

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Electric Motor**

with type designation(s)
3D

Issued to

BEVI ELECTRIC SHANGHAI CO., LTD.

,

is found to comply with

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

Application :

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

Degree of protection	IP 55 & 56
Insulation class	F
Temp. class (°C)	45
Voltage (V)	220-240, 380-480, 690
Power (kW)	0,55 - 378
Frequency (Hz)	50-60
Speed (RPM)	750-3600

Issued at **Hamburg** on **2018-09-25**

This Certificate is valid until **2023-09-24**.

DNV GL local station: **Jiangyin**

for **DNV GL**

Approval Engineer: **Harald Amberger**

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Arne Schaarmann
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.



Type 3D, 3-phase induction motor:

Rated voltage and frequency:	220V-50Hz, 230V-50Hz, 380V-50Hz, 400V-50Hz 415V-50Hz, 690V-50Hz, 220V-60Hz, 230V-60Hz 380V-60Hz, 400V-60Hz, 440V-60Hz, 460V-60Hz 480V-60Hz, 690V-60Hz
Number of poles:	2, 4, 6 & 8
Duty type:	S1
Enclosure class:	IP55 & IP56
Ambient air temp:	45°C (50°C by derating power 7%, 55°C by derating power 12%)
Ex rating:	NA
Insulation class:	F
Efficiency level:	IE1, IE2, IE3, IE4

Motor types:

Motor frame	KW 2poles 50Hz	KW 2poles 60Hz
801	0,75	0,9
802	1,1	1,32
90S	1,5	1,8
90L	2,2	2,64
100L	3	3,6
112M	4	4,8
132S1	5,5	6,6
132S2	7,5	9
160M1	11	13,2
160M2	15	18
160L	18,5	22,2
180M	22	26,4
200L1	30	36
200L2	37	44,4
225M	45	54
250M1	55	66
250M2	75	90
280S	75	90
280M1	90	108
315S	110	132
315M	132	158,4
315L1	160	192
315L2	200	240
355M	250	300
355L	315	378

Motor frame	KW 4poles 50Hz	KW 4poles 60Hz
801	0,55	0,66
802	0,75	0,9
90S	1,1	1,32
90L	1,5	1,8
100L1	2,2	2,64
100L2	3	3,6
112M	4	4,8
132S	5,5	6,6
132M	7,5	9
160M	11	13,2
160L	15	18
180M	18,5	22,2
180L	22	26,4
200L	30	36
225S	37	44,4
225M	45	54
250M1	55	66
250M2	75	90
280S	75	90
280M1	90	108
315S	110	132
315M	132	158,4
315L1	160	192
315L2	200	240
355M	250	300
355L	315	378

Motor frame	KW 6poles 50Hz	KW 6poles 60Hz
90S	0,75	0,9
90L	1,1	1,32
100L	1,5	1,8
112M	2,2	2,64
132S	3	3,6
132M1	4	4,8
132M2	5,5	6,6
160M	7,5	9
160L	11	13,2
180L	15	18
200L1	18,5	22,2
200L2	22	26,4
225M	30	36
250M	37	44,4
280S	45	54
280M	55	66
315S	75	90
315M	90	108
315L1	110	132
315L2	132	158,4
355M	160	192
355M	200	240
355L	250	300

Motor frame	KW 8poles 50Hz	KW 8poles 60HZ
132S	3	3,6
160M1	4	4,8
160M2	5,5	6,6
160L	7,5	9
180L	11	13,2
200L	15	18
225S	18,5	22,2
225M	22	26,4
250M	30	36
280S	37	44,4
280M	45	54
315S	55	66
315M	75	90
315L1	90	108
315L2	110	132
355M	132	158,4
355M	160	192
355L	200	240

Application/Limitation

For installation in non hazardous area. Not used for driving propellers.

Type Approval documentation

Tests carried out

Temperature, Overload, Overspeed, Insulation resistance, Winding resistance, No load.
Testing according to DNV type approval program 6-800 – Annex 821.10/20

Marking of product

- Manufacturer's name and type designation: 3D Motor frame – number of poles
- Serial number and date of manufacture
- Voltage, frequency, rpm
- Power class (kW / kVA)
- Winding insulation class
- Degree of protection



Job Id: **262.1-016777-2**
Certificate No: **TAE0000369**

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 Routine Tests (RT) checked (if not available tests according to 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