

Production Specification

产品仕様书

客户												
产品名称	QRF-500TB-12560-32L											
供方名称	QI XUN											
版本编号	A	B	C	D	E	F	G	H				

注意事项:

此仕様书经客户最终批准后方可实施，实施中要求遵守仕様书要求，对于任何4M变更须向客户提出申请，经客户批准后修改本仕様书，仕様书一式两份，供客各一份。

供方判定	总经理	厂长	品质部	技术部
⊙ OK NG	⊙ 黄华勋 13年05月03日	⊙ 陈文红 13年05月03日	⊙ 黎莹 13年05月03日	⊙ 冉涛 13年05月03日

客户承认栏

客户签名: 年 月 日

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1. Measurement condition	测定条件
1-1 Motor Position	Motor to be held, with shaft horizontally
马达姿势	出力轴水平放置
1-2 Power Supply	Regulated power supply which assures unquestionable measurement.
电源	可调节直流稳压电源，确保测量时无疑问。
1-3 Environmental Temperature	The test is made in principle of a temperature between 10°C to 30°C
And Humidity	And at relative humidity between 30% and 95%, If the test result
温度和湿度	is questionable, it shall be judged from the test made at JIS Standard Testing Condition (20°C ± 2°C, 60%–70%RH)
	原则上温度为10°C–30°C，湿度为30%–95%。如果测试结果有疑问，则按JIS标准（20°C ± 2°C，60%–70%RH）。
2. Standard Operating Conditions	标准使用条件
2-1 Rated voltage	6.0V DC CONSTANT between motor terminals
额定电压	马达端子间6.0V DC
2-2 Operating voltage range	2.0V–12.0V DC CONSTANT between motor terminals
使用电压范围	2.0V–12.0V (马达端子间)
2-3 Rated load	0.392mN*m by pulley load
额定负载	0.392mN*m (8.0g*cm) 力矩盘负载
2-4 Direction of rotation	CW & CCW
旋转方向	正转或反转
2-5 Range of operating temperature	-10°C ~ +60°C
使用温度范围	
2-6 Storage Temperature Range	-40°C ~ +80°C
储存温度范围	

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3. Electrical specification	电气性能
3-1 NO Load Current	28mA MAX
空载电流	
3-2 NO Load speed	2800±280rpm/min
空载转速	
3-3 Rated Load Current	65mA MAX
负载电流	
3-4 Rated Load Speed	2500±250rpm/min
负载转速	
3-5 Starting Torque	0.981mN.m(10.0g.cm)MIN Rated Voltage based on measurement at two different Load(0g-cm and 8g-cm)0.981mN.m(10.0g.cm)MIN
堵转力矩	额定电压，测试0g-cm和8g-cm两点不同的负载推算
3-6 Starting Current	390mA MAX
启动电流	
3-7 Starting voltage	0.7V MAX
启动电压	
3-8 Insulation resistance	DC 100V 1.0MΩ MIN
绝缘电阻	
3-9 Current Waveform	At 2.0V DC and no load.Free from off point
电流波形	2.0V, 空载无波形掉落
3-10 Electrical noise	Motor to be equipped with varistor
电气噪音	电机已装有电噪音抑制元件压敏电阻
3-11 Resistance between terminals	
端子间电阻	16.5Ω ±10%

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4. External & Functional Characteristics 结果及机械性能

4-1 Shaft End Play 0.03-0.4mm

轴向间隙

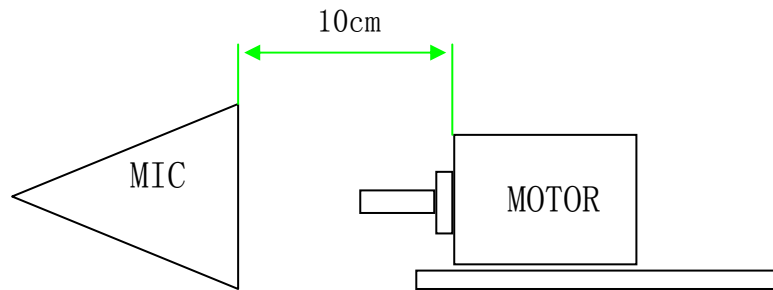
4-2 Weights Approx 45g

重量

4-3 Mechanical Noise 45dB-A MAX

At 1000rpm/min and no load measured at 10cm from the mounting surface, and back ground noise to be 26dB(max)

800rpm/min 空载转速, 10cm距离, 背景噪音不大于26dB-A.

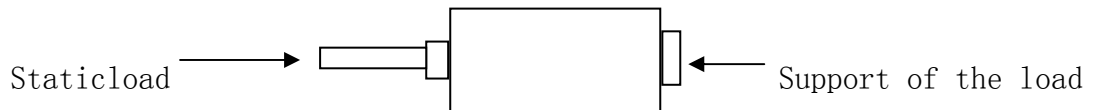


4-4 Maximum Axial Load

轴向最大负荷

Direction of static load and support of measured by JIS-A(RMS), at 10cm away from metal housing

轴向静推力和支撑位置的方向如下图 196N MIN



4-5 Perpendicularity of

output shaft

出力轴垂直度

$90^\circ \pm 14^\circ$

4-6 Intruduction of power

Brush terminal

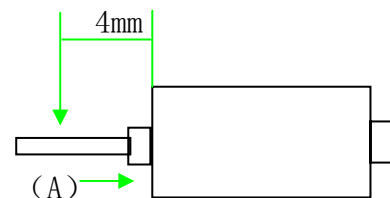
电刷端子推出力

1.0kgf以上

4-7 At the point (A)mm from the mounting plate. (A): 4.0mm

轴弯

0.035mm以下



4-8 At the point 7.5mm from the mounting surface. (See4-7)

径向间隙

0.039mm

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5. Environmental Tests 环境试验

5-1 Vibration Test All of the specifications in Item 3 and 4 are to satisfied after motor is subjected to the sine wave of 2 mm amplitude and 16.7 Hz in the three directions for 2 hours minutes each.
X ` Y ` Z三个方向经过振幅为2 mm, 16.7Hz的正玄波扫描振动各2小时后, 电机3和4的性能指标满足。

5-2 Shock Test All of the specifications in Item 3 and 4 are to be satisfied after motors Picked in the dilivery tray,all faces at 1 time from a height of 30cm on a 10cm wood black.
冲击实验
电机最小包装箱, 离10cm木板30cm高空自然落下, 6个面各一回, 电机3和4的性能指标满足。

5-3 Storage Test under high temperature All of the specifications in Item 3 and 4 are to be satisfied after motors exposed to +85°C for 72 hours, and then to temperature/humidity of Item 2-3 for 24hours.
高温放置试验
电机放于+85°C环境中72小时, 再在常温、常湿下放置24小时, 电机3和4的性能指标满足。

5-4 Storage Test under low temperature All of the specificatications in Item 3 and 4 are to be satisfied after motors exposed to -40°C for 72 hours, and then to temperature/humidity of Item 2-3 for 24hours.
低温放置试验
电机放于-40°C环境中72小时, 再在常温、常湿下放置24小时, 电机3和4的性能指标满足。

5-5 Storage Test under temperature / humidity All of the specifications in Item 3 and 4 are to high be satisfied after motors exposed to +60°C/90%-95% RH for72hours, and then to temperature / humidity of Item 2-3 for 24 hours.
高湿、高温储存试验
电机放于+60°C相对湿度为90%-95%的环境中96小时, 再在常温、常湿下放置24小时, 电机3和4的性能指标满足。

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6. Life test 寿命试验

6-1 Continuous running Environmental condition: $60^{\circ}\text{C} \pm 5^{\circ}\text{C} / 80\% \pm 10\% \text{RH}$ CD load Vol: 6.0 V . Continuous running. 96 hours min.

under temperature /
humidity

环境条件: $60^{\circ}\text{C} \pm 5^{\circ}\text{C} / 80\% \pm 10\% \text{RH}$

高温高湿连续

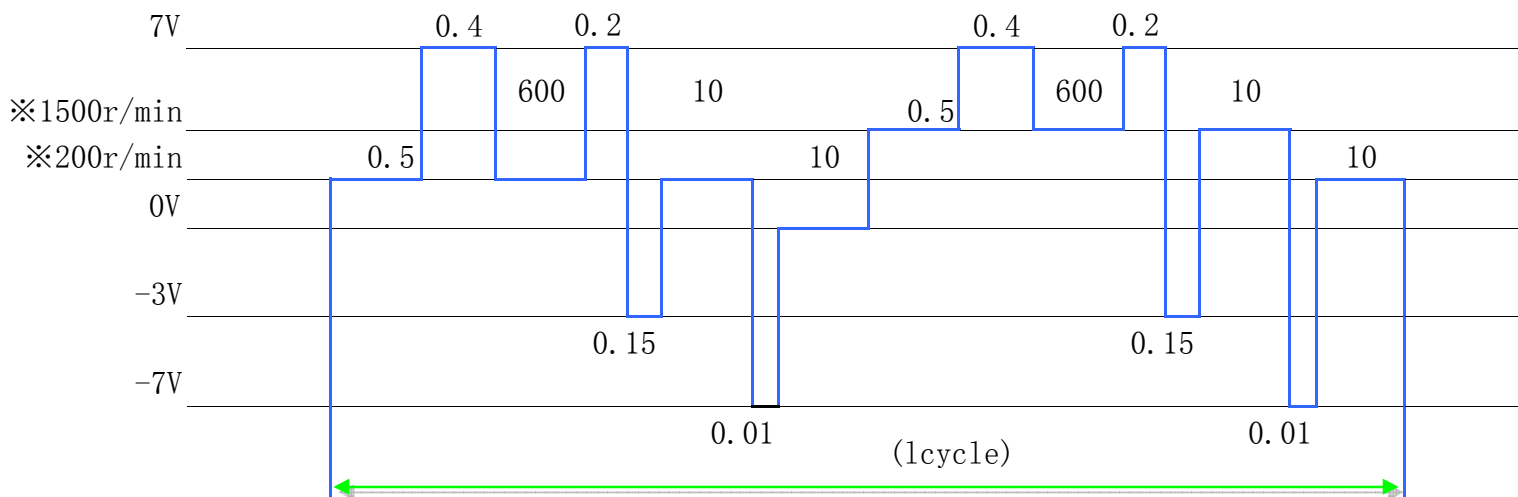
CD 负荷 电压: 6.0V. 连续运转. 96 hours 以上.

6-2 Ambient temperature Environmental condition: $25^{\circ}\text{C} \pm 5^{\circ}\text{C} / 65\% \pm 20\% \text{RH}$, 8g load, cycle
Intermittent condition as below. 1000 hours min.

常温断续

环境条件: $25^{\circ}\text{C} \pm 5^{\circ}\text{C} / 65\% \pm 20\% \text{RH}$ 8g 负荷.

按下列周期条件测试. 1000 hours 以上.



Before/After life test, measuring the rated load specification. Motor life is judged to come to an end when.

寿命试验前后测定电机的额定负载特性, 出现下列情况之一时, 判为寿命终止.

1: Rated load speed gets varied over $\pm 15\%$ against the initial figure.

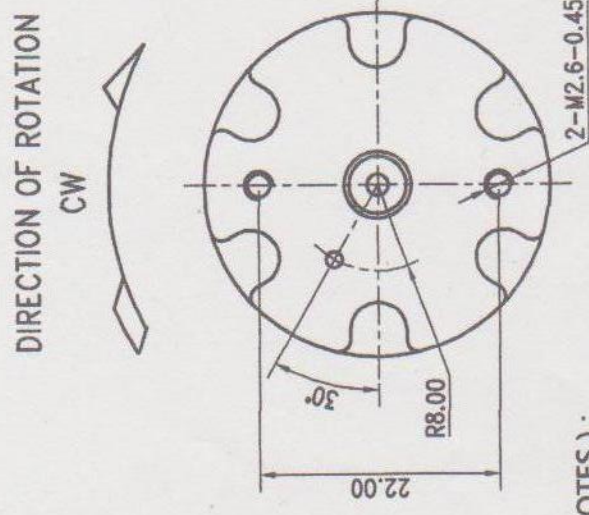
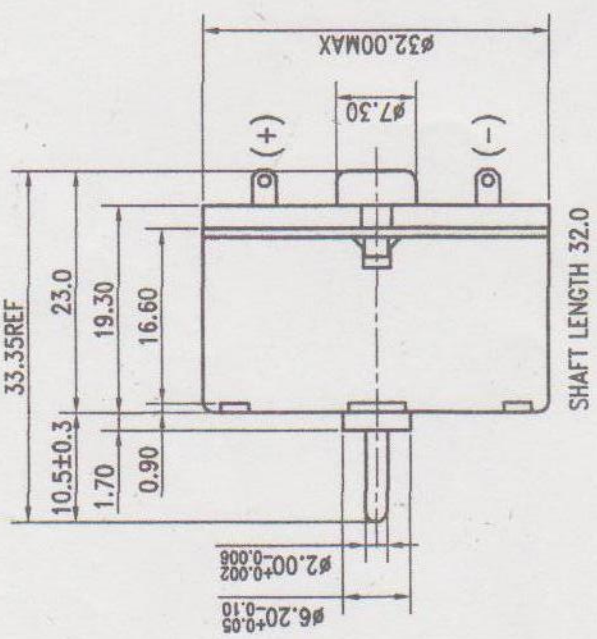
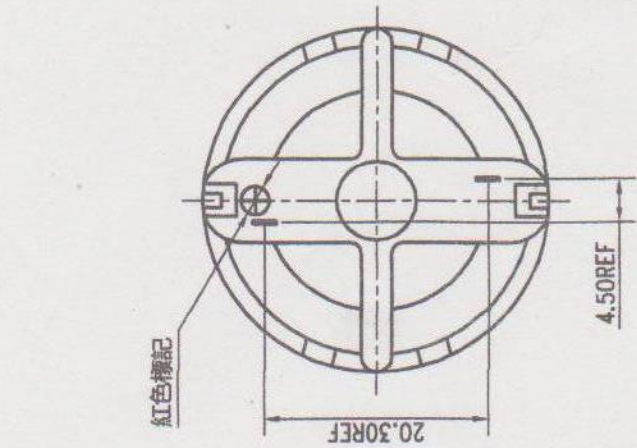
额定负载转速超过初始值的 $\pm 15\%$.

2: Rated load current gets varied over $+35\%$ against the initial figure.

额定负载电流超过初始值的 $+35\%$

3: motor is unquestionable recognized as unusable.

当电机出现异常被确认无疑时.



注記 (NOTES):

- 馬達重量約45g
MOTOR WEIGHT: 45g (APPROX)
- 10.50 ± 0.5mm 只有在馬達軸針位于右端極限位置時應用。
10.50 ± 0.5mm DIM APPLIES ONLY WHEN MOTOR SHAFT IS IN EXTREME RIGHT POSITION.
- 軸向間隙範圍: 0.05 ~ 0.5mm。
END PLAY LIMITS OF SHAFT 0.05 ~ 0.5mm.
- 未標注尺寸公差: ± 0.2mm。
TOLERANCES NOT SPECIFIED: ± 0.2mm

參考尺寸	()
控制尺寸	[]
關鍵尺寸	⊕

REV. A	新出	DATE	09-11-04	DESIGNER		EN. P.N.	
	TO	ANGULAR	±1°	FOR P.E.			
		UNLESS SPECIFIED:		APPD. BY:			
		X	±0.2	CHKD. BY:			
		X.X	±0.1	DWN. BY:			
		X.XX	±0.05				
TITLE: 馬達外形圖							
MODEL: R500-32A							
PART NO: -----							
SCALE: 1:1							
PROJ: ⊕							
MATERIAL: -----							