



Certificate No:
TAE00004JF

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Electric Motor

with type designation(s)

TID, TDV, TIDF, IDV, TIT, TFL, TTS, IX, TIV, IVC

Issued to

Taiyo Electric Co., Ltd. Gifu Factory
Motosu-gun, Gifu Pref., Japan

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

Application :

Products approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Degree of protection	IP 22, IP 23, IP 44, IP 54
Insulation class	155 (F)
Temp. class (°C)	155 (F)
Voltage (V)	440 V
Power (kW)	65 kW up to 1100 kW
Frequency (Hz)	60 Hz
Speed (RPM)	900 1/min up to 3600 1/min

Issued at **Høvik** on **2022-08-01**

This Certificate is valid until **2025-05-03**.

for **DNV**

DNV local station: **Kobe**

Approval Engineer: **Nicolay Horn**

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Marta Alonso Pontes
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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Product description

AC Induction Motors

Types: **TID, TDV** (open drip motors)
TIDF, IDV (open drip motors, vertical)
TIT, TFL, TTS
IX (without own fan)
TIV, ICV (vertical)

TID, TDV, TIDF, IDV (type designation)	Technical Data
Size	TID, TDV: 280S, 280M - 2, 4, 6, 8 pole TIDF: 280S, 280M - 2, 4 pole IDV: 315S/M, 355S/M, 375M/L, 425M/L, 450M/L, 500M/L, 560S/M/L - 4, 6, 8 pole
Rated Power	110 kW up to 1340 kW
Rated Voltage	440 V
Duty Type	S1, S2-30 min, S2-60min, S6-20%ED, S6-40%ED
Rated Frequency	60 Hz
Ambient Temperature	45 °C
Thermal Class	155 (F)
Degree of Protection	IP 22, IP 23
Standard	IEC 60034-1 / 2010-02
	for Marine environments

TIT, TFL, TTS, IX, TIV, ICV (type designation)	Technical Data
Size	TIT: 280S, 280M, 315S, 315M - 2, 4, 6, 8 pole TFL: 280S, 280M, 315S - 2, 4 pole TTS: 280S, 280M, 315S, 315M - 4, 6, 8 pole TIV: 250S, 250M, 280S, 280M, 315S; 315M, 375M, 375L - 2, 4, 6, 8 pole ICV: 425M, 425L, 450M, 450L, 500M, 500L - 4, 6, 8 pole IX: 280S, 280M, 315S - 2, 4, 8 pole
Rated Power	65 kW up to 1100 kW
Rated Voltage	440 V
Duty Type	S1, S2-30 min, S2-60min, S6-20%ED, S6-40%ED
Rated Frequency	60 Hz
Ambient Temperature	45 °C
Thermal Class	155 (F)
Degree of Protection	IP 44, IP 54
Standard	IEC 60034-1 / 2010-02
	for Marine environments

Application/Limitation

This Type Approval Certificate does not replace the requirement to DNV GL Product Certificate

Type Approval documentation

TID, TDV, TIDF, IDV
4M017-1700/1998.2.9, 4M021-313/1998.2.5
Instruction Manual IB-1911 for TIT, TIV, TTS, TIF, TID, TDV, IDV

TIT, TFL, TTS, IX, TIV, IVC
4M023-482/1998.2.5, 4M024-315/1998.2.5
Instruction Manual IB-1911 for TIT, TIV, TTS, TIF, TID, TDV, IDV

Tests carried out

According to test reports

- IDV 375L-6-278363 dated 2010.03.15
- TIV 280M-4-280079 dated 2010.03.15
- TIV 375M-6-270823 dated 2010.03.15

Marking of product

According to IEC 60034-1, clause 10.2

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.

Periodical assessment is to be performed after 2 years and after 3.5 years.

A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE