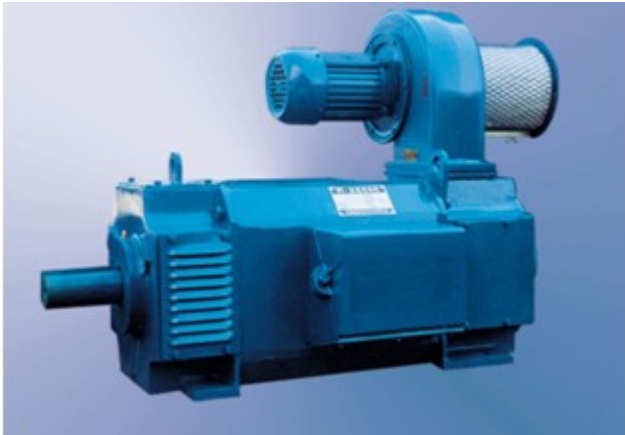


Z4 Series DC Motors



Frame: 100~450

Power: 1.5 ~600kW

Duty: S1

Insulate class: F

Rated voltage: 160V、440V

Excitation mode : Separately excited

Rated speed: 3000、1500、1000、750、600、500、400、300、200r/min

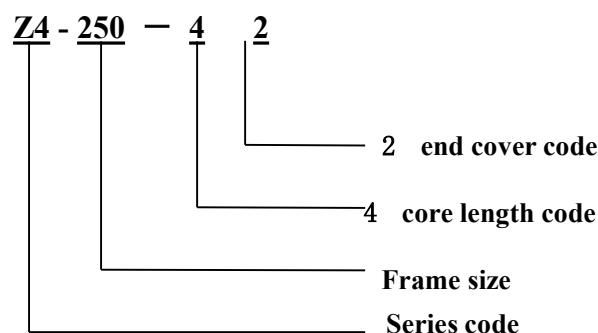
Application : Widely applied in the industry of metallurgy, papermaking, printing, textile, printing and dyeing, cement and machine tools.

Features: Great speed control system by which speed can be reduced by lowering voltage with constant torque or raised by lowering exciting current with constant output; wide range of speed regulation; small size, lightweight; high output power, strong overload capacity.

Circumstance:

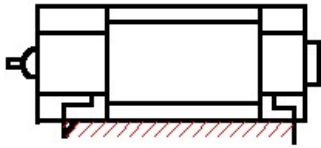
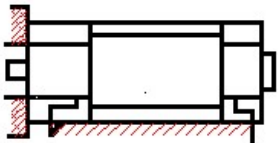
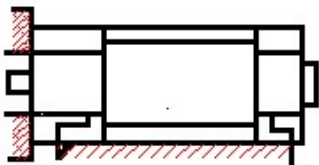
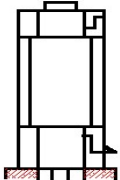
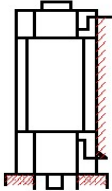
1. Altitude not exceeds 1000m; highest ambient temperature shall be no higher than +40C;
2. Can not work in the circumstance where acidic/alkaline gas, or some other gas that may damage the insulation exist;
3. The motor powered by rectifier supply;
4. Standard exciting voltage is 180V
5. Reinforced excitation is allowed but its voltage can not be higher than 500V.

Designations of types



Structure

- 1、Enclosure and mounting type
 - a. Protection class is IP21S, IP23 or IP44
 - b. Mounting type as below table: (frame with feet)

Mounting	Frame
 IMB3	Z4-100~Z4-450
 IMB35	Z4-100~Z4-315
 IMB5	Z4-100~Z4-200
 IMV1	Z4-100~Z4-280
 IMV15	Z4-100~Z4-315

2、Cooling method

This series motors are cooled by forced air with separated built-on blower which is

connected to independent power supply, and also fitted with air filter. The cooling method of the motor is IC06, motor of IC17, IC37 can also be customized.

a. Z4-100~Z4-160, blower locates at NDE.

b. Z4-180~Z4-450, blower locates at DE.

c. Parameter of the cooling air and blower motor power see table(three phase, 2 pole, 380V)

Frame	Blowing rate	Pressure	Power
	m ³ /h	pa	kW
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	800	1.1
Z4-225	2880	1400	3.0
Z4-250	300	1400	3.0
Z4-280	400	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

Consult the producer when clients are interested in the following type motor:

Frame size Z4-100~Z4-225 totally enclosed self-cooled motor(IC410).

Frame size Z4-180~Z4-450 totally separately-cooled motor, blower at NDE(IC06).

Frame size Z4-100~Z4-200 self-cooled motor, fan on the shaft (IC01).

Frame size Z4-160~Z4-355 totally enclosed motor with air-air cooler(IC666).

Frame size Z4-160~Z4-450 totally enclosed motor with air-water cooler(IC86W).

3.Terminal box is at the right side of the frame from the view of DE(the motor whose terminal box is the left side or on the top can be also customized).

4.Motor whose speed generator or rotary encoder is at NDE can also be customized.

5.Motor is connected to flexible coupling.

Performance Data

Type	Rated Output	Rated Speed			Speed with Field Weakened n _F	Arm. Curr. I _N	Field Power P _F	Arm. Circuit Resistance R	Arm. Circuit Resistance L _A	Field Inductance L _F	Smoothing Induct. L _R	Eff. %	Moment of Inertia GD ²	Wt. kg
		160V	400V	440V										
	P _N kW	r/min			r/min	A	W	Ω (20℃)	mH	H	mH		kg • m ²	
Z4-100-1	2.2	149			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		2.82	26	18		80.1		
	2		1310		3000	6.6		9.12	86	18		68.4		
	2.2			1480	3000	6.5		9.12	86	18		70.6		
	1.4		860		2000	5.1		16.76	163	18		60.3		
	1.5			990	2000	4.77		16.76	163	18		63.2		
Z4-112/2-1	3	154			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		1.933	17.9	17		81.1		
	2.8		1340		3000	9.1		6	59	17		71.2		
	3			1500	3000	8.6		6	59	17		72.8		
	1.9		855		2000	6.9		11.67	110	13		61.1		
	2.2			965	2000	7.1		11.67	110	13		63.5		
Z4-112/2-2	4	145			3000	31.3	350	0.567	6.2	14	12	72.6	0.088	107
	3	107			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		1.305	14	19		83.5		
	3.7		1320		3000	11.7		4.24	48.5	19		74.1		
	4			1500	3000	11.2		4.24	48.5	19		76		
	2.6		895		2000	9		7.62	83	14		65.1		
	3			1010	2000	9.1		7.62	83	14		67.3		
Z4-112/4-1	5.5	152			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		0.89	9	6.8		83.3		
	5		1340		1800	15.7		3.01	30.5	6.8		74.3		
	5.5			1480	1800	15.4		3.01	30.5	6.8		75.7		
	3.7		855		1100	13		5.78	60	6.7		65.2		
	4			980	1100	12.2		5.78	60	6.7		68.7		
Z4-112/4-2	5.5	109			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		0.574	6.4	5.8		85.4		
	6.7		1330		1800	20.6		2.12	24.1	7.8		76.8		
	7.5			1480	1800	20.6		2.12	24.1	7.8		78.4		
	5		955		1200	16.1		3.46	40.5	5.8		71.1		
	5.5			1025	1200	15.7		3.46	40.5	5.8		71.9		

Performance Data

Type	Rated Output	Rated Speed		Speed with Field Weakened	Arm. Curr. I_N	Field Power P_F	Arm. Circuit Resistance R	Arm. Circuit Resistance L_A	Field Inductance L_F	Eff.	Moment of Inertia GD^2	Wt.
		P_N										
	kW		r/min	r/min	A	W	$\Omega(20^\circ\text{C})$	mH	H	%	$\text{kg}\cdot\text{m}^2$	kg
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		0.368	5.3	6.5	85.9		
	10	1330		2100	30.1		1.309	18.9	8.9	79.4		
	11		1480	2200	29.6		1.309	18.9	8.9	80.9		
	7	865		1600	22.7		2.56	37.5	6.3	71.9		
	7.5		975	1600	21.4		2.56	37.5	6.3	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		0.226	3.65	10	88.3		
	15	1360		2500	44.5		0.811	13.5	7.7	81.2		
	15		1510	2500	39.5		0.811	13.5	7.7	83.4		
	10	905		1400	31.1		1.565	26	6	75.6		
	11		995	1400	30.5		1.565	26	6	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		0.1905	3.4	21	88.6		
	18.5	1390		2100	53.2		0.531	9.8	6.6	83.6		
	18.5		1540	2200	47.6		0.531	9.8	6.6	84.7		
	13.5	945		1600	40.5		0.976	19.4	6.5	79.4		
	15		1050	1600	40.5		0.976	19.4	6.5	80.5		
Z4-160-11	33	2710		3500	93.4	820	0.1835	3.15	10	87.4	0.64	220
	37		3000	3500	93.4		0.1835	3.15	10	88.5		
	19.5	1350		3000	58.8		0.593	10.4	7.7	80.4		
	22		1500	3000	58.8		0.593	10.4	7.7	82.6		
Z4-160-22	40.5	2710		3500	113	920	0.1426	2.7	10	88.2	0.76	242
	45		3000	3500	113		0.1426	2.7	10	89.1		
Z4-160-21	16.5	900		2000	50.5		0.862	17.7	6	77.9		
	18.5		1000	2000	50.5		0.862	17.7	6	79.4		
Z4-160-32	49.5	2710		3500	137	1050	0.097	2.07	11	89.1	0.88	268
	55		3010	3500	137		0.097	2.07	11	90.2		
Z4-160-31	27	1350		3000	77.8		0.376	8.3	10	84.7		
	30		1500	3000	77.8		0.376	8.3	10	85.7		
	19.5	900		2000	59.1		0.675	15.2	6.3	79.1		
	22		1000	2000	59.1		0.675	15.2	6.3	81.7		
Z4-180-11	33	1350		3000	95.4	1200	0.29	5.8	7.1	84.7	1.52	326
	37		1500	3000	95.4		0.29	5.8	7.1	86.5		
	16.5	670		1900	51.4		0.947	17.6	5.6	75.5		
	18.5		750	1900	51.4		0.947	17.6	5.6	78.1		
	13	540		1400	42.4		1.264	25	5.6	73		
	15		600	1400	42.4		1.264	25	5.6	74.1		

Performance Data

Type	Rated Output	Rated Speed		Speed with Field Weakened	Arm. Curr.	Field Power	Arm. Circuit Resistance	Arm. Circuit Resistance	Field Inductance	Eff.	Moment of Inertia	Wt.
		400V	440V									
	P _N kW	r/min		n _F r/min	I _N A	P _F W	R Ω(20℃)	L _A mH	L _F H	%	GD ² kg·m ²	kg
Z4-180-22	67	2710		3400	185	1400	0.0555	1.16	6.9	89.5	1.72	350
	75		3000	3400	185		0.0555	1.16	6.9	90.7		
Z4-180-21	40.5	1350		2800	115		0.2125	4.65	6.6	85.8		
	45		1500	2800	115		0.2125	4.65	6.6	87		
	27	900		2000	79		0.419	9.3	7.3	82.2		
	30		1000	2000	79		0.419	9.3	7.3	83.7		
	19.5	670		1400	61		0.756	15.7	7.1	77.3		
	22		750	1400	61		0.756	15.7	7.1	79.7		
	16.5	540		1600	52		1.003	21.9	5	73.8		
	18.5		600	1600	52		1.003	21.9	5	76.8		
Z4-180-31	33	900		2000	97	1500	0.332	7.7	6.6	82.8	1.92	380
	37		1000	2000	97		0.332	7.7	6.6	83.6		
	19.5	540		1250	62		0.801	19	6.6	74.8		
	22		600	1250	62		0.801	19	6.6	76.6		
Z4-180-42	81	2710		3200	221	1700	0.051	1.16	12	91	2.2	410
	90		3000	3200	221		0.051	1.16	12	91.3		
Z4-180-41	50	1350		3000	139		0.1417	3.2	5.7	87.5		
	55		1500	3000	139		0.1417	3.2	5.7	87.7		
	27	670		2000	80		0.459	10.4	6.3	80.4		
	30		750	2000	80		0.459	10.4	6.3	81.1		
Z4-200-12	99	2710		3000	271	1400	0.0373	0.83	7.62	90.2	3.68	485
	110		3000	3000	271		0.0373	0.83	7.62	91.6		
Z4-200-11	40.5	900		2000	118		0.2653	8.4	7.01	83.4		
	45		1000	2000	118		0.2653	8.4	7.01	85.5		
	33	670		1600	99		0.369	10.6	7.77	80.2		
	37		750	1600	99		0.369	10.6	7.77	82.9		
	19.5	450		1000	64		0.93	21.9	7.3	72.2		
	22		500	1000	64		0.93	21.9	7.3	77.4		
Z4-200-21	67	1350		3000	188	1500	0.0885	2.8	6.78	88.7	4.2	530
	75		1500	3000	188		0.0885	2.8	6.78	89.6		
	27	540		1000	82		0.535	14	9.64	78.8		
	30		600	1000	82		0.535	14	9.64	80.4		
Z4-200-32	119	2710		3200	322	1750	0.0266	0.79	10.9	91.7	4.8	580
	132		3000	3200	322		0.0266	0.79	10.9	92.4		
Z4-200-31	81	1350		2800	224		0.0771	2.6	5.61	88.7		
	90		1500	2800	224		0.0771	2.6	5.61	90		
	49.5	900		2000	141		0.1751	4.8	8.54	85.6		
	55		1000	2000	141		0.1751	4.8	8.54	87.1		
	40.5	670		1400	119		0.283	8.5	8.35	82.5		
	45		750	1400	119		0.283	8.5	8.35	84.1		
	33	540		1200	101		0.42	12.2	8.42	79.6		
	37		600	1200	101		0.42	12.2	8.42	82		
	27	450		750	84		0.598	17.1	8.4	77.5		
	30		500	750	84		0.598	17.1	8.4	79.5		

Performance Data

Type	Rated Output	Rated Speed		Speed with Field Weakened	Arm. Curr.	Field Power	Arm. Circuit Resistance	Arm. Circuit Resistance	Field Inductance	Eff.	Moment of Inertia	Wt.
		400V	440V									
	P _N	r/min		n _F	I _N	P _F	R	L _A	L _F	%	GD ²	kg
Z4-225-11	99	1360		3000	276	2300	0.0664	2.1	4.45	87.9	5	680
	110		1500	3000	276		0.0664	2.1	4.45	89.4		
	67	900		2000	193		0.1406	4.9	4.28	84.4		
	75		1000	2000	193		0.1406	4.9	4.28	86.5		
	49	680		1300	146		0.2433	8.7	5.77	81.2		
	55		750	1300	146		0.2433	8.7	5.77	84		
	40	540		1200	123		0.356	9.5	6.38	78.2		
	45		600	1200	123		0.356	9.5	6.38	80.8		
	33	450		1000	103		0.476	15.2	6.10	76.5		
	37		500	1000	103		0.476	15.2	6.10	78.8		
Z4-225-21	49	540		1000	148	2470	0.2648	9.5	4.14	79.3	5.6	740
	55		600	1000	148		0.2648	9.5	4.14	82.4		
	40	450		1000	125		0.397	13.7	5.41	76.6		
	45		500	1000	125		0.397	13.7	5.41	78.9		
Z4-225-31	119	1360		2400	327	2580	0.0454	1.5	5.33	89.3	6.2	800
	132		1500	2400	327		0.0454	1.5	5.33	90.5		
	81	900		2000	227		0.093	3.4	5.3	86.9		
	90		1000	2000	227		0.093	3.4	5.3	88		
	67	680		2250	197		0.167	5.1	5.44	82.5		
	75		750	2250	197		0.167	5.1	5.44	85.1		
Z4-250-12	144	1360		2100	399	2500	0.0444	1.3	4.29	88.8	8.8	890
	160		1500	2100	399		0.0444	1.3	4.29	89.9		
Z4-250-11	99	900		2000	281		0.0911	2.4	4.55	86.2		
	110		1000	2000	281		0.0911	2.4	4.55	88.1		
Z4-250-21	167	1360		2200	459	2750	0.0325	0.91	4.28	89.8	10	970
	185		1500	2200	459		0.0325	0.91	4.28	90.5		
	81	680		2250	234		0.1306	3.9	5.41	83.2		
	90		750	2250	234		0.1306	3.9	5.41	85.2		
Z4-250-31	180	1360		2400	493	2850	0.0281	0.87	5.32	90.4	11.2	1070
	200		1500	2400	493		0.0281	0.87	5.32	91.5		
	119	900		2000	334		0.0668	1.7	5.46	87.4		
	132		1000	2000	334		0.0668	1.7	5.46	89.1		
	67	540		2000	204		0.202	4.0	4.0	80.8		
	75		600	2000	204		0.202	4.0	4.0	84.6		
	49	450		1500	152		0.305	7.3	5.1	78.5		
	55		500	1500	152		0.305	7.3	5.1	82.4		

Performance Data

Type	Rated Output	Rated Speed		Speed with Field Weakened	Arm. Curr.	Field Power	Arm. Circuit Resistance	Arm. Circuit Resistance	Field Inductance	Eff.	Moment of Inertia GD ²	Wt.
		P _N	400V 440V									
	kW	r/min		n _F r/min	I _N A	P _F W	R Ω(20℃)	L _A mH	L _F H	%	kg·m ²	kg
Z4-250-42	198	1360		2400	539	3000	0.0237	0.93	6.19	91	12.8	1180
	220		1500	2400	539		0.0237	0.93	6.19	91.7		
	144	900		2000	401		0.0485	1.9	4.53	88		
	160		1000	2000	401		0.0485	1.9	4.53	89.2		
Z4-250-41	99	680		1900	283		0.0102	2.6	5.3	85.8		
	110		750	1900	283		0.0102	2.6	5.3	87.4		
	81	540		1600	236		0.141	4.7	6.36	83.4		
	90		600	1600	236		0.141	4.7	6.36	85		
	67	450		1500	201		0.195	5.1	4.97	80		
	75		500	1500	201		0.195	5.1	4.97	83.4		
Z4-280-11	226	1355		2000	614	3100	0.02134	0.69	4.58	90.9	16.4	1280
	250		1500	2000	614		0.02134	0.69	4.58	91.6		
Z4-280-22	253	1355		1800	684	3500	0.01796	0.77	5.3	91.5	18.4	1400
	280		1500	1800	684		0.01796	0.77	5.3	92.1		
Z4-280-21	180	900		2000	498		0.0373	1.2	4.46	89.1		
	200		1000	2000	498		0.0373	1.2	4.46	90.1		
	119	675		1600	333		0.0662	2.3	4.37	87.1		
	132		750	1600	333		0.0662	2.3	4.37	88.6		
	99	540		1500	281		0.093	3.1	4.57	84.7		
	110		600	1500	281		0.093	3.1	4.57	86		
Z4-280-32	284	1360		1800	768	3600	0.01493	0.59	6.94	91.7	21.2	1550
	315		1500	1800	768		0.01493	0.59	6.94	92.6		
	144	675		1700	402		0.0532	2	5.47	87.8		
	160		750	1700	402		0.0532	2	5.47	89.1		
Z4-280-31	198	900		2000	545		0.0314	1.1	5.54	89.7		
	220		1000	2000	545		0.0314	1.1	5.54	90.6		
	118	540		1000	339		0.0839	2.6	5.77	85.4		
	132		600	1000	339		0.0839	2.6	5.77	86.8		
	80	450		1400	234		0.1377	5.3	9.03	84.1		
	90		500	1400	234		0.1377	5.3	9.03	85.4		
Z4-280-42	225	900		1800	616	4000	0.02545	0.96	5.29	90.2	24	1700
	250		1000	1800	616		0.02545	0.96	5.29	91.1		
Z4-280-41	166	675		1900	464		0.0457	1.7	5.19	88.1		
	185		750	1900	464		0.0457	1.7	5.19	89.4		
	98	450		1000	282		0.0993	3.7	6.86	85.1		
	110		500	1000	282		0.0993	3.7	6.86	86.9		

Performance Data

Type	Rated Output	Rated Speed		Speed with Field Weakened n_F	Arm. Curr. I_N	Field Power P_F	Arm. Circuit Resistance R	Arm. Circuit Resistance L_A	Field Inductance L_F	Eff. %	Moment of Inertia GD^2	Wt. kg
		400V	440V									
	P_N kW	r/min		r/min	A	W	$\Omega(20^\circ\text{C})$	mH	H		$\text{kg}\cdot\text{m}^2$	
Z4-315-12	321	1360		1800	865	3850	0.015	0.39	8.64	92.2	21.2	1890
	355		1500	1800	865		0.015	0.39	8.64	92.8		
	253	900		1600	690		0.02355	0.46	5.06	90.4		
	280		1000	1600	690		0.02355	0.46	5.06	91.6		
	180	680		1900	500		0.04371	0.83	4.97	88.4		
	200		750	1900	500		0.04371	0.83	4.97	89.4		
Z4-315-11	144	540		1900	409	3850	0.06919	1.3	7.6	86.4	21.2	1890
	160		600	1900	409		0.06919	1.3	7.6	87.4		
	118	450		1600	344		0.1	2.3	9.43	84.4		
	132		500	1600	344		0.1	2.3	9.43	86.3		
	98	360		1200	294		0.1415	2.9	9.96	81.7		
	110		400	1200	294		0.1415	2.9	9.96	84.3		
Z4-315-22	284	900		1600	772	4350	0.02034	0.49	5.91	91	24	2080
	315		1000	1600	772		0.02034	0.49	5.91	91.5		
	225	680		1600	624		0.03392	0.74	18.8	88.7		
	250		750	1600	624		0.03392	0.74	18.8	89.6		
Z4-315-21	166	540		1600	468	4350	0.05382	1.2	25	87.2	24	2080
	185		600	1600	468		0.05382	1.2	25	88.5		
	143	450		1500	413		0.076	1.5	19	84.7		
	160		500	1500	413		0.076	1.5	19	86		
Z4-315-32	320	900		1600	867	4650	0.01658	0.39	23.1	91	27.2	2290
	355		1000	1600	867		0.01658	0.39	23.1	92		
	252	680		1600	698		0.03043	0.82	21.5	89.1		
	280		750	1600	698		0.03043	0.82	21.5	89.8		
	180	540		1500	501		0.04536	0.95	31.6	88.2		
	200		600	1500	501		0.04536	0.95	31.6	89.4		
Z4-315-31	118	360		1200	344	4650	0.1002	2.1	23.3	83.2	27.2	2290
	132		400	1200	344		0.1002	2.1	23.3	85.3		
Z4-315-42	361	900		1400	971	5200	0.01302	0.33	29	92.1	30.8	2520
	400		1000	1400	971		0.01302	0.33	29	92.7		
	284	680		1600	778		0.02364	0.67	20.8	90		
	315		750	1600	778		0.02364	0.67	20.8	90.7		
	225	540		1600	626		0.03554	0.87	21.9	88.3		
	250		600	1600	626		0.03554	0.87	21.9	89		
Z4-315-41	166	450		1500	468	5200	0.055	1.4	37.4	87.3	30.8	2520
	185		500	1500	468		0.055	1.4	37.4	88.3		
	143	360		1200	416		0.0803	1.8	22.2	84		
	160		400	1200	416		0.0803	1.8	22.2	85.3		

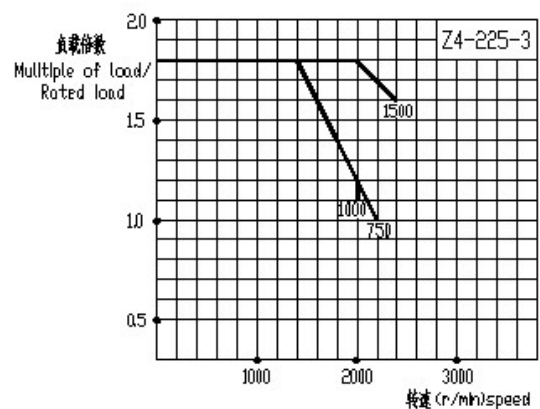
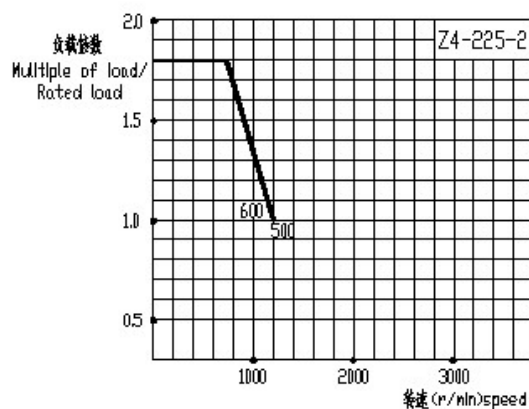
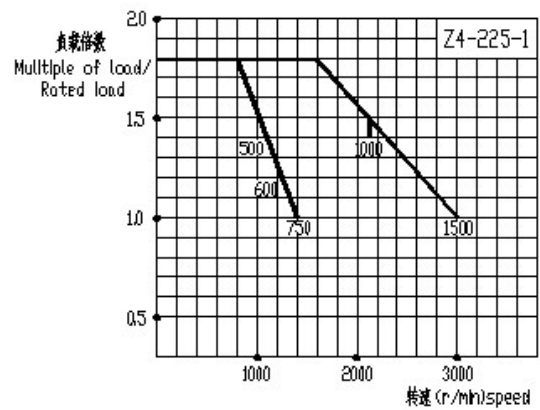
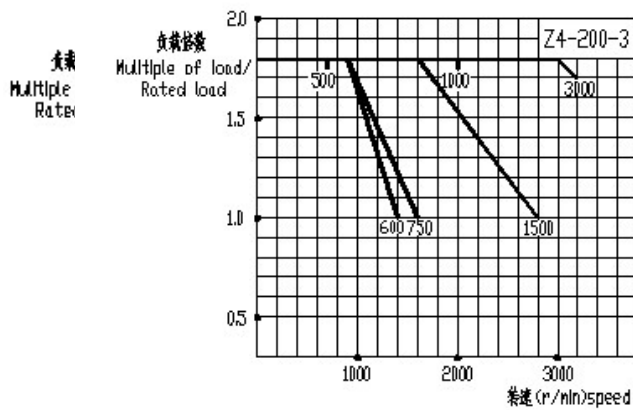
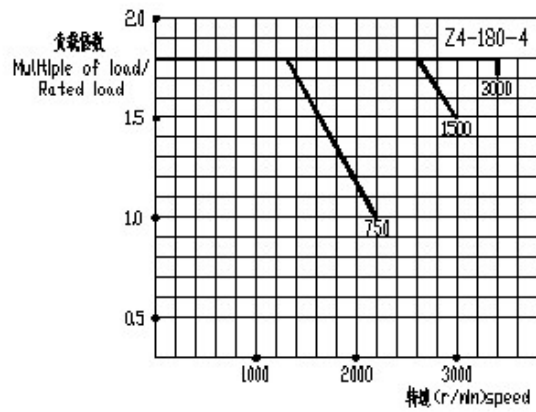
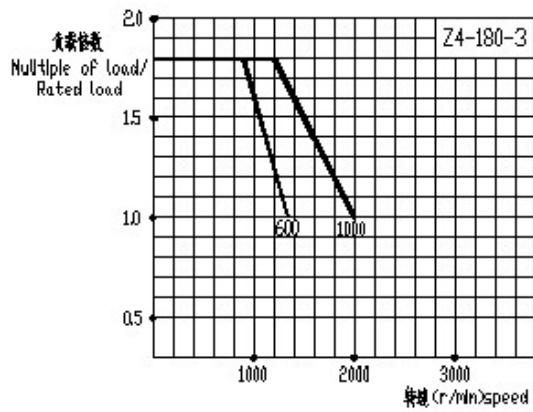
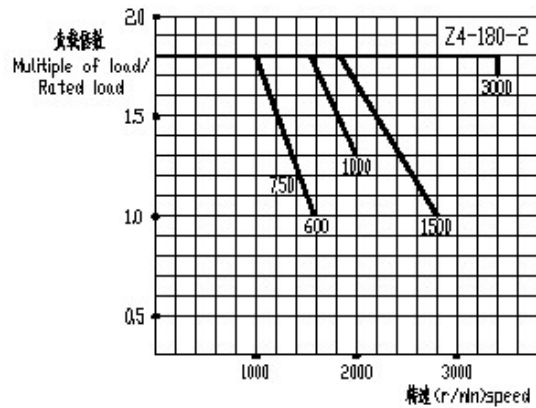
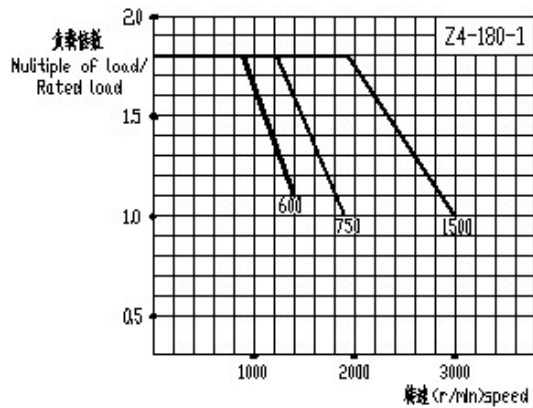
Performance Data

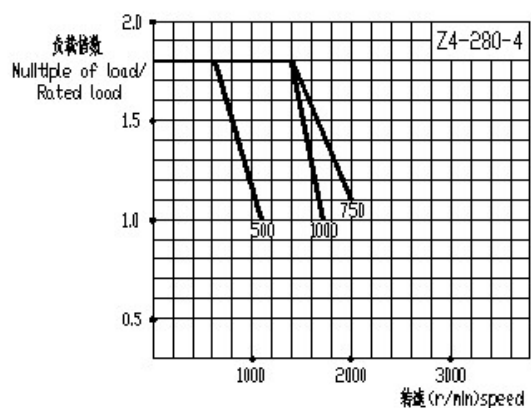
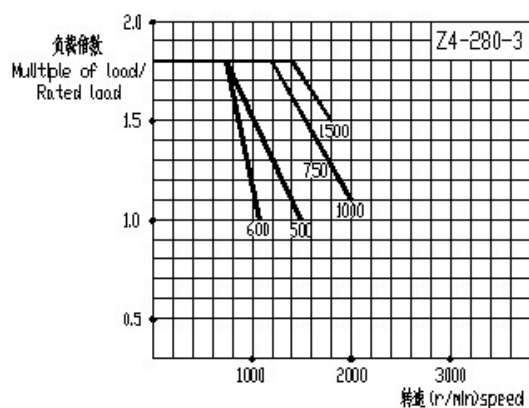
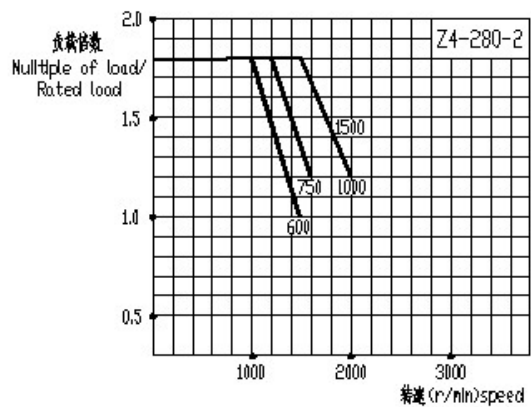
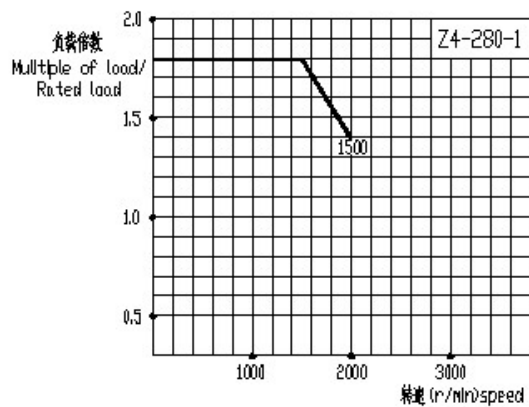
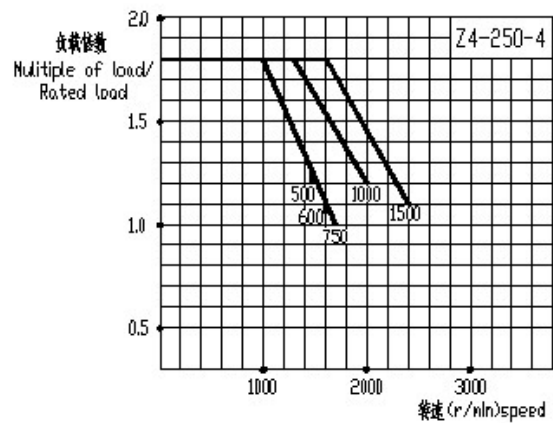
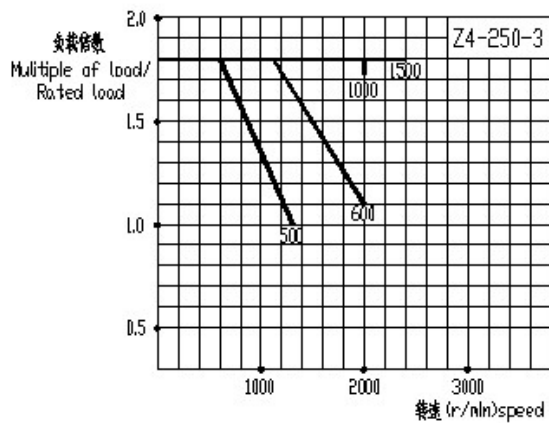
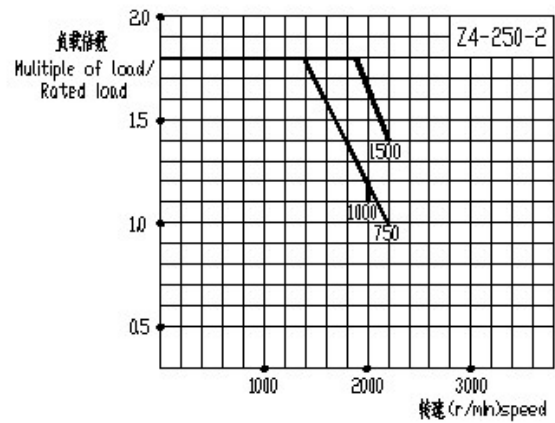
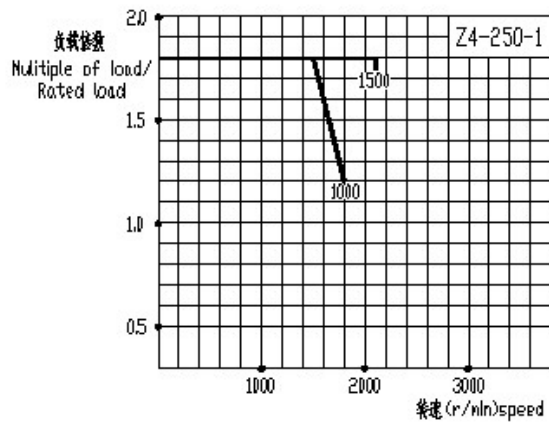
Type	Rated Output	Rated Speed		Speed with Field Weakened	Arm. Curr.	Field Power	Arm. Circuit Resistance	Arm. Circuit Resistance	Field Inductance	Eff.	Moment of Inertia	Wt.
		400V	440V									
	P _N kW	r/min		n _F r/min	I _N A	P _F W	R Ω(20℃)	L _A mH	L _F H	%	GD ² kg·m ²	kg
Z4-355-12	406	900		1500	1094	4700	0.01259	0.36	37.6	91.8	42	2890
	450		1000	1500	1094		0.01259	0.36	37.6	92.8		
	321	680		1500	877		0.02087	0.59	28.1	90.4		
	355		750	1500	877		0.02087	0.59	28.1	91.2		
Z4-355-11	253	540		1500	697	4700	0.02952	0.91	22	89.2	42	2890
	280		600	1500	697		0.02952	0.91	22	90.2		
	180	450		1500	506		0.0502	1.5	8.91	87.6		
	200		500	1500	506		0.0502	1.5	8.91	88.9		
	166	360		1200	478		0.066	1.8	22.4	84.9		
	185		400	1200	478		0.066	1.8	22.4	85.9		
Z4-355-22	361	680		1600	978	5600	0.01583	0.44	15.6	90.8	46	3170
	400		750	1600	978		0.01583	0.44	15.6	91.7		
	284	540		1500	783		0.02676	0.81	34.7	89.5		
	315		600	1500	783		0.02676	0.81	34.7	90.5		
	225	450		1600	624		0.03462	1	20.5	88.4		
	250		500	1600	624		0.03462	1	20.5	89.5		
Z4-355-21	180	360		1200	511	5600	0.05642	1.6	35.5	86.3	46	3170
	200		400	1200	511		0.05642	1.6	35.5	87.5		
Z4-355-32	406	680		1100	1098	6000	0.01362	0.39	19	91.3	52	3490
	450		750	1100	1098		0.01362	0.39	19	92.1		
	320	540		1600	877		0.02153	0.7	24.3	89.9		
	355		600	1600	877		0.02153	0.7	24.3	91		
	284	450		1500	789		0.0293	0.91	18.5	88.3		
	315		500	1500	789		0.0293	0.91	18.5	89.5		
Z4-355-31	197	360		1200	559	6000	0.04957	1.3	34.6	86.6	52	3490
	220		400	1200	559		0.04957	1.3	34.6	88.4		
Z4-355-42	361	540		1300	985	6500	0.01836	0.64	29.6	90.5	60	3840
	400		600	1300	985		0.01836	0.64	29.6	91.2		
	320	450		1200	882		0.02361	0.76	17.7	88.9		
	355		500	1200	882		0.02361	0.76	17.7	89.2		
	225	360		1200	627		0.0358	1.2	17.7	87.5		
	250		400	1200	627		0.0358	1.2	17.7	88.8		

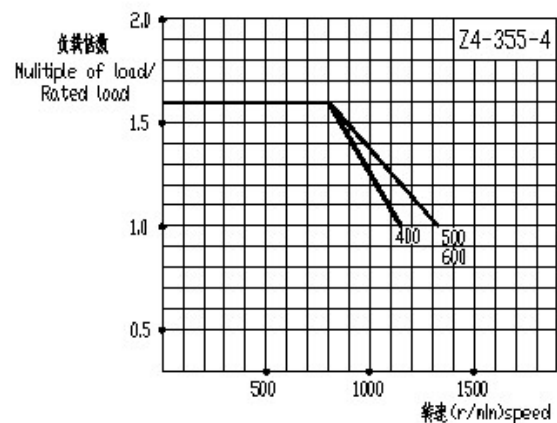
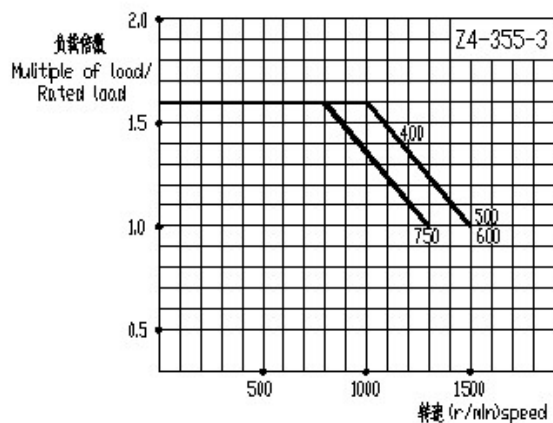
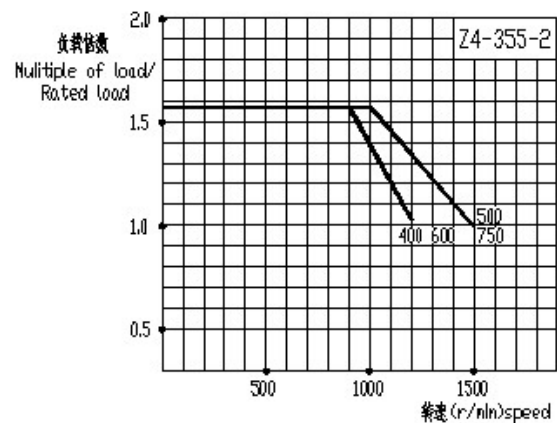
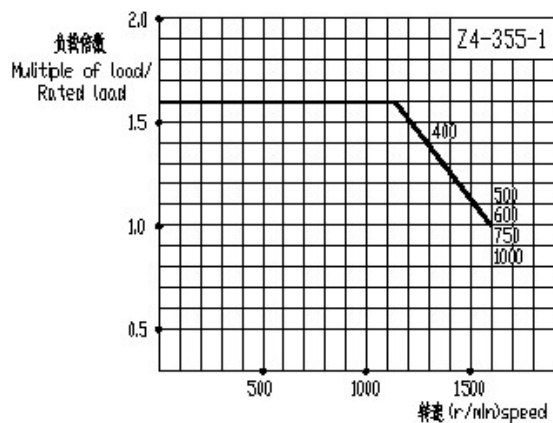
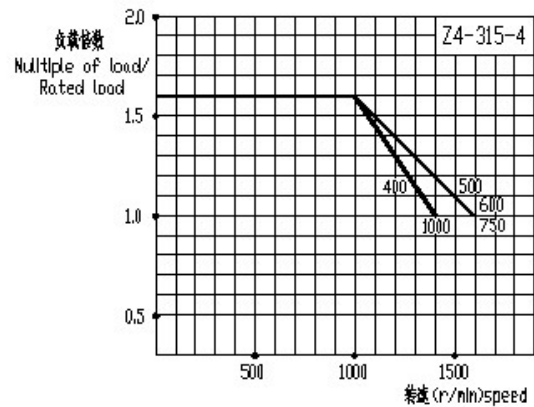
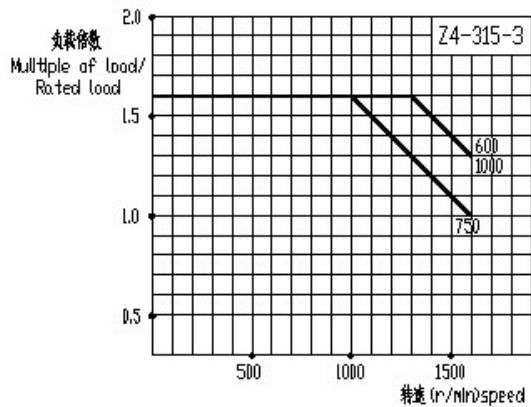
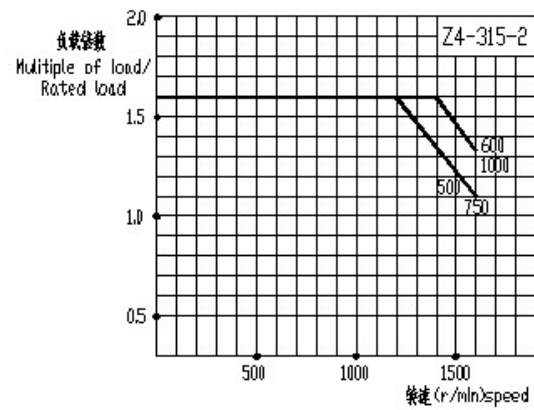
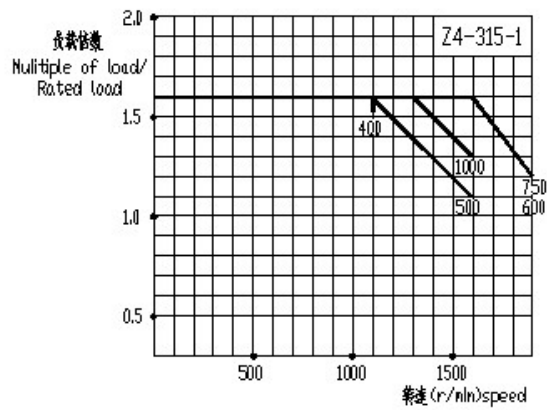
Performance Data

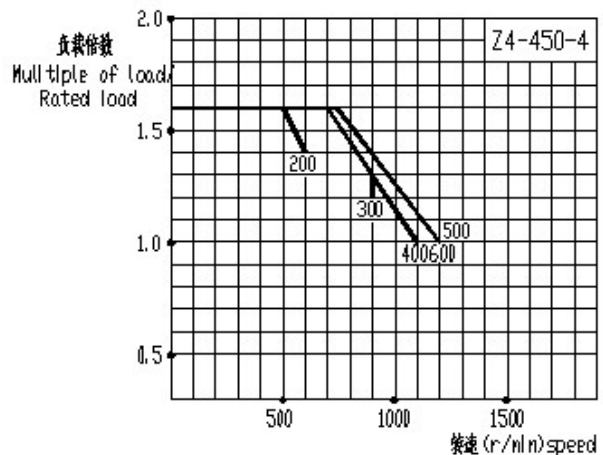
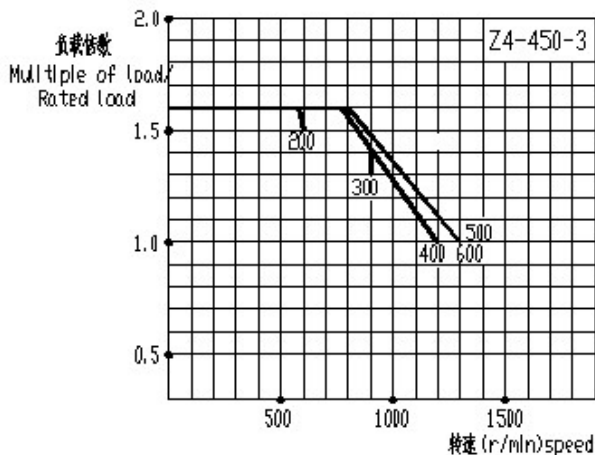
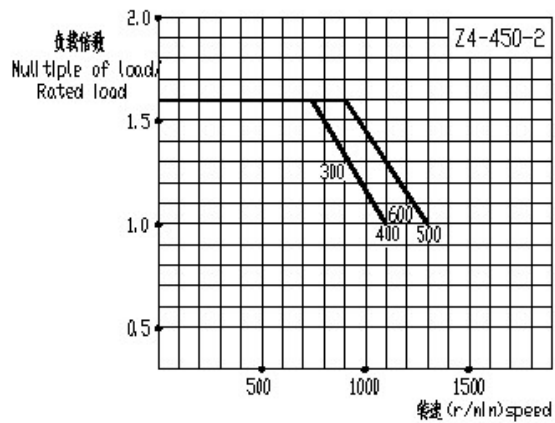
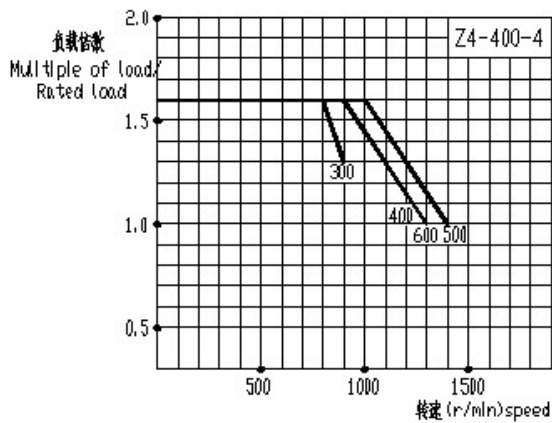
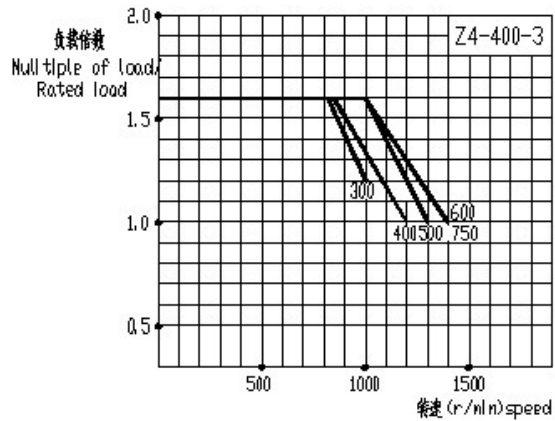
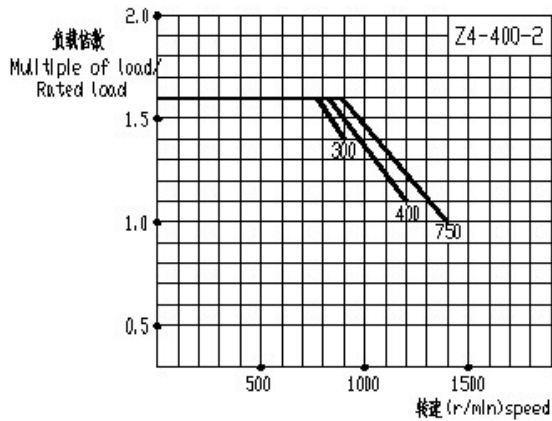
Type	Rated Output	Rated Speed		Speed with Field Weakened n_F	Arm. Curr. I_N	Field Power P_F	Arm. Circuit Resistance R	Arm. Circuit Resistance L_A	Field Inductance L_F	Eff. %	Moment of Inertia GD^2	Wt. kg
		400V	440V									
	P_N kW	r/min		r/min	A	W	$\Omega(20^\circ\text{C})$	mH	H		$\text{kg}\cdot\text{m}^2$	
Z4-400-22	435	680		1400	1175	5700	0.0139	0.33	7.85	90.8	74	4500
	480		750	1400	1175		0.0139	0.33	7.85	92		
Z4-400-21	235	360		1200	675		0.0497	1	7.3	84.8		
	260		400	1200	675		0.0497	1	7.3	86.3		
	180	270		900	537		0.0804	1.6	7.44	81.8		
	200		300	900	537		0.0804	1.6	7.44	83.1		
Z4-400-32	500	680		1400	1340	6400	0.0112	0.3	9.57	91.2	84	4900
	550		750	1400	1340		0.0112	0.3	9.57	92.5		
	400	540		1300	1083		0.0162	0.35	4.51	89.9		
	440		600	1300	1083		0.0162	0.35	4.51	91.1		
	344	450		1300	952		0.0248	0.58	6	88.1		
	380		500	1300	952		0.0248	0.58	6	89.5		
Z4-400-31	270	360		1200	768		0.03821	0.82	6.11	86		
	300		400	1200	768		0.03821	0.82	6.11	87.5		
	208	270		900	611		0.0659	1.5	5.89	82.8		
	230		300	900	611		0.0659	1.5	5.89	84		
Z4-400-42	435	540		1300	1175	7100	0.0134	0.32	5.54	90.8	94	5300
	480		600	1300	1175		0.0134	0.32	5.54	92		
	390	450		1400	1070		0.0201	0.47	6.86	88.6		
	430		600	1400	1070		0.0201	0.47	6.86	90		
Z4-400-41	316	360		1200	880		0.0274	0.73	5.41	87.7		
	350		400	1200	880		0.0274	0.73	5.41	89		
	235	270		900	676		0.0508	1.2	5.38	84		
	260		300	900	676		0.0508	1.2	5.38	85.4		
Z4-400-22	472	540		1200	1286	6500	0.0133	0.29	10.2	90.8	138	5600
	520		600	1200	1286		0.0133	0.29	10.2	92.1		
	408	450		1400	1114		0.0159	0.41	7.99	90		
	450		500	1400	1114		0.0159	0.41	7.99	91.3		
Z4-450-22	362	360		1200	1010		0.0232	0.61	5.79	88.1		
	400		400	1200	1010		0.0232	0.61	5.79	89.4		
Z4-450-21	253	270		900	720		0.0415	1	5.82	85.8		
	280		300	900	720		0.0415	1	5.82	87.1		

Characteristic coefficient of armature circuit



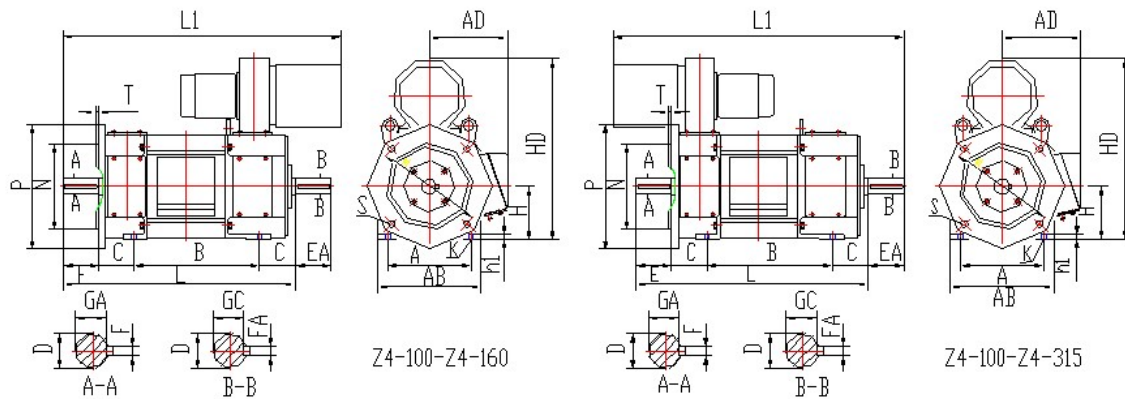






Remarks: When starting the separate excitation motor, the magnetic field coil must be connected to the rated voltage before the armature circuit is connected. When stopping, the armature circuit should be cut off first, and then the magnetic field circuit should be disconnected to avoid over-speed caused by weak magnetic field during starting and stopping.

horizontal ,frame with foot



horizontal ,frame with foot, shield with flange

Table 3 horizontal ,frame with foot

Type	Mounting Dimensions													Outline Dimensions						
	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	190	407	70	28	60	8	31	28	60	8	31	112	12	221	255	202	452	614	682	10
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	190	437	70	32	80	10	35	32	80	10	35	112	12	221	255	202	452	663	732	10
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	216	465	89	38	80	10	41	38	80	10	41	132	12	260	295	240	527	729	924	12
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		436																794	1022	
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	279	591	121	55	110	16	59	55	110	16	59	180	15	356	390	305	731	949	1177	16
Z4-180-41		586																944	1172	
Z4-180-42		651																1009	1237	
Z4-180-51		656																1014	1242	
Z4-180-52		721																1079	1307	

Table 3 horizontal ,frame with foot

Type	Mounting Dimensions													Outline Dimensions						
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h1
Z4-200-11		566																977	1158	
Z4-200-12		614																1025	1206	
Z4-200-21		606																1017	1198	
Z4-200-22		654																1065	1246	
Z4-200-31	318	686	133	65	140	18	69	65	140	18	69	200	19	396	430	355	779	1097	1278	18
Z4-200-32		734																1145	1326	
Z4-200-41		756																1167	1348	
Z4-200-42		804																1215	1396	
Z4-225-11		701																1140	1605	
Z4-225-12		761																1200	1665	
Z4-225-21		751																1190	1655	
Z4-225-22	356	811	149	75	140	20	79.5	75	140	20	79.5	225	19	440	474	398	981	1250	1715	20
Z4-225-31		811																1250	1715	
Z4-225-32		871																1310	1775	
Z4-250-11		715																1225	1657	
Z4-250-12		775																1285	1717	
Z4-250-21		765																1275	1707	
Z4-250-22		825																1335	1767	
Z4-250-31	406	825	168	85	170	22	90	75	140	20	79.5	250	24	490	524	432	1031	1335	1767	25
Z4-250-32		885																1395	1827	
Z4-250-41		895																1405	1837	
Z4-250-42		955																1465	1897	
Z4-280-11		762																1315	1748	
Z4-280-12		852																1405	1838	
Z4-280-21	457	822	190	95	170	25	100	85	170	22	90	280	24	550	584	462	1130	1375	1808	25
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	
Z4-315-091		817																1462	1827	
Z4-315-092		907																1552	1917	
Z4-315-11		887																1532	1897	
Z4-315-12		977																1622	1987	
Z4-315-21	508	967	216	100	210	28	106	95	170	25	100	315	28	620	654	497	1221	1612	1977	30
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	

Table 3 horizontal ,frame with foot

Type	Mounting Dimensions													Outline Dimensions						
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h1
Z4-355-081		818																1539	1860	
Z4-355-082		908																1629	1950	
Z4-355-091		888																1609	1930	
Z4-355-092		978																1699	2020	
Z4-355-11		968																1689	2010	
Z4-355-12	610	1058	254	110	210	28	116	110	210	28	116	355	28	700	734	701	1301	1779	2100	30
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	
Z4-400-11		959																1732	1817	
Z4-400-12		1079																1852	1937	
Z4-400-21		1039																1812	1897	
Z4-400-22	686	1159	280	120	210	32	127	120	210	32	127	400	35	790	830	750	1620	1932	2017	35
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		1061																1944	2050	
Z4-450-12	800	1181	315	140	250	36	148	140	250	36	148	450	35	890	924	800	1720	2064	2070	40
Z4-450-21		1151																2034	2140	
Z4-450-22		1271																2154	2260	

[illegible]

Table 4 horizontal ,frame with foot, shield with flange

Type	Mounting Dimensions																			Outline Dimensions						
	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	
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																						1214	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	

