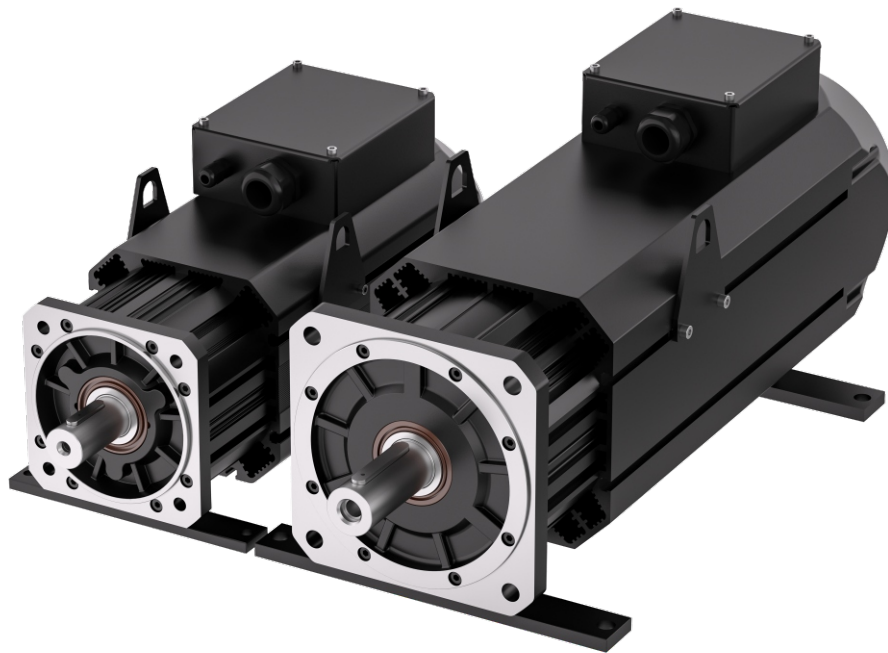


IMS21B-A Series Grade 1 Energy-Efficient Medium-Power Air-Cooled Servo Motor

User Manual



Preface

Overview

Thank you for purchasing the IMS21B-A series Grade 1 energy-efficient medium-power air-cooled servo motors in frame sizes 200 and 263.

IMS21B-A series Grade 1 energy-efficient medium-power air-cooled servo motors in frame sizes 200 and 263 are newly developed motor products by our company, covering a power range of 8.2 kW–76.4 kW, with frame sizes of 200 and 263. They offer various inertia and speed configurations, and different types of encoders can be configured according to customer requirements.

This product is suitable for the general automation industry, working with servo drives to achieve fast and precise control of position, speed, and torque.

This manual provides product information, specifications, dimensions, and other relevant details about the motor. If you have any questions, please contact our technical support.

Readers

Personnel with electrical professional knowledge (such as qualified electrical engineers or personnel with equivalent knowledge).

Change history

This manual may be updated from time to time without prior notice due to product version upgrades or other reasons.

Version	Release date	Change description
V1.0	August 2026	First release.

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1 Safety precautions

1.1 Safety declaration

Read this manual carefully and follow all safety precautions before moving, installing, operating and servicing the product. Otherwise, equipment damage or physical injury or death may be caused.

We shall not be liable or responsible for any injury or equipment damage caused due to failure to follow the safety precautions.

1.2 Safety level definition

Safety level	Description
	Severe personal injury or even death can result if related requirements are not followed.
	Personal injury or equipment damage can result if related requirements are not followed.

1.3 Personnel requirements

Trained and qualified professionals: Personnel operating this equipment must be professionally trained in electrical safety and qualified for the task. They must be familiar with the procedures and requirements for installation, commissioning, operation, and maintenance, and be capable of identifying and preventing potential hazards and emergency situations.

1.4 Safety guidelines

Unpacking inspection	
	- Ensure that the packaging of the servo motor product is intact, with no damage, rust, moisture, dampness, or deformation. - Please handle with care when unpacking and retrieving the motor to avoid any collisions and damage to the motor. - After opening the packaging box, confirm that the machine is undamaged or unbroken, that all components are complete, and that the nameplate and label on the product body match the ordered model.
Transportation	
	- Ensure that the motor is securely fastened during transportation to prevent it from coming loose or falling. - Do not transport motor products with items that could cause damage. - Before handling large motor products, check the designated lifting points on the motor and ensure the safety of the lifting equipment during the handling process. - Do not move the motor by pulling the cables or the shaft.

Installation	
	- Read this manual carefully before installation and strictly follow all safety precautions. - Ensure that the mechanical strength of the installation location is sufficient to support the weight of the equipment. - Please check for any abnormalities in the motor mounting holes before installation. - Do not disassemble any components or parts of the motor. If any modifications are needed, please contact a professional. - When performing installation work, cover the product to prevent metal shavings and foreign objects from entering the motor, which could affect its safety.
Wiring	
	- Ensure that the overcurrent protector, residual-current protective device and emergency stop device are installed. After wiring is completed, verify that all protective devices are functioning properly. - Ensure that the AC power supply voltage matches the rated voltage of the servo motor. - Do not place the power cables and encoder cables in a strong magnetic field environment. - Ensure that the equipment and the motor are properly grounded.
	Before wiring, check the integrity of the power cables. Do not use power cables that are damaged or exposed.
	Ensure that the drive is correctly wired to the motor.
	
Check before power-on	
	- Ensure that the product wiring connections are correct. - Ensure that there are no personnel lingering around the drive, motor, and related equipment. - Ensure that the key is securely fixed. If there is no coupling to secure the key, remove the key to prevent it from flying out during motor operation.
	Ensure that the emergency stop switch is properly connected to the drive.
Running	
	- De-couple the motor load and run the motor independently during the trial operation to avoid accidents. - Do not touch conductive parts directly while in operation. - Do not connect any external cables, especially power cables, to the enclosure or short-circuit them together. - If you need to rewire the motor, disconnect the power and wait for 15 minutes before proceeding.
	- Set the corresponding parameters before operation, otherwise the motor may operate abnormally or make unexpected movements because of the load. - The motor housing heat sink can reach high temperatures during operation. Do not touch the motor housing heat sink.

Maintenance and repair	
	- Non-professional personnel are strictly prohibited from installing, wiring, maintaining, inspecting, or replacing components of the equipment. - For maintenance, repair, and component replacement of the motor, please contact a qualified technician. - Maintenance of the equipment is strictly prohibited while it is powered on.
Scrapping	
	The components inside the motor contain heavy metals. Please follow the relevant national regulations and standards for the disposal of equipment and products. Dispose of the scrapped motor as industrial waste in accordance with applicable regulations.

1.5 Warning symbols

To ensure safe operation, please strictly adhere to the safety labels affixed to the equipment. Do not damage or remove the safety labels. The warning symbols are as follows:

Warning symbols	Description
	Caution: high temperature on the motor surface!
	Caution: risk of electric shock!
	Do not strike the motor shaft extension!

2 Motor model selection

Frame size	Output power (kW)	Motor model	Brake	Encoder	Compatible VFD model
200	8.2	IMS21B-20M82C15C-4-R7F-A	-	Resolver	MH860C-S018TF7
	8.2	IMS21B-20M82C15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	8.2	IMS21B-20M82C15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	9.3	IMS21B-20M93C17C-4-R7F-A	-	Resolver	
	9.3	IMS21B-20M93C17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	9.3	IMS21B-20M93C17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	11	IMS21B-20M11D20C-4-R7F-A	-	Resolver	MH860C-S025TF7
	11	IMS21B-20M11D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	11	IMS21B-20M11D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	11.5	IMS21B-20M12D15C-4-R7F-A	-	Resolver	
	11.5	IMS21B-20M12D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	11.5	IMS21B-20M12D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	12.7	IMS21B-20M13D17C-4-R7F-A	-	Resolver	MH860C-S032TF7
	12.7	IMS21B-20M13D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	12.7	IMS21B-20M13D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	15	IMS21B-20M15D20C-4-R7F-A	-	Resolver	
	15	IMS21B-20M15D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	15	IMS21B-20M15D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	13.9	IMS21B-20M14D15C-4-R7F-A	-	Resolver	MH860C-S032TF7
	13.9	IMS21B-20M14D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	13.9	IMS21B-20M14D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	15.7	IMS21B-20M16D17C-4-R7F-A	-	Resolver	
	15.7	IMS21B-20M16D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	15.7	IMS21B-20M16D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	17.8	IMS21B-20M18D20C-4-R7F-A	-	Resolver	MH860C-S032TF7
	17.8	IMS21B-20M18D20C-4-P9F-A	-	23-bit multi-turn	

Frame size	Output power (kW)	Motor model	Brake	Encoder	Compatible VFD model
				optical encoder	
	17.8	IMS21B-20M18D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	16.7	IMS21B-20M17D15C-4-R7F-A	-	Resolver	
	16.7	IMS21B-20M17D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	16.7	IMS21B-20M17D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	18.9	IMS21B-20M19D17C-4-R7F-A	-	Resolver	
200	18.9	IMS21B-20M19D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	18.9	IMS21B-20M19D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	21.3	IMS21B-20M21D20C-4-R7F-A	-	Resolver	
	21.3	IMS21B-20M21D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	21.3	IMS21B-20M21D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	19.8	IMS21B-20M20D15C-4-R7F-A	-	Resolver	MH860C-S038TF7
	19.8	IMS21B-20M20D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	19.8	IMS21B-20M20D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	22.4	IMS21B-20M22D17C-4-R7F-A	-	Resolver	
	22.4	IMS21B-20M22D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	22.4	IMS21B-20M22D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	24.4	IMS21B-20M24D20C-4-R7F-A	-	Resolver	
	24.4	IMS21B-20M24D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	24.4	IMS21B-20M24D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	22.3	IMS21B-20M22D15C-4-R7F-A	-	Resolver	MH860C-S045TF7
	22.3	IMS21B-20M22D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	22.3	IMS21B-20M22D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	25.2	IMS21B-20M25D17C-4-R7F-A	-	Resolver	
	25.2	IMS21B-20M25D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	25.2	IMS21B-20M25D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	30.4	IMS21B-20M30D20C-4-R7F-A	-	Resolver	MH860C-S060TF7
	30.4	IMS21B-20M30D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	30.4	IMS21B-20M30D20C-4-P94F-A	Electromagnetic	23-bit multi-turn	

Frame size	Output power (kW)	Motor model	Brake	Encoder	Compatible VFD model
			brake	optical encoder	
	25.1	IMS21B-20M25D15C-4-R7F-A	-	Resolver	MH860C-S045TF7
	25.1	IMS21B-20M25D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	28.4	IMS21B-20M28D17C-4-R7F-A	-	Resolver	MH860C-S060TF7
	28.4	IMS21B-20M28D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	31.4	IMS21B-20M31D20C-4-R7F-A	-	Resolver	
	31.4	IMS21B-20M31D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	28	IMS21B-20M28D15C-4-R7F-A	-	Resolver	
	28	IMS21B-20M28D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	31.8	IMS21B-20M32D17C-4-R7F-A	-	Resolver	
	31.8	IMS21B-20M32D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	35.2	IMS21B-20M35D20C-4-R7F-A	-	Resolver	
	35.2	IMS21B-20M35D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
263	21.2	IMS21B-26M21D15C-4-R7F-A	-	Resolver	MH860C-S038TF7
	21.2	IMS21B-26M21D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	21.2	IMS21B-26M21D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	24	IMS21B-26M24D17C-4-R7F-A	-	Resolver	MH860C-S045TF7
	24	IMS21B-26M24D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	24	IMS21B-26M24D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	28.3	IMS21B-26M28D20C-4-R7F-A	-	Resolver	
	28.3	IMS21B-26M28D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	28.3	IMS21B-26M28D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	25.9	IMS21B-26M26D15C-4-R7F-A	-	Resolver	
	25.9	IMS21B-26M26D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	25.9	IMS21B-26M26D15C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	29.4	IMS21B-26M29D17C-4-R7F-A	-	Resolver	MH860C-S060TF7
	29.4	IMS21B-26M29D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	29.4	IMS21B-26M29D17C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	34.6	IMS21B-26M35D20C-4-R7F-A	-	Resolver	
	34.6	IMS21B-26M35D20C-4-P9F-A	-	23-bit multi-turn optical encoder	

Frame size	Output power (kW)	Motor model	Brake	Encoder	Compatible VFD model
	34.6	IMS21B-26M35D20C-4-P94F-A	Electromagnetic brake	23-bit multi-turn optical encoder	
	30.6	IMS21B-26M31D15C-4-R7F-A	-	Resolver	
	30.6	IMS21B-26M31D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	34.7	IMS21B-26M35D17C-4-R7F-A	-	Resolver	
	34.7	IMS21B-26M35D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	40.8	IMS21B-26M41D20C-4-R7F-A	-	Resolver	MH860C-S075TF7
	40.8	IMS21B-26M41D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	35.3	IMS21B-26M35D15C-4-R7F-A	-	Resolver	MH860C-S060TF7
	35.3	IMS21B-26M35D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	40.1	IMS21B-26M40D17C-4-R7F-A	-	Resolver	MH860C-S075TF7
	40.1	IMS21B-26M40D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	47.1	IMS21B-26M47D20C-4-R7F-A	-	Resolver	MH860C-S092TF7
	47.1	IMS21B-26M47D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	40.1	IMS21B-26M40D15C-4-R7F-A	-	Resolver	MH860C-S075TF7
	40.1	IMS21B-26M40D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	45.4	IMS21B-26M45D17C-4-R7F-A	-	Resolver	MH860C-S092TF7
	45.4	IMS21B-26M45D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	53.4	IMS21B-26M53D20C-4-R7F-A	-	Resolver	
	53.4	IMS21B-26M53D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	44.8	IMS21B-26M45D15C-4-R7F-A	-	Resolver	MH860C-S075TF7
	44.8	IMS21B-26M45D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
263	50.7	IMS21B-26M51D17C-4-R7F-A	-	Resolver	MH860C-S092TF7
	50.7	IMS21B-26M51D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	59.7	IMS21B-26M60D20C-4-R7F-A	-	Resolver	MH860C-S115TF7
	59.7	IMS21B-26M60D20C-4-P9F-A	-	23-bit multi-turn optical encoder	
	49.5	IMS21B-26M50D15C-4-R7F-A	-	Resolver	MH860C-S092TF7
	49.5	IMS21B-26M50D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	56.1	IMS21B-26M56D17C-4-R7F-A	-	Resolver	
	56.1	IMS21B-26M56D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	66	IMS21B-26M66D20C-4-R7F-A	-	Resolver	MH860C-S115TF7
	66	IMS21B-26M66D20C-4-P9F-A	-	23-bit multi-turn optical encoder	

Frame size	Output power (kW)	Motor model	Brake	Encoder	Compatible VFD model
	58.1	IMS21B-26M58D15C-4-R7F-A	-	Resolver	
	58.1	IMS21B-26M58D15C-4-P9F-A	-	23-bit multi-turn optical encoder	
	65.9	IMS21B-26M66D17C-4-R7F-A	-	Resolver	
	65.9	IMS21B-26M66D17C-4-P9F-A	-	23-bit multi-turn optical encoder	
	76.4	IMS21B-26M76D20C-4-R7F-A	-	Resolver	MH860C-S150TF7
	76.4	IMS21B-26M76D20C-4-P9F-A	-	23-bit multi-turn optical encoder	

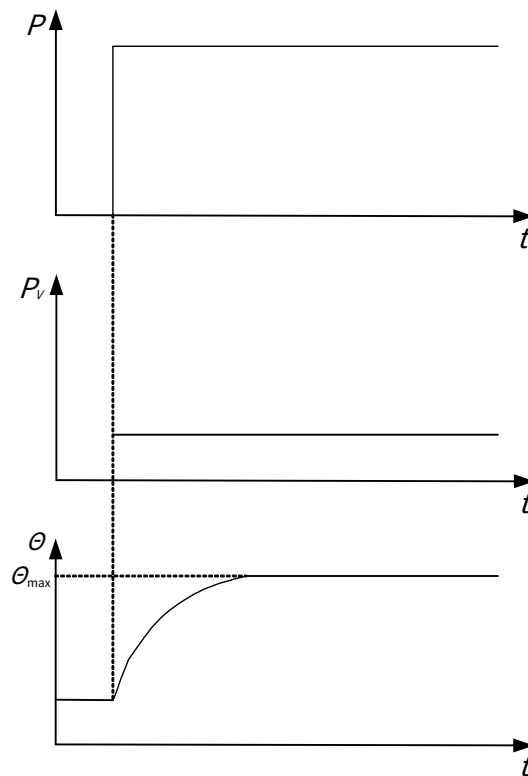
3 Common terms

3.1 Duty

A description of a series of load conditions that the motor experiences, including starting, electrical braking, no-load, stopping, de-energization, and their durations and sequence. The duty type complies with GB 755.

◆S1 duty: Continuous duty

Operate at a constant load until thermal equilibrium is reached, as shown in the following figure.



- P : Load
- P_v : Electrical losses
- θ : Temperature
- $\theta_{\max}$: Maximum temperature reached
- t : Time

3.2 Ingress protection (IP) rating

The motor IP rating is indicated by a code consisting of two letters and two digits, as follows:

- IP (Ingress Protection): Code letters indicating the degree of protection provided by the enclosure against access to hazardous parts and the ingress of solid foreign objects and water.
- First digit: 0 to 6, indicating the degree of protection against access to hazardous parts and the ingress of solid foreign objects.

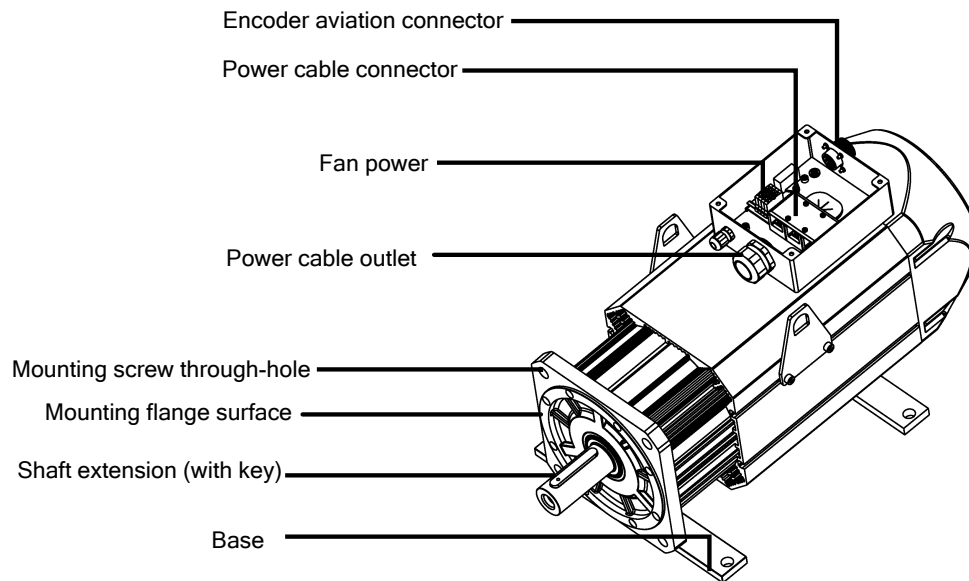
- Second digit: 0 to 8, indicating the degree of protection against harmful effects due to the ingress of water.

IP rating	Digit 1	Meaning	Digit 2	Meaning
IP	0	No protection at all	0	No protection at all.
	1	Protection against solid objects with a diameter greater than 50 mm	1	Protection against vertical water drops.
	2	Protection against solid objects with a diameter greater than 12 mm	2	Protection against vertically falling water drops when the enclosure is tilted by up to 15° from its normal position.
	3	Protection against solid objects with a diameter greater than 2.5 mm	3	Protection against water sprayed at angles up to 60° from the vertical.
	4	Protection against solid objects with a diameter greater than 1 mm	4	Protection against the splashing of water from any direction.
	5	The motor can operate normally despite the ingress of dust.	5	Protection against the water jets from any direction.
	6	Total protection against the ingress of any dust	6	Protection against powerful water jets or heavy seas such that water ingress does not reach a harmful level.
	-	-	7	Protection against the ingress of water under defined conditions of pressure and time.
	-	-	8	Protection against long periods of immersion under the conditions specified by the manufacturer.

3.3 Rated parameters

Terms	Description
Rated power	The continuous operating power of the motor under specified conditions. Special duty type needs to be specified.
Rated speed	The rotational speed of the motor when it outputs the rated power at the shaft under rated voltage and rated frequency.
Rated torque	The output torque of the motor when it reaches thermal steady state at rated power and rated speed.
Rated current	The current of the motor when it operates under rated conditions and reaches thermal steady state.

4.3 Product components (frame sizes 200 and 263)



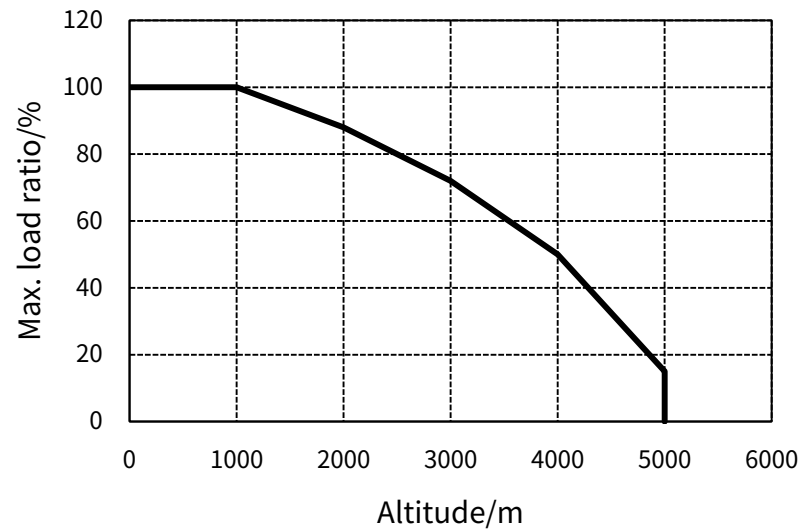
5 General specifications

5.1 Mechanical characteristics

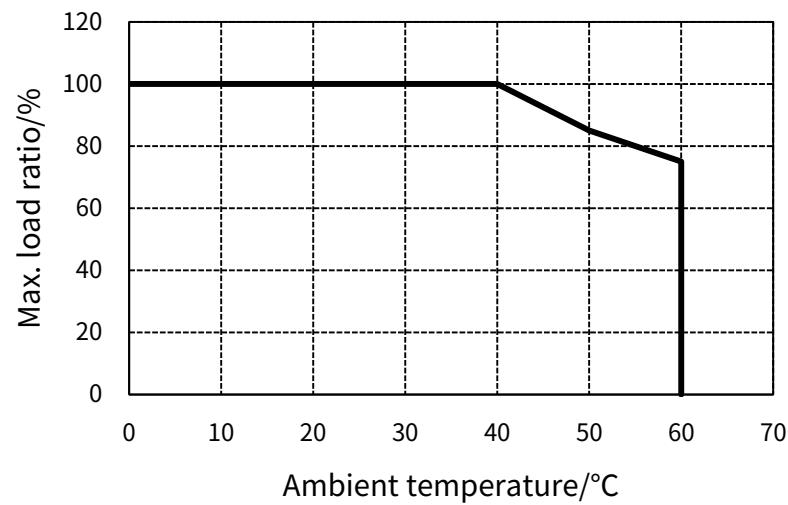
Item	Medium-power air-cooled servo motor
Duty	S1 continuous
Operating ambient temperature	-20°C – 40°C (No freezing). Derating is required when the ambient temperature exceeds 40°C. For details, see section 5.2.2 Ambient temperature derating.
Storage temperature	-20°C – +60°C
Operating ambient humidity	20%–90% RH (no condensation)
Vibration	25 m/s ²
Shock	50 m/s ²
Excitation type	Permanent magnet
Mounting method	IMB35 (horizontal, foot- and flange-mounted), IMB5
Insulation class	F
Insulation resistance	DC500 V, > 100 MΩ
Insulation voltage	AC 1800 V for 1 minute (380 V class)
Enclosure IP rating	IP54 (excluding shaft extension and cable ends)
Rotation direction	Counter-Clockwise (CCW) viewed from the load side under forward command
Altitude	1000 m or below. For altitudes above 1000 meters, please derate. For details, see section 5.2.1 Altitude derating.
Certification	CE certification; China Grade 1 energy efficiency certification
Cooling method	IC416 separately ventilated
Encoder	Optional 12-bit resolver or 23-bit multi-turn absolute optical encoder
Temperature sensor	KTY84 as standard

5.2 Derating characteristics

5.2.1 Altitude derating



5.2.2 Ambient temperature derating



6 Medium-power air-cooled servo motors

6.1 Frame size 200

6.1.1 Motor parameters

Model	Unit	IMS21B-20M*****-4-****-A								
		82C15C	93C17C	11D20C	12D15C	13D17C	15D20C	14D15C	16D17C	18D20C
Rated voltage	V	380								
Rated speed	rpm	1500	1700	2000	1500	1700	2000	1500	1700	2000
Rated power	kW	8.2	9.3	11	11.5	12.7	15	13.9	15.7	17.8
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3	100	113.3	133.3
Rated current	A	16.5	17.8	20.1	19.7	22.9	26.9	26.3	28.1	32.3
Rated torque	N · m	53	53	53	73	71	71	88	88	85
Peak torque at 0.5× rated speed	N · m	131	131	131	183	179	179	221	221	213
Peak current at 0.5× rated speed	A	31.4	38.3	45.5	44.6	53.1	61.1	53.5	64.1	73.1
Peak torque at rated speed	N · m	94	101	101	143	143	143	165	173	174
Peak current at rated speed	A	30	37.1	44.6	42	50.9	60.1	50.4	60.1	72.1
Peak speed	rpm	2500	2700	3000	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	44	63	72	83	85	87	92	104	108
Peak current at peak speed	A	28.4	34.1	39.2	42	45.4	55.9	50.4	60.1	71.5
Torque constant	N · m/A	3.21	2.98	2.64	3.71	3.1	2.64	3.35	3.13	2.63
Line resistance	Ω	1.66	1.13	0.93	1.08	0.81	0.57	0.8	0.61	0.45
Back-emf constant	V/krpm	279.6	237.7	205	279.8	242.5	203.6	266.6	233.3	209.8
Rotation inertia	kg · cm ²	73 (85)	73 (85)	73 (85)	94 (106)	94 (106)	94 (106)	115 (127)	115 (127)	115 (127)
Motor weight	kg	40.6 (52.8)	40.6 (52.8)	40.6 (52.8)	46 (58.2)	46 (58.2)	46 (58.2)	51.5 (63.7)	51.5 (63.7)	51.5 (63.7)

Model	Unit	IMS21B-20M*****-4-****-A								
		17D15C	19D17C	21D20C	20D15C	22D17C	24D20C	22D15C	25D17C	30D20C
Rated voltage	V	380								
Rated speed	rpm	1500	1700	2000	1500	1700	2000	1500	1700	2000
Rated power	kW	16.7	18.9	21.3	19.8	22.4	24.4	22.3	25.2	30.4
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3	100	113.3	133.3
Rated current	A	30.4	33.8	40.3	36.6	40.5	46.8	41.1	46.7	55

Model	Unit	IMS21B-20M*****-4-****-A								
		17D15C	19D17C	21D20C	20D15C	22D17C	24D20C	22D15C	25D17C	30D20C
Rated torque	N · m	106	106	102	126	126	117	142	142	145
Peak torque at 0.5×rated speed	N · m	265	265	255	315	315	291	354	354	363
Peak current at 0.5× rated speed	A	64.1	74.6	87.4	74.3	90.6	95.1	84.2	96.8	123.3
Peak torque at rated speed	N · m	207	226	203	245	256	235	275	284	293
Peak current at rated speed	A	60	74.5	84.2	72.1	89.1	95	79.2	96.2	121
Peak speed	rpm	2500	2700	3000	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	116	138	125	85	155	158	163	172	175
Peak current at peak speed	A	59.8	73.4	83.7	71.8	84	95	79.2	95.2	114
Torque constant	N · m/A	3.49	3.14	2.53	3.44	3.11	2.5	3.45	3.04	2.64
Line resistance	Ω	0.62	0.45	0.35	0.49	0.38	0.29	0.42	0.31	0.23
Back-emf constant	V/krpm	279.9	237.9	206	272	240	207	280.7	243.3	205.2
Rotation inertia	kg · cm ²	135 (147)	135 (147)	135 (147)	156 (168)	156 (168)	156 (168)	177 (189)	177 (189)	177 (189)
Motor weight	kg	56.8 (69)	56.8 (69)	56.8 (69)	62.3 (74.5)	62.3 (74.5)	62.3 (74.5)	67.7 (80)	67.7 (80)	67.7 (80)

Model	Unit	IMS21B-20M*****-4-****-A					
		25D15C	28D17C	31D20C	28D15C	32D17C	35D20C
Rated voltage	V	380					
Rated speed	rpm	1500	1700	2000	1500	1700	2000
Rated power	kW	25.1	28.4	31.4	28	31.8	35.2
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3
Rated current	A	46.8	52.8	57.7	51.8	62.3	64.2
Rated torque	N · m	160	160	150	179	179	168
Peak torque at 0.5× rated speed	N · m	399	399	375	446	446	420
Peak current at 0.5× rated speed	A	89.3	105.4	122.5	106.2	125	132.7
Peak torque at rated speed	N · m	299	308	305	341	344	346
Peak current at rated speed	A	86.3	105	122	101.9	117.3	132.4
Peak speed	rpm	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	172	182	198	183	206	240
Peak current at peak speed	A	85.2	103	120	100.9	115.4	131.2
Torque constant	N · m/A	3.42	3.03	2.6	3.46	2.87	2.62
Line resistance	Ω	0.4	0.3	0.2	0.322	0.224	0.186

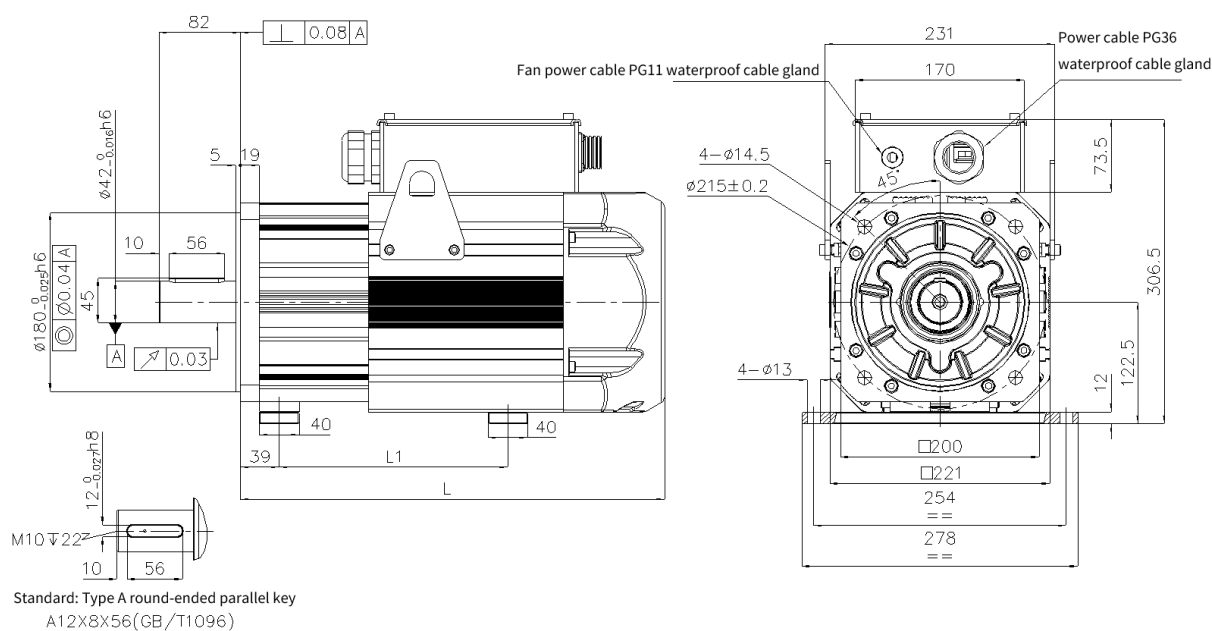
Model	Unit	IMS21B-20M*****-4-****-A					
		25D15C	28D17C	31D20C	28D15C	32D17C	35D20C
Back-emf constant	V/krpm	294.7	252.6	208	277.32	231.1	210.7
Rotation inertia	kg · cm ²	196	196	196	234	234	234
Motor weight	kg	73.1	73.1	73.1	78	78	78

 **Note:** The data in parentheses refer to the brake motor specifications.

Brake parameter									Allowable load	
Holding torque (N · m)	Resistance (Ω)	Supply voltage (DC V)	Rated power (W)	Pick-up voltage (V)	Drop-out voltage (V)	Pick-up time (ms)	Drop-out time (ms)	Rotational backlash (°)	Radial allowable load (N)	Axial allowable load (N)
≥150	10.5±7%	24±10%	55	≤18	≥1.2	≤350	≤80	≤1	1200	250

Centrifugal fan parameters					
Rated voltage (V)	Frequency (Hz)	Rated power (W)	Rated speed (rpm)	Noise (dB)	IP rating
220±10%	50/60	50/64	2600/2850	66/68	IP54

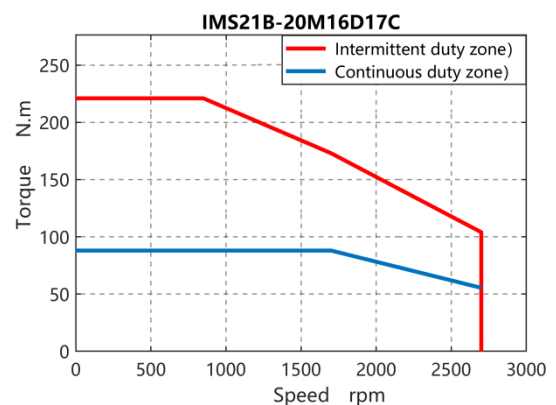
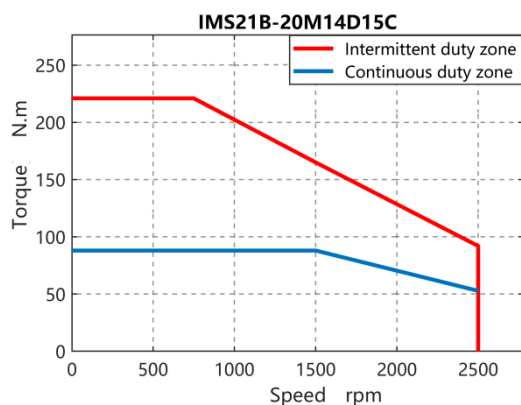
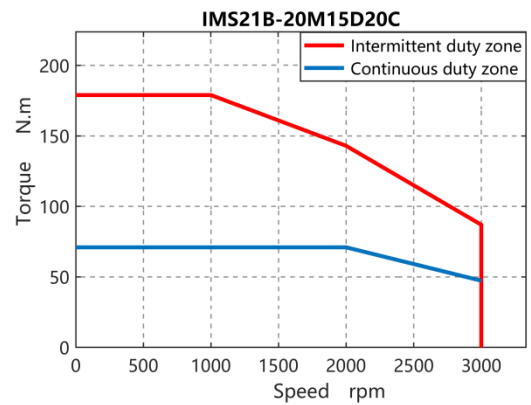
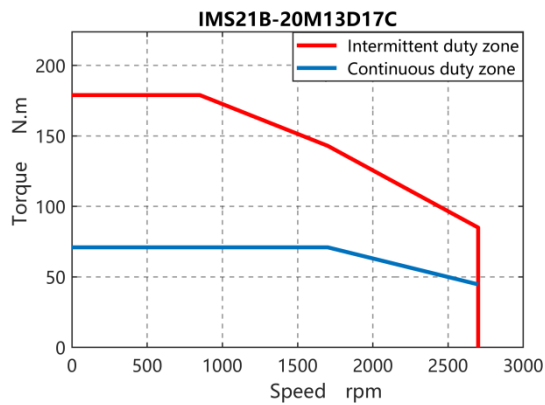
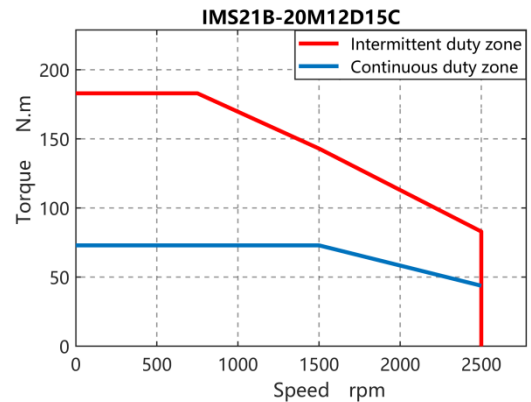
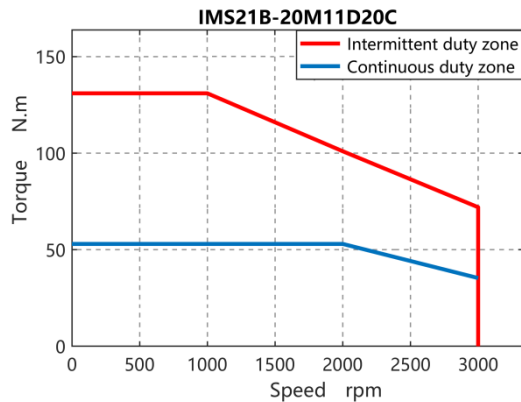
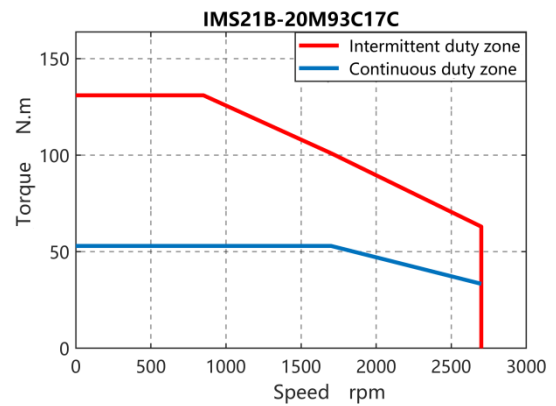
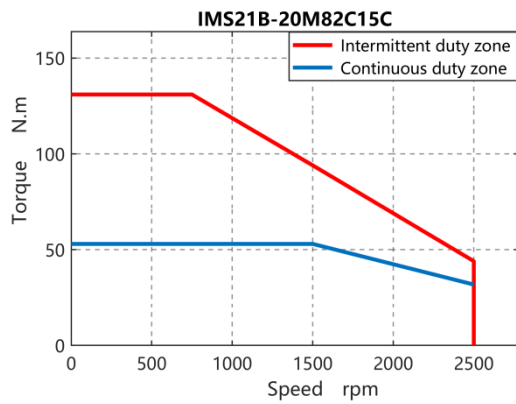
6.1.2 Motor dimensions

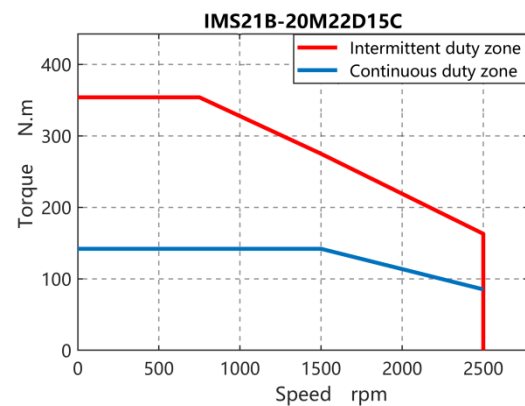
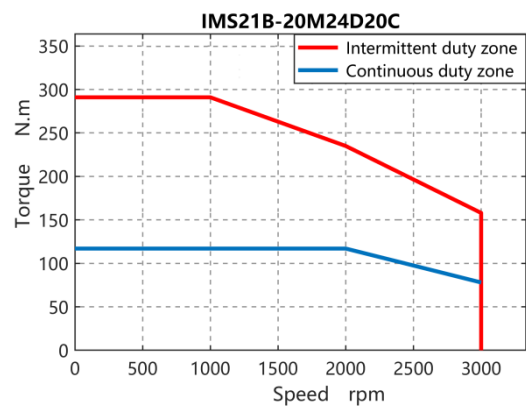
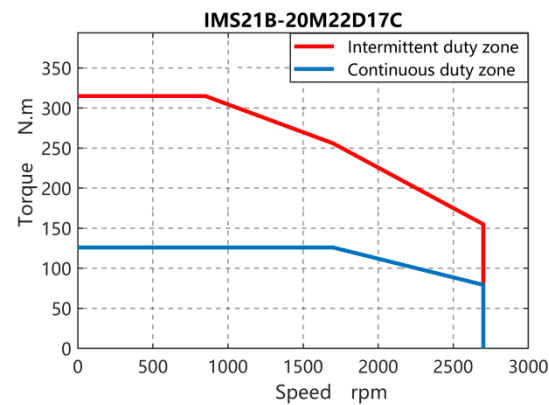
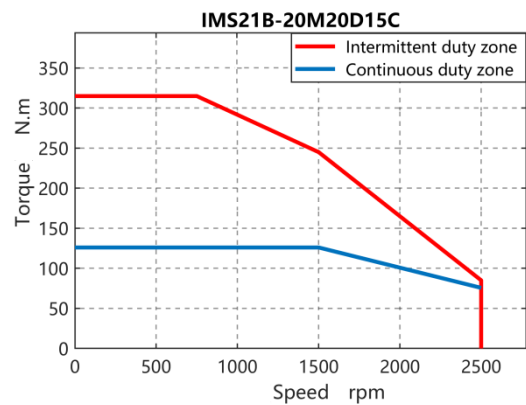
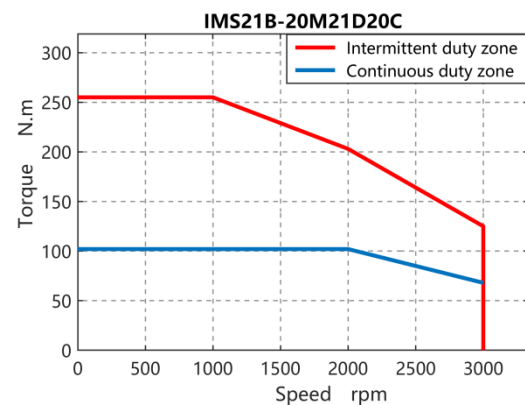
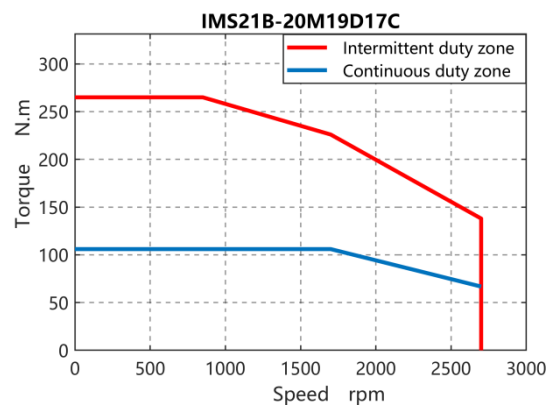
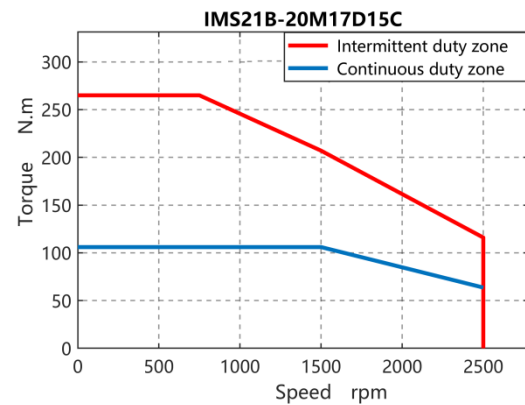
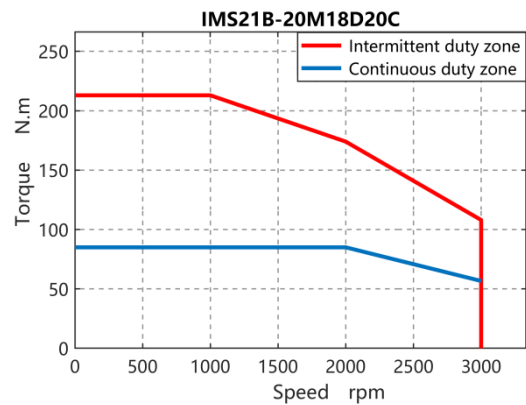


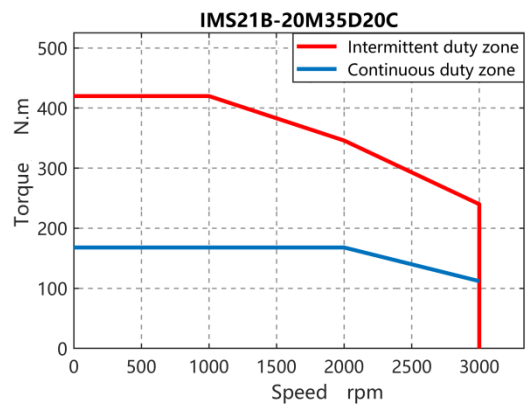
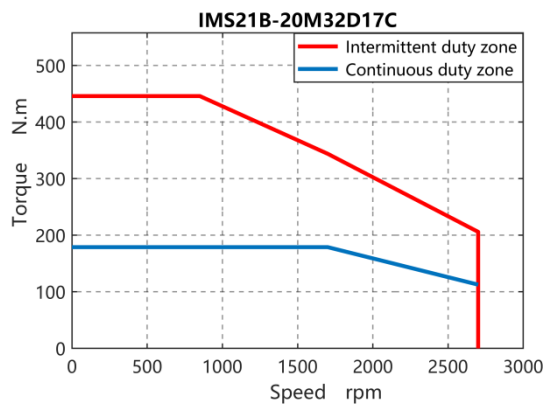
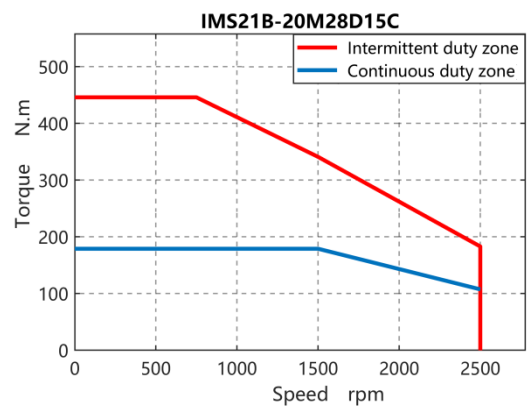
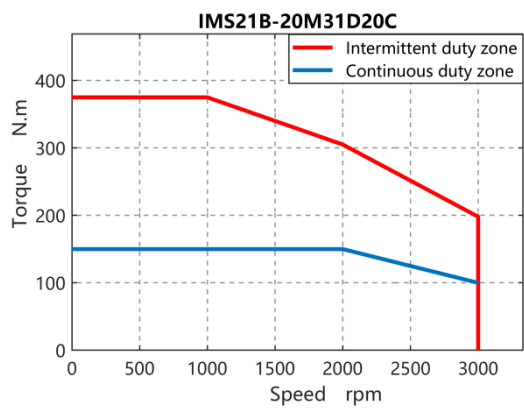
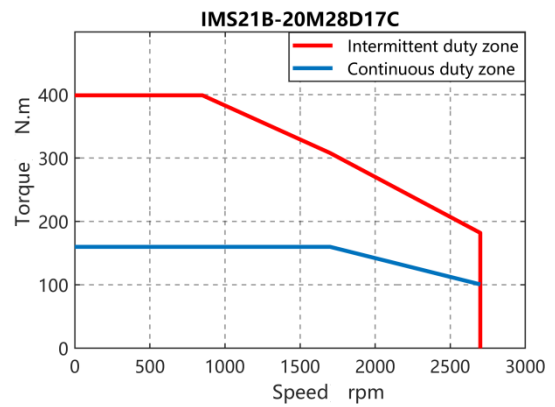
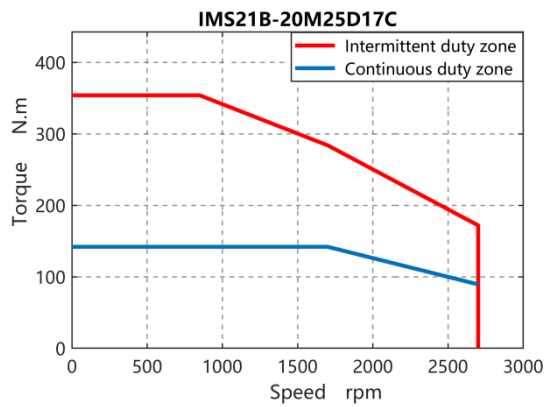
Product model			L (mm)	L1 (mm)
IMS21B-20M82C15C-4-****-A	IMS21B-20M93C17C-4-****-A	IMS21B-20M11D20C-4-****-A	371 (445)	190 (250)
IMS21B-20M12D15C-4-****-A	IMS21B-20M13D17C-4-****-A	IMS21B-20M15D20C-4-****-A	399 (473)	220 (280)
IMS21B-20M14D15C-4-****-A	IMS21B-20M16D17C-4-****-A	IMS21B-20M18D20C-4-****-A	427 (501)	230 (290)
IMS21B-20M17D15C-4-****-A	IMS21B-20M19D17C-4-****-A	IMS21B-20M21D20C-4-****-A	455 (529)	270 (330)
IMS21B-20M20D15C-4-****-A	IMS21B-20M22D17C-4-****-A	IMS21B-20M24D20C-4-****-A	483 (557)	300 (360)
IMS21B-20M22D15C-4-****-A	IMS21B-20M25D17C-4-****-A	IMS21B-20M30D20C-4-****-A	511 (585)	340 (390)
IMS21B-20M25D15C-4-****-A	IMS21B-20M28D17C-4-****-A	IMS21B-20M31D20C-4-****-A	539	360
IMS21B-20M28D15C-4-****-A	IMS21B-20M32D17C-4-****-A	IMS21B-20M35D20C-4-****-A	567	390

 **Note:** The data in parentheses refers to the brake motor specifications.

6.1.3 External characteristic curve







6.2 Frame size 263

6.2.1 Motor parameters

Model	Unit	IMS21B-26M*****-4-****-A								
		21D15C	24D17C	28D20C	26D15C	29D17C	35D20C	31D15C	35D17C	41D20C
Rated voltage	V	380								
Rated speed	rpm	1500	1700	2000	1500	1700	2000	1500	1700	2000
Rated power	kW	21.2	24	28.3	25.9	29.4	34.6	30.6	34.7	40.8
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3	100	113.3	133.3
Rated current	A	38.3	43.8	49.2	46.6	54.1	64.2	56.9	65	72.7
Rated torque	N · m	135	135	135	165	165	165	195	195	195

Model	Unit	IMS21B-26M*****-4-****-A								
		21D15C	24D17C	28D20C	26D15C	29D17C	35D20C	31D15C	35D17C	41D20C
Peak torque at 0.5× rated speed	N · m	338	338	338	413	413	413	488	488	488
Peak current at 0.5× rated speed	A	85.1	98.8	109.2	100.4	113.6	124	114	138.5	152.1
Peak torque at rated speed	N · m	269	278	271	328	328	297	381	394	380
Peak current at rated speed	A	79.8	97.2	104	96	110.3	114.9	113.9	132.5	143.9
Peak speed	rpm	2500	2700	3000	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	159	166	164	190	193	193	228	227	252
Peak current at peak speed	A	75.6	91.8	89.1	90	93.2	96.1	113.9	109.1	125.9
Torque constant	N · m/A	3.52	3.08	2.74	3.54	3.05	2.57	3.43	3	2.68
Line resistance	Ω	0.345	0.282	0.216	0.273	0.202	0.174	0.228	0.16	0.131
Back-emf constant	V/krpm	264.4	233.3	196.2	261.7	224.3	214.3	276.5	230.4	202.9
Rotation inertia	kg · cm ²	242 (260)	242 (260)	242 (260)	297 (315)	297 (315)	297 (315)	351	351	351
Motor weight	kg	82 (95)	82 (95)	82 (95)	93 (106)	93 (106)	93 (106)	104	104	104

Model	Unit	IMS21B-26M*****-4-****-A								
		35D15C	40D17C	47D20C	40D15C	45D17C	53D20C	45D15C	51D17C	60D20C
Rated voltage	V	380								
Rated speed	rpm	1500	1700	2000	1500	1700	2000	1500	1700	2000
Rated power	kW	35.3	40.1	47.1	40.1	45.4	53.4	44.8	50.7	59.7
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3	100	113.3	133.3
Rated current	A	65.8	72.4	86.3	74.4	81.7	96.1	80.3	90.5	110.9
Rated torque	N · m	225	225	225	255	255	255	285	285	285
Peak torque at 0.5× rated speed	N · m	563	563	563	638	638	638	713	713	713
Peak current at 0.5× rated speed	A	123.3	149.7	168.7	150.2	163.4	185.4	163.4	187.8	222.1
Peak torque at rated speed	N · m	410	443	400	500	509	472	561	578	527
Peak current at rated speed	A	117.5	142.7	156.3	143.9	163.4	174.7	156.3	183.2	212.9
Peak speed	rpm	2500	2700	3000	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	245	270	275	244	320	317	346	386	407
Peak current at peak speed	A	117.5	132.5	156.3	143.9	151.7	174.7	156.3	183.2	212.9
Torque constant	N · m/A	3.42	3.11	2.61	3.43	3.12	2.65	3.55	3.15	2.57
Line resistance	Ω	0.213	0.144	0.115	0.156	0.128	0.098	0.135	0.107	0.079

Model	Unit	IMS21B-26M*****-4-****-A								
		35D15C	40D17C	47D20C	40D15C	45D17C	53D20C	45D15C	51D17C	60D20C
Back-emf constant	V/krpm	295.2	241.5	210.9	276.4	245.7	218.4	276.8	242.2	203.2
Rotation inertia	kg · cm ²	406	406	406	461	461	461	515	515	515
Motor weight	kg	115	115	115	126	126	126	137	137	137

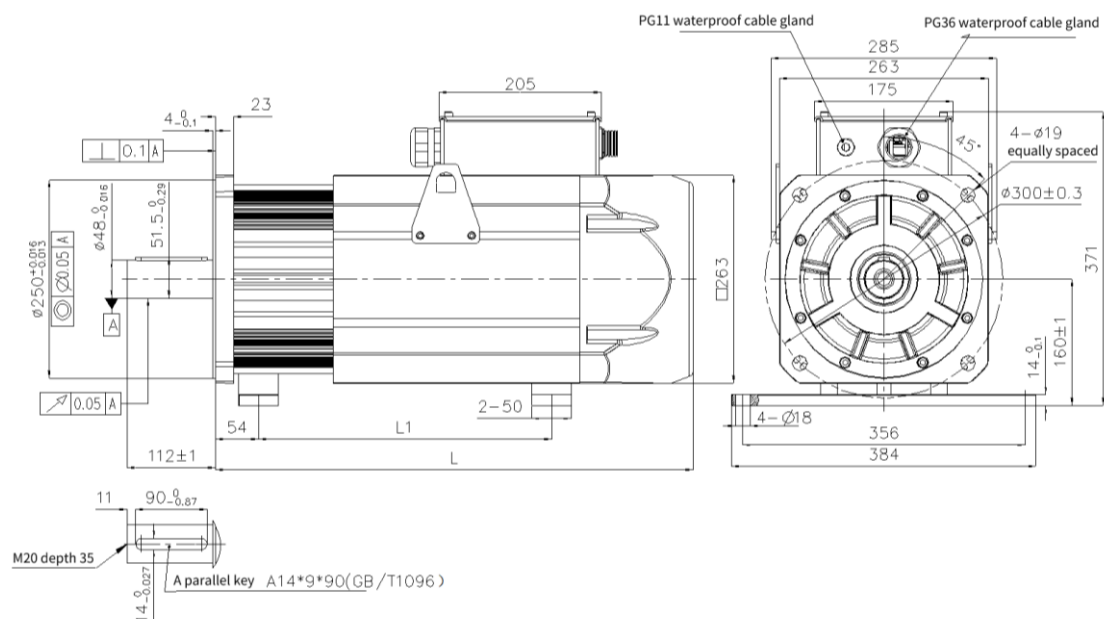
Model	Unit	IMS21B-26M*****-4-****-A					
		50D15C	56D17C	66D20C	58D15C	66D17C	76D20C
Rated voltage	V	380					
Rated speed	rpm	1500	1700	2000	1500	1700	2000
Rated power	kW	49.5	56.1	66	58.1	65.9	76.4
Rated frequency	Hz	100	113.3	133.3	100	113.3	133.3
Rated current	A	87.9	98.3	116.6	106.3	117.9	133.6
Rated torque	N · m	315	315	315	370	370	365
Peak torque at 0.5× rated speed	N · m	788	788	788	925	925	913
Peak current at 0.5× rated speed	A	186.5	219.3	261.4	202.2	233.5	282.4
Peak torque at rated speed	N · m	654	668	671	667	679	693
Peak current at rated speed	A	181.1	207.9	247.5	194.5	217.8	257.4
Peak speed	rpm	2500	2700	3000	2500	2700	3000
Peak torque at peak speed	N · m	378	427	458	385	425	474
Peak current at peak speed	A	169.7	207.9	247.5	194.5	217.8	257.4
Torque constant	N · m/A	3.58	3.2	2.7	3.48	3.14	2.73
Line resistance	Ω	0.113	0.084	0.058	0.123	0.09	0.064
Back-emf constant	V/krpm	261.9	224.5	191.2	289.9	248.5	207.1
Rotation inertia	kg · cm ²	574	574	574	629	629	629
Motor weight	kg	148	148	148	159	159	159

 **Note:** The data in parentheses refers to the brake motor specifications.

Brake parameter									Allowable load	
Holding torque (N · m)	Resistance (Ω)	Supply voltage (DC V)	Rated power (W)	Pick-up voltage (V)	Drop-out voltage (V)	Pick-up time (ms)	Drop-out time (ms)	Rotational backlash (°)	Radial allowable load (N)	Axial allowable load (N)
≥200	10.5±7%	24±10%	55	≤18	≥1.2	≤350	≤80	≤1	1500	500

Centrifugal fan parameters					
Rated voltage (V)	Frequency (Hz)	Rated power (W)	Rated speed (rpm)	Noise (dB)	IP rating
220±10%	50/60	135/175	2650/3050	73/75	IP54

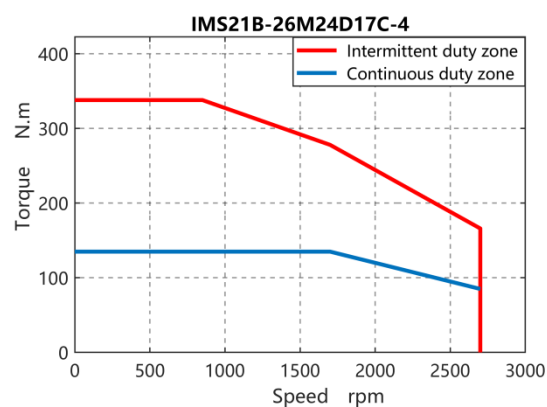
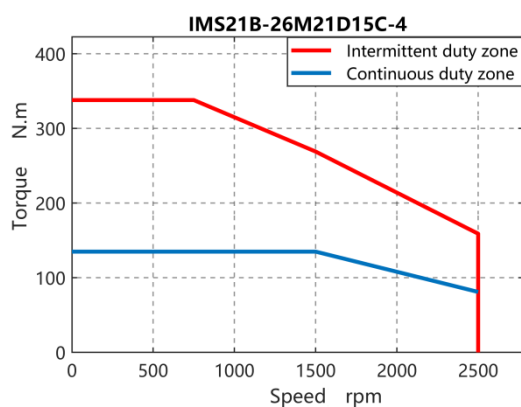
6.2.2 Motor dimensions

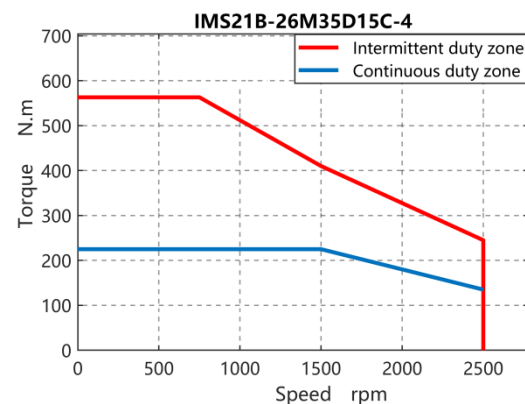
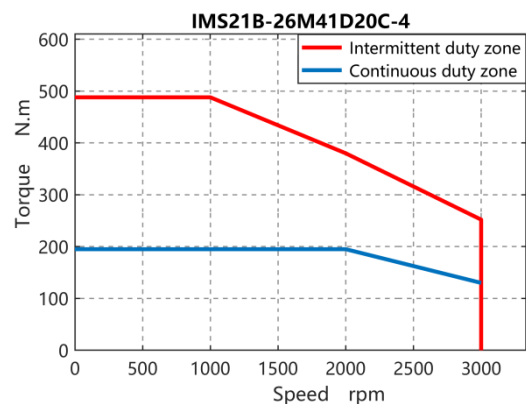
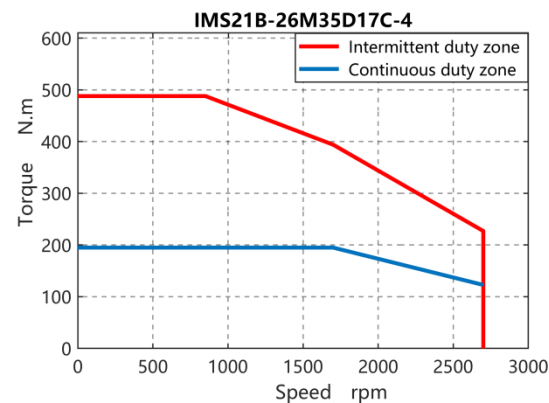
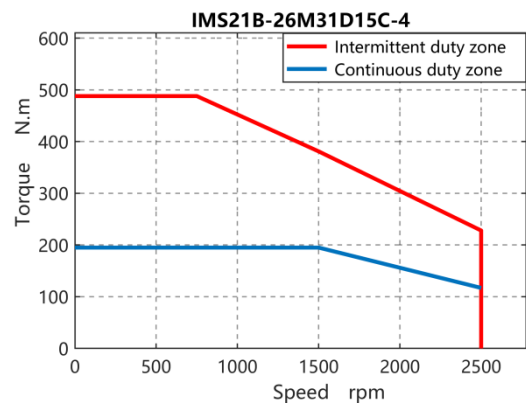
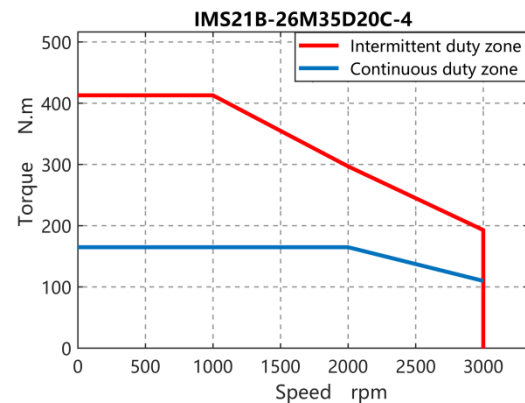
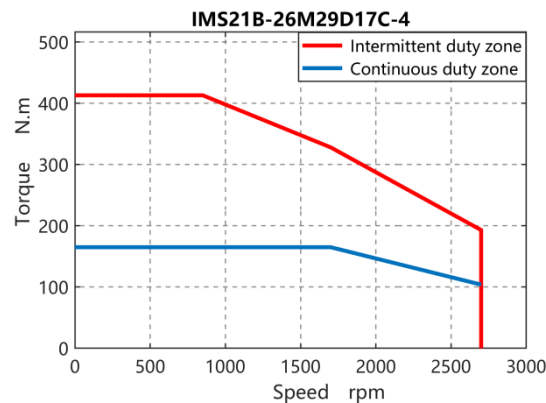
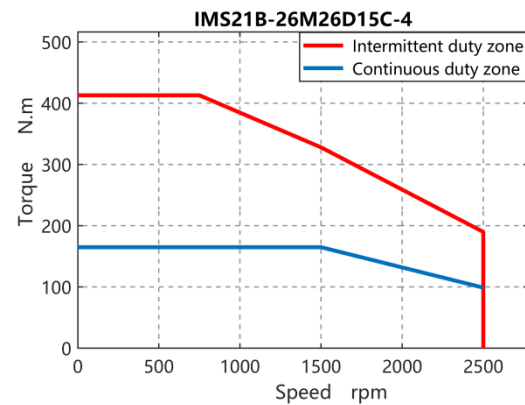
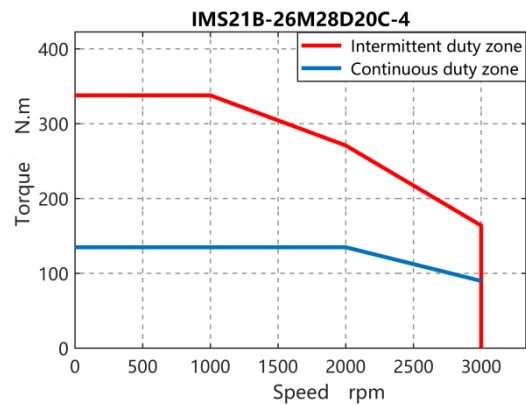


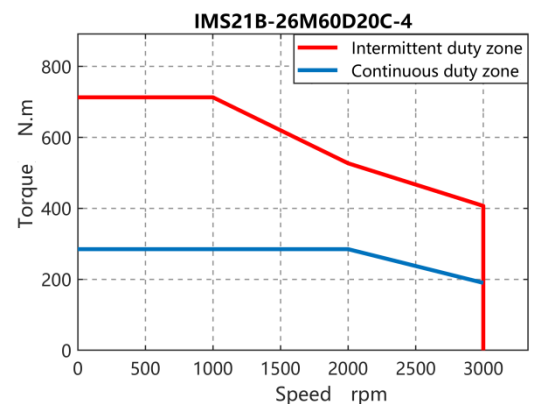
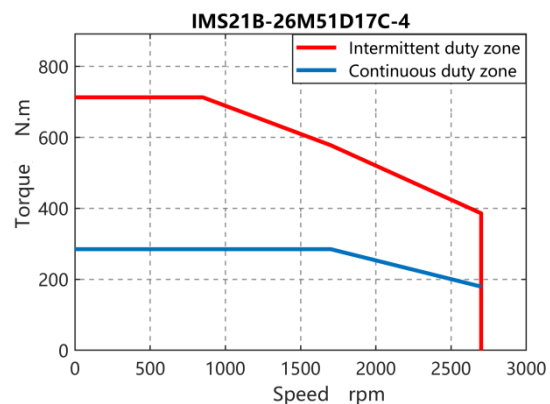
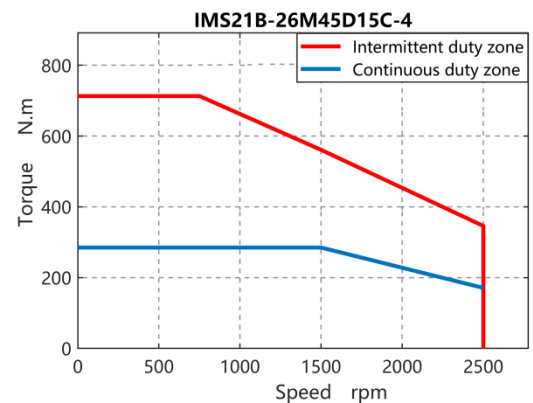
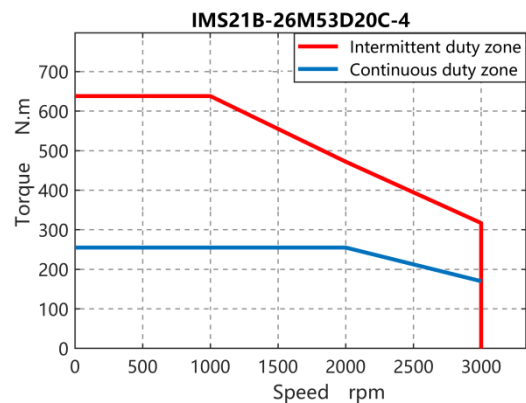
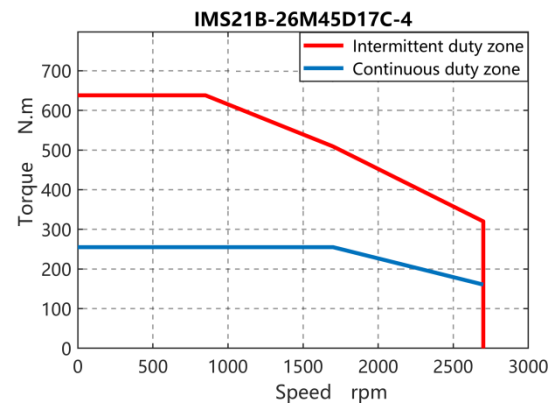
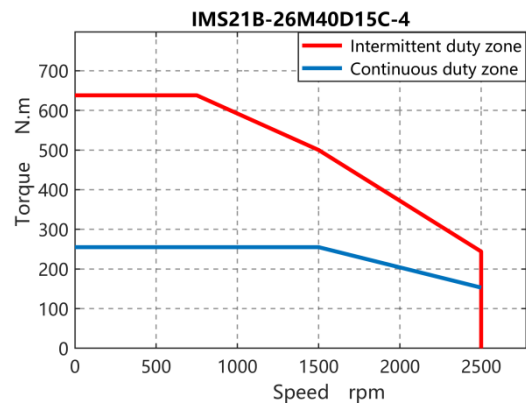
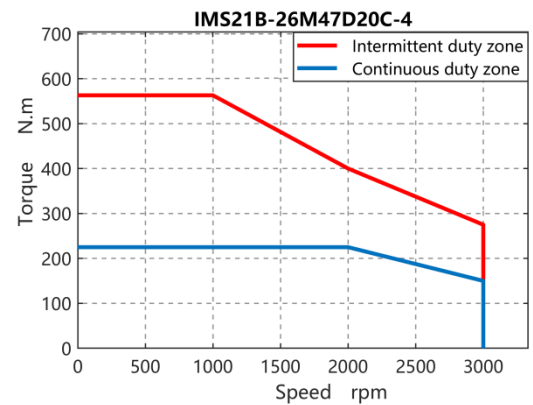
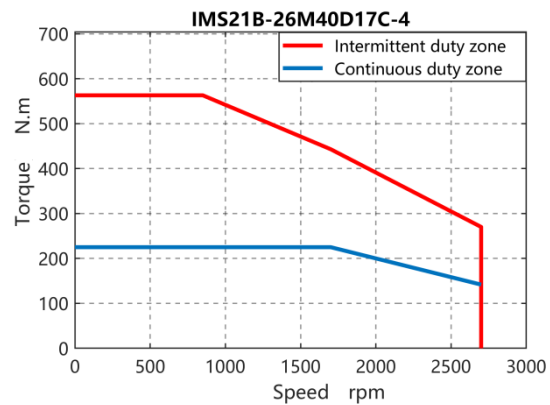
Product model			L (mm)	L1 (mm)
IMS21B-26M21D15C-4-****-A	IMS21B-26M24D17C-4-****-A	IMS21B-26M28D20C-4-****-A	523 (608)	255 (300)
IMS21B-26M26D15C-4-****-A	IMS21B-26M29D17C-4-****-A	IMS21B-26M35D20C-4-****-A	563 (648)	300 (370)
IMS21B-26M31D15C-4-****-A	IMS21B-26M35D17C-4-****-A	IMS21B-26M41D20C-4-****-A	603	370
IMS21B-26M35D15C-4-****-A	IMS21B-26M40D17C-4-****-A	IMS21B-26M47D20C-4-****-A	643	400
IMS21B-26M40D15C-4-****-A	IMS21B-26M45D17C-4-****-A	IMS21B-26M53D20C-4-****-A	683	440
IMS21B-26M45D15C-4-****-A	IMS21B-26M51D17C-4-****-A	IMS21B-26M60D20C-4-****-A	723	480
IMS21B-26M50D15C-4-****-A	IMS21B-26M56D17C-4-****-A	IMS21B-26M66D20C-4-****-A	763	520
IMS21B-26M58D15C-4-****-A	IMS21B-26M66D17C-4-****-A	IMS21B-26M76D20C-4-****-A	803	560

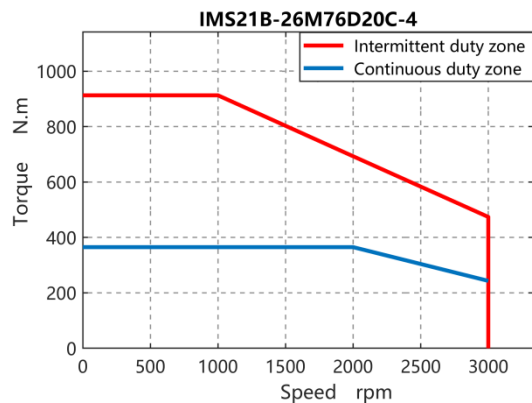
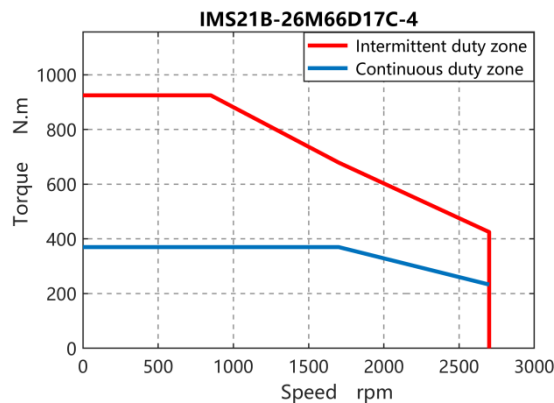
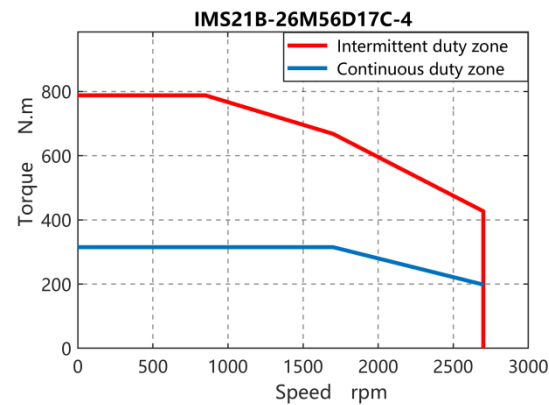
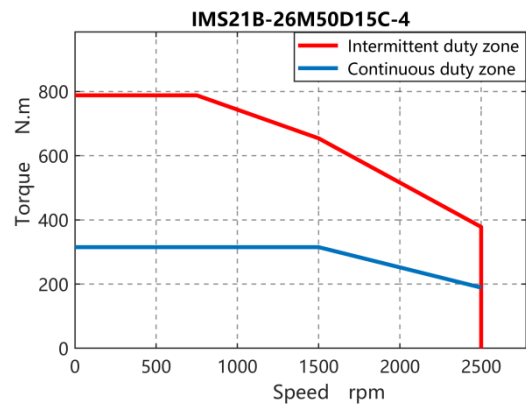
 Note: The data in parentheses refers to the brake motor specifications.

6.2.3 External characteristic curve





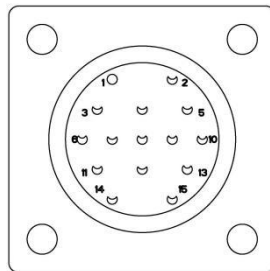




7 Motor terminals and terminal box description

7.1 Encoder terminal

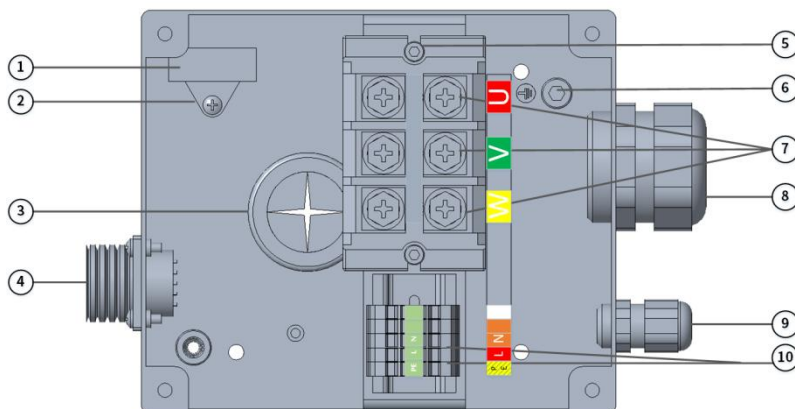
Figure 7-1 Encoder terminal outline (YD28J15ZF)



Pin No.	1	2	3	4	5	6	7	8	9
Pin definitions for the 23-bit single-/multi-turn absolute optical encoder	PE+	SD+	SD-	5V	GND	VB_5V	VB_GND	KTY84-130+	KTY84-130-
Pin definitions for the 12-bit resolver	PE	Ref+	Ref-	Cos-	Cos+	Sin+	Sin-	KTY84-130+	KTY84-130-

7.2 Terminal box components

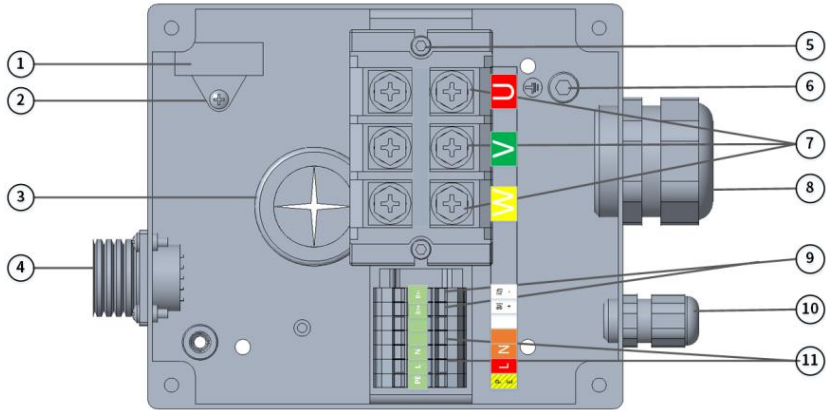
Figure 7-2 Components of the standard motor terminal box



No.	Component name
①	Fan capacitor
②	M4 hex socket screw
③	Motor outlet hole (Avoid dropping small parts or foreign objects)
④	YD28 aviation connector
⑤	2-M5 hex socket screw

No.	Component name
⑥	M8 (M6) bolt connecting the terminal box to the motor housing / grounding point
⑦	M8 bolts for U/V/W power cables
⑧	PG36 waterproof cable gland
⑨	PG11 waterproof cable gland
⑩	220V fan power wiring terminals

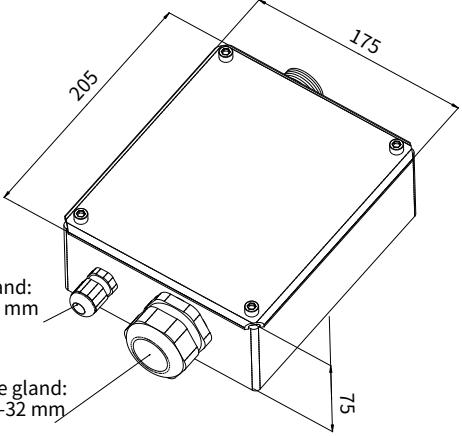
Figure 7-3 Components of the brake motor terminal box



No.	Component name
①	Fan capacitor
②	M4 hex socket screw
③	Motor outlet hole (Avoid dropping small parts or foreign objects)
④	YD28 aviation connector
⑤	2-M5 hex socket screw
⑥	M8 (M6) bolt connecting the terminal box to the motor housing / grounding point
⑦	M8 bolts for U/V/W power cables
⑧	PG36 waterproof cable gland
⑨	Brake 24 V power supply terminal block
⑩	PG11 waterproof cable gland
⑪	220 V fan power wiring terminals

7.3 Terminal box dimensions

Product model	Dimension drawings
IMS21B-20M82C15C-4-****-A	PG11 waterproof cable gland: For cable diameters of 5-10 mm PG36 waterproof cable gland: For cable diameters of 25-32 mm
IMS21B-20M93C17C-4-****-A	
IMS21B-20M11D20C-4-****-A	

Product model	Dimension drawings
IMS21B-20M12D15C-4-****-A	 PG11 waterproof cable gland: For cable diameters of 5–10 mm PG36 waterproof cable gland: For cable diameters of 25–32 mm
IMS21B-20M13D17C-4-****-A	
IMS21B-20M15D20C-4-****-A	
IMS21B-20M14D15C-4-****-A	
IMS21B-20M16D17C-4-****-A	
IMS21B-20M18D20C-4-****-A	
IMS21B-20M17D15C-4-****-A	
IMS21B-20M19D17C-4-****-A	
IMS21B-20M21D20C-4-****-A	
IMS21B-20M20D15C-4-****-A	
IMS21B-20M22D17C-4-****-A	
IMS21B-20M24D20C-4-****-A	
IMS21B-20M22D15C-4-****-A	
IMS21B-20M25D17C-4-****-A	
IMS21B-20M30D20C-4-****-A	
IMS21B-20M25D15C-4-****-A	
IMS21B-20M28D17C-4-****-A	
IMS21B-20M31D20C-4-****-A	
IMS21B-20M28D15C-4-****-A	
IMS21B-20M32D17C-4-****-A	
IMS21B-20M35D20C-4-****-A	
IMS21B-26M21D15C-4-****-A	
IMS21B-26M24D17C-4-****-A	
IMS21B-26M28D20C-4-****-A	
IMS21B-26M26D15C-4-****-A	
IMS21B-26M29D17C-4-****-A	
IMS21B-26M35D20C-4-****-A	
IMS21B-26M31D15C-4-****-A	
IMS21B-26M35D17C-4-****-A	
IMS21B-26M41D20C-4-****-A	
IMS21B-26M35D15C-4-****-A	
IMS21B-26M40D17C-4-****-A	
IMS21B-26M47D20C-4-****-A	
IMS21B-26M40D15C-4-****-A	
IMS21B-26M45D17C-4-****-A	
IMS21B-26M53D20C-4-****-A	
IMS21B-26M45D15C-4-****-A	
IMS21B-26M51D17C-4-****-A	
IMS21B-26M60D20C-4-****-A	
IMS21B-26M50D15C-4-****-A	
IMS21B-26M56D17C-4-****-A	
IMS21B-26M66D20C-4-****-A	
IMS21B-26M58D15C-4-****-A	
IMS21B-26M66D17C-4-****-A	
IMS21B-26M76D20C-4-****-A	

8 Installation instructions

8.1 Unpacking inspection

After receiving the product, please perform the following checks to ensure the safe use of the product.

■ Inspect the packaging

Before unpacking, check whether the product package is intact—whether the package is damaged, dampened, soaked, or deformed. After unpacking, check the inside of the package for water stains, moisture, or other abnormalities.

■ Inspect the machine and components

After unpacking, check whether the equipment enclosure is damaged or cracked, whether the parts inside the packing box are complete, and whether the nameplate and label on the product body are consistent with the model ordered.

8.2 Mechanical installation

8.2.1 Installation preparation

■ Safety instructions

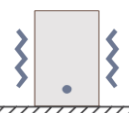
Only trained and qualified professionals are allowed to carry out the operations mentioned in this chapter. Read the following installation preparation carefully before installation to ensure smooth installation and avoid personal injury or equipment damage.

Item	Description
	Carry out operations according to instructions presented in section 1.4 Safety guidelines. Ensure the motor power has been disconnected before installation. If the motor has been energized, wait at least 15 minutes after power-off and confirm that the POWER indicator on the servo drive (VFD) is off before proceeding to the next operation. The installation and design of the motor must strictly comply with local laws and regulations. We do not assume any liability whatsoever for any equipment installation which breaches local laws or regulations.

■ Installation environment and site

● Environmental requirements

Environment	Requirement	
Temperature		- Refer to the motor mechanical characteristics description. - There is no sudden temperature change. - When the equipment is installed in a closed space, such as control cabinet, use a cooling fan or air conditioner for cooling when necessary. - At low temperatures, if the motor has been de-energized for a long period, use an external heater before restarting it to eliminate any internal freezing. Otherwise, the motor may be damaged.

Environment	Requirement	
Humidity		- See section 5.1 Mechanical characteristics. - The max. RH cannot exceed 60% in the environment with corrosive gases.
Altitude		- Lower than 1000 m - When the altitude exceeds 1000 m, refer to the altitude derating curve. - When the altitude exceeds 3000 m, consult our local dealer or office for details.
Vibration		See section 5.1 Mechanical characteristics.

- Site requirement**

Site	Requirement	
Indoor		Without electromagnetic radiation sources and direct sunlight. Note: The motor must be installed in a clean and well-ventilated environment based on the housing IP rating.
		Without foreign objects such as oil mist, metal powder, conductive dust, and water.
		Without radioactive, corrosive, hazardous, flammable, or explosive substances. Note: Do not install the motor onto combustible objects.
		With low salt content.

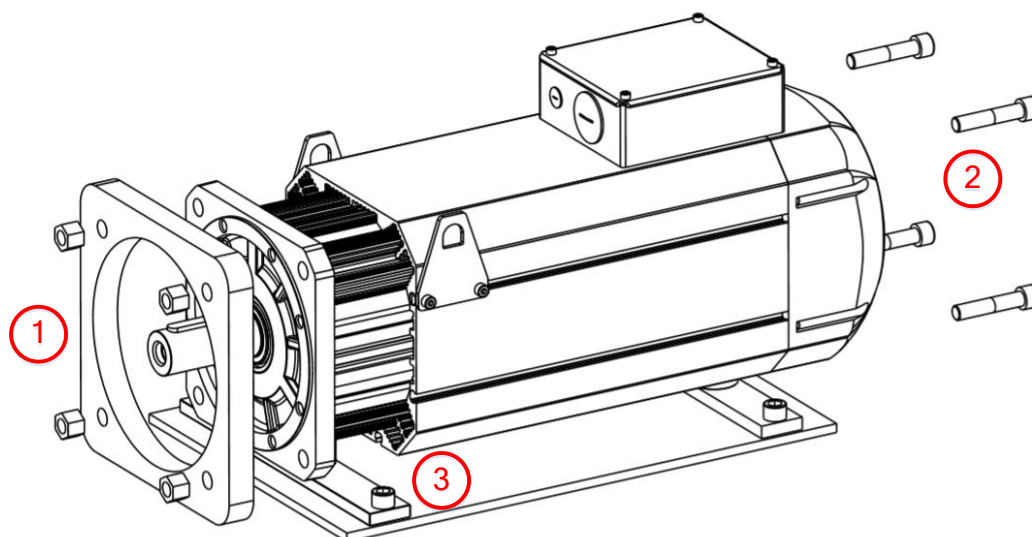
8.2.2 Installation method

The motor installation procedure is as follows:

Step 1 Clean the installation site and prepare all necessary tools and components.

Step 2 Inspect and confirm that all components are intact and that the motor shaft rotates properly.

Step 3 Select an appropriate mounting method and ensure that the shaft centerlines are properly aligned. Alignment deviation must be within the permissible tolerance. Secure the motor with bolts. Do not hammer the motor into position, as this may cause damage.



① Flange fixing nut

② Flange fixing bolt

③ Foot mounting bolt

Note:

- During the handling of the motor, do not pull on the motor leads or output shaft. It is recommended to use the lifting lugs on both sides of the motor for hoisting.
- IMB35 mounting is recommended. The flange and feet must be securely fastened simultaneously to a flat supporting surface. If there is a difference in shaft center height between the motor and the driven machine, the motor must be shimmed to the required height. The area of each shim must be larger than the contact area of the corresponding motor foot.
- When using a coupling for transmission, the motor's shaft centerline must coincide with the load's shaft centerline.
- During installation, ensure that all mounting holes are securely locked with steel bolts (strength grade 8.8 or higher) and nuts. In areas prone to rust, stainless steel bolts should be used, and in high-vibration environments, anti-vibration pads should be installed.
- Do not strike or hammer the motor during assembly, as this may damage the encoder or bearings.
- After installation, check each component individually, and only start trial operation after confirming that all connections are secure.
- Wipe off the rust-preventive oil from the motor shaft before use.

8.3 Post-installation inspection checklist

After installation, please conduct inspections in sequence according to the following table:

Check item	Content	Confirmation
Ambient environment	Ambient temperature is less than 40°C.	☐
	RH is less than 90%.	☐
	Vibration acceleration is less than 0.5G (4.9m/s ²).	☐
	No dust, corrosive gases, or oil contamination.	☐
	No tools or foreign objects (including cable ends, metal shavings, and other hazardous materials) are piled around.	☐
	No condensation or water droplets on the exterior of the machine.	☐

Check item	Content	Confirmation
Mechanical system	The motor installation location meets design and specification requirements.	☐
	The installation of the motor and the connection of shafts and mechanics are reliable.	☐
	The motor and the connected machinery are ready for operation.	☐
	Do not run the motor at negative load.  Note: Negative load indicates that the direction of the output torque of the motor is contrary to the motor speed direction.	☐
Electrical wiring	All wiring complies with the standard wiring for the applicable control modes shown in the installation section.	☐
	The external servo-enable terminal (digital input configured as SON) is set to OFF.	☐
	The cable stress is within the designated range.	☐
	The motor is properly grounded.	☐

9 Common troubleshooting

Fault phenomenon	Possible cause	Solution
Motor does not run when powered on	The power supply cable is disconnected.	Check the wiring and connect it correctly.
	The motor encoder cable is disconnected, and there is a fault in the servo drive.	Check the encoder cable and the output of the servo drive.
	Motor overload prevents startup.	Reduce or remove the load, then restart.
Motor runaway upon power-on	The encoder initial angle has not been identified.	Re-identify the encoder initial angle.
Abnormal motor noise	The motor current loop gain is too high and the power supply phase sequence is reversed.	Contact our technician to adjust the current loop gain value and check the power supply phase sequence.
	Poor installation of the oil seal.	Check the installation status of the oil seal or replace the oil seal.
	Friction occurring in the brake pads.	Please contact your supplier or our local technician for assistance.
	There is a foreign object inside the motor.	
	The bearing is damaged.	
Motor vibration during operation	Abnormal feedback from the motor encoder.	Check whether the shielding and grounding of the motor encoder cable are in good condition.
	The motor encoder is loose.	Please contact your supplier or our local technician for assistance.
	Current loop gain mismatch.	Contact the technician to adjust the current loop gain value.
Reverse direction of rotation	Incorrect motor rotation direction setting.	Check the motor rotation-direction setting in the servo drive.
Slow motor acceleration	Incorrect motor acceleration time setting.	Check the acceleration time setting of the servo drive motor.
	Motor overload prevents startup.	Reduce or remove the load.
Motor overheating	The motor is operating under overload conditions.	Reduce the motor load.
	Abnormal motor heat dissipation.	Check that there are no obstructions around the motor.
Brake does not respond when powered on	Brake wiring disconnection.	Check the brake connection wires.
	The brake is faulty.	Please contact INVT technical support personnel for assistance.
	Incorrect power supply voltage for the brake.	Check the output voltage of the brake power supply and use a compliant power supply.
Insufficient brake torque	The brake friction pads are worn out.	Replace the motor.

10 Certification categories and standards

10.1 CE certification

Certification	Standard
EMC Directive 2014/30/EU	EN 61000-6-4:2019
Low Voltage Directive (LVD) 2014/35/EU	EN 60034-1:2010

10.2 China Energy Label

Certification	Standard
China Energy Efficiency Certification	GB 30253-2024

Leading Smart Industry Shaping Net-Zero Future



Shenzhen INVT Electric Co., Ltd.

Address: INVT Guangming Technology Building, Songbai Road, Matian,
Guangming District, Shenzhen, China

INVT Power Electronics (Suzhou) Co., Ltd.

Address: No. 1 Kunlunshan Road, Science & Technology Town,
Suzhou New District, Jiangsu, China

Website: www.invt.com



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