

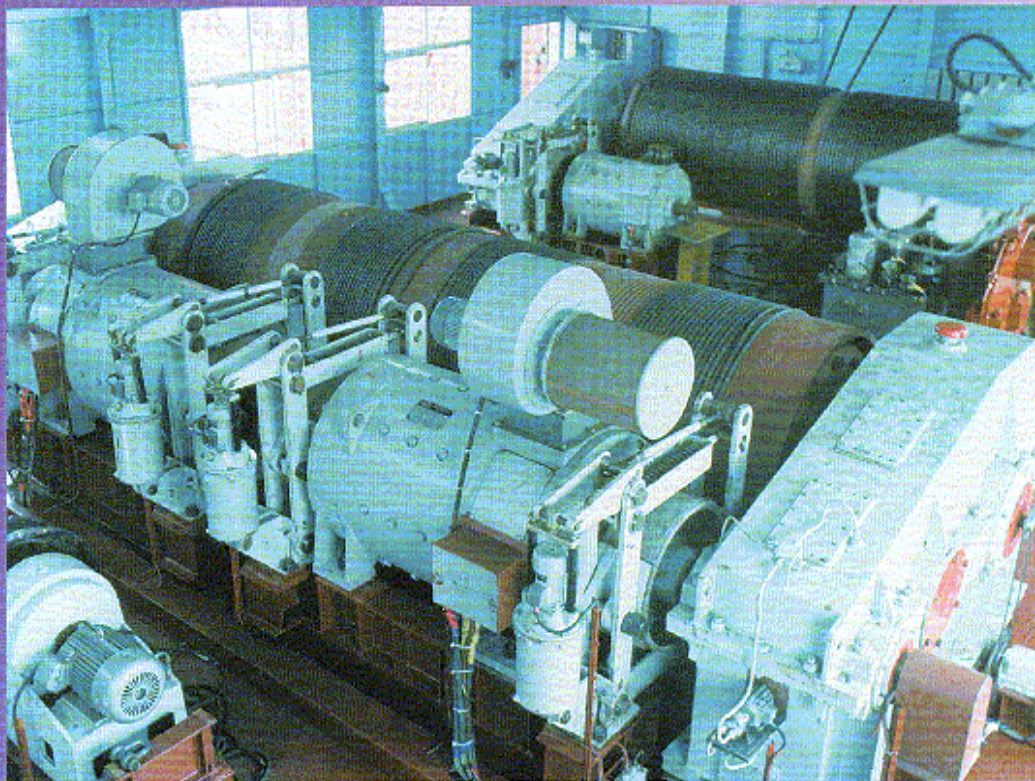
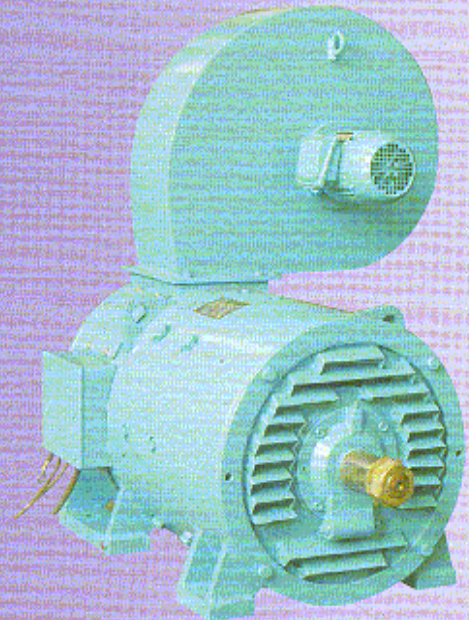
GUANGZHOU HAOQING MOTOR CO.,LTD

ZZJ - 800 系列

ZZJ - 800 SERIES

轧机辅传动直流电动机

Mill Auxiliary DC Motors



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一、概述

ZZJ—800 系列轧机辅传动直流电动机的功率、等级、性能、外形安装尺寸均符合国际电工委员会标准 IEC34—13《起重、冶金用辅机电动机技术规范》和国家标准 GB5227—85《轧机辅传动直流电动机》，电机各部分机械尺寸公差符合国际标准化委员会标准(ISO)。可以与国外进口 800 系列电机互换使用。

本系列电动机允许可逆运转，具有优良的过载特性，特别适用于频繁起制动要求的机械传动，如轧钢机辅传动设备、起重机、挖掘机等。

二、使用条件

- 1、本系列电动机适用的环境空气温度为 -30°C 到 $+40^{\circ}\text{C}$ ，海拔不超过 1000 米的场所。
- 2、本系列电动机的供电电源采用静止整流电源或直流发电机电源。

三、产品。性能

- 1、本系列电动机绝缘等级为 F 级。
- 2、电动机的额定电压有 220V，440V 二种，根据需要也可派生出其他等级电压。
- 3、电动机的励磁方式有串励、复励、并励和他励，他励电动机的励磁绕组电压为 220V，根据需要他励电压也可制成 110V。复励电动机的串比在外通风连续定额(S1)或全封闭短时定额(S2—60 分钟)时为 50%左右。
- 4、机座号为 802~818，额定电压为 220V 的电动机允许在 500V 及以下运行。机座号为 820~824，额定电压为 220V 的电动机允许在 440V 及以下运行。
- 5、额定电压为 220V 的电机，可以提高外施电压，使转速增加到额定转速的二倍。他、并励电机可以削弱磁场使转速增加到额定转速的二倍。
- 6、本系列电动机允许按表 1 规定的最大运行转矩运行，但时间不超过 15 秒。

四、结构特点

本系列电动机采用圆形整体机座，结构坚固换向片与竖板为整体结构。转轴材料为合金钢，能承受频繁的冲击和振动。定子铁心由优质钢板叠片而成，适应可控硅整流电源。电枢铁心由冷轧硅钢片叠装而成，有良好的导磁性能。

定子磁极和电枢采用无溶剂真空压力浸渍处理(VPI)，具有优良的绝缘性能。换向片与电枢线圈采用钨极惰性气体保护焊(TIG)，具有良好的电气性能和机械强度。

ZZJ—810~824 机座号，并、他激电动机带补偿绕组，在负载突变时，具有良好的换向性能和过载能力。

本系列电动机采用锥形轴伸，锥度为 1: 10，轴伸带有轴伸键，止动垫圈和螺母。

本系列电动机具有滚动轴承不停机加油结构。

五、工作制、防护等级、冷却方法和安装型式

- 1、本系列电动机的工作制有外通风连续定额(S1)，全封闭短时定额(S2—30 分钟)，(S2—60 分钟)及全封闭周期工作定额(S3—30%)三种。
- 2、本系列电动机防护等级有 IP23 和 IP44 二种。
- 3、本系列电动机冷却方法有 IC06(自带风机冷却)IC37 进出气管道通风冷却和 IC0040(封闭式机壳冷却)三种。
- 4、本系列电动机的安装型式有 IMI004(端盖式轴承，卧式底脚安装，锥形双轴伸)及 IMI003(端盖式轴承，卧式底脚安装，锥形单轴伸)二种。

用户如需其他类型工作制、防护等级、冷却方法和安装型式可另行商定。

六、附件和备件

根据用户需要本系列电机，可配套供应测速发电机，加热器和温度继电器等附件。

根据用户需要并在合同中注明，每台电机可随机供应备件：电刷一台份和刷握一刷杆份。

Description

The specifications, performances and outline installation dimensions of ZZJ-800 series mill auxiliary DC motors conform to the "Technical Specifications for DC motors Applied to Lifting & Metallurgical Auxiliaries" specified in the standard of IEC34 - 13 and "Specifications for Mill Auxiliary DC Motors" specified in the standard of GB5227 - 85, while the mechanical tolerances of all motor components conform to the standard of ISO. The motors of this series can interchange the motors of 800series produced by foreign companies.

Reversible rotation of the motor is permitted. The motors have good overload characteristic and are suitable for mechanic driving which requires frequent starting such as auxiliary driving devices of mills, cranes, excavators and so on.

Working conditions

1)The motors of this series can be applied under following circumstances ambient temperature: -30t - + 40T sea level: less than 1000m

2) Static rectified power or power generated from DC generator can be adopted for motors' power source.

Performances

1)The motors are of class F insulation.

2) There are two voltage ratings, 220V and 440V. However other voltage ratings could be derived upon customers' requirements.

3) Four excitation types are adopted for the motors. They are: series excitation, compound excitation, shunt excitation and separate excitation.

The normal excitation winding voltage of separate excitation is 220V, while 110V is also possible depending on requirement.

The series to shunt ratio of shunt excitation is about 50% under outside ventilation. continuous rating(S1) and totally enclosed short time rating(S2 60 minutes) .

4)The motors of 802 - 818 frame size and 220 rated voltage can be operated at or below 500V, While the motors of 820 - 824 frame size and 220Y rated voltage can be operated at or below 440V.

5)The rotating speed of the motors of 220V rated voltage can be increased to 2 times of the rated value by raising the outside applying voltage.

The rotating speed of the motors with separate excitation or shunt excitation can be increased to 2 times of the rated value by weakening magnetic field.

6)The motors of this series are permitted to operate at max. torque specified in the No. I list within 15 seconds.

Structure features

Adopting round integral frames and integral pieces of commutating plates and risers, the motors are sturdy in structure. As the metal-alloy is applied to the rotor shaft, the motors can sustain frequent impulse and vibration. Meanwhile, the stator cores of the motor laminated with high - quality steel plates are suitable for silicon reclassified source power and the armature cores laminated with cold - milled silicon steel sheets have good performance of permeability.

In addition, the motors have good insulation performance, electric performance and mechanical strength, as the magnetic poles of the stators and armatures are treated with solventless varnish under vacuum pressure(VPI) , and the commutating plates are welded with armature coils by TIG welding.

The motors of frame size 810 - 824 with compensating windings and shunt or separate excitation have good commutating performance and overload capabilities in case sudden change of load current occurs.

Conical shaft extensions with conicity of 1 :10 are adopted for the motors of this series. Shaft extension keys, stopper washers and nuts are also provided.

Rolling bearing with operating oiling construction is adopted.

Working system , protection , cooling and installation types

1) Following three types of working system are adopted for the motors of this series:

outside ventilation continuous working system (S1) totally enclosed short time working system (S2 -30min.), (S2 - 60min.) totally enclosed periodic working system(S3 - 30%)

2)Two protection types of IP23 and IP44 are adopted for the motors.

3) The motors of this series have three cooling types. They are IC06 (with blower) , IC37 (duct ventilation at both ends) and IC0040 (enclosed frame cooling) .

4) Two installation types of IM1004 (horizontal foot mounting with bracket bearing and conical double shaft extension) and IM1003 (horizontal foot mounting with bracket bearing and conical single shaft extension) are adopted.

Other types of working system, protection, cooling and installation could be designed and manufactured upon customers ' request.

Accessories and spare pans

Techo - generator, space heater, temperature relay and other accessories can be supplied upon customers' requirements.

Spare parts(brushes and bnsh holders) can be supplied with the motor, as long as they are noted in the contract according to customers ' requirements.

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七、电动机的额定数据 Standardized motor ratings

机座号 Frame size	外通风式工作制(S1)或全封闭式短时工作制(S2)1小时定额 Continuous rated (S1), ventilated or duty type (S2) 60 min. totally-enclosed						全封闭式串励短时 工作制(S2) 30分钟定额 Duty type S2 30 min. totallyenclosed. series-wound		全封闭式断续周期性工作制 (S3) 负载持续率 S3—30% Duty type (S3) -30%, totally-enclosed					
	功率 Output kW	额定电压时的转速 Speed or rated voltage r/min				并励、他励调速 电动机(弱磁调速) Motor of adjustable speed by shunt or separate exciation control (With ligh field)	功 率 Output kW	额定电压 时的转速 Speed at rated voltage r/min	串 励 Series		复 励 Compound		并 励 Shunt	
		串 励 Series	复 励 Compound	并 励 Shunt 他 励 Separate	220V				440V	功 率 Output kW	转 速 Speed r/min	功 率 Output kW	转 速 Speed r/min	功 率 Output kW
802A	3.75	900	1025	1025	1025/2050	1025/2050	5	750	4.1	840	3.75	1080	3.75	1130
802B	5.6	800	900	900	900/1800	900/1800	7.5	675	6	780	5.6	950	5.6	1000
802C	7.5	800	900	900	900/1800	900/1800	10	675	7.5	800	7.1	940	6.7	1000
803	11.2	725	800	800	800/2000	800/1600	14.1	620	11.2	725	10.8	840	10.5	880
804	15	650	725	725	725/1800	725/1450	19.5	580	15	650	13.8	775	12.7	800
806	22.4	575	650	650	650/1950	650/1300	29	500	22.4	575	21.2	690	18.6	715
808	37.3	525	575	575	575/1725	575/1150	48.5	450	30	570	28	625	26	630
810	52	500	550	550	550/1650	550/1100	67	440	45	550	39	615	33.5	600
812	75	475	515	515	515/1300	515/1050	100	420	63.5	525	56	580	45	565
814	112	460	500	500	500/1250	500/1000	149	400	86	515	82	565	63.5	560
816	150	450	480	480	480/1200	480/960	200	400	112	500	104	540	82	535
818	186	410	435	435	435/1100	435/870	243	360	138	485	123	490	97	470
820	280	370	390	390	390/975									
822	370	340	360	360	360/900									
824	500	320	340	340	340/850									

注：1、802 机座号有三种规格，电动机安装尺寸相同，但电磁设计不同。

2、820、822、824 机座号为试制产品规格。

3、为获得调速电动机的调速范围，允许带少量串激绕组。

4、本系列任何一种规格电机的电压，可制成 220V 或 440V。但他励、并励电压均为 220V，断续周期性工作制 (S3) 指在周期 5 分钟内，负载时间 1.5 分钟，不通电时间 3.5 分钟。但他，并励磁场线圈连续通电。

5、全封闭小时工作制和 30 分钟工作制 (S2) 在负载卸去时各种线圈都不通电。

6、最大安全转速为电动机在机械上能安全运行的最大转速。

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表 1
Table 1

外通风式连续定额时空气流量 Air requirements for continuous rated. ventilated m ³ /S	最大堵转转矩 Maximum starting torque N• m			最大运行转矩 Maximum running torque N• m			转动惯量 Moment of inertial J kg• m ²	最大安全转速 Maximum safe operating speed r/min	重量 Weight kg
	串励 Series	复励 Compound	并励 Shunt	串励 Series	复励 Compound	并励 Shunt			
	0.052	198	157	126	158	123			
0.052	330	270	216	268	210	177	0.188	3600	260
0.076	450	360	237	360	280	220	0.188	3600	260
0.094	740	610	400	600	470	360	0.45	3300	390
0.12	1100	880	590	880	685	530	0.75	3000	550
0.16	1870	1500	980	1490	1170	880	1.4	2600	770
0.2	3400	2800	1860	2700	2150	1650	2.15	2300	1200
0.25	5000	4000	2700	4000	3100	2450	3.15	2200	1400
0.35	7450	6250	4150	6000	4900	3750	5.75	1900	1700
0.42	11600	9600	6400	9300	7500	5800	9.75	1700	2300
0.57	16000	13300	8900	12600	10400	8000	14.5	1600	2785
0.75	21700	18400	12300	17400	14400	11000	22	1500	3700
1.7	36100	30850	20570	28900	24000	18500	52.5	1300	4800
2.1	51960	44160	29440	41570	34350	26500	92.5	1200	6300
2.6	74600	63200	42100	59700	49100	37900	160	1100	8200

Note: 1. Frame size 802 is assigned three ratings. Mounting dimensions are identical for each rating, but electrical designs are different.

2. Frame sizes 802, 822 and 824 are of trial production models.

3. A light series field may be used to obtain these speed ranges for the speed-adjustable motors.

4. Voltage of 220V or 440V will be available for any of the motors, but voltage for separate and shunt fields is rated at 220V. Intermittent periodic duty (S3) refers to 5 min. duration consisting of 1.5 min. loading and 3.5 min. deenergizing with separate or shunt field remaining energized.

5. Totally enclosed motors used for one-hour or 30 min. short period duty (S2) shall have all of their windings switched off when the motor load disappears.

6. The max. safe speed refers to that at which the motor can operate safely in mechanical respect.

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八、安装尺寸表

Table of Installation Dimensionh

表 2

Table 2

型号 Type	主要尺寸 Main dim.				底脚尺寸 Foot dim.						轴伸尺寸 Shaft extension dim.							风道凸缘尺寸 Ventilatro flange dim.						接线盒 尺寸 Terminal box dim.
	H	LC	C	HD	A	B	AB	BB	K	J	U	V	Y	XE	GD	F	T	VB	VC	VD	VE	VF	VG	AD
ZZJ-802	193.5	831	96	400	318	419	381	521	22	20	45	82	28	M30×2	8	12	5	22	10	10	184	121	56	320
ZZJ-803	215.8	932	127.5	444	356	457	432	597	22	20	50	82	28	M36×3	8	12	5	44	13	10	216	127	83	335
ZZJ-804	228.5	983	140	470	381	483	457	648	22	20	50	82	28	M36×3	8	12	5	57	13	10	229	140	70	355
ZZJ-806	254	1073	130	521	419	533	508	698	26	25	65	105	35	M42×3	10	16	6	54	13	19	260	152	86	385
ZZJ-808	285.5	1200	145.5	584	476	629	578	794	33	35	75	105	35	M48×3	11	18	7	51	13	19	292	165	89	425
ZZJ-810	311	1274	177	635	521	660	622	826	33	35	85	90	40	M56×4	12	20	7.5	54	13	19	305	178	92	460
ZZJ-812	339.5	1388	202	692	572	724	686	914	33	35	95	90	40	M64×4	14	22	9	64	16	19	349	210	124	495
ZZJ-814	374.5	1538	197.5	762	635	813	762	1054	39	35	110	120	45	M80×4	14	25	9	86	16	19	387	235	140	535
ZZJ-816	406.2	1703	242	829	686	889	826	1187	39	40	120	120	45	M90×4	16	28	10	114	25	19	406	279	168	580
ZZJ-818	450.8	1795	212	918	762	991	914	1264	45	45	130	150	40	M100×4	16	28	10	98	25	19	457	305	181	625
ZZJ-820	530.2	1980	230	1076	916	1120	1055	1320	52	50	150	150	50	M110×4	18	32	11	95	25	22	558	195	180	745
ZZJ-822	584.2	2192	201	1184	1016	1310	1155	1575	52	50	160	180	60	M125×4	20	36	12	95	25	22	775	202	185	810
ZZJ-824	609.5	2444	272	1235	1070	1420	1205	1728	52	50	180	180	60	M145×6	22	40	13	95	25	22	812	240	220	870

轧机辅传动直流电动机

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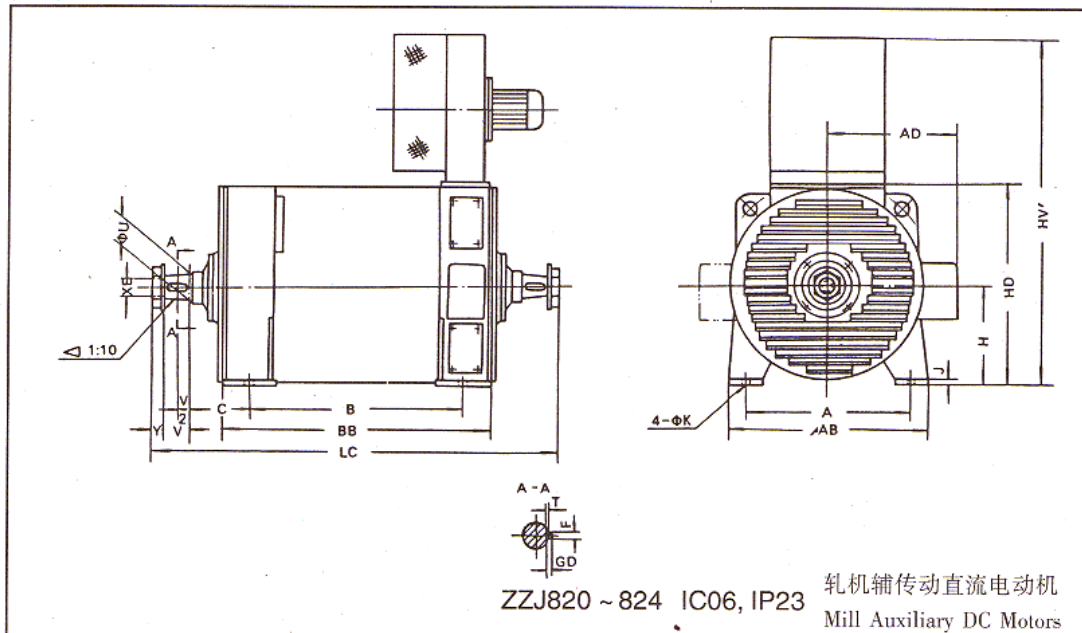
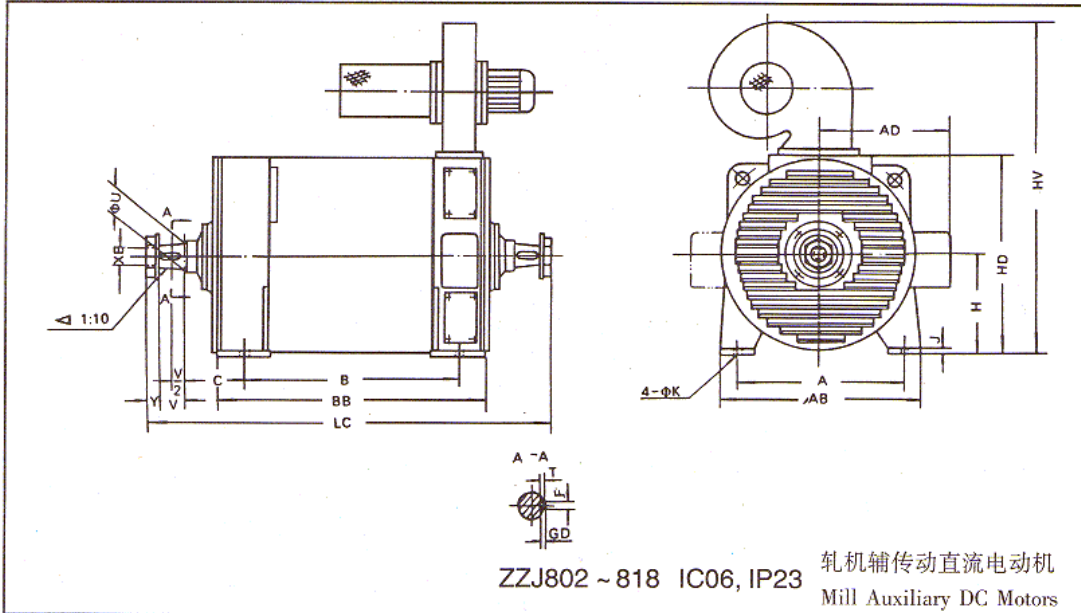
表 3

Table 3

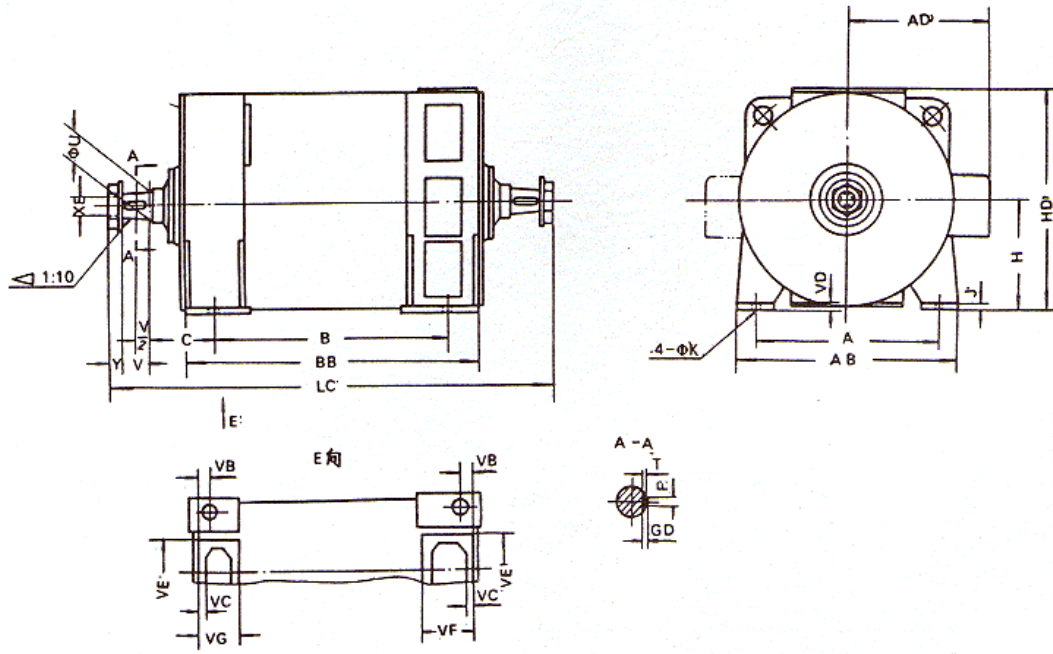
型号 Type	主要尺寸 Main dim.				底脚尺寸 Foot dim.						轴伸尺寸 Shaft extension dim.							电机总高 Total height	接线盒 尺寸 Terminal box dim.
	H	LC	C	HD	A	B	AB	BB	K	J	U	V	Y	XE	GD	F	T		
ZZJ-802	193.5	831	96	400	318	419	381	521	22	20	45	82	28	M30×2	8	12	5	690	320
ZZJ-803	215.8	932	127.5	444	356	457	432	597	22	20	50	82	28	M36×3	8	12	5	740	335
ZZJ-804	228.5	983	140	470	381	483	457	648	22	20	50	82	28	M36×3	8	12	5	760	355
ZZJ-806	254	1073	130	521	419	533	508	698	26	25	65	105	35	M42×3	10	16	6	810	385
ZZJ-808	285.5	1200	145.5	584	476	629	578	794	33	35	75	105	35	M48×3	11	18	7	940	425
ZZJ-810	311	1274	177	635	521	660	622	826	33	35	85	90	40	M56×4	12	20	7.5	990	460
ZZJ-812	339.5	1388	202	692	572	724	686	914	33	35	95	90	40	M64×4	14	22	9	1050	495
ZZJ-814	374.5	1538	197.5	762	635	813	762	1054	39	35	110	120	45	M80×4	14	25	9	1120	535
ZZJ-816	406.2	1703	242	829	686	889	826	1187	39	40	120	120	45	M90×4	16	28	10	1260	580
ZZJ-818	450.8	1795	212	918	762	991	914	1264	45	45	130	150	40	M100×4	16	28	10	1350	625
ZZJ-820	530.2	1980	230	1076	916	1120	1055	1320	52	50	150	150	50	M110×4	18	32	11	1890	745
ZZJ-822	584.2	2192	201	1184	1016	1310	1155	1575	52	50	160	180	60	M125×4	20	36	12	2000	810
ZZJ-824	609.5	2444	272	1235	1070	1420	1205	1728	52	50	180	180	60	M145×6	22	40	13	2130	870

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九、外形图
 Outline Dimension Drawing



轧机辅传动直流电动机
MILL AUXILIARY DC MOTORS



ZZJ802 ~ 824, IC0040, IC37, IP44

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