

1. 概况

1.1 YZ、YZR系列起重及冶金用鼠笼与绕线转子三相异步电动机适用于驱动各种类型的起重机械及其它类似设备的电力驱动，具有较高的过载能力和较高的机械强度。适用于短时或断续周期性运转、频繁起动、制动、及有显著的振动与冲击的设备。

1.2 电动机的功率等级和安装尺寸符合IEC60072推荐标准，功率等级与安装尺寸的相互关系与日本JEM1202及德国DIN42681相似，大多数可互换。

1.3 电动机使用场地海拔不超过1000米，能保证正常运行。

1.4 电动机的绝缘等级为F级和H级两种。F级适用于环境空气温度不超过40°C的一般场所；H级适用于环境温度不超过60°C的冶金场所。两种电动机具有相同的参数。

1.5 电动机具有良好的封闭性。用于一般场所的电动机防护等级为IP44，用于冶金场所的电动机防护等级为IP54。

1.6 YZR系列电动机为起重及冶金用鼠笼与绕线转子三相异步电动机产品，符合专业标准

JB/T10105-1999的规定；YZ系列为冶金及起重用鼠笼转子三相异步电动机产品，符合专业标准JB/T10104-2011的规定。

1.7 电动机额定频率为50HZ，额定电压为380V。

1. Introduction

1.1 YZ、YZR series of three phase crane and metallurgical industrial motor, with wound or squirrel cage rotor are specially designed to drive metallurgical industrial cranes and other similar machine, it has excellent overloading capability and high mechanical strength. Therefore, it is well suited for short duty cycle, or intermittent periodic duty, and on equipments with frequent starting and breaking or are subject to vibration and shock.

1.2 The standard range of power output and mounting dimensions complies with the recommended standard of IEC60072. The relation between range of power output and mounting dimensions are similar to the Japanese standard(JEM1202), German standard (DIN42681), therefore most of them can be interchanged.

1.3 The motor can be operated well up to altitude of 1000m.

1.4 There are two insulation class F and H, class F is applicable to temperature condition not exceed 40°C, class H is suitable for metallurgical industrial sites where ambient temperature is below 60°C. Both have the same data.

1.5 The motor posses a better enclosure with protection degree IP44 for normal site condition, IP54 for metallurgical industrial condition.

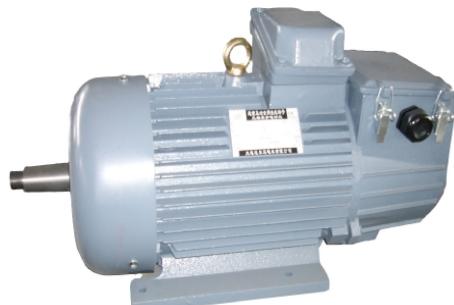
1.6 The YZR series three phase induction metallurgical industrial and crane motor with wound rotor is complying with the standard JB/T10105-1999. The YZ series 3-phase induction metallurgical industrial and crane motor with squirrel-cage rotor comply with the standard JB/T10104-2011.

1.7 Motor's rated voltage and frequency is 380/50Hz.



YZ系列电机

YZ series motor

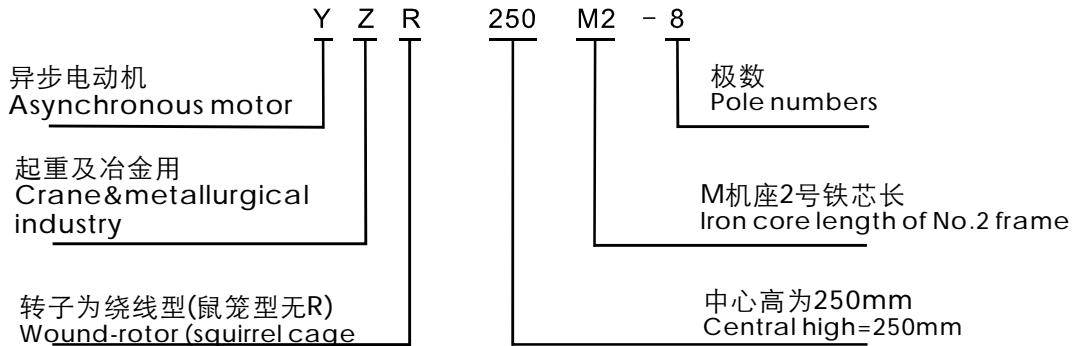


YZR系列电机

YZR series motor



1.8 电动机符号的意义 Symbol definition



2. 电动机的工作制及技术参数

电动机适用于断续周期性工作制，根据负荷的不同性质，电动机的工作制分为：

2.1 短时工作制 (S2)：在恒定负载下按给定时间运行，未达到热稳定状态时即停机和断能一段时间，使电机再度冷却到与冷却介质温度之差在2K以内。

2.2 断续周期性工作制 (S3)：按一系列相同的工作周期运行，每一周期由一段恒定负载运行时间和一段停机和断能的时间所组成（见图1），但这些时间较短，均不足以使电机达到热稳定状态，并且每一周期的起动电流对温升无明显的影响。

2.3 包括起动的断续周期性工作制 (S4)：按一系列相同的工作周期运行，每一周期由一段起动时间，一段恒定负载运行时间，一段停机和断能时间所组成（见图2）；但这些时间较短，均不足以使电机达到热稳定状态。

2.4 包括电制动的断续周期性工作制 (S5)：按一系列相同的工作周期运行，每一周期由一段起动时间，一段恒定负载运行时间，一段快速电制动时间和一段停机和断能时间所组成（见图3）；但这些时间较短，均不足以使电机达到热稳定状态。

2.5 选用电机时，各种起动及制动状态均需按等效发热量折算成每小时等效起动次数，以该等效起动次数确定电动机的定额。折算典型例子见表2。

2.6 折算的方法

2.6.1 点动终了时电动机的转速不超过额定转速的25%，即四次相当于一次起动。

2.6.2 电制动（制动到额定转速的1/3），一次相当于0.8次起动。

2.7 电动机的基准工作制为S3-40%，各工作制下电动机的技术参数见表3、表4-1及表4-2。电动机铭牌上给出交货状态的数据。如果用户不指定工作制时，电动机铭牌上仅给出基准工作制时的数据，当电动机需要按S2-S5之外的工作制运行时，需与制造商协商。

2. Duty and technical parameter

These motor are well suit to intermittent heavy duty operation. It can be classified into the following categories according different loading conditions:

2.1 Short Time Duty(S2): Operation is under constant load in fixed time and the motor is resting or de-energizing when the heat balance is not reached. In a period of time, the motor is cooled and the temperature difference between motor and medium is limited within 2K.

2.2 Intermittent Periodic Duty(S3): To run according to series of identical cycles, the running time under constant load and time of rest de-energized are included in period of one cycle(see Fig.1), but the time is shorter and does not make motor to a heat balance condition. The starting current shouldn't be enough to affect the temperature rise obviously.

2.3 Intermittent Periodic Duty with Starting(S4): To run according to a series of identical cycles, each cycle is formed by a starting time, a constant load's time & a rest or de-energized time(see Fig.2), but the time is short without condition making the motor to a heat balance.

2.4 Intermittent Periodic Duty with Starting and Electric Braking(S5): It runs according to a series of identical cycles, there are starting time, constant load's time, electric quick braking time and a rest or de-energized time in each cycle, but the motor can't reach the condition of heat balance in such short time(Fig.3).

2.5 When you choose motor, various conditions of starting and braking have to be contained into a equivalent data of starts/hour according to equivalent heat, then the motor quota is determined by the equivalent data.

2.6 Conversion

2.6.1 When the touch starting is end, the speed does not exceed 25% of the rated speed, i.e. four times equal one starting.

2.6.2 One electric braking(to brake to one third of rated speed) is equal to 80% starting.

2.7 The duty type S3-40% is basic duty, the motor technical data is in the table 3, table 4-1 and 4-2. The data of delivery condition on the name plate only under basic duty, if you need a duty out of S2-S5, the consultation with manufacturer is needed.



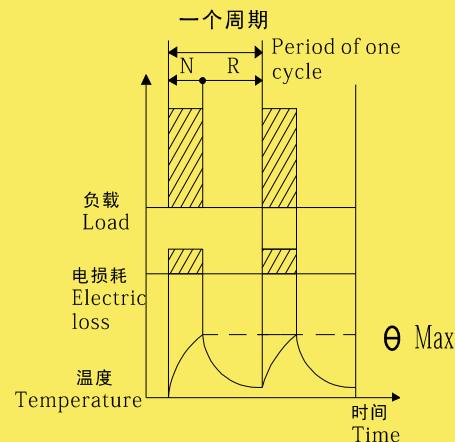


图1：断续周期性工作制S3

N-在额定条件下运行

R-停机和断能时间

θ_{Max} -在工作周期中达到的最高温度

Fig.1: Intermittent Periodic Duty Type S3

N - Operation under rated condition

R - At rest and de-energized

负载持续率：

$$\text{Intermittent rate} \quad FC = \frac{N}{N+R} \times 100\%$$

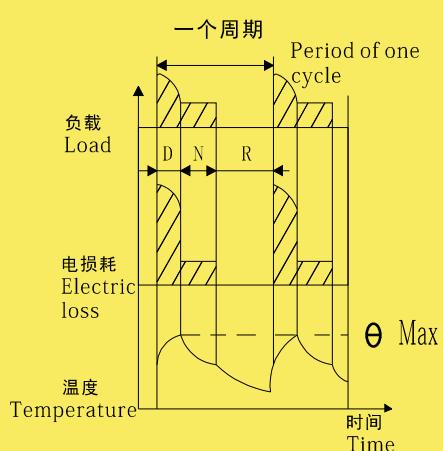


图2：包括启动的断续周期性工作制S4

D-启动

R-停机和断能时间

N-在额定条件下运行

θ_{Max} -在工作周期中达到的最高温度

Fig.2: Intermittent periodic duty with starting type S4

D- starting

R- At rest and de-energized

N- Operation under rated condition

Max - Maximum temperature attained during the duty cycle

负载持续率：

$$\text{Intermittent rate} \quad FC = \frac{D+N}{D+N+R} \times 100\%$$

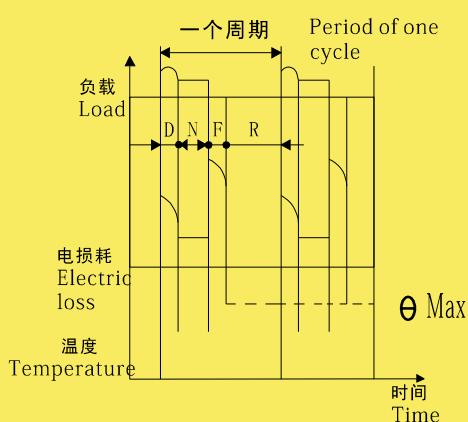


图3：包括电制动的断续周期性工作制S5

D-启动

N-在额定条件下运行

F-电制动时间

R-停机和断能时间

θ_{Max} -在工作周期中达到的最高温度

Fig.3: Intermittent periodic duty with starting and electric braking type S5

D - Starting

N - Operation under rated condition

F - Electric braking

R - At rest and de-energized

Max- Maximum temperature attained during the duty cycle

负载持续率：

$$\text{Intermittent rate} \quad FC = \frac{D+N+F}{D+N+F+R} \times 100\%$$



等效起动次数与点动、制动及起动次数的对应关系

Relations of equivalent starting number with touch starting, braking and starting number

表2 Table 2

工作制 Duty type	起、制动状态 Starting & braking conditions				每小时等效起动次数 Equivalent starts/h
	每小时起动次数 No.of starts/h	每小时点动次数 No. of touch starts/h	每小时制动次数 No. of brakes/h	每小时制动并反转次数 No. of brakes and reverses/h	
S ₃	6	0	0	0	6
S ₃	4	8	0	0	
S ₃	2	8	2	0	
S ₄	150	0	0	0	150
S ₄	100	200	0	0	
S ₅	80	0	80	0	
S ₅	65	130	65	0	
S ₅	30	160	30	30	
S ₄	300	0	0	0	300
S ₄	200	400	0	0	
S ₅	160	0	150	0	
S ₅	130	260	130	0	
S ₅	60	320	60	60	
S ₄	600	0	0	0	600
S ₄	400	800	0	0	
S ₅	320	0	320	320	
S ₅	260	520	260	260	
S ₅	120	640	120	120	

机座号与轴承的对应关系

Relations of frame size with bearing

机座号 Frame	安装形式 Structure	IM1		IM3	
		负载端 Driving end	非轴伸端 No driving end	负载端 Driving end	非轴伸端 No driving end
112		6308	6308	6308	6308
132		6309	6309	6309	6309
160		6311	6311	6311	6311
180		6313	6313	6313	6313
200		NU 315	6315	NU 315	7315
225		NU 315	6315	NU 315	7315
250		NU 316	6316	NU 316	7316
280		NU 320	6320	NU 320	7320
315		NU 322	6322	NU 322	7322
355		NU 326	6326		
400		NU 330	6330		



YZ、YZR系列起重及冶金用三相异步电动机 YZ、YZR series crane and metallurgical motor

YZ 系列技术数据
YZ series technical parameter

表3, Table 3

工作制 Duty type	S_2		S_3																									
			30分钟 30 minutes			60分钟 60 minutes			15% 15%			25% 25%			40% 40%			60% 60%			100% 100%							
机座号 Frame size	kW	A	l ₁	n	kW	l ₁	n	kW	l ₁	n	kW	l ₁	n	Max	Max	Max	l ₁	n	Max	l ₁	n	Max	l ₁	n	Max			
	1.8	4.9	892	1.5	4.25	920	2.2	6.5	810	1.8	4.9	872	1.5	4.25	920	2.7	2.44	4.47	69.5	0.75	1.1	2.7	946	0.8	3.5	980	0.022	58
YZ132M1	2.5	6.5	920	2.2	5.9	935	3	7.5	804	2.5	6.5	920	2.2	5.9	935	2.9	3.1	5.16	74	0.76	1.8	5.3	950	1.5	4.9	960	0.056	80
YZ132M2	4	9.2	915	3.7	8.8	912	5	11.6	890	4	9.2	915	3.7	8.8	912	2.8	3	5.54	78	0.79	3	7.5	940	2.5	7.2	945	0.062	92
YZ160M1	6.3	14.1	922	5.5	12.5	933	7.5	16.8	903	6.3	14.1	922	5.5	12.5	933	2.7	2.5	4.9	80	0.82	5	11.5	940	4	10	953	0.114	119
YZ160M2	8.5	18	943	7.5	15.9	948	11	25.4	926	8.5	18	943	7.5	15.9	948	2.9	2.4	5.52	81	0.83	6.3	14.2	956	5.5	13	961	0.143	132
YZ160L	15	32	920	11	24.6	953	15	32.0	920	13	28.7	936	11	24.6	953	2.9	2.7	6.17	83	0.84	9	20.6	964	7.5	18.8	972	0.192	152
1000转/分 r/min																												
750转/分 r/min																												
YZ160L	9	21.1	694	7.5	18	705	11	27.4	675	9	21.1	694	7.5	18	705	2.7	2.5	5.1	80	0.76	6	15.6	717	5	14.2	724	0.192	152
YZ180L	13	30	675	11	25.8	694	15	35.3	654	13	30	675	11	25.8	694	2.5	2.6	4.9	81	0.79	9	21.5	710	7.5	19.2	718	0.352	205
YZ200L	18.5	40	697	15	33.1	710	22	47.5	686	18.5	40	697	15	33.1	710	2.8	2.7	6.1	82.5	0.80	13	28.1	714	11	26	720	0.622	276
YZ225M	26	53.5	701	22	45.8	712	33	69	687	26	53.5	701	22	45.8	712	2.9	2.9	6.2	84	0.82	18.5	40	718	17	37.5	720	0.82	347
YZ250M1	35	74	681	30	63.3	694	42	89	663	35	74	681	30	63.3	694	2.54	2.7	5.47	85	0.84	26	56	702	22	45	717	1.432	462



YZ、YZR系列起重及冶金用三相异步电动机 YZ、YZR series crane and metallurgical motor

YZR技术数据

YZR series motor technical parameter

工作制 Duty type	S ₂															
	30分钟 30 minutes				60分钟 60 minutes				15%				25%			
机座号 Frame size	kW	I ₁	I ₂	n	kW	I ₁	I ₂	n	kW	I ₁	I ₂	n	kW	I ₁	I ₂	
1000转/分 r/min																
YZR112M	1.8	5.3	13.4	815	1.5	4.63	12.5	866	2.2	6.6	18.4	725	1.8	5.3	13.4	
YZR132M1	2.5	6.5	12.9	892	2.2	6.05	12.6	908	3	8.0	16.1	855	2.5	6.5	12.9	
YZR132M2	4	9.7	14.2	900	3.7	9.2	14.5	908	5	12.3	18.2	875	4	9.7	14.2	
YZR160M1	6.3	16.4	29.4	921	5.5	15	25.7	930	7.5	18.5	35.4	910	6.3	16.4	29.4	
YZR160M2	8.5	19.6	29.8	930	7.5	18	26.5	940	11	24.6	39.6	908	8.5	19.6	29.8	
YZR160L	13	28.6	31.6	942	11	24.5	27.6	957	15	34.7	39	920	13	28.6	31.6	
YZR180L	17	36.7	49.8	955	15	33.8	46.5	962	20	42.6	58.7	946	17	36.7	49.8	
YZR200L	26	56.1	82.4	956	22	49.1	69.9	964	33	692	103	942	26	56.1	82.4	
YZR225M	34	70	85	957	30	62	74.4	962	40	80	101	947	34	70	85	
YZR250M1	42	80	103	960	37	70.5	91.5	965	50	99	123	950	42	80	103	
YZR250M2	52	97	110	958	45	84.5	95	965	63	121	134	947	52	97	110	
YZR280S	63	118	142	966	55	101.5	129.8	969	75	144	169.5	960	63	118	142	
YZR280M	85	157	140	966	75	139	124	970	100	185	166	960	85	157	140	
750转/分 r/min																
YZR160L	9	22.4	28.1	694	7.5	19.1	23	705	11	27.5	35.3	676	9	22.4	28.1	
YZR180L	13	29.1	47.8	700	11	27	44	700	15	34	56	690	13	29.1	47.8	
YZR200L	18.5	40	67.2	701	15	33.5	53.5	712	22	48	81	690	18.5	40	67.2	
YZR225M	26	55	71.2	708	22	46.9	59.1	715	33	70	92	696	26	55	71.2	
YZR250M1	35	64	80	715	30	63.4	67.7	720	42	75	97.5	710	35	64	80	
YZR250M2	42	86	79	716	37	78	70	720	52	103	98	706	42	86	97	
YZR280S	52	108	106	712	45	96.5	92	717	63	129	130	704	52	108	106	
YZR280M	63	126	110	722	55	110.5	92.5	725	75	150	132	715	63	136	110	
YZR315S	85	164.8	177.8	722	75	146.7	156.7	725	100	200	162	715	85	164.8	177.8	
YZR315M	100	190	183.5	715	90	172	160.9	720	125	250	232	717	100	190	183.5	
600转/分 r/min																
YZR280S	42	92	177.1	571	37	84.8	153.2	560	55	112	235.2	564	42	92	177.1	
YZR280M	55	127	207	556	45	103.8	165	560	63	146	241	548	55	127	207	
YZR315S	63	132	161.9	580	55	118.3	138.7	580	75	154	194	547	63	132.5	161.9	
YZR315M	85	179	171	576	75	160	149.3	579	100	210	203	570	85	179	171	
YZR355M	110	218	207	581	90	180	166.6	585	132	266	252	576	110	218	207	
YZR355L1	132	257	213	576	110	217	172	582	160	314	261	571	132	257	213	
YZR355L2	150	293	194	588	132	262	167.5	588	185	353	241	585	150	293	194	
YZR400L1	190	390	290	585	160	338	244	587	220	445	336	581	190	390	290	
YZR400L2	240	490	302	585	200	427	252	588	270	540	340	582	240	490	302	



YZ、YZR系列起重及冶金用三相异步电动机 YZ、YZR series crane and metallurgical motor

YZR技术数据

YZR series motor technical parameter

工作制 Duty type	S ₄ 和S ₅													
	150次/时 Start times/h													
FC	25%				40%				60%					
机座号 Frame size	kW	I ₁	I ₂	n	kW	I ₁	I ₂	n	kW	I ₁	I ₂	n	kW	
1000转/分 r/min														
YZR112M	1.6	4.75	11.3	845	1.3	4.2	8.85	890	1	3.75	6.57	920	1.2	4
YZR132M1	2.2	6	11.2	908	2	5.7	10	913	1.7	5.3	8.4	931	1.8	5.4
YZR132M2	3.7	9.7	13.1	915	3.5	9.2	11.2	925	2.8	8.5	9.65	940	3.3	9.4
YZR160M1	5.8	15.5	27.3	927	5	14.1	23.4	935	4.8	13.8	22.7	937	4.8	14.1
YZR160M2	7.5	18	27.6	940	7	17.1	25.6	945	6	15.6	21.8	954	6.0	15.6
YZR160L	11	28.3	27.8	950	10	23	25	957	8	19.5	19.8	969	9.0	19.5
YZR180L	15	33	43.7	960	13	29.5	37.7	965	12	28	34.6	969	12	28
YZR200L	21	47	55.4	965	18.5	42.5	48.5	970	17	40.5	53.8	973	17	40.5
YZR225M	28	58	70	965	25	53	62.2	969	22	50	54.5	973	22	50
YZR250M1	33	63	82.6	970	30	58	74.9	973	28	54	69.8	975	26	52
YZR250M2	42	78	90.5	967	37	70	79.3	971	33	63	70.5	975	31	60
YZR280S	52	95	116	970	45	83	100	974	42	80	93.6	975	40	76
YZR280M	70	130	115	972	62	114	102	975	55	90.5	104	978	52	98
750转/分 r/min														
YZR160L	7.5	19	22.8	712	7	18.1	21.2	716	5.8	16.4	17.3	724	6.0	16.7
YZR180L	11	25.4	40.6	711	10	23.5	36.6	717	8	20.5	28.8	728	8.0	20.5
YZR200L	15	34	54.1	713	13	30	46.6	718	12	28.2	43	720	12	28.2
YZR225M	21	45	56.8	718	18.5	41	49.7	721	17	38	45.6	724	17	38
YZR250M1	29	61.5	68.5	700	25	54	58.7	705	22	49	51.9	712	22	49
YZR250M2	33	70	62.5	725	30	64	56.6	727	28	61	52.8	728	26	58
YZR280S	42	91	85.8	719	37	83	75.6	723	33	76.3	67	726	31	74
YZR280M	52	104	90.2	727	45	93	77.7	730	42	89	72.4	732	42	89
YZR315S	64	118	132.7	731	60	110.5	124.2	733	56	106	115.8	733	52	100
YZR315M	75	142	136	725	72	136	130.7	725	65	126	117.6	727	60	120
600转/分 r/min														
YZR280S	33	78.7	141.8	578	30	74	125	579	28	71	116	580	26	68
YZR280M	42	98.7	154	565	37	90	136	569	33	84.3	118	573	31	82
YZR315S	50	110	128.4	583	45	100	115.3	585	42	96	107.4	586	40	94
YZR315M	65	144	129	584	63	136	119	585	55	130	109	586	53	126
YZR355M	80	160.5	149.7	587	72	156	134.5	588	65	140	121	589	60	130
YZR355L1	100	185	157	586	90	170	142	588	80	155	126.5	589	75	150
YZR355L2	120	250	149.8	588	110	230	137.5	589	95	210	122.7	591	90	205
YZR400L1	146	314	223	588	130	288	199	589	115	268	175	590	110	260
YZR400L2	185	396	223	590	165	365	262	589	145	332	183	592	140	324



YZ、YZR系列起重及冶金用三相异步电动机 YZ、YZR series crane and metallurgical motor

表4-2 Table 4-2

r/时 Start times/h	600次/时 Start times/h				转子电压 Rotor voltage (V)	转动惯量 Rotary inertia (kg.m ²)	重量 Weight Kg
	60%		60%				
kW	I ₁	I ₂	n	kW	I ₁	I ₂	n
0.9	3.7	5.87	930	0.7	3.4	4.46	946
1.6	5.1	7.87	936	1.35	4.9	6.8	945
2.7	8.5	9.65	940	2.3	6	7.5	950
4.5	13.8	22.4	937	3.8	12.2	17.5	946
5.5	14.8	19.8	959	4	13	14.2	970
7.5	18.7	18.5	971	6	16.7	14.2	978
11	26.6	31.7	972	9	23.6	22.9	978
15	37	40	975	11	31.5	28.5	981
20	46	49.4	977	15	39	36.8	982
25	50	62.1	978	17.5	39	43.2	984
30	58	63.9	977	24	49	50.9	981
37	71	82.2	978	30	64	66.5	980
47	92	77.3	981	37	78	61	982
5	15.5	14.9	727	3.8	13.7	11.2	732
7.5	19.7	26.9	729	5.8	17.8	20.6	736
11	27	39.1	724	9	23	28.1	731
15	35.1	40	727	11	31	29.1	733
20	46	46.2	716	15	39	34.2	725
25	57	47	731	18.5	45	34.4	736
30	72	61.5	732	24	64	49.1	733
37	83	63.5	735	30	73	51.4	737
48	94	98.8	736	35	80	71.7	740
55	116	99	729	41	100	73.7	732
25	66	103	583	17	56	69.8	588
28	78.5	98	577	22	72.5	75	582
37	90	94.5	587	30	84	76.3	589
48	124	94.7	588	37	114	73	589
55	124	102.4	590	41	104	76.19	591
70	145	111	591	50	120	78.4	594
80	190	130.2	592	60	165	77.1	594
97	247	148	592	75	220	114	594
123	298	155	592	95	265	122	594

注:

表中数据是当负荷的转动惯量与电动机转动惯量相等情况下的数据,由于电动机允许的输出功率随负荷的转动惯量而变化,选择电动机时对S4及S5工作制应根据负荷的实际转动惯量进行校核。

Note:

The data in the table is based on the rotary inertia of the load being equal to the rotary inertia of the motor. The selection of the motor for S4 or S5 operation must be test checked according to the real load rotary inertia.



3. 电动机的结构

3.1 冷却方式:

112-132机座号为自然冷却 (IC410) ;
160-400机座号为自扇冷却 (IC411) ;
400机座号也可为具有内循环通风的扇冷却 (IC511) 。

3.2 电动机安装结构形式: 见表5.

3. Motor construction

3.1 Mode of cooling:

a, Frame 112-132 cooling use external natural cooling (IC410).
b, Frame 160-400 use fan cooling (IC411).
c, Frame 400 cooling can also use fan for internal circulation cooling (IC511).

3.2 For installation, see table 5.

表5, Table 5

安装结构形式 Installation types	代号 Symbol	机座号 Frame
	IM 1001	112-160
	IM 1003	180-400
	IM 1002	112-160
	IM 1004	180-400
	IM 3001	112-160
	IM 3003	180
	IM 3011	112-160
	IM 3013	180-315

3.3 电动机的轴伸可以按用户提出的尺寸或要求制造。

3.4 传动方式: 电动机采用联轴器或正齿轮传动, 若采用正齿轮传动时, 其齿轮节圆最小直径应不小于轴伸直径的2倍。

3.5 电动机定子出线盒位于电机顶部, 也可沿电机两侧方向出线, 转子可以从端盖的两侧出线。

3.6 电动机上的各紧固螺栓都有防松措施。

3.7 电刷型号为J201, 规格如表6。

3.3 The shaft driving end can be made according to the customers' request.

3.4 Transmission through shaft coupling or spur wheel may be used. If the latter is taken, the minimum pitch circle diameter should not be less than double the diameter of shaft driving end.

3.5 Terminal box on the top of the motor has two directions along both sides of the motor for stator, but the rotor's outlet position may be from both sides of the end cover.

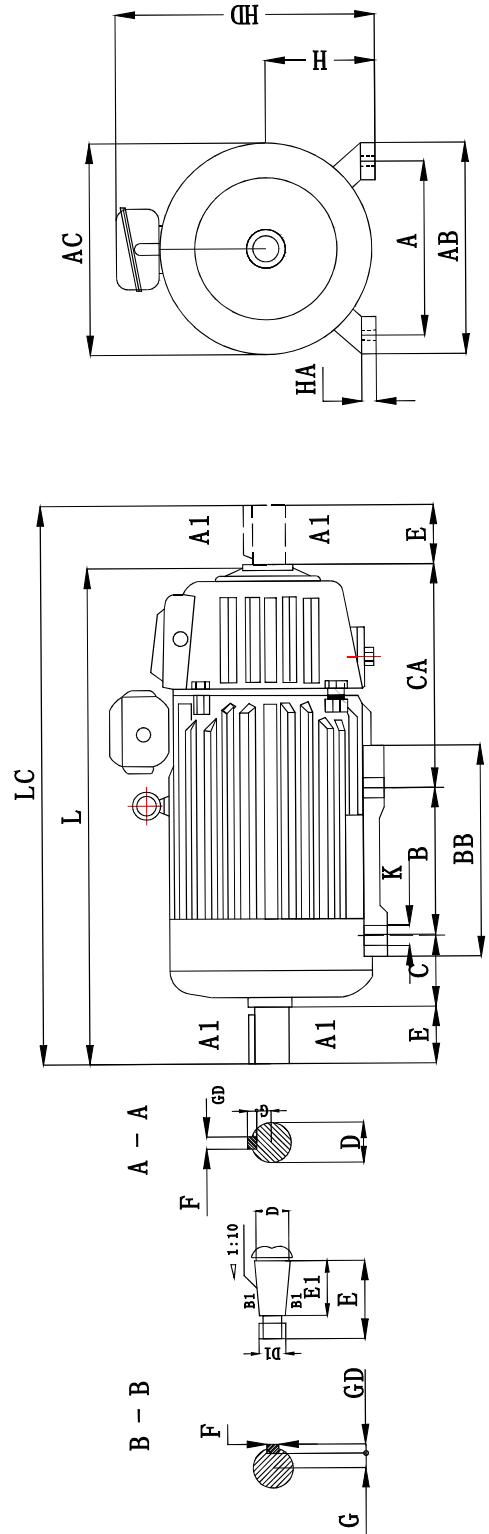
3.6 The measures are taken to prevent slack on the fastener of the motor.

3.7 The carbon brush type is J201, for specifications, see table 6.

表6, Table 6

机座号 Frame size	电刷尺寸 Dimensions of brush(mm)	集电环外径 Outer diameter of slip-ring(mm)	机座号 Frame size	电刷尺寸 Dimensions of brush(mm)	集电环外径 Outer diameter of slip-ring(mm)
YZR 112	20 × 8 × 32	100	YZR 250	40 × 12.5 × 50	160
YZR 132	20 × 8 × 32	100	YZR 280	40 × 20 × 60	200
YZR 160	25 × 10 × 40	112	YZR 315	40 × 20 × 60	200
YZR 180	25 × 10 × 40	125	YZR 355	50 × 20 × 60	250
YZR 200	32 × 12.5 × 50	140	YZR 400	2 (40 × 20 × 60)	250
YZR 225	32 × 12.5 × 50	140			



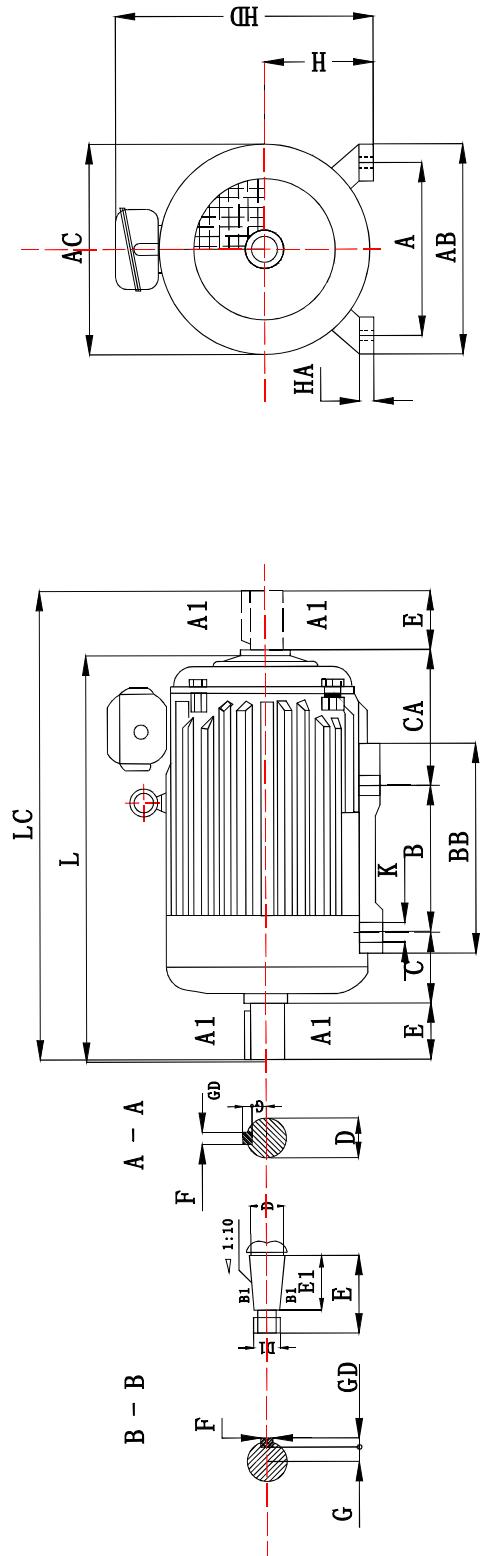


YZR112~400 M1 安装尺寸与外形尺寸表
Installation and dimensions of YZR series motor YZR112-400 M1

表7, Table 7

机座号 Frame size	安装尺寸 Dimensions										外形尺寸 Overall dimensions												
	H	A	B	C	CA	K	螺栓直径 Screw Dim.	D	D1	E	E1	F	G	GD	AC	AB	HD	Bb	L	LC	HA		
112M	112	190	140	70	300	12	M10	32	-	80	-	10	27	8	245	250	330	235	590	670	15		
132M	132	216	178	89	-	-	-	38	-	-	-	33	285	275	360	260	645	727	17	-	-		
160M	160	254	210	108	330	15	M12	48	-	-	110	14	42.5	9	325	320	420	290	758	848	20		
160L	-	-	-	-	-	-	-	-	-	-	-	-	82	19.9	360	360	460	380	870	980	22		
180L	180	279	279	121	360	-	-	55	M36×3	-	-	-	16	21.4	10	405	405	510	400	975	1118	25	
200L	200	318	305	133	400	19	M16	60	M42×3	140	105	105	12.9	10	430	455	545	410	1050	1190	28		
225M	225	356	311	149	450	-	-	65	-	-	-	-	18	25.4	11	480	515	605	510	1195	1337	30	
250M	250	406	349	168	-	-	-	70	M48×3	-	-	-	20	31.7	12	535	575	665	530	1265	1438	32	
280S	280	457	368	190	540	24	M20	85	M56×4	170	130	22	35.2	14	-	-	-	-	1315	1489	35		
280M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1390	1562	-		
315S	315	508	406	216	600	-	-	95	M64×4	-	-	-	620	640	750	630	1440	1613	-	-	-		
315M	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
355M	355	610	560	254	-	-	-	110	M80×4	210	165	25	41.9	710	740	840	730	1650	1864	38	-	-	
355L	-	-	-	-	-	-	-	630	-	-	-	-	-	-	-	-	-	-	800	1720	1934	-	-
400L	400	686	710	280	-	35	M30	130	M100×4	250	200	28	50	16	840	855	950	910	1865	2120	45	-	-





YZ112~250M1 安装尺寸与外形尺寸表
Installation and dimensions of YZ series motor YZ112-250 M1

表8, Table 8

机座号 Frame size	安装尺寸 Dimensions										外形尺寸 Overall dimensions											
	H	A	B	C	CA	K	螺栓直径 Screw Dim.	D	D1	E	E1	F	G	GD	AC	AB	HD	BB	L	LC	HA	
112M	112	190	140	70	300	12	M10	32		80	-	10	27		245	250	330	235	420	505	15	
132M	132	216	178	89				38				33	8	285	275	360	260	495	577	17		
160M	160	254	210	108	330	15	M12	48				14	42.5	9	325	320	420	290	608	718	20	
160L			254	210					110									335	650	762		
180L	180	279	279	121	360			55	M36×3		82		19.9		360	360	460	380	685	800	22	
200L	200	318	305	133	400	19	M16	60				16	21.4		405	405	510	400	780	928	25	
225M	225	356	311	149	450			65	M42×3	140	105		10	23.9		430	455	545	410	850	998	28
250M	250	406	349	168	540	24	M20	70	M48×3			18	25.4	11	480	515	605	510	935	1337	30	



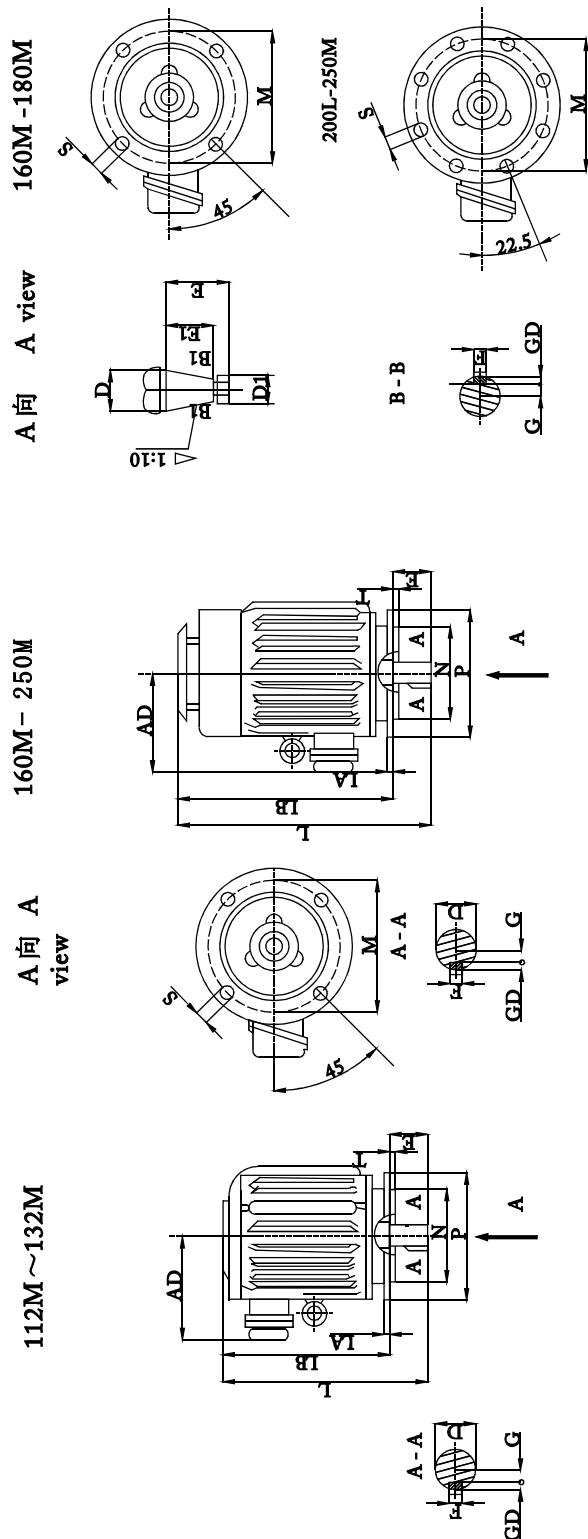


表9, Table 9

机座号 Frame size	安装尺寸 Dimensions										外形尺寸 Overall dimensions						
	M	N	P	LA	T	S	螺栓直径 Screw Dim.	孔数 Hole number	D	D1	E	E1	F	G	GD	L	AD
112M	F215	215	180	250	14	4	15	M12	32	-	80	10	27	8	430	220	350
132M	F265	265	230	300	14	4	15	M12	38	-	110	14	42.5	9	495	230	415
160M	F300	300	250	350	18	5	19	M16	55	M36×3	82	-	19.9	700	743	250	590
160L															735	280	633
180L															855	310	625
200L	F400	400	350	450	20	6	20	M16	60	M42×3	140	16	21.4	10	915	320	715
225M															23.9	23.9	775
250M	F500	500	450	550	22	8	22	M16	65	M48×3	70	18	24.4	11	1005	355	865

YZ112~250IM3 安装尺寸与外形尺寸表
Installation and dimensions of YZ series motor YZ112-250 IM3



4.派生产品

为满足用户的不同需要，在YZR、YZ的基础上，可制造如下派生产品：

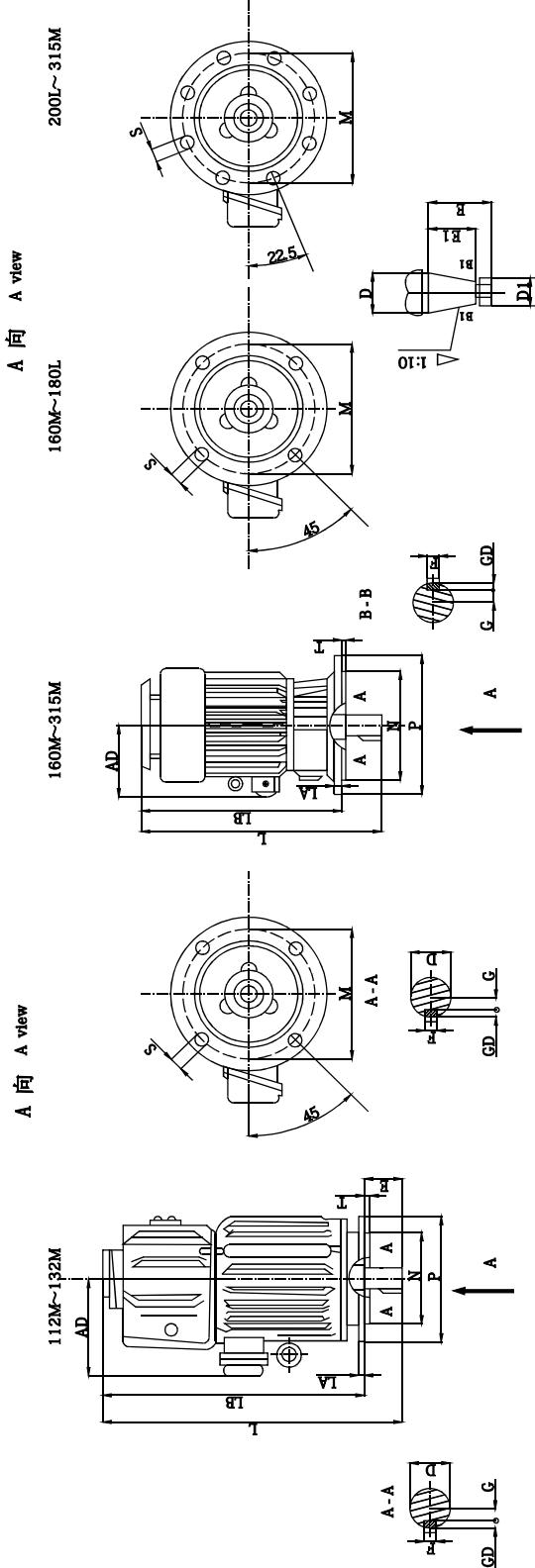
- 4.1 湿热带型电动机 – 适用于湿热带及类似环境中。电动机的参数与YZR、YZ系列相同。
- 4.2 60赫兹电动机 – 电压分380伏和440伏两种。同机座之功率与基本系列一致，额定电压为380伏的绕线型电动机之转子开路电压允许较50赫兹电机升高10%。
- 4.3 户外电机 – 适用于露天环境，电动机具有如下防护措施：
 - a, 轴的贯通部分设有防水环，防止雨水的侵入；
 - b, 电动机的外面覆有钢制盖板，防止日晒和外物的打击；
 - c, 电动机各空腔与外面贯通的气隙，均设有密封垫，接线盒口具有专门的防护，以防止灰尘和水的浸入；
 - d, 电动机的底部设有排水孔，以排除电机内部形成的冷凝水。
- 4.4 根据需要，尚可试制如下产品：
 - 4.4.1 他冷式电动机 – YZR系列他冷式电动机适用于工作特别繁重，例如负载持续率高或起动次数特别多，而电动机的功率不能降低的设备，他冷式电动机根据通风方式的不同，又可分为两种：
 - a, 管道通风型电动机：经由管道、从室外采风冷却电动机，环境空气温度不超过40°C；
 - b, 自带风机型电动机：风机就地采风，环境空气温度为60°C.
 - 4.4.2 多速风机：用于需要变速及准确动作的起重机械上。
 - 4.4.3 冶金及起重用涡流制动三相异步电动机。
 - 4.4.4 起重专用绕线转子三相异步电动机。

4. Derivative products

With the various needs of customers, following products can be made, derived from the YZR and YZ series:

- 4.1 Humidity type motor the motor can be adapted for use in high humidity tropical environment, their basic specifications are the same as for YZR and YZ series.
- 4.2 60HZ motor The motor has rated voltage 380V and 440V, the power is same as the basic series when the frame is the same, for the wound-rotor motor rated voltage being 380V, the open circuit of rotor voltage may exceed 10% of the 50Hz motor.
- 4.3 Outdoor type motor- It is applicable to the open environment and has the following protections:
 - a, Water-proof sealing ring device on the shaft.
 - b, The motor is against the elements by the external cover.
 - c, The water-tide seals prevent ingress of water and dust.
 - d, For draining of condensation a drainage hole is incorporated into the bottom of the motor.
- 4.4 The following products can be made according to the customer's request:
 - 4.4.1 Separate cooling type motor This YZR series motor is suit for heavy duty and load condition, example, it is used in cases of higher intermittent rate and frequent starts. Ventilation can be divided into two types:
 - a, Ventilating duty type Air from outside is taken through the pipe line, the ambient temperature $\leq 40^{\circ}\text{C}$.
 - b, Motor with independent ventilator type The ventilator uses surrounding air to cool the motor, ambient temperature $\leq 60^{\circ}\text{C}$.
 - 4.4.2 Multi-speed motor It is used where speed change is required and on the cranes with accurate movement.
 - 4.4.3 Three phase induction eddy Current brake motor used on cranes.
 - 4.4.4 Three phase induction motor with wound rotor used only for heavy-lift equipment.





YZR112~315M3 安装尺寸与外形尺寸表
Installation and dimensions of YZR series motor YZR112-315

机座号 Frame size	凸缘代号 Flange symbol	安装尺寸 Dimensions										外形尺寸 Overall dimensions						
		M	N	P	LA	T	S	螺栓直径 Screw Dim.	D	D1	E	E1	F	G	GD	L	AD	LB
112M	F215	215	180	250	14	4	15	M12	32	-	80	-	10	27	8	430	220	515
132M	F265	265	230	300	-	-	-	M12	38	-	-	-	33	42.5	9	495	230	565
160M	F300	300	250	350	18	-	-	M16	48	-	110	-	14	42.5	9	700	250	718
160L	F400	400	350	450	20	5	19	M16	55	M36×3	140	105	16	21.4	10	743	250	762
180L	F400	400	350	450	20	5	19	M16	60	M42×3	140	105	16	23.9	10	735	280	805
200L	F500	500	450	550	22	-	-	M16	65	-	-	-	-	-	-	915	320	970
225M	F500	500	450	550	22	-	-	M16	70	M48×3	140	105	18	24.4	11	1005	355	1126
250M	F500	500	450	550	22	-	-	M16	85	M56×4	140	105	20	31.7	12	1370	385	1200
280S	F500	500	450	550	22	-	-	M16	170	M56×4	170	130	-	-	-	1420	1250	1305
280M	F600	600	550	660	25	6	24	M20	95	M64×4	170	130	22	35.2	14	1475	435	1355
315S	F600	600	550	660	25	6	24	M20	95	M64×4	170	130	-	-	-	1525	1355	1355
315M	F600	600	550	660	25	6	24	M20	95	M64×4	170	130	-	-	-	-	-	-

