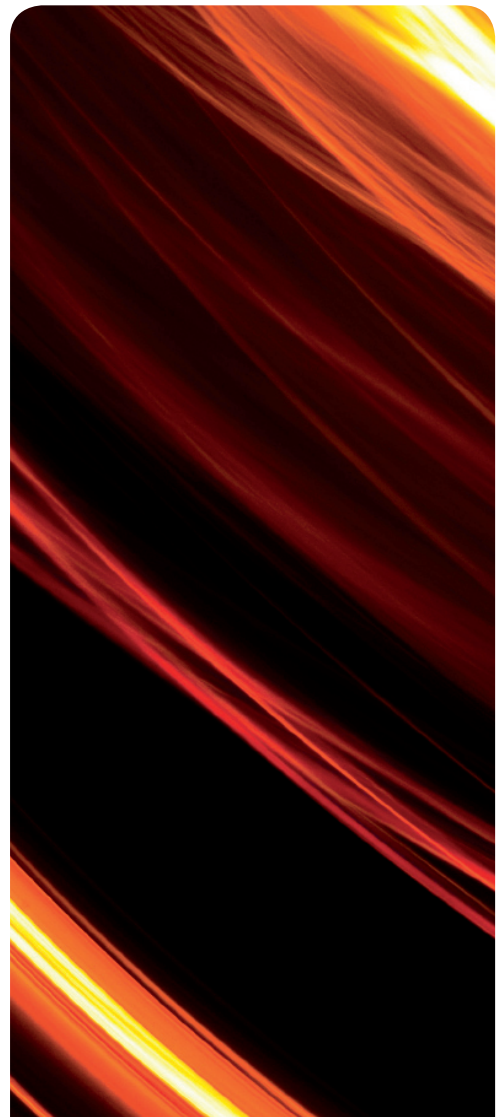
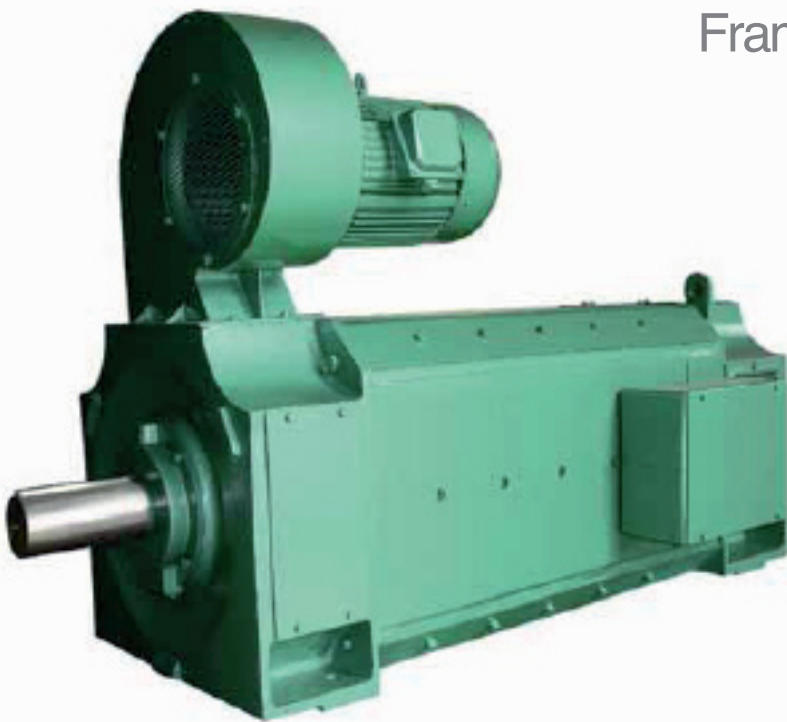


Z4 SERIES D.C. MOTORS

Frame size: 100mm ~ 355mm



BRIEF DESCRIPTION

The Z4 series DC motor (center height: 100mm-450mm) can be used in various industrial field, such as rolling mill, metal cutting machine tool, papermaking, dyeing and weaving, printing industry, cement factory, plastic extrusion equipment and so on. They are suitable in areas where wide-range speed adjustment is needed and the overloading capacity does not exceed 1.6 times of rated torque. Upward speed adjustment by constant power weak field method can reach 1.0-3.0 times of rated speed. Downward speed adjustment by constant torque and decreased amature voltage method can reach 20r/min.

Ratings are applicable to S1 continuous operating under the following conditions:

Altitude above sea level: < 1000m

Temperature of coolant: < 40°C

Operating according to the technical data sheet.

Insulation Class: F

Power range: 1.5kW-600kW

Standard Rated voltage: 160V/440V

Base Speed:3000 (1500/1000/750/600/500/400/300/200) /min

Exciting method: separated excitation

Exciting voltage: 180V

In the context of power supply by single-phase bridge rectifiers, for 160V (Rated voltage) electric motor, usually need be working with inductor, the inductance values of circumscribed inductor must be clarify on the motor's nameplate.

For 440V (Rated voltage) electric motor, there's no need for circumscribed inductor
Z4 motor are the standard series of DC motors confirm to Germany Regulation of VDE0530.

When ordering, the following requirements should be specified

1. Pls check our products catalog and confirm the motor type and specification before place order, and type selection as possible as standard specifications shown in catalog. For motor frame size, power, voltage, speed, exciting method, exciting voltage and mounting form, should be mentioned clear in sales contract. Such as Z4-180-31, 37KW, 440V, 1000r/min, separated excitation 180v, horizontal mounting with feet or IMB3.
2. Some special requirements such as : double shaft end, terminal box position are mounting in the opposite way, counter clock-wise rotation must be mentioned clearly in the contract.
3. If the customer need type, specification are not list in the catalog, or for other special requirement, the contract or the pre-production agreement should be signed after both party's discussion and agreement.
4. All the motors , Except the shaft extension key, all the accessories are not in the extent of supply, If the accessories or spare parts are requested, such as the brush, brush holder, etc, pls note the name, specification and quantities of the accessories in the contract.
For special environment working condition, motor would be used in humid and hot areas, pls label "TH" in the origin type.

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-100-1	2.2	1500			17.9	3000	315	1.19	11.2	22	10	67.8	0.044	60
	1.5	1000			13.4	2000		2.2	21.4	13	13	58.5		
	4	3000			10.7	4000		2.85	26	18		80.1		
	2	1310			6.5	3000		9.23	86	18		68.4		
	2.2	1500			6.5	3000						70.6		
	1.4	900			5.1	2000		16.8	163	18		60.3		
	1.5	1000			4.8	2000						63.2		
Z4-112/2-1	5.5	3000			14.7	4000	335	2.02	17.9	18		81.1	0.072	78
	2.8	1350			9.1	3000		6.26	59	17		71.2		
	3	1500			8.7	3000						72.8		
	1.9	900			6.9	2000		11.7	110	13		61.1		
	2.2	1000			7.1	2000						63.5		
	3	1540			24	3000		0.79	7.1	13	9	69.1		
	2.2	1000			19.6	2000		1.5	14.1	13	20	62.1		
Z4-112/2-2	7	2700			20.4	4000	390	1.29	14	19		82.4	0.088	86
	7.5	3000			19.6	4000						83.5		
	3.7	1350			11.7	3000		4.45	48.5	24		74.1		
	4	1500			11.3	3000						76		
	2.6	900			9	2000		7.94	83	14		65.1		
	3	1010			9.3	2000						67.3		
	4	1500			31.4	3000		0.575	6.2	14	9	72.3		
	3	1070			24.8	2000		0.934	10.3	14	9	66.8		
Z4-112/4-1	5.5	1520			42.7	3000	510	0.392	3.85	6.8	6	73	0.128	84
	4	1000			33.7	2000		0.741	7.7	6.7	4	64.9		
	10	2700			29	3500		0.939	9	6.8		82.7		
	11	3000			28.9	3500						63.3		
	5	1340			15.7	1800		3.28	32	9.3		74.3		
	5.5	1500			15.6	1800						75.7		
	3.7	900			13	1100		5.95	63	9.1		65.2		
	4	1000			12.3	1100						68.7		
Z4-112/4-2	5.5	1090			43.6	2000	640	0.445	5.1	5.8	3	69.5	0.156	94
	13	2740			37	3600		0.565	6.4	5.8		84.4		
	15	3035			38.6	3600						85.4		
	6.7	1330			20.6	1800		2.2	24.1	7.8		76.8		
	7.5	1500			20.6	1800						78.4		
	5	955			16.1	1200		4	42.5	5.8		71.1		
	5.5	1025			16.1	1200						71.9		

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-132-1	18.5	3000			47.4	4000	650	0.409	5.3	6.5		85.9	0.32	123
	10	1360			30.1	2200		1.31	18.9	9		79.4		
	11	1500			29.6	2200		2.56	37.5	6.4		80.9		
	7	865			21.8	1600						71.9		
	7.5	1000			21.4	1600						74.5		
Z4-132-2	20	2800			55.4	3600	730	0.223	3.65	10		87.8	0.4	142
	22	3090			55.3	3600		0.806	13.5	7.9		88.3		
	15	1510			39.3	2500		1.62	27.5	7.8		83.4		
	10	905			31.1	1400						75.6		
	11	1000			30.7	1400						77.7		
Z4-132-3	27	2720			75	3600	815	0.168	2.75	7.2		88.2	0.48	162
	30	3000			75	3600		0.558	9.8	7.1		88.6		
	18.5	1540			48	2200		1.02	19.4	7		84.7		
	13.5	945			41	1600						79.4		
	15	1050			41	1600						80.5		
Z4-160-11	33	2710			93.4	3500	820	0.183	3.15	10		88.5	0.64	202
	37	3000												
	19.5	1350			58.8	3000		0.62	10.4	7.7		82.6		
	22	1500												
Z4-160-22	40.5	2710			113	3500	920	0.143	2.7	10		89.1	0.76	224
	45	3000												
Z4-160-21	16.5	900			51.1	2000		0.915	17.7	7.9		79.4		
	18.5	1000												
Z4-160-32	49.5	2710			137	3500	1050	0.0967	2.07	11		90.2		
	55	3010												
Z4-160-31	27	1350			77.8	3000		0.376	8.3	10		85.7	0.88	250
	30	1500												
	19.5	900			59.2	2000		0.675	15.2	8.2		81.7		
	22	1000												
Z4-180-11	33	1350			95	3000	1200	0.263	4.9	7.67		86.5	1.52	305
	37	1500												
	16.5	670			51.2	1900		0.912	16.2	6.36		78.1		
	18.5	750												
	13	540			43.8	2000		1.41	22.7	7.85		74.1		
	15	600												

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-180-22	67	2710			185	3400	1400	0.064	1.2	6.67		90.7		
	75	3000												
Z4-180-21	40.5	1350			115	2800	1400	0.217	4.7	6.3		87	1.72	335
	45	1500												
	27	900			79	2000		0.423	9.2	7.96		83.7		
	30	1000												
	19.5	670			60.3	1400		0.766	16.3	7.76		79.7		
	22	750												
	16.5	540			52	1600		0.973	19.9	6.96		76.8		
	18.5	600												
Z4-180-31	33	900			97.5	2000	1500	0.346	6.8	6.34		83.6	1.92	370
	37	1000												
	19.5	540			62.1	1250		0.87	18.3	6.18		76.6		
	22	600												
Z4-180-42	81	2710			221	3200	1700	0.0504	0.82	8.16		91.3		
	90	3000												
Z4-180-41	50	1350			140	3000	1700	0.159	3.2	8.03		87.1	2.2	395
	55	1500												
	27	670			80.6	2000		0.0495	11.3	5.61		81.1		
	30	750												
Z4-200-12	99	2710			270	3000	1400	0.0373	0.78	7.91		91.6		
	110	3000												
Z4-200-11	40.5	900			117	2000	1400	0.267	7.9	7.07		85.5	3.68	470
	45	1000												
	33	670			98.6	1600		0.354	9.9	8.12		82.9		
	37	750												
	19.5	450			61.6	1000		0.839	23.3	12		77.4		
	22	500												
Z4-200-21	67	1350			188	3000	1500	0.094	2.6	9.84		89.6	4.2	515
	75	1500												
	27	540			82.1	1000		0.563	15.3	9.3		80.4		
	30	600												

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-200-32	119	2710			322	3200	1360	0.0318	0.74	7.79		92.4	4.8	565
	132	3000												
Z4-200-31	81	1350			224	2800	1360	0.0754	2.5	8.2		89.8	4.8	565
	90	1500												
	49.5	900			140	2000		0.173	4.5	8.7		87.1		
	55	1000												
	40.5	670			118	1400		0.295	8	8.53		84.1		
	45	750												
	33	540			99.5	1200		0.403	11.4	8.67		82		
	37	600												
	27	450			82.7	750		0.575	16.5	8.44		79.5		
	30	500												
Z4-225-11	99	1360			275	3000	2200	0.065	1.9	6.15		89.4	5	680
	110	1500												
	67	900			194	2000		0.151	4.6	11.3		86.5		
	75	1000												
	49	680			145	1300		0.239	8.1	5.9		84		
	55	750												
	40	540			122	1200		0.362	11.3	5.93		80.8		
	45	600												
	33	450			102	1000		0.472	14.1	6.24		78.8		
	37	500												
Z4-225-21	49	540			147	1000	2130	0.262	8.9	5.66		82.4	5.6	735
	55	600												
	40	450			125	1000		0.397	12.8	5.49		78.9		
	45	500												
Z4-225-31	119	1360			325	2400	2360	0.0562	1.4	9.75		90.5	6.2	810
	132	1500												
	81	900			227	2000		0.096	3.2	5.27		88		
	90	1000												
	67	680			195	2250		0.153	4.8	5.56		85.1		
	75	750												

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-250-12	144	1360			397	2100	2560	0.0392	0.83	4.97		90.3	8.8	880
	160	1500												
Z4-250-11	99	900			280	2000		0.0866	2.3	8.14		88.1		
	110	1000												
Z4-250-21	167	1360			459	2200	2400	0.0325	0.86	5.73		90.5	10	960
	185	1500												
	81	680			230	2250		0.131	3.6	5.63		85.2		
	90	750												
Z4-250-31	67	540			197	2000	2400	0.171	4	6.13		84.1	11.2	1060
	75	600												
	49	450			147	1500		0.256	5.8	6.08		82.2		
	55	500												
	180	1360			492	2400		0.0274	0.82	7.22		91.5		
	200	1500												
	119	900			332	2000		0.0608	1.6	7.46		89.1		
	132	1000												
Z4-250-42	144	900			402	2000		0.0484	1.4	6.93		89.2		
	160	1000												
Z4-250-41	99	680			282	1600	2990	0.0957	2.6	5.66		86.9	12.8	1170
	110	750												
	198	1360			540	2400		0.0235	0.69	6.74		91.7		
	220	1500												
	81	540			234	1600		0.138	4.4	4.65		85		
	90	600												
	67	450			199	1500		0.181	4.8	7.13		83.5		
	75	500												
Z4-280-11	226	1355			615	2000	2540	0.0214	0.65	6.26		91.6	16.4	1230
	250	1500												
Z4-280-22	253	1355			684	1800		0.0167	0.56	5.82		92.1		
	280	1500												
Z4-280-21	180	900			498	2000	2880	0.0375	1.2	5.87		90.1	18.4	1350
	200	1000												
	119	675			332	1600		0.0649	2.2	5.77		88.6		
	132	750												
	99	540			284	1500		0.0968	2.9	6		86		
	110	600												

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass				
		160V	400V	440V														
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg				
Z4-280-32	284	1360			767	1800	3210	0.0149	0.056	6.88		92.6	21.2	1500				
	315	1500																
	144	675			401	1700		0.052	1.9	5.53		89.1						
	160	750																
Z4-280-31	198	900			544	2000	3210	0.0308	1	5.54		90.6	21.2	1500				
	220	1000																
	118	540			338	1000		0.0829	2.4	5.81		86.8						
	132	600																
	80	450			234	1000		0.137	5	6.61		85.4						
90	500																	
Z4-280-42	225	900			616	1800	3590	0.0249	0.9	5.21		91.1	24	1650				
	250	1000																
Z4-280-41	166	675			463	1900		3590	0.0438	1.6		5.14				89.4	24	1650
	185	750																
	98	450			282	1000	0.0976		3.5	9	86.9							
	110	500																
Z4-315-11	144	540			409	1900	3800	0.0692	0.96	7.53		86.4	21.2	1900				
	160	600																
	118	450			342	1600		0.0971	1.7	7.01		84.4						
	132	500																
	98	360			292	1200		0.137	2.1	9.92		81.7						
	110	400																
Z4-315-12	321	1360			864	1800	3800	0.0138	0.5	6.48		92.2	21.2	1900				
	355	1500																
	253	900			687	1600		0.0224	0.33	5.07		90.4						
	280	1000																
	180	680			501	1900		0.0436	0.6	4.97		88.4						
	200	750																
Z4-315-21	166	540			466	1600	4195	0.0518	0.83	5.13		87.2	24	2090				
	185	600																
	143	450			413	1500		0.0758	1.1	5.18		84.7						
	160	500																
Z4-315-22	284	900			770	1600	4195	0.0188	0.25	5.51		91	24	2090				
	315	1000																
	225	680			623	1600		0.0337	0.54	5.11		88.7						
	250	750																

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass		
		160V	400V	440V												
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg		
Z4-315-31	118	360			343	1200	3960	0.0981	1.5	6.37		83.2	27.2	2300		
	132	400										85.3				
Z4-315-32	320	900			869	1600		0.0149	0.22	6.81					91	
	355	1000													92	
	252	680			700	1600		0.0314	0.59	5.86					89.1	
	280	750													89.8	
	180	540			501	1500		0.0454	0.68	6.45					88.2	
	200	600													89.4	
Z4-315-41	166	450			468	1500		4590	0.055	0.9	7.58					87.3
	185	500														88.3
	143	360			416	1200			0.0809	1.3	5.03					84
	160	400														85.3
Z4-315-42	361	900			972	1400	0.013	0.24	7.88			92.1				
	400	1000										92.7				
	284	680			779	1600	0.0241	0.48	4.74			90				
	315	750										90.7				
	225	540			628	1600	0.0369	0.63	4.98			88.3				
	250	600										89				
Z4-355-11	253	540			694	1500	4490	0.0291	0.66	5.29			89.2			
	280	600											90.3			
	180	450			507	1500		0.0536	1.1	18.6			87.6			
	200	500											88.9			
Z4-355-12	406	900			1093	1500	0.0122	0.26	7.3			91.8				
	450	1000										92.8				
	321	680			874	1500	0.0207	0.43	5.29			90.4				
	355	750										91.2				
	166	360			478	1200	0.0683	1.1	5.71			85.1				
	185	400										86.1				
Z4-355-21	180	360			512	1200	4250	0.0586	1.2	9.27			86.3			
	200	400											87.5			
Z4-355-22	361	680			982	1600		0.017	0.32	6.78			90.8			
	400	750											91.7			
	284	540			782	1500		0.0264	0.59	6.41			89.5			
	315	600											90.5			
	225	450			626	1600		0.0373	0.91	8.84			88.4			
	250	500											89.5			

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass			
		160V	400V	440V													
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg			
Z4-355-31	197	360			556	1200	5840	0.0467	0.96	8.26		86.6	52	3500			
	220	400										88.4					
Z4-355-32	406	680			1098	1100		0.0133	0.28	4.62		91.3					
	450	750										92.1					
	320	540			875	1600		0.0207	0.5	4.84		89.9					
	355	600										91					
	284	450			787	1500		0.0289	0.65	4.5		88.3					
	315	500										89.5					
Z4-355-42	361	540			982	1300		6470	0.0171	0.37	4.35				90.5	60	3850
	400	600													91.2		
	320	450			890	1200	0.0262		0.56	4.23		88.9					
	355	500										89.2					
	225	360			627	1200	0.0377		0.85	5.59		87.5					
	250	400										88.8					
Z4-400-22	430	680			1163	1400	5720	0.0139	0.33	7.85		90.8	74	4520			
	475	750										92					
Z4-400-21	235	360			675	1200		0.0497	1	7.3		84.8					
	260	400										86.3					
	180	270			537	900		0.0804	1.6	7.44		81.8					
	200	300										83.1					
Z4-400-32	480	680			1291	1400		6450	0.0112	0.3	9.57				91.2	84	4920
	530	750													92.5		
	406	540			1108	1300			0.0162	0.35	4.51				89.9		
	450	600													91.1		
	344	450			952	1300	0.0248		0.58	6		88.1					
	380	500										89.5					
Z4-400-31	253	360			717	1200	0.0382	0.82	6.11		86						
	280	400									87.5						
	197	270			584	900					0.0659	1.5	5.89		82.8		
	220	300													84		
Z4-400-42	545	680			1500	1200	7150	0.0125	0.28	7.2		91	94	5320			
	600	750										91.4					
	430	540			1163	1300		0.0134	0.32	5.54		90.8					
	475	600										92					
	361	450			995	1400		0.0201	0.47	6.86		88.6					
	400	500										90					
Z4-400-41	321	360			893	1200	0.0274	0.73	5.41		87.7						
	355	400									89						
	225	270			650	900					0.0508	1.2	5.38		84		
	250	300													85.4		

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated speed			Rated current	Speed with Field Weakened	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	External inductance	Efficiency	GD2 Moment of inertia	Mass
		160V	400V	440V										
	kW	r/min			A	r/min	W	$\Omega(20^{\circ}\text{C})$	mH	H	mH	%	kg·m ²	kg
Z4-450-22	472	540			1286	1200	6550	0.0133	0.29	10.2		90.8	138	5620
	520	600										92.1		
	408	450			1114	1400		0.0159	0.41	7.99		90		
	450	500										91.3		
	362	360			1010	1200		0.0232	0.61	5.79		88.1		
	400	400										89.4		
Z4-450-21	253	270			720	900	0.0415	1	5.85		85.8			
	280	300									87.1			
Z4-450-32	480	540			1309	1200	7100	0.0134	0.39	1.96		90.8	156	6000
	530	600										92		
	430	450			1167	1300		0.0145	0.32	7.36		90		
	475	500										91.4		
	408	360			1130	1200		0.0205	0.53	7.17		88.5		
	450	400										89.7		
	284	270			811	900		0.0342	0.83	4.8		85.9		
	315	300										87.1		
Z4-450-31	200	180			595	600	0.0751	1.9	9.09		81.3			
	220	200									82.6			
Z4-450-42	545	540			1492	1100	7800	0.0134	0.51	28.2		90.3	174	6700
	600	600										91.5		
	480	450			1317	1100		0.0145	0.43	18.6		90		
	530	500										91.4		
	430	360			1191	1200		0.0178	0.42	5.85		88.9		
	475	400										90		
	320	270			908	900		0.0275	0.81	5.62		86.8		
	355	300										88.1		
Z4-450-41	225	180			671	600	0.0612	1.7	5.73		81.7			
	250	200									83			

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated voltage	Rated current	Rated speed max speed	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	Efficiency (%)	GD2 Moment of inertia kg·m ²	Mass kg
	kW	V	A	r/min		W	Ω(20°C)	mH	H		
Z4-100-1	4	220	21.6	3000/3600	280	0.437	6.5	18	79.9	0.044	60
	2.2	220	13.1	1500/3000		1.43	21.4	18	70.1		
	1.5	220	9.7	1000/2000		2.73	40.5	22	63.3		
	4	400	11.8	3000/3600		1.43	21.4	18	79.8		
	2.2	400	7	1550/3000		4.39	66	18	71.5		
	1.5	400	5.1	1060/2000		7.69	12.5	18	64.6		
Z4-112/2-1	5.5	220	29.4	3070/3600	310	0.267	4.15	18	81.2	0.072	78
	3	220	17.5	1520/3000		0.99	14.1	17	72.3		
	2.2	220	14.2	1000/2000		1.89	26.5	17	64.4		
	5.5	400	16.2	3010/3000		0.99	44.1	18	80.7		
	3	400	9.5	1500/3000		3.18	49.5	18	73		
	2.2	400	7.7	1010/2000		6.11	88	17	65.1		
Z4-112/2-2	7.5	220	39.5	3100/3600	390	0.189	3.2	19	83.2	0.088	86
	4	220	23	1500/3000		0.716	11.5	19	74.5		
	3	220	18.4	1020/2000		1.19	21.5	19	68.8		
	7.5	400	21.8	3000/3600		0.716	11.5	19	82.9		
	4	400	12.4	1500/3000		2.23	39	19	75.8		
	3	400	10.1	1000/2000		4.14	70	14	67.7		
Z4-112/4-1	11	220	58.2	3000/3600	470	0.117	2.25	9.3	83.5	0.128	84
	5.5	220	31.2	1520/3000		0.39	7.7	9.3	75.8		
	4	220	24.6	1000/2000		0.77	15.4	9.2	69.1		
	11	400	31.8	3030/3400		0.373	7	6.8	83.3		
	5.5	400	17	1540/2000		1.2	24.6	9.3	76.4		
	4	400	13.3	1070/1400		2.33	45	9.2	69.9		
Z4-112/4-2	7.5	220	41.4	1530/3000	580	0.13	5.7	7.8	78.2	0.156	94
	5.5	220	32.1	1040/2000		0.466	11	7.8	72.9		
	15	400	42.4	3090/3400		0.225	5.1	5.8	85.5		
	7.5	400	22.6	1520/2000		0.86	19.2	7.8	78.6		
	5.5	400	17.6	1050/1400		1.62	35.5	7.8	73.1		
Z4-132-1	11	220	59.9	1500/3000	660	0.155	4.75	9	80.2	0.32	123
	7.5	220	42.6	1000/2000		0.33	9.9	6.4	75		
	18.5	400	51.9	3000/3600		0.158	4.15	6.5	86.2		
	11	400	32.4	1510/2000		0.592	14.5	6.4	80.8		
	7.5	400	23.4	1000/1500		1.18	29.5	6.4	75		

TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated voltage	Rated current	Rated speed max speed	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	Efficiency	GD2 Moment of inertia	Mass
	kW	V	A	r/min		W	$\Omega(20^{\circ}\text{C})$	mH	H		
Z4-132-2	15	220	79.6	1500/3000	670	0.121	3.65	9.8	82.9	0.4	142
	11	220	60.9	1040/2000		0.214	6.5	7.8	78.3		
	22	400	60.9	3000/3600		0.0959	3.1	8.1	87.7		
	15	400	43.5	1500/2000		0.366	11.2	7.9	82.9		
	11	400	33.7	1000/1500		0.736	22.9	7.8	77.9		
Z4-132-3	30	400	82.3	3080/3600	810	0.0629	2.16	7.2	88.8	0.48	162
	18.5	400	52.6	1500/2500		0.249	8.6	7.1	84.7		
Z4-160-12	37	400	103	3000/3600	760	0.1	2.6	10	87.9	0.64	202
Z4-160-11	18.5	220	98.1	1510/3000		0.1	2.6	10	83.2		
	15	220	84.6	1000/2000		0.19	5.1	7.8	77.5		
	22	400	64.5	1520/2200		0.314	8.4	10	93.1		
	15	400	46.2	1020/1500		0.628	16.2	7.8	78		
Z4-160-22	22	220	117	1500/3000	830	0.087	2.7	9.5	83.3	0.76	224
	18.5	220	100	1040/2000		0.122	4.05	8.2	80.7		
	45	400	124	3000/3600		0.068	2.14	10	89.2		
Z4-160-21	18.5	400	55.7	1030/1500		0.444	13.4	8.1	80		
Z4-160-32	30	220	157	1500/3000	900	0.0581	2.07	7.7	84.8	0.88	250
	22	220	119	1020/2000		0.175	3.4	8.5	81.5		
	55	400	151	3010/3400		0.0434	1.52	8.7	89.7		
Z4-160-31	30	400	85.3	1500/2500		0.173	6.1	8.3	85.7		
	22	401	64.8	1000/1500		0.324	12.2	8.5	82.1		
Z4-180-11	37	220	192	1500/3000	990	0.0386	1.1	7.91	85.63	1.52	305
	18.5	220	103	750/2250		0.137	4.1	7.76	78.4		
	15	220	88.1	600/1750		0.217	7.1	9.4	74.02		
	37	400	105	1500/3000		0.137	4.1	10	88.36		
	18.5	400	56.3	750/2000		0.466	14.8	9.93	82.18		
Z4-180-22	30	220	160	1000/2000	1070	0.0695	2.3	9.75	82.82	1.72	335
	75	400	204	3000/3600		0.0293	1.1	9.43	92.01		
Z4-180-21	22	220	122	750/2250		0.111	3.7	9.71	79.3		
	18.5	220	105	600/2000		0.149	5	8.31	76.48		
	22	400	66.2	750/1500		0.378	12.7	9.72	83.07		
	15	400	47	600/1500		0.611	21.6	12.3	79.84		
Z4-180-32	45	220	229	1500/3000	1380	0.0193	0.8	4.53	86.31	1.92	370
Z4-180-31	45	400	127	1500/3000		0.0912	2.9	10.4	88.89		
	30	400	86.4	1000/2000		0.165	5.6	6.45	86.77		
	18.5	400	56.7	600/1500		0.418	13.8	6.49	81.63		

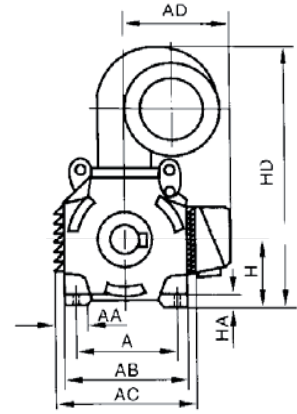
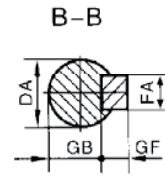
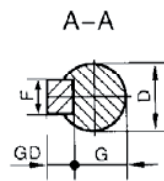
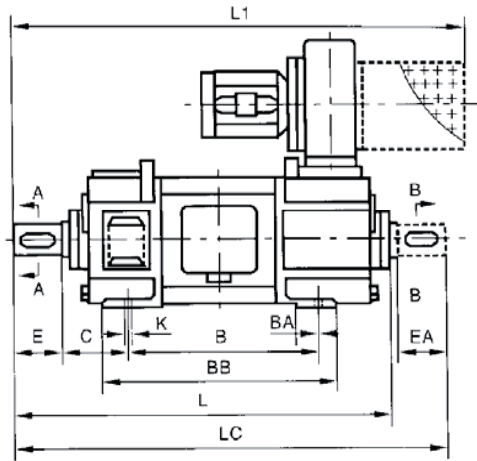
TECHNICAL DATA (STANDARD VALUE)

Type	Rated power	Rated voltage	Rated current	Rated speed max speed	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	Efficiency (%)	GD2 Moment of inertia	Mass		
	kW	V	A	r/min		W	$\Omega(20^{\circ}\text{C})$	mH	H			%	kg·m ²
Z4-180-42	37	220	195	1000/2000	1535	0.0362	1.4	6.15	83.2	2.2	395		
	30	220	161	750/2550		0.06	2.3	6.12	81.04				
	90	400	244	3000/3600		0.0197	0.67	8.25	92.38				
Z4-180-41	22	220	122	600/2000		0.102	3.4	6.18	77.3				
	55	400	154	1500/3000		0.0624	2	6.34	89.39				
	37	400	106	1000/2000		0.137	5.1	11.4	87.04				
	30	400	88.2	750/2000		0.217	7.3	6.24	85.01				
Z4-200-11	22	400	67.1	600/1500		0.375	14.7	10.8	81.95			3.68	470
	22	220	124	500/2000		0.126	5.7	12	77.92				
	22	400	68.2	500/1200		0.446	21.1	11.6	80.67				
Z4-200-21	37	400	108	750/2000	0.194	9	10.3	85.58	4.2	515			
	45	220	232	1000/2000	0.0298	1.5	9.52	86.36					
	37	220	197	750/2250	0.0561	2.7	14.5	83.66					
	30	220	165	600/2000	0.0889	4.5	13.9	80.76					
	110	400	295	3000/3600	0.017	0.65	12.5	93.11					
	45	400	127	1000/2000	0.108	5.2	14.9	88.37					
Z4-200-32	30	400	88.7	600/1200	0.239	11.9	9.77	84.55	4.8	565			
Z4-200-31	30	220	169	500/2000	0.0968	4.9	7.84	78.1					
	45	220	238	750/2250	0.0443	2	8.42	83.9					
	37	220	200	600/2000	0.0611	2.9	8.58	81.4					
	75	400	206	1500/3000	0.0374	1.8	8.6	91.18					
	55	400	155	1500/2000	0.0761	3.6	8.85	88.85					
	45	400	129	750/1400	0.129	6.6	8.59	86.9					
	37	400	109	600/1500	0.198	9.4	8.71	84.72					
Z4-225-11	30	400	90.6	500/750	0.264	13.2	8.68	82.78	5	680			
	132	400	357	3000/3400	0.0108	0.48	11.4	92.4					
	90	400	247	1500/3000	0.0356	1.5	6.36	91.12					
Z4-225-21	37	400	109	600/1200	0.226	9.5	11.6	84.88	5.6	735			
	45	220	245	600/2000	0.0524	2.9	13.4	81.8					
	37	220	201	500/2000	0.0662	3.1	7.75	80.3					
	110	400	302	1500/2000	0.0315	1.5	10.3	91.11					
	75	400	210	1000/2000	0.0652	3.5	10.5	89.36					
	55	400	157	750/1200	0.104	5.1	7.66	87.47					
	45	400	131	600/1500	0.157	7.3	5.76	85.57					
37	400	111	500/1200	0.224	10.7	10.6	83.5						

TECHNICAL DATA (STANDARD VALUE)

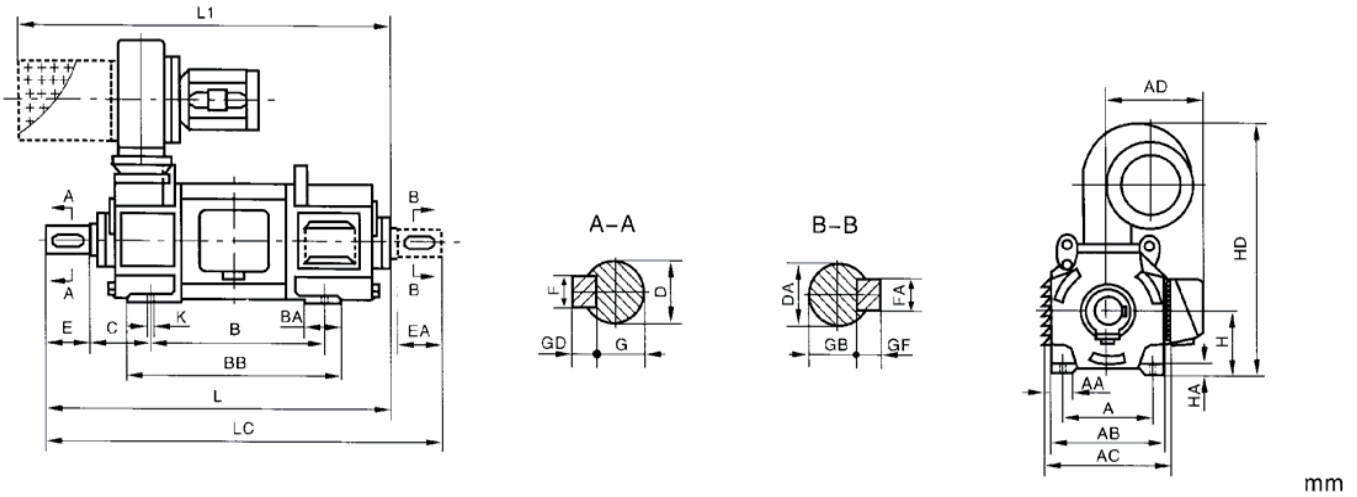
Type	Rated power	Rated voltage	Rated current	Rated speed max speed	Exciting power	Armature circuit resistance	Armature inductance	Magnetic field inductance	Efficiency (%)	GD2 Moment of inertia	Mass
	kW	V	A	r/min		W	$\Omega(20^{\circ}\text{C})$	mH	H		
Z4-225-31	45	220	244	500/2000	2380	0.053	2.6	9.87	81.3	6.2	810
	132	400	360	1500/3000		0.0217	1.1	5.55	91.68		
	90	400	250	1000/2000		0.0469	2.7	9.61	89.87		
	55	400	161	600/1500		0.125	7.8	9.14	85.62		
	45	400	133	500/1200		0.171	8.7	5.5	84.45		
Z4-250-22	160	400	435	1500/2000	2010	0.0181	0.93	7.02	91.98	10	960
Z4-250-21	110	400	306	1000/2000		0.0398	1.6	7.58	90		
	75	400	212	750/2000		0.0772	3.1	46.6	88.62		
Z4-250-32	185	400	502	1500/2000	2655	0.0144	0.72	7.09	92.19	11.2	1060
Z4-250-31	132	400	364	1000/2000		0.0297	1.5	5.38	90.67		
	90	400	252	750/2000		0.0564	2.8	9.15	89.45		
	75	400	214	600/1500		0.0837	3.6	9.65	87.79		
	55	400	159	500/1000		0.113	5.2	9.63	86.62		
Z4-250-42	200	400	540	1500/2000	2440	0.0117	0.57	9.07	92.56	12.8	1170
Z4-250-41	132	400	361	1000/2000		0.0246	1.2	9.22	91.38		
	110	400	307	750/1600		0.0412	2.2	8.92	89.71		
	90	400	255	600/1500		0.0615	3.1	6.98	88.14		
	75	400	216	500/1200		0.0913	4.1	7.08	86.63		
Z4-280-12	220	400	593	1500/2000	2550	0.0114	0.57	6.16	92.67	16.4	1230
	160	400	441	1000/1600		0.028	1.4	10.2	90.7		
Z4-280-22	250	400	671	1500/1800	2890	0.00914	0.45	5.9	93.19	18.4	1350
	185	400	508	1000/1600		0.0228	1.3	5.31	91.09		
Z4-280-21	132	400	365	750/1500		0.0324	1.9	7.6	90.42		
	110	400	313	600/1500		0.0578	3.2	9.53	87.84		
Z4-280-32	280	400	750	1500/1800	3185	0.00781	0.4	7.3	93.31	21.2	1500
Z4-280-31	200	400	542	1000/2000		0.0161	0.92	7.11	92.27		
	160	400	442	750/1800		0.0272	1.7	5.39	90.49		
	90	400	254	500/1200		0.0627	3.6	9.55	88.61		
Z4-280-42	315	400	841	1500/1800	3590	0.00704	0.43	8.4	93.59	24	1650
	185	400	510	750/2000		0.0222	1.4	6.74	90.75		
Z4-280-41	220	400	595	1000/2000		0.012	0.77	5.18	92.5		
	132	400	365	600/1500		0.0333	1.8	7.18	90.32		
	110	400	310	500/1200	0.0467	3	6.78	88.82			

MOUNTING AND OUTLINE DIMENSION



Frame	Mounting Dimension (mm)															Contour Dimension (mm)										
	A	B	C	D	DA	E	EA	F	FA	G	GB	GD	GF	H	K	AB	AC	AA	BA	BB	AD	HA	HD	L	LC	L1
100-1	160	318	63	24 ^{+0.009} _{-0.004}	24 ^{+0.009} _{-0.004}	50	50	8	8	20	20	7	7	100 ⁰ _{-0.5}	12	197	234	35	60	368	180	10	398	500	544	580
112/2-1	190	338	70	28 ^{+0.009} _{-0.004}	28 ^{+0.009} _{-0.004}	60	60	8	8	24	24	7	7	112 ⁰ _{-0.5}	12	221	255	40	65	398	198	10	487	544	598	603
112/2-2		368		428	574	628	633																			
112/4-1		348		407	573	647	645																			
112/4-2		388		447	613	687	747																			
132-1	216	355	89	38 ^{+0.018} _{+0.002}	38 ^{+0.018} _{+0.002}	80	80	10	10	33	33	8	8	132 ⁰ _{-0.5}	12	260	295	50	70	425	233	12	529	619	693	814
132-2		405																		475				669	743	865
132-3		465																		535				729	803	924
160-11	254	411	108	48 ^{+0.018} _{+0.002}	48 ^{+0.018} _{+0.002}	110	110	14	14	42.5	43	9	9	160 ⁰ _{-0.5}	15	316	346	60	75	481	283	14	634	744	848	953
160-12		476																		546				809	913	986
160-21		451																		521				784	888	993
160-22		516																		586				849	953	1026
160-31		501																		571				834	938	1043
160-32		566																		636				899	1003	1076

MOUNTING AND OUTLINE DIMENSION



Frame	Mounting Dimension (mm)															Contour Dimension (mm)										
	A	B	C	D	DA	E	EA	F	FA	G	GB	GD	GF	H	K	AB	AC	AA	BA	BB	AD	HA	HD	L	LC	L1
180-11		436																		516				794	898	1022
180-12		501																		581				859	963	1087
180-21		476																		556				834	938	1062
180-22		541																		621				899	1003	1127
180-31	279	526	121	55 ^{+0.030} _{+0.011}	55 ^{+0.030} _{+0.011}	110	110	16	16	49	49	10	10	180 ⁰ _{-0.5}	15	356	390	70	80	606	320	16	749	884	988	1112
180-32		591																		671				949	1053	1177
180-41		586																		666				944	1048	1172
180-42		651																		731				1009	1113	1237
200-11		566																		646				977	1112	1158
200-12		614																		694				1025	1160	1206
200-21		606																		686				1017	1152	1198
200-22	318	654	133	65 ^{+0.030} _{+0.011}	65 ^{+0.030} _{+0.011}	140	140	18	18	58	58	11	11	200 ⁰ _{-0.5}	19	396	430	80	85	734	355	18	755	1065	1200	1246
200-31		686																		766				1097	1232	1278
200-32		734																		814				1145	1280	1326

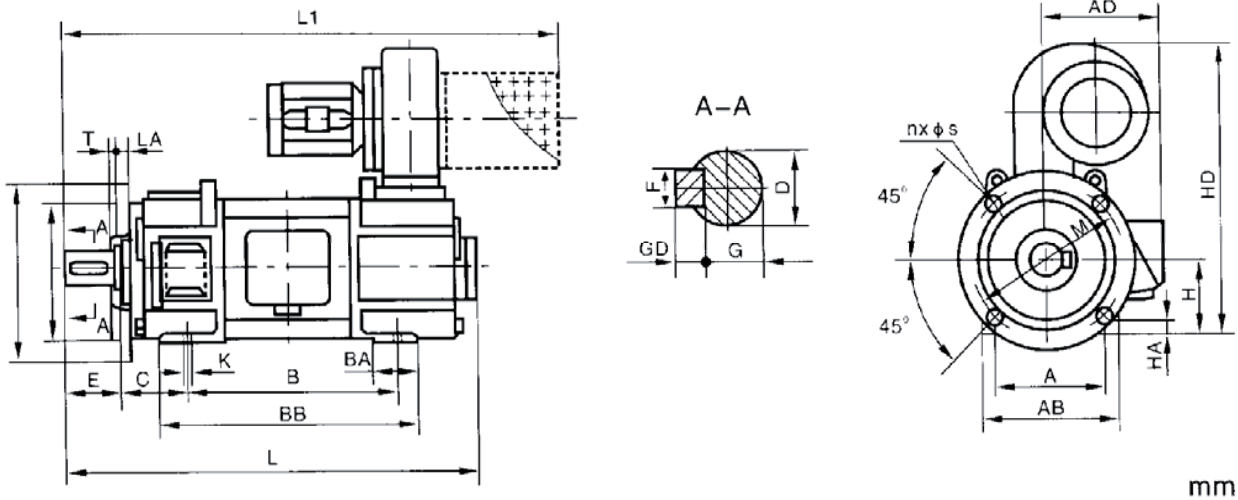
MOUNTING AND OUTLINE DIMENSION

Frame	Mounting Dimension (mm)														Contour Dimension (mm)											
	A	B	C	D	DA	E	EA	F	FA	G	GB	GD	GF	H	K	AB	AC	AA	BA	BB	AD	HA	HD	L	LC	L1
225-11	356	701	149	75 ^{+0.030} _{+0.011}	75 ^{+0.030} _{+0.011}	140	140	20	20	67.5	67.5	12	12	225 ⁰ _{-0.5}	19	440	474	90	90	781	398	20	980	1140	1279	1605
225-12		761																		841				1200	1339	1665
225-21		751																		831				1190	1329	1655
225-22		811																		891				1250	1389	1715
225-31		811																		891				1250	1389	1715
250-11	406	715	168	85 ^{+0.035} _{+0.013}	75 ^{+0.030} _{+0.011}	170	140	22	20	76	67.5	14	12	250 ⁰ _{-0.5}	24	490	524	100	95	806	430	25	1020	1225	1362	1636
250-12		775																		866				1285	1422	1696
250-21		765																		856				1275	1412	1686
250-22		825																		916				1335	1472	1746
250-31		825																		916				1335	1472	1746
250-41		895																		986				1405	1542	1816
250-42		955																		1046				1465	1602	1876
280-11	457	762	190	95 ^{+0.035} _{+0.013}	85 ^{+0.035} _{+0.013}	170	170	25	22	86	76	14	14	280 ⁰ _{-1.0}	24	550	584	110	100	862	455	25	1118	1315	1482	1727
280-12		852																		952				1405	1572	1817
280-21		822																		922				1375	1542	1787
280-22		912																		1012				1465	1632	1877
280-31		892																		992				1455	1612	1857
280-32		982																		1082				1535	1702	1947
280-41		972																		1072				1525	1692	1937
280-42		1062																		1162				1615	1782	2027
315-091		508																		817				216	100 ^{+0.035} _{+0.013}	95 ^{+0.035} _{+0.013}
315-092	907		1017	1552	1719	1711																				
315-11	887		997	1532	1699	1691																				
315-12	977		1087	1622	1789	1781																				
315-21	967		1077	1612	1779	1771																				
315-22	1057		1167	1702	1869	1861																				
315-31	1057		1167	1702	1869	1861																				
315-32	1147		1257	1792	1959	1951																				
315-41	1157		1267	1802	1969	1961																				
315-42	1247		1357	1892	2059	2051																				

MOUNTING AND OUTLINE DIMENSION

Frame	Mounting Dimension (mm)															Contour Dimension (mm)																															
	A	B	C	D	DA	E	EA	F	FA	G	GB	GD	GF	H	K	AB	AC	AA	BA	BB	AD	HA	HD	L	LC	L1																					
355-081	610	818	254	110 ^{+0.035} _{+0.013}	110 ^{+0.035} _{+0.013}	210	210	28	28	100	100	16	16	355 ⁰ _{.01}	28	700	734	130	208	1032	701	130	1368	1539	1746	1654																					
355-082		908																		1122				1629	1836	1744																					
355-091		888																		1102				1609	1816	1724																					
355-092		978																		1192				1699	1906	1814																					
355-11		968																		1182				1689	1896	1804																					
355-12		1058																		1272				1779	1986	1894																					
355-21		1058																		1272				1779	1986	1894																					
355-22		1148																		1362				1869	2076	1984																					
355-31		1158																		1372				1879	2086	1994																					
355-32		1248																		1462				1969	2176	2084																					
355-41		1268																		1482				1989	2196	2104																					
355-42		1358																		1572				2079	2286	2194																					
400-11		686																		959				280	120 ^{+0.035} _{+0.013}	120 ^{+0.035} _{+0.013}	210	210	32	32	109	109	18	18	400 ⁰ _{.01}	35	790	830	137	246	1205	750	35	1620	1732	1939	1817
400-12																				1079																					1325				1852	2059	1937
400-21	1039		1285	1812	2019	1897																																									
400-22	1159		1405	1932	2139	2017																																									
400-31	1129		1375	1902	2109	1987																																									
400-32	1249		1495	2022	2229	2107																																									
400-41	1229		1475	202	2209	2087																																									
400-42	1348		1595	2122	2329	2207																																									
450-11	800	1061	315	140 ^{+0.040} _{+0.015}	140 ^{+0.040} _{+0.015}	250	250	36	36	128	128	20	20	450 ⁰ _{.01}	35	890	924	160	285	1399	800	40	1720	1944	2191	2050																					
450-12		1181																		1519				2064	2311	2070																					
450-21		1151																		1489				2034	2281	2140																					
450-22		1271																		1609				2154	2401	2260																					
450-31		1251																		1589				2134	2381	2240																					
450-32		1371																		1709				2254	2501	2360																					
450-41		1361	1699	2294	2541	2350																																									
450-42		1481	1819	2414	2661	2470																																									
450-51		1481	1819	2214	2661	2470																																									
450-52		1601	1939	2534	2781	2590																																									
450-51		1481	1819	2214	2661	2470																																									
450-52		1601	1939	2534	2781	2590																																									

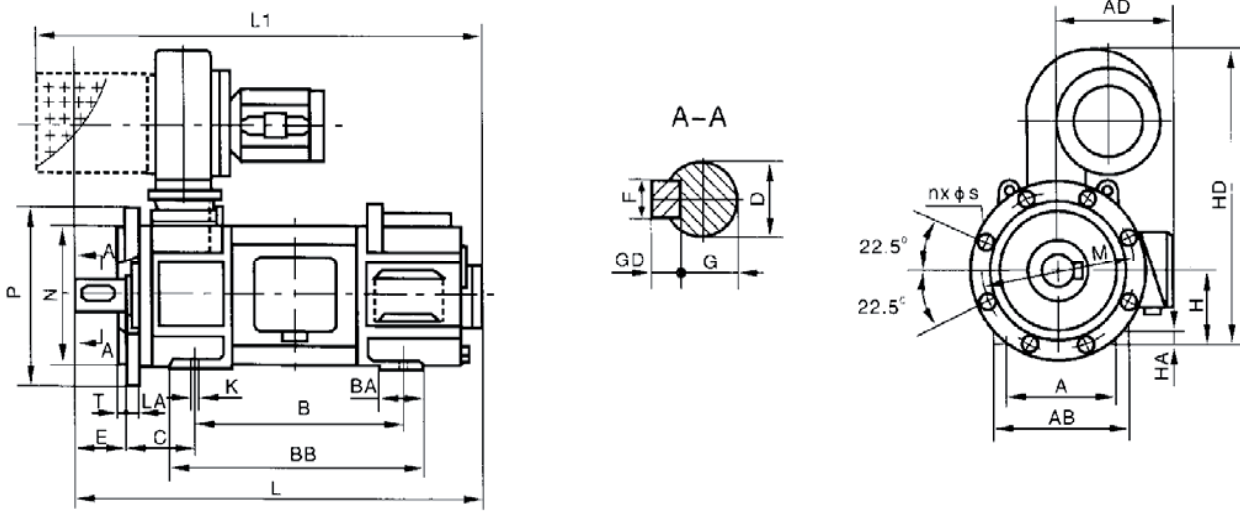
MOUNTING AND OUTLINE DIMENSION



mm

Frame	Mounting Dimension (mm)														Contour Dimension (mm)										
	A	B	C	D	E	F	G	GD	H	K	M	N	S	n	T	P	LA	AB	BA	BB	AD	HA	HD	L	L1
100-1	160	318	63	24 ^{+0.009} _{-0.004}	50	8	20	7	100 ⁰ _{-0.5}	12	215	180 ^{+0.014} _{-0.011}	15	4	4	250	12	197	60	368	180	10	398	500	580
112/2-1	190	337.5	70	28 ^{+0.009} _{-0.004}	60	8	24	7	112 ⁰ _{-0.5}	12	215	180 ^{+0.014} _{-0.011}	15	4	4	250	12	221	65	398	198	10	487	544	603
112/2-2		367.5		428	574	633																			
112/4-1		347.5		407	573	633																			
112/4-2		387.5		447	613	805																			
132-1	216	355	89	38 ^{+0.018} _{+0.0002}	80	10	33	8	132 ⁰ _{-0.5}	12	265	230 ^{+0.016} _{-0.013}	15	4	4	300	12	260	70	425	233	12	529	619	814
132-2		405																		475				669	864
132-3		465																		535				729	924
160-11	254	411	108	48 ^{+0.018} _{+0.0002}	110	14	42.5	9	160 ⁰ _{-0.5}	15	300	250 ^{+0.016} _{-0.013}	19	4	5	350	13	316	75	481	283	14	634	744	953
160-12		476																		546				809	986
160-21		451																		521				784	993
160-22		516																		586				849	1026
160-31		501																		571				834	1043
160-32		566																		636				899	1076

MOUNTING AND OUTLINE DIMENSION



mm

Frame	Mounting Dimension (mm)														Contour Dimension (mm)										
	A	B	C	D	E	F	G	GD	H	K	M	N	S	n	T	P	LA	AB	BA	BB	AD	HA	HD	L	L1
180-11		436																		516				794	1022
180-12		501																		581				859	1087
180-21		476																		556				834	1062
180-22		541																		621				899	1127
180-31	279	526	121	55 ^{+0.030} _{+0.011}	110	16	49	10	180 ⁰ _{-0.5}	15	350	350 ^{+0.016} _{-0.016}	19	4	5	400	16	356	80	606	320	16	149	884	1112
180-32		591																		671				949	1177
180-41		586																		666				944	1172
180-42		651																		731				1009	1237
200-11		566																		646				977	1158
200-12		614																		694				1025	1206
200-21		606																		686				1017	1198
200-22	318	654	133	65 ^{+0.030} _{+0.011}	140	18	58	11	200 ⁰ _{-0.5}	19	400	350 ^{+0.018} _{-0.018}	19	8	5	450	18	396	85	734	355	18	755	1065	1246
200-31		686																		766				1097	1278
200-32		734																		814				1145	1326

MOUNTING AND OUTLINE DIMENSION

Frame	Mounting Dimension (mm)															Contour Dimension (mm)									
	A	B	C	D	E	F	G	GD	H	K	M	N	S	n	T	P	LA	AB	BA	BB	AD	HA	HD	L	L1
225-11	356	701	149	75 ^{+0.030} / _{+0.011}	140	20	67.5	12	225 ⁰ / _{-0.5}	19	500	450 ^{+0.02} / _{-0.02}	19	8	5	550	22	440	90	781	398	20	980	1140	1605
225-12		761																		841				1200	1665
225-21		751																		831				1900	1655
225-22		811																		891				1250	1715
225-31		811																		891				1250	1715
250-11	406	715	168	85 ^{+0.035} / _{+0.013}	170	22	76	14	250 ⁰ / _{-0.5}	24	600	550 ^{+0.022} / _{-0.022}	24	8	6	660	24	490	95	806	430	25	1020	1225	1636
250-12		775																		866				1285	1696
250-21		765																		856				1275	1686
250-22		825																		916				1335	1746
250-31		825																		916				1335	1746
250-41		895																		986				1405	1816
250-42		955																		1046				1465	1876
280-11	457	762	190	95 ^{+0.035} / _{+0.013}	170	25	86	14	280 ⁰ / _{-1.0}	24	600	550 ^{+0.022} / _{-0.022}	24	8	6	660	24	550	100	862	455	25	1118	1315	1727
280-12		852																		952				1405	1817
280-21		822																		922				1375	1787
280-22		912																		1012				1465	1877
280-31		892																		992				1455	1857
280-32		982																		1082				1535	1947
280-41		972																		1072				1525	1937
280-42		1062																		1162				1615	2027
315-11		508																		887				216	## ^{+0.035} / _{+0.013}
315-12	977		1087	1622	1781																				
315-21	967		1077	1612	1771																				
315-22	1057		1167	1702	1861																				
315-31	1057		1167	1702	1861																				
315-32	1147		1257	1792	1951																				
315-41	1157		1567	1802	1961																				
315-42	1247		1357	1892	2051																				

The technical characteristics, dimensions and other data in this catalog are not binding.

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