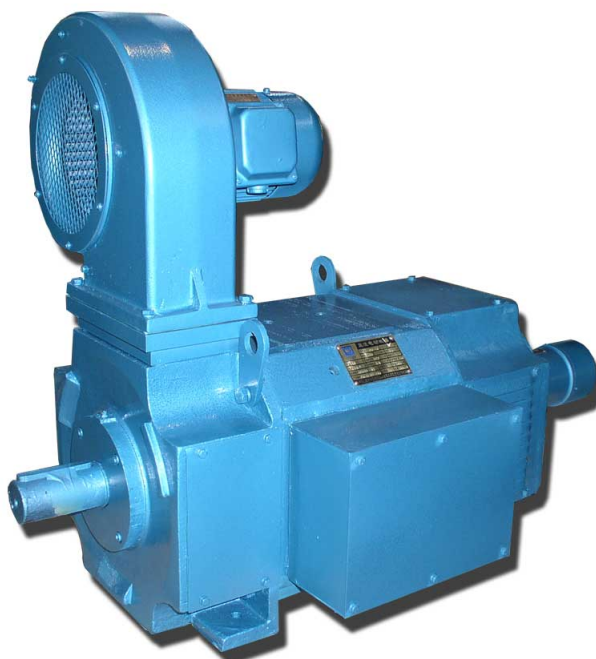


DZF SERIES

DC MOTOR



FEATURES AND USES

DZF Series DC motor are new developed products of our factory. The products are found wide use for prime mover in various machinery, such as mill auxiliary in metallurgical industry, metal cutting machine-tool, paper-making, print, textile, printing and dyeing, cement-making, plastic extruding 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 require-ments of the motors can be checked in accordance with IEC 34-1 Standard of the international Electrotechnical Commis-sion,or DIN 57530 Norm of the Deutsche Industrie-Norm.

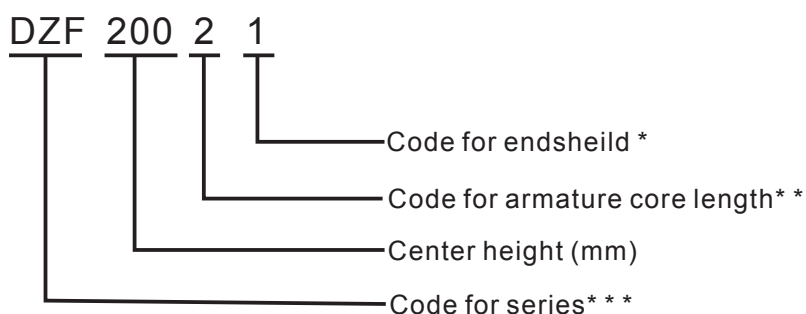
The angular shape of the machine makes good use of space.The motors have laminated yokes, which means than when used on rectifier power supplies they can endure both current ripple and rapid current changes(load change) urder dynamic condition. The stator design leads to high accuracy of pole spacing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

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, good performance, light weight, large 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

TYPE DESIGNATION



* The digit 1,2 for short, and long endshield.
 ** As regards frame size DZF-112, the first digit means No. of poles, the second digit for core length.
 *** The letter "Z"for d-c machine, the gigit "F"for ordinal number of the fourth series design.

DZF SERIES DC MOTOR

Electrical Performance

1. Data listed in the technical data sheet should be employed under the following conditions;
 - a. Altitude above sea level maximal 1,000m;
 - b. Cooling air temperature maximal 40°;
 - 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 staticthyristor controlled supplies, or from d-c generator;
 - f. Performances of motors all comply with State Standard GB/T755<<Fundamental technical rules for electrical machines>>.

2. Nominal rated voltage: 160V or 440V, Values for 220V or 400V or other voltage may be derived on request.

3. Rated speed: 3000, 1500, 1000, 750, 600, 500, 400, 300 and 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 output. Speed regulating range: see technical data.
 The given multiple of load to rated load of different speed regulating range: see technical data. The given multiple of load to rated load of different speed range see Appendix 1.
 The torque can be remained constant by reducing speed via armature voltage weakening below rated value. It is stipulated that armature speed range down to maximal 20r/min at constant torque and stable running.

4. Nominal field voltage: 180V. Other excitation voltage are also acceptable on request. Forced excitation is allowed with the voltage of less than 500V. When a motor is normally running, its excitation current must not be higher than the rated excitation current.
 To assure the reliability of insulation of excitation system, the motor must be protected against 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 voltage the value of shunt resistor is about seven times 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. Four frame size DZF-315, DZF-355, DZF-400, DZF-450 compensating windings are provided. For frame size Z4-250 and DZF-280 the motors are feasible with a compensating winding too.

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

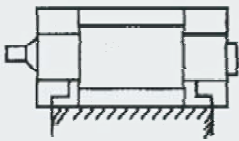
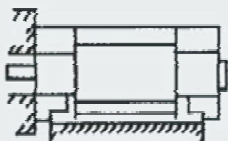
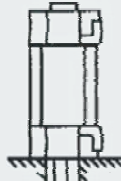
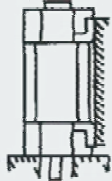
7. The efficiencies listed in the data sheet are for rated output, voltage and speed, and include excitation losses, excluding separate ventilating fans.

CONSTRUCTION

1. Protection, mounting and type of construction:

a. Type of protection of the whole series: IP21S

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

Mounting Type				
	IMB-3	IMB-5	IMV-1	IMV-15
For Use in	Z4-100-Z4-450	Z4-100-Z4-315	Z4-100-Z4-315 The machine are always delivered with feet,even when they are fiang-mounted	Z4-100-Z4-315

2.Methode of Cooling:

Modes of cooling for all teh motors are separate cooling, force ventilated. Cooling by frame radially fan, and attached an air filter.

Modes of cooling for motors may be made into three types, namely IC-06, IC-17 and IC-37.

a. For DZF-100~DZF-160, the blower is mounted on the non-drive side.

b. For DZF-180~DZF-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

Frame Size	Air Volume	Static Pressure	*Motor Output
	m ³ /h	Pa	kW
DZF-100	160	200	0.04
DZF-112	220	300	0.06
DZF-132	360	450	0.18
DZF-160	790	600	0.37
DZF-180	1200	940	1.1
DZF-200	1600	800	1.1
DZF-225	2880	1400	3.0
DZF-250	3000	1400	3.0
DZF-280	4000	1600	4.0
DZF-315	4680	1600	5.5
DZF-355	5200	1600	5.5
DZF-400	7200	1800	5.5
DZF-450	9000	1800	7.5

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

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

- a. Frame size 100 up to 180 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 160 may be made into the self cooled open motor with its own fan mounted on the shaft (IC01).
- d. Frame size 160 up to 315 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 need be, 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 shafts must be aligned with the utmost care.

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

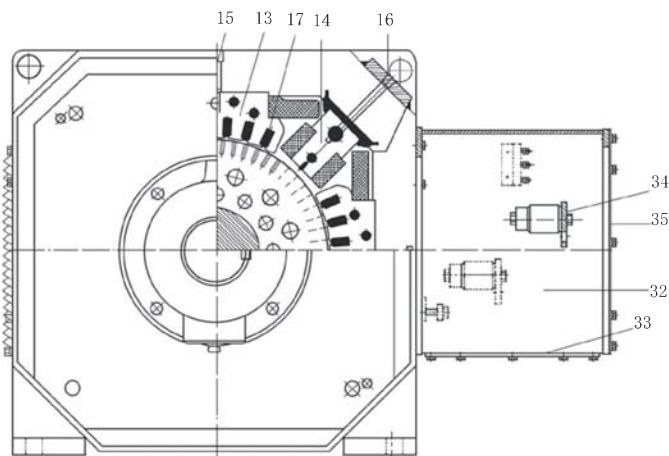
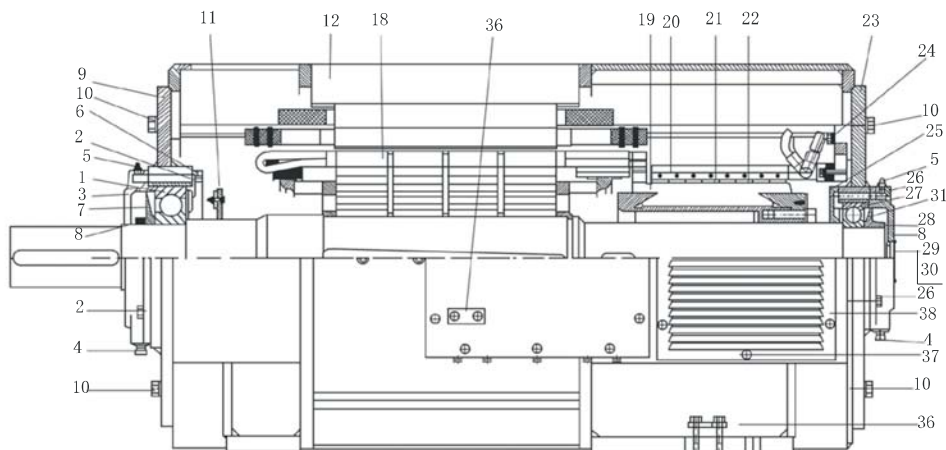
Motors are of compact structure, elegant appearance, spacious terminal box, easier wiring, servicing and maintenance.

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 relevant change.

Notice on order

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, voltage, 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. Ball bearing AS* | 20. Brush rocker |
| 2. Screw of bearing cover AS | 21. Brush holder |
| 3. Bearing cover AS outer | 22. Carbon brush |
| 4. Oil-cap of ball bearing AS & NS** | 23. Endshield NS |
| 5. Oil nipple AS & NS | 24. Fastening screw with washer NS |
| 6. Bearing cover AS inner | 25. Bearing cover NS inner |
| 7. Centrifugal disc AS | 26. Screw of bearing cover NS |
| 8. Headless screw for centrifugal disc AS & NS | 27. Bearing cover NS outer |
| 9. Endshield AS | 28. Centrifugal disc NS |
| 10. Fastening screw of endshield AS & NS | 29. Endplate NS |
| 11. Balancing disc AS | 30. Screw of endplate NS |
| 12. Frame | 31. Ball bearing NS |
| 13. Main pole | 32. Terminal box |
| 14. Compole | 33. Outlet plate with gasket-sealing |
| 15. Screw of main pole | 34. Terminal |
| 16. Screw of compole | 35. Terminal box lid |
| 17. Compensating winding | 36. Grounding bolt |
| 18. Armature | 37. Screw of louvre NS |
| 19. Commutator | 38. Louvre NS |

Technical Data

Table 2

Type	Rated Out put	Rated Speed			Speed with Field Weaking nF	Arm. Curr. I	Field Power NP	Arm. Circuit Resistance RF	Arm. Circuit Inductance LA	Field Inductance L	Smoothing Ef. Induct. FL	Moment of Inertia RGD ²	Wt. kg	
		pN	160V	400V										440V
		kW	r/min											r/min
DZF-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						70.6		
	1.4	860			2000	5.1		16.76	163	18		60.3		
	1.5	990			2000	4.77						63.2		
DZF-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						72.8		
	1.9	855			2000	6.9		11.67	110	13		61.1		
	2.2	965			2000	7.1						63.5		
DZF-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						76		
	2.6	895			2000	9		7.62	83	14		65.1		
	3	1010			2000	9.1						67.3		
DZF-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						75.7		
	3.7	855			1100	13		5.78	60	6.7		65.2		
	4	980			1100	12.2						68.7		
DZF-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		

Technical Data

Table 2 (continued)

Type	Rated Output	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R F	Arm. Circuit Inductance L A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min		r/min	A	W	(20°C)	mH	H	%	kg. m ²	kg
DZF-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		1.309	18.9	8.9	79.4		
	11	1480		2200	29.6					80.9		
	7	865		1600	22.7		2.56	37.5	6.3	71.9		
	7.5	975		1600	21.4					74.5		
DZF-132-2	20	2800		3600	55.4	730	0.226	3.65	10	87.7	0.4	160
	22	3090		3600	55.3					88.3		
	15	1360		2500	44.5		0.811	13.5	7.7	81.2		
	15	1510		2500	39.5					83.4		
	10	905		1400	31.1		1.565	26	6	75.6		
	11	995		1400	30.5					77.7		
DZF-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		0.531	9.8	6.6	83.6		
	18.5	1540		2200	47.6					84.7		
	13.5	945		1600	40.5		0.976	19.4	6.5	79.4		
	15	1050		1600	40.5					80.5		
DZF-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		0.593	10.4	7.7	80.4		
	22	1500								82.6		
DZF-160-22	40.5	2710		3500	113	920	0.1426	2.7	10	88.2	0.76	242
	45	3000								89.1		
DZF-160-21	16.5	900		2000	50.5		0.862	17.7	6	77.9		
	18.5	1000								79.4		
DZF-160-32	49.5	2710		3500	137	1050	0.097	2.07	11	89.1	0.88	268
	55	3010								90.2		
DZF-160-31	27	1350		3000	77.8		0.376	8.3	10	84.7		
	30	1500								85.7		
	19.5	900		2000	59.1	0.675	15.2	6.3	79.1			
	22	1000							81.7			
DZF-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		0.947	17.6	5.6	75.5		
	18.5	750								78.1		
	13	540		1400	42.4	1.264	25	5.6	73			
	15	600							74.1			

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R F	Arm. Circuit Inductance L A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min		r/min	A	W	(20°C)	mH	H	%	kg. m ²	
DZF-180-22	67	2710		3400	185		0.0555	1.16	6.9	89.		
	75	3000								90.7		
DZF-180-21	40.5	1350		2800	115	1400	0.2125	4.65	6.6	85.8	1.72	350
	45	1500								87		
	27	900		2000	79		0.419	9.3	7.3	82.2		
	30	1000								83.7		
	19.5	670		1400	61		0.756	15.7	7.1	77.3		
	22	750								79.7		
	16.5	540		1600	52		1.003	21.9	5	73.8		
	18.5	600								76.8		
DZF-180-31	33	900		2000	97	1500	0.332	7.7	6.6	82.8	1.92	380
	37	1000								83.6		
	19.5	540		1250	62		0.801	19	6.6	74.8		
	22	600								76.6		
DZF-180-42	81	2710		3200	221		0.051	1.16	12	91		
	90	3000								91.3		
DZF-180-41	50	1350		3000	139	1700	0.1417	3.2	5.7	87.5	2.2	410
	55	1500								87.7		
	27	670		2000	80		0.459	10.4	6.3	80.4		
	30	750								81.1		
DZF-200-12	99	2710		3000	271		0.0373	0.83	7.62	90.2		
	110	3000								91.6		
DZF-200-11	40.5	900		2000	118	1400	0.2653	8.4	7.01	83.4	3.68	485
	45	1000								85.5		
	33	670		1600	99		0.369	10.6	7.77	80.2		
	37	750								82.9		
	19.5	450		1000	64		0.93	21.9	7.3	72.2		
	22	500								77.4		
DZF-200-21	67	1350		3000	188	1500	0.0885	2.8	6.78	88.7	4.2	530
	75	1500								89.6		
	27	540		1000	82		0.535	14	9.64	78.8		
	30	600								80.4		
DZF-200-32	119	2710		3200	322		0.0266	0.79	10.9	91.7		
	132	3000								92.4		
DZF-200-31	81	1350		2800	224	1750	0.0771	2.6	5.61	88.7	4.8	580
	90	1500								90		
	49.5	900		2000	141		0.1751	4.8	8.54	85.6		
	55	1000								87.1		
	40.5	670		1400	119		0.283	8.5	8.35	82.5		
	45	750								84.1		
	33	540		1200	101		0.42	12.2	8.42	79.6		
	37	600								82		
	27	450		750	84		0.598	17.1	8.4	77.5		
30	500		79.5									

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P W	Arm. Circuit Resistance R F (20°C)	Arm. Circuit Inductance L A mH	Field Inductance L H	Eff. F %	Moment of Inertia GD ² kg. m ²	Wt. kg
	P N	400V	440V									
	kW	r/min										
DZF-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		
DZF-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		
DZF-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		
DZF-250-12	144	1360		2100	399	2500	0.0444	1.3	4.29	88.8	8.8	890
	160	1500								89.9		
DZF-250-11	99	900		2000	281	0.0911	2.4	4.55	86.2	88.1		
	110	1000										
DZF-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		
DZF-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		

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R F	Arm. Circuit Inductance L A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min		r/min	A	W	(20°C)	mH	H	%	kg. m ²	
DZF-250-41	198	1360		2400	539	3000	0.0237	0.93	6.19	91	12.8	1180
	220	1500										
DZF-250-42	144	900		2000	401	3000	0.0485	1.9	4.53	88.0	12.8	1180
	160	1000										
DZF-250-41	99	680		1900	283	3000	0.0102	2.6	5.3	85.8	12.8	1180
	110	750										
	81	540		1600	236		0.141	4.7	6.36	83.4		
	90	600										
	67	450		1500	201		0.195	5.1	4.97	80		
	75	500										
DZF-280-11	226	1355		2000	614	3100	0.02134	0.69	4.58	90.9	16.4	1280
	250	1500										
DZF-280-22	253	1355		1800	684	3500	0.01796	0.77	5.3	91.5	18.4	1400
	280	1500										
DZF-280-21	180	900		2000	498	3500	0.0373	1.2	4.46	89.1	18.4	1400
	200	1000										
	119	675		1600	333		0.0662	2.3	4.37	87.1		
	132	750										
	99	540		1500	281		0.093	3.1	4.57	84.7		
	110	600										
DZF-280-32	284	1360		1800	768	3600	0.01493	0.59	6.94	91.7	21.2	1550
	315	1500										
DZF-280-31	198	900		2000	545	3600	0.0314	1.1	5.54	89.7	21.2	1550
	220	1000										
DZF-280-32	144	675		1700	402	3600	0.0532	2	5.47	87.8	21.2	1550
	160	750										
DZF-280-31	118	540		1000	339	3600	0.0839	2.6	5.77	85.4	24	1700
	132	600										
	80	450		1400	234		0.1377	5.3	9.03	84.1		
	90	500										
DZF-280-42	225	900		1800	616	4000	0.02545	0.96	5.29	90.2	24	1700
	250	1000										
DZF-280-41	166	675		1900	464	4000	0.0457	1.7	5.19	88.1	24	1700
	185	750										
	98	450		1000	282		0.0993	3.7	6.86	85.1		
	110	500										

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking n ^F	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R _F	Arm. Circuit Inductance L _A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min	r/min	A	W	(20°C)	mH	H	%	kg. m ²		
DZF-315-12	321	1360		1800	865	3850	0.015	0.39	8.64	92.2	21.2	1890
	355	1500								92.8		
	253	900		1600	690		0.02355	0.46	5.06	90.4		
	280	1000								91.6		
	180	680		1900	500		0.04371	0.83	4.97	88.4		
	200	750								89.4		
DZF-315-11	144	540		1900	409	3850	0.06919	1.3	7.6	86.4	21.2	1890
	160	600								87.4		
	118	450		1600	344		0.1	2.3	9.43	84.4		
	132	500								86.3		
	98	360		1200	294		0.1415	2.9	9.96	81.7		
	110	400								84.3		
DZF-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		
DZF-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		
DZF-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		
DZF-315-31	118	360		1200	344	0.1002	2.1	23.3	83.2	27.2	2290	
	132	400							85.3			
DZF-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		
DZF-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		

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R F	Arm. Circuit Inductance L A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min		r/min	A	W	(20°C)	mH	H	%	kg. m ²	kg
DZF-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		
DZF-355-11	253	540		1500	697	0.02952	0.91	22	89.2	46	3170	
	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			
DZF-355-22	361	680		1600	978	0.01583	0.44	15.6	90.8	46	3170	
	400	750							91.7			
	284	540		1500	783	0.02676	0.81	34.7	89.5			
	315	600							90.5			
	225	450		1600	624	0.03462	1.0	20.5	88.4			
	250	500							89.5			
DZF-355-21	180	360		1200	511	0.05642	1.6	35.5	86.3	46	3170	
	200	400							87.5			
DZF-355-32	406	680		1100	1098	0.01362	0.39	19	91.3	52	3490	
	450	750							92.1			
	320	540		1600	877	0.02153	0.7	24.3	89.9			
	355	600							91			
	284	450		1500	789	0.0293	0.91	18.5	88.3			
	315	500							89.5			
DZF-355-31	197	360		1200	559	0.04957	1.3	34.6	86.6	52	3490	
	220	400							88.4			
DZF-355-42	361	540		1300	985	0.01836	0.64	29.6	90.5	60	3840	
	400	600							91.2			
	320	450		1200	882	0.02361	0.76	17.7	88.9			
	355	500							89.2			
	225	360		1200	627	0.0358	1.2	17.7	87.5			
	250	400							88.8			

Technical Data

Table 2 (continued)

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

Technical Data

Table 2 (continued)

Type	Rated Out put	Rated Speed		Speed with Field Weaking nF	Arm. Curr. I	Field Power N P	Arm. Circuit Resistance R F	Arm. Circuit Inductance L A	Field Inductance L	Eff. F	Moment of Inertia GD ²	Wt. kg
		400V	440V									
	kW	r/min	r/min	A	W	(20°C)	mH	H	%	kg. m ²		
DZF-450-32	500	540		1200	1358	7100	0.0134	0.39	19.6	90.8	156	6000
	550	600								92		
	453	450		1300	1228		0.0145	0.32	7.36	90		
	500	500								91.4		
	408	360		1200	1130		0.0205	0.53	7.17	88.5		
	450	400								89.7		
	309	270		900	875		0.0342	0.83	4.8	85.9		
	340	300								87.1		
DZF-450-31	200	180		600	595	0.0751	1.9	9.09	81.3	174	6700	
	220	200							82.6			
DZF-450-42	545	540		1100	1492	7100	0.0134	0.51	28.2	90.3	174	6700
	600	600								91.5		
	500	450		1100	1367		0.0145	0.43	18.6	90		
	550	500								91.4		
	453	360		1200	1254		0.0178	0.42	5.85	88.9		
	500	400								90		
	345	270		900	972		0.0275	0.81	5.62	86.8		
	380	300								88.1		
DZF-450-41	235	180		600	698	0.0612	1.7	5.73	81.7	174	6700	
	260	200							83			

OVERALL & INSTALLATION DIMENSIONS

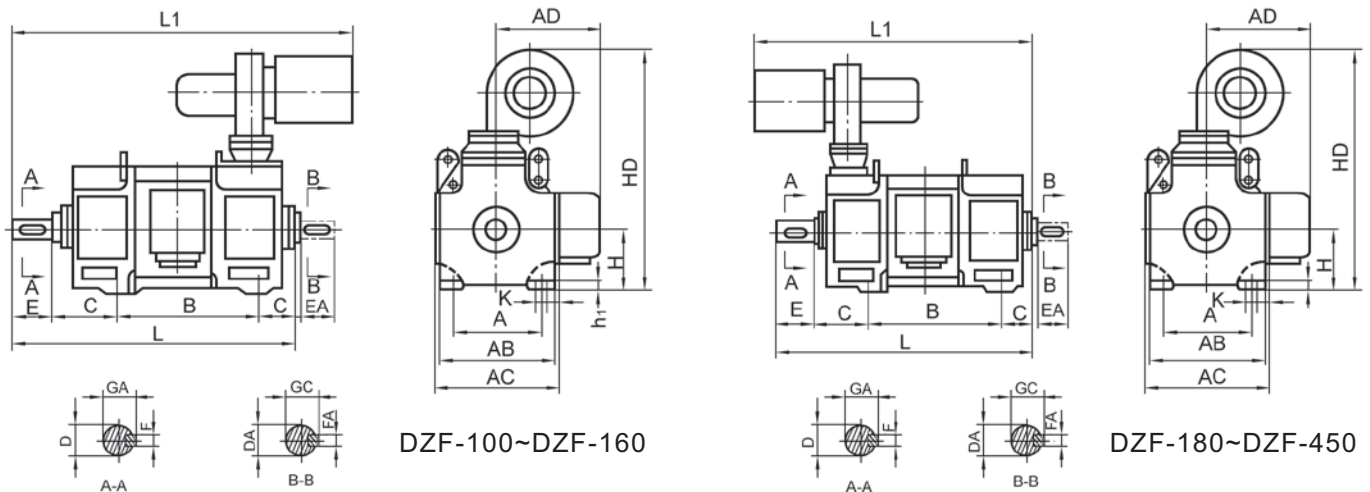


Figure 1

Table 3 Horizontal Foot-Mounted

Table 3 mm

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

OVERALL & INSTALLATION DIMENSIONS

Table 3 Horizontal Foot-Mounted

Table 3(continued) mm

Type	Mounting Dimensions in millimeter													Outline Dimensions in millimeter						
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h
DZF-200-11	318	566	133	65	140	18	69	65	140	18	69	200	19	396	430	355	799	977	1158	18
DZF-200-12		614																1025	1206	
DZF-200-21		606																1017	1198	
DZF-200-22		654																1065	1246	
DZF-200-31		686																1097	1278	
DZF-200-32		734																1145	1326	
DZF200-41		756																1167	1348	
DZF-200-42		804																1215	1396	
DZF-225-11	356	701	149	75	140	20	79.5	75	140	20	79.5	225	19	440	474	398	981	1140	1605	20
DZF-225-12		761																1200	1665	
DZF-225-21		751																1190	1655	
DZF-225-22		811																1250	1715	
DZF-225-31		811																1250	1715	
DZF-225-32		871																1310	1775	
DZF-250-11	406	715	168	85	170	22	90	75	140	20	79.5	250	24	490	524	432	1031	1225	1657	25
DZF-250-12		775																1285	1717	
DZF-250-21		765																1275	1707	
DZF-250-22		825																1335	1767	
DZF-250-31		825																1335	1767	
DZF-250-32		885																1395	1827	
DZF-250-41		895																1405	1837	
DZF-250-42		955																1465	1897	
DZF-280-11	457	762	190	95	170	25	100	85	170	22	90	280	24	550	584	462	1130	1315	1748	
DZF-280-12		852																1405	1838	
DZF-280-21		822																1375	1808	
DZF-280-22		912																1465	1898	
DZF-280-31		892																1445	1878	
DZF-280-32		982																1535	1968	
DZF-280-41		972																1525	1958	
DZF-280-42		1062																1615	2048	
DZF-280-51		1062																1615	2048	
DZF-280-52		1152																1705	2138	

OVERALL & INSTALLATION DIMENSIONS

Table 3 Horizontal Foot-Mounted

Table 3(continued) mm

Type	Mounting Dimensions in millimeter													Outline Dimensions in millimeter						
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	AB	AC	AD	HD	L	L1	h
DZF-315-11	508	887	216	100	210	28	106	95	170	25	100	315	28	620	654	497	1221	1532	1897	30
DZF-315-12		977																1622	1987	
DZF-315-21		967																1612	1977	
DZF-315-22		1057																1702	2067	
DZF-315-31		1057																1702	2067	
DZF-315-32		1147																1792	2157	
DZF-315-41		1157																1802	2167	
DZF-315-42		1247																1892	2257	
DZF-355-11	610	968	254	110	210	28	116	110	210	28	116	355	28	700	734	701	1301	1689	2010	30
DZF-355-12		1058																1779	2100	
DZF-355-21		1058																1779	2100	
DZF-355-22		1148																1869	2190	
DZF-355-31		1158																1879	2200	
DZF-355-32		1248																1969	2290	
DZF-355-41		1268																1989	2310	
DZF-355-42		1358																2079	2400	
DZF-400-11	686	959	280	120	210	32	127	120	210	32	127	400	35	790	830	750	1620	1732	1817	35
DZF-400-12		1079																1852	1937	
DZF-400-21		1039																1812	1897	
DZF-400-22		1159																1932	2017	
DZF-400-31		1129																1902	1987	
DZF-400-32		1249																2022	2107	
DZF-400-41		1229																2002	2087	
DZF-400-42		1349																2122	2207	
DZF-450-11	800	1061	315	140	250	36	148	140	250	36	148	450	35	890	924	800	1720	1944	2050	40
DZF-450-12		1181																2064	2070	
DZF-450-21		1151																2034	2140	
DZF-450-22		1271																2154	2260	
DZF-450-31		1251																2134	2240	
DZF-450-32		1371																2254	2360	
DZF-450-41		1361	2294	2350																
DZF-450-42		1481	2414	2470																
DZF-450-51		1481	2414	2470																
DZF-450-52		1601	2534	2590																

* 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 300mm.

OVERALL & INSTALLATION DIMENSIONS

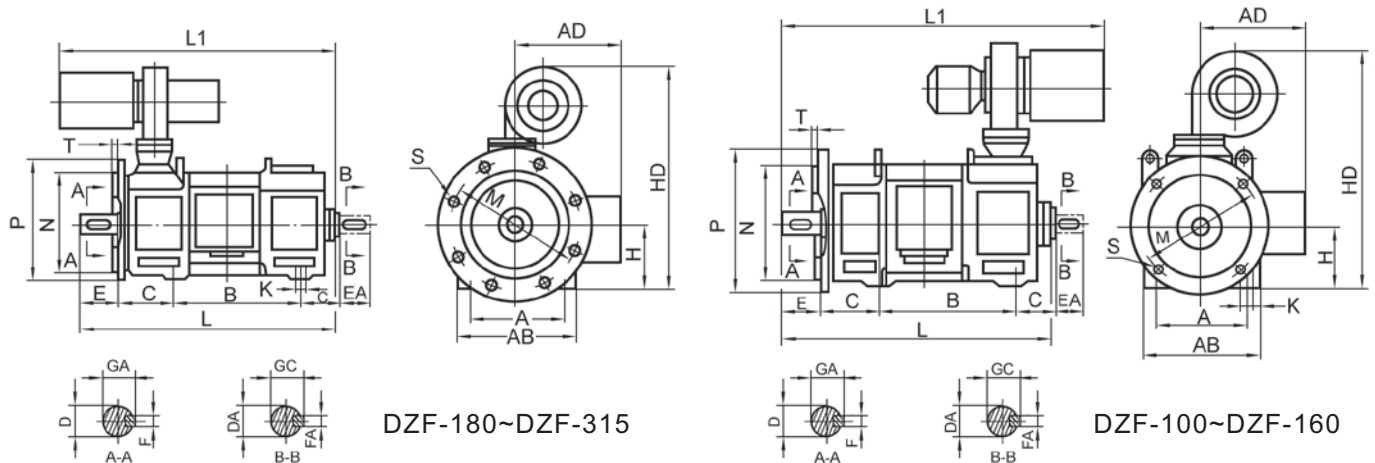


Figure 2

Horizontal Flanged Foot-Mounted

Table 4 mm

Type	Mounting Dimensions in millimeter																		Outline Dimensions in millimeter																											
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	M	N	S	Holes†	P	AB	AC	AD	HD	L	L1																						
DZF-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																					
DZF-100-2		358																						540	620																					
DZF-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																					
DZF-112/2-2		367																						574	642																					
DZF-112/2-3		437																						614	682																					
DZF-112/2-4		477																						684	752																					
DZF-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																					
DZF-112/4-2		387																						613	682																					
DZF-112/4-3		437																						663	732																					
DZF-112/4-4		497																						723	792																					
DZF-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																					
DZF-132-2		405																						669	864																					
DZF-132-3		465																						729	924																					
DZF-132-4		545																						809	1004																					
DZF-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																					
DZF-160-12		476																						809	986																					
DZF-160-21		451																						784	993																					
DZF-160-22		516																						849	1026																					
DZF-160-31		501																						834	1043																					
DZF-160-32		566																						899	1076																					
DZF-160-41		561																						894	1103																					
DZF-160-42		626																						959	1136																					
DZF-160-51		631																						964	1173																					
DZF-160-52		696																						1029	1206																					
DZF-180-11		279																						436	121	55	110	16	59	55	110	16	59	180	15	350	300	19	4	5	400	356	390	305	794	1022
DZF-180-12																								501																					859	1087
DZF-180-21	476		834	1062																																										
DZF-180-22	541		899	1127																																										
DZF-180-31	526		884	1112																																										
DZF-180-32	591		949	1177																																										
DZF-180-41	586		944	1172																																										
DZF-180-42	651		1009	1237																																										
DZF-180-51	656		1014	1242																																										
DZF-180-52	721		1079	1307																																										

OVERALL & INSTALLATION DIMENSIONS

Horizontal Flanged Foot-Mounted

Table 4 (continued) mm

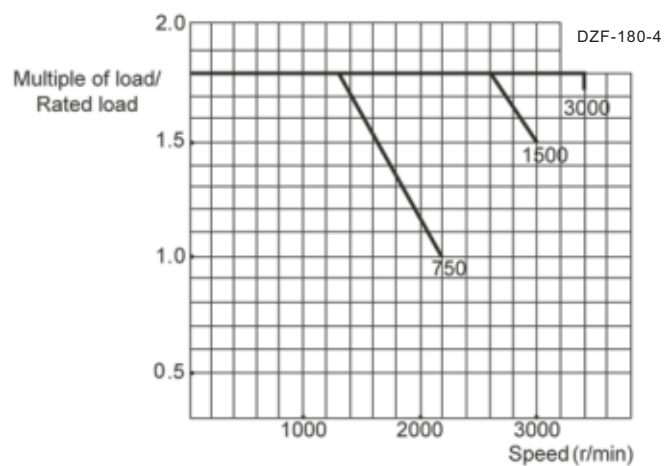
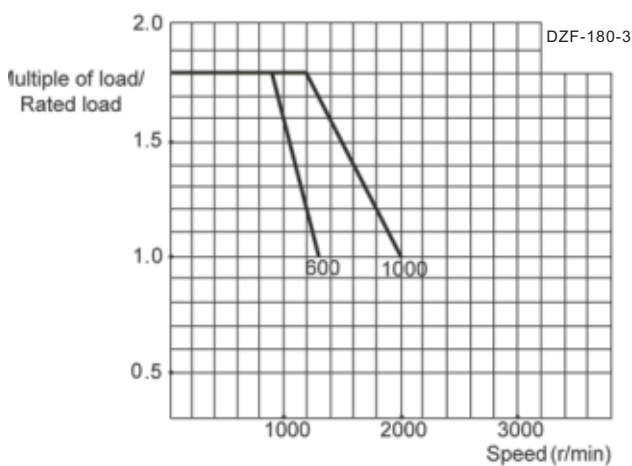
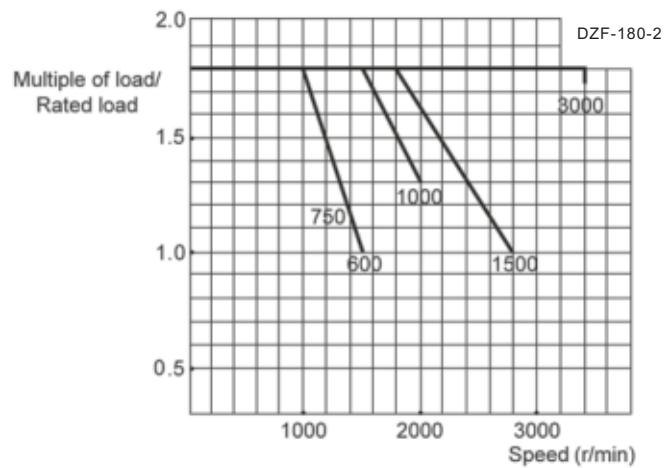
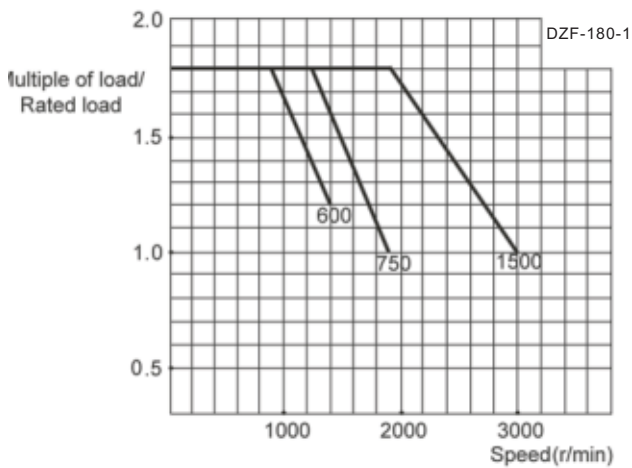
Type	Mounting Dimensions in millimeter																	Outline Dimensions in millimeter																													
	A	B	C	D	E	F	GA	DA	EA	FA	GC	H	K	M	N	S	Holes†	P	AB	AC	AD	HD	L	L1																							
DZF-200-11	318	566	133	65	140	18	69	65	140	18	69	200	19	400	350	19	8	5	450	396	430	355	779	977	1158																						
DZF-200-12		614																						1025	1206																						
DZF-200-21		606																						1017	1198																						
DZF-200-22		654																						1065	1246																						
DZF-200-31		686																						1097	1278																						
DZF-200-32		734																						1145	1326																						
DZF-200-41		756																						1167	1348																						
DZF-200-42		804																						1215	1396																						
DZF-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
DZF-225-12	761		1200	1665																																											
DZF-225-21	751		1190	1655																																											
DZF-225-22	811		1250	1715																																											
DZF-225-31	811		1250	1715																																											
DZF-225-32	871		1310	1775																																											
DZF-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																						
DZF-250-12		775																						1285	1717																						
DZF-250-21		765																						1275	1707																						
DZF-250-22		825																						1335	1767																						
DZF-250-31		825																						1335	1767																						
DZF-250-32		885																						1395	1827																						
DZF-250-41		895																						1405	1837																						
DZF-250-42		955																						1465	1897																						
DZF-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																						
DZF-280-12		852																						1405	1838																						
DZF-280-21		822																						1375	1808																						
DZF-280-22		912																						1465	1898																						
DZF-280-31		892																						1445	1878																						
DZF-280-32		982																						1535	1968																						
DZF-280-41		972																						1525	1958																						
DZF-280-42		1062																						1615	2048																						
DZF-280-51		1062																						1615	2048																						
DZF-280-52		1152																						1705	2138																						
DZF-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
DZF-315-12																								977																						1622	1987
DZF-315-21	967		1612	1977																																											
DZF-315-22	1057		1702	2067																																											
DZF-315-31	1057		1702	2067																																											
DZF-315-32	1147		1792	2157																																											
DZF-315-41	1157		1802	2167																																											
DZF-315-42	1247		1892	2257																																											

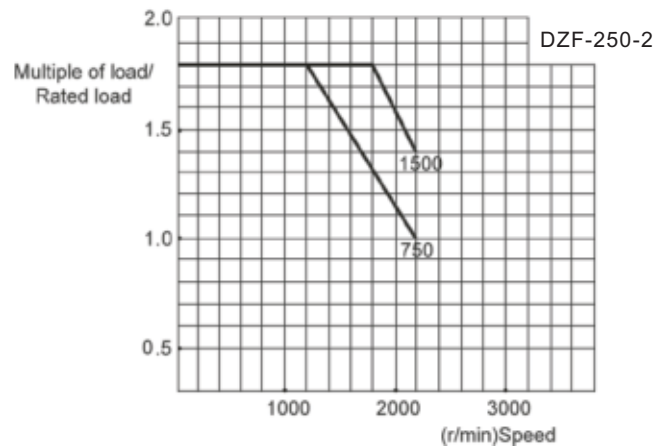
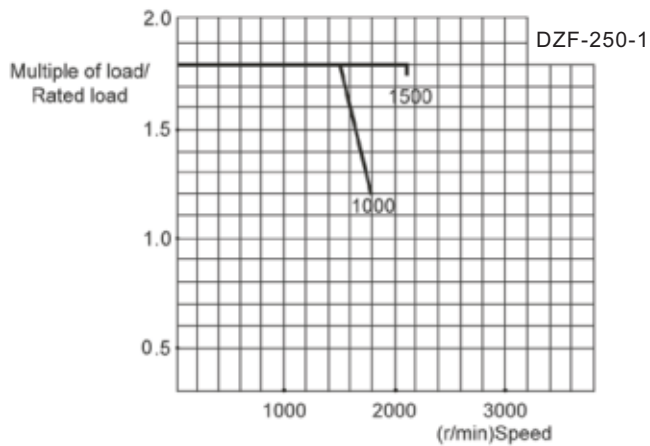
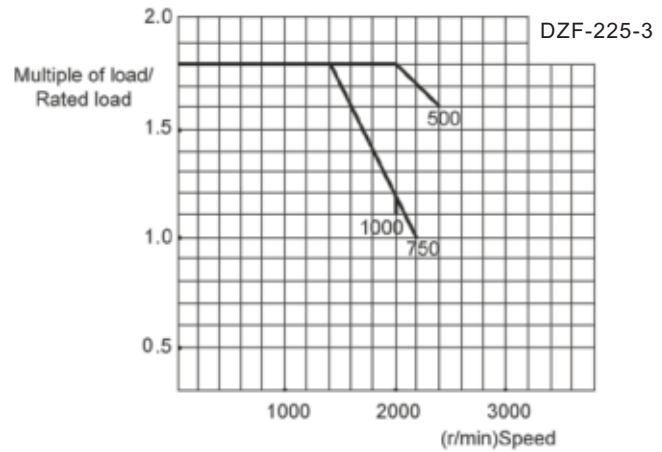
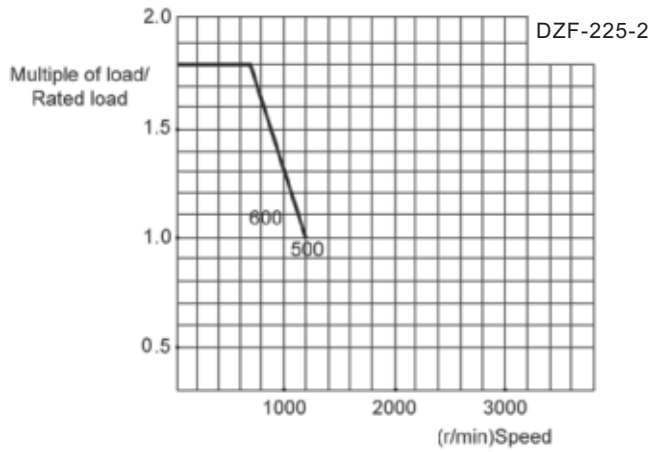
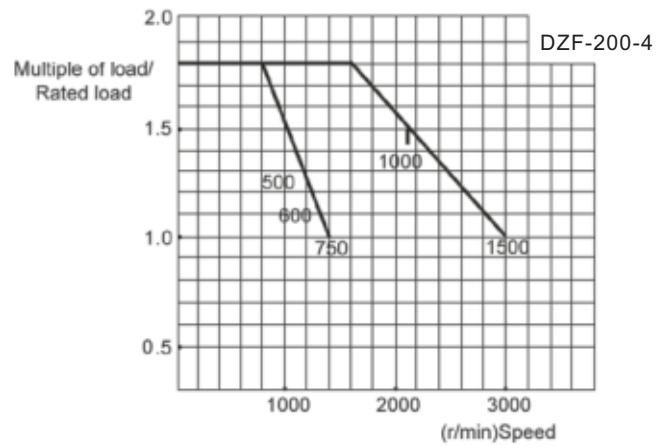
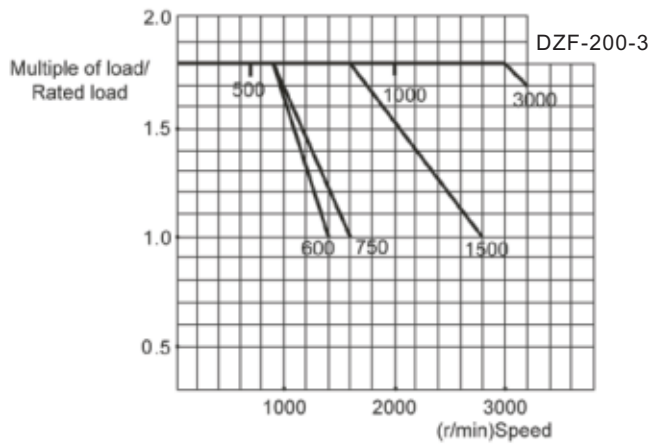
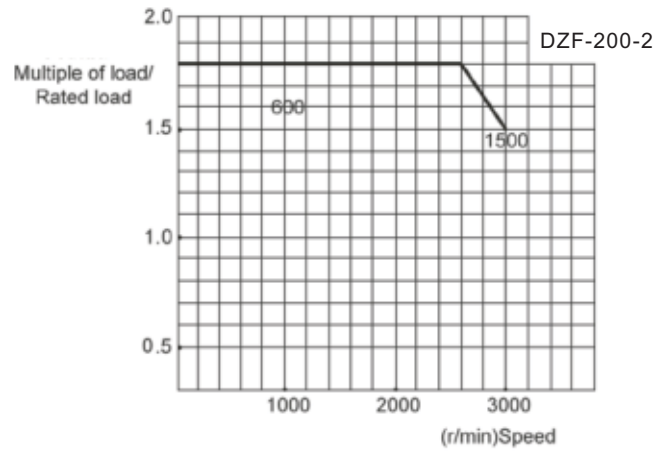
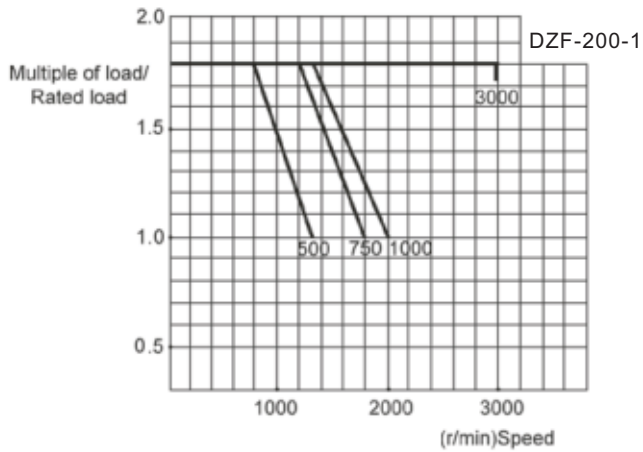
* All Type can be provided with Type ZYS-A d-c tachogenerator made by our factory. In that case. The dimension L of the motor length with increase 300mm.

Illustration (Appendix 1)

1. Multiple of load implies the multiple of armature current (armature circuit characteristic factor).
2. The figures beside the curves in the drawing are the rated speed of motors.
3. The multiple of load under speed regulation via field weakening for frame size DZF-160 and below may

Appendix 1: Armature Circuit Characteristic Factor





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