltage
Power factor: 0,61 till 0,99
Nominal output max 852kW (S1 duty)
Service (Duty) S1; S2(10 or 30min); S3,S4; S6; S9
Ambient temperature: 45°C; max 60°C (with derated outputs on name plate)
Temp rise Limits: Tamb 45°C = 95K or Tamb 50°C = 90K
Cooling: IC411 (standard); IC416(Independent cooling); IC410(radiation) acc IEC-EN60034-6
Construction : IM acc.IEC-EN60034-7

Other Conditions

The motors have to be surveyed at the manufacturer's works, where the results of class witnessed type tests of temperature rise taken on a machine identical in rating and in all other essential details may be accepted in conjunction with abbreviated tests.

Type Approval does not eliminate the need (as required by LR Rules) the requirements for further review or for the product to be further inspected and/ or surveyed to be installed in ships classed or intended to be classed with LR.

If the specified standards are amended during the validity of this certificate, the product is to be reapproved prior to it being supplied to vessels to which the amended standards apply.

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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 Marine and Offshore India LLP of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: LR2023282TA

The Design Appraisal Document TSO/25-047802-E-03 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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