In this manual, we have tried as much as possible to describe all the various matters about the spindle servo motor. However, we can not describe all the matters which must not be done or which can not be done because there are so many possibilities. Therefore, matters which are not especially described in this manual should be regarded as “impossible” or “forbidden”.

PREFACE

Dear user:

It's our honor that you select **GSK ZJY** serial spindle servo motor (Hereinafter referred to as the motor).

For safety of the motor and the product and for the normal and effective running, please read the manual carefully before installing and using the product.

SAFETY PRECAUTION

The incorrect connection and operation may cause the accident, so before using and operating the motor, please read the manual carefully!

1. The motor is installed with the photoelectric encoder, and it's not allowed to hit the motor. And the user can't disassemble the photoelectric encoder by himself; otherwise, once the encoder is damaged, it may cause the motor out of running!

2. In the normal climate, measure the insulation resistance, which the motor winding is against with the case, by 1000V megameter, and the value should NOT be less than 20MΩ.

3. The motor and the drive should be connected correctly based on the manual to guarantee the protective grounding stable and reliable.

4. The motor can run with load only after the motor is free of noise and vibration during running from zero speed to the maximum speed in the dry run mode.

5. During the motor running, it's not allowed to touch the motor shaft and case.

6. Only the qualified person can adjust and maintain the motor.

7. It is forbidden to move the motor by dragging the wire (cable), the motor shaft or the encoder.

8. GSK does NOT take any responsibility for any change on the product by the user, and the warranty bill becomes invalid.

All specifications and designs are subject to change without notice.

RESPONSIBILITY

Responsibility of the manufacturer

——The manufacturer should be in charge of the design and the structure of the motor and its accessories.

——The manufacturer should be responsible for the safety of the motor and its accessories.

——The manufacturer should be in charge of the provided information and suggestion for the user.

Responsibility of the end user

——The user should be very familiar with the safety operation through learning the motor safety operation or participating in the training session.

——The user should be responsible for the safety after adding, changing or modifying the original motor and its accessories by himself.

——The user should be in charge of the danger resulted from the operation, adjusting, maintenance, installation and storage which are not complied with the manual regulation.

The manual is kept by **the end user**.

Thank you for your corporation during using GSK product.

Content

Ⅰ PRODUCT CHARACTERISTICS

GSK ZJY spindle servo motor is a new type of three-phase inductive motor with high performance and adopts insulation structure of F level, corona resistance enameled wire dedicated for the frequency conversion motor and the encoder with high speed and precision, and the motor is researched, developed and manufactured by GSK. The product is with the characteristics of the compact structure, high rotation precision, low noise, high reliability and high capability with low cost, etc, which can widely satisfy the requirements of the CNC machine tool and the automation.

Ⅱ RUNNING CONDITIONS

2.1 The height above sea level should NOT exceed 1000m.

2.2 The environment temperature should be in the range of -10℃ ~ +40℃.

2.3 The relative air humidity is ≤90% (without the condensation).

2.4 AC voltage value of steady state is :（**0.9 ~1.1**）**multiplies AC rated voltage value**.

III MODELS of the MACHINE

Example: **ZJY208A-5.5BH-B5A1LY1-L**

ZJY	208	A	-	5.5	B	H	-	B5	A1	L	Y1	(**)	-	L
(1)	(2)	(3)		(4)	(5)	(6)		(7)	(8)	(9)	(10)	(11)		(12)

SR.NO	MEANING
(1)	The spindle servo motor
(2)	Motor width（182, 208, 265）
(3)	Design sequence number (None: Original A，B，C……：design sequence number)
(4)	Rated power（Unit: kW）
(5)	Rated speed（T: 300 r/min, U: 450 r/min, V: 600 r/min, W: 750 r/min, A: 1000 r/min, B:1500 r/min, C: 2000 r/min, D: 2500 r/min, E: 3000 r/min）
(6)	Max. speed（F: 12000 r/min, H:10000 r/min, M:7000 r/min, L:4500 r/min）
(7)	Structure installation type:（B5 flange installation, B3 footing installation, B35 flange footing installation）
(8)	Encoder type（None: Incremental 1024 p/r, A: Incremental 2500p/r, A1: Incremental 4096 p/r, A2: Incremental 5000 p/r, A4: Absolute 17 bit, A8: Absolute 19 bit）
(9)	Look the terminal box position in view from the shaft end (None: on the top, R: on the right, L: on the left).
(10)	Shaft end (None: Optic axis, Y1: with the standard key slot)
(11)	Customer special order numbers are bracketed in two capitals.
(12)	Power supply voltage (none: three-phase 380～440V, L: three-phase 220V)

Note: ZJY182-3.7BM, ZJY208A-5.5BL and ZJY208A-7.5BL encoder types are only the incremental 1024 p/r.

Product characteristics:

- ✧ Adopt the totally enclosed air cooling structure without the case, good shape and compact structure.
- ✧ Employ the optimized electromagnetic design with the characters of the low noise, smooth running and high efficiency.
- ✧ Introduce the imported bearing in high precision, and the rotor reaches the high precision with the dynamic balance process, which can ensure the motor running stable and reliable with small vibration and low noise in the maximum rotational speed range.
- ✧ Adopt the enameled wire of corona resistance, the motor can be driven reliably at the ambient temperature of -15℃～40℃ and in the environment with the dust and oil mist.
- ✧ Employ the encoder at high speed and in high precision, and it can be incorporated into the drive with high performance for controlling the speed and the position in high precision.
- ✧ The overload capacity is strong and the motor is reliably running at rated power of 30min 150% or 5min 300%.
- ✧ The speed regulation range is wide and the maximum speed can reach 12000r/min.
- ✧ Impact resistance, long lifetime and high cost performance.
- ✧ Protection level: IP54（GB/T 4942.1—2006）
- ✧ Insulation grade: Grade F（GB 755—2008）
- ✧ Vibration grade: Grade B （GB 10068—2008）

Ⅳ MAIN TECHNICAL PARAMETERS and OVERALL DIMENSION of the MOTOR

4.1 Refer to list 1 about the main technical parameters of three-phase 380~440V spindle motor and its overall dimension.

List 1

SPEC / ITEM		ZJY182-1.5BH	ZJY182-2.2BH	ZJY182-2.2CF	ZJY182-3.7BH	ZJY182-3.7DF	ZJY182-5.5CF	ZJY182-7.5EH	ZJY182-3.7BM	ZJY208A-3.7ML
Rated power (kW)		1.5	2.2	2.2	3.7	3.7	5.5	7.5	3.7	3.7
Adapted GS drive type		GS3048 Y	GS3048 Y	GS3050 Y	GS3050 Y	GS3050 Y	GS3075 Y	GS3100 Y	GS3050 Y	GS3050 Y
Drive power supply (V)		Three-phase AC 380～440V 50/60Hz								
Rated current (A)		7.3	7.5	9	15.5	13	19	21	10.4	11.3
Rated frequency (Hz)		50	50	69	50	87	70	100	50	25
Rated torque (N·m)		9.5	14	10.5	24	14	26	24	24	47
30min power (kW)		2.2	3.7	3.7	5.5	5.5	7.5	11	5.5	5.5
30min current (A)		9.3	11	14.6	19.6	19	25	30	14.8	16
30min torque (N·m)		14	24	17.7	35	21	37	35	35	70
Rated speed (r/min)		1500	1500	2000	1500	2500	2000	3000	1500	750
Constant power range (r/min)		1500～8000	1500～8000	2000～10000	1500～8000	2500～10000	2000～10000	3000～9000	1500～5000	750～3000
Max. speed (r/min)		10000	10000	12000	10000	12000	12000	10000	7000	4500
Moment of inertia ($kg·m^2$)		0.0056	0.0074	0.0056	0.0115	0.0074	0.0115	0.0115	0.0093	0.0309
Weight (kg)		27	32	27	43	32	43	43	37	77
Installation type		IM B5 or B35								
Cooling fan power supply		Three phase AC 380～440V 50/60Hz 37W 0.1A								Three phase AC 380～440V 50/60Hz 40W 0.14A
Overall dimension (refer to figures)	A	182	182	182	182	182	182	182	182	208
	B	91	91	91	91	91	91	91	91	104
	C	126	126	126	126	126	126	126	126	160
	D	185	185	185	185	185	185	185	185	215
	E	60	60	60	60	60	60	60	60	80
	F	324	351	324	406	351	406	406	376	524
	G	198	225	198	280	225	280	280	250	395
	H	150h7	150h7	150h7	150h7	150h7	150h7	150h7	150h7	180h7
	I	12	12	12	12	12	12	12	12	14
	J	28h6	28h6	28h6	28h6	28h6	28h6	28h6	28h6	38h6
	K	184	184	184	184	184	184	184	184	212
	L	93	93	93	93	93	93	93	93	106
	N	156	156	156	156	156	156	156	156	180
	P	32	32	32	32	32	32	32	32	40
	Q	132	159	132	214	159	214	214	184	320
	S	60	60	60	60	60	60	60	60	80
	T	4	4	4	4	4	4	4	4	5
	Z	12	12	12	12	12	12	12	12	12

List 1 (Continued)

SPEC / ITEM		ZJY208A-2.2AM	ZJY208A-3.7AM	ZJY208A-5.5AM	ZJY208A-2.2BH	ZJY208A-3.7BH	ZJY208A-5.5BH	ZJY208A-7.5BH	ZJY208A-3.7BM	ZJY208A-5.5BM
Rated power (kW)		2.2	3.7	5.5	2.2	3.7	5.5	7.5	3.7	5.5
Adapted GS drive type		GS3048Y	GS3050Y	GS3075Y	GS3048Y	GS3050Y	GS3075Y	GS3100Y	GS3050Y	GS3050Y
Drive power supply (V)		Three phase AC 380～440V 50/60Hz								
Rated current (A)		6.7	10.2	16.3	8.9	12.6	18.4	22.4	8.6	13
Rated frequency (Hz)		33.3	33.3	33.3	50	50	50	50	50	50
Rated torque (N·m)		21	35	53	14	24	35	48	24	35
30min power (kW)		3.7	5.5	7.5	3.7	5.5	7.5	11	5.5	7.5
30min current (A)		10.6	14.2	20.5	13.8	18	24	32.2	12.7	16.9
30min torque (N·m)		37	53	72	24	35	48	70	35	48
Rated speed (r/min)		1000	1000	1000	1500	1500	1500	1500	1500	1500
Constant power range (r/min)		1000～4000	1000～4000	1000～4000	1500～8000	1500～8000	1500～8000	1500～8000	1500～5000	1500～5000
Max. speed (r/min)		7000	7000	7000	10000	10000	10000	10000	7000	7000
Moment of inertia ($kg·m^2$)		0.0168	0.0238	0.0309	0.0116	0.0168	0.0238	0.0309	0.0168	0.0238
Weight (kg)		51	66	77	49	51	66	77	51	66
Installation type		IM B5 or B35								
Cooling fan power supply		Three phase AC 380～440V 50/60Hz 40W 0.14A								
Overall dimension (refer to figures)	A	208	208	208	208	208	208	208	208	208
	B	104	104	104	104	104	104	104	104	104
	C	160	160	160	160	160	160	160	160	160
	D	215	215	215	215	215	215	215	215	215
	E	60	80	80	60	60	80	80	60	80
	F	414	469	524	364	414	469	524	414	469
	G	285	340	395	235	285	340	395	285	340
	H	180h7	180h7	180h7	180h7	180h7	180h7	180h7	180h7	180h7
	I	14	14	14	14	14	14	14	14	14
	J	28h6	38h6	38h6	28h6	28h6	38h6	38h6	28h6	38h6
	K	212	212	212	212	212	212	212	212	212
	L	106	106	106	106	106	106	106	106	106
	N	180	180	180	180	180	180	180	180	180
	P	40	40	40	40	40	40	40	40	40
	Q	210	265	320	160	210	265	320	210	265
	S	60	80	80	53	60	80	80	60	80
	T	5	5	5	5	5	5	5	5	5
	Z	12	12	12	12	12	12	12	12	12

List 1 (Continued)

SPEC / ITEM		ZJY208A-7.5BM	ZJY208A-5.5BL	ZJY208A-7.5BL	ZJY208A-11CM	ZJY208A-11EH	ZJY265A-5.5WL	ZJY265A-7.5WL	ZJY265A-11WL	ZJY265A-7.5AM	ZJY265A-11AM
Rated power (kW)		7.5	5.5	7.5	11	11	5.5	7.5	11	7.5	11
Adapted GS drive type		GS3075Y	GS3050Y	GS3075Y	GS3148Y	GS3100Y	GS3075Y	GS3100Y	GS3148Y	GS3100Y	GS3148Y
Drive power supply (V)		Three phase AC 380～440V 50/60Hz									
Rated current (A)		17	12.9	17.9	28.3	25.2	16.3	21.4	30	21.5	30.9
Rated frequency (Hz)		50	50	50	69	100	25	25	25	33.3	33.3
Rated torque (N·m)		48	35	48	52.6	35	70	95.5	140	72	105
30min power (kW)		11	7.5	11	15	15	7.5	11	15	11	15
30min current (A)		24.6	16.8	24	37	31.6	20.8	30.1	41	29	40.2
30min torque (N·m)		70	48	70	71.6	48	95.5	140	191	105	145
Rated speed (r/min)		1500	1500	1500	2000	3000	750	750	750	1000	1000
Constant power range (r/min)		1500～5000	1500～4500	1500～4500	2000～7000	3000～9000	750～3000	750～3000	750～3000	1000～4000	1000～4000
Max. speed (r/min)		7000	4500	4500	7000	10000	4500	4500	4500	7000	7000
Moment of inertia ($kg·m^2$)		0.0309	0.0168	0.0238	0.0309	0.0309	0.0744	0.0826	0.086	0.0413	0.0826
Weight (kg)		77	52	66	77.8	66	107	125	143	89	125
Installation type		IM B5 or B35					IM B3 or B5				
Cooling fan power supply		Three phase AC 380～440V 50/60Hz 40W 0.14A					Three phase AC 380～440V 50/60Hz 70W 0.21A				
Overall dimension (refer to figures)	A	208	208	208	208	208	265	265	265	265	265
	B	104	104	104	104	104	132	132	132	132	132
	C	160	160	160	160	160	185	185	185	185	185
	D	215	215	215	215	215	265	265	265	265	265
	E	80	80	80	110	80	110	110	110	110	110
	F	524	414	469	524	469	488	533	578	443	533
	G	395	285	340	395	340	347	392	437	302	392
	H	180h7	180h7	180h7	180h7	180h7	230h7	230h7	230h7	230h7	230h7
	I	14	14	14	14	14	14	14	14	14	14
	J	38h6	38h6	38h6	48h6	38h6	48h6	48h6	55h6	48h6	48h6
	K	212	212	212	212	212	256	256	256	256	256
	L	106	106	106	106	106	135	135	135	135	135
	N	180	180	180	180	180	230	230	230	230	230
	P	40	40	40	40	40	40	40	40	40	40
	Q	320	210	265	320	265	270	315	360	225	315
	S	80	80	80	110	80	110	110	110	110	110
	T	5	5	5	5	5	5	5	5	5	5
	Z	12	12	12	12	12	15	15	15	15	15

List 1 (continued)

SPEC / ITEM		ZJY265A-15AM	ZJY265A-5.5BM	ZJY265A-7.5BM	ZJY265A-11BM	ZJY265A-15BM	ZJY265A-18.5BM	ZJY265A-22BM	ZJY265A-7.5BH	ZJY265A-11BH	ZJY265A-15BH
Rated power (kW)		15	5.5	7.5	11	15	18.5	22	7.5	11	15
Adapted GS drive type		GS315 0Y	GS305 0Y	GS307 5Y	GS310 0Y	GS315 0Y	GS315 0Y	GS320 0Y	GS310 0Y	GS314 8Y	GS315 0Y
Drive power supply (V)		Three phase AC 380～440V 50/60Hz									
Rated current (A)		48.3	15	18	26	35	48.7	58	21	30	40.7
Rated frequency (Hz)		33.3	50	50	50	50	50	50	50	50	50
Rated torque (N·m)		143	35	49	72	98	118	140	48	70	95
30min power (kW)		18.5	7.5	11	15	18.5	22	30	11	15	18.5
30min current (A)		56	18.7	26	34	42	54.7	73	28.5	38.3	42.7
30min torque (N·m)		177	48	74	100	123	140	191	70	95	118
Rated speed (r/min)		1000	1500	1500	1500	1500	1500	1500	1500	1500	1500
Constant power range (r/min)		1000～4000	1500～5000	1500～5000	1500～5000	1500～5000	1500～5000	1500～5000	1500～8000	1500～8000	1500～8000
Max. speed (r/min)		7000	7000	7000	7000	7000	7000	7000	10000	10000	10000
Moment of inertia ($kg·m^2$)		0.086	0.0205	0.0413	0.0744	0.0826	0.086	0.102	0.0413	0.0744	0.0826
Weight (kg)		143	62	89	107	125	143	162	89	107	125
Installation type		IM B3 or B5									
Cooling fan power supply		Three phase AC 380～440V 50/60Hz 70W 0.21A									
Overall dimension (refer to figures)	A	265	265	265	265	265	265	265	265	265	265
	B	132	132	132	132	132	132	132	132	132	132
	C	185	185	185	185	185	185	185	185	185	185
	D	265	265	265	265	265	265	265	265	265	265
	E	110	110	110	110	110	110	110	110	110	110
	F	578	383	443	488	533	578	633	443	488	533
	G	437	242	302	347	392	437	492	302	347	392
	H	230h7	230h7	230h7	230h7	230h7	230h7	230h7	230h7	230h7	230h7
	I	14	14	14	14	14	14	14	14	14	14
	J	48h6	48h6	48h6	48h6	48h6	55h6	55h6	48h6	48h6	48h6
	K	256	256	256	256	256	256	256	256	256	256
	L	135	135	135	135	135	135	135	135	135	135
	N	230	230	230	230	230	230	230	230	230	230
	P	40	40	40	40	40	40	40	40	40	40
	Q	360	165	225	270	315	360	415	225	270	315
	S	110	110	110	110	110	110	110	110	110	110
	T	5	5	5	5	5	5	5	5	5	5
	Z	15	15	15	15	15	15	15	15	15	15

4.2 Refer to list 2 about the main technical parameters of three-phase 220V spindle motor and its overall dimension.

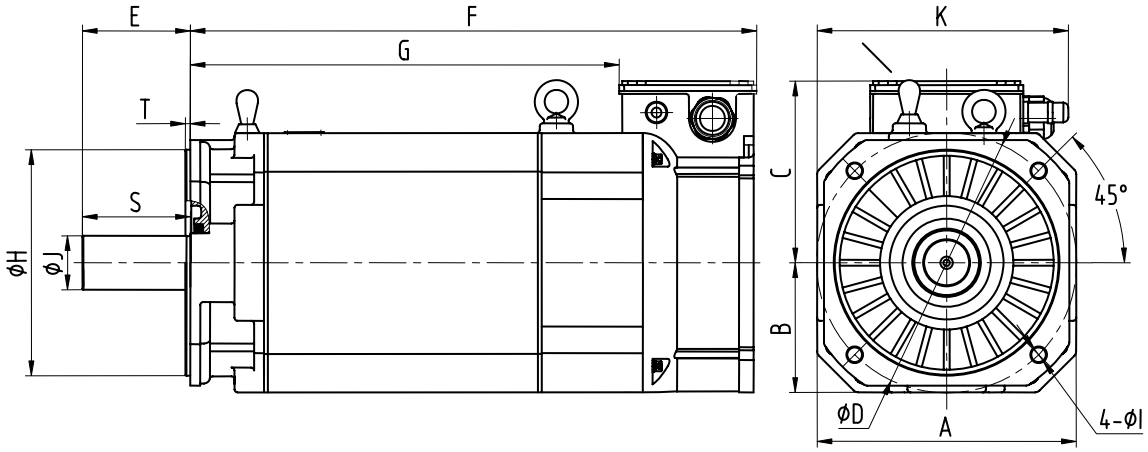
List 2

SPEC / ITEM		ZJY182-1.5BH	ZJY182-2.2BH	ZJY182-2.2CF	ZJY182-3.7BH	ZJY182-3.7DF	ZJY182-5.5CF	ZJY208A-3.7WL	ZJY208A-2.2AM
Rated power (kW)		1.5	2.2	2.2	3.7	3.7	5.5	3.7	2.2
Adapted GS drive type		GS2050 Y	GS2050 Y	GS2075 Y	GS2100 Y	GS2100 Y	GS2100 Y	GS2075 Y	GS2050 Y
Drive power supply (V)		Three phase AC 220V 50/60Hz							
Rated current (A)		10.7	12.9	14.5	23.5	22.9	32.5	19.6	11.6
Rated frequency (Hz)		50	50	69	50	87	70	25	33.3
Rated torque (N·m)		9.5	14	10.5	24	14	26	47	21
30min power (kW)		2.2	3.7	3.7	5.5	5.5	7.5	5.5	3.7
30min current (A)		17.6	20	23	36.4	33.8	47.6	27.3	18.4
30min torque (N·m)		14	24	17.7	35	21	37	70	37
Rated speed (r/min)		1500	1500	2000	1500	2500	2000	750	1000
Constant power range (r/min)		1500～8000	1500～8000	2000～10000	1500～8000	2500～10000	2000～10000	750～3000	1000～4000
Max. speed (r/min)		10000	10000	12000	10000	12000	12000	4500	7000
Moment of inertia ($kg·m^2$)		0.0056	0.0074	0.0056	0.0115	0.0074	0.0115	0.0309	0.0168
Weight (kg)		27	32	27	43	32	43	77	51
Installation type		IM B5 or B35							
Cooling fan power supply		Three phase AC 220V 50/60Hz 37W 0.1A						Three phase AC 220V 50/60Hz 40W 0.14A	
Overall dimension (refer to figures)	A	182	182	182	182	182	182	208	208
	B	91	91	91	91	91	91	104	104
	C	126	126	126	126	126	126	160	160
	D	185	185	185	185	185	185	215	215
	E	60	60	60	60	60	60	80	60
	F	324	351	324	406	351	406	524	414
	G	198	225	198	280	225	280	395	285
	H	150h7	150h7	150h7	150h7	150h7	150h7	180h7	180h7
	I	12	12	12	12	12	12	14	14
	J	28h6	28h6	28h6	28h6	28h6	28h6	38h6	28h6
	K	184	184	184	184	184	184	212	212
	L	93	93	93	93	93	93	106	106
	N	156	156	156	156	156	156	180	180
	P	32	32	32	32	32	32	40	40
	Q	132	159	132	214	159	214	320	210
	S	60	60	60	60	60	60	80	60
	T	4	4	4	4	4	4	5	5
	Z	12	12	12	12	12	12	12	12

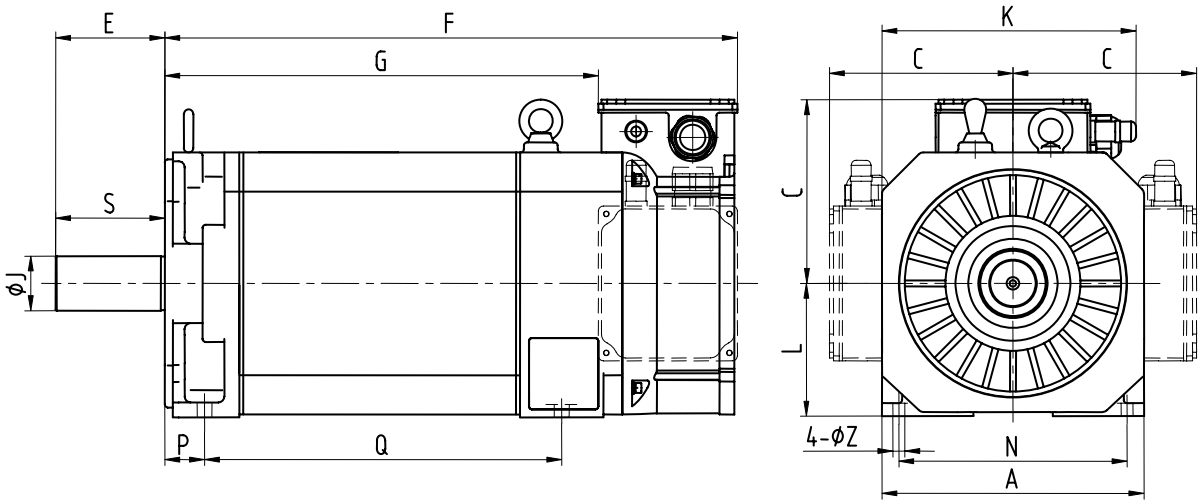
List 2 (Continued)

SPEC / ITEM		ZJY208A-3.7AM	ZJY208A-5.5AM	ZJY208A-2.2BH	ZJY208A-3.7BH	ZJY208A-5.5BH	ZJY208A-3.7BM	ZJY208A-5.5BM	ZJY208A-7.5BM
Rated power (kW)		3.7	5.5	2.2	3.7	5.5	3.7	5.5	7.5
Adapted GS drive type		GS2075 Y	GS2100 Y	GS2075 Y	GS2100 Y	GS2100 Y	GS2075 Y	GS2100 Y	GS2100 Y
Drive power supply (V)		Three phase AC 220V 50/60Hz							
Rated current (A)		17.7	28.2	15.3	21.8	31.8	14.9	22.5	29.4
Rated frequency (Hz)		33.3	33.3	50	50	50	50	50	50
Rated torque (N·m)		35	53	14	24	35	24	35	48
30min power (kW)		5.5	7.5	3.7	5.5	7.5	5.5	7.5	11
30min current (A)		24.6	35.5	23.9	31.2	41.6	22	29.3	42.6
30min torque (N·m)		53	72	24	35	48	35	48	70
Rated speed (r/min)		1000	1000	1500	1500	1500	1500	1500	1500
Constant power range (r/min)		1000～4000	1000～4000	1500～8000	1500～8000	1500～8000	1500～5000	1500～5000	1500～5000
Max. speed (r/min)		7000	7000	10000	10000	10000	7000	7000	7000
Moment of inertia ($kg·m^2$)		0.0238	0.0309	0.0116	0.0168	0.0238	0.0168	0.0238	0.0309
Weight (kg)		66	77	49	51	66	51	66	77
Installation type		IM B5 or B35							
Cooling fan power supply		Three phase AC 220V 50/60Hz 40W 0.14A							
Overall dimension (refer to figures)	A	208	208	208	208	208	208	208	208
	B	104	104	104	104	104	104	104	104
	C	160	160	160	160	160	160	160	160
	D	215	215	215	215	215	215	215	215
	E	80	80	60	60	80	60	80	80
	F	469	524	364	414	469	414	469	524
	G	340	395	235	285	340	285	340	395
	H	180h7	180h7	180h7	180h7	180h7	180h7	180h7	180h7
	I	14	14	14	14	14	14	14	14
	J	38h6	38h6	28h6	28h6	38h6	28h6	38h6	38h6
	K	212	212	212	212	212	212	212	212
	L	106	106	106	106	106	106	106	106
	N	180	180	180	180	180	180	180	180
	P	40	40	40	40	40	40	40	40
	Q	265	320	160	210	265	210	265	320
	S	80	80	53	60	80	60	80	80
	T	5	5	5	5	5	5	5	5
	Z	12	12	12	12	12	12	12	12

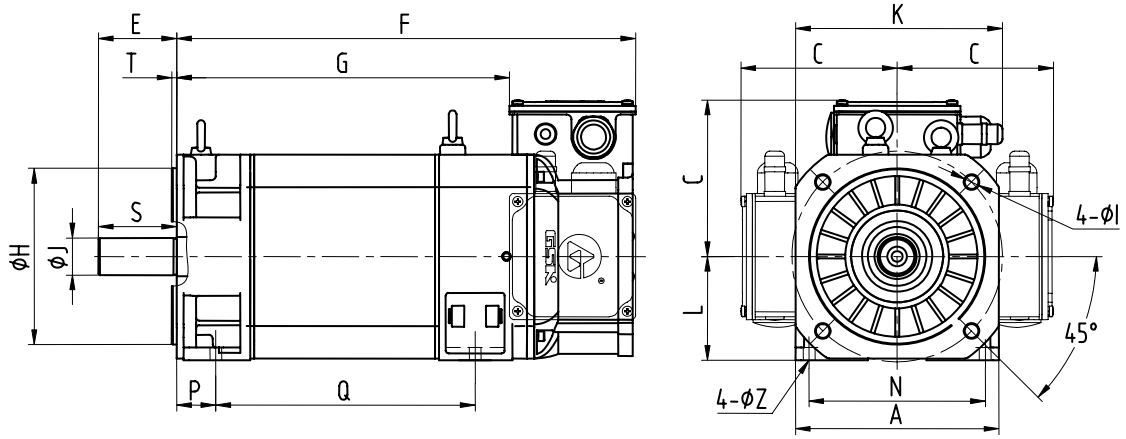
4.3 About the outline drawings of the motors of various installation types please refer to the following figures.



Flange installation type（B5）



Footing installation type (B3) and left & right outlet method



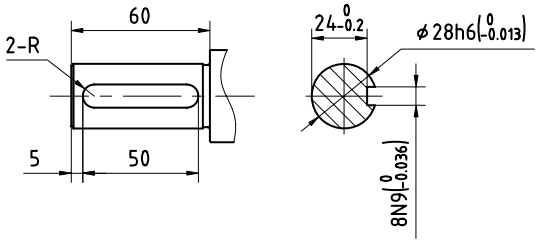
Flange & footing installation type（B35）and left & right outlet method

4.4 Dimension of the Standard Key Slot

4.4.1 ZJY182-3.7BM, ZJY208A-3.7BM, ZJY208A-2.2AM

The configuration keys: GB/T 1096 Key: 8×7×50

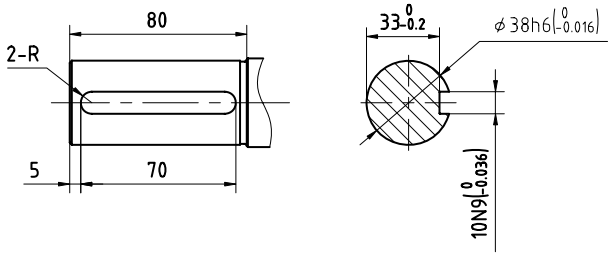
About the dimension of the shaft end key slot, refer to the following left figure; And the central screw hole dimension on the end face of the rotary axis is M10×20.



4.4.2 ZJY208A-5.5BM, ZJY208A-7.5BM, ZJY208A-5.5BL, ZJY208A-7.5BL, ZJY208A-3.7AM, ZJY208A-3.7WL, ZJY208A-5.5AM

The configuration keys: GB/T 1096 Key: 10×8×70

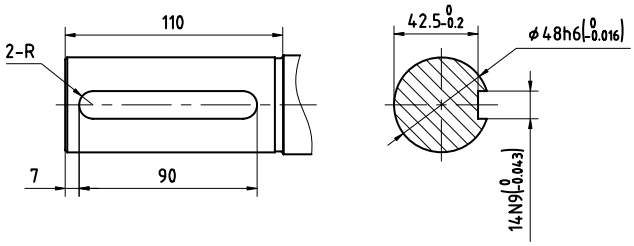
About the dimension of the shaft end key slot, refer to the following figure; and the central screw hole dimension on the end face of the rotary axis is M10×20.



4.4.3 ZJY265A-5.5WL, ZJY265A-7.5WL, ZJY265A-5.5BM, ZJY265A-7.5BM, ZJY265A-11BM, ZJY265A-15BM, ZJY265A-7.5AM, ZJY265A-11AM, ZJY265A-15AM, ZJY208A-11CM

The configuration keys: GB/T 1096 Key: 14×9×90

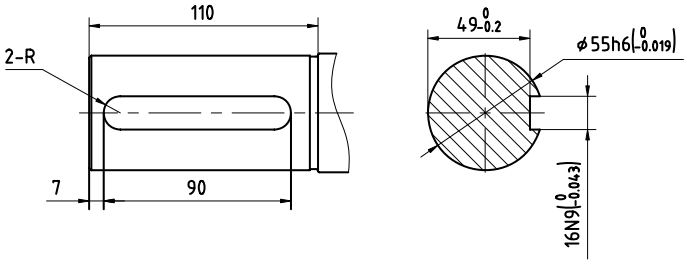
About the dimension of the shaft end key slot, refer to the following figure; and the central screw hole dimension on the end face of the rotary axis is M10×20.



4.4.4 ZJY265A-11WL, ZJY265A-18.5BM, ZJY265A-22BM

The configuration keys: GB/T 1096 Key: 16×10×90

About the dimension of the shaft end key slot, refer to the following figure; and the central screw hole dimension on the end face of the rotary axis is M10×20.

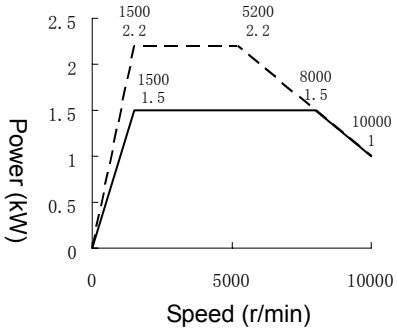
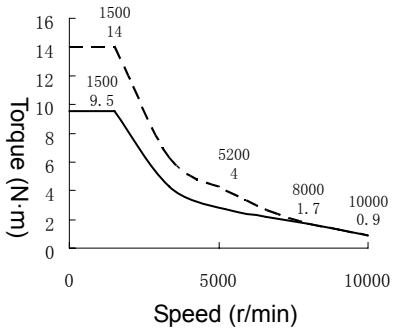
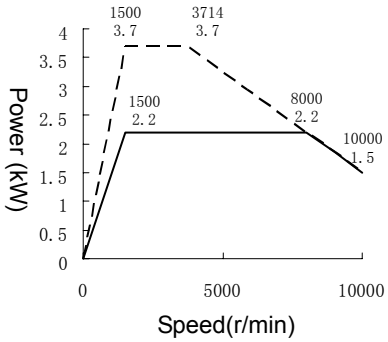
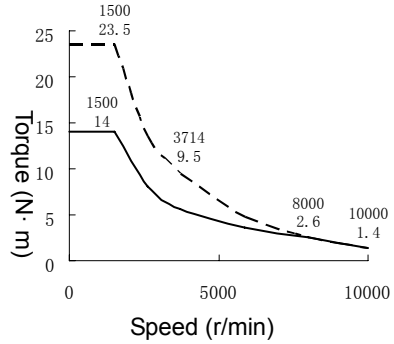
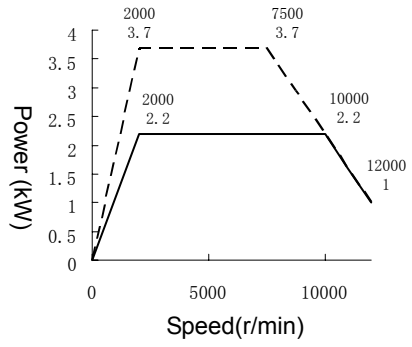
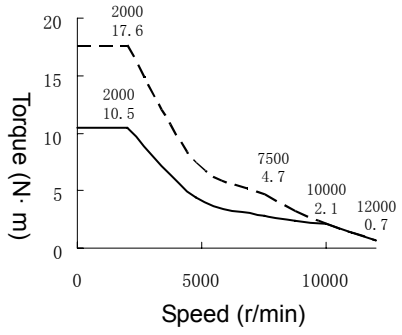


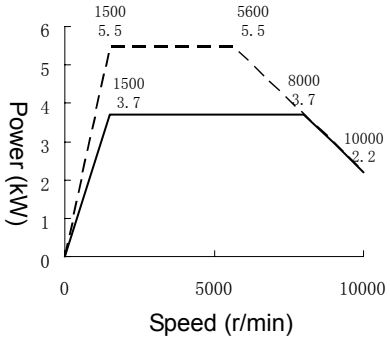
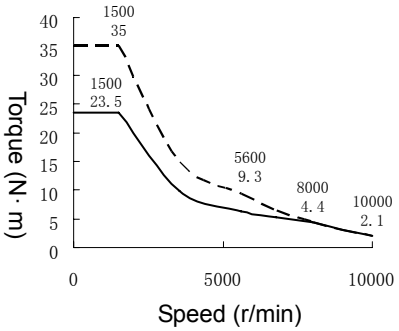
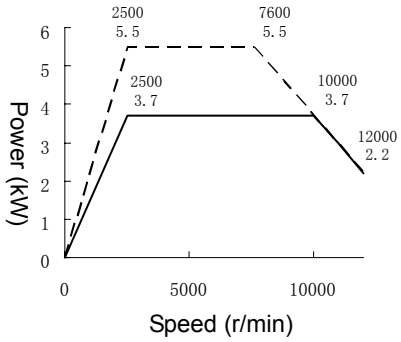
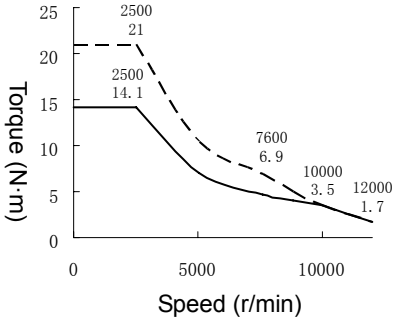
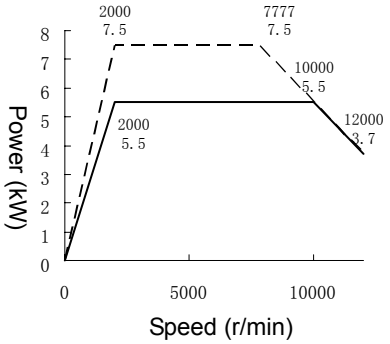
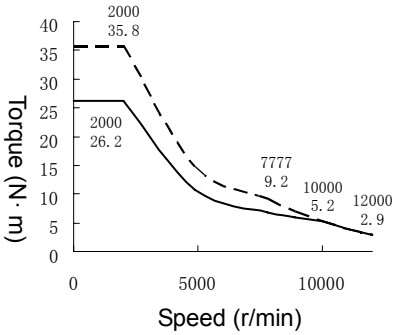
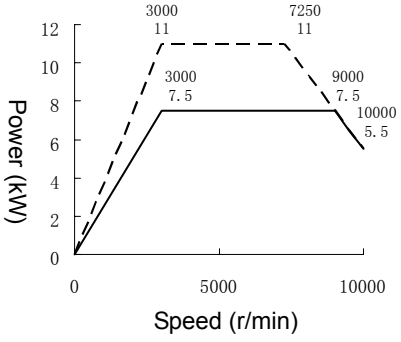
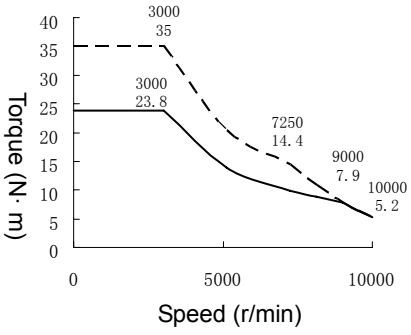
Ⅴ MECHANICAL CHARACTERISTICS CURVE of the MOTOR

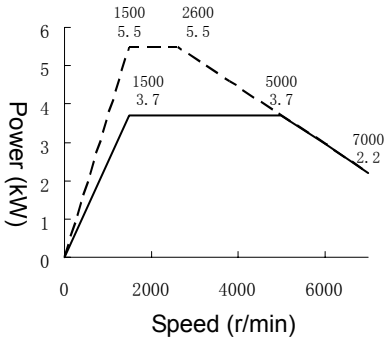
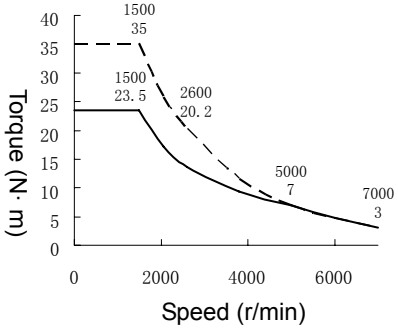
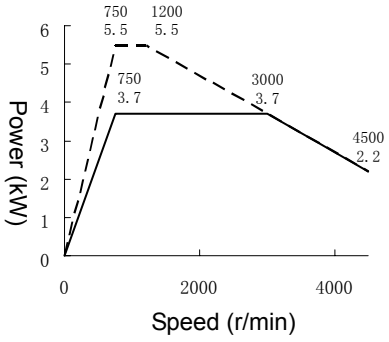
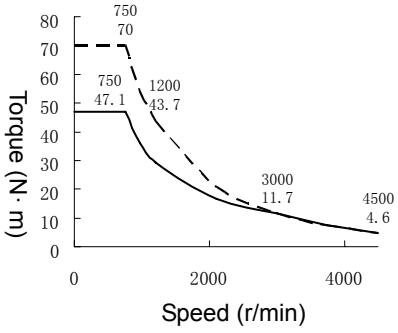
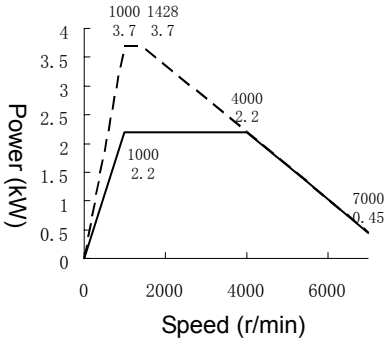
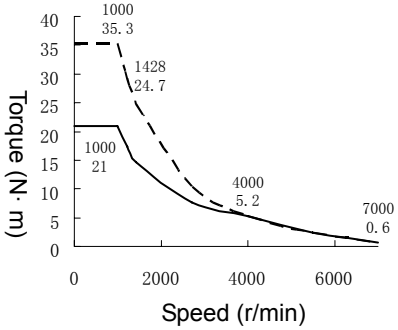
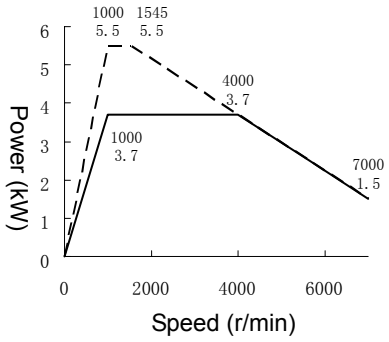
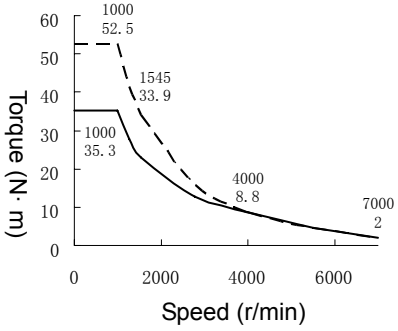
Figure:

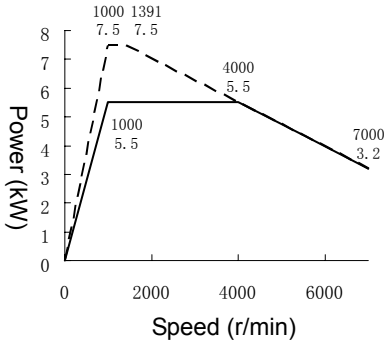
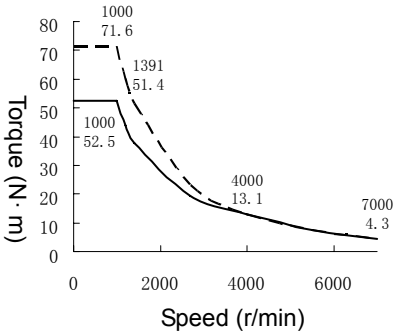
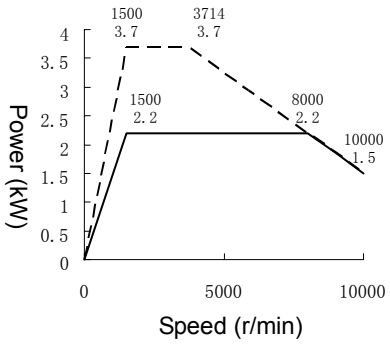
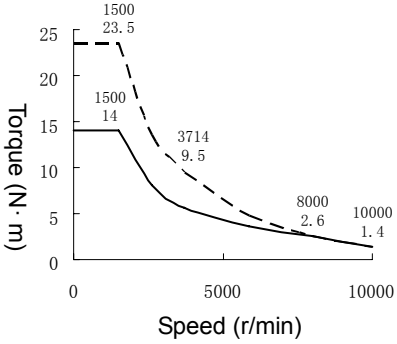
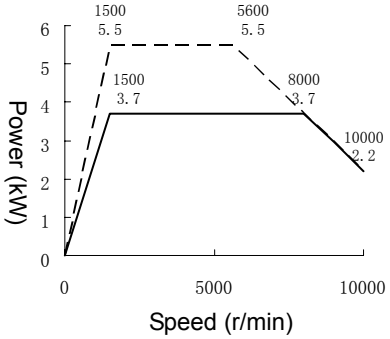
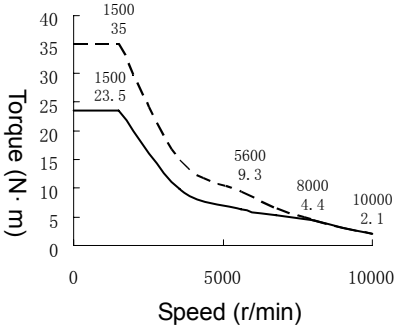
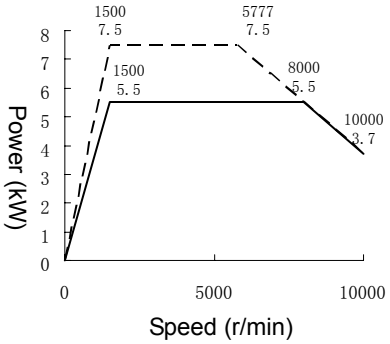
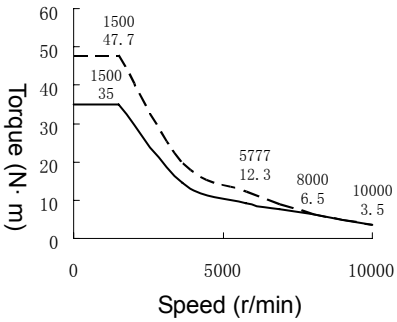
———— Power or torque in the continuous working state;

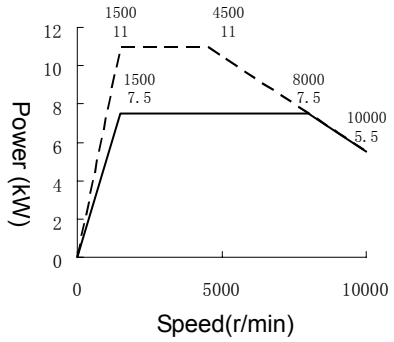
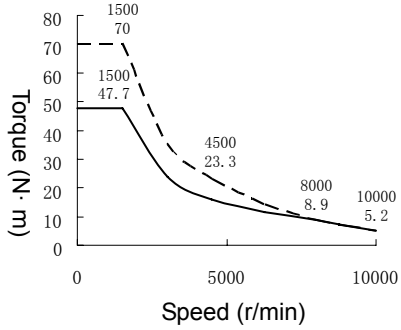
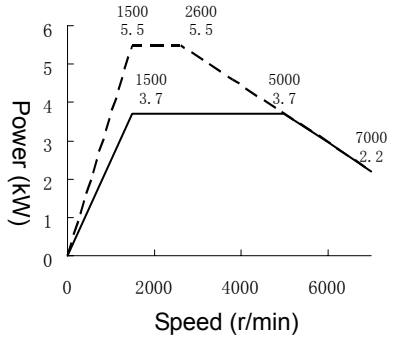
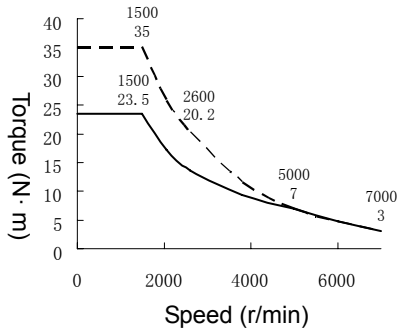
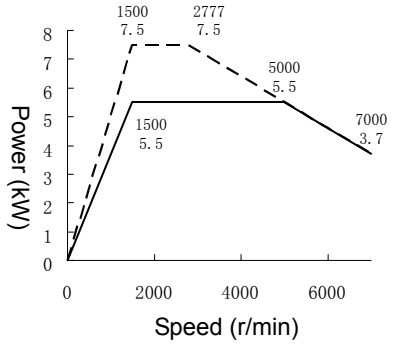
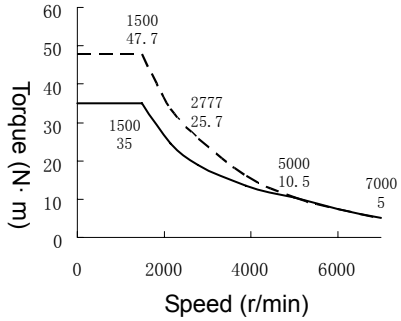
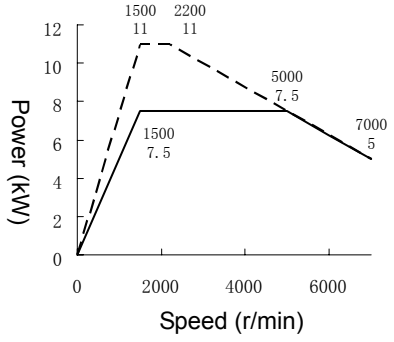
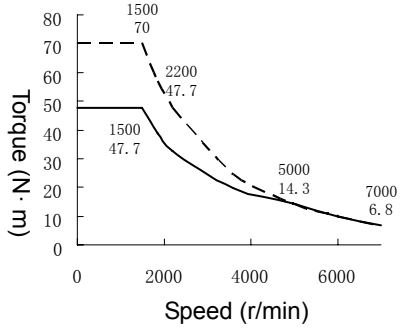
– – – – Power or torque in 30min working state.

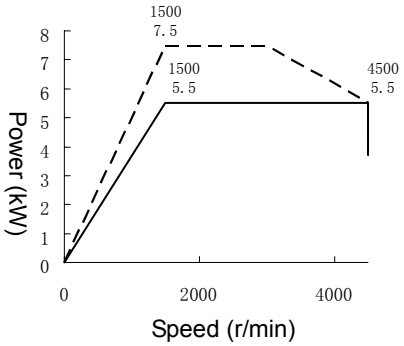
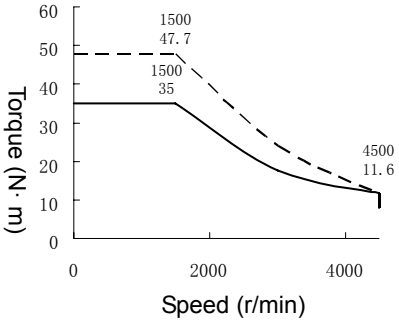
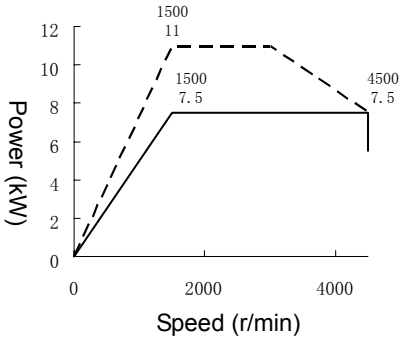
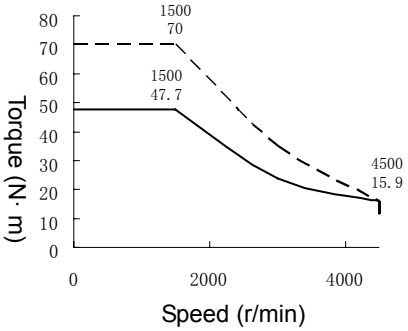
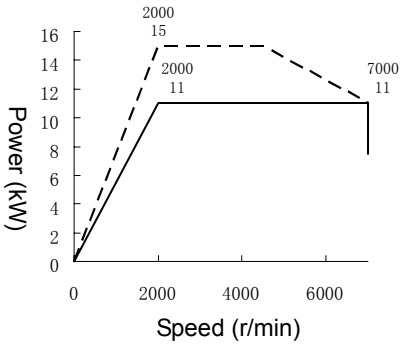
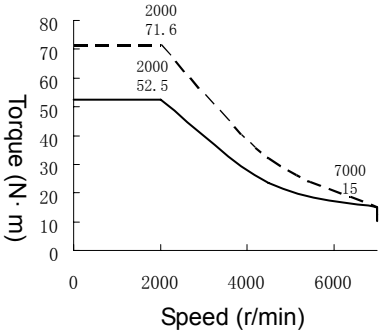
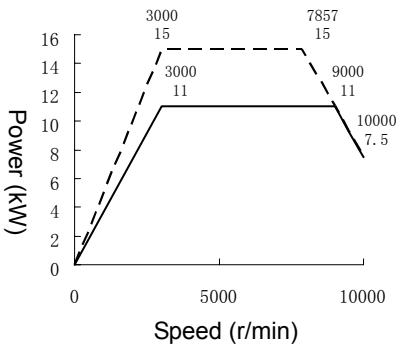
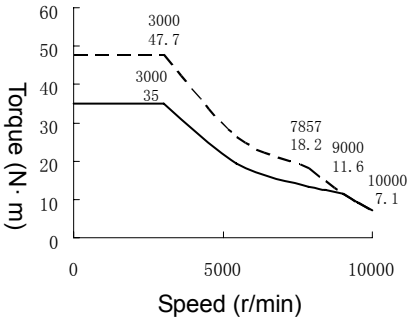
Motor type	Power curve	Torque curve
ZJY182-1.5BH		
ZJY182-2.2BH		
ZJY182-2.2CF		

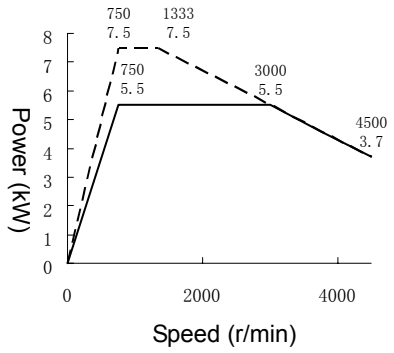
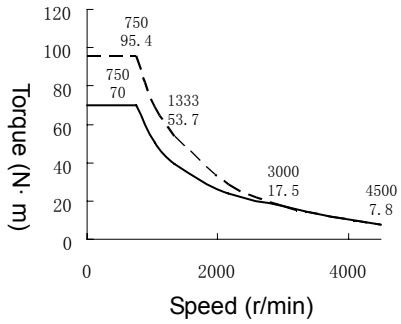
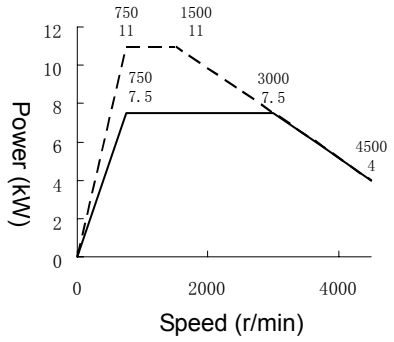
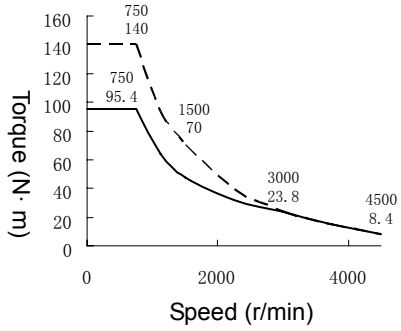
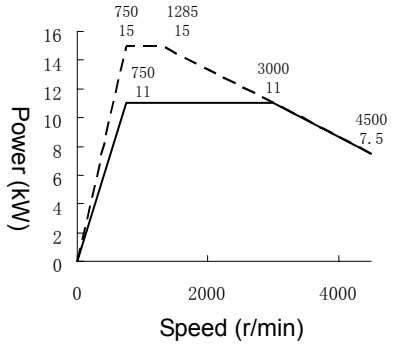
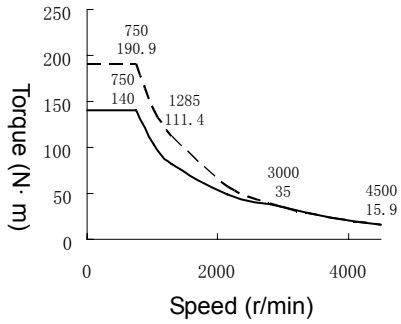
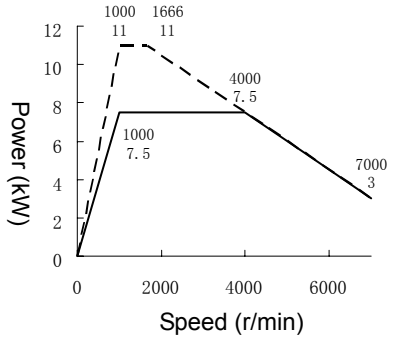
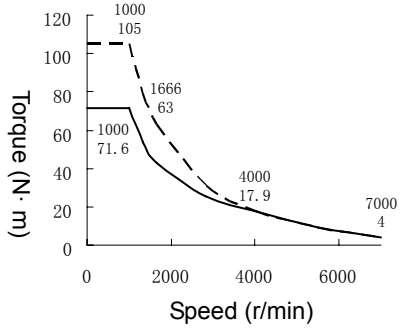
Motor type	Power curve	Torque curve
ZJY182-3.7BH		
ZJY182-3.7DF		
ZJY182-5.5CF		
ZJY182-7.5EH		

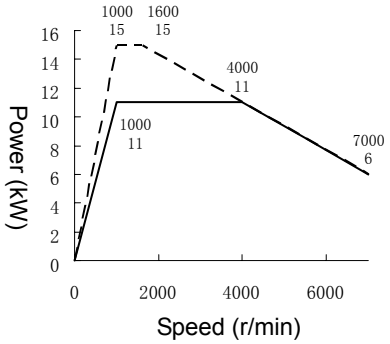
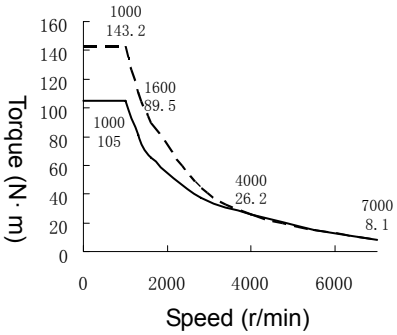
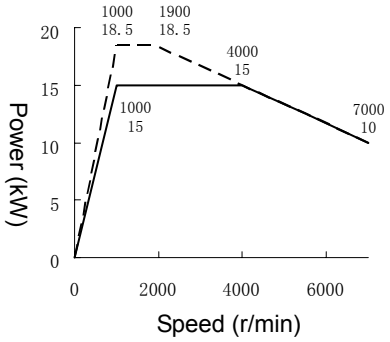
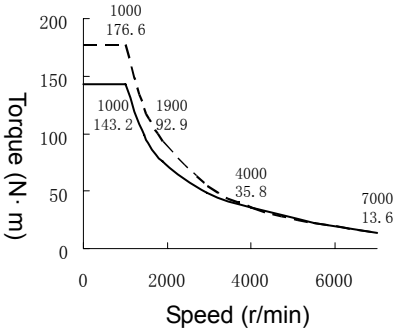
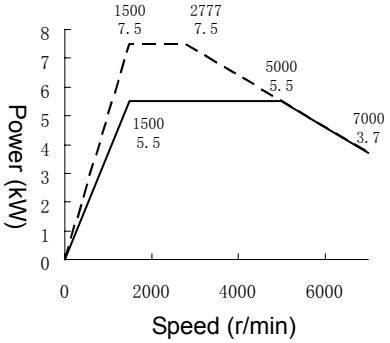
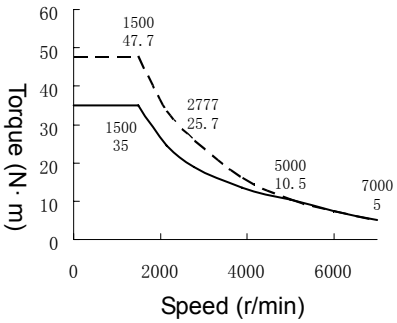
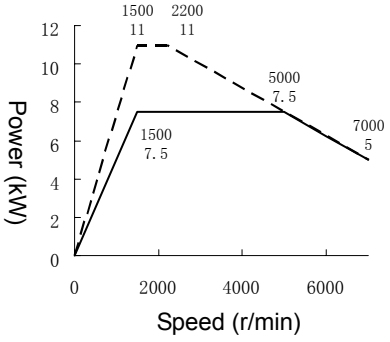
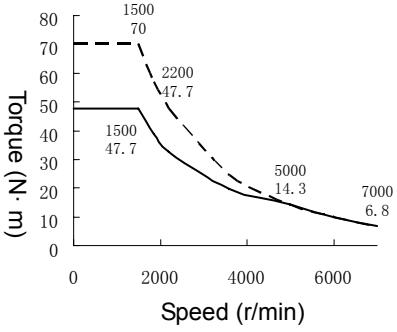
Motor type	Power curve	Torque curve
ZJY182-3.7BM		
ZJY208A-3.7WL		
ZJY208A-2.2AM		
ZJY208A-3.7AM		

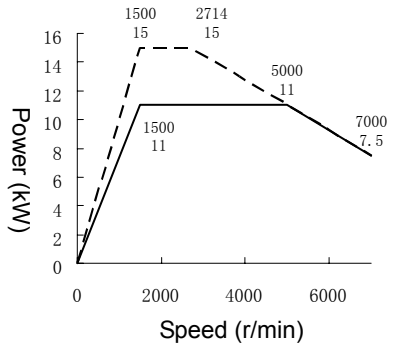
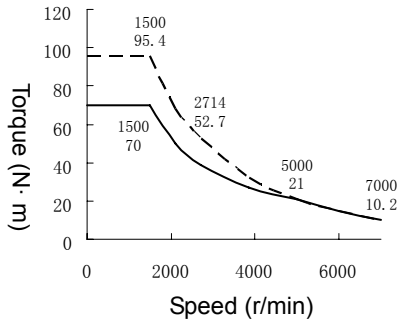
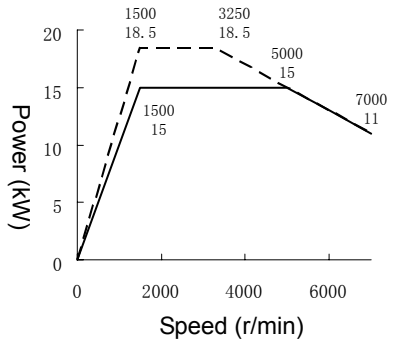
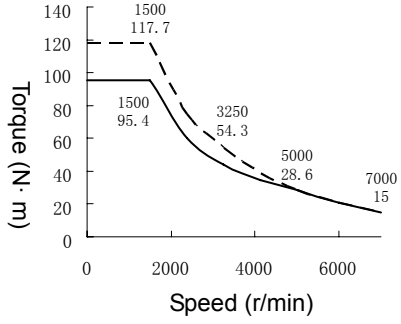
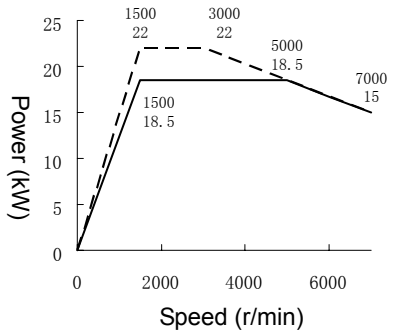
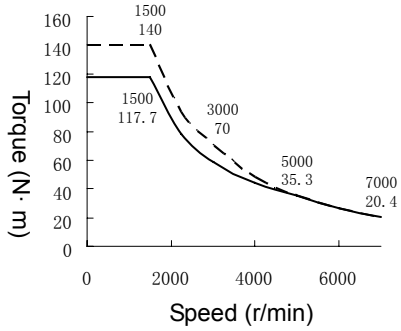
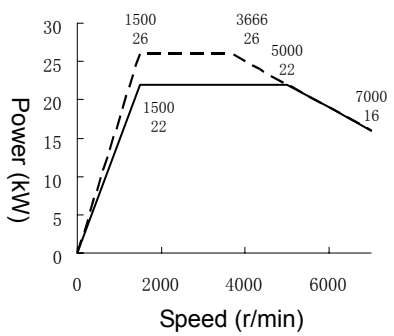
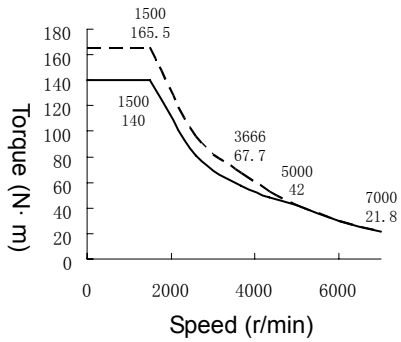
Motor type	Power curve	Torque curve
ZJY208A-5.5AM		
ZJY208A-2.2BH		
ZJY208A-3.7BH		
ZJY208A-5.5BH		

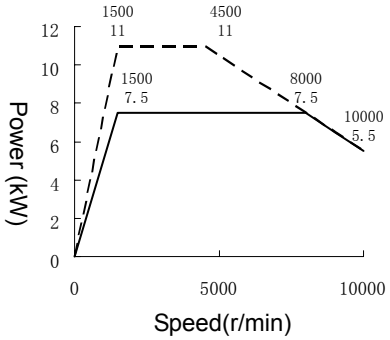
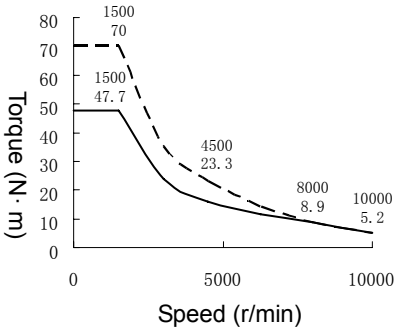
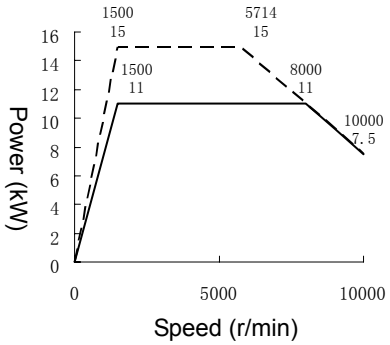
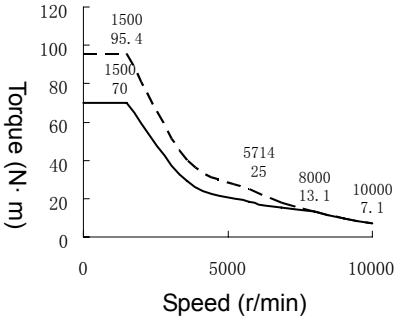
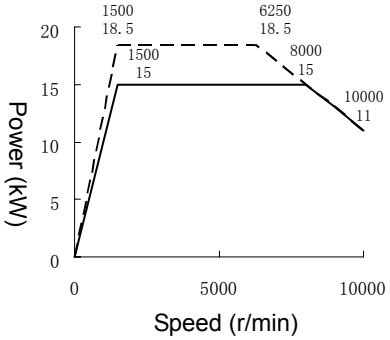
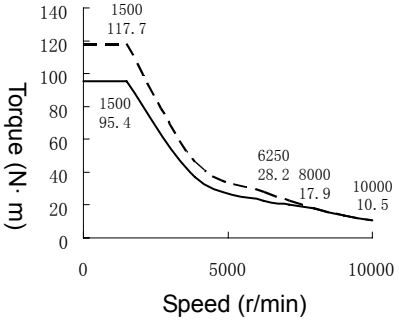
Motor type	Power curve	Torque curve
ZJY208A-7.5BH		
ZJY208A-3.7BM		
ZJY208A-5.5BM		
ZJY208A-7.5BM		

Motor type	Power curve	Torque curve
ZJY208A-5.5BL		
ZJY208A-7.5BL		
ZJY208A-11CM		
ZJY208A-11EH		

Motor type	Power curve	Torque curve
ZJY265A-5.5WL		
ZJY265A-7.5WL		
ZJY265A-11WL		
ZJY265A-7.5AM		

Motor type	Power curve	Torque curve
ZJY265A-11AM		
ZJY265A-15AM		
ZJY265A-5.5BM		
ZJY265A-7.5BM		

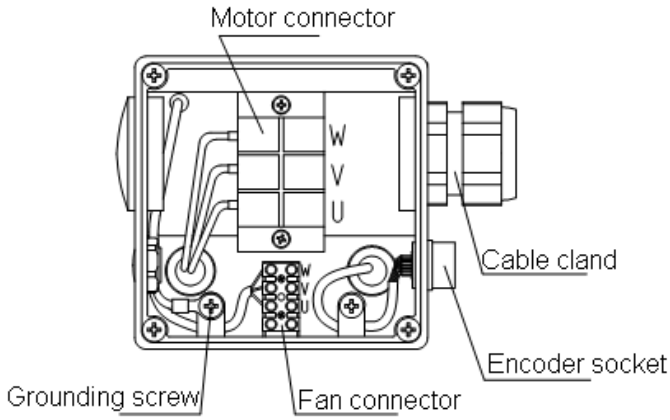
Motor type	Power curve	Torque curve
ZJY265A-11BM		
ZJY265A-15BM		
ZJY265A-18.5BM		
ZJY265A-22BM		

Motor type	Power curve	Torque curve
ZJY265A-7.5BH		
ZJY265A-11BH		
ZJY265A-15BH		

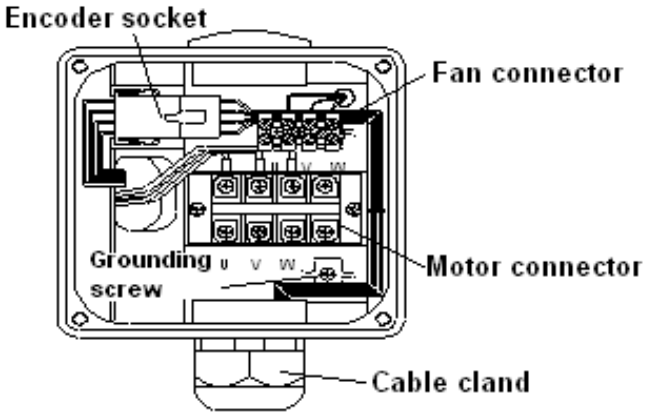
VI CONNECTION and INSTALLATION of the MOTOR

6.1 Connection of the motor and the drive

6.1.1 The three-phase winding of the motor U, V, W and the case (GND) are led out by the cable fixed head, and about the position relation in the terminal box, refer to the following figure. U, V, W and the case (GND) are respectively connected with U, V, W and PE terminals of main return circuit in the drive. The air direction of the cooling fan is from one end of the shaft to the other end.



ZJY208A & ZJY265A terminal box



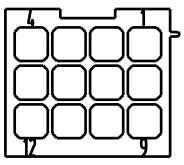
ZJY182 terminal box

6.1.2 Interface of the encoder

6.1.2.1 The incremental encoder lead of ZJY182 series motor is led out by the plug of 12-core connector in the terminal box; about its corresponding relation, refer to list 3. The outlet lead is connected with the plug of the drive feedback signal CN2 based on the drive requirement.

List 3

Encoder lead	Case (GND)	V_{CC}	GND	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$
Socket NO.	1	9	5	6	10	7	11	8	12

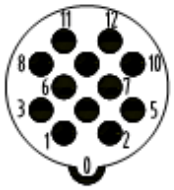


Socket（back）
Sketch map

6.1.2.2 The incremental encoder lead of ZJY208A and ZJY265A series motor is led out by the plug of 12-core connector; about its corresponding relation, refer to list 4. The outlet lead is connected with the plug of the drive feedback signal CN2 based on the drive requirement.

List 4

Encoder lead	Case (GND)	V_{CC}	GND	A	$\overline{A}$	B	$\overline{B}$	Z	$\overline{Z}$
Socket NO.	0	1	2	3	6	4	7	5	8



Round connector socket
(welding side)
sketch map

6.2 Installation of the motor

If the motor should run at the speed above 2000r/min, it's recommended to use the motor of optic axis and the pulley is fixed by the expansion sleeve. And the pulley and the expansion sleeve must reach G1 requirements after the dynamic balancing process; otherwise, the big vibration occurs during running at high speed.

6.2.1 B5 flange installation mode (or use B35 flange installation mode)

ZJY182 series uses M10×35 bolt or HEX screw. During using the HEX screw, the length of the internal hexagonal wrench should be more than the total length of the motor and the wrench can be made by the user. Take down the rubber plug on the fan cover and fasten the screw from the back side, and then, push the rubber plug. (Refer to figure 4)

Use M12×45 bolt or HEX screw on ZJY208A or ZJY265A series motor.

6.2.2 B3 footing installation mode（Or use B35 footing installation mode）

Firstly remove the covers on the sides of back cover during installation. If it is B35 structure, the rubber plug should be also taken down from the footing hole (refer to Fig. 5).

M10×30 HEX screw is used on **ZJY182** and **ZJY208A** series motor and M12×40 HEX screw is used on **ZJY265A** series motor.

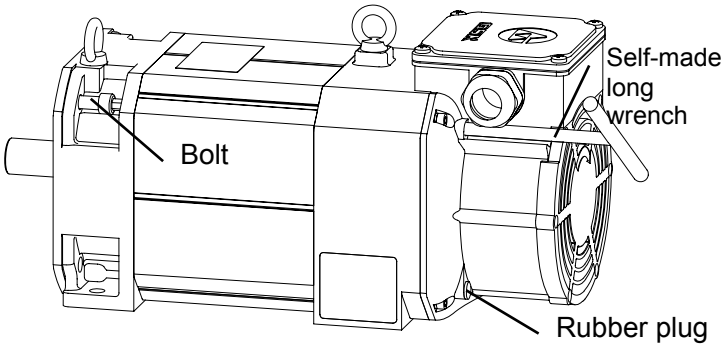


Fig. 4

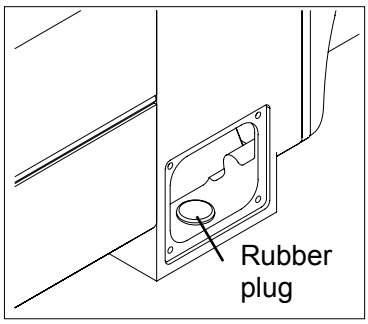


Fig. 5

After fixing the motor, the covers on the sides of the back cover should be installed; otherwise, the cooling will get affected due to air leak, which causes the motor malfunction because of overheat.

Ⅶ STORAGE of the MOTOR

The motor should be stored in the room of which temperature should be among -40℃~+70℃, and the relative air humidity of the storeroom should NOT be more than 95%; Moreover, the storeroom should be clean, ventilated and free of the corrosive gas.

Ⅷ TRANSPORTATION of the MOTOR

The motor should be put carefully and avoid hitting and impacting during transportation. And the corrosion substance, such as the sour and alkali, etc should NOT be put with the motor.

Ⅸ WARRANTY

On condition that the motor is transported, stored, installed, debugged and repaired based on the operation regulations, GSK is responsible for the motor repair free in one year from the dispatch date (on the basis of the dispatch voucher) if the motor is damaged or can't be used normally due to the quality.

Note 1: The listed motor modals in the manual are recommended by GSK, which can be used in many situations. If the user has some new requirements, GSK can provide the motor of the other specifications based on your requirements.

Note 2: The basic shaft end of the motor manufactured by GSK is the cylinder shape without the key slot type. GSK can provide the motor with different shaft end types (remark during order), like the cylinder shape with the key slot shaft end (refer to GB/ T 756—2010), based on your requirements.

Note 3: Because the spindle motor speed is very high, the rotary parts should reach the corresponding dynamic balance requirement; otherwise, it causes the big vibration and noise, even the motor and equipment get damaged. When the rotor of the spindle motor is dispatched from the factory, its dynamic balance precision should reach G0.4 at the speed of 6000r/min. And the user should pay attention to the following points:

✧ It's recommended to use the spindle motor with the optic axis;

✧ The pulley must adopt the dynamic balance processing, and its precision should reach G1 or higher (the amount of unbalance in one side should be less than 50mg.) when the speed is 6000r/min. Moreover, the weight of fixed screws should be same. Compared with the concentricity of the shaft, the installed clamping ring should NOT be more than 0.1mm;

✧ If the user has to adopt the key connection method, the pivot axis of dynamic balance should be made based on the spindle motor shaft end and the key dimension and material, and the pivot axis is for the pulley dynamic balance, and the dynamic balance precision is same as above. The pulley can be press mounted through the screw on the bolt hole at the motor shaft end, or the pulley is shrinkage installed, but it's not allowed to hit the pulley.

✧ If the required dynamic balance equipment isn't available for the user temporarily, the user can entrust GSK with the pulley balance processing and installation.

在本使用说明书中，我们将尽力叙述各种与 **GSK ZJY** 系列主轴伺服电动机相关的事项。限于篇幅限制及产品具体使用等原因，不可能对所有不必做和/或不能做的操作进行详细的叙述。因此，本使用说明书中没有特别指明的事项均视为“不可能”或“不允许”进行的操作。