

Z4系列 直流电动机

Series Z4 D-C Machines

型号说明 · Type Designation



Z4 - 200 - 2 1

端盖代号

Code for end shield *

电枢铁心长度代号

Code for armature core length **

电机中心高

Center height (mm)

系列代号

Code for series ***

注:
NOTE

*数字1、2表示短、长端盖。

*The digit 1,2 for short, and long end shield.

**就Z4-112机座而言，第一数字代表极数，第二数字为铁心长。

**As regards frame size Z4-112, the first digit means No. of poles, the second digit for core length.

***字母‘Z’意思是直流电机，数字‘4’为第4次系列设计序号。

***The letter ‘Z’ for d-c machine, the digit ‘4’ for ordinal number of the fourth series design.

电机性能 · Electrical Performance

1. 技术数据表中的数据应按下列使用条件工作

- a. 海拔不超过1000m;
- b. 周围空气温度不大于40℃;
- c. 工作环境不应含有酸性、碱性或其他对绝缘有腐蚀作用的气体;
- d. 电机为连续工作制 (S1)
- e. 电机电枢回路和励磁回路可由静止整流电源供电，也适应由直流发电机供电。
- f. 本系列电机性能均符合国标GB755《旋转电机定额和性能》

2. 电机标准额定电压为160V，440V。也可根据具体情况派生出220V、400V和660V或其他电压。

3. 电机额定转速有3000、1500、1000、750、600、500、400、300、200r/min共九档。

减小电枢电压为恒转矩调速，减小励磁电压为恒功率调速。调速范围见技术数据表。不同调速范围时的负载倍数见附录1。

在额定电压以下用调压调速时为恒转矩。其最低转速均规定为不低于20r/min,此时仍能维持额定转矩，转速平稳。

4. 电动机的基本励磁方式为他励，标准励磁电压为180V，其他励磁电压亦可协商。

为确保励磁系统绝缘的可靠性，在断开励磁回路时，需在励磁绕组两端并联一个释放电阻，以防止自感电势。在标准励磁电压时其值约为七倍励磁绕组电阻（冷态）。励磁电压高于标准电压时，并接释放电阻值可小于七倍，反之大于七倍。

5. Z4-315、Z4-355、Z4-400和Z4-450四个机座带有补偿绕组。在Z4-250和Z4-280两个机座号中可派生带有补偿绕组的电机。

6. 电机提供有接地标志的接线柱。

7. 技术数据表内的效率值为额定功率、额定电压和转速时的效率，它包括励磁损耗，不包括鼓风机损耗。

1. Data listed in the technical data sheet should be employed under the following conditions;

a. Altitude above sea level maximal 1000m;

b. Cooling air temperature maximal 40°C;

c. Ambient conditions for motors should be free from acidic, alkali fumes or other aggressive gases which corrode insulation.

d. Duty: Continuous (S1)

e. Armature and field circuit for motors may be either operated on static thyristor controlled supplies, or from d-c generator.

f. Performances of motors all comply with State Standard GB755 《Rotating electrical machines — Rating and performance》

2. Standard rated voltage: 160V or 440V. Values for 220V or 400V and 660V or other voltage may be derived on request.

3. Rated speed: 3000、1500、1000、750、600、500、400、300、200r/min, total nine grades.

Decrease armature voltage to make speed regulating under constant torque, lowering down field voltage to make speed regulating at constant out-put. Speed regulating range; see technical data. The given multiple of load to ranted load of different speed range see Appendix 1.

The torque can be remained consta by reducing speed via armature voltage weakening below rates value. It is stipulated that armature speed range down to maximal 20r/min at constant torque and stable running.

4. Separate excitation is basic excitation type of the motors. Nominal field voltage: 180V. Other excitation voltage are also acceptable on request.

To assure the reliability of insulation of excitation system, the motor must be protected againse self-induced voltages by a release resistor connected in parallel with the field winding when the excitation circuit of the motor is interrupted. At rated field winding resistance (cold). While the field voltage is higher than nominal voltage, the value of shunt resistance may be lower than seven- times field resistance, otherwise higher than seven-times.

5. Both frame size Z4-315、Z4-355、Z4-400 and Z4-450 compensating windings are provender. For frame size Z4-250 and Z4-280 the motors are feasible with a compensating winding too.

6. A marked earthing terminal is provided for the motors.

7. The efficiencies listed in the data sheet are for rated output, voltage and speed, and include excitation losses, excluding separte ventilating fans.

结构简介 · Construction

1、电机的防护及安装结构型式

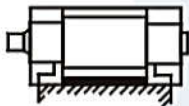
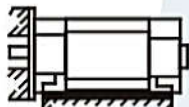
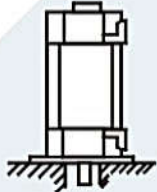
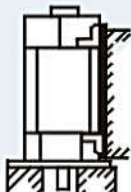
1. Protection, mounting and type of construction:

a. 整个系列防护形式为IP21S。

a. Types of protection of the whole series IP21S.

b. 安装方式符合国际标准GB/T997规定，本系列具有下列安装型式：

b. Mounting modes comply with the State Standard GB/T997 stipulated as follows:

安装型式 Mounting Type	使用范围 For use in
 <p>IMB-3</p>	Z4-100 ~ Z4-450
 <p>IMB-35</p>	Z4-100 ~ Z4-315
 <p>IMV-1</p>	Z4-100 ~ Z4-225 (电机带有不作安装的底脚) (The machines are always delivered with feet, even when they are flange-mounted)
 <p>IMV-15</p>	Z4-100 ~ Z4-315

2、冷却方式：

整个电机系列的冷却方式均为他冷、强迫通风，在径向配有骑式鼓风机，独立供电，并附空气过滤器。电机可制成IC06，IC17，IC37三种冷却方式。

- a. Z4-100~Z4-160，其鼓风机装于非传动侧。
- b. Z4-180~Z4-450，其鼓风机装于传动侧。
- c. 各机座号所需的冷却风量、风压及风机电动机功率为：（见表1）

2、Methods of Cooling:

Modes of cooling for all the motors are separate cooling, force ventilated. Cooling by frame radially mounted, separately powered ventilating fan, and attached an air filter. Modes of cooling for motors may be made into three types, namely IC06, IC17 and IC37.

- a. For Z4-100~Z4-160, the blower is mounted on the non-drive side.
- b. For Z4-180~Z4-450, the blower is mounted on the drive side.
- c. The required cooling air volume, air pressure and fan motor capacity are shown below: (Table 1)

表1 (Table 1)

机座号 Frame Size	风量(m ³ /hr) Air Volume	静压(Pa) Static Pressure	电动机功率(kw) Motor Output
Z4-100	160	200	0.04
Z4-112	220	300	0.06
Z4-132	360	450	0.18
Z4-160	790	600	0.37
Z4-180	1200	940	1.1
Z4-200	1600	940	1.1
Z4-225	2880	1400	3.0
Z4-250	3000	1400	3.0
Z4-280	4000	1600	4.0
Z4-315	4680	1600	5.5
Z4-355	5200	1600	5.5
Z4-400	7200	1800	5.5
Z4-450	9000	1800	7.5

*风机电动机均为三相二极380V.

*All the ventilating fan motors are of three phase, two pole, 380V.

以下五种冷却方式也可接受订货，但先要咨询。

- a. 中心高100至250机座可制成IC410全封闭自冷式电机。
- b. 中心高180至250机座可制成IC05鼓风机装在电机非传动侧的他冷式电机。
- c. 中心高100至200机座可制成IC01电机轴上自带风扇的自冷式电机。
- d. 中心高160至355机座可制成IC666电机带有独立空/空冷却器的全封闭冷却空气内循环的电机。
- e. 中心高160至450机座可制成IC86W电机带有独立空/水冷却器的全封闭电机。

3、出线盒的位置，从传动侧视之，在机座右侧。根据需要也可装于机座左侧或上方。

4、电机可配带测速发电机等附件于非传动端。

5、电机的传动方式为弹性联轴器连接。机组配合须小心对准。

对于有径向力的传动方式（皮带或齿轮传动），其允许承受的径向力不应大于下列曲线上的数值（见附录2）。电机造型紧凑、美观。出线盒宽敞，接线和维修方便。

备注：技术数据表中的规格、功率和弱磁调速范围等仅供参改，为了不断采用新技术，表中的数据会有变动。

Motors with the following five methods of cooling can be also ordered, but prior consultations are needed.

a. Frame size 100 up to 250 may be made into the totally enclosed, frame cooled motor (IC410).

b. Frame size 160 up to 250 may be made into the separately ventilated motor with blower mounted on its non-drive side (IC05).

c. Frame size 100 up to 200 may be made into the self cooled open motor with its own fan mounted on the shaft (IC01).

d. Frame size 160 up to 355 may be made into totally enclosed motor with internal cooling air circulation by independent air-air heat exchanger mounted on it (IC666).

e. Frame size 160 up to 450 may be made into totally enclosed motor with independent air-Water heat exchanger mounted on it (IC86W).

3、Standard terminal box mounting is on the right hand side seen from the drive end of the motor. As an alternative, mounting at the top or on the left-hand side is possible on request.

4、Motors, if needed, can be fitted a tachogenerator or other accessories at the non-drive end.

5、Motors, when directly coupled, must use elastic or flexible couplings. The drive and driven units must be aligned with the utmost care.

Radial forces acting on the shaft extensions (belt or pinion driver) must not exceed the values given in the diagrams on the following pages (see Appendix 2).

Motors are of compact structure, elegant appearance, spacious terminal box, easier wiring, serving and maintenance.

Remarks: The ratings, output and speed range through field weakening etc. Listed below are merely for reference. For purposes of incessantly adopting up-to-date technology, the data listed in the following table are subject to revision.

特点和用途

Z4系列直流电机是我公司主导产品，广泛用作各类机械的传动源，诸如冶金工业轧机传动，金属切削机床、造纸、印刷、纺织、印染、水泥、塑料挤出机械、木工机械等等。

本系列电机的外形安装尺寸除了两底脚孔间轴向尺寸‘B’之外，符合IEC72国际标准。

本系列电机的性能及技术要求可按照国际电工委员会标准IEC34-1或德国国家标准DIN57530的要求考核。

本系列电机采用多角形结构，空间利用率高。定子磁轭为叠片式。适用整流电源供电，能承受脉动电流与电流急剧变化（负载变化）之工况。磁极安装有精确定位，因而换向良好。

电机绝缘等级为F级，采用可靠绝缘结构及真空浸漆工艺，保证绝缘性能稳定和良好散热。

本系列电机具有体积小、转动惯量小、动态性能好、重量轻、输出功率大、效率高及可靠性高的特点，可以与当今国际先进水平的电机较量。

电动机可用三相全控桥式整流电源，不需外接平波电抗器而长期工作。额定电压为160V的电机由单相桥式电源供电，此时电枢回路须接入电抗器以抑制脉动电流，其电感值如表中所示。

Features and Uses

Series Z4 D-C motors are dominant products of our factory. The products are found wide use for prime mover in various in various machinery, such as mill auxiliary in metallurgical industry, metal cutting machine tool, paper-making, print textile, peinting and dyeing, cement-making, plastic extruding machine woodwork machine etc.

Outline mounting dimensions of the motors comply with IEC 72 Standard, except for the axial distance between the mounting holes (dimension B).

Performances and technical requirements of the motors can be checked in accordance with IEC 34-1 Standard of the international Electro technical Commission, or DIN57530 Norm of the Deutsche Industrie-Norm.

The angular shape of the machine makes good use of space. The motors have laminated yokes, which means that when used on rectifier power supplies they can endure both current ripple and rapid current changes (load change) under dynamic condition. The stator design leads to high accuracy of pole spacing and consequent good commutation.

Motors are class F insulated, with reliable insulating construction and impregnating process, ensuring stable dielectric performance and excellent heat dissipation.

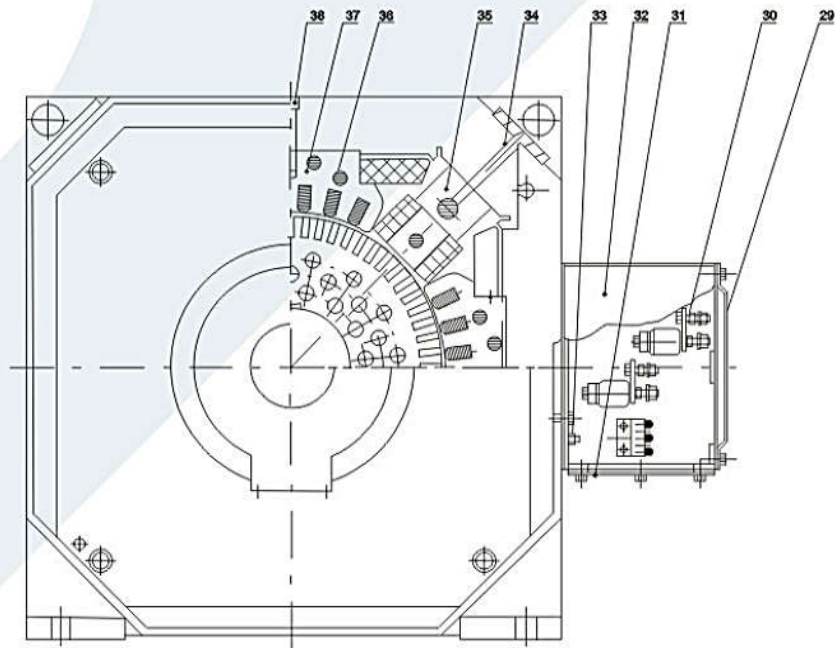
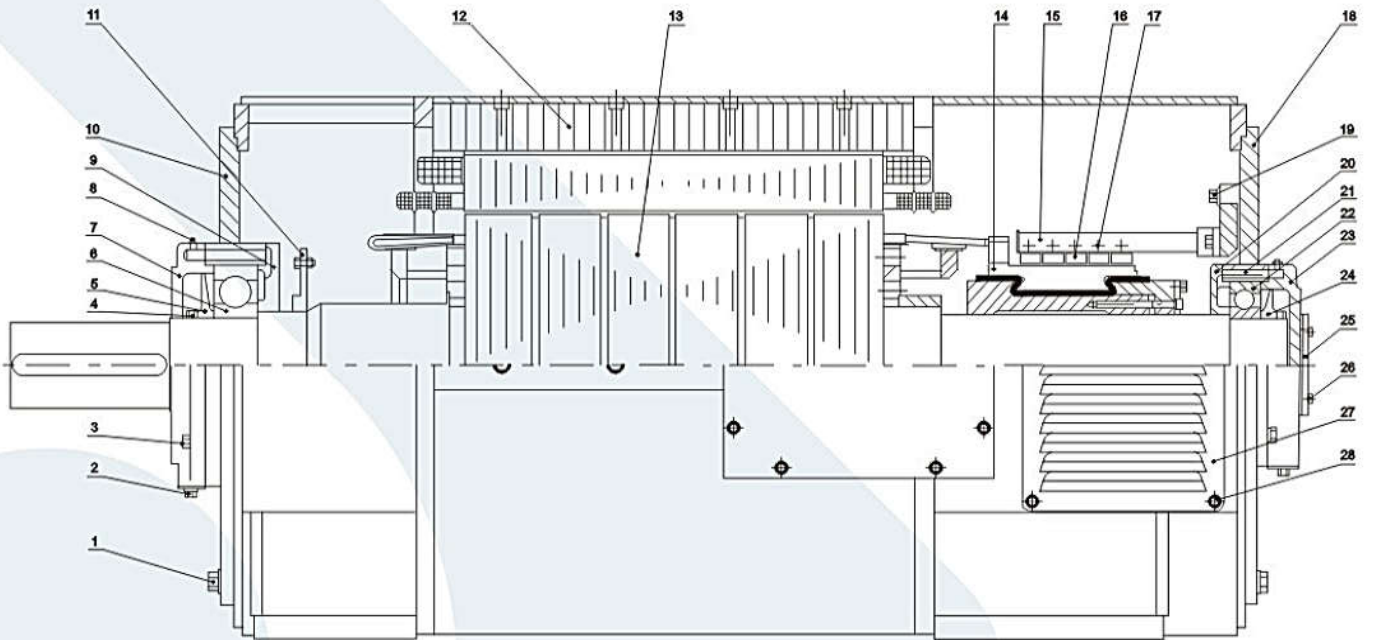
The motors possess the features of small size. Smaller moment of inertia better dynamic characteristics, light weight, larger KW output, high efficiency and reliability, being able to match the current international advanced level.

The motors can be lastingly operated from fully controlled three phase bridge without a smoothing reactor. Motors for 160V may be operated on single phase bridge thyristor. In that case, a smoothing reactor, whose inductance is specified in the relevant technical data, should be inserted in the armature circuit to suppress ripple current.

订货说明 · Notice on Order

- 1、订货前，请先查阅产品目录，明确所需产品的型号规格等数据。如所需品种、规格与目录中有出入，请即与我公司联系。如有特殊要求，请事先提出具体而明确的要求，与我公司有关部门协商，经同意后签订合同或试制协议。
- 2、订货时请注明电机型号、功率、电压、转速、工作制、结构类型、励磁方式、励磁电压、出轴数、出线盒位置、旋转方向以及所需附件，备品名称等。
- 3、如使用环境特殊，需要湿热带型，原型号后面请注明“TH”。

1. Please refer to our catalogue before ordering, if the types, ratings you need are not covered by our booklet please contact us. Should you have particular needs, please offer us specific proposal in advance. A contract or pilot production agreement may be made when the requirements are fixed by common consent.
2. Please write clearly the type, output, volts, speed, duty, type of construction, excitation, field voltage, No. Of shaft-end, location of terminal box, necessary accessories and spare parts etc.
3. If the humid-tropical type required, please mark "TH" behind the original type number.



1、	传动侧和非传动侧端盖紧固螺钉	Fastening screw of endshield AS & NS**
2、	传动侧和非传动侧轴承盖出油盖板	Oil-cap of ball bearing AS & NS
3、	传动侧轴承盖螺钉	Screw of bearing cover AS*
4、	传动侧和非传动侧轴套止动螺钉	Headless screw centrifugal disc AS & NS
5、	传动侧轴套（甩油圈）	Centrifugal disc AS
6、	传动侧球轴承	Ball bearing AS
7、	传动侧外轴承盖	Bearing cover AS outer
8、	传动侧和非传动侧油嘴	Oil nipple AS & NS
9、	传动侧内轴承盖	Bearing cover AS inner
10、	传动侧端盖	Endshield AS
11、	传动侧平衡盘	Balancing disc AS
12、	机座	Frame
13、	电枢	Armature
14、	换向器	Commutator
15、	刷架	Brush rocker
16、	刷握	Brush holder
17、	电刷	Carbon brush
18、	非传动侧端盖	Endshield NS
19、	带垫圈的紧固螺钉	Fastening screw with washer NS
20、	非传动侧内轴承盖	Bearing cover NS inner
21、	非传动侧轴承端盖螺钉	Screw of bearing cover NS
22、	非传动侧球轴承	Ball bearing NS
23、	非传动侧外轴承盖	Bearing cover NS outer
24、	非传动侧轴套（甩油圈）	Centrifugal disc NS
25、	轴端盖板	Endplate NS
26、	轴端盖板螺钉	Screw of endplate NS
27、	非传动侧百叶窗	Louvre NS
28、	非传动侧百叶窗螺钉	Screw of louvre NS
29、	接线盒盖板	Terminal box lid
30、	接线排	Terminal
31、	带密封圈的出线盒盖板	Outlet plate with gasket-sealing
32、	接线盒	Terminal box
33、	接地螺栓	Grounding bolt
34、	换向极螺钉	Screw of compole
35、	换向极	Compole
36、	补偿绕组	Compensating winding
37、	主极	Main pole
38、	主极螺钉	Screw of main pole

Note:

*AS:Drive side

**NS:Non-driver side

技术数据表 • Technical Data

表2 (Table 2)

型号 Type	额定功率	额定转速		弱磁转速	电枢电流	励磁功率	电枢回路电阻	电枢回路电感	磁场电感	外接电感	效率	惯量矩	重量
	Rated Out- Put	Rated Speed		Speed with Field Weaking	Arm. Curr.	Field power	Arm. Circuit Resistance	Arm. Circuit Inductance	Field. Inductance	Smoothing. Induct.	Eff.	Moment Of Inertia	Wt.
	P_N	160V	400V	440V	n_F	I_N	P_F	R	L_A	L_F	L_R	GD^2	
	kW	r/min		r/min	A	W	$\Omega(20^\circ C)$	mH	H	mH	%	$kg \cdot m^2$	kg
Z4-100-1	2.2	1490		3000	17.9	315	1.19	11.2	22	15	67.8	0.044	72
	1.5	955		2000	13.3		2.17	21.4	13	15	58.5		
	4	2630		4000	12		2.82	26	18		78.9		
	4	2960		4000	10.7						80.1		
	2	1310		3000	6.6		9.12	86	18		68.4		
	2.2	1480		3000	6.5		16.76	163	18		70.6		
	1.4	860		2000	5.1						60.3		
	1.5	990		2000	4.77						63.2		
Z4-112/2-1	3	1540		3000	24	320	0.785	7.1	14	20	69.1	0.072	100
	2.2	975		2000	19.6		1.498	14.1	13	20	62.1		
	5.5	2630		4000	16.4		1.933	17.9	17		79.9		
	5.5	2940		4000	14.7						81.1		
	2.8	1340		3000	9.1		6	59	17		71.2		
	3	1500		3000	8.6		11.67	110	13		72.8		
	1.9	855		2000	6.9						61.1		
	2.2	965		2000	7.1						63.5		
Z4-112/2-2	4	1450		3000	31.3	350	0.567	6.2	14	12	72.6	0.088	107
	3	1070		2000	24.8		0.934	10.3	14	10	66.8		
	7	2660		4000	20.4		1.305	14	19		82.4		
	7.5	2980		4000	19.7						83.5		
	3.7	1320		3000	11.7		4.24	48.5	19		74.1		
	4	1500		3000	11.2		7.62	83	14		76		
	2.6	895		2000	9						65.1		
	3	1010		2000	9.1						67.3		
Z4-112/4-1	5.5	1520		3000	42.5	500	0.38	3.85	6.8	6.5	73	0.128	106
	4	990		2000	33.7		0.741	7.7	6.7	4.5	64.9		
	10	2680		3500	29		0.89	9	6.8		82.7		
	11	2950		3500	28.8						83.3		
	5	1340		1800	15.7		3.01	30.5	6.8		74.3		
	5.5	1480		1800	15.4		5.78	60	6.7		75.7		
	3.7	855		1100	13						65.2		
	4	980		1100	12.2						68.7		
Z4-112/4-2	5.5	1090		2000	43.5	570	0.441	5.1	7.8	6	69.5	0.156	114
	13	2740		3600	37		0.574	6.4	5.8		84.4		
	15	3035		3600	38.6		2.12	24.1	7.8		85.4		
	6.7	1330		1800	20.6						76.8		
	7.5	1480		1800	20.6		3.46	40.5	5.8		78.4		
	5	955		1200	16.1						71.1		
	5.5	1025		1200	15.7						71.9		

型号 Type	额定功率	额定转速		弱磁转速	电枢电流	励磁功率	电枢回路电阻	电枢回路电感	磁场电感	效率	惯量矩	重量
	Rated Out-Put	Rated Speed		Speed with Field Weaking	Arm. Curr.	Field power	Arm. Circuit Resistance R	Arm. Circuit Inductance L _A	Field. Inductance L _F	Eff.	Moment Of Inertia GD ²	Wt.
	P _N	400V	440V	n _F	I _N	P _F	R	L _A	L _F	%	kg·m ²	kg
	kW	r/min		r/min	A	W	Ω(20°C)	mH	H			
Z4-132-1	18.5	2610		4000	52.2	650	0.368	5.3	6.5	85	0.32	140
	18.5	2850		4000	47.1					85.9		
	10	1330		2100	30.1					79.4		
	11	1480		2200	29.6					80.9		
	7	865		1600	22.7					71.9		
	7.5	975		1600	21.4					74.5		
Z4-132-2	20	2800		3600	55.4	730	0.226	3.65	10	87.8	0.4	160
	22	3090		3600	55.3					88.3		
	15	1360		2500	44.5					81.2		
	15	1510		2500	39.5					83.4		
	10	905		1400	31.1					75.6		
	11	995		1400	30.5					77.7		
Z4-132-3	27	2720		3600	74.5	800	0.1905	3.4	21	88.2	0.48	180
	30	3000		3600	75					88.6		
	18.5	1390		2100	53.2					83.6		
	18.5	1540		2200	47.6					84.7		
	13.5	945		1600	40.5					79.4		
	15	1050		1600	40.5					80.5		
Z4-160-11	33	2710		3500	93.4	820	0.1835	3.15	10	87.4	0.64	220
	37	3000								88.5		
	19.5	1350		3000	58.8					80.4		
	22	1500								82.6		
Z4-160	-22	2710		3500	113	920	0.1426	2.7	10	88.2	0.76	242
	45	3000								89.1		
	-21	900		2000	50.5					77.9		
	18.5	1000								79.4		
Z4-160-31	-32	2710		3500	137	1050	0.097	2.07	11	89.1	0.88	268
	55	3010								90.2		
	27	1350		3000	77.8					84.7		
	30	1500								85.7		
	-31	900		2000	59.1					79.1		
	22	1000								81.7		
Z4-180-11	33	1350		3000	95.4	1200	0.29	5.8	7.1	84.7	1.52	326
	37	1500								86.5		
	16.5	670		1900	51.4					75.5		
	18.5	750								78.1		
	13	540		1400	42.4					73		
	15	600								74.1		

型号 Type	额定功率 Rated Out- Put	额定转速 Rated Speed		弱磁转速 Speed with Field Weaking	电枢 电流 Arm. Curr.	励磁 功率 Field power	电枢回路 电阻 Arm. Circuit Resistance	电枢回路 电感 Arm. Circuit Inductance	磁场电感 Field. Inductance	效率 Eff.	惯量矩 Moment Of Inertia	重量 Wt.
	P_N	400V	440V	n_F	I_N	P_F	R	L_A	L_F	%	GD ²	kg
	kW	r/min	r/min	r/min	A	W	$\Omega(20^\circ\text{C})$	mH	H		kg·m ²	kg
Z4-180-21	-22	67	2710	3400	185	1400	0.0555	1.16	6.9	89.5	1.72	350
		75	3000							90.7		
	-21	40.5	1350	2800	115		0.2125	4.65	6.6	85.8		
		45	1500							87		
	-21	27	900	2000	78.7		0.419	9.3	7.3	82.2		
		30	1000							83.7		
	-21	19.5	670	1400	60.3		0.756	15.7	7.1	77.3		
		22	750							79.7		
	-21	16.5	540	1600	52		1.003	21.9	5	73.8		
18.5		600	76.8									
Z4-180-31	-31	33	900	2000	96.6	1500	0.332	7.7	6.6	82.8	1.92	380
		37	1000							83.6		
	-31	19.5	540	1250	61.8		0.801	19	6.6	74.8		
		22	600							76.6		
Z4-180-41	-42	81	2710	3200	221	1700	0.051	1.16	12	91	2.2	410
		90	3000							91.3		
	-41	50	1350	3000	139		0.1417	3.2	5.7	87.5		
		55	1500							87.7		
	-41	27	670	2000	79.5		0.459	10.4	6.3	80.4		
		30	750							81.1		
Z4-200	-12	99	2710	3000	271	1400	0.0373	0.83	7.62	90.2	3.68	485
		110	3000							91.6		
	-11	40.5	900	2000	118		0.2653	8.4	7.01	83.4		
		45	1000							85.5		
	-11	33	670	1600	99		0.369	10.6	7.77	80.2		
		37	750							82.9		
	-11	19.5	450	1000	63.5		0.93	21.9	7.3	72.2		
		22	500							77.4		
Z4-200	-21	67	1350	3000	188	1500	0.0885	2.8	6.78	88.7	4.2	530
		75	1500							89.6		
	-21	27	540	1000	82		0.535	14	9.64	78.8		
		30	600							80.4		
Z4-200	-32	119	2710	3200	322	1750	0.0266	0.79	10.9	91.7	4.8	580
		132	3000							92.4		
	-31	81	1350	2800	224		0.0771	2.6	5.61	88.7		
		90	1500							90		
	-31	49.5	900	2000	141		0.1751	4.8	8.54	85.6		
		55	1000							87.1		
	-31	40.5	670	1400	119		0.283	8.5	8.35	82.5		
		45	750							84.1		
	-31	33	540	1200	101		0.42	12.2	8.42	79.6		
		37	600							82		
	-31	27	450	750	83.5		0.598	17.1	8.4	77.5		
		30	500							79.5		

型号 Type	额定功率 Rated Out-Put	额定转速 Rated Speed		弱磁转速 Speed with Field Weaking	电枢电流 Arm. Curr.	励磁功率 Field power	电枢回路电阻 Arm. Circuit Resistance	电枢回路电感 Arm. Circuit Inductance	磁场电感 Field. Inductance	效率 Eff.	惯量矩 Moment Of Inertia	重量 Wt.	
	R_N	400V	440V	n_F	I_N	P_F	R	L_A	L_F	%	GD ²	kg	
	kW	r/min		r/min	A	W	$\Omega(20^\circ\text{C})$	mH	H		kg·m ²	kg	
Z4-225-11	99	1360		3000	276	2300	0.0664	2.1	4.45	87.9	5	680	
	110	1500								89.4			
	67	900		2000	193		0.1406	4.9	4.28	84.4			
	75	1000								86.5			
	49	680		1300	146		0.2433	8.7	5.77	81.2			
	55	750								84			
	40	540		1200	123		0.356	9.5	6.38	78.2			
	45	600								80.8			
	33	450		1000	103		0.476	15.2	6.10	76.5			
	37	500								78.8			
Z4-225-21	49	540		1000	148	2470	0.2648	9.5	4.14	79.3	5.6	740	
	55	600								82.4			
	40	450		1000	125		0.397	13.7	5.41	76.6			
	45	500								78.9			
Z4-225-31	119	1360		2400	327	2580	0.0454	1.5	5.33	89.3	6.2	800	
	132	1500								90.5			
	81	900		2000	227		0.093	3.4	5.3	86.9			
	90	1000								88			
	67	680		2250	197		0.167	5.1	5.44	82.5			
	75	750								85.1			
Z4-250	-12	144	1360		2100	2500	0.0444	1.3	4.29	88.8	8.8	890	
		160	1500							89.9			
	-11	99	900		2000		281	0.0911	2.4	4.55			86.2
		110	1000										88.1
Z4-250-21	167	1360		2200	459	2750	0.0325	0.91	4.28	89.8	10	970	
	185	1500								90.5			
	81	680		2250	234		0.1306	3.9	5.41	83.2			
	90	750								85.2			
Z4-250-31	180	1360		2400	493	2850	0.0281	0.87	5.32	90.4	11.2	1070	
	200	1500								91.5			
	119	900		2000	334		0.0668	1.7	5.46	87.4			
	132	1000								89.1			
	67	540		2000	204		0.202	4.0	4.0	80.8			
	75	600								84.6			
	49	450		1500	152		0.305	7.3	5.1	78.5			
	55	500								82.4			
Z4-250-41	-41	198	1360		2400	3000	0.0237	0.93	6.19	91	12.8	1180	
		220	1500							91.7			
	-42	144	900		2000		401	0.0485	1.9	4.53			88.0
		160	1000										89.2
	-41	99	680		1900		283	0.0102	2.6	5.3			85.8
		110	750										87.4
	-41	81	540		1600		236	0.141	4.7	6.36			83.4
		90	600										85
	-41	67	450		1500		201	0.195	5.1	4.97			80
		75	500										83.4

型号 Type	额定功率	额定转速		弱磁转速	电枢 电流	励磁 功率	电枢回路 电阻	电枢回路 电感	磁场电感	效率	惯量矩	重量	
	Rated Out- Put	Rated Speed		Speed with Field Weaking	Arm. Curr.	Field power	Arm. Circuit Resistance	Arm. Circuit Inductance	Field. Inductance	Eff.	Moment Of Inertia	Wt.	
	R _N	400V	440V	n _F	I _N	P _F	R	L _A	L _F	%	GD ²		
	kW	r/min		r/min	A	W	Ω(20°C)	mH	H		kg·m ²	kg	
Z4-280-11	225	1355		2000	614	3100	0.02134	0.69	4.58	90.9	16.4	1280	
	250	1500								91.6			
Z4-280	-22	253	1355		1800	684	3500	0.01796	0.77	5.3	91.5	18.4	1400
		280	1500								92.1		
	-21	180	900		2000	498		0.0373	1.2	4.46	89.1		
		200	1000								90.1		
	-21	119	675		1600	333		0.0662	2.3	4.37	87.1		
		132	750								88.6		
	-21	99	540		1500	281		0.093	3.1	4.57	84.7		
		110	600								86		
Z4-280-32	-32	284	1360		1800	768	3600	0.01493	0.59	6.94	91.7	21.2	1550
		315	1500								92.6		
	-31	198	900		2000	545		0.0314	1.1	5.54	89.7		
		220	1000								90.6		
	-31	144	675		1700	402		0.0532	2	5.47	87.8		
		160	750								89.1		
	-31	118	540		1000	339		0.0839	2.6	5.77	85.4		
		132	600								86.8		
	-31	80	450		1400	234		0.1377	5.3	9.03	84.1		
		90	500								85.4		
Z4-280-41	-42	225	900		1800	616	4000	0.02545	0.96	5.29	90.2	24	1700
		250	1000								91.1		
	-41	166	675		1900	464		0.0457	1.7	5.19	88.1		
		185	750								89.4		
	-41	98	450		1000	282		0.0993	3.7	6.86	85.1		
		110	500								86.9		
Z4-315-12	321	1360		1800	865	3850	0.015	0.39	8.64	92.2	21.2	1890	
		1500								92.8			
	253	900		1600	690		0.02355	0.46	5.06	90.4			
		1000								91.6			
	180	680		1900	500		0.04371	0.83	4.97	88.4			
		750								89.4			
Z4-315-11	144	540		1900	409	3850	0.06919	1.3	7.6	86.4	21.2	1890	
		600								87.4			
	118	450		1600	344		0.1	2.3	9.43	84.4			
		500								86.3			
	98	360		1200	294		0.1415	2.9	9.96	81.7			
		400								84.3			

型号 Type	额定功率	额定转速		弱磁转速	电枢电流	励磁功率	电枢回路电阻	电枢回路电感	磁场电感	效率	惯量矩	重量									
	Rated Out- Put	Rated Speed		Speed with Field Weaking	Arm. Curr.	Field power	Arm. Circuit Resistance R	Arm. Circuit Inductance L _A	Field. Inductance L _F	Eff.	Moment Of Inertia GD ²	Wt.									
	P _N	400V	440V	n _F	I _N	P _F	Ω(20°C)	mH	H	%	kg·m ²	kg									
	kW	r/min		r/min	A	W															
Z4-315-22	284	900		1600	772	4350	0.02034	0.49	5.91	91	24	2080									
	315	1000								91.5											
	225	680		1600	624					0.03392			0.74	18.8	88.7						
	250	750													89.6						
Z4-315-21	166	540		1600	468	4350	0.05382	1.2	25	87.2	24	2080									
	185	600								88.5											
	143	450		1500	413					0.076			1.5	19	84.7						
	160	500													86						
Z4-315-32	320	900		1600	867	4650	0.01658	0.39	23.1	91.0	27.2	2290									
	355	1000								92.0											
	252	680		1600	698					0.03043			0.82	21.5	89.1						
	280	750													89.8						
	180	540		1500	501					0.04536			0.95	31.6	88.2						
	200	600													89.4						
Z4-315-31	118	360		1200	344	4650	0.1002	2.1	23.3	83.2	27.2	2290									
	132	400								85.3											
Z4-315-42	361	900		1400	971					5200			0.01302	0.33	29	92.1	30.8	2520			
	400	1000														92.7					
	284	680		1600	778											0.02364			0.67	20.8	90
	315	750																			90.7
	225	540		1600	626	0.03554	0.87	21.9	88.3												
	250	600							89												
Z4-315-41	166	450		1500	468	5200	0.055	1.4	37.4	87.3	30.8	2520									
	185	500								88.3											
	143	360		1200	416					0.0803			1.8	22.2	84						
	160	400													85.3						
Z4-355-12	406	900		1500	1094					4700			0.01259	0.36	37.6	91.8	42	2890			
	450	1000														92.8					
	321	680		1500	877	0.02087	0.59	28.1	90.4												
	355	750							91.2												
Z4-355-11	253	540		1500	697	4700	0.02952	0.91	22		89.2	42				2890					
	280	600									90.2										
	180	450		1500	506					0.0502	1.5		8.91	87.6							
	200	500												88.9							
	166	360		1200	478					0.066	1.8		22.4	84.9							
	185	400												85.9							

型号 Type	额定功率	额定转速		弱磁转速	电枢电流	励磁功率	电枢回路电阻	电枢回路电感	磁场电感	效率	惯量矩	重量
	Rated Out-Put	Rated Speed		Speed with Field Weaking	Arm. Curr.	Field power	Arm. Circuit Resistance	Arm. Circuit Inductance	Field. Inductance	Eff.	Moment Of Inertia	Wt.
	P_N kW	400V r/min	440V r/min	n_F r/min	I_N A	P_F W	R $\Omega(20^\circ\text{C})$	L_A mH	L_F H	%	GD^2 $\text{kg}\cdot\text{m}^2$	kg
Z4-355-22	361	680	750	1600	978	5600	0.01583	0.44	15.6	90.8	46	3170
	400	750								91.7		
	284	540	600	1500	783		0.02676	0.81	34.7	89.5		
	315	600								90.5		
	225	450	500	1600	624		0.03462	1.0	20.5	88.4		
	250	500								89.5		
Z4-355-21	180	360	400	1200	511	0.05642	1.6	35.5	86.3			
	200	400							87.5			
Z4-355-32	406	680	750	1100	1098	6000	0.01362	0.39	19	91.3	52	3490
	450	750								92.1		
	320	540	600	1600	877		0.02153	0.7	24.3	89.9		
	355	600								91		
	284	450	500	1500	789		0.0293	0.91	18.5	88.3		
	315	500								89.5		
Z4-355-31	197	360	400	1200	559	0.04957	1.3	34.6	86.6			
	220	400							88.4			
Z4-355-42	361	540	600	1300	985	6500	0.01836	0.64	29.6	90.5	60	3840
	400	600								91.2		
	320	450	500	1200	882		0.02361	0.76	17.7	88.9		
	355	500								89.2		
	225	360	400	1200	627		0.0358	1.2	17.7	87.5		
	250	400								88.8		
Z4-400-21	-22	435	680	750	1400	1175	0.0139	0.33	7.85	90.8	74	4500
		480	750							92		
	-21	235	360	400	1200	675	0.0497	1	7.3	84.8		
		260	400							86.3		
	-21	180	270	300	900	537	0.0804	1.6	7.44	81.8		
		200	300							83.1		

型号 Type	额定功率 Rated Out- Put	额定转速		弱磁转速 Speed with Field Weaking n_F	电枢 电流 I_N	励磁 功率 P_F	电枢回路 电阻 Arm. Circuit Resistance R	电枢回路 电感 Arm. Circuit Inductance L_A	磁场电感 Field. Inductance L_F	效率 Eff.	惯量矩 Moment Of Inertia GD^2	重量 Wt.				
		400V	440V													
		R_N														
		kW	r/min													
Z4-400-32	-32	500	680	1400	1340	6400	0.0112	0.3	9.57	91.2	84	4900				
		550	750							92.5						
	-32	400	540	1300	1083		0.0162	0.35	4.51	89.9						
		440	600							91.1						
	-31	344	450	1300	952		0.0248	0.58	6	88.1						
		380	500							89.5						
	-31	270	360	1200	768		0.03821	0.82	6.11	86						
		300	400							87.5						
		208	270							900			611	0.0659	1.5	5.89
	230	300	84													
Z4-400-41	-42	435	540	1300	1175	7100	0.0134	0.32	5.54	90.8	94	5300				
		480	600							92						
	-42	390	450	1400	1070		0.0201	0.47	6.86	88.6						
		430	500							90						
	-41	316	360	1200	880		0.0274	0.73	5.41	87.7						
		350	400							89						
	-41	235	270	900	676		0.0508	1.2	5.38	84						
		260	300							85.4						
	Z4-450-22	-22	472	540	1200		1286	6500	0.0133	0.29			10.2	90.8	138	5600
			520	600										92.1		
-22		408	450	1400	1114	0.0159	0.41		7.99	90						
		450	500							91.3						
-21		362	360	1200	1010	0.0232	0.61		5.79	88.1						
		400	400							89.4						
-21		253	270	900	720	0.0415	1		5.82	85.8						
		280	300							87.1						
Z4-450-32	-32	500	540	1200	1358	7100	0.0134	0.39	19.6	90.8	156	6000				
		550	600							92						
	-32	453	450	1300	1228		0.0145	0.32	7.36	90						
		500	500							91.4						
	-32	408	360	1200	1130		0.0205	0.53	7.17	88.5						
		450	400							89.7						
	-32	309	270	900	875		0.0342	0.83	4.8	85.9						
		340	300							87.1						
	-31	200	180	600	595		0.0751	1.9	9.09	81.3						
		220	200							82.6						
Z4-450-42	-42	545	540	1100	1492	7800	0.0134	0.51	28.2	90.3	174	6700				
		600	600							91.5						
	-42	500	450	1100	1367		0.0145	0.43	18.6	90						
		550	500							91.4						
	-42	453	360	1200	1254		0.0178	0.42	5.85	88.9						
		500	400							90						
	-42	345	270	900	972		0.0275	0.81	5.62	86.8						
		380	300							88.1						
	-41	235	180	600	698		0.0612	1.7	5.73	81.7						
		260	200							83						

说明(附录1) • illustration (Appendix 1)

1、负载倍数是指电枢电流的负载倍数（电枢回路特性系数）。

Multiples of load implies the multiple of armature current (armature circuit Characteristic factor)

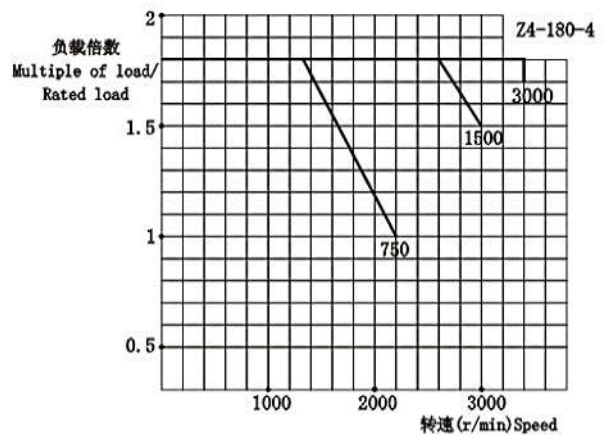
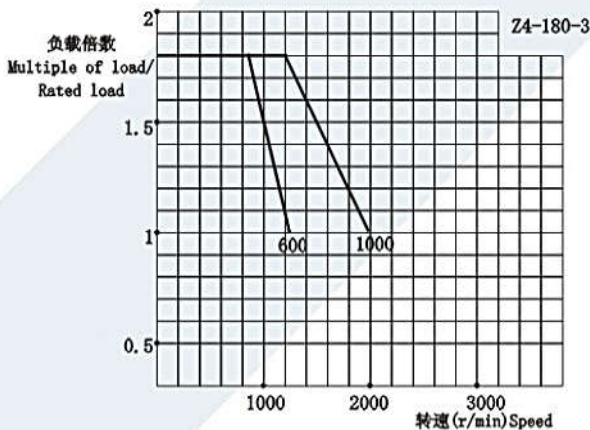
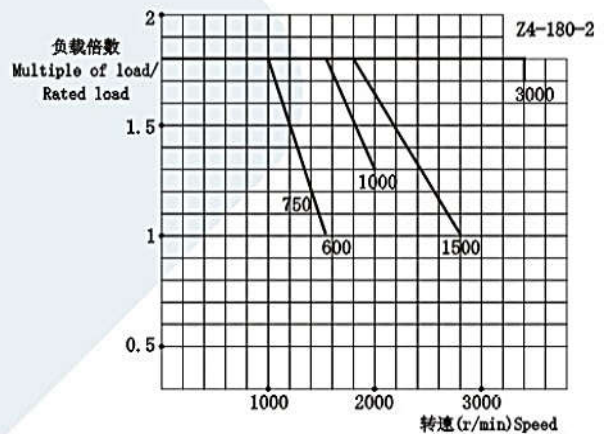
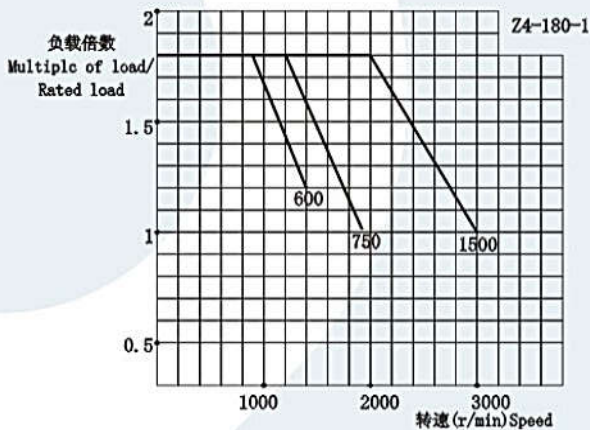
2、图表中曲线旁边的数字是电动机的额定转速。

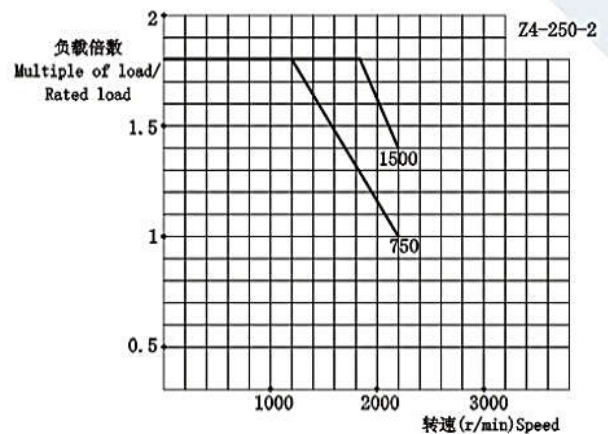
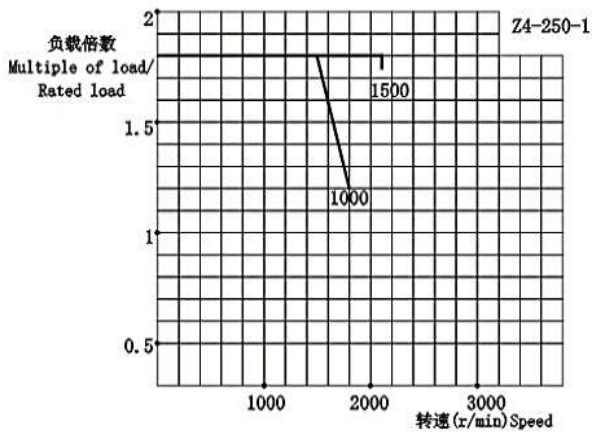
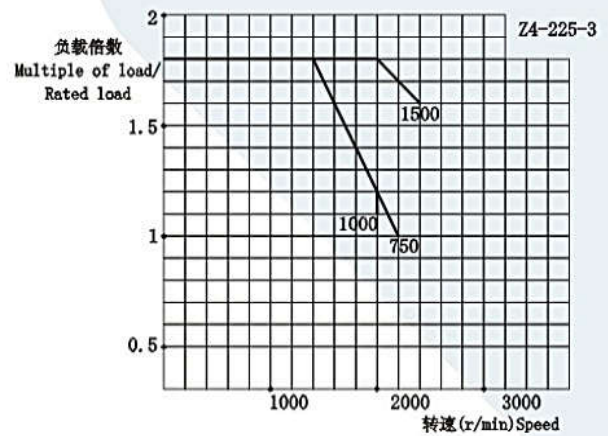
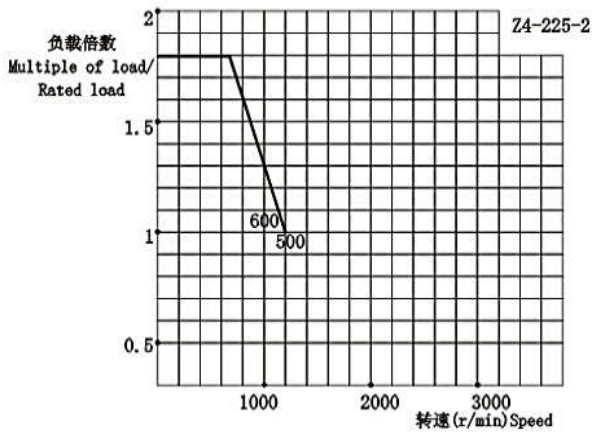
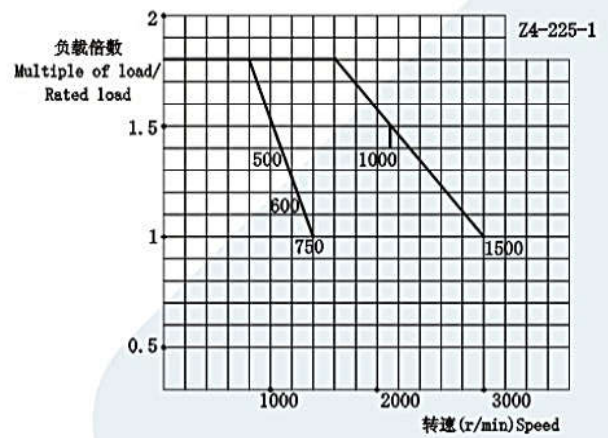
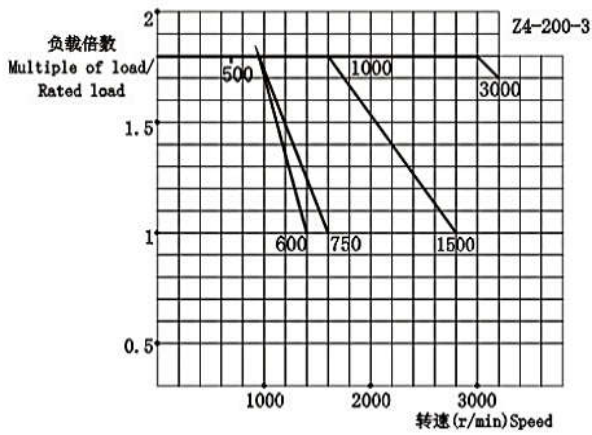
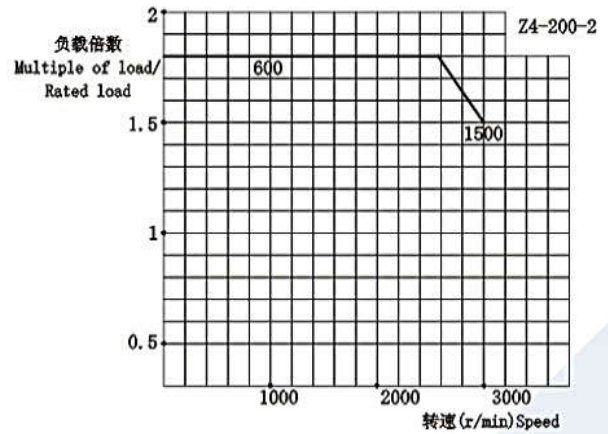
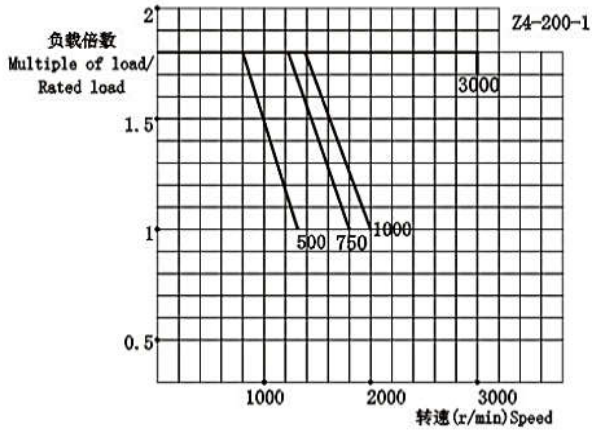
The figures beside the curves in the drawing are the rated speed of Motors.

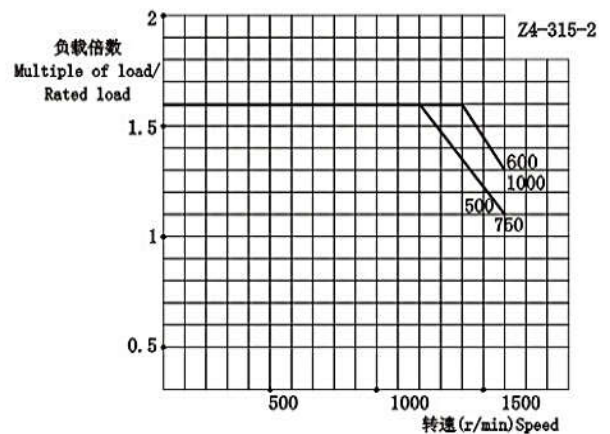
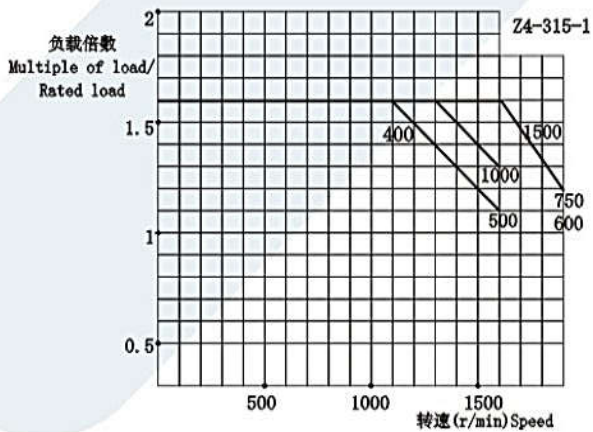
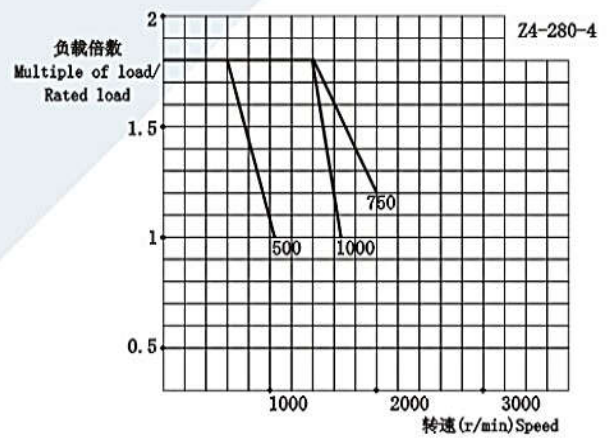
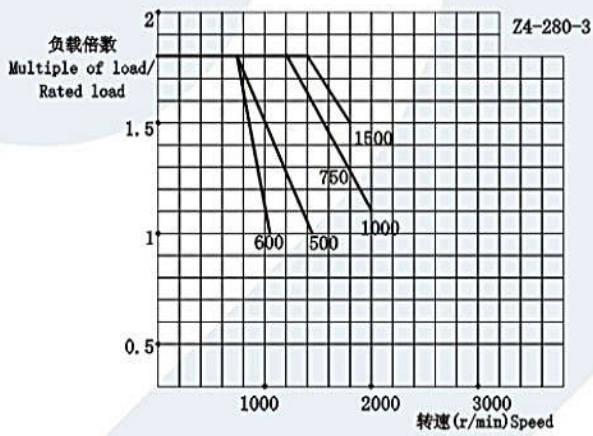
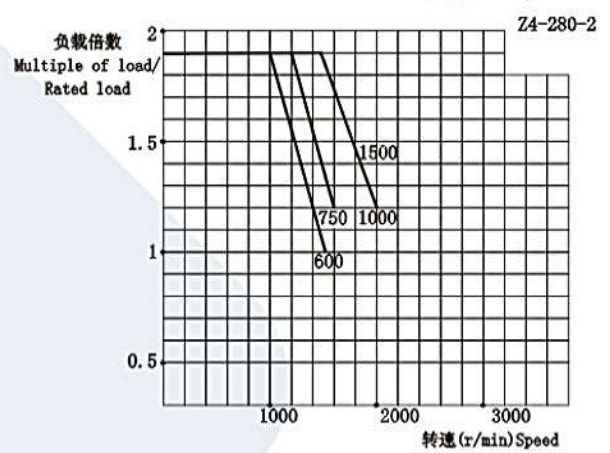
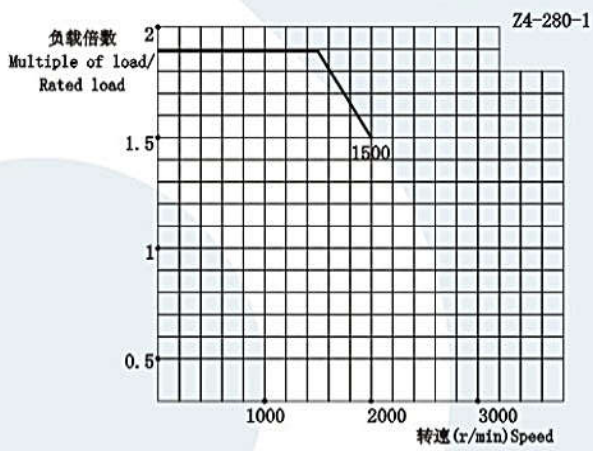
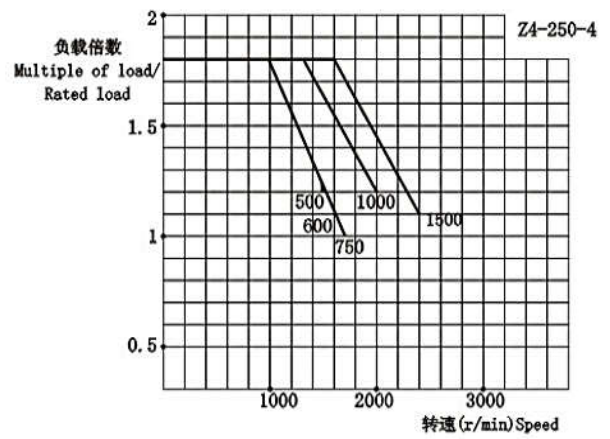
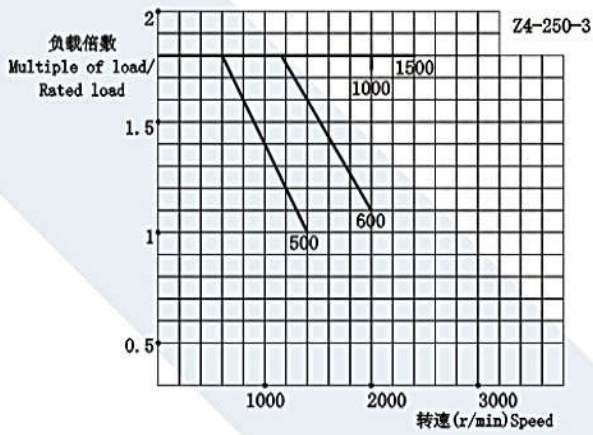
3、Z4-160机座及以下的弱磁调速负载倍数可向制造商咨询。

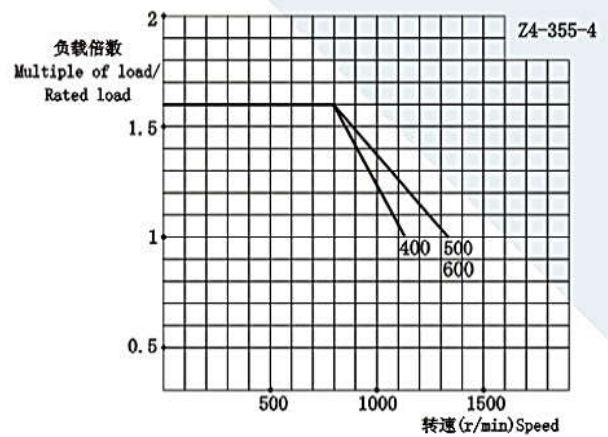
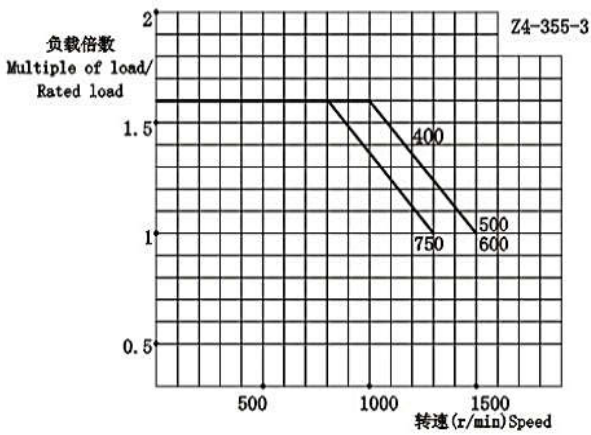
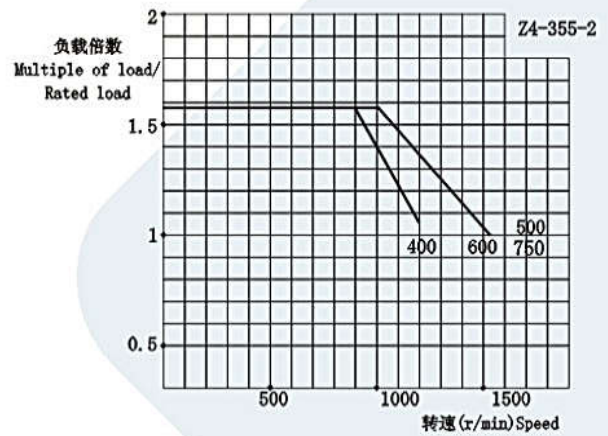
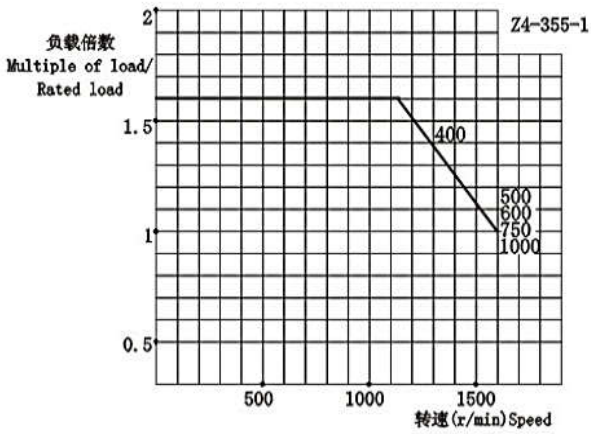
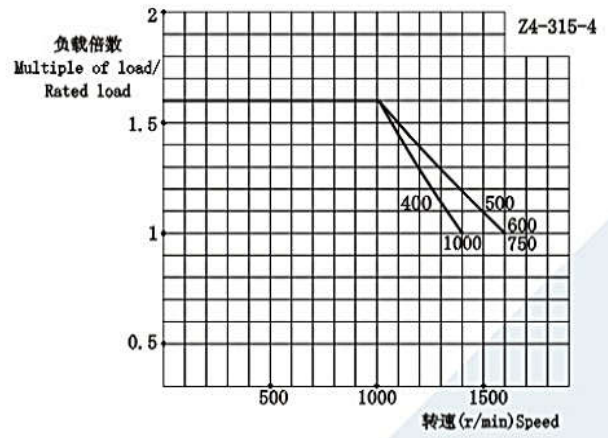
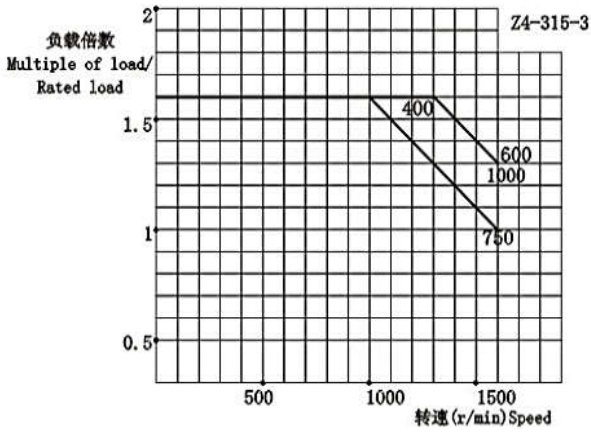
The multiple of load under speed Regulation Via field weakening for Frame size Z4-160 and below may Consult with the manufacturer.

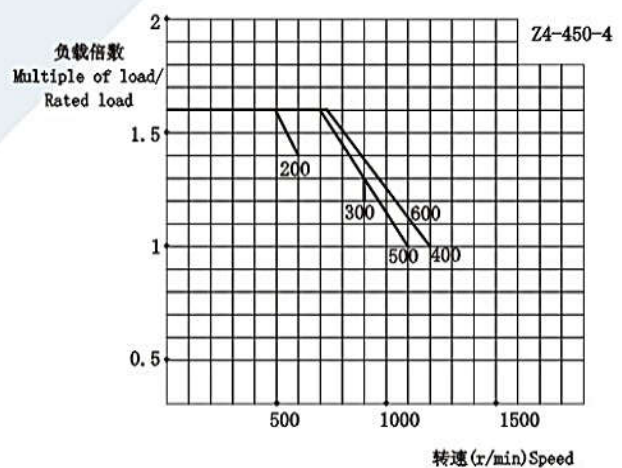
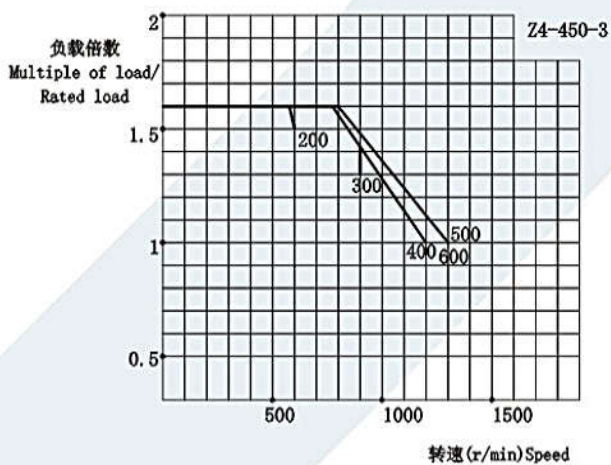
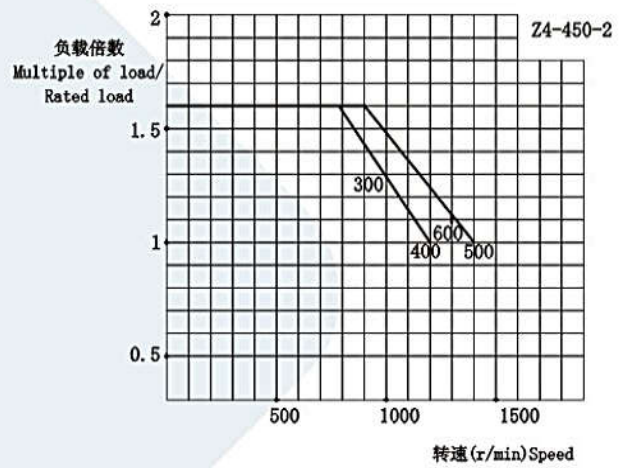
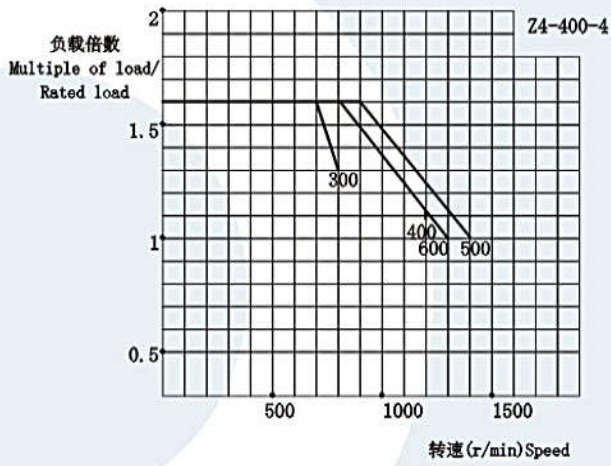
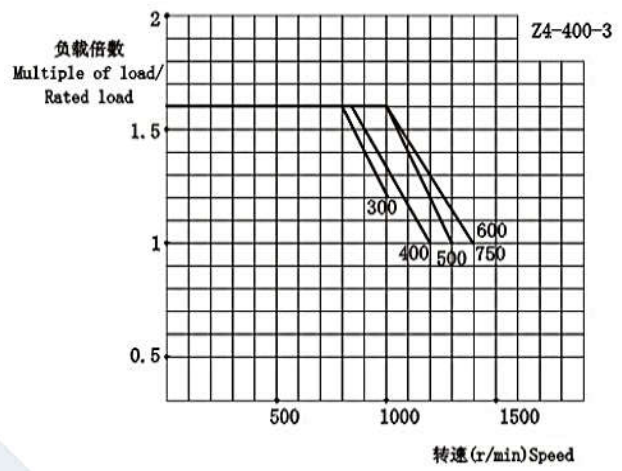
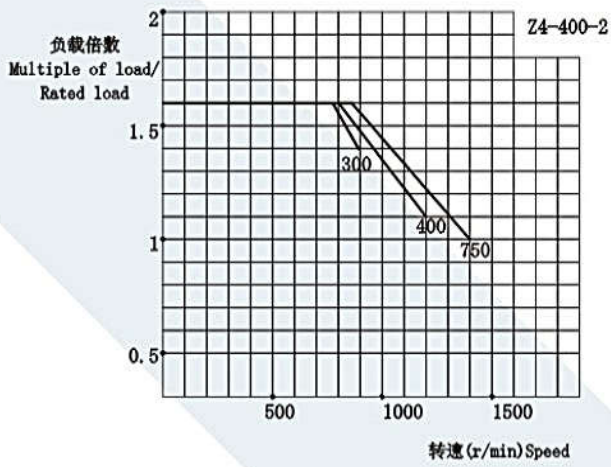
附录1电枢回路特性系数 Appendix 1 Armature Circuit Characteristic Factor









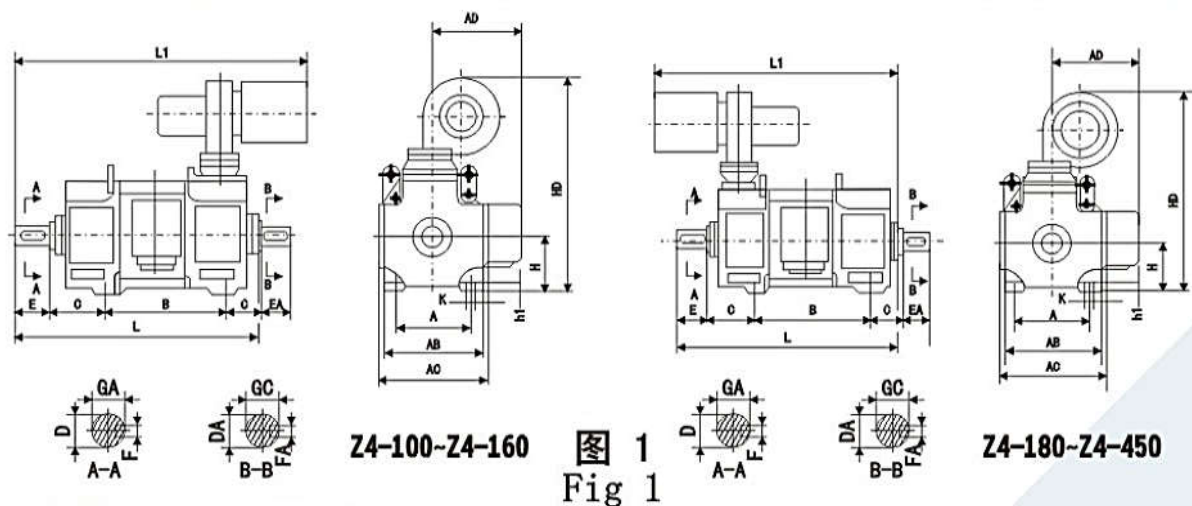


备注:

在启动他励电动机的时候，须在接通电枢回路之前接通磁场线圈至额定电压。停车时，先切断电枢回路，然后断开磁场电路，避免在启动和停车时因弱磁引起过速。

Remarks:

During starting a separately excited motor, it needs to run on the field winding to its rated voltage before switching on the armature circuit. And for stopping cut off armature circuit first and then switch off the field circuit, avoiding excessive speed through field weakening when it is starting or stopping.



Z4-100-Z4-160

图 1
Fig 1

Z4-180-Z4-450

卧式、机座带底脚
Horizontal Foot-mounted

表3 (Table 3) mm

型号 Type	安 装 尺 寸 Mounting Dimensions in millimeter												外 形 尺 寸 Outline Dimensions in millimeter																								
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h1																	
Z4-100-1	160	318	63	24	50	8	27	24	50	8	27	100	12	197	234	179	398	500	580	10																	
Z4-100-2		358																540	620																		
Z4-112/2-1	190	337	70	28	60	8	31	28	60	8	31	112	12	221	255	202	452	544	612	10																	
Z4-112/2-2		367																574	642																		
Z4-112/2-3		407																614	682																		
Z4-112/2-4		477																684	752																		
Z4-112/4-1	190	347	70	32	80	10	35	32	80	10	35	112	12	221	255	202	452	573	642	10																	
Z4-112/4-2		387																613	682																		
Z4-112/4-3		437																663	732																		
Z4-112/4-4		497																723	792																		
Z4-132-1	216	355	89	38	80	10	41	38	80	10	41	132	12	260	295	240	527	619	814	12																	
Z4-132-2		405																669	864																		
Z4-132-3		465																729	924																		
Z4-132-4		545																809	1004																		
Z4-160-11	254	411	108	48	110	14	51.5	48	110	14	51.5	160	15	316	346	283	625	744	953	14																	
Z4-160-12		476																809	986																		
Z4-160-21		451																784	993																		
Z4-160-22		516																849	1026																		
Z4-160-31		501																834	1043																		
Z4-160-32		566																899	1076																		
Z4-160-41		561																894	1103																		
Z4-160-42		626																959	1136																		
Z4-160-51		631																964	1173																		
Z4-160-52		696																1029	1206																		
Z4-180-11		279																436	121		55	110	16	59	55	110	16	59	180	15	356	390	305	731	794	1022	16
Z4-180-12																		501																	859	1087	
Z4-180-21	476		834	1062																																	
Z4-180-22	541		899	1127																																	
Z4-180-31	526		884	1112																																	
Z4-180-32	591		949	1177																																	
Z4-180-41	586		944	1172																																	
Z4-180-42	651		1009	1237																																	
Z4-180-51	656		1014	1242																																	
Z4-180-52	721		1079	1307																																	

表3 (Table 3) mm

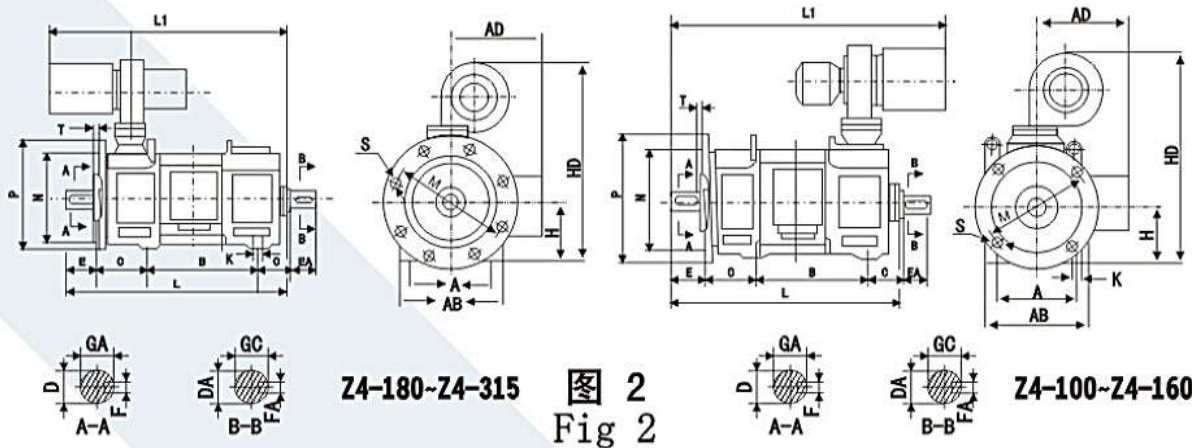
型号 Type	安 装 尺 寸 Mounting Dimensions in millimeter													外 形 尺 寸 Outline Dimensions in millimeter						
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h1
Z4-200-11	318	566	133	65	140	18	69	65	140	18	69	200	19	396	430	355	779	977	1158	18
Z4-200-12		614																1025	1206	
Z4-200-21		606																1017	1198	
Z4-200-22		654																1065	1246	
Z4-200-31		686																1097	1278	
Z4-200-32		734																1145	1326	
Z4-200-41		756																1167	1348	
Z4-200-42		804																1215	1396	
Z4-225-11	356	701	149	75	140	20	79.5	75	140	20	79.5	225	19	440	474	398	981	1140	1605	20
Z4-225-12		761																1200	1665	
Z4-225-21		751																1190	1655	
Z4-225-22		811																1250	1715	
Z4-225-31		811																1250	1715	
Z4-225-32		871																1310	1775	
Z4-250-11	406	715	168	85	170	22	90	75	140	20	79.5	250	24	490	524	432	1031	1225	1657	25
Z4-250-12		775																1285	1717	
Z4-250-21		765																1275	1707	
Z4-250-22		825																1335	1767	
Z4-250-31		825																1335	1767	
Z4-250-32		885																1395	1827	
Z4-250-41		895																1405	1837	
Z4-250-42		955																1465	1897	
Z4-280-11	457	762	190	95	170	25	100	85	170	22	90	280	24	550	584	462	1130	1315	1748	25
Z4-280-12		852																1405	1838	
Z4-280-21		822																1375	1808	
Z4-280-22		912																1465	1898	
Z4-280-31		892																1445	1878	
Z4-280-32		982																1535	1968	
Z4-280-41		972																1525	1958	
Z4-280-42		1062																1615	2048	
Z4-280-51		1062																1615	2048	
Z4-280-52		1152																1705	2138	
Z4-315-11	508	887	216	100	210	28	106	95	170	25	100	315	28	620	654	497	1221	1532	1897	30
Z4-315-12		977																1622	1987	
Z4-315-21		967																1612	1977	
Z4-315-22		1057																1702	2067	
Z4-315-31		1057																1702	2067	
Z4-315-32		1147																1792	2157	
Z4-315-41		1157																1802	2167	
Z4-315-42		1247																1892	2257	
Z4-355-11	610	968	254	110	210	28	116	110	210	28	116	355	28	700	734	701	1301	1689	2010	30
Z4-355-12		1058																1779	2100	
Z4-355-21		1058																1779	2100	
Z4-355-22		1148																1869	2190	
Z4-355-31		1158																1879	2200	
Z4-355-32		1248																1969	2290	
Z4-355-41		1268																1989	2310	
Z4-355-42		1358																2079	2400	

表3 (Table 3) mm

型号 Type	安 装 尺 寸 Mounting Dimensions in millimeter												外 形 尺 寸 Outline Dimensions in millimeter							
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	H1
Z4-400-11	686	959	280	120	210	32	127	120	210	32	127	400	35	790	830	750	1620	1732	1817	35
Z4-400-12		1079																1852	1937	
Z4-400-21		1039																1812	1897	
Z4-400-22		1159																1932	2017	
Z4-400-31		1129																1902	1987	
Z4-400-32		1249																2022	2107	
Z4-400-41		1229																2002	2087	
Z4-400-42		1349																2122	2207	
Z4-450-11		800																1061	315	
Z4-450-12	1181		2064	2070																
Z4-450-21	1151		2034	2140																
Z4-450-22	1271		2154	2260																
Z4-450-31	1251		2134	2240																
Z4-450-32	1371		2254	2360																
Z4-450-41	1361		2294	2350																
Z4-450-42	1481		2414	2470																
Z4-450-51	1481		2414	2470																
Z4-450-52	1601		2534	2590																

所有型号均可带我公司提供配套的ZYS-A型直流测速发电机，此时电机长度尺寸L要增300mm。

All type can be provided with type ZYS-A d-c tachogenerator made by our factory. In that case, The dimension L of the motor length with increase by 300mm.



Z4-180~Z4-315

图 2
Fig 2

Z4-100~Z4-160

卧式、机座带底脚、端盖带凸缘
Horizontal Flanged Foot-mounted

表4 (Table 4)

型号 Type	安装尺寸 Mounting Dimensions in millimeter																	外形尺寸 Outline Dimensions in millimeter																															
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	M	N	S	Holes	T	P	AB	AC	AD	HD	L	L1	h1																							
Z4-100-1	160	318	63	24	50	8	27	24	50	8	27	100	12	215	180	15	4	4	250	197	234	179	398	500	580	10																							
Z4-100-2		358																						540	620																								
Z4-112/2-1	190	337	70	28	60	8	31	28	60	8	31	112	12	215	180	15	4	4	250	221	255	202	452	544	612	10																							
Z4-112/2-2		367																						574	642																								
Z4-112/2-3		407																						614	682																								
Z4-112/2-4		477																						684	752																								
Z4-112/4-1	190	347	70	32	80	10	35	32	80	10	35	112	12	215	180	15	4	4	250	221	255	202	452	573	642	10																							
Z4-112/4-2		387																						613	682																								
Z4-112/4-3		437																						663	732																								
Z4-112/4-4		497																						723	792																								
Z4-132-1	216	355	89	38	80	10	41	38	80	10	41	132	12	265	230	15	4	4	300	260	295	240	527	619	814	12																							
Z4-132-2		405																						669	864																								
Z4-132-3		465																						729	924																								
Z4-132-4		545																						809	1004																								
Z4-160-11	254	411	108	48	110	14	51.5	48	110	14	51.5	160	15	300	250	19	4	5	350	316	346	283	625	744	953	14																							
Z4-160-12		476																						809	986																								
Z4-160-21		451																						784	993																								
Z4-160-22		516																						849	1026																								
Z4-160-31		501																						834	1043																								
Z4-160-32		566																						899	1076																								
Z4-160-41		561																						894	1103																								
Z4-160-42		626																						959	1136																								
Z4-160-51		631																						964	1173																								
Z4-160-52		696																						1029	1206																								
Z4-180-11		279																						436	121		55	110	16	59	55	110	16	59	180	15	350	300	19	4	5	400	356	390	305	731	794	1022	16
Z4-180-12																								501																							859	1087	
Z4-180-21	476		834	1062																																													
Z4-180-22	541		899	1127																																													
Z4-180-31	526		884	1112																																													
Z4-180-32	591		949	1177																																													
Z4-180-41	586		944	1172																																													
Z4-180-42	651		1009	1237																																													
Z4-180-51	656		1014	1242																																													
Z4-180-52	721		1079	1307																																													

表4 (Table 4)

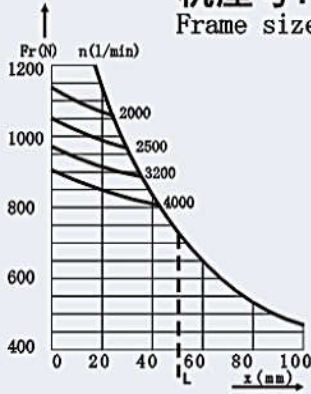
型号 Type	安 装 尺 寸 Mounting Dimensions in millimeter																外 形 尺 寸 Outline Dimensions in millimeter								
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	M	N	S	Holes	T	P	AB	AC	AD	HD	L	h1
Z4-200-11	318	566	133	65	140	18	69	65	140	18	69	200	19	400	350	19	8	5	450	396	430	355	779	977	1158
Z4-200-12		614																						1025	1206
Z4-200-21		606																						1017	1198
Z4-200-22		654																						1065	1246
Z4-200-31		686																						1097	1278
Z4-200-32		734																						1145	1326
Z4-200-41		756																						1167	1348
Z4-200-42		804																						1215	1396
Z4-225-11	356	701	149	75	140	20	79.5	75	140	20	79.5	225	19	500	450	19	8	5	550	440	474	398	981	1140	1605
Z4-225-12		761																						1200	1665
Z4-225-21		751																						1190	1655
Z4-225-22		811																						1250	1715
Z4-225-31		811																						1250	1715
Z4-225-32		871																						1310	1775
Z4-250-11	406	715	168	85	170	22	90	75	140	20	79.5	250	24	600	550	24	8	6	660	490	524	432	1031	1225	1657
Z4-250-12		775																						1285	1717
Z4-250-21		765																						1275	1707
Z4-250-22		825																						1335	1767
Z4-250-31		825																						1335	1767
Z4-250-32		885																						1395	1827
Z4-250-41		895																						1405	1837
Z4-250-42		955																						1465	1897
Z4-280-11	457	762	190	95	170	25	100	85	170	22	90	280	24	600	550	24	8	6	660	550	584	462	1130	1315	1748
Z4-280-12		852																						1405	1838
Z4-280-21		822																						1375	1808
Z4-280-22		912																						1465	1898
Z4-280-31		892																						1445	1878
Z4-280-32		982																						1535	1968
Z4-280-41		972																						1525	1958
Z4-280-42		1062																						1615	2048
Z4-280-51		1062																						1615	2048
Z4-280-52		1152																						1705	2138
Z4-315-11	508	887	216	100	210	28	106	95	170	25	100	315	28	740	680	24	8	6	800	620	654	497	1221	1532	1897
Z4-315-12		977																						1622	1987
Z4-315-21		967																						1612	1977
Z4-315-22		1057																						1702	2067
Z4-315-31		1057																						1702	2067
Z4-315-32		1147																						1792	2157
Z4-315-41		1157																						1802	2167
Z4-315-42		1247																						1892	2257

所有型号均可带我公司提供配套的ZYS-A型直流测速发电机，此时电机长度尺寸L要增300mm。

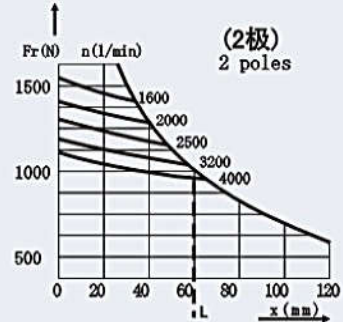
All type can be provided with type ZYS-A d-c tachogenerator made by our factory. In that case, The dimension L of the motor length with increase by 300mm.

附录2A · Appendix 2A

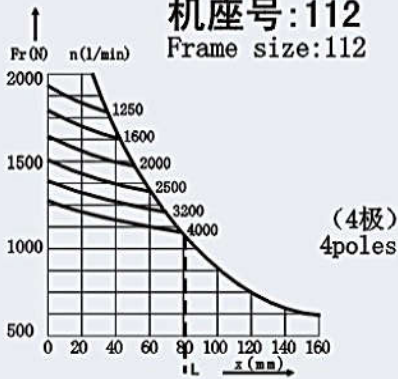
机座号:100
Frame size:100



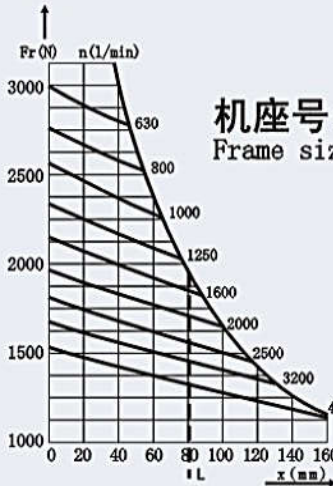
机座号:112
Frame size:112



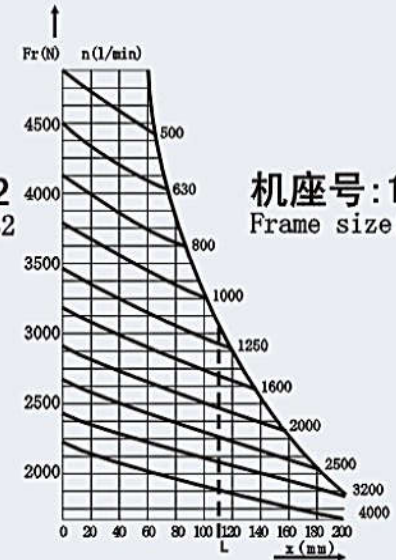
机座号:112
Frame size:112



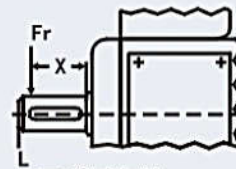
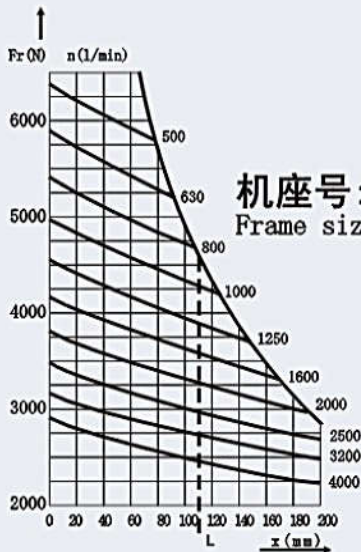
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机座号:160
Frame size:160

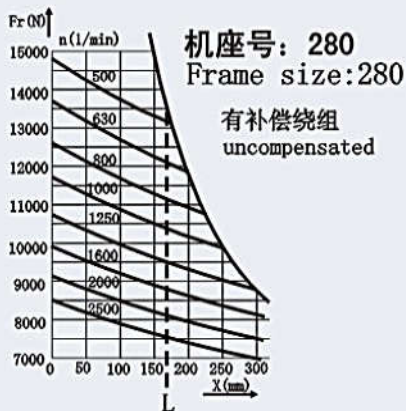
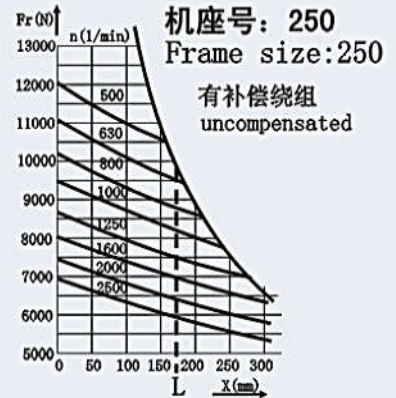
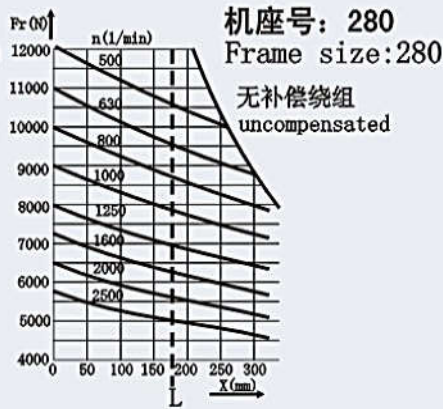
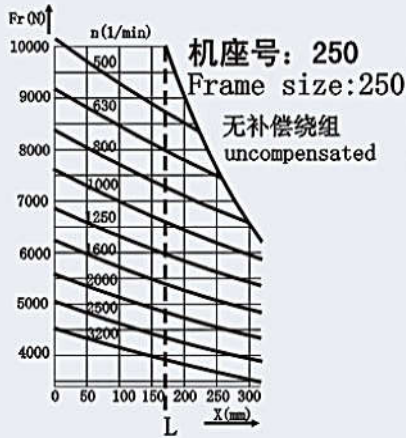
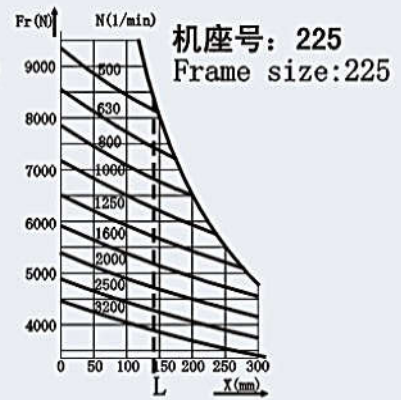
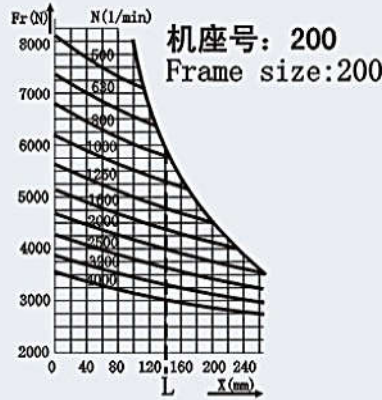


机座号:180
Frame size:180



正常轴伸
normal shaft end

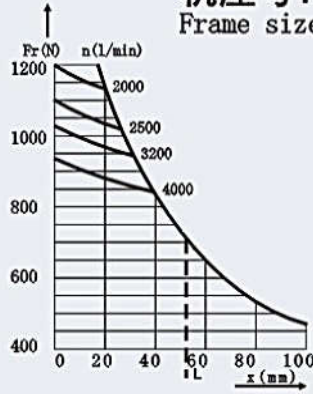
卧式电机传动端能承受的径向力
Additional radial forces drive end
horizontal construction



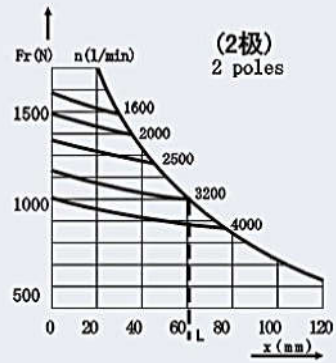
卧式电机传动端能承受的径向力
Additional radial forces drive
end horizontal construction

附录2B · Appendix 2B

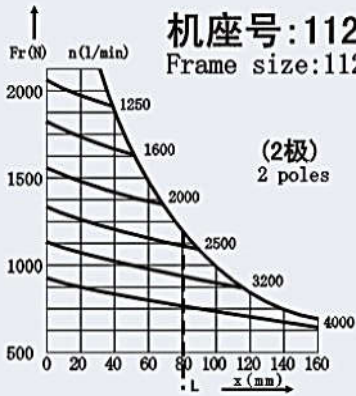
机座号:100
Frame size:100



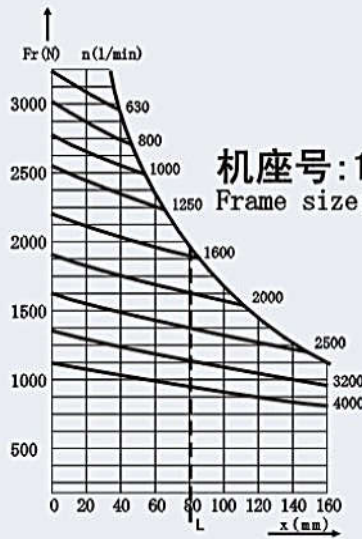
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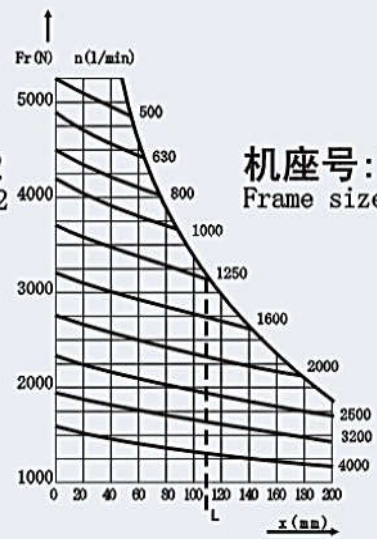
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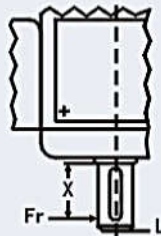
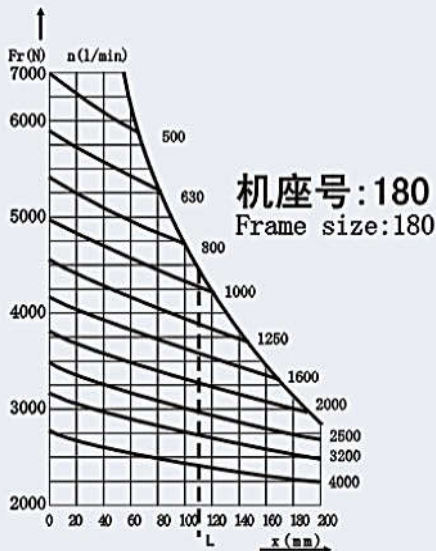
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机座号:160
Frame size:160

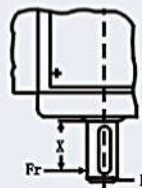
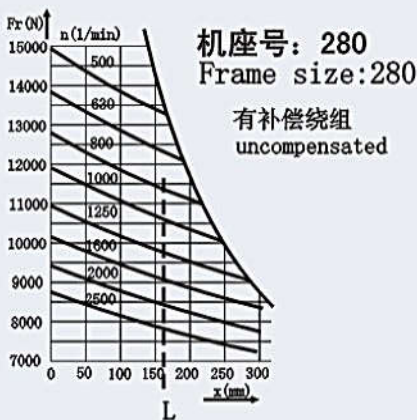
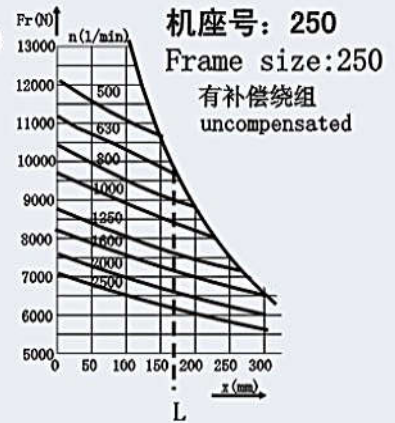
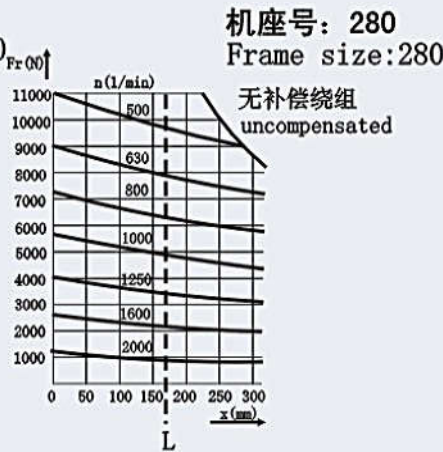
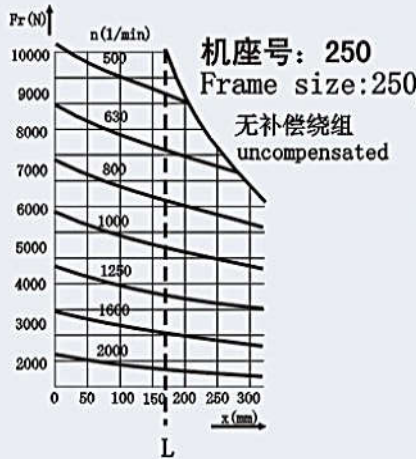
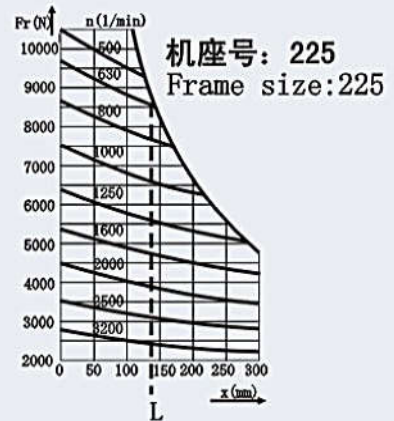
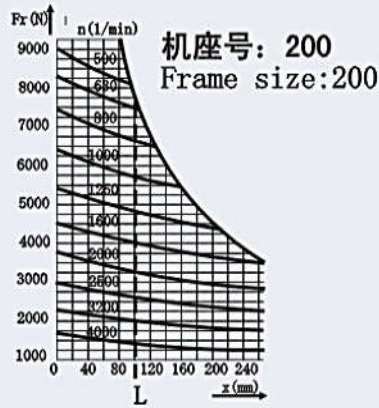


机座号:180
Frame size:180



正常轴伸
normal shaft end

立式电机传动端能承受的径向力
Additional radial forces drive end
vertical construction



正常轴伸
normal shaft end

立式电机传动端能承受的径向力
Additional radial forces drive end
vertical construction



今天要比昨天做的更好!

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