

Q/FT

广东省企业产品标准

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KGP-001 电动齿轮泵 Electric Gear Pump

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1. 产品规格 Specifications

1-1. 适用范围 Application

本规格适用于电动齿轮泵 KGP-001 12V 1.1L/Min。 This specification is applicable to electric gear pump KGP-001 12V 1.1L/min

1-2. 种类及形式 Type and forms

- | | |
|---------------------------|--------------------------|
| 1) 水泵形式 Pump | 电动齿轮泵 Electric gear pump |
| 2) 电机种类 Motor | 12V 直流电机 DC brush motor |
| 3) 水泵外装 Installation | 开放型 Exposed |
| 4) 绝缘等级 Insulation rating | C 类 C level |

1-3. 工作特性 (实测值) Operating Characteristics (Measured Values)

序号 NO.	分类 Item	参数, 要求和测试条件 Parameters, requirements and conditions
1	额定电压 Rated voltage	DC 12V
2	工作电压 Working voltage	DC 11-14V
3	使用流体 Liquids	管末端自来水、地下水 Municipal tap water supply and clean groundwater
4	使用流体温度 Liquid temperature	0°C ~ 100°C
5	最大通水量 (DC 12V) Open flow	0.8—1.2 l/min (电流 Current : 0.4A)
6	最大压力(DC 12V) Max pressure	≥10PSI (电流 Current: 0.5A)
7	允许环境温度 Allowable ambient temperature	储存和使用温度范围 0°C ~ 40°C for operating and storage (但, 泵内水不能结冰 However, the water inside the pump must not freeze)
8	湿度 Ambient humidity	储存和使用湿度满足 85% 以下 The humidity of storage and use should < 85%.
9	漏水试验 Leakage	施压 10PSI 100 分钟不能漏水 No leakage in 100 minutes under pressure 10 PSI
10	噪音 Noise	60dB 以下 [测定距离 0.5M] <60 dB @ 0.5m
11	重量 Weight	330 g

1-4. 结构及外观, 尺寸 Structure and appearance, dimensions

1-4-1. 结构及外观 Structure and appearance

1-4-1-1. 各部位要通过螺钉和螺母结合, 使用时要维持密封性。Each part should be combined by screws and nuts, and the tightness should be maintained during use.

1-4-1-2. 各部分在通常使用条件下, 不得有破损或不得影响正常使用。Under normal conditions of use, each part shall not be damaged or shall not affect normal use.

1-4-1-3. 外观上不得有发青 裂痕等外观缺陷。There shall be no cosmetic defects such as bruising and cracks in the appearance

1-4-2. 尺寸 Dimensions

各部位的尺寸遵从附图。The dimensions are referred to the attached drawings.

2. 检查规格 Inspection

2-1. 适用范围 Application

本规格适用于电动齿轮泵 KGP-001 12V 1.1L/Min。This specification is applicable to electric gear pump KGP-001 12V 1.1L/min

2-2. 适用目的 Purpose

检查项目的质量水准, 保证稳定质量及提高生产稳定性。Check the quality level of the project to ensure stable quality and improve production stability.

2-3. 检查项目 Inspection items

[测试电压 Test voltage: DC 12V]

序号 No.	检查项目 Inspection Item	规格值 Specifications	检查周期 Inspection cycle
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1	结构及外观检查 Structure and	和图纸一致 Consistent with the drawings	Full inspection
2	漏水检查 Leakage	施压 10PSI, 100 分钟不得有漏水 No leakage in 100 minutes under pressure 10 PSI	Full inspection
3	噪音及震动检查 Noise and	感官上不得有异常。There must be no sensory abnormalities.	Full inspection
4	最大水压力 Max. Pressure	>10PSI 以上	Full inspection
5	电流 Current	0 PSI <0.4 A 以下	Full
	10 PSI	<0.5A 以下	Full
6	起动电压 Start voltage	DC 9.6V 正常启动 Start normally at 9.6V DC	Full inspection
7	绝缘阻抗检查 Insulation resistance	用 DC 100V 绝缘阻抗仪测定通电部位(正负极)和非充电部位(机壳、泵头等)之间的电阻值要达到 10 MΩ 以上。Use a DC 100V insulation impedance meter to measure the resistance between the energized parts (positive and negative electrodes) and the non-charging parts (casing, pump head, etc.) to reach more than 10MΩ.	Full inspection
8	绝缘耐压检查 Insulation voltage	在通电部位(正负极)和非充电部位(机壳、泵头等)之间施加电压 AC 100V 1 秒, 检测电流值低于 10mA。Apply a voltage of AC 100V between the energized parts (positive and negative electrodes) and the non-charging parts (casing, pump head, etc.) for 1 second, and the detected current value is less than 10mA.	Full inspection
9	温度上升检查 Temperature rising	<75°C (3 分钟 on, 1 分钟 off, 20 次)(3 minutes ON→1 minute OFF, 20 times)	1 次/半年 half year

10	开口流量 (DC 12V) Open flow	0.8—1.2 ℓ/min (电流 : 0.4A)	Full inspection
11	噪音检查 Noise	<60dB	1 次/半年 half year

2-4. 检查方法 Inspection method

2-4-1. 结构及外观检查 Structural and visual inspection

各部分在通常使用条件下，不得有破损或不得影响正常使用。Under normal conditions of use, each part shall not be damaged or shall not affect normal use.

2-4-2. 起动电压 Start voltage

将电压调节至 9.6V DC 时电动齿轮泵能正常启动。When the voltage is adjusted to 9.6VDC, the electric gear pump can start normally.

2-4-3. 电流 Current

施加 DC 12V, 检测出口开启时电流测定值是否满足 0.4A; 检测出口关闭时测定值是否满足低于 0.5A。Apply DC 12V to detect whether the current measurement value meets 0.4A when the outlet is turned on; Check whether the measured value is less than 0.5A when the outlet is closed

2-4-4. 出口压力 Max. Pressure

施加 DC 12V, 出口关闭时出口压力测定值要满足 10PSI 以上。When DC 12V is applied, the outlet pressure measurement value should be 10PSI or more when the outlet is closed.

2-4-5. 漏水 Leakage

施加 10PSI, 运行 100 分钟时不得有漏水。Apply 10 PSI and run for 100 minutes without water leakage.

2-4-6. 噪音 Noise

在最大通水量状态下运行时，在离泵 0.5M 的距离测定，确认测定值是否满足低于 60dB。When operating in the state of free flow of water, measure at a distance of 0.5 m from the pump to confirm whether the measured value meets the requirements of less than 60dB.

2-4-7. 绝缘阻抗

用 DC 100V 绝缘阻抗仪测定充电部位和非充电部位之间的绝缘阻抗，测定值要达到 10 MΩ 以上。Use a DC 100V insulation impedance meter to measure the resistance between the energized parts (positive and negative electrodes) and the non-charging parts (casing, pump head, etc.) to reach more than 10MΩ.

2-4-8. 绝缘耐压

用 AC 100V, 1s 测定充电部位和非充电部位之间的电流低于 10mA。Apply a voltage of AC 100V between the energized parts (positive and negative electrodes) and the non-charging parts (casing, pump head, etc.) for 1 second, and the detected current value is less than 10mA.

2-4-9. 温度上升 Temperature rise

施加额定电压 DC 12V, 3 分钟开, 1 分钟关 反复 20 次时，确认电机表面温度是否满足低于 75°C。(环境温度 24°C, 最大通水量状态)。When applying the rated voltage DC 12V, 3 minutes on, 1 minute off, repeat 20 times, confirm whether the surface temperature of the motor meets the requirements of less than 75° C. (Ambient temperature 24° C, maximum water flux)。

2-4-11. 开口流量 Open flow

施加额定电 DC 12V, 正常运转时开口流量为 0.8—1.2 ℓ/min (电流 : 0.4A)。When applying the rated DC 12V, the open flow rate is 0.8-1.2 l/min (current: 0.4A) during normal operation.

3. 不良品处理步骤 Defective product handling steps

对不合格品，更换零部件、分解后重新组装。For non-conforming products, replace parts, disassemble and reassemble.

4. 重要零部件材质清单 Materials for important components

零部件名 Part name	材质 Material	备注 Remark
直流电机 DC Motor	有刷电机前后置含油轴承，电镀机壳 Brush motor with oil bearings, motor housing plated	DC12V
齿轮座 Gear housing	PPO+20%GF	
主动 / 从动齿轮 Gears	PPO+20%GF	
弹性橡胶圈 Shaft seal	NBR	
O 型圈 O seal	EPDM	
齿轮座架 Motor base	PC	
联轴器 Shaft coupling	POM	
电机座 Motor support	NBR	

5. 附件：电动齿轮泵总装图 Accessories: General assembly drawing of electric gear pump

