直流电机的基本原理
Some principles of direct current (D.C.) Motors

一为何要选择直流电机?
—Why choose a D.C. motor ?

很多应用要求大的启动扭矩．直流电机其自身的特性就有降速，高扭矩特性．这使其能够处理起动扭矩大的应用，并且能容易吸收负载的突变．电机的转速可调整以适应负载．而且，直流电机是获得小型化的理想方案．设计者们往往考虑直流电机，就是因为直流电机的效率高于其他类型的电机．

Many applications call for a high start-up torque. The D.C. motor, by it svery nature, has a high torque vs. falling speed characteristic and this enables it to deal with high starting torques and to absorb sudden rises in load easily. The speed of the motor adjusts to the load. Furthermore, the D.C. motor is an ideal way of achieving the miniaturisation designers are constantly seeking because the efficiency it gives is high compared with other designs.

一 如何选择SGMADA各种型号的电机
—How to select from the SGMADA range

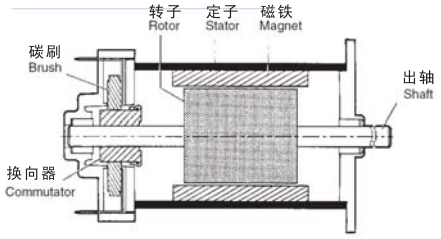
根据输出功率的要求选择电机类型.
根据速度要求,选择直流电机还是齿轮电机:
转速：1,000至5,000rpm ——→ 直流电机
转速：低于500rpm ——→ 齿轮电机
根据所需扭矩最大值和工作负载来选择齿轮箱.

The motor unit is selected according to the required output power.
Depending on the required speed, a direct motor or a geared motor is selcted.
Speeds 1,000 to 5,000 rpm ——→ Direct motor
Speeds below 500 rpm ——→ Geared motor
The gearbox is selected depending on the maximum required tor que and the duty cycle.

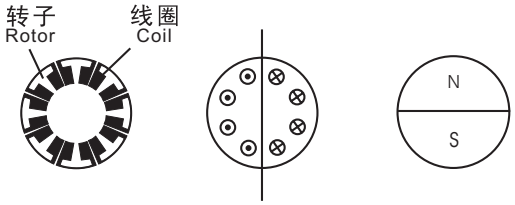
一 直流电机的定义
—Definition of the D.C. Motor

这种电机符合线性操作关系，正因为如此，比起同步电机或异步电机来说,更容易发挥它的特性.
This motor follows linear laws of operation and because of this it is easier to fully exploit its characteristics compared to syn chronous or asynchronous motors.

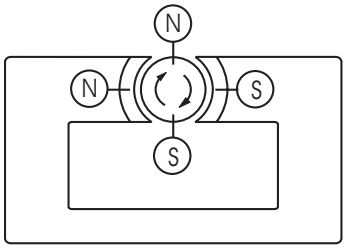
直流电机的组成 Composition of a D.C. Motor



定子由金属架和一个或多个磁铁组成，磁铁在定子内部产生永久磁场．定子的后面是碳刷座和碳刷片，提供与转子的电气连接.
The stator is formed by a metal carcass and one or more magnets that create a permanent magnetic field inside the stator. At the rear of the stator are the brush mountings and the brush gear which pr ovide electrical contact with the rotor.
转子由金属架组成，金属架包裹线圈，线圈在转子后面的换向器上互连.
The rotor is itself formed by a metal carcass carrying coils which are interconnected at the commutator at the rear of the rotor.
The commutator and brush assembly then select the coil through which the electric current passes in the opposite direction.
操作原理 Principle of operation
无论转子线圈有多复杂，一旦通电，它就像一个铁磁柱体，磁力线环绕着它.
Whatever the complexity of the rotor coil windings, once they are energised, they may be represented in the form of a ferromagnetic cylinder with a solenoid wrapped around it.
磁力线实际上是位于转子每个凹槽中的线束，转子一旦通电,相当于一个电磁铁，磁场沿着穿过它的电流的轴向分离磁力线.
The wire of the solenoid is in practice the wire bundle located in each groove of the rotor. The rotor, when energised, then acts as an electromagnet, the magnetic field following the axis separating the wires of the solenoid in the direction of the current which flows through them.



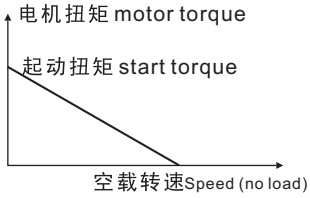
所以电机由固定的永久磁铁 定子） 一个转动的磁铁(转子 ）和金属外壳组成,形成电机体.
The motor, therefore, consists of fixed permanent magnets (the stator) a moving magnet (the rotor) and a metal carcass to concentrate the flux (the motor body).



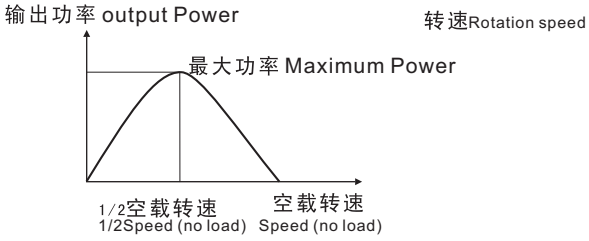
根据异性相吸，同性相斥的原理，扭矩作用到转子上使其转动．当转子磁极的轴向与定子磁极的轴向垂直正交时，扭矩最大.
By the attraction of opposite poles and repulsion of like poles, a torque then acts on the rotor and makes it turn. This torque is at a maximum when the axis between the poles of the rotor is perpendicular to the axis of the poles of the stator.
一旦转子开始转动，固定碳刷轮流与换向器保持接触或中断接触.
As soon the rotor begins to turn, the fixed brushes make and break contact with the rotating commutator segments in turn.
转子线圈按转子转动的方式通电和断电，转子新产生的磁极的轴向，总是和定子磁极的轴向垂直正交，因为这是由换向器决定的．无论转子在什么位置，都按固定方式运转.
通过增加换向器的数目来减少合成扭矩的脉动，可使转子更加平滑地转动.
The rotor coils are then energised and de-energised in such a way that as the rotor turns, the axis of a new pole of the rotor is always perpendicular to that of the stator. Because of the way the commutator is arranged, the rotor is in constant motion, no matter what its position. Fluctuation of the resultant torque is reduced by increasing the number of commutator segments, thereby giving smoother rotation.
反接电机的电源，转子线圈中电流产生的磁极N极和S极都将反转，作用于转子上的扭矩也反向，从而电机改变转动方向，根据其固有特性，DC电机是一种可反向转动的电机.
By reversing the power supply to the motor, the current in the rotor coils, and therefore the north and south poles, is reversed. The torque which acts on the rotor is thus reversed and the motor changes its direction of rotation. By its very nature, the D.C. motor is a motor with a reversible direction of rotation.

扭矩和转速 Torque and speed of rotation

电机产生扭矩,其转速与它相互影响.
这是直流电机的基本特性，转速与扭矩呈线性关系,这常用作计算空载转速和起动扭矩.
The torque generated by the motor, and its speed of rotation, are dependent on each other.
This is a basic characteristic of the DC motor ; it is a linear relationship and is used to calculate the no-load speed and the start-up torque of the motor.



电机输出功率的曲线可从扭矩和转速曲线中推导出.
The curve for the output power of the motor is deduced from the graph of torque versus speed.



扭矩-转速和输出功率曲线取决于电机供电电压．电机的供电电压允许在20℃环境条件中在额定操作条件下连续运行.
The torque vs. speed and output power curves depend on the supplyvoltage to the motor.
The supply voltage to the motor assumes continuous running of the motor at an ambient temperature of 20℃ in nominal operational conditions.

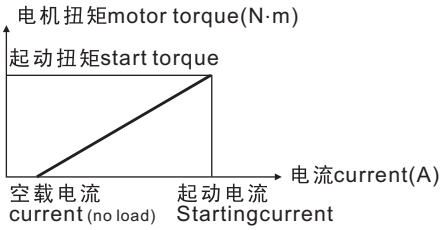
可以提供电机不同的电压(通常在推荐电压的减50%到加100%之间)，假如电压低于推荐电压，电机的功率刚降低.假如电压高于推荐电压，电机的输出功率变高，但很容易发热.(建议间断操作)
It is possible to supply the motor with a different voltage (normally between -50% and + 100% of the recommended supply voltage).
If a lower voltage is used compared to the recommended supply the motor will be less powerful.
If a higher voltage is used, the motor will have a higher output power but will run hotter (intermittent operation is recommended).

电压在-25%到+50%之间不断变化，新的扭矩和转速曲线关系，平行于以前的曲线．起动扭矩和空载转速与供电电压变化的百分率相同．最大输出功率乘以 $(1+\eta\%)^2$ 。
For variations in supply voltage between approximately - 25% to + 50%,the new torque vs. speed graph will remain parallel to the previous one.Its start-up torque and no-load speed will vary by the same percentage(n%) as the variation in supply voltage. The maximum output power ismultiplied by $(1+\eta\%)^2$.

例如:电压增加 20%
→起始扭矩增加 20%（X1.2）
→空载转速增加 20%（X1.2）
→输出功率增加 44%（X1.44）
Example : For a 20% increase in supply voltage
Start-up torque increases by 20% (x 1.2)
No-load speed increases by 20% (x 1.2)
Output power increases by 44% (x 1.44)

扭矩和供电电流 Torque and supply current

这是电机的第二个重要特性.
电流和电机扭矩呈线性关系，用来计算空载电流和转子静止时的电流(起动电流).
This is the second important characteristic of a D.C. motor.
It is linear and is used to calculate the no-load current and the current with the rotor stationary (start-up current).



关系图中并未随着电机供电电压而变化．曲线终点的延长线和扭矩，起始电流相一致，曲线的斜率被称作电机的扭矩常数.
The graph for this relationship does not vary with the supply voltage of the motor. The end of the curve is extended in accordance with the torque and the start-up current.

$$Kc=\frac{Cd}{Id-Io}$$

扭矩常数如下：
This torque constant is such that:

$$C=Kc(I-Io)$$

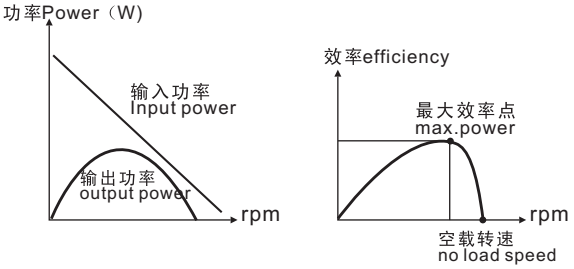
转动摩擦系数是：Kc·Io
The otational friction torque is Kc·Io.

扭矩可表达如下：
The torque is therefore expressed as follows :

$$C=Kc\cdot I-Cf \qquad Cf=Kc\cdot Io$$

Kc = Torque constantr 扭矩常数 (N·m/A)
C = Torque扭矩 (N·m)
Cd= Start-up Torque 起始扭矩(N·m)
Cf = Rotational friction torque转动摩擦扭矩 (N·m)
I = Current 电流(A)
Io = No-load current 空载电流(A)
Id = Start-up current 起动电流(A)

扭矩一电流，扭矩一转速曲线用于确定输入功率和电机转速的函数关系。
The gradient of this curve is called the “torque constant” of the motor.



效率 Efficiency

1.电机的效率等于机械输出功率除以电机输入功率.
输出功率和输入功率随着转速的变化而变化,所以效率是电机转速的函数.
给定的转速大于空载速度的50%时可获得最大效率。
1.The efficiency of a motor is equal to the mechanical output power that it can deliver, divided by the power which it absorbs.
The output power and the absorbed power vary in relation to the speed of rotation, therefore the efficiency is also a function of the speed of the motor.
Maximum efficiency is obtained with a given rotational speed greater than 50% of no-load speed.

2．减速器传动效率：电动机配置减速器以后转矩增加的效率，用百分比表示。其大小受轴承、齿轮的摩擦力，以及润滑条件的影响。一般经过一级传动的齿轮减速器其效率为90%，两级传动的效率是81%，减速比越大，其传动级数越多，传动效率就越低。行星齿轮减速器的传动效率要高得多，一般单级传动的效率为95%。
2. Transmission efficiency of reducer: Torque efficiency of motor equipped with reducer, usually expressed in percentage. It is influenced by friction of bearing and gear, and condition of lubricating grease. Generally the transmission efficiency is 90%, transmission is 95% after the first gear train, and 81% after the second gear train. Bigger reduction ration requires motor gear trains and leads to lower transmission efficiency.The transmission efficiency of planetary gear reducer is much higher,generally its efficiency of one gear train.

温升 Temperature rise

电机升温是由于吸收功率和输出功率之间的差值.
差值就是能量损失，温升和实际的能量损失相关. 电机产生的热量不能迅速被环境吸收(热阻)，电机的热阻可通过强制对流而大大降低.
The temperature rise of a motor is due to the difference between the absorbed power and the output power of the motor. This difference is the power loss.
Temperature rise is also related to the fact that power loss, in the form of heat from the motor, is not rapidly absorbed by the ambient air (thermal resistance). The thermal resistance of the motor can be greatly reduced by ventilation.

注意 Important

相对于电压-扭矩-转速特性的额定操作特性，要求在20℃时连续操作. 仅仅是间歇式负载可能超出这些操作条件,没有特殊说明的，在客户实际应用中必须检查所有极端的操作条件，以确保操作安全.
The nominal operating characteristics correspond to the voltagetorque-speed characteristics required for continuous operation at an ambient temperature of 20℃. Only intermittent duty is possible outside these operating conditions : without exception, all checks concerning extreme operating conditions must be performed in the actual customer application conditions in order to ensure safe operation.

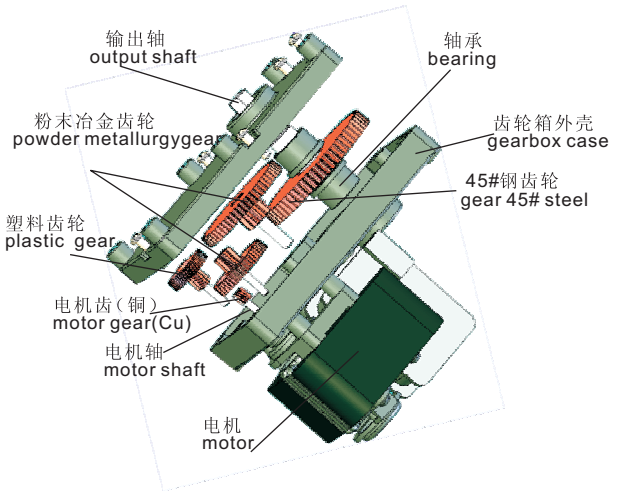
一 电机和齿轮箱的组合 —Motor and gearbox combinations

设计直流电机在空载时的转速范围附近作连续操作,这个转速范围对于大多数应用显得太大了. 为了减小这个转速,整个范围的齿轮电机都可以得到,每个系列的速比都符合大多数的速度要求.
全系列齿轮电机适用于大多数的应用.
D.C. motors are constructed to operate continuously within a range of speeds near their no-load speed. This range of speeds is gene rally too high for most applications. In order to reduce this speed, a full range of geared motors is available, each with a series of gear ratios to suit most speed requirements.
The complete range is suitable for a wide variety of applications.

齿轮箱特性 Gearbox characteristics

我们的齿轮箱按照标准操作条件下达到最佳性能和最大寿命的原则设计.
Our gearboxes have been designed for optimum performance and for maximum life under normal operating conditions.
它们的主要特性是在连续运转时满足最大扭矩的要求.
Their main characteristic is the capacity to withstand maximum design torque with continuous duty.
这本样本里给出的齿轮箱范围在长期操作时可以达到最大扭矩为0. 5-6N. m. 以前表明的值是用于标准操作条件下标准产品的.
The range of gearboxes shown in this catalogue can operate with maximum torque of 0.5 to 6 N.m for long time periods. All values previously stated are for standard products in normal operating conditions, as specified.
在特定的情况下，如果允许缩短寿命的话，这些值可以增加.
In certain cases, these values may be increased if a shorter life is required.
请向我们销售点咨询以获得更多信息.
Please consult our Sales Office for further information.
每个齿轮箱都有一个极限扭矩，叫做
损毁扭矩,
Every gearbox has a torque limit, which is
the breaking torque
如果这个扭矩用于齿轮箱，将会导致急剧破坏.
If this torque is applied to the gearbox, it will cause severe damage.

齿轮箱的结构 Gearbox construction



根据每档齿轮受力大小，计算出齿轮的模数、厚度和材料，并经过寿命测试，这样才能做出更低噪音并足够寿命的有机结合。电机有直流电机、无刷直流电机、罩极电机等可组合。
The module,depth and material of Gears are calculated according to the stress of gear at each step. By life test of motor to produce the motor with low noise and enough life time. Gearbox can be assembled with DC motors, DC brushless motors and shade pole motors.

齿轮电机的选择Selection of a geared motor

A geared motor is selected according to the required usable power output.

输出功率useableP(W)= $\frac{2p}{60} \cdot M(N\cdot m) \cdot N(rpm)$

输出功率useableP(W)= $\frac{M(Kgf\cdot cm) \cdot N(rpm)}{97.5}$

输出功率useableP(W)= $\frac{M(Lb\cdot in) \cdot N(rpm)}{84.6}$

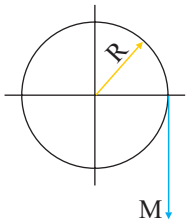
输出功率useableP(W)= $\frac{M(oz\cdot in) \cdot N(rpm)}{1354}$

力矩转换表 Torque Conversion Chart

	gf·cm	Kgf·cm	N·cm	N·m	oz·in	Lb·in	Lb·ft
gf·cm	1	10^{-3}	$9.8X10^{-3}$	$9.8X10^{-5}$	0.01389	$8.68X10^{-4}$	$7.233X10^{-5}$
Kgf·cm	10^{+3}	1	9.8	$9.8X10^{-2}$	13.89	0.868	0.07233
N·cm	102	0.102	1	10^{-2}	1.416	0.0885	$7.376X10^{-3}$
N·m	$1.02X10^{+4}$	10.2	100	1	141.6	8.85	0.7376
oz·in	72.1	0.0721	0.706	$7.06X10^{-3}$	1	0.0625	$5.21X10^{-3}$
Lb·in	1152	1.152	11.3	0.113	16	1	0.0833
Lb·ft	$1.383X10^{+4}$	13.83	135.6	1.356	192	12	1

例如：e.g.: 1gf·cm=$9.8x10^{-3}$N·cm　1Kgf·cm=0.098N·m
1Kg·cm=0.868lb·in　1N·m=10.2Kgf·cm
1lb·in=1.152Kgf·cm　1oz·in=0.0721Kgf·cm

力矩的意思，可以用下图来理解。
The mean of torque please see below figure.



例如：e.g.:
R=1cm M=1Kgf Torque=1Kgf·cm
R=3cm M=4Kgf Torque=12Kgf·cm
R=1in M=1Lb Torque=1Lb·in
R=2in M=2LB Torque=4Lb·in
R=2in M=100oz Torque=200oz·in

已知垂直上升的物体重量m(Kg)和上升速度V(m/s)，求电机输出功率多少瓦。
Motor output power is work out by the weight of vertical go up objects and go up speed.

输出功率useableP(W)= 9.8 · M(Kg) ·V(m/s)

齿轮电机的有用功率必须大于或等于驱动负载时的功率要求. 通过检查符合操作条件对应的点（扭矩和转速输出）是否高于额定扭矩-转速曲线图上的点来选择.
齿轮电机的输出扭矩必须在齿轮箱连续运转时的扭矩最大值范围内.
A geared motor must have usable power equal to or greater than the power required to rotate the load. It is selected by checking that the point corresponding to the required operating conditions (torque and speed output) is higher than the nominal torque versus speed curve of the geared motor.
The required torque output of a geared motor must be within its maximum recommended torque for continuous duty.

选择减速比Selecting the reduction gear ratio

有两个选择规则.
Two selection criteria may be applied.
* 第一个规则只和减速齿轮要求的输出速度有关. 对于大多数应用这就足够了，并且容易使用，给出如下:
The first criterion concerns the required speed output of the reduction gear only. It is adequate for most applications and is easy to apply.
Given that :

$R = \frac{N1}{B1}$ N1=齿轮电机要求的转速 required speed of geared motor
B1=电机的基本额定转速 basic nominal speed of motor

* 第二个规则是和电机所需输出功率有关. 电机的转速给出如下:
The second criterion concerns the required usable power output of the motor. The rotational speed of the motor is given by :

$$N = 1/2\ (No + \sqrt{No^2 - \frac{4P}{A}}) \qquad \text{with } A = \frac{\pi Cd}{30No}$$

N = 电机转速speed of motor(rpm)
No = 电机空载转速no loadspeed of motor(rpm)
P = 要求的输出功率required output power(W)
Cd = 电机的起动扭矩start-up torque of motor(Nm)

给出以下等式(this gives the equation): $R = \frac{N_1}{N}$

为了避免使用小于1的数来表示速比，常使用1/R.
由于总是使用减速齿轮而不是使用＂升速＂齿轮,这样做不会引起误解.
In order to avoid using numbers less than 1 where the reduction ratio is concerned, the value 1/R is employed.
Due to the fact that it is always a reduction gear and not a "ultiplier" gear, there should be no ambiguity concerning the number used.

$1/R = \frac{Nb}{N_1}$ or $1/R = \frac{N}{N_1}$

齿轮马达使用注意事项 Precautions for Handling Geared Motors

输出轴的转动Turning by output shaft

请不要在安装零件时为了调整位置而从输出轴方向去回转齿轮马达。
齿轮头会成为增速机构，造成齿轮等内部损坏，致使马达成为发电机。
Do not turn a geared motor by its output shaft when, for example, arranging its position so as to install it.
The gearhead will become a speed-increasing mechanism, which will have harmful effects, damaging the gears and other internal parts; and the motor will turn into an electrical generator.

安装位置Installed position

标准安装位置为与质量检查相同的水平方向位置。
※请注意。使用于其他方向位置时，有可能造成齿轮马达的润滑油外漏、负荷变化，以致改变与水平方向的特性产生变化。
For the installed position we recommend a horizontal position -- the position used in our company's shipping inspection.
※With other positions, grease might leak onto the geared motor, the load might change, and the motor's properties might change from those in the horizontal position. Please be careful.

加工处理Additional processing

输出轴可以施行各式各样的加工。
※进行加工时，加工时的荷重，冲击，切割粉末等均有可能造成制品的损坏。
Various kinds of processing are possible for the output shaft.
※However, it is necessary to be careful when processing, as the load, an impact, powder from cutting, etc., during processing can damage the product.

螺丝Screws

安装螺丝前请先确认外观图所标示之形式及长度尺寸。
※安装齿轮马达时，螺丝太长，固定螺柱太大都会造成内部机构零件的变形及破损，螺丝本身的变形会导致事故发生。另外，固定螺柱太弱时，也可能是造成不稳或脱落的原因。
使用时请注意使用。
Install the screws after first checking the taps and tap depth against the dimensions entered on the exterior drawing.
※If, when a geared motor is installed, the screws are too long or their tightening torque is too great, the motor's internal mechanical parts could become deformed or break or the screws could become deformed, resulting in a breakdown. If the tightening torque is too weak, on the other hand, it could cause the motor to rattle or fall off.

输出轴的安装 Installation of geared motor on output shaft

请小心使用黏接剂。
※请小心使用，勿使黏接剂借由输出轴流入轴内。特别是硅胶粘剂等挥发性粘剂，可能会造成马达内部产生不良影响，请避免使用。另外，请避免过度加压，以防内部机构变形及破损。
Please be careful with regard to applying adhesive.
※It is necessary to be careful that the adhesive does not spread along the shaft and flow into the bearing, etc. Moreover, do not use a silicon adhesive or other volatile adhesive, as it could harmfully affect the motor's interior. In addition, avoid press fitting, as it could deform or damage the motor's internal mechanism.

马达端子的处理Handling the motor terminal

焊接作业请在短时间内实行。（推荐：焊接头的温度340-400度，2秒内实行）
※端子过热会造成马达零件的溶解及产生内部构造不良的影响。另外，对端子部分强加压力，会增添马达内部负担，造成马达内部破损。
Please conduct the welding work in a short time.
. (Recommendation: With the soldering iron tip at a temperature of 340 - 400℃, within 2 seconds.)
※Applying more heat than is necessary to the terminal can melt the motor's parts or otherwise harm its internal structure. Moreover, applying excessive force to the terminal area can put stress on the motor's interior and damage it.

润滑油Grease

涂抹于齿轮的滑动部分。
※在特别环境下使用时请小心使用。根据马达构造特点，有可能会渗流至外部。
Grease is applied to the sliding areas of the gears, etc.
※Be careful about using the product in a special environment. Due to the structure of geared motors, the grease could ooze out to the exterior.

使用温度范围 Temperature range for use

请在-10℃～+60℃的范围内使用。
目录所记载之数值为室温20℃～25℃之数值。
※规定范围外的温度下使用时，齿轮头的润滑油会变得无法正常作用，马达变得无法启动。
根据温度条件的不同，变更润滑油及马达的零件后可以使马达在温度范围外使用。如有需要，敬请洽询。
Geared motors should be used at a temperature of -10～60℃.
The figures stated in the catalog specifications are based on use at ordinary room temperature (approximately 20～25℃.
※If a geared motor is used outside the prescribed temperature range, the grease on the gearhead area will become unable to function normally and the motor will become unable to start. Depending on the temperature conditions, it may be possible to deal with them by changing the grease or the motor's parts. Please feel free to consult with us about this.

保存温度范围Temperature range for storage

请保存在-15℃～+65℃的范围内。
※保存于温度范围外时，齿轮头的润滑油会产生性能无法运作，马达变得无法启动。
Geared motors should be stored at a temperature of -15～65℃.
※In case of storage outside this range, the grease on the gearhead area will become unable to function normally and the motor will become unable to start.

相对温度范围 Relative humidity range

请在湿度20%～85%RH，无结露的范围内使用。
※潮湿的环境里，因金属零件生锈而会造成性能异常，请小心处理使用。
Geared motors should be used in 20 - 85% relative humidity (no dew condensation).
※In a humid environment, the metal parts might rust, causing abnormalities. Therefore, please be careful about use in such an environment.

保管Long-term storage

请避免保存于含有腐蚀性瓦斯，有毒瓦斯的物质，高温，低温，高湿度的环境下。尤其是 2 年以上的长期保存时，请特别谨慎处理。

Do not store a geared motor in an environment where there are materials that can generate corrosive gas, toxic gas, etc., or where the temperature is excessively high or low or there is much humidity. Please be especially careful with regard to storage for lengthy periods such as 2 years or more.

使用寿命Longevity

齿轮马达的寿命，会因负荷条件，动作模式，使用环境的不同而有很大的不同。请以实际产品充分进行确认。以下的条件是影响使用寿命的原因，使用时请与我们洽询。

■超出额定扭矩负荷的使用
■频繁启动
■正逆方向的瞬间反转
■冲击装载
■长时间的连续操作
■强制回转输出轴
■超出突出悬挂容许负荷重，超出容许推力荷重的使用
■制动，逆起电流，PWM制动等等的脉冲驱动
■使用标准额定规格外的电压
■超出使用温度范围，相对湿度范围，或是使用于特殊环境。
■其他用途，环境使用时，请与我们协商，我们会根据需要选定适合的机型。

The longevity of geared motors is greatly affected by the load conditions, the mode of operation, the environment of use, etc. Therefore, it is necessary to check the conditions under which the product will actually be used. The following conditions will have a negative effect on longevity. Please consult with us should any of them apply.

■Use with a load that exceeds the rated torque
■Frequent starting
■Momentary reversals of turning direction
■Impact loads
■Long-term continuous operation
■Forced turning using the output shaft
■Use in which the permitted overhang load or the permitted thrust load is exceeded .
■A pulse drive, e.g., a short break, counter electromotive force, PWM control
■Use of a voltage that is nonstandard as regards the rated voltage
■Use outside the prescribed temperature or relative-humidity range,or in a special environment
■Please consult with us about these or any other conditions of use that may apply, so that we can be sure that you select the most appropriate model.

使用注意事项 NOTICE ON PRODUCT USAGE

■为抑制电机的干扰信号，小型减速电机安装时，可以在正极与负极之间焊接一个0.1μF(63V)的涤纶电容，负极要接地。或致电本公司，在电机里安装抗干扰压敏电阻。
■永磁直流电机的堵转转矩一般是额定转矩的5~6倍，在安装、调试、使用中应该昼避免堵转现象发生。
■如果不可避免地发生堵转，应该明确地告诉本公司，事先采取必要的措施。
■大减速比、大转矩的产品要由用户自己采取限流的方法，作为防止因发生堵转而损坏减速器的措施。
■小型减速电机尽量避免减速器出轴朝上安装和运转，因为减速器内的润滑油脂可能受热融化，如果渗透到碳刷，可能使得碳刷很快磨损和损坏。如果不可避免地要朝上安装和运转，应该事先告诉本公司。

■To restrain the interfered signal of motor, a polyester film capacitor of 0.1μF(63V)can be welded between positive pole when assembling mini gear motor, and the negative pole should be earthed. Or call us,motor can install anti-jamming EMI resistance.
■The locked torque of permanent magnet DC motor is 5~6 times the rated torque, and lock should be avoided in the processes of assembling, adjusting and operating.
■If motor lock is inevitable, notify our company clearly so as to take necessary measures in advance.
■The users should adopt measures to limit current by themselves for the products with big reduction ratio and strong torque to prevent damage of reducer from motor lock.
■Avoid the output shaft of reducer of mini gear motor being assembled and running upwardly, as the lubricating grease inside reducer will be melted by heat and penetrated into carbon brush, subsequently damageand abrase the carbon brush quickly. If upward assembly or operation is inevitable, please notify company in advance.

安装注意事项 NOTICE ON INSTALLATION

■在安装前对减速电机进行通电运转检查，确认性能符合要求再投入安装。不要擅自打开减速器，否则会噪音增加。
■在安装过程中不应使减速电机受到冲击、跌落。在减速器出轴上安装结构件时，不允许直接在减速器出轴上敲打或压配。
■大电机的引出线不能够用力拉，小电机的接线焊接端子不能够受到冲击，不能弯曲，否则会发生内部导电不良，影响性能。
■不要用力从输出轴端旋转减速器，否则会造成齿轮破损。在减速器出轴上用粘结剂固定传动部件时，不能粘着减速器的轴承。
■在安装圆形齿轮减速器电机、行星减速器的时候，一定要控制好安装螺钉的长度。旋入过长会顶坏减速器里面的结构件。
■电机安装前先要检查被电机拖动的传动系统是否有故障，否则电机通电后会发生堵转，可能使得减速器齿轮损坏。

■Check motor running when it is power on before installation and make sure performance meet request. Do not open the reducer, or noise will increase.
■Prevent gear motor from being shocked or dropping in mounting process. It is prohibited to strike and crush directly on reducer output shaft when it is assembled with structural unit.
■The lead wire of big motor can not be pulled forcibly and the welded wire terminal of small motor can not be shocked and bent to avoid internal poor conductivity.
■Do not rotate the reducer by applying force at the end of output shaft to avoid damage on gear. The bearing of reducer can not be felted when fixing structural transmission unit on output shaft of reducer with bonding material.
■Choose installing screw with proper length when mounting round shape gear motor and planetary gear motor to prevent damage on internal constructural unit of reducer from being penetrated due to over length of screw.
■Check whether there is something wrong with transmission system which is driven by motor before motor mounting to avoid motor block subsequently.

产品技术介绍 PRODUCT TECHNOLOGY INTRODUCTION

微型齿轮减速器、行星齿轮减速器、蜗轮减速器 MINI GEAR REDUCER，PLANETARY GEAR REDUCER, WORM REDUCER

1. 一般把最常见的单对齿传动、平行轴结构、定轴轮系的减速器称之为齿轮减速器，在微型齿轮减速器中多使用外啮合直齿和斜齿轮，除了非常微小型的减速器以外，微型齿轮减速器的减速比一般设计在1:200以内。

1.Generally reducer with single pair of gears transmission, parallel shaft structure and ordinary gear train is called gear reducer. Mostly straight gear and slanting gear are used in mini gear reducers. The reduction ratio of mini gear reducer is generally designed within range 1:200 except of extremely mini reducers.

2. 行星齿轮减速器是多对齿传动、动轴轮系的传动结构，减速比范围大，本公司产品最大减速比可以达到1:3730。行星减速器具有体积小、重量轻、承载能力大、效率高、工作平稳的特点。现在行星减速器也较多地应用于高转速场合，原因是直流电机很难做到1000转左右，而较高转速直流电机配置小减速比的行星齿轮减速器，既能减速、又能增大转矩。

2.Planetary gear reducer is a transmission structure of multi pairs of gears transmission and dynamic gear train, spanning wide range of reduction ratio up to max. reduction ratio 1:1730. The planetary gear reducer has the character of small figure, light weight, heavy load, high efficiency and stable running. Now for the reason that the speed of DC motor is hardly up to 1000 per minute but DC motor of relatively light rotating speed can lower speed and enhance torque after being assembled together with planetary gear reducer of small reduction ratio, Planetary gear reducer is frequently equipped in application requesting high rotating speed.

3. 蜗轮减速器的最大特点是交错轴传动，电动机输入轴与减速器输出轴成90度，而且工作平稳、噪音低，在一定条件下有自锁性，缺点是效率低。

3.The main character of worm reducer is of crossed-axis transmission. 90 degree angle between output shafts of motor and reducer, stable running, low noise and self locking function. Its shortage is low efficiency.

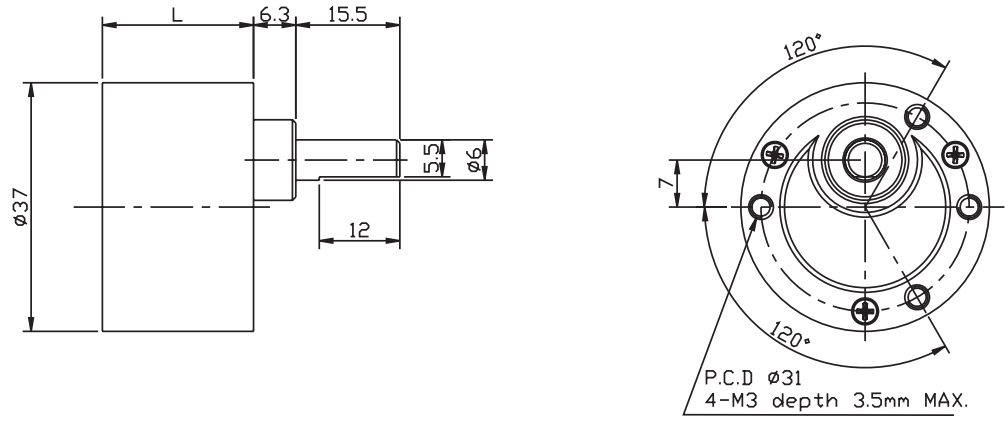
4. 额定负载转矩：电机在额定电压、额定转速时输出的转矩。
一般的计算公式---
额定负载转矩=电动机额定转矩X减速比X减速器传动效率
大减速比电机受减速器最大允许转矩的限制，额定负载转矩计算值大于最大允许转矩的，则以最大允许转矩为额定值。

4.Rated load torque: output torque of motor at status of rated voltage, rated frequency and rated speed (of the diagram).
The general calculation formular:
Rated load torque=rated torque of motor X reduction ratio X transmission efficiency of reducer, Restrained by the maximum torque of reducer of big reduction motor,the maximum torque value is equivalent to the rated one. if the calculated value of rated load torque is bigger than the maximum torque.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,545,555,385,395,36ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don t let the screws go through into the gearbox internal morethan 3.5mm.If so the gearbox will be demaged.

APPEARANCE SIZE

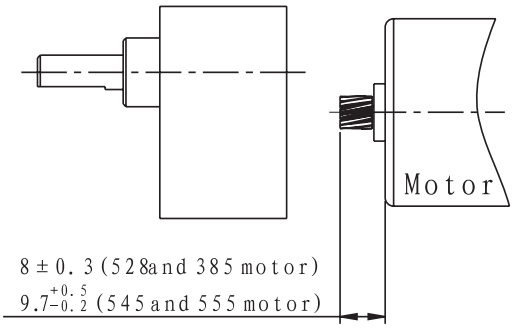


PINION SPECIFICATIONS

Module	0.4M	0.4M	0.5M
No. of teeth	13	12	10
Pressure angle	20°		
Helix angle	15° left	15° left	
Hole diameter	Φ3.12	Φ3.12, Φ1.97 Φ2.27,Φ2.96	Φ1.98
Reduction ratio	6	10，20，30,60，90 120，180,270，489 540，810	489，810，1620，2430

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
6,10	6/1, 10/1	0.5kgf • cm	1.5kgf • cm	81%	2	22.5~23.5	same
20,30	20/1,30/1	1.5kgf • cm	4kgf • cm	73%	3	22.5~23.5	different
60,90	60/1,90/1	3kgf • cm	8kgf • cm	65%	4	25~26	same
120,180,270	120/1,180/1,270/1	10kgf • cm	20kgf • cm	59%	5	27~28	different
360,489	360/1,3915/8	10kgf • cm	20kgf • cm	53%	6	29~30	same
540,810,	540/1,810/1	10kgf • cm	20kgf • cm	53%	6	29~30	same
1620,2430	1620/1,2430/1	10kgf • cm	20kgf • cm	48%	7	29~30	different



PM-33 DC GEAR MOTOR Series

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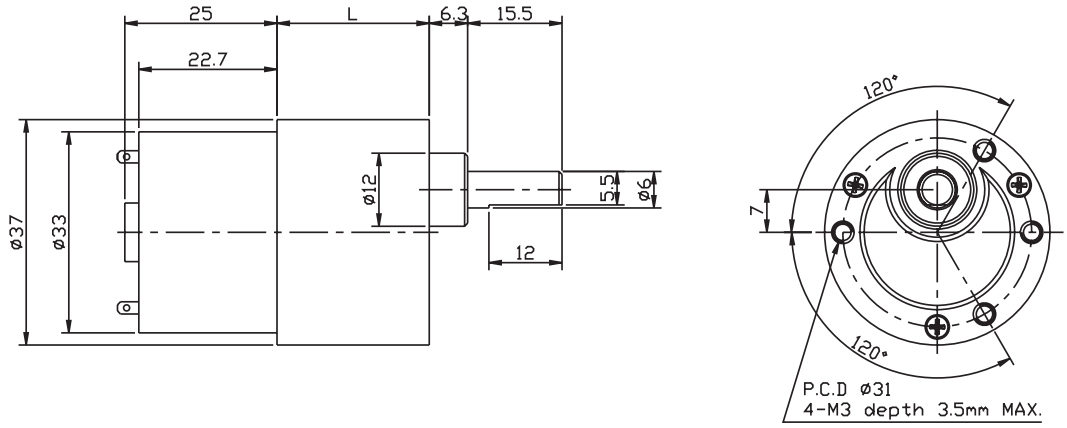
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 120~160g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540、810；1620、2430
Gearbox length "L" mm	22.5	25 27	29
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
PM-33123000	12	≤20	3000	≤110	2200	25	0.55	100	400
PM-33124500	12	≤30	4500	≤150	3300	35	1.2	140	850
PM-33126000	12	≤40	6000	≤400	4500	45	2.3	180	1400
PM-33243000	24	≤15	3000	≤60	2200	25	0.55	100	200
PM-33244500	24	≤20	4500	≤80	3300	35	1.2	140	420
PM-33246000	24	≤30	6000	≤200	4500	45	2.3	180	700

1、This table lists some motors parameters,others please refer to specific parameters of Page 114.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PM-33123000-90K Motor please refer to the motor data PM-33123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Gearbox shell material:zinc alloy.
3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
4、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



TG-38 DC GEAR MOTOR Series

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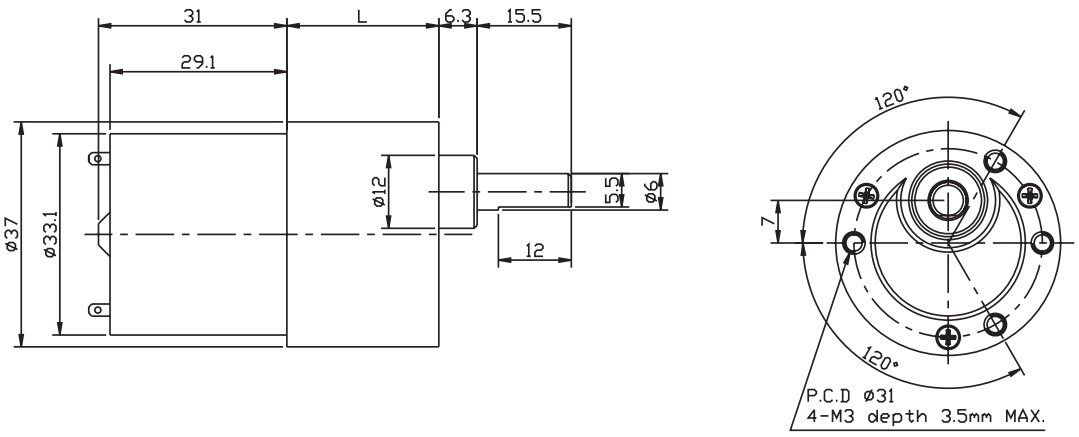
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 150~180g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540、810；1620、2430
Gearbox length "L" mm	22.5	25 27	29
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 115.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TG-38123400-90K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 109.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



SG-385 DC GEAR MOTOR Series

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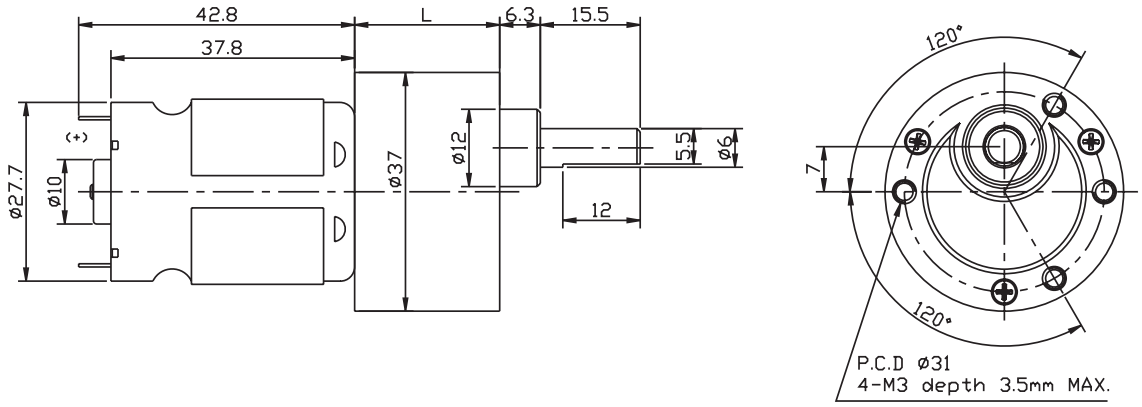
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:150~180g/pcs(approx)

Packing details:CTN size:36.5X31XH17cm 60pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540、810；1620、2430
Gearbox length “L” mm	22.5	25 27	29
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-385123000	12	≤45	3000	≤150	2200	35	0.8	140	450
RS-385124500	12	≤70	4500	≤300	3300	55	1.8	220	1200
RS-385126000	12	≤100	6000	≤600	4500	80	3.6	320	1900
RS-385243000	24	≤25	3000	≤70	2200	35	0.8	140	230
RS-385244500	24	≤40	4500	≤150	3300	55	1.8	220	600
RS-385246000	24	≤50	6000	≤300	4500	80	3.6	320	1000

1、This table lists some motors parameters,others please refer to specific parameters of Page 112.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-385123000-90K Motor please refer to the motor data RS-385123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 108.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



SG-395 DC GEAR MOTOR Series

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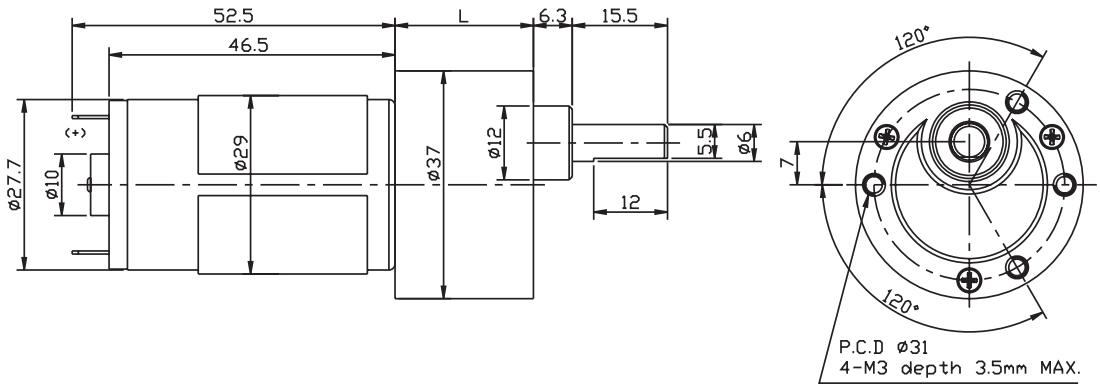
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:170~190g/pcs(approx)

Packing details:CTN size:36.5X31XH17cm 60pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540、810；1620、2430
Gearbox length "L" mm	22.5	25 27	29
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-395123000	12	≤60	3000	≤250	2200	65	1.4	260	800
RS-395124500	12	≤90	4500	≤430	3300	80	2.6	320	1400
RS-395126000	12	≤130	6000	≤750	4500	105	4.7	420	2600
RS-395243000	24	≤40	3000	≤120	2200	65	1.4	260	400
RS-395244500	24	≤50	4500	≤220	3300	80	2.6	320	700
RS-395246000	24	≤70	6000	≤380	4500	105	4.7	420	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 113.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-395123000-90K Motor please refer to the motor data RS-395123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 108.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



BL-37 DC GEAR BRUSHLESSMOTOR

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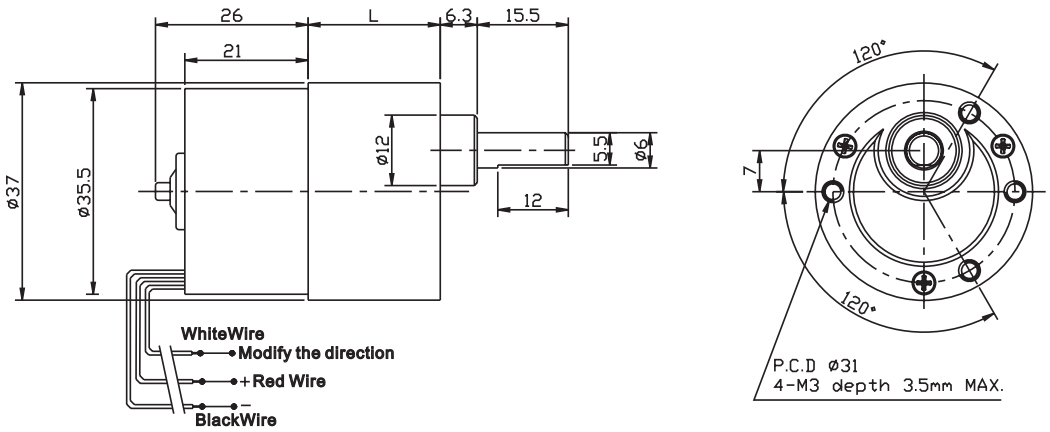
Main voltage: 12VDC、24VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 140~160g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540、810；1620、2430
Gearbox length "L" mm	22.5	25 27	29
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
37BL123000	12	≤180	3000	≤280	2200	70	1.5	170	700
37BL124500	12	≤250	4500	≤350	3300	100	3.3	170	700
37BL126000	12	≤300	6000	≤500	4500	140	6.0	170	700
37BL243000	24	≤150	3000	≤230	2200	80	1.8	280	700
37BL244500	24	≤200	4500	≤400	3300	125	4.0	280	700
37BL246000	24	≤250	6000	≤750	4500	160	7.0	280	700

1、This table lists some motors parameters,others please refer to specific parameters of Page 123.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. BL-37123000-90K Motor please refer to the motor data 37BL123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 110.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



SG-545 DC GEAR MOTOR Series

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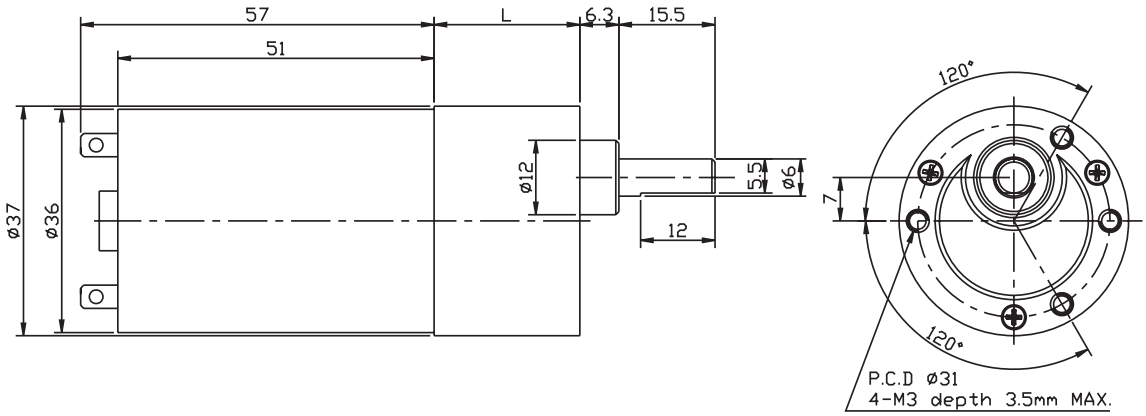
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:300~350g/pcs(approx)

Packing details:CTN size:27.5X26XH22.5cm 40pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540
Gearbox length "L" mm	23.5	26 28	30
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 116.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-545123000-90K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 110.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



SG-555 DC GEAR MOTOR Series

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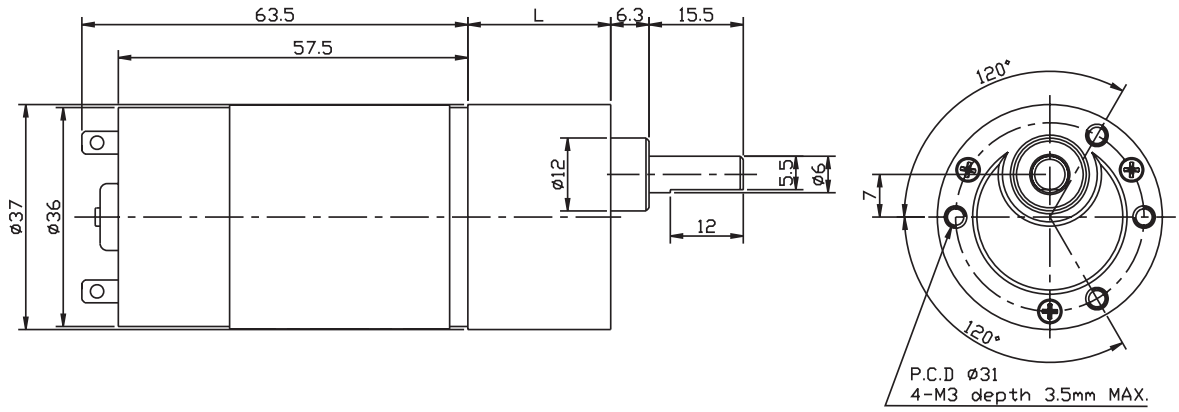
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 350~400g/pcs(approx)

Packing details: CTN size:27.5X26XH22.5cm 40pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540
Gearbox length "L" mm	23.5	26 28	30
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
36ZY123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
36ZY124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
36ZY126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
36ZY243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
36ZY244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
36ZY246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 117.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-555123000-90K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 110.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZY-36 DC GEAR MOTOR Series

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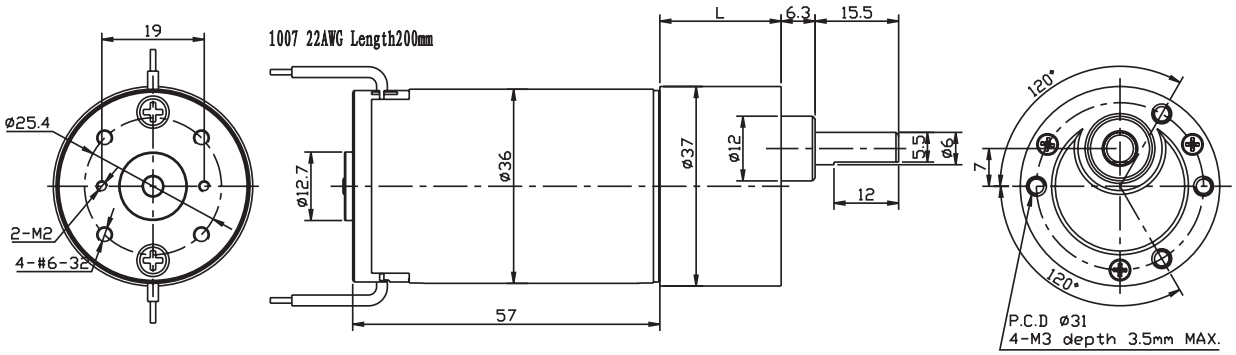
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 350~400g/pcs(approx)

Packing details: CTN size:27.5X26XH22.5cm 40pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6、7 stages reduction
Reduction ratio	6、10；20、30	60、90；120、180、270	489、540
Gearbox length "L" mm	23.5	26 28	30
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%；59%	53%；48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
36ZY123000	12	≤140	3000	≤800	2200	180	4.0	750	3000
36ZY124500	12	≤220	4500	≤1200	3300	250	8.5	950	4800
36ZY126000	12	≤350	6000	≤2000	4500	350	15.0	1400	6000
36ZY243000	24	≤70	3000	≤400	2200	180	4.0	750	1600
36ZY244500	24	≤110	4500	≤600	3300	250	8.5	950	3000
36ZY246000	24	≤180	6000	≤1000	4500	350	15.0	1400	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 119.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZY-36123000-90K Motor please refer to the motor data 36ZY123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 107.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



FM-33 DC GEAR MOTOR Series

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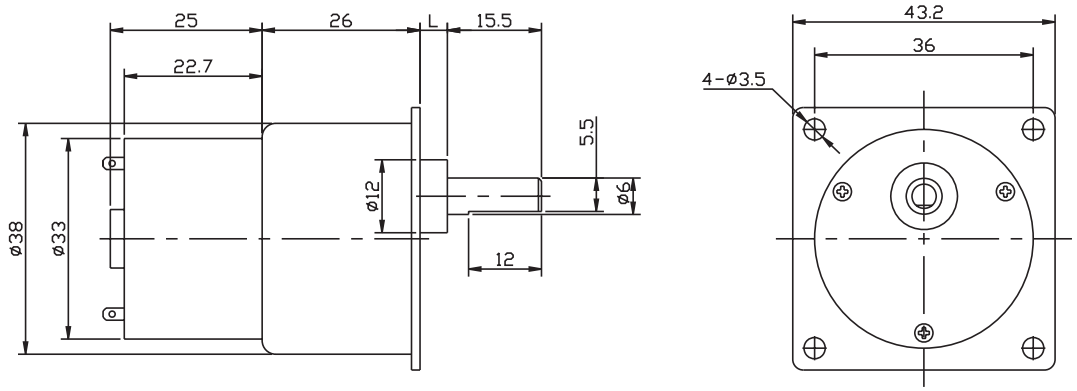
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:120~160g/pcs(approx)

Packing details:CTN size:36.5X31XH17cm 60pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4stages reduction	5 stages reduction
Reduction ratio	6、10；20、30	60、90；	120、180、270
Sleeving length “L” mm	2.0	4.5	7.0
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
PM-33123000	12	≤20	3000	≤110	2200	25	0.55	100	400
PM-33124500	12	≤30	4500	≤220	3300	35	1.2	140	850
PM-33126000	12	≤40	6000	≤410	4500	45	2.3	180	1400
PM-33243000	24	≤15	3000	≤60	2200	25	0.55	100	200
PM-33244500	24	≤20	4500	≤110	3300	35	1.2	140	420
PM-33246000	24	≤30	6000	≤200	4500	45	2.3	180	700

1、This table lists some motors parameters,others please refer to specific parameters of Page 114.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. FM-33123000-90K Motor please refer to the motor data PM-33123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Gearbox shell material:zinc alloy.
3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
4、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



FG-38 DC GEAR MOTOR Series

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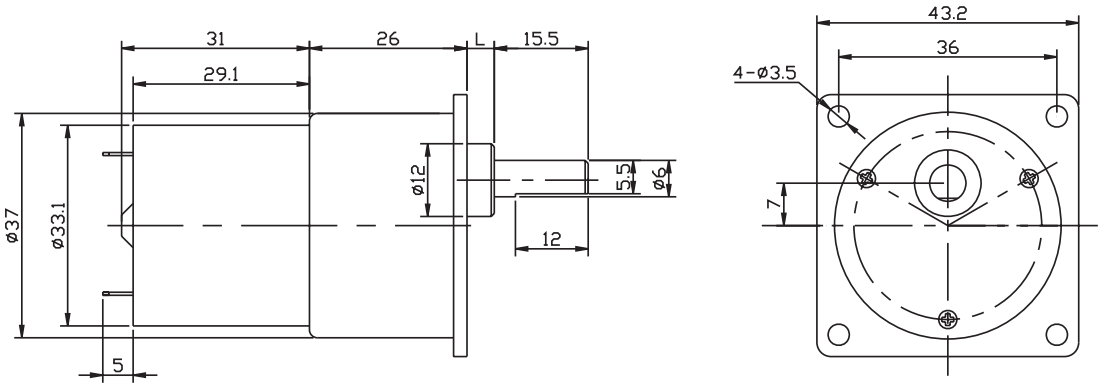
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:150~180g/pcs(approx)

Packing details:CTN size:36.5X31XH17cm 60pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4stages reduction	5 stages reduction
Reduction ratio	6、10；20、30	60、90；	120、180、270
Sleeving length “L” mm	2.0	4.5	7.0
Max. Running torque	2Kgf • cm	10Kgf • cm	10Kgf • cm
Max. Gear breaking torque	8Kgf • cm	30Kgf • cm	30Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤50	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 115.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

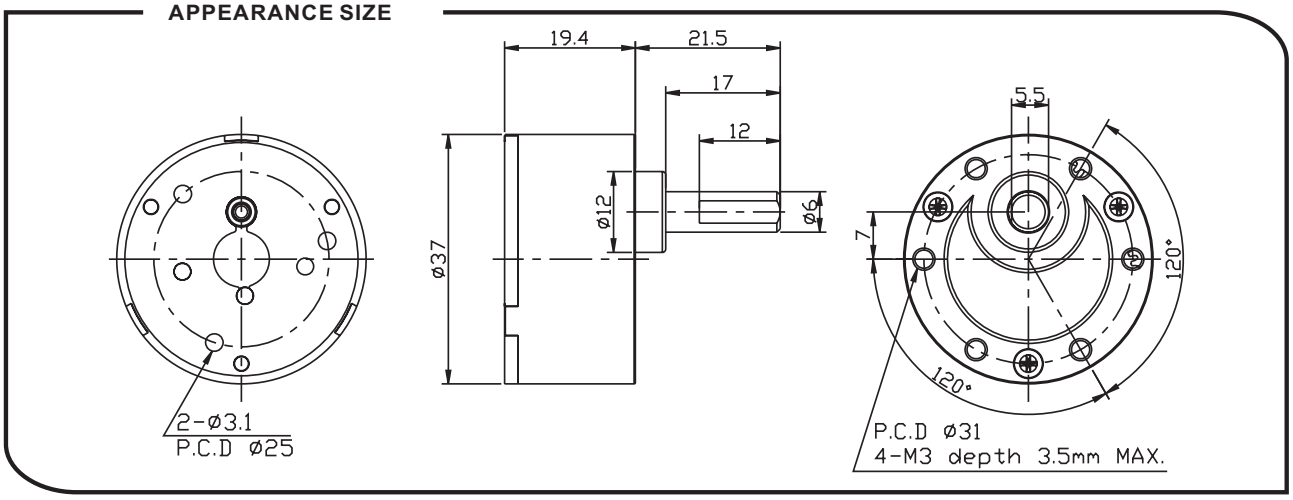
NOTE:

1、Gearmotor named methods: e.g. FG-38123400-90K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 109.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 15kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don t let the screws go through into the gearbox internal morethan 3.5mm.If so the gearbox will be demaged.

APPEARANCE SIZE

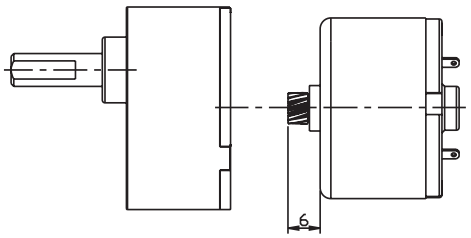


PINION SPECIFICATIONS

Module	0.4M
No. of teeth	12
Pressure angle	20°
Helix angle	15° left
Hole diameter	Φ3.12, Φ1.97, Φ2.27,Φ2.96
Reduction ratio	10，20，30，60，90

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
10	10/1	1kgf • cm	3kgf • cm	81%	2	same
20	20/1	3kgf • cm	9kgf • cm	73%	3	different
30	30/1	3kgf • cm	9kgf • cm	73%	3	different
60	60/1	5kgf • cm	15kgf • cm	65%	4	same
90	90/1	5kgf • cm	15kgf • cm	65%	4	same



PM-37 DC GEAR MOTOR Series

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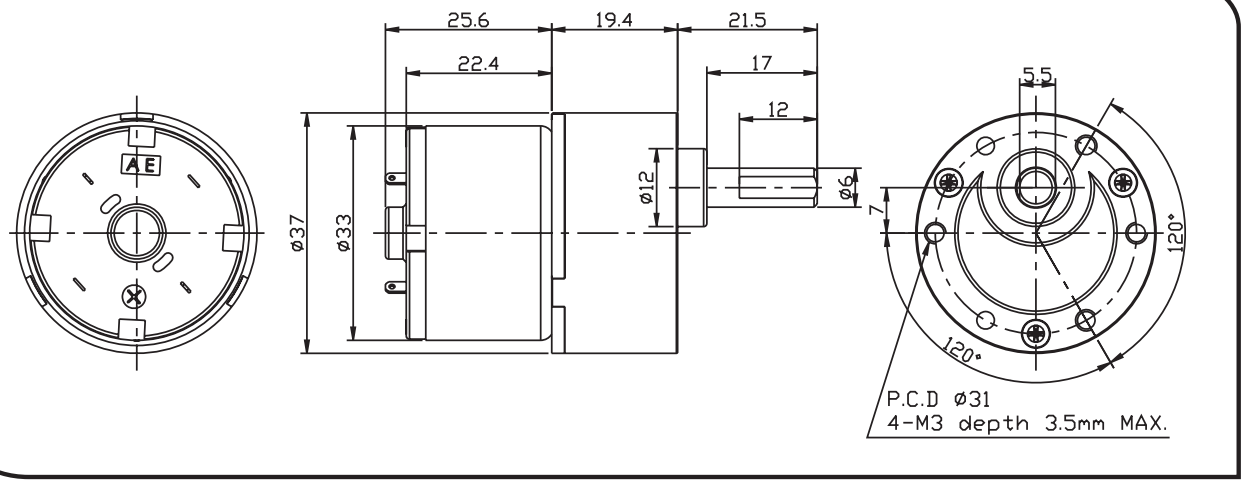
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Money detector,Binding machine,Automatic TV rack,Packing bank note machine,Limelight,Tissue machine,Office equipment,Household appliances,Automatic actuator.

Weight: 120~160g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2stages reduction	3 stages reduction	4 stages reduction
Reduction ratio	10	20、30	60、90
Max. Running torque	1.0Kgf • cm	3.0Kgf • cm	5Kgf • cm
Max. Gear breaking torque	3.0Kgf • cm	9.0Kgf • cm	15Kgf • cm
Max.Gearing efficiency	81%	73%	65%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
PM-33123000	12	≤20	3000	≤110	2200	25	0.55	100	400
PM-33124500	12	≤30	4500	≤150	3300	35	1.2	140	850
PM-33126000	12	≤40	6000	≤400	4500	45	2.3	180	1400
PM-33243000	24	≤15	3000	≤60	2200	25	0.55	100	200
PM-33244500	24	≤20	4500	≤80	3300	35	1.2	140	420
PM-33246000	24	≤30	6000	≤200	4500	45	2.3	180	700

1、This table lists some motors parameters,others please refer to specific parameters of Page 145.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

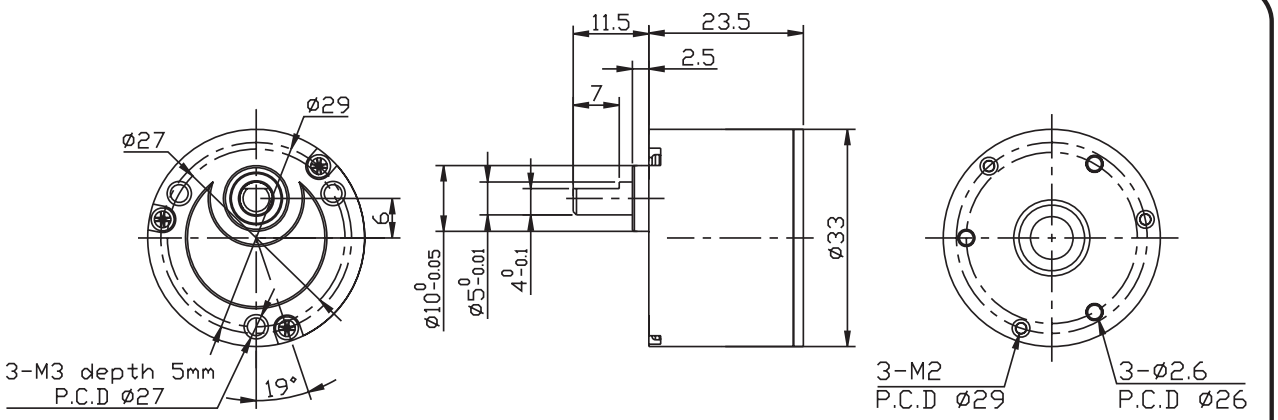
NOTE:

1、Gearmotor named methods: e.g. PM-37123000-90K Motor please refer to the motor data PM-33123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Gearbox shell material:zinc alloy.
3、Gearbox gear materials: The first stage gear:plastic gear. Other stage gear:powder metallurgy gear.
4、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 24kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 5.0mm.If so the gearbox will be demaged.

APPEARANCE SIZE

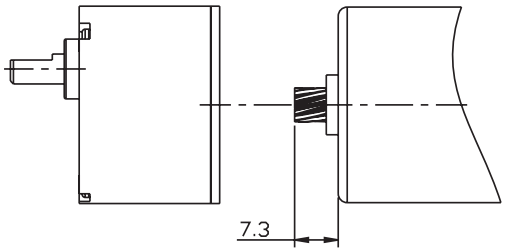


PINION SPECIFICATIONS

Module	0.4M
No. of teeth	12
Pressure angle	20°
Helix angle	15° left
Hole diameter	Φ1.97,Φ2.27
Reduction ratio	25，73，211

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
25	455/18	2kgf • cm	6kgf • cm	73%	3	different
73	5915/81	5kgf • cm	15kgf • cm	65%	4	same
211	153790/729	8kgf • cm	24kgf • cm	59%	5	different



RG-33 DC GEAR MOTOR Series

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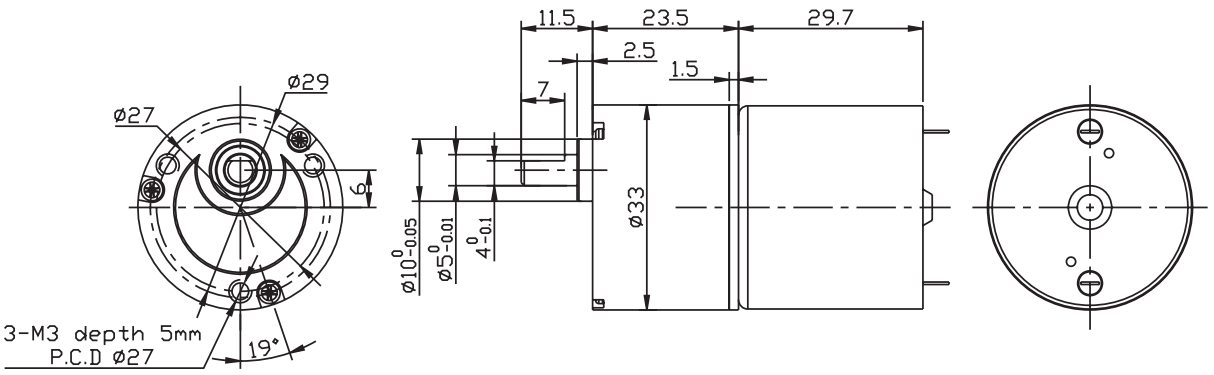
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Automatic closetbowl special valve motor,Auto shutter,Money detector,Automatic TV rack,Packing bank note machine,Limelight,Tissue machine,Office equipment,Household appliances,Automatic actuator.

Weight: 150~180g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4stages reduction	5 stages reduction
Reduction ratio	25	73	211
Max. Running torque	2Kgf • cm	5Kgf • cm	8Kgf • cm
Max. Gear breaking torque	6Kgf • cm	15Kgf • cm	24Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

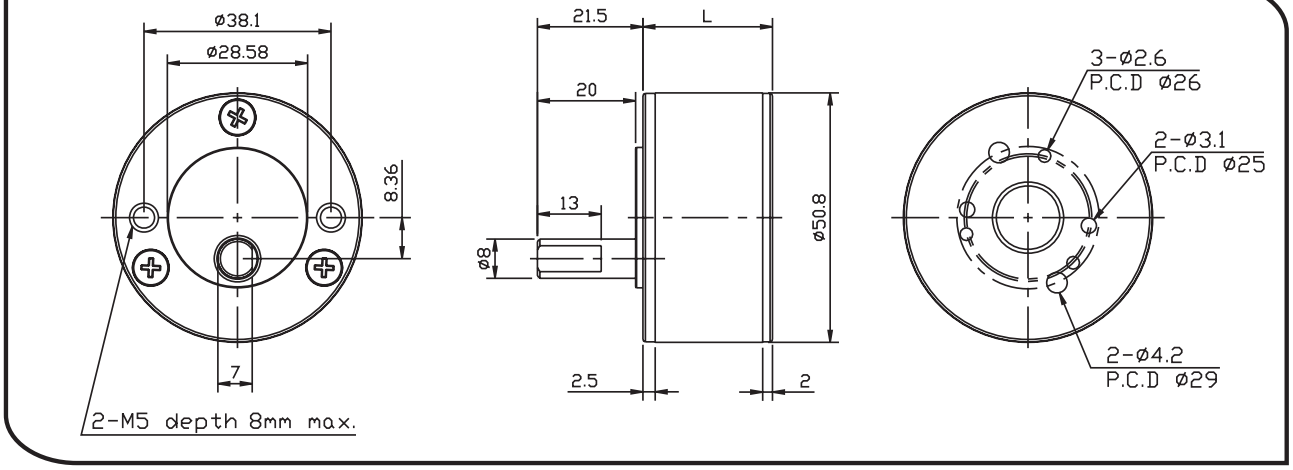
NOTE:

1、Gearmotor named methods: e.g. RG-33123400-211K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 211.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ5.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to528,545,555,775,ZY40,ZY45, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 8mm.If so the gearbox will be demaged.

APPEARANCE SIZE

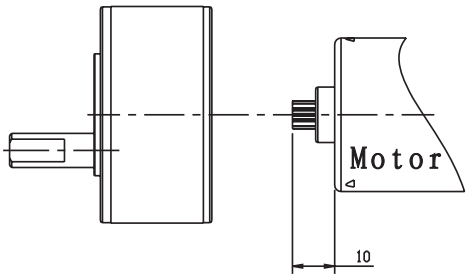


PINION SPECIFICATIONS

Module	0.5	
No. of teeth	10	10（D）
Pressure angle	20°	
Hole diameter	Φ3.16	Φ2.5(D)
Reduction ratio	7.2，13.3，29，53，116，170，213，464 853，1856，3415	7.5，13.8，30，55 120，220，480，883 1920，3532

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction（Relationship with motor）
7.2,7.5	29/4,15/2	10kgf • cm	30kgf • cm	81%	2	26.4	same
13.3,13.8	667/50,69/5	10kgf • cm	30kgf • cm	81%	2	26.4	same
29,30	29/1,30/1	10kgf • cm	30kgf • cm	73%	3	26.4	different
53,55	1334/25,276/5	10kgf • cm	30kgf • cm	73%	3	26.4	different
116,120	116/1,120/1	30kgf • cm	90kgf • cm	65%	4	30.2	same
213,220	5336/25,1104/5	30kgf • cm	90kgf • cm	65%	4	30.2	same
464,480	464/1,480/1	30kgf • cm	90kgf • cm	59%	5	33.9	different
853,883	21344/25,4416/5	30kgf • cm	90kgf • cm	59%	5	33.9	different
1856,1920	1856/1， 1920/1	30kgf • cm	90kgf • cm	53%	6	37.7	same
3415,3525	85376/25,17664/5	30kgf • cm	90kgf • cm	53%	6	37.7	same



RG50M38 DC GEAR MOTOR Series

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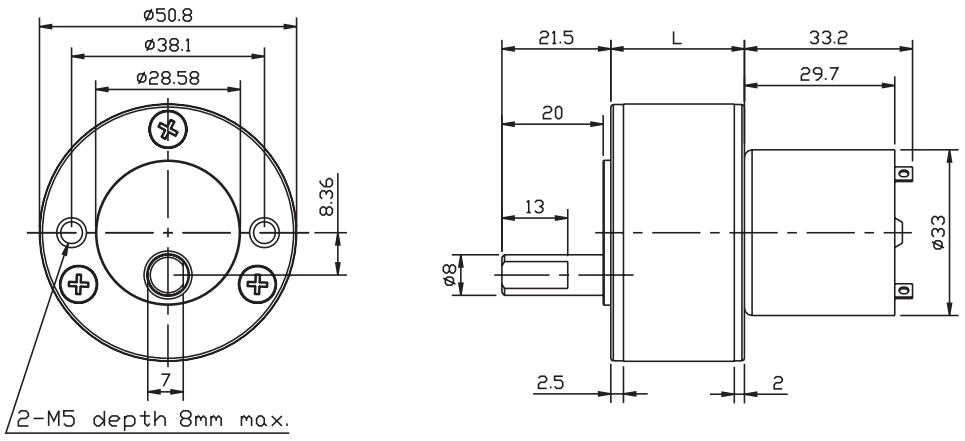
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Garbage disposers,Slot machine,Peristaltic pump,Angular telescope,Automatic door,Electric advertising,Medical equipment,ATM bank automatic system,Household appliances,Automatic actuator,Office equipment.

Weight: 360~420g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.9Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length "L" mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. RG-50M38123400-120K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



RG50M545 DC GEAR MOTOR Series

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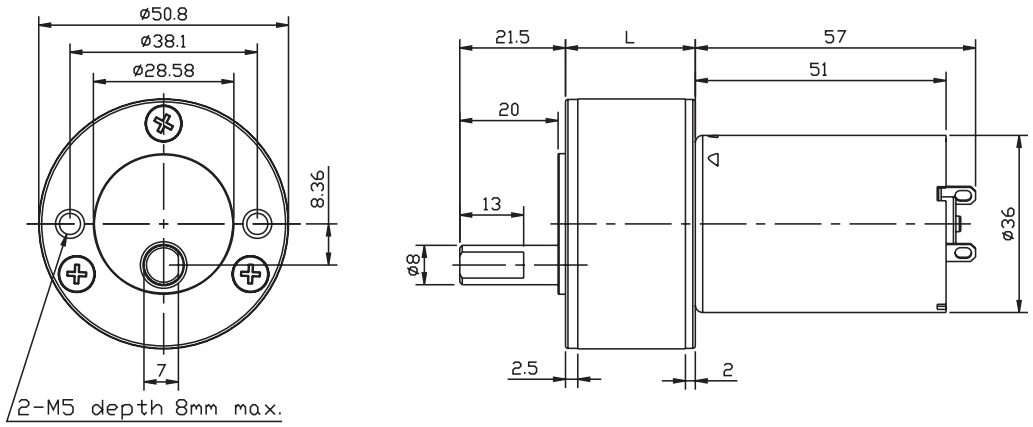
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:400~450g/pcs(approx)

Packing details:CTN size:34X31XH15cm 20pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length "L" mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. RG-50M545123000-120K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



RG50M555 DC GEAR MOTOR Series

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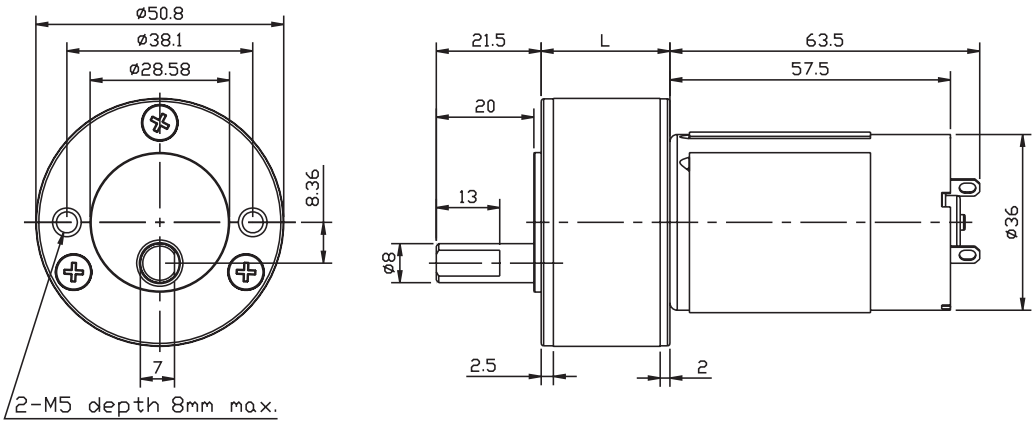
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:CTN size:34X31XH15cm 20pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length "L" mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. RG-50M555123000-120K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



RG50M775 DC GEAR MOTOR Series

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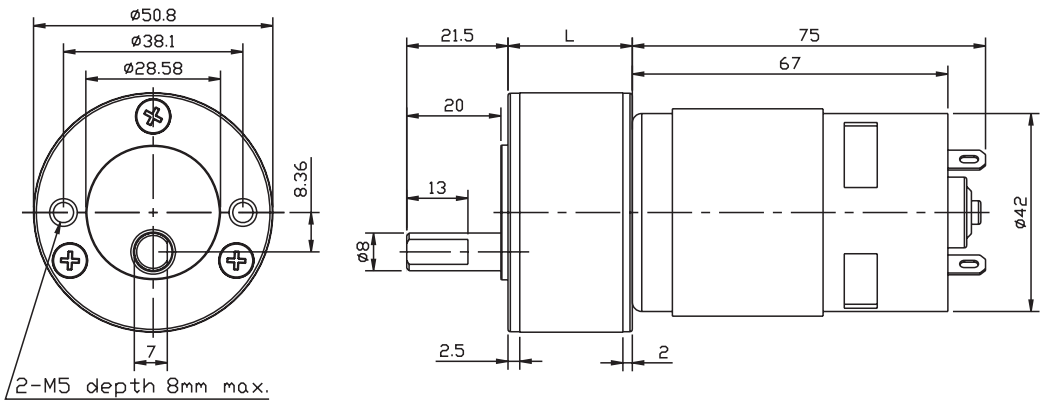
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:600~650g/pcs(approx)

Packing details:CTN size:34X31XH15cm 20pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length “L” mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. RG-50M775123000-120K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



RG50M40 DC GEAR MOTOR Series

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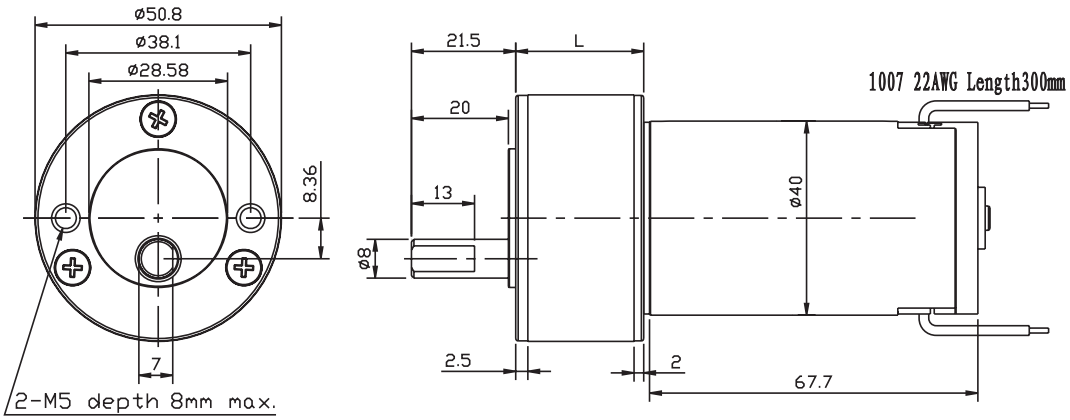
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:CTN size:34X31XH15cm 20pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length "L" mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤120	3000	≤750	2200	220	4.8	900	2.8
40ZY124500	12	≤190	4500	≤1500	3300	300	9.9	1200	6.0
40ZY126000	12	≤250	6000	≤3000	4500	400	18.0	1600	10
40ZY243000	24	≤80	3000	≤400	2200	220	4.8	900	1.5
40ZY244500	24	≤120	4500	≤800	3300	300	9.9	1200	3.0
40ZY246000	24	≤160	6000	≤1500	4500	400	18.0	1600	5.5

1、This table lists some motors parameters,others please refer to specific parameters of Page 152.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. RG-50M40123000-120K Motor please refer to the motor data 40ZY123000.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



RG50M45 DC GEAR MOTOR Series

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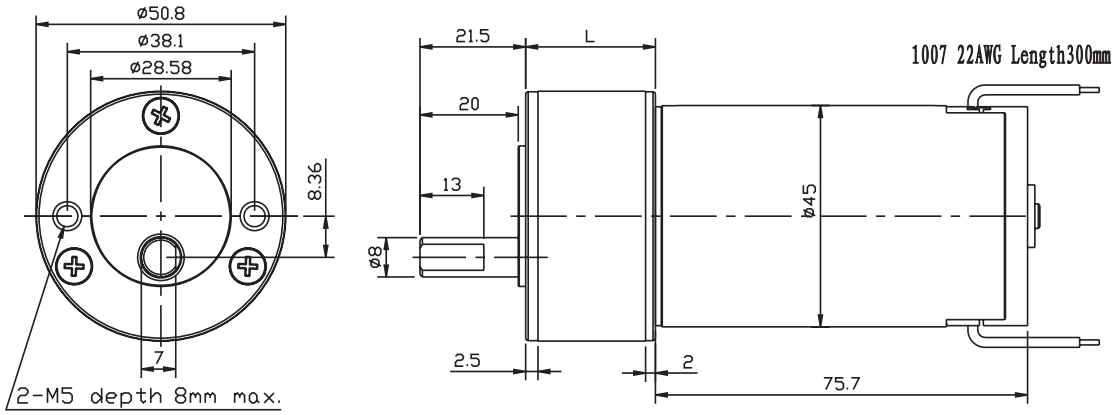
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4、5 stages reduction	6 stages reduction
Reduction ratio	7.2、7.5、13.3、13.8; 29、30、53、55	116、120、213、220; 464、480、853、883	1856、1920、3415、3532
Gearbox length "L" mm	26.4	30.2 33.9	37.7
Max. Running torque	10Kgf • cm	30Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	90Kgf • cm	90Kgf • cm
Max.Gearing efficiency	81%; 73%	65%; 59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

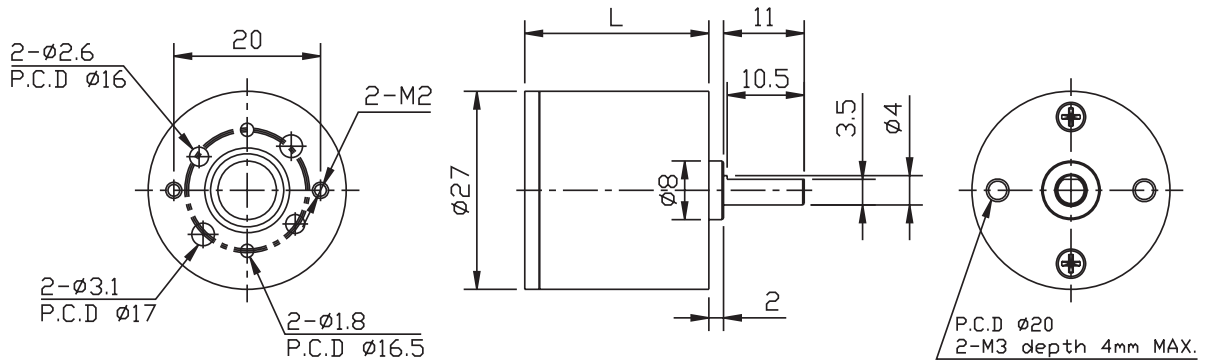
NOTE:

1、Gearmotor named methods: e.g. RG-50M45123000-120K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 120.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to SG-27 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 10kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 4mm.If so the gearbox will be demaged.

APPEARANCE SIZE

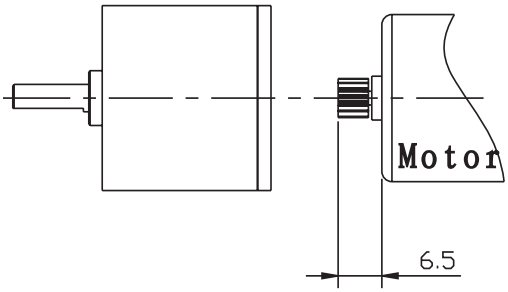


PINION SPECIFICATIONS

Module	0.4	0.4
No. of teeth	10	12
Pressure angle	20°	
Hole diameter	Φ1.98	
Reduction ratio	39，97，244 468，610	30，74，187

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
30	2875/96	0.5kgf • cm	1.5kgf • cm	65%	4	17.1	Same
39	625/16	0.5kgf • cm	1.5kgf • cm	65%	4	17.1	Same
74	14375/192	1kgf • cm	3kgf • cm	59%	5	19.6	Different
97	3125/32	1kgf • cm	3kgf • cm	59%	5	19.6	Different
187	71875/384	2kgf • cm	6kgf • cm	53%	6	22.1	Same
244	15625/64	2kgf • cm	6kgf • cm	53%	6	22.1	Same
468	359375/768	3kgf • cm	9kgf • cm	48%	7	24.6	Different
610	78125/128	3kgf • cm	9kgf • cm	48%	7	24.6	Different



SG-27 DC GEAR MOTOR Series

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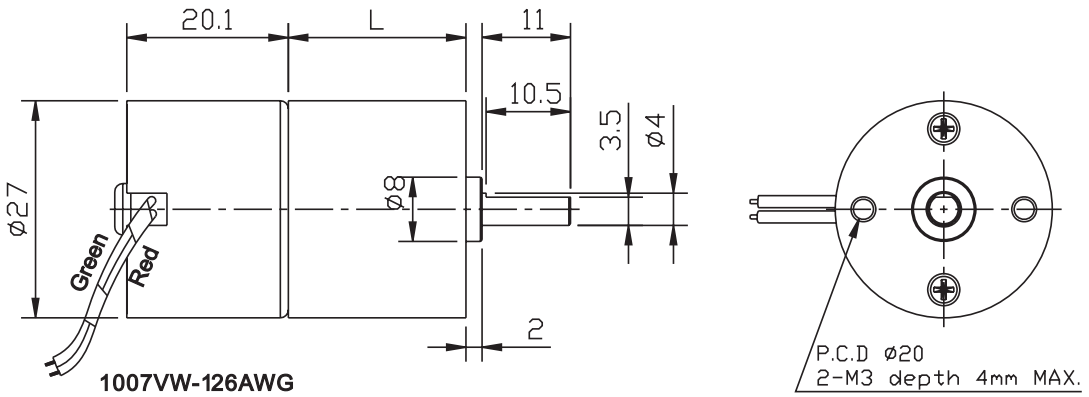
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Kind of figer-electroni locks,Water meter IC card,Toys and gifts,Optical equipment,Automatic energy saving bath,Office equipment,Household appliances,Automatic actuator.

Weight: 80~90g/pcs(approx)

Packing details: CTN size:37X27.5XH21cm 200pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	5 stages reduction	6 stages reduction	7 stages reduction
Reduction ratio	30、39	74、97	187、244	468、610
Gearbox length "L" mm	17.1	19.6	22.1	24.6
Max. Running torque	0.5Kgf • cm	1Kgf • cm	2Kgf • cm	3Kgf • cm
Max. Gear breaking torque	1.5Kgf • cm	3Kgf • cm	6Kgf • cm	9Kgf • cm
Max.Gearing efficiency	65%	59%	53%	48%
Other reduction ratio please telephone or e-mail to our engineering department.				

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
SG-27063800	6	≤30	3800	≤150	2850	16	0.46	64	500
SG-27065000	6	≤40	5000	≤250	3750	21	0.78	80	900
SG-27123800	12	≤15	3800	≤80	2850	16	0.46	64	250
SG-27125000	12	≤20	5000	≤130	3800	21	0.78	80	450
SG-27127600	12	≤40	7600	≤300	5700	31	1.8	120	1100
SG-27246000	24	≤25	6000	≤100	4500	24	1.1	95	320

1、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-27063800-74K Motor please refer to the motor data SG-27063800.Gearbox please refer to gearbox data reduction ratio 74.Related to gearmotor output speed and torque please refer to motor data.

2、Gearbox shell material:zinc alloy.

3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.

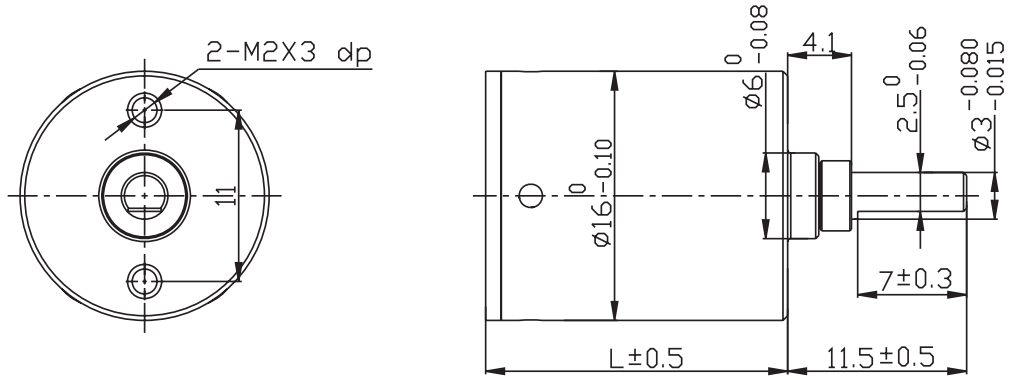
4、Standard output shaft after reducing:Φ4.0mm.other sizes of the output shaft can make as client request.

5、Chart only for reference,products shall prevail the entity.



Note:1、Housing material： Powder metallurgy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.2mm
6、The gear box can apply toRF-030 and RF-050 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 12kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 3mm.If so the gearbox will be demaged.

APPEARANCE SIZE

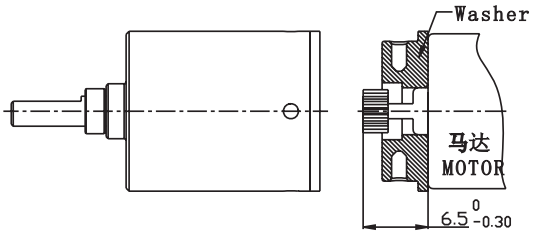


PINION SPECIFICATIONS

Module	0.3	0.3
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ1.98, Φ1.48	
Reduction ratio	4，19，22.5，90，107，304，361，428，509，2036，2418	4.8，16，64，76，256，1024，1216，1444，1715

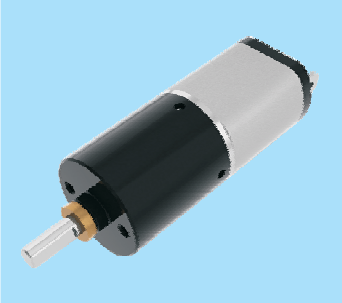
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
4，4.75	4，4 3/4	1.0kgf • cm	3.0kgf • cm	90%	1	15.8	Different
16，19，22.5	16，19，22 9/16	1.5kgf • cm	4.5kgf • cm	81%	2	15.8	Same
64，76，90	64，76，90 1/4	2.0kgf • cm	6.0kgf • cm	73%	3	19.4	Different
107	107 11/64	2.okgf • cm	6.0kgf • cm	73%	3	19.4	Different
256，304	256，304	3.0kgf • cm	9.0kgf • cm	65%	4	23	Same
361，428	361，428 11/16	3.0kgf • cm	9.0kgf • cm	65%	4	23	Same
509	509 17/256	3.0kgf • cm	9.0kgf • cm	65%	4	23	Same
1024，1216	1024，1216	4.0kgf • cm	12kgf • cm	59%	5	26.6	Different
1444，1715	1444，1714 3/4	4.0kgf • cm	12kgf • cm	59%	5	26.6	Different
2036，2418	2036 17/64，2418 67/1024	4.0kgf • cm	12kgf • cm	59%	5	26.6	Different



PG16M030 DC GEAR MOTOR Series

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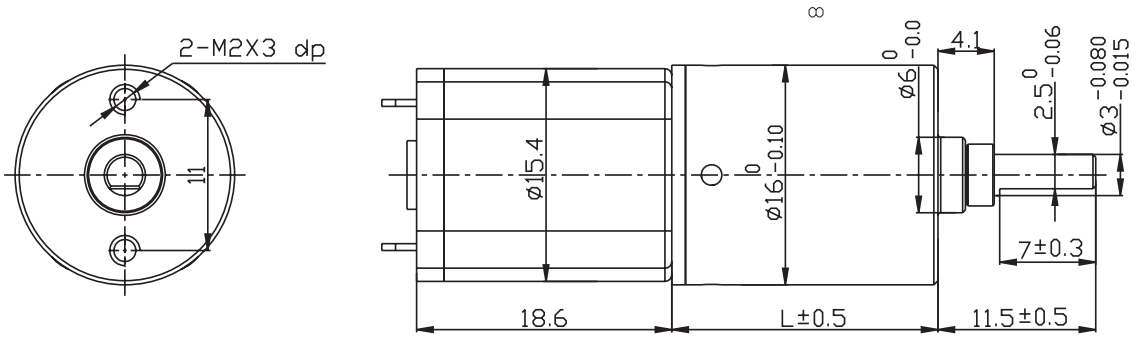
Main voltage: 1.5VDC、3VDC、6VDC、9VDC、12VDC、

Typical applications: Optical equipment,Montitoring cameras,Kind of figer-electroni locks,Automatic energy saving bath,Water IC card,Toys and gifts,Office equipment,Household appliances,Automatic actuator.

Weight: 40~60g/pcs(approx)

Packing details: CTN size:37X27.5XH21cm 200pcs/CTN G.W.11Kgs

APPEARANCE SIZE



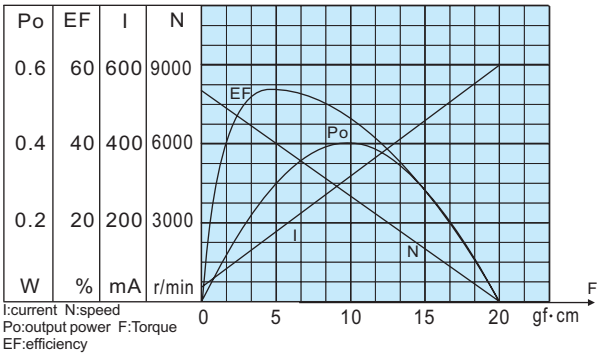
Geard Motor Torque/Speed

Reduction ratio		1/4	1/4.75	1/16	1/19	1/22.5	1/64	1/76	1/90	1/107	1/256	1/304	1/361	1/428	1/509	1/1024	1/1216	1/1444	1/1714	1/2036	1/2418
3V	Rated torque (gf.cm)	14.4	17.1	51.8	61.6	72.9	187	222	263	312	666	790	939	1110	1320	2420	2870	3400	4000	4000	4000
	Rated speed (r/min)	1625	1369	407	343	289	102	85	72	61	25	21	18	15	13	6.4	5.4	4.5	3.8	3.2	2.7
6V	Rated torque (gf.cm)	18	21.4	64.8	77	91.2	234	277	328	390	832	988	1170	1390	1650	3020	3590	4000	4000	4000	4000
	Rated speed (r/min)	2125	1790	532	448	378	133	112	95	80	33	28	23.6	20	16.7	8.3	7.0	5.9	5.0	4.2	3.5
Gearbox "L" mm		15.8		15.8			19.4				23					26.6					

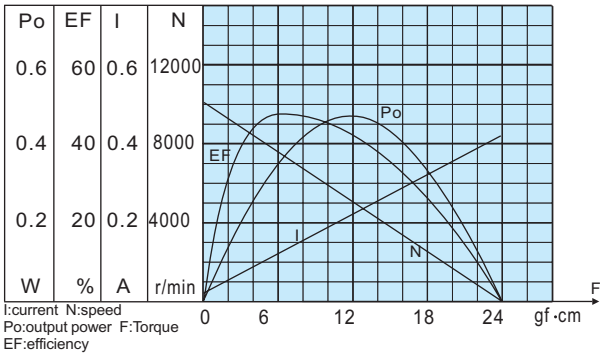
Motor Data

Rated volt(V)	Rated torque (g-cm)	Rated speed (rpm)	Rated current (mA)	No load speed (rpm)	No load current (mA)	Rated output (w)	Weight (g)
3	4.0	6500	≤240	8000	≤55	0.26	12
6	5.0	8500	≤140	10500	≤35	0.43	12

RF-030-3V-8000r/min Characteristics



RF-030-6V-10500r/min Characteristics





PG16M050 DC GEAR MOTOR Series

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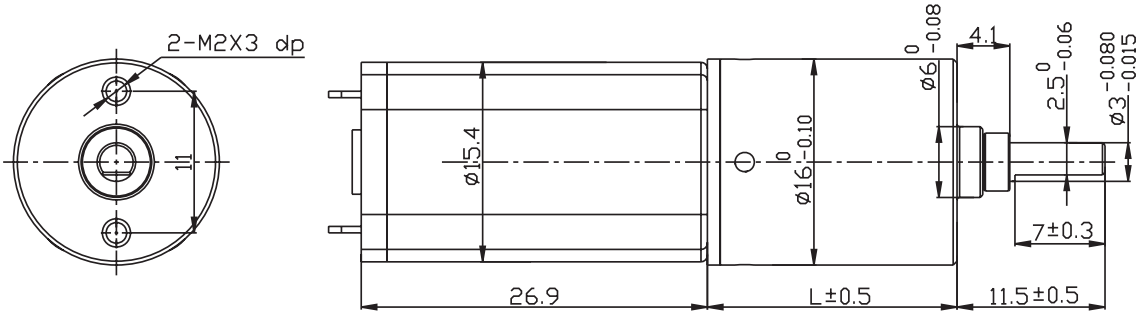
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Optical equipment,Montitoring cameras,Kind of figer-electroni locks,Automatic energy saving bath,Water IC card,Toys and gifts,Office equipment,Household appliances,Automatic actuator.

Weight:60~80g/pcs(approx)

Packing details:Packing details:CTN size:37X27.5XH21cm 200pcs/CTN G.W.14Kgs

APPEARANCE SIZE



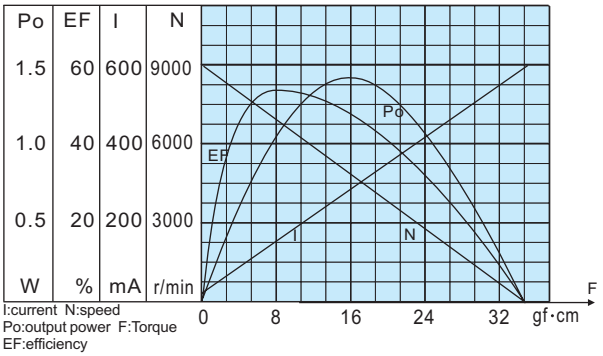
Geard Motor Torque/Speed

Reduction ratio		1/4	1/4.75	1/16	1/19	1/22.5	1/64	1/76	1/90	1/107	1/256	1/304	1/361	1/428	1/509	1/1024	1/1216	1/1444	1/1714	1/2036	1/2418
6V	Rated torque (gf.cm)	27	32	97	115	137	350	416	493	586	1250	1480	1760	2080	2480	4000	4000	4000	4000	4000	4000
	Rated speed (r/min)	1625	1369	407	343	289	102	85	72	61	25	21	18	15.2	12.8	6.3	5.4	4.5	3.8	3.2	2.7
9V	Rated torque (gf.cm)	25	30	90	108	127	326	388	460	545	1150	1380	1640	1950	2310	4000	4000	4000	4000	4000	4000
	Rated speed (r/min)	1625	1369	407	343	289	102	85	72	61	25	21	18	15.2	12.8	6.3	5.4	4.5	3.8	3.2	2.7
Gearbox "L" mm		15.8		15.8			19.4				23					26.6					

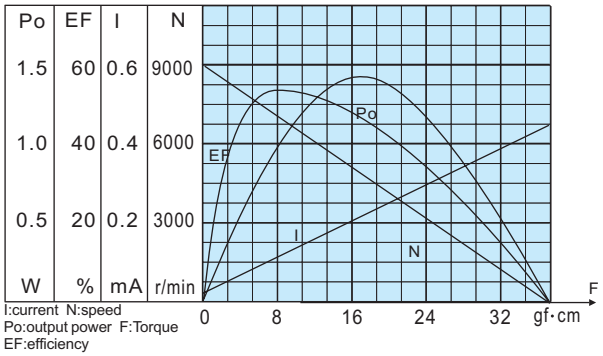
Motor Data

额定电压 Rated volt(V)	额定扭力 Rated torque (g-cm)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定功率 Rated output (w)	重量 Weight (g)
6	7.5	6500	≤160	8000	≤65	0.488	18
9	7.0	6500	≤110	8000	≤50	0.455	18

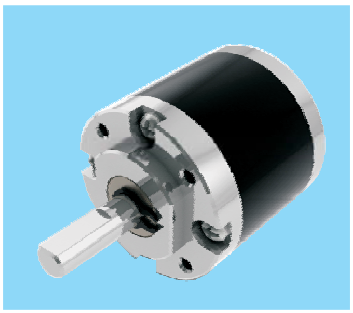
RF-050-6V-8000r/min Characteristics



RF-050-9V-8000r/min Characteristics

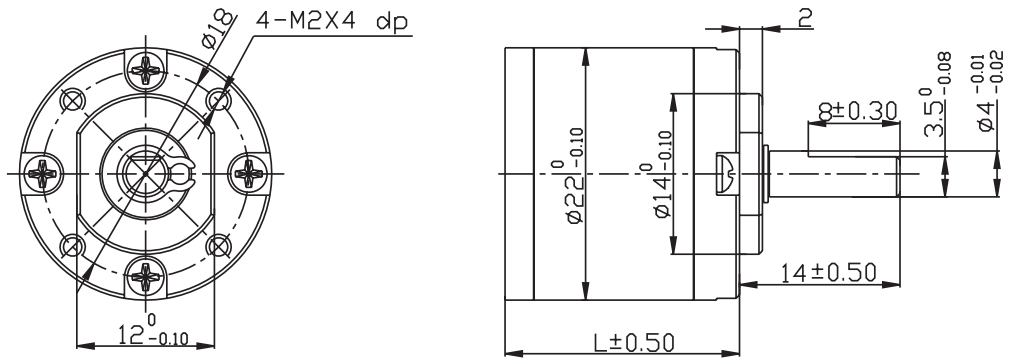


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Note:1、Housing material： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.2mm
6、The gear box can apply to RF-180 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 12kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 4mm.If so the gearbox will be demaged.

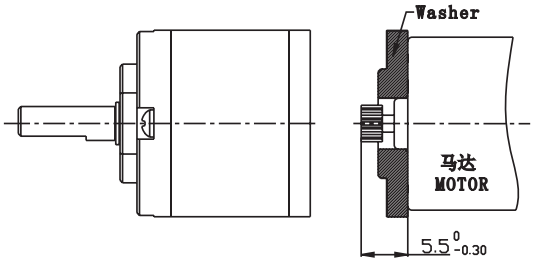
APPEARANCE SIZE



Module	0.3	0.3
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ1.98, Φ1.48	
Reduction ratio	4，19，22.5，90，107，304，361，428，509，2036，2418	4.8，16，64，76，256，1024，1216，1444，1715

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
4，4.75	4，4 3/4	1.0kgf • cm	3.0kgf • cm	90%	1	16.9	Different
16，19，22.5	16，19，22 9/16	1.5kgf • cm	4.5kgf • cm	81%	2	16.9	Same
64，76，90	64，76，90 1/4	2.0kgf • cm	6.0kgf • cm	73%	3	20.5	Different
107	107 11/64	2.okgf • cm	6.0kgf • cm	73%	3	20.5	Different
256，304	256，304	3.0kgf • cm	9.0kgf • cm	65%	4	24.1	Same
361，428	361，428 11/16	3.0kgf • cm	9.0kgf • cm	65%	4	24.1	Same
509	509 17/256	3.0kgf • cm	9.0kgf • cm	65%	4	24.1	Same
1024，1216	1024，1216	4.0kgf • cm	12kgf • cm	59%	5	27.6	Different
1444，1715	1444，1714 3/4	4.0kgf • cm	12kgf • cm	59%	5	27.6	Different
2036，2418	2036 17/64，2418 67/1024	4.0kgf • cm	12kgf • cm	59%	5	27.6	Different



PG22M180 DC GEAR MOTOR Series

SGMADA®

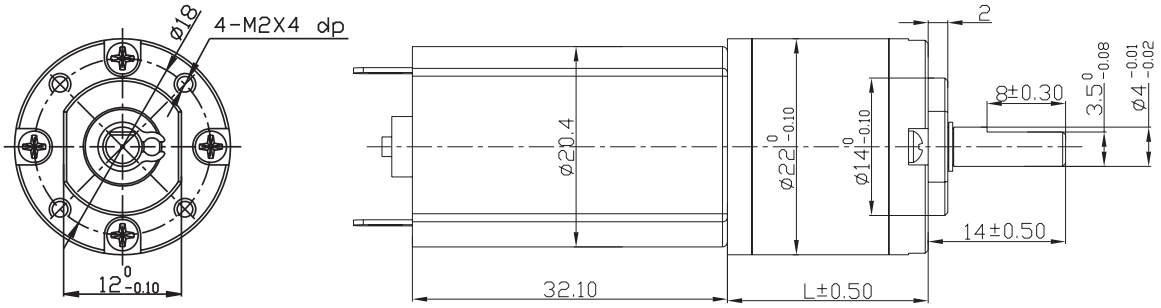
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Optical equipment,Montitoring cameras,Kind of figer-electroni locks,Automatic energy saving bath,Water IC card,Toys and gifts,Office equipment,Household appliances,Automatic actuator.

Weight: 100~120g/pcs(approx)

Packing details: CTN size:37X27.5XH21cm 200pcs/CTN G.W.22Kgs

APPEARANCE SIZE



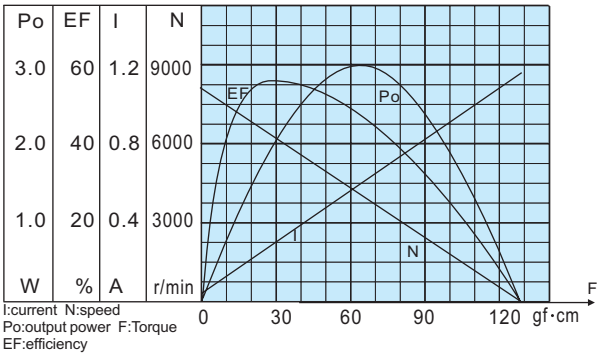
Geard Motor Torque/Speed

Reduction ratio		1/4	1/4.75	1/16	1/19	1/22.5	1/64	1/76	1/90	1/107	1/256	1/304	1/361	1/428	1/509	1/1024	1/1216	1/1444	1/1714	1/2036	1/2418
12V	Rated torque (gf.cm)	79	94	285	339	401	1028	1221	1445	1719	3360	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
	Rated speed (r/min)	1675	1411	419	353	298	105	88	75	63	26	22	19	16	13	7	6	5	4	3	3
24V	Rated torque (gf.cm)	79	94	285	339	401	1028	1221	1445	1719	3361	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
	Rated speed (r/min)	1850	1558	463	390	329	116	97	82	69	29	24	21	17	15	7	6	5	4	4	3
Gearbox “L” mm		16.9		16.9			20.5				24.1					27.6					

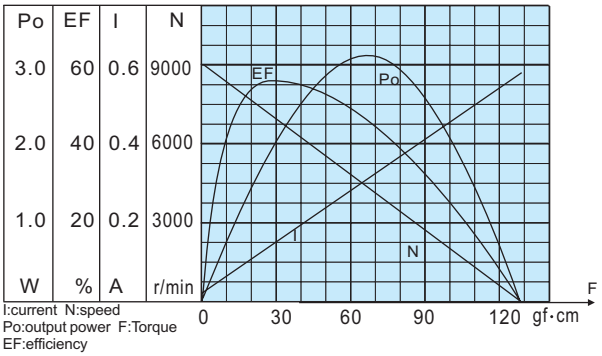
Motor Data

额定电压 Rated volt(V)	额定扭力 Rated torque (g-cm)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定功率 Rated output (w)	重量 Weight (g)
12	22	6700	≤200	8000	≤70	1.5	33
24	22	7400	≤110	9000	≤40	1.7	33

RF-180-12V-8000r/min Characteristics



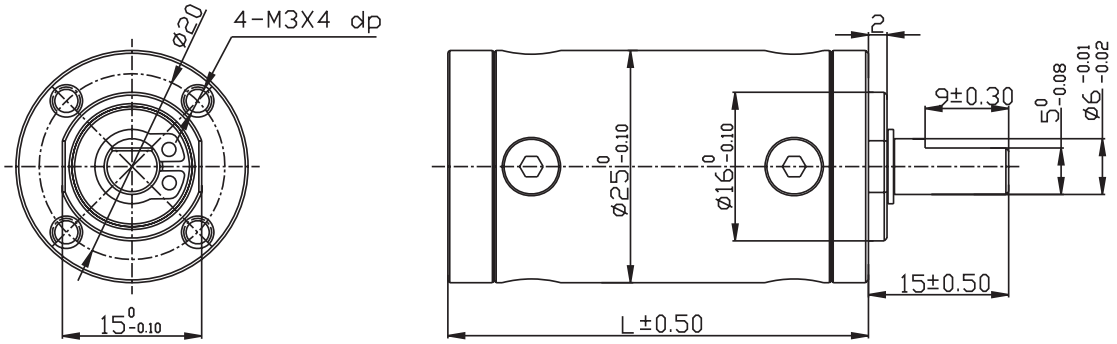
RF-180-24V-9000r/min Characteristics





Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings or ball bearing.
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.2mm
6、The gear box can apply toRF-370 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don t let the screws go through into the gearbox internal more than 4mm.If so the gearbox will be demaged.

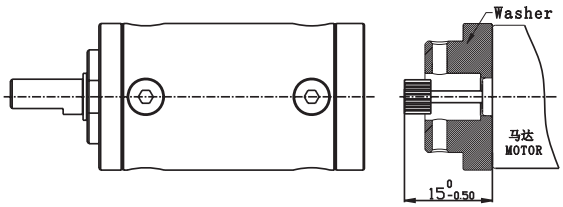
APPEARANCE SIZE



Module	0.4	0.4
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ1.98, Φ2.28, Φ2.98	
Reduction ratio	4，19，22.5，90，107，304，361，428，509，2036，2418	4.8，16，64，76，256，1024，1216，1444，1715

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length “L” mm	Direction (Relationship with motor)
4，4.75	4，4 3/4	2.0kgf • cm	6.0kgf • cm	90%	1	30.0	Different
16，19，22.5	16，19，22 9/16	3.0kgf • cm	9.0kgf • cm	81%	2	35.1	Same
64，76，90	64，76，90 1/4	4.0kgf • cm	12kgf • cm	73%	3	40.2	Different
107	107 11/64	4.0kgf • cm	12kgf • cm	73%	3	40.2	Different
256，304	256，304	6.0kgf • cm	18kgf • cm	65%	4	45.3	Same
361，428	361，428 11/16	6.0kgf • cm	18kgf • cm	65%	4	45.3	Same
509	509 17/256	6.0kgf • cm	18kgf • cm	65%	4	45.3	Same
1024，1216	1024，1216	10kgf • cm	30kgf • cm	59%	5	50.4	Different
1444，1715	1444，1714 3/4	10kgf • cm	30kgf • cm	59%	5	50.4	Different
2036，2418	2036 17/64，2418 67/1024	10kgf • cm	30kgf • cm	59%	5	50.4	Different



PG-25M370 DC GEAR MOTOR Series

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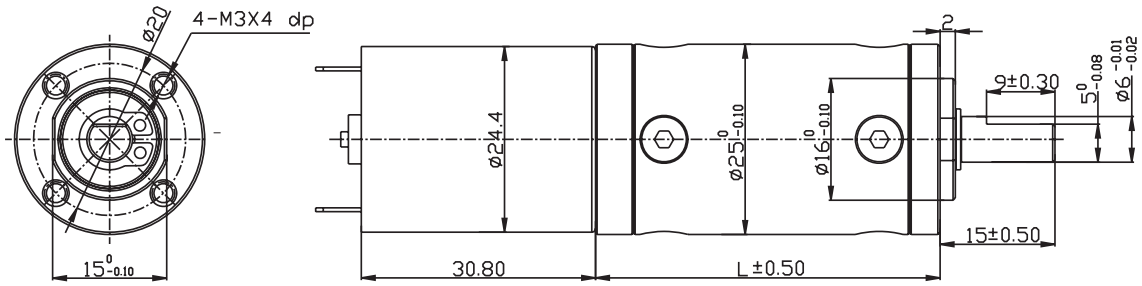
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Peristaltic pump,Micro CNC equipment,ATM bank automatic system,Card conveyors,Auto shutter,Binding machine,Mimeograph,Office equipment,Household appliances,Automatic actuator.

Weight: 120~160g/pcs(approx)

Packing details: CTN size:37X27.5XH21cm 100pcs/CTN G.W.17Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	4，4.75	16，19，22.5	64，76，90，107，	256，304，361，428，509，	1024，1216，1444，1715，2036，2418，
Gearbox length “L” mm	30	35.1	40.2	45.3	50.4
Max. Running torque	2.0Kgf • cm	3.0Kgf • cm	4.0Kgf • cm	6.0Kgf • cm	10Kgf • cm
Max. Gear breaking torque	6.0Kgf • cm	9.0Kgf • cm	12Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

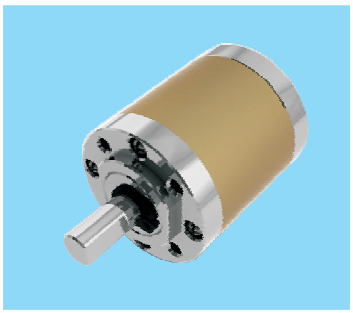
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RF-370063000	6	≤15	3000	≤100	2200	15	0.33	60	600
RF-370064500	6	≤25	4500	≤270	3300	24	0.8	90	1200
RF-370066000	6	≤40	6000	≤500	4500	30	1.4	120	1900
RF-370123000	12	≤15	3000	≤55	2200	15	0.33	60	280
RF-370126000	12	≤20	6000	≤250	4500	30	1.4	120	1200
RF-370246000	24	≤30	6000	≤130	4500	30	1.4	120	550

1、This table lists some motors parameters,others please refer to specific parameters of Page 111.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

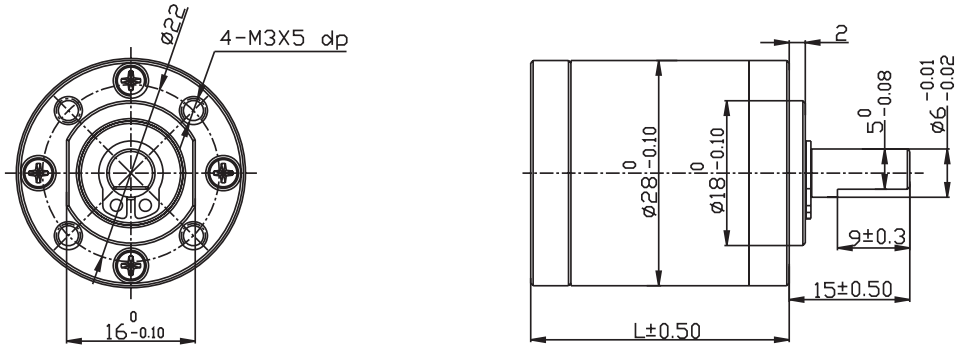
NOTE:

1、Gearmotor named methods: e.g. PG25M370123000-90K Motor please refer to the motor data RF-370123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder.
3、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to RS-365,RS-385 andRS-395 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 5 mm.If so the gearbox will be demaged.

APPEARANCE SIZE

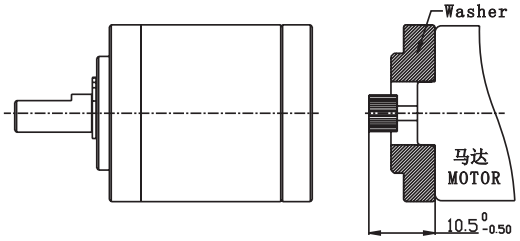


PINION SPECIFICATIONS

Module	0.4	0.4
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ1.98, Φ2.28, Φ2.98	
Reduction ratio	4，19，22.5，90，107，304，361，428，509，2036，2418	4.8，16，64，76，256，1024，1216，1444，1715

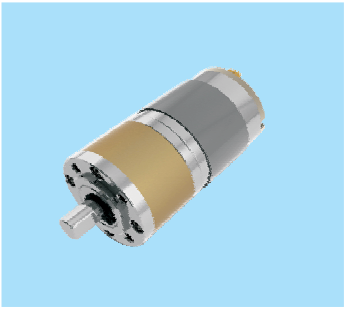
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
4，4.75	4，4 3/4	2.0kgf • cm	6.0kgf • cm	90%	1	22.0	Different
16，19，22.5	16，19，22 9/16	3.0kgf • cm	9.0kgf • cm	81%	2	27.1	Same
64，76，90	64，76，90 1/4	4.0kgf • cm	12kgf • cm	73%	3	32.2	Different
107	107 11/64	4.0kgf • cm	12kgf • cm	73%	3	32.2	Different
256，304	256，304	6.0kgf • cm	18kgf • cm	65%	4	37.3	Same
361，428	361，428 11/16	6.0kgf • cm	18kgf • cm	65%	4	37.3	Same
509	509 17/256	6.0kgf • cm	18kgf • cm	65%	4	37.3	Same
1024，1216	1024，1216	10kgf • cm	30kgf • cm	59%	5	42.4	Different
1444，1715	1444，1714 3/4	10kgf • cm	30kgf • cm	59%	5	42.4	Different
2036，2418	2036 17/64，2418 67/1024	10kgf • cm	30kgf • cm	59%	5	42.4	Different



PG28M385 DC GEAR MOTOR Series

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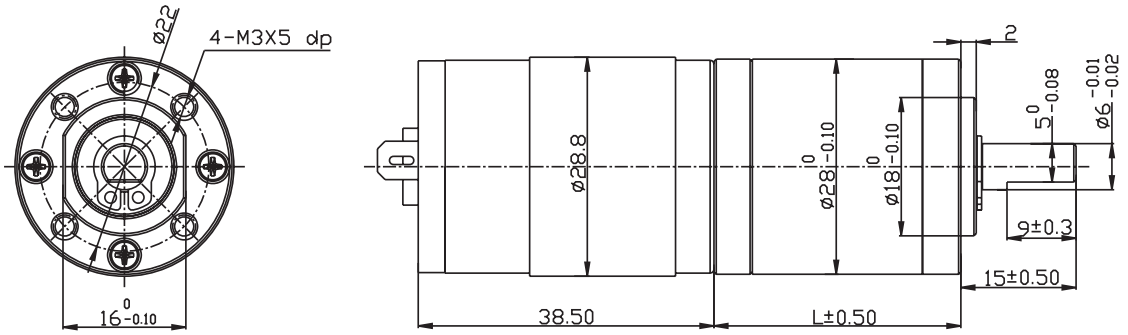
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Peristaltic pump,Micro CNC equipment,ATM bank automatic system,Card conveyors,Auto shutter,Binding machine,Mimeograph,Office equipment,Household appliances,Automatic actuator.

Weight: 180~220g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	4，4.75	16，19，22.5	64，76，90，107，	256，304，361，428，509，	1024，1216，1444，1715，2036，2418，
Gearbox length “L” mm	22	27.1	32.2	37.3	42.4
Max. Running torque	2.0Kgf • cm	3.0Kgf • cm	4.0Kgf • cm	6.0Kgf • cm	10Kgf • cm
Max. Gear breaking torque	6.0Kgf • cm	9.0Kgf • cm	12Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

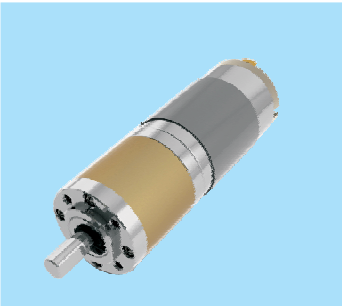
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-385123000	12	≤45	3000	≤150	2200	35	0.8	140	450
RS-385124500	12	≤70	4500	≤300	3300	55	1.8	220	1200
RS-385126000	12	≤100	6000	≤600	4500	80	3.6	320	1900
RS-385243000	24	≤25	3000	≤70	2200	35	0.8	140	230
RS-385244500	24	≤40	4500	≤150	3300	55	1.8	220	600
RS-385246000	24	≤50	6000	≤300	4500	80	3.6	320	1000

1、This table lists some motors parameters,others please refer to specific parameters of Page 143.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PG285M385123000-90K Motor please refer to the motor data RS-385123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 139.
3、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG28M395 DC GEAR MOTOR Series

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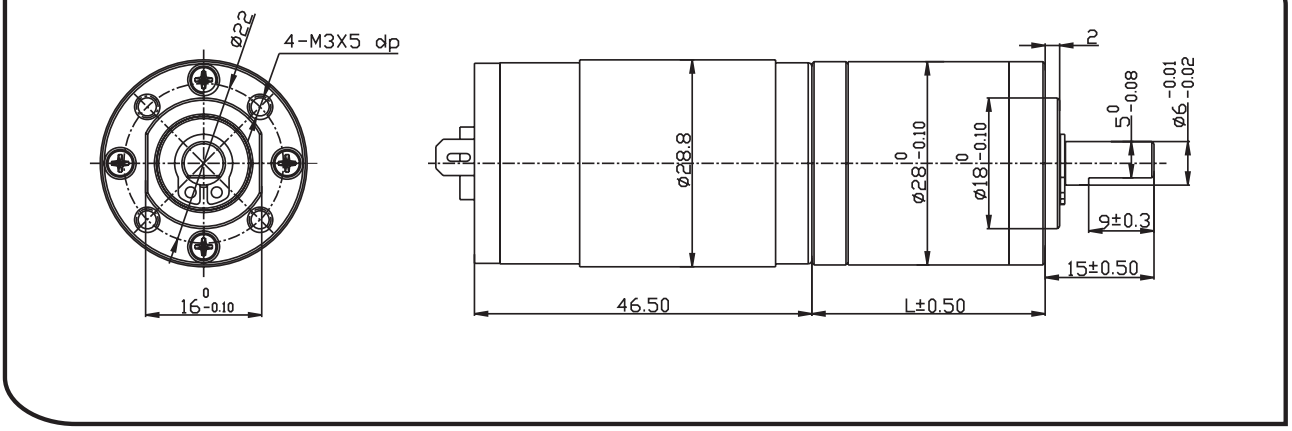
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Peristaltic pump,Micro CNC equipment,ATM bank automatic system,Card conveyors,Auto shutter,Binding machine,Mimeograph,Office equipment,Household appliances,Automatic actuator.

Weight: 240~280g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	4，4.75	16，19，22.5	64，76，90，107，	256，304，361，428，509，	1024，1216，1444，1715，2036，2418，
Gearbox length “L” mm	22	27.1	32.2	37.3	42.4
Max. Running torque	2.0Kgf • cm	3.0Kgf • cm	4.0Kgf • cm	6.0Kgf • cm	10Kgf • cm
Max. Gear breaking torque	6.0Kgf • cm	9.0Kgf • cm	12Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

Motor data:

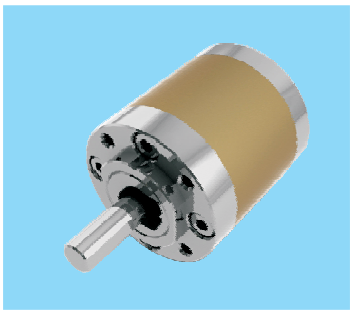
Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-395123000	12	≤60	3000	≤250	2200	65	1.4	260	800
RS-395124500	12	≤90	4500	≤430	3300	80	2.6	320	1400
RS-395126000	12	≤130	6000	≤750	4500	105	4.7	420	2600
RS-395243000	24	≤40	3000	≤120	2200	65	1.4	260	400
RS-395244500	24	≤50	4500	≤220	3300	80	2.6	320	700
RS-395246000	24	≤70	6000	≤380	4500	105	4.7	420	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 144.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

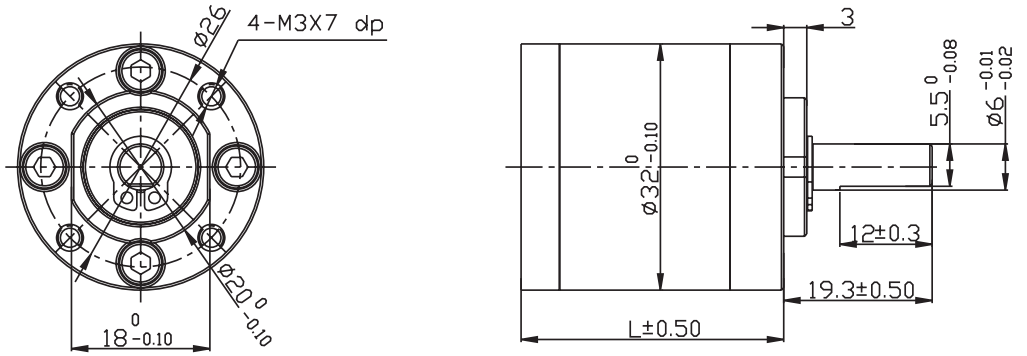
1、Gearmotor named methods: e.g. PG28M395123000-90K Motor please refer to the motor data RS-395123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 139.
3、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.

SGMADA®



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to 31ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than30kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 7mm.If so the gearbox will be demaged.

APPEARANCE SIZE

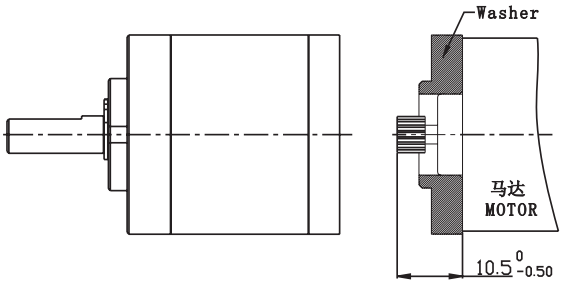


PINION SPECIFICATIONS

Module	0.4	0.4
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ1.98, Φ2.28, Φ2.98	
Reduction ratio	4，19，22.5，90，107，304，361，428，509，2036，2418	4.8，16，64，76，256，1024，1216，1444，1715

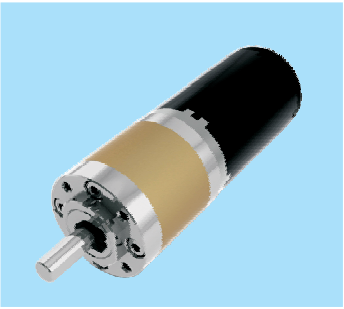
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
4，4.75	4，4 3/4	2.0kgf • cm	3.0kgf • cm	90%	1	24.0	Different
16，19，22.5	16，19，22 9/16	3.0kgf • cm	4.5kgf • cm	81%	2	29.1	Same
64，76，90	64，76，90 1/4	4.0kgf • cm	6.0kgf • cm	73%	3	34.2	Different
107	107 11/64	4.okgf • cm	6.0kgf • cm	73%	3	34.2	Different
256，304	256，304	6.0kgf • cm	9.0kgf • cm	65%	4	39.3	Same
361，428	361，428 11/16	6.0kgf • cm	9.0kgf • cm	65%	4	39.3	Same
509	509 17/256	6.0kgf • cm	9.0kgf • cm	65%	4	39.3	Same
1024，1216	1024，1216	10kgf • cm	12kgf • cm	59%	5	44.4	Different
1444，1715	1444，1714 3/4	10kgf • cm	12kgf • cm	59%	5	44.4	Different
2036，2418	2036 17/64，2418 67/1024	10kgf • cm	12kgf • cm	59%	5	44.4	Different



PG32M31ZY DC GEAR MOTOR Series SGMADA®

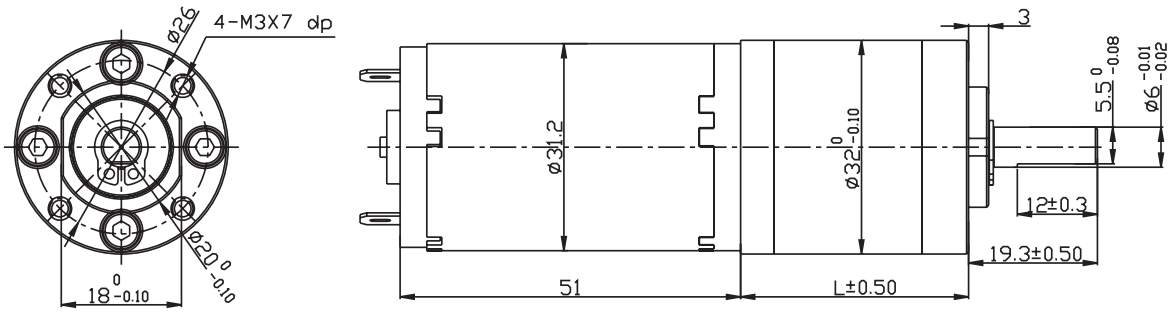
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Micro CNC equipment,Central air-conditioning valve,Robots,Towel dispensers,Limelight,Automatic closetbowl special valve,Electric advertising,Angular telescope,Office equipment,Household appliances,Automatic actuator.

Weight: 180~230g/pcs(approx)

Packing details: CTN size:36.5X31XH17cm 60pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	4，4.75	16，19，22.5	64，76，90，107，	256，304，361，428，509，	1024，1216，1444，1715，2036，2418，
Gearbox length “L” mm	24	29.1	34.2	39.3	44.4
Max. Running torque	2.0Kgf • cm	3.0Kgf • cm	4.0Kgf • cm	6.0Kgf • cm	10Kgf • cm
Max. Gear breaking torque	6.0Kgf • cm	9.0Kgf • cm	12Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

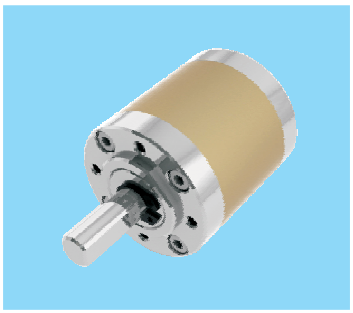
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
31ZY123000	12	≤100	3000	≤400	2200	90	2.0	360	1600
31ZY124500	12	≤150	4500	≤700	3300	130	4.3	520	2700
31ZY126000	12	≤220	6000	≤1200	4500	180	8.0	720	5000
31ZY243000	24	≤60	3000	≤200	2200	90	2.0	360	800
31ZY244500	24	≤90	4500	≤350	3300	130	4.3	520	1300
31ZY246000	24	≤130	6000	≤650	4500	180	8.0	720	2600

1、This table lists some motors parameters,others please refer to specific parameters of Page150.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

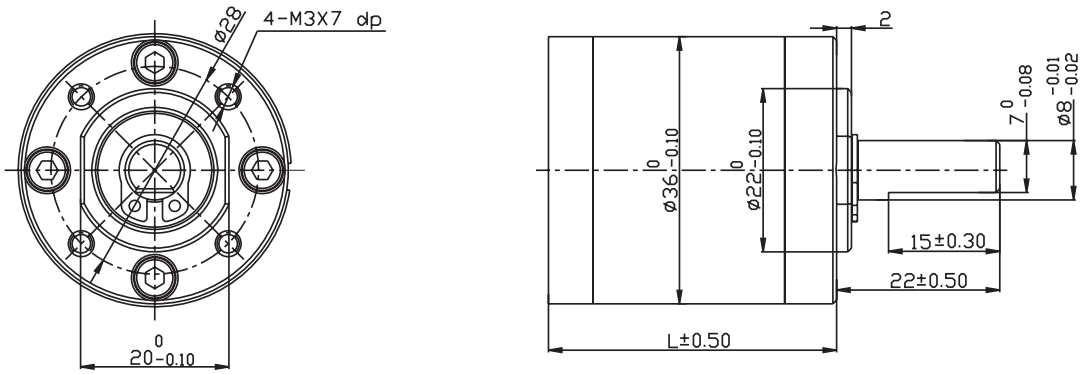
NOTE:

1、Gearmotor named methods: e.g. PG32M31123000-90K Motor please refer to the motor data 31ZY123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 139.
3、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to RS-528,RS-545,RS-555,36ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 60kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don ’t let the screws go through into the gearbox internal more than 7mm.If so the gearbox will be demaged.

APPEARANCE SIZE

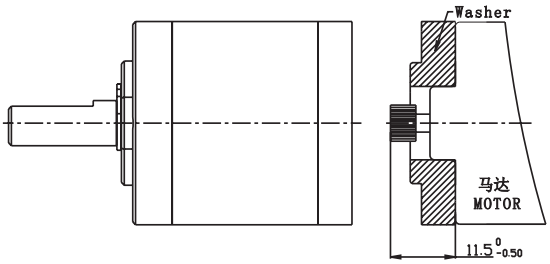


PINION SPECIFICATIONS

Module	0.5	0.5
No. of teeth	11	17
Pressure angle	20°	
Hole diameter	Φ1.98, Φ2.28, Φ3.14	
Reduction ratio	5.2, 19.2, 26.9, 99.5, 139, 516, 721, 1911, 2672, 3736	3.7, 13.7, 50.9, 71.2, 188, 264, 369, 699, 997, 1367

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length “L” mm	Direction (Relationship with motor)
3.7，5.2	3 12/17，5 2/11	3.0kgf • cm	9.0kgf • cm	90%	1	26.4	Different
13.7，19.2，26.9	$13\frac{212}{289}$ ，$19\frac{38}{187}$ ，$26\frac{103}{121}$	6.0kgf • cm	18kgf • cm	81%	2	32.6	Same
50.9，71.2	504 397/4913，71 524/3179	8.0kgf • cm	24kgf • cm	73%	3	38.9	Different
99.5，139	99 1044/2057，139 184/1331	8.0kgf • cm	24kgf • cm	73%	3	38.9	Different
188，264	188 51013/83521，263 39370/54043	12kgf • cm	36kgf • cm	65%	4	45.3	Same
369，516	368 26689/34969，515 14254/22627	12kgf • cm	36kgf • cm	65%	4	45.3	Same
721	720 14481/14641	12kgf • cm	36kgf • cm	65%	4	45.3	Same
699，977	$698\frac{1376357}{1419857}$ ，$977\frac{318590}{918731}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different
1367，1911	$1366\frac{352585}{594473}$ ，$1910\frac{332327}{384659}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different
2672，3736	$2671\frac{224176}{248897}$ ，$3736\frac{5521}{161051}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different



PG36M528 DC GEAR MOTOR Series

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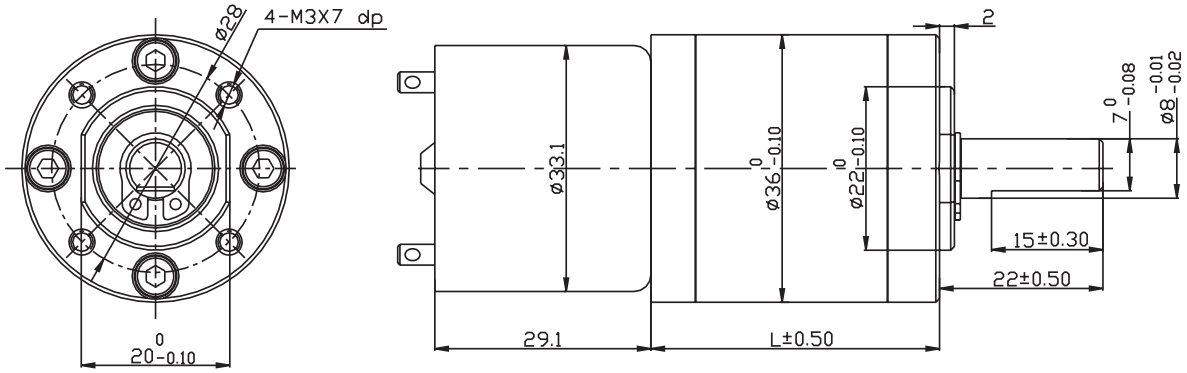
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 220~300g/pcs(approx)

Packing details: CTN size:32X28XH26cm 40pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516， 721，	699，977，1367，1911， 2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PG36M528123400-99.5K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG36M545 DC GEAR MOTOR Series

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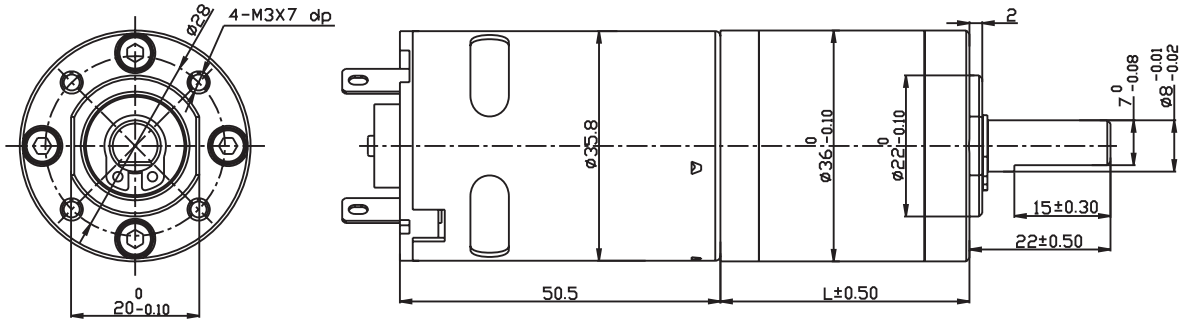
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 280~350g/pcs(approx)

Packing details: CTN size:32X28XH26cm 40pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

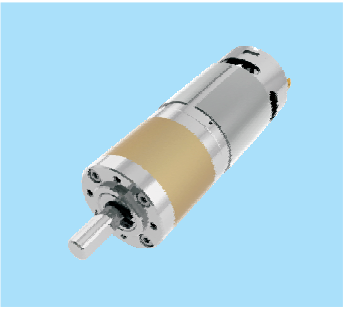
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-545123000-99.5K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG36M555 DC GEAR MOTOR Series

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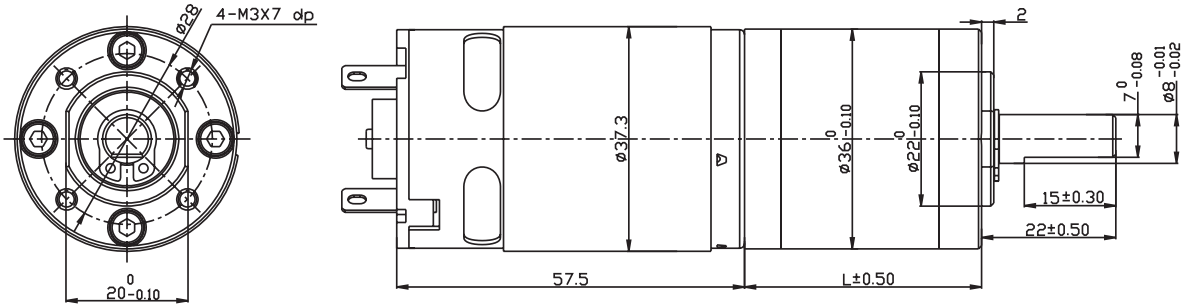
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 320~400g/pcs(approx)

Packing details: CTN size:32X28XH26cm 40pcs/CTN G.W.16Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

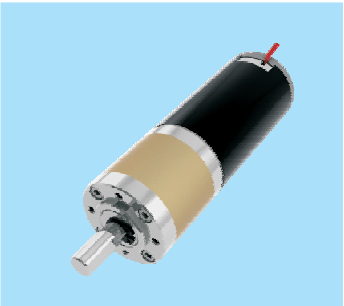
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-555123000-99.5K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG36M36 DC GEAR MOTOR Series

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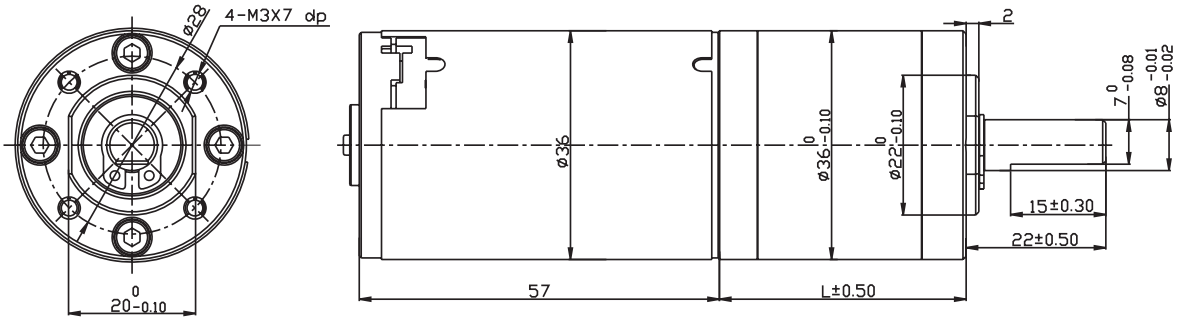
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 320~420g/pcs(approx)

Packing details: CTN size:32X28XH26cm 40pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

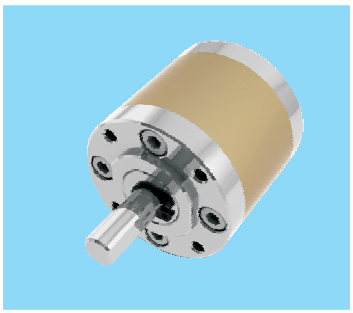
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
36ZY123000	12	≤140	3000	≤800	2200	180	4.0	750	3000
36ZY124500	12	≤220	4500	≤1200	3300	250	8.5	950	4800
36ZY126000	12	≤350	6000	≤2000	4500	350	15.0	1400	6000
36ZY243000	24	≤70	3000	≤400	2200	180	4.0	750	1600
36ZY244500	24	≤110	4500	≤600	3300	250	8.5	950	3000
36ZY246000	24	≤180	6000	≤1000	4500	350	15.0	1400	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 151.
2、After connecting motor and gearbox which is named gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

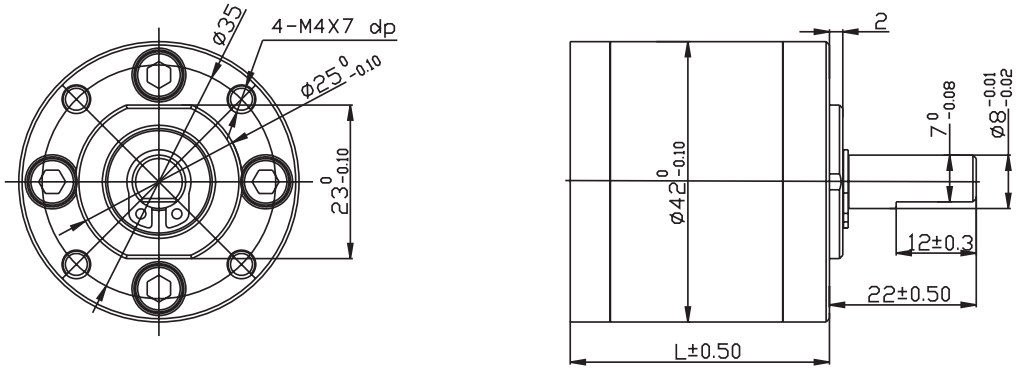
NOTE:

1、Gearmotor named methods: e.g. PG36M36123000-99.5K Motor please refer to the motor data 36ZY123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to 40ZY,RS-555 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 60kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 7mm.If so the gearbox will be demaged.

APPEARANCE SIZE

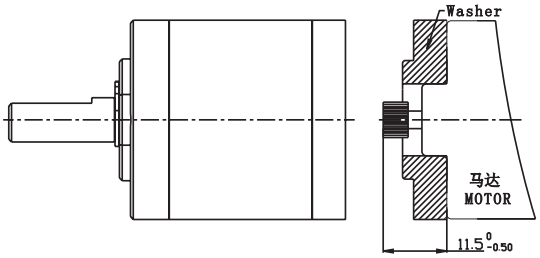


PINION SPECIFICATIONS

Module	0.5	0.5
No. of teeth	11	17
Pressure angle	20°	
Hole diameter	Φ1.98, Φ2.28, Φ3.14	
Reduction ratio	5.2, 19.2, 26.9, 99.5, 139, 516, 721, 1911, 2672, 3736	3.7, 13.7, 50.9, 71.2, 188, 264, 369, 699, 997, 1367

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
3.7，5.2	3 12/17，5 2/11	3.0kgf • cm	9.0kgf • cm	90%	1	26.4	Different
13.7，19.2，26.9	$13\frac{212}{289}$ ，$19\frac{38}{187}$ ，$26\frac{103}{121}$	6.0kgf • cm	18kgf • cm	81%	2	32.6	Same
50.9，71.2	504 397/4913，71 524/3179	8.0kgf • cm	24kgf • cm	73%	3	38.9	Different
99.5，139	99 1044/2057，139 184/1331	8.0kgf • cm	24kgf • cm	73%	3	38.9	Different
188，264	188 51013/83521，263 39370/54043	12kgf • cm	36kgf • cm	65%	4	45.3	Same
369，516	368 26689/34969，515 14254/22627	12kgf • cm	36kgf • cm	65%	4	45.3	Same
721	720 14481/14641	12kgf • cm	36kgf • cm	65%	4	45.3	Same
699，977	$698\frac{1376357}{1419857}$ ，$977\frac{318590}{918731}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different
1367，1911	$1366\frac{352585}{594473}$ ，$1910\frac{332327}{384659}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different
2672，3736	$2671\frac{224176}{248897}$ ，$3736\frac{5521}{161051}$	20kgf • cm	60kgf • cm	59%	5	52.5	Different



PG42M40 DC GEAR MOTOR Series

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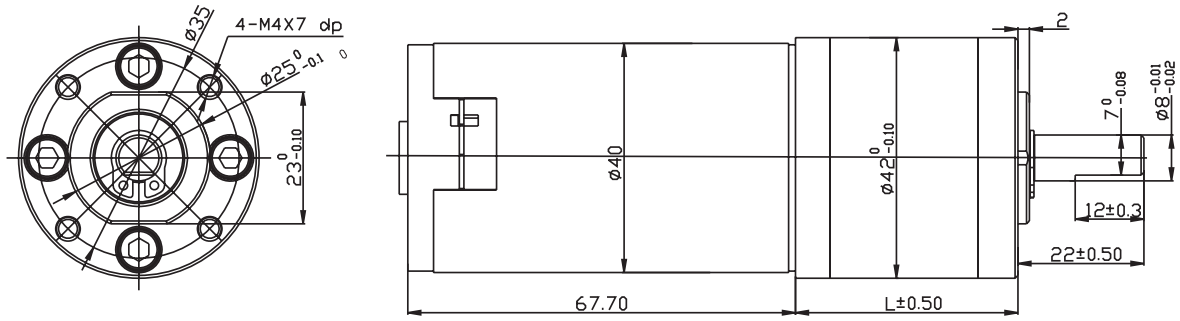
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 350~560g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

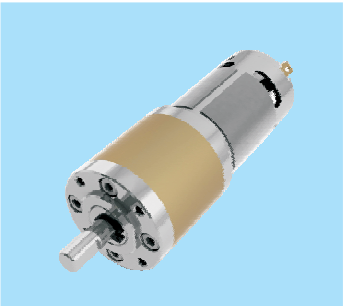
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤120	3000	≤750	2200	220	4.8	900	2.8
40ZY124500	12	≤190	4500	≤1500	3300	300	9.9	1200	6.0
40ZY126000	12	≤250	6000	≤3000	4500	400	18.0	1600	10
40ZY243000	24	≤80	3000	≤400	2200	220	4.8	900	1.5
40ZY244500	24	≤120	4500	≤800	3300	300	9.9	1200	3.0
40ZY246000	24	≤160	6000	≤1500	4500	400	18.0	1600	5.5

1、This table lists some motors parameters,others please refer to specific parameters of Page 152.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PG42M40123000-99.5K Motor please refer to the motor data 40ZY123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG42M555 DC GEAR MOTOR Series

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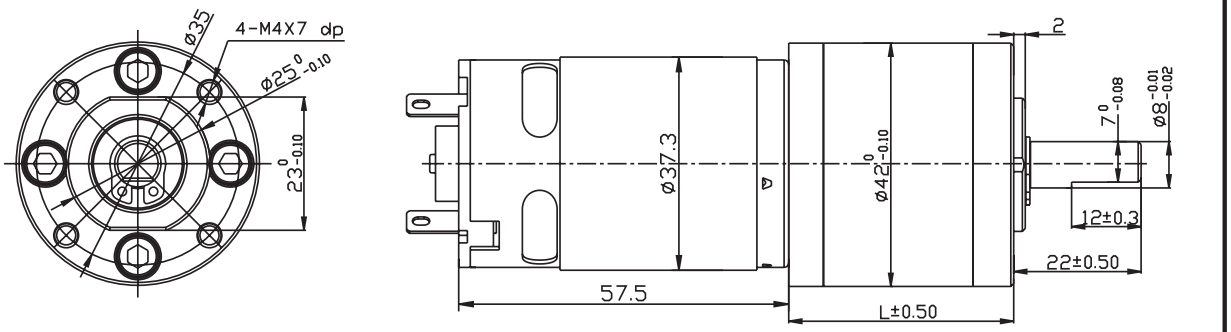
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Auto shutter,Pan/Tilt camera,Slot machine,Money detector,Coin refund devices,Currency count machine,Towel dispensers,Automatic doors,Peritoneal machine,Automatic TV rack,Office equipment,Household appliances,Automatic

Weight: 320~480g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.10Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	26.4	32.6	38.9	45.3	52.5
Max. Running torque	3.0Kgf • cm	6.0Kgf • cm	8.0Kgf • cm	12Kgf • cm	20Kgf • cm
Max. Gear breaking torque	9.0Kgf • cm	18Kgf • cm	24Kgf • cm	36Kgf • cm	60Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

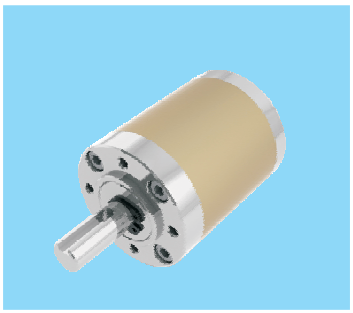
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

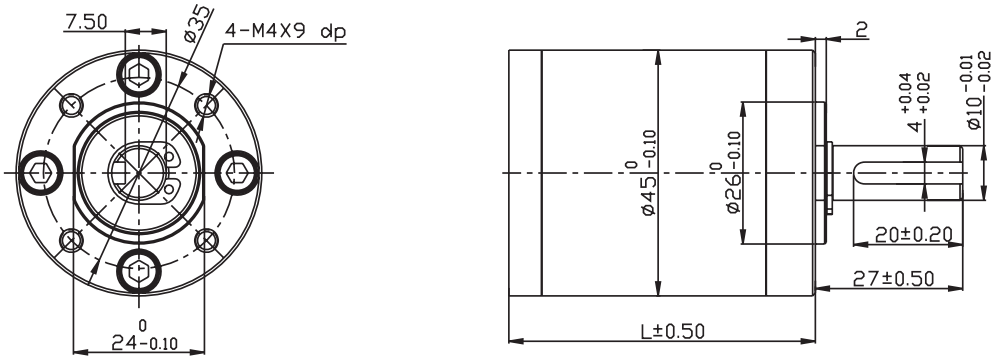
NOTE:

1、Gearmotor named methods: e.g. PG42M555123000-99.5K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



Note:1、Housing material： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to SG-27 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 150kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don't let the screws go through into the gearbox internal more than 9mm.If so the gearbox will be demaged.

APPEARANCE SIZE

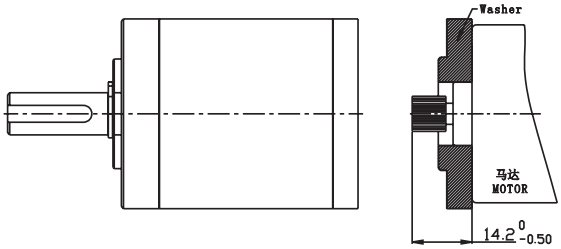


PINION SPECIFICATIONS

Module	0.6	0.6
No. of teeth	11	17
Pressure angle	20°	
Hole diameter	Φ3.14, Φ3.97	Φ3.14, Φ3.97, Φ4.97
Reduction ratio	5.2, 19.2, 26.9, 99.5, 139, 516, 721, 1911, 2672, 3736	3.7, 13.7, 50.9, 71.2, 188, 264, 369, 699, 997, 1367

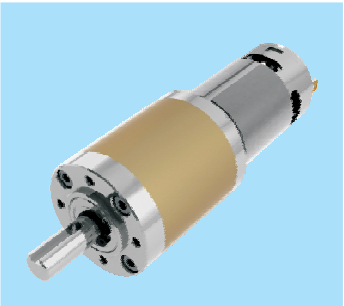
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
3.7, 5.2	3 12/17, 5 2/11	6.0kgf • cm	18kgf • cm	90%	1	33.6	Different
13.7, 19.2, 26.9	$13\frac{212}{289}$, $19\frac{38}{187}$, $26\frac{103}{121}$	12kgf • cm	36kgf • cm	81%	2	44.9	Same
50.9, 71.2	504 397/4913, 71 524/3179	20kgf • cm	60kgf • cm	73%	3	56.2	Different
99.5, 139	99 1044/2057, 139 184/1331	20kgf • cm	60kgf • cm	73%	3	56.2	Different
188, 264	188 51013/83521, 263 39370/54043	30kgf • cm	90kgf • cm	65%	4	67.5	Same
369, 516	368 26689/34969, 515 14254/22627	30kgf • cm	90kgf • cm	65%	4	67.5	Same
721	720 14481/14641	30kgf • cm	90kgf • cm	65%	4	67.5	Same
699, 977	$698\frac{1376357}{1419857}$, $977\frac{318590}{918731}$	50kgf • cm	150kgf • cm	59%	5	78.8	Different
1367, 1911	$1366\frac{352585}{594473}$, $1910\frac{332327}{384659}$	50kgf • cm	150kgf • cm	59%	5	78.8	Different
2672, 3736	$2671\frac{224176}{248897}$, $3736\frac{5521}{161051}$	50kgf • cm	150kgf • cm	59%	5	78.8	Different



PG45M555 DC GEAR MOTOR Series

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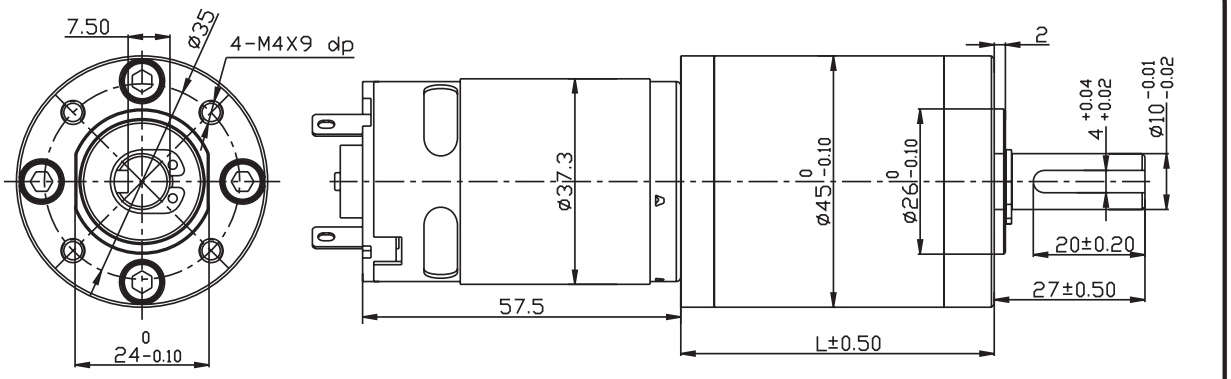
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt cameras,Grill,Oven,Cleaning machine,Garbage disposers,Packing bank note machine,Coffee machine,Medical machine,Manotat,Amusement equipment,infusion pumps,Office equipment,Household appliances,Automatic

Weight: 420~660g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	33.6	44.9	56.2	67.5	78.8
Max. Running torque	6.0Kgf • cm	12Kgf • cm	20Kgf • cm	30Kgf • cm	50Kgf • cm
Max. Gear breaking torque	18Kgf • cm	36Kgf • cm	60Kgf • cm	90Kgf • cm	150Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

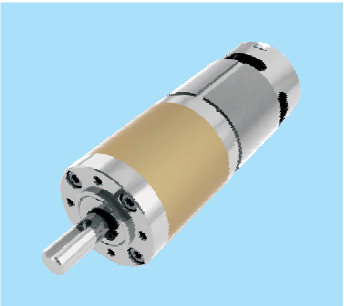
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PG45M555123000-99.5K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG45M775 DC GEAR MOTOR Series

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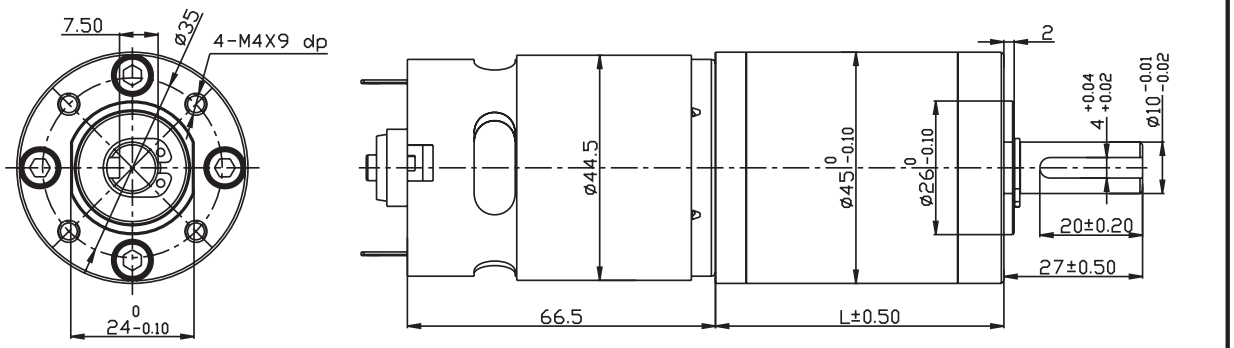
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt cameras,Grill,Oven,Cleaning machine,Garbage disposers,Packing bank note machine,Coffee machine,Medical machine,Manotat,Amusement equipment,infusion pumps,Office equipment,Household appliances,Automatic

Weight: 520~760g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.16Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	33.6	44.9	56.2	67.5	78.8
Max. Running torque	6.0Kgf • cm	12Kgf • cm	20Kgf • cm	30Kgf • cm	50Kgf • cm
Max. Gear breaking torque	18Kgf • cm	36Kgf • cm	60Kgf • cm	90Kgf • cm	150Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

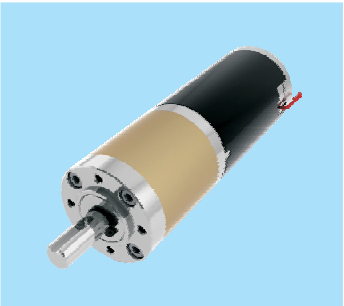
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PG45M775123000-99.5K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



PG45M45 DC GEAR MOTOR Series

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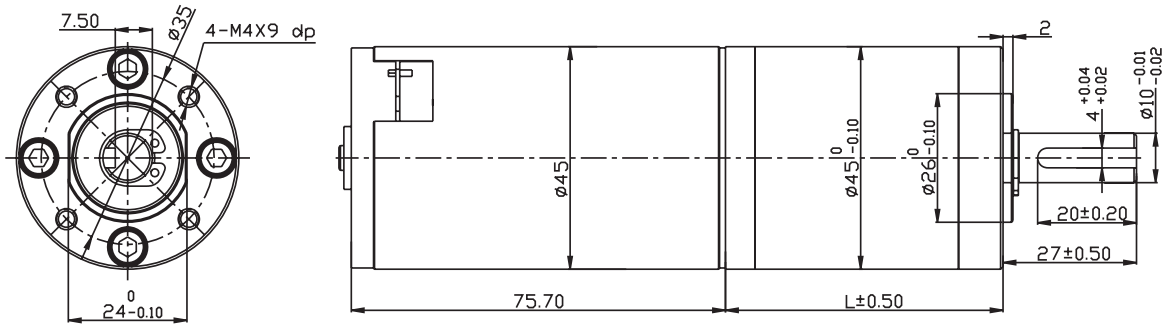
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt cameras,Grill,Oven,Cleaning machine,Garbage disposers,Packing bank note machine,Coffee machine,Medical machine,Manotat,Amusement equipment,infusion pumps,Office equipment,Household appliances,Automatic

Weight: 520~760g/pcs(approx)

Packing details: CTN size:34X31XH15cm 20pcs/CTN G.W.16Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	1 stages reduction	2 stages reduction	3 stages reduction	4stages reduction	5stages reduction
Reduction ratio	3.7，5.2	13.7，19.2，26.9	50.9，71.2，99.5，139，	188，264，369，516，721，	699，977，1367，1911，2672，3736，
Gearbox length “L” mm	33.6	44.9	56.2	67.5	78.8
Max. Running torque	6.0Kgf • cm	12Kgf • cm	20Kgf • cm	30Kgf • cm	50Kgf • cm
Max. Gear breaking torque	18Kgf • cm	36Kgf • cm	60Kgf • cm	90Kgf • cm	150Kgf • cm
Max.Gearing efficiency	90%	81%	73%	65%	59%

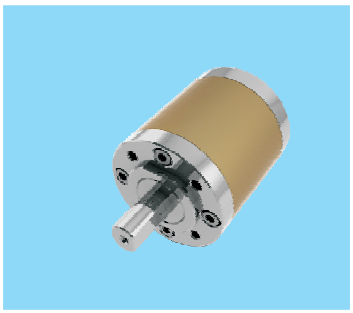
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

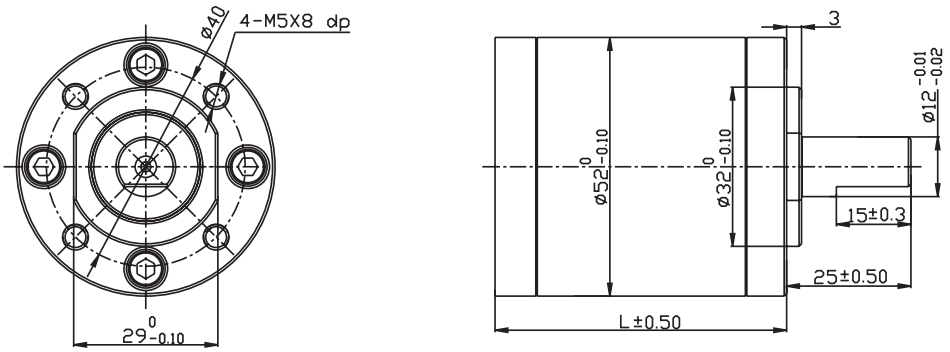
NOTE:

1、Gearmotor named methods: e.g. PG45M45123000-99.5K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 99.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
4、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to 52ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 180kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don ’t let the screws go through into the gearbox internal more than 8mm.If so the gearbox will be demaged.

APPEARANCE SIZE

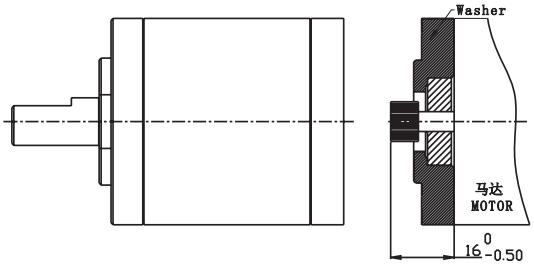


PINION SPECIFICATIONS

Module	0.7	0.7
No. of teeth	11	17
Pressure angle	20°	
Hole diameter	Φ3.97, Φ3.14	Φ3.97, Φ4.97, Φ5.97
Reduction ratio	5.2，19.2，26.9，99.5，139，516，721，1911，2672，3736	3.7，13.7，50.9，71.2，188，264，369，699，997，1367

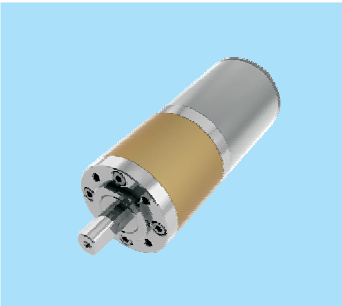
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length “L” mm	Direction (Relationship with motor)
3.7，5.2	3 12/17，5 2/11	10kgf • cm	30kgf • cm	90%	1	35.5	Different
13.7，19.2，26.9	$13\frac{212}{289}$ ，$19\frac{38}{187}$ ，$26\frac{103}{121}$	15kgf • cm	45kgf • cm	81%	2	47.1	Same
50.9，71.2	504 397/4913，71 524/3179	20kgf • cm	60kgf • cm	73%	3	50.5	Different
99.5，139	99 1044/2057，139 184/1331	20kgf • cm	60kgf • cm	73%	3	50.5	Different
188，264	188 51013/83521，263 39370/54043	40kgf • cm	120kgf • cm	65%	4	70.3	Same
369，516	368 26689/34969，515 14254/22627	40kgf • cm	120kgf • cm	65%	4	70.3	Same
721	720 14481/14641	40kgf • cm	120kgf • cm	65%	4	70.3	Same
699，977	$698\frac{1376357}{1419857}$ ，$977\frac{318590}{918731}$	80kgf • cm	240kgf • cm	59%	5	81.9	Different
1367，1911	$1366\frac{352585}{594473}$ ，$1910\frac{332327}{384659}$	80kgf • cm	240kgf • cm	59%	5	81.9	Different
2672，3736	$2671\frac{224176}{248897}$ ，$3736\frac{5521}{161051}$	80kgf • cm	240kgf • cm	59%	5	81.9	Different



PG52M52 DC GEAR MOTOR Series

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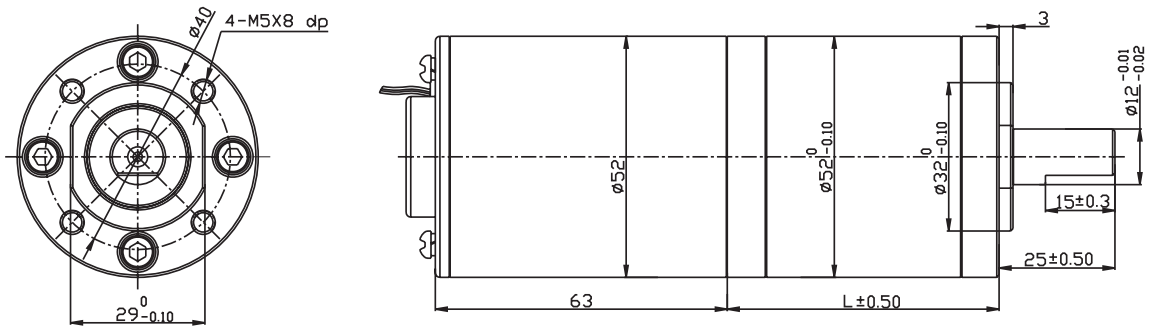
Main voltage: 12VDC、24VDC、

Typical applications: Pan/Tilt cameras,Grill,Oven,Cleaning machine,Garbage disposers,Packing bank note machine,Coffee machine,Medical machine,Manotat,Amusement equipment,infusion pumps,Office equipment,Household appliances,Automatic

Weight: 820~1300g/pcs(approx)

Packing details: CTN size:40X20XH14cm 10pcs/CTN G.W.15Kgs

APPEARANCE SIZE



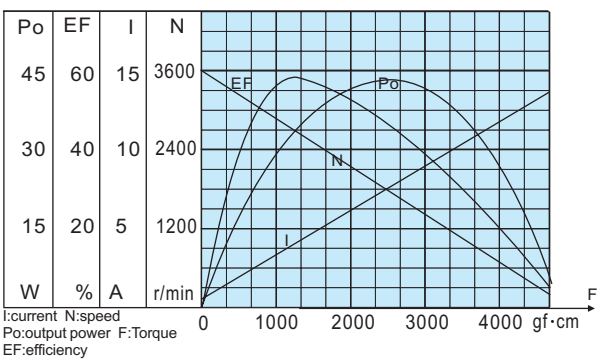
Geard Motor Torque/Speed

Reduction ratio		1/3.7	1/5.2	1/13.7	1/19.2	1/26.9	1/50.9	1/71.2	1/99.5	1/139	1/188	1/264	1/369	1/516	1/721	1/699	1/977	1/1367	1/1911	1/2672	1/3736
12V	Rated torque (Kgf.cm)	4.0	5.62	13.3	18.7	26.1	44.6	62.4	80	80	80	80	80	80	80	80	80	80	80	80	80
	Rated speed (r/min)	730	519	197	141	100	53	38	27	19.4	14.4	10.2	7.4	5.3	3.8	3.9	2.8	2.0	1.5	1.1	0.8
24V	Rated torque (Kgf.cm)	4.0	5.62	13.3	18.7	26.1	44.6	62.4	80	80	80	80	80	80	80	80	80	80	80	80	80
	Rated speed (r/min)	730	519	197	141	100	53	38	27	19.4	14.4	10.2	7.4	5.3	3.8	3.9	2.8	2.0	1.5	1.1	0.8
Gearbox "L" mm		35.5		47.1			50.5				70.3					81.9					

Motor Data

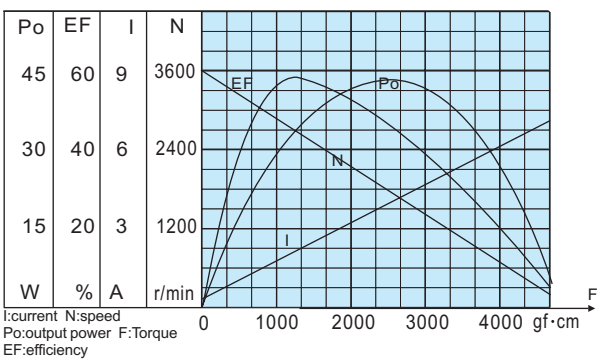
额定电压 Rated volt(V)	额定扭力 Rated torque (g-cm)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定功率 Rated output (w)	重量 Weight (g)
12	1200	2700	≤4100	3600	≤700	32	580
24	1200	2700	≤2000	3600	≤400	32	580

52ZY-12V-3600r/min Characteristics

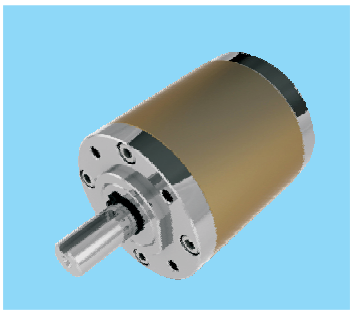


I:current N:speed
Po:output power F:Torque
EF:efficiency

52ZY-24V-3600r/min Characteristics

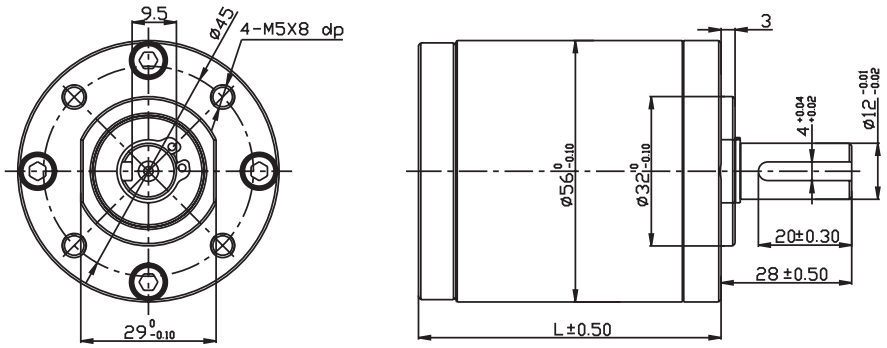


I:current N:speed
Po:output power F:Torque
EF:efficiency



Note:1、Housing material ： metal
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to 55ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 360kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don 't let the screws go through into the gearbox internal more than 8mm.If so the gearbox will be demaged.

APPEARANCE SIZE

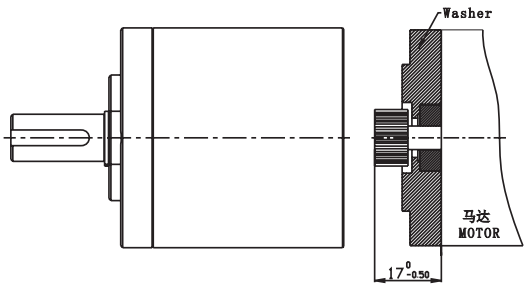


PINION SPECIFICATIONS

Module	1.0	1.0
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ4.97, Φ5.97	Φ4.97, Φ5.97, Φ7.96
Reduction ratio	4.3，22.7，121，276，326，409，514，1567，2321，3439	3.6，13，19.2，46.7，69，102，198，843，995，1966

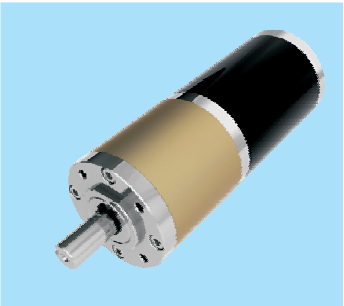
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
3.6，4.3	3 3/5，4 1/4	20kgf • cm	60kgf • cm	90%	1	37.1	Different
13，19.2，22.7	12 24/25，19 1/5，22 2/3	40kgf • cm	120kgf • cm	81%	2	51.0	Same
46.7，69	46 82/125，69 3/25	60kgf • cm	180kgf • cm	73%	3	64.9	Different
102，121	102 2/5，120 8/9	60kgf • cm	180kgf • cm	73%	3	64.9	Different
198，276	198 36/125，276 57/160	80kgf • cm	240kgf • cm	65%	4	78.8	Same
326，409	326 65/256，409 5/12	80kgf • cm	240kgf • cm	65%	4	78.8	Same
513	513 7/9	80kgf • cm	240kgf • cm	65%	4	78.8	Same
843，995	842 18/25，994 353/400	120kgf • cm	360kgf • cm	59%	5	95.2	Different
1567，1966	1566 18/25，1966 2/25	120kgf • cm	360kgf • cm	59%	5	95.2	Different
2321，3439	2321 1/15，3438 50/81	120kgf • cm	360kgf • cm	59%	5	95.2	Different



PG56M55ZY DC GEAR MOTOR Series SGMADA®

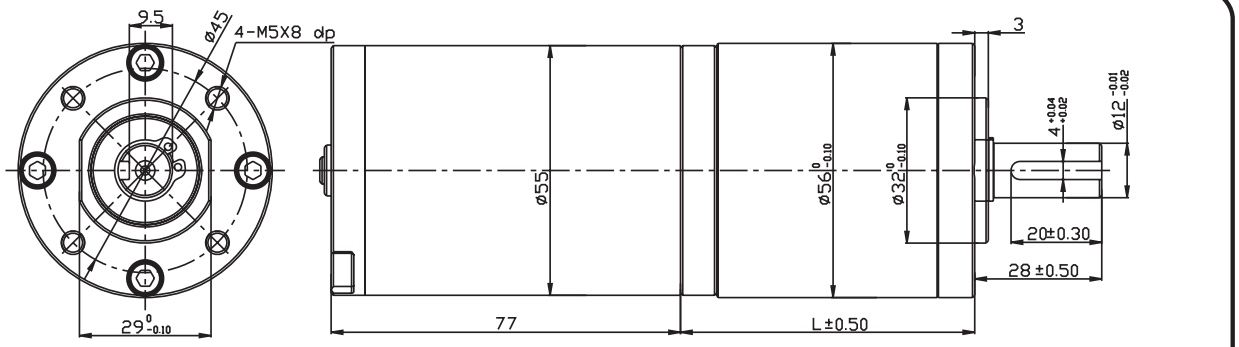
Main voltage: 12VDC、24VDC、

Typical applications: Garage gate,Automatic doors,Medical equipment,Garbage disposers,Grill,Oven,Micro CNC equipment,Peristaltic pump,Cleaning machine,Amusement equipment,Office equipment,Household appliances,Automatic actuator.

Weight: 1000~1600g/pcs(approx)

Packing details: CTN size:40X20XH14cm 10pcs/CTN G.W.16Kgs

APPEARANCE SIZE



Geard Motor Torque/Speed

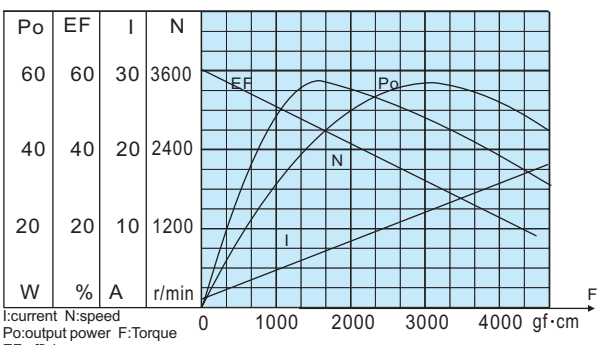
Reduction ratio		1/3.6	1/4.3	1/13	1/19.2	1/22.7	1/46.7	1/69	1/102	1/121	1/198	1/276	1/326	1/409	1/513	1/843	1/995	1/1567	1/1966	1/2321	1/3439
12V	Rated torque (Kgf.cm)	5.18	6.19	16.9	24.9	29.4	54.5	80.6	119	120	120	120	120	120	120	120	120	120	120	120	120
	Rated speed (r/min)	750	628	208	141	119	57.9	39.2	26.5	22.3	13.7	9.8	8.3	6.7	5.3	3.3	2.8	1.8	1.4	1.2	0.8
24V	Rated torque (Kgf.cm)	5.18	6.19	16.9	24.9	29.4	54.5	80.6	119	120	120	120	120	120	120	120	120	120	120	120	120
	Rated speed (r/min)	750	628	208	141	119	57.9	39.2	26.5	22.3	13.7	9.8	8.3	6.7	5.3	3.3	2.8	1.8	1.4	1.2	0.8
Gearbox "L" mm		37.1		51.0			64.9				78.8					95.2					

Other ratio:15.3，18，55，65，76.8，81.6，96.3，168，234，249，294，347，369，435，546，644，713，896，1260，1327，1248，1175，1474，1850，2913，1387，1740，2184，2740。

Motor Data

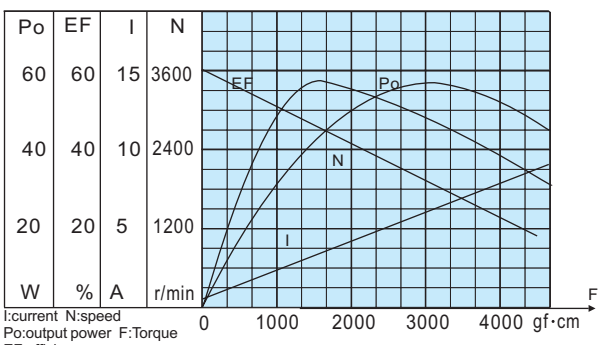
额定电压 Rated volt(V)	额定扭力 Rated torque (g-cm)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定功率 Rated output (w)	重量 Weight (g)
12	1600	2700	≤7000	3600	≤900	43	700
24	1600	2700	≤3500	3600	≤500	43	700

55ZY-12V-4000r/min Characteristics

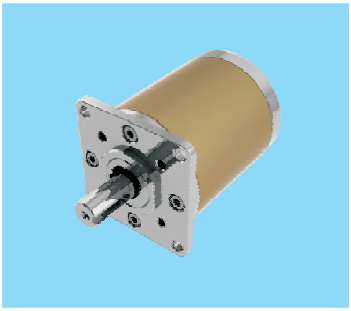


I:current N:speed
Po:output power F:Torque
EF:efficiency

55ZY-24V-4000r/min Characteristics

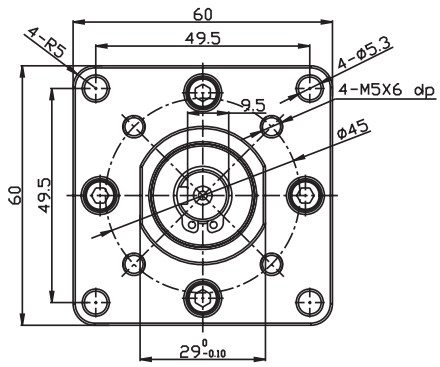


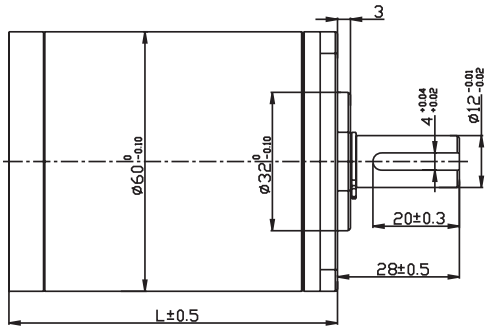
I:current N:speed
Po:output power F:Torque
EF:efficiency



Note:1、Housing material ： ball
2、Backlash,at no-load：≤2°
3、Bearing at output：ball bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.3mm
6、The gear box can apply to 60ZY motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 360kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE



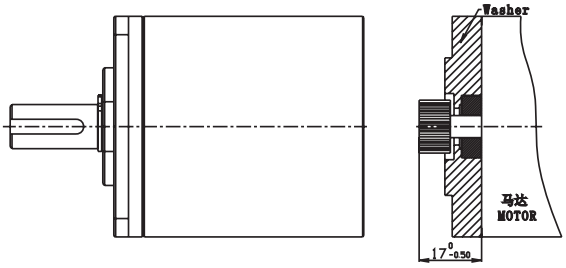


PINION SPECIFICATIONS

Module	1.0	1.0
No. of teeth	12	15
Pressure angle	20°	
Hole diameter	Φ4.97, Φ5.97	Φ4.97, Φ5.97, Φ7.96
Reduction ratio	4.3，22.7，121，276，326，409，514，1567，2321，3439	3.6，13，19.2，46.7，69，102，198，843，995，1966

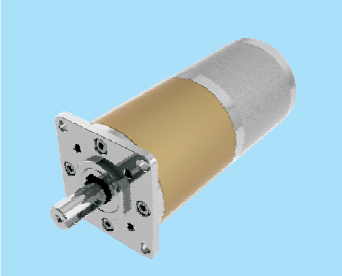
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length "L" mm	Direction (Relationship with motor)
3.6，4.3	3 3/5，4 1/4	20kgf • cm	60kgf • cm	90%	1	37.1	Different
13，19.2，22.7	12 24/25，19 1/5，22 2/3	40kgf • cm	120kgf • cm	81%	2	51.0	Same
46.7，69	46 82/125，69 3/25	60kgf • cm	180kgf • cm	73%	3	64.9	Different
102，121	102 2/5，120 8/9	60kgf • cm	180kgf • cm	73%	3	64.9	Different
198，276	198 36/125，276 57/160	80kgf • cm	240kgf • cm	65%	4	78.8	Same
326，409	326 65/256，409 5/12	80kgf • cm	240kgf • cm	65%	4	78.8	Same
513	513 7/9	80kgf • cm	240kgf • cm	65%	4	78.8	Same
843，995	842 18/25，994 353/400	120kgf • cm	360kgf • cm	59%	5	95.2	Different
1567，1966	1566 18/25，1966 2/25	120kgf • cm	360kgf • cm	59%	5	95.2	Different
2321，3439	2321 1/15，3438 50/81	120kgf • cm	360kgf • cm	59%	5	95.2	Different



PG60M60 DC GEAR MOTOR Series

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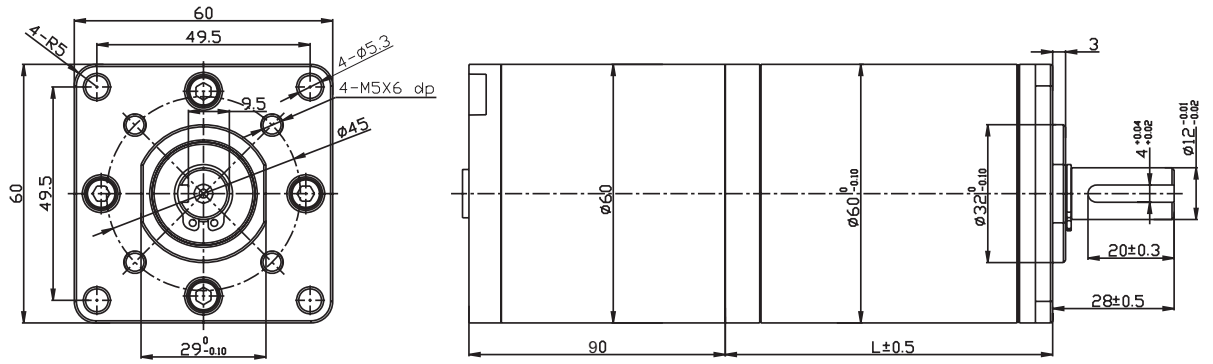
Main voltage: 12VDC、24VDC、

Typical applications: Garage gate,Automatic doors,Medical equipment,Garbage disposers,Grill,Oven,Micro CNC equipment,Peristaltic pump,Cleaning machine,Amusement equipment,Office equipment,Household appliances,Automatic actuator.

Weight: 1200~2000g/pcs(approx)

Packing details: CTN size:40X20XH14cm 10pcs/CTN G.W.20Kgs

APPEARANCE SIZE



Geard Motor Torque/Speed

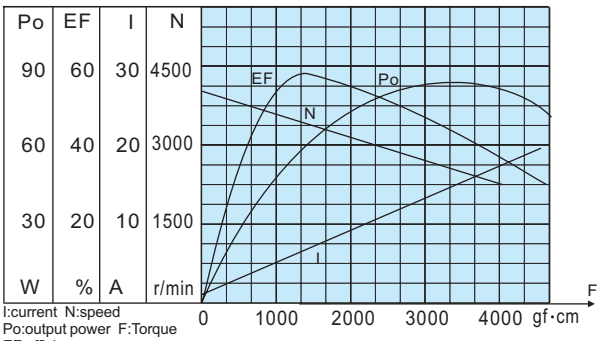
Reduction ratio		1/3.6	1/4.3	1/13	1/19.2	1/22.7	1/46.7	1/69	1/102	1/121	1/198	1/276	1/326	1/409	1/513	1/843	1/995	1/1567	1/1966	1/2321	1/3439
12V	Rated torque (Kgf.cm)	5.83	6.97	18.9	28	33.1	61.4	90.7	120	120	120	120	120	120	120	120	120	120	120	120	120
	Rated speed (kr/min)	923	773	256	173	147	71.1	48.2	32.6	27.5	16.8	12.1	10.2	8.2	6.5	4	3.4	2.2	1.7	1.5	1
24V	Rated torque (Kgf.cm)	6.8	8.13	22.1	32.7	38.6	71.6	105	120	120	120	120	120	120	120	120	120	120	120	120	120
	Rated speed (r/min)	903	756	250	170	144	69.6	47.2	31.9	26.9	16.5	11.8	10	8	6.4	3.9	3.3	2.1	1.7	1.4	1
Gearbox "L" mm		37.1		51.0			64.9				78.8					95.2					

Other ratio:15.3，18，55，65，76.8，81.6，96.3，168，234，249，294，347，369，435，546，644，713，896，1260，1327，1248，1175，1474，1850，2913，1387，1740，2184，2740。

Motor Data

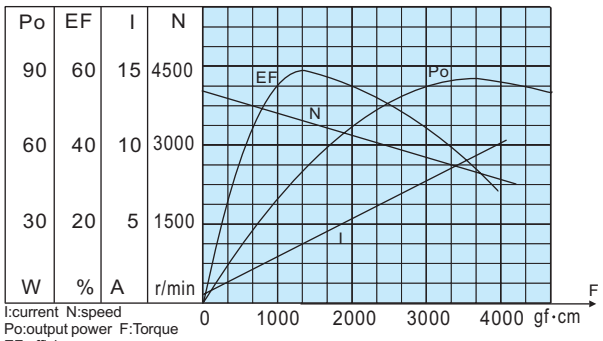
额定电压 Rated volt(V)	额定扭力 Rated torque (g-cm)	额定转速 Rated speed (rpm)	额定电流 Rated current (mA)	空载转速 No load speed (rpm)	空载电流 No load current (mA)	额定功率 Rated output (w)	重量 Weight (g)
12	1800	3320	≤9400	4000	≤1200	60	1300
24	2100	3250	≤5350	4000	≤700	68	1300

60ZY-12V-4000r/min Characteristics



I:current N:speed
Po:output power F:Torque
EF:efficiency

60ZY-24V-4000r/min Characteristics

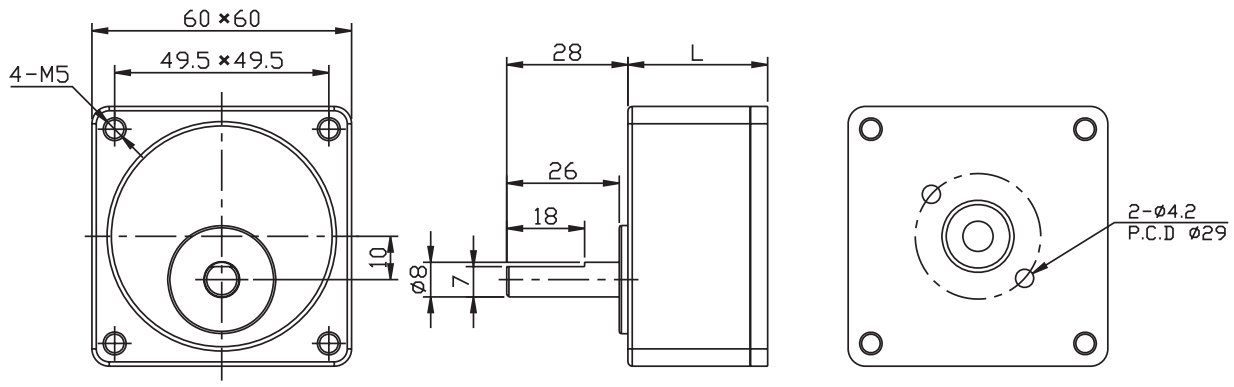


I:current N:speed
Po:output power F:Torque
EF:efficiency



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 775,ZY45,ZY52,ZY60, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 150kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

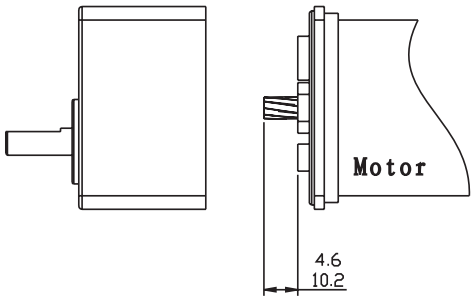


PINION SPECIFICATIONS

Module	0.5	
No. of teeth	10	10（D）
Pressure angle	20°	
Helix angle	15° left	——
Hole diameter		Φ2.5(D)
Reduction ratio	9.7，13，18.8，29，39，56，87，117 169，261，351,507	10，13.5，19.6，30，40，58，90，122 176，272，366,529

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Gearbox length “L” mm	Direction（Relationship with motor）
9.7,10	1551/160,1617/160	10kgf • cm	30kgf • cm	81%	2	31.3	same
13,13.5	846/65,882/65	10kgf • cm	30kgf • cm	81%	2	31.3	same
18.8,19.6	94/5,98/5	10kgf • cm	30kgf • cm	71%	2	31.3	same
29,30	4653/160,4851/160	20kgf • cm	60kgf • cm	73%	3	31.3	different
39,40	2538/65,2464/65	20kgf • cm	60kgf • cm	73%	3	31.3	different
56,58	282/5,294/5	20kgf • cm	60kgf • cm	73%	3	41.3	different
87,90	13959/160,14553/160	50kgf • cm	150kgf • cm	65%	4	41.3	same
117,122	7614/65,7938/65	50kgf • cm	150kgf • cm	65%	4	41.3	same
169,176	846/5， 882/5	50kgf • cm	150kgf • cm	65%	4	41.3	same
261,272	41877/160,43659/160	80kgf • cm	240kgf • cm	59%	5	41.3	different
351,366	22842/65， 23814/65	80kgf • cm	240kgf • cm	59%	5	41.3	different
507,529	2538/5,2646/5	80kgf • cm	240kgf • cm	59%	5	41.3	different



SG-775 DC GEAR MOTOR Series

SGMADA®

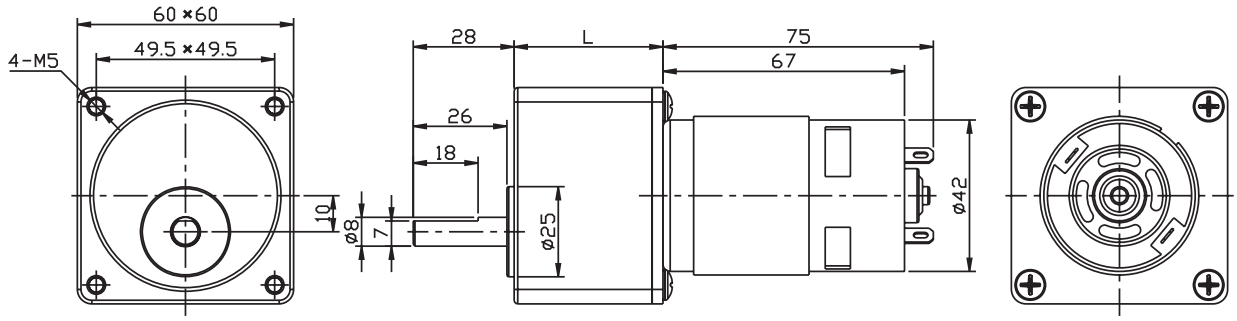
Main voltage: 6VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera,Cleaning machine,Garbage disposers,Angular telescope,Aumatic doors,Peritoneal machine,Electric advertising,Amusement equipment,Card conveyors,Office equipment,Household appliances,Automatic actuator.

Weight: 800~1000g/pcs(approx)

Packing details: CTN size:35X26XH19cm 10pcs/CTN G.W.10Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4 stages reduction	5stages reduction
Reduction ratio	9.7、10、13、13.5；18.8、19.6；29、30、39、40、56、58	87、90、117、122、169、176	261、272、351、366、507、529
Gearbox length “L” mm	31.3	41.3	41.3
Max. Running torque	10Kgf • cm	50Kgf • cm	50Kgf • cm
Max. Gear breaking torque	30Kgf • cm	150Kgf • cm	150Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. SG-775123000-90K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



60JB45 DC GEAR MOTOR Series

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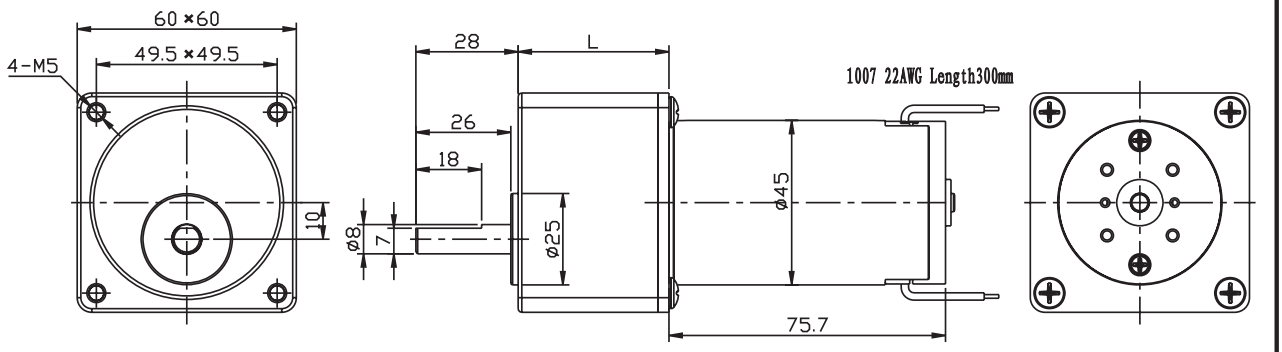
Main voltage:6VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:800~1000g/pcs(approx)

Packing details:CTN size:35X26XH19cm 10pcs/CTN G.W.10Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4 stages reduction	5stages reduction
Reduction ratio	9.7、10、13、13.5；18.8、19.6；29、30、39、40、56、58	87、90、117、122、169、176	261、272、351、366、507、529
Gearbox length “L” mm	31.3	41.3	41.3
Max. Running torque	10Kgf • cm	50Kgf • cm	50Kgf • cm
Max. Gear breaking torque	30Kgf • cm	150Kgf • cm	150Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. 60JB45123000-90K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



60JB52 DC GEAR MOTOR Series

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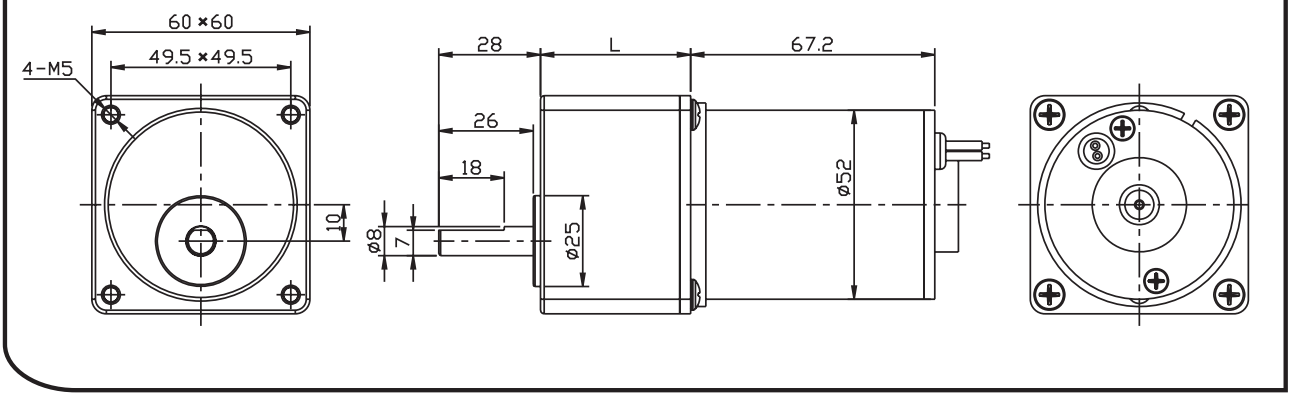
Main voltage:6VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:400~450g/pcs(approx)

Packing details:CTN size:35X26XH19cm 10pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4 stages reduction	5stages reduction
Reduction ratio	9.7、10、13、13.5；18.8、19.6；29、30、39、40、56、58	87、90、117、122、169、176	261、272、351、366、507、529
Gearbox length “L” mm	31.3	41.3	41.3
Max. Running torque	10Kgf • cm	50Kgf • cm	50Kgf • cm
Max. Gear breaking torque	30Kgf • cm	150Kgf • cm	150Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
JB-52121800	12	≤350	1800	≤1000	1300	600	15.0	2400	4.0
JB-52123600	12	≤700	3600	≤4000	2700	1200	32	4800	13
JB-52241800	24	≤200	1800	≤600	1300	600	8.0	2400	2.0
JB-52243600	24	≤400	3600	≤2000	2700	1200	32	4800	7.0
1、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.									

NOTE:

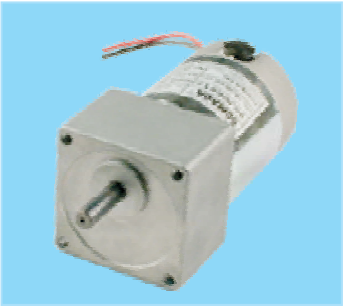
1、Gearmotor named methods: e.g. 60JB52121800-90K Motor please refer to the motor data JB-52121800.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.

2、Gearbox shell material:zinc alloy.

3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.

4、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.

5、Chart only for reference,products shall prevail the entity.



60JB60 DC GEAR MOTOR Series

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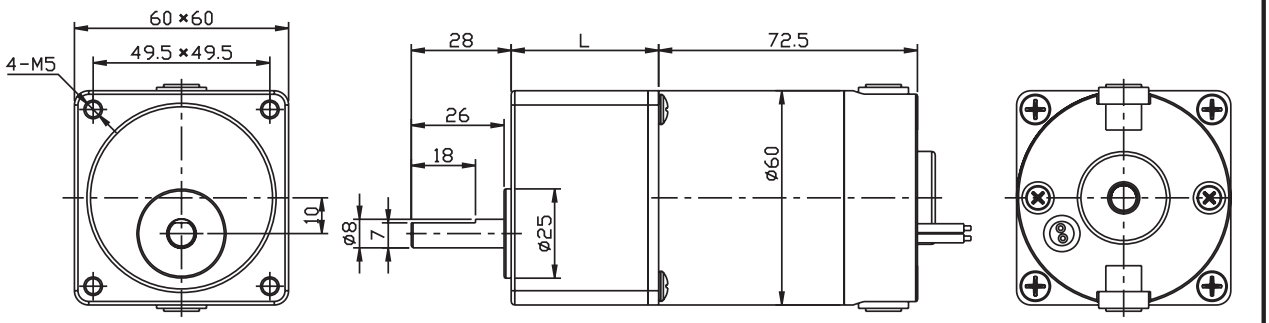
Main voltage: 6VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 400~450g/pcs(approx)

Packing details: CTN size:35X26XH19cm 10pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	2、3 stages reduction	4 stages reduction	5stages reduction
Reduction ratio	9.7、10、13、13.5；18.8、19.6；29、30、39、40、56、58	87、90、117、122、169、176	261、272、351、366、507、529
Gearbox length “L” mm	31.3	41.3	41.3
Max. Running torque	10Kgf • cm	50Kgf • cm	50Kgf • cm
Max. Gear breaking torque	30Kgf • cm	150Kgf • cm	150Kgf • cm
Max.Gearing efficiency	81%；73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
JB-60121800	12	≤360	1800	≤3000	1300	1400	18	5600	10
JB-60123600	12	≤900	3600	≤7000	2700	1600	43	6400	25
JB-60241800	24	≤180	1800	≤1500	1300	110	18	5600	5.0
JB-60243600	24	≤500	3600	≤3500	2700	1600	43	6400	12.5

1、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. 60JB60121800-90K Motor please refer to the motor data JB-60121800.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.

2、Gearbox shell material:zinc alloy.

3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.

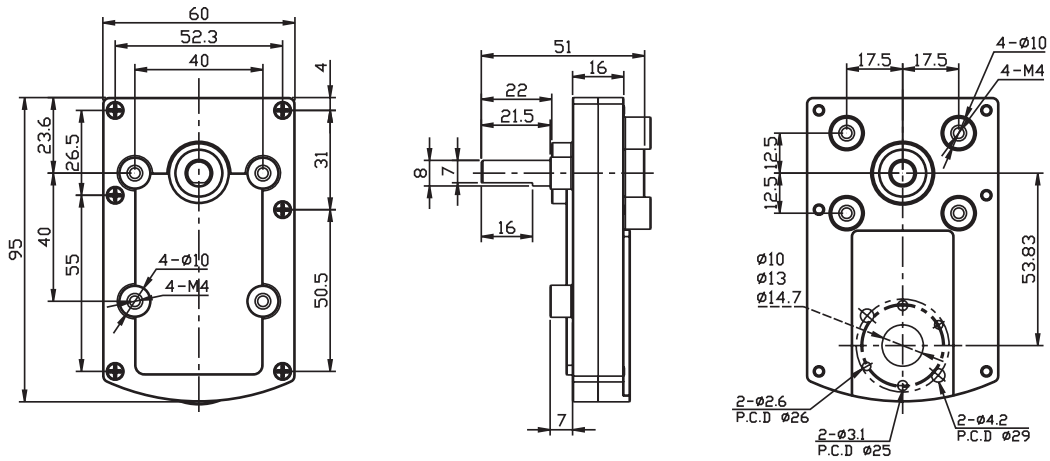
4、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.

5、Chart only for reference,products shall prevail the entity.



Note:1、Housing material：Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to528,545,555,775,ZY40,ZY45,YJ61 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 150kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

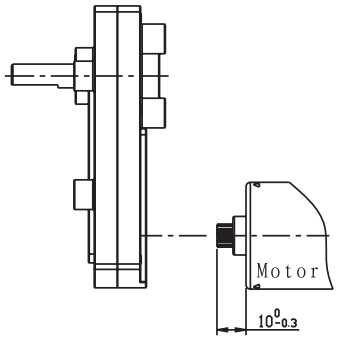


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	13	12
Pressure angle	20°	
Helix angle	———	15° left
Hole diameter	Φ3.12, Φ1.96, Φ2.5(D)	Φ3.12, Φ1.96
Reduction ratio	36，66，94，149 211，394	196，277，624 830，1166

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
36,66	473/13，4312/65	30kgf • cm	90kgf • cm	73%	3	different
94	18326/195	30kgf • cm	90kgf • cm	73%	3	different
149	9702/65	30kgf • cm	90kgf • cm	65%	4	same
196	196/1	40kgf • cm	120kgf • cm	65%	4	same
211	27489/130	40kgf • cm	120kgf • cm	65%	4	same
277	833/3	40kgf • cm	120kgf • cm	65%	4	same
394	128282/325	50kgf • cm	150kgf • cm	65%	4	same
624,830	2499/4，215747/260	50kgf • cm	150kgf • cm	59%	5	different
1166	17493/15	50kgf • cm	150kgf • cm	59%	5	different



TT-38 DC GEAR MOTOR Series

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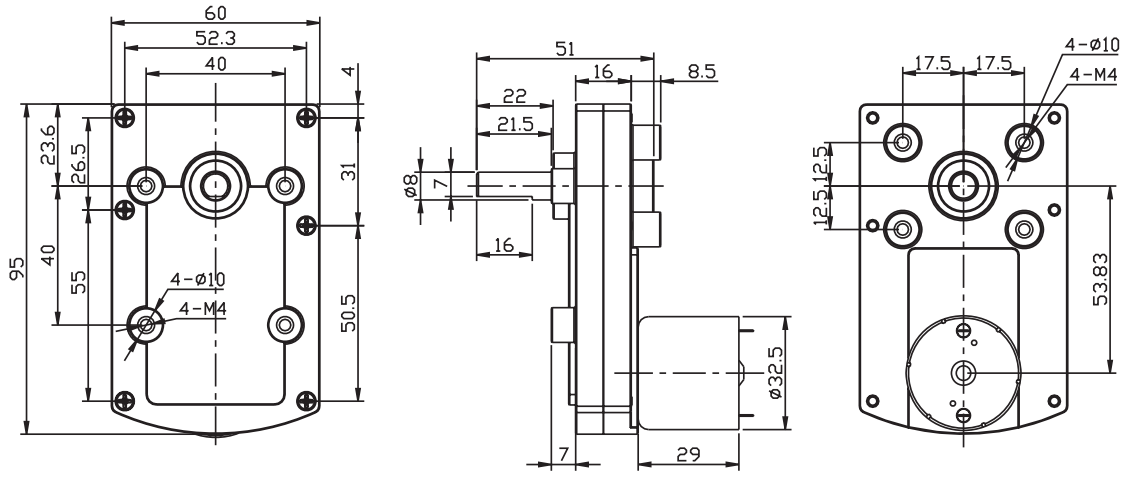
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Central air-conditioning valve,Amusement equipment,Coin refund devices,Grill,Oven,Peristaltic pumps,ATM bank automatic system,Robot,Medical equipment,Office equipment,Household appliances,Automatic actuator.

Weight: 350~400g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-38123400-94K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-545 DC GEAR MOTOR Series

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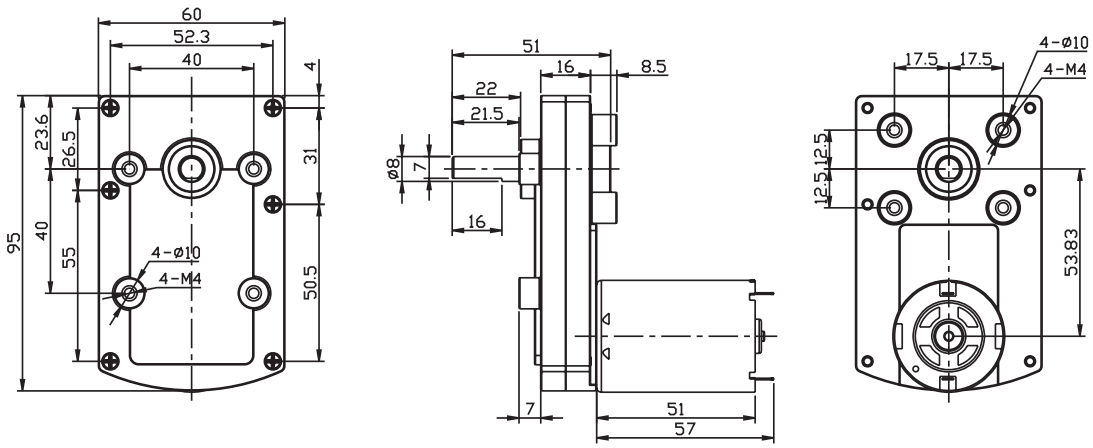
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-545123000-94K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-555 DC GEAR MOTOR Series

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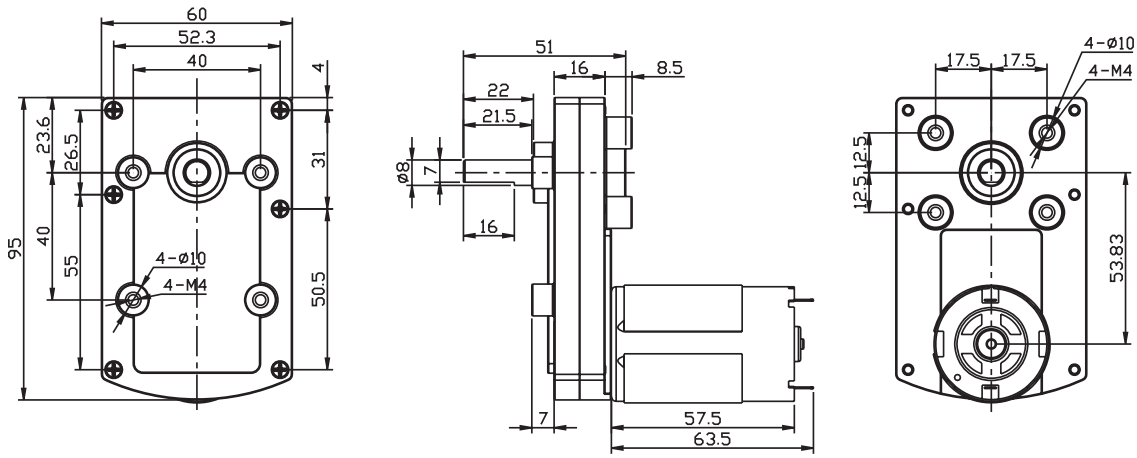
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-555123000-94K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-775 DC GEAR MOTOR Series

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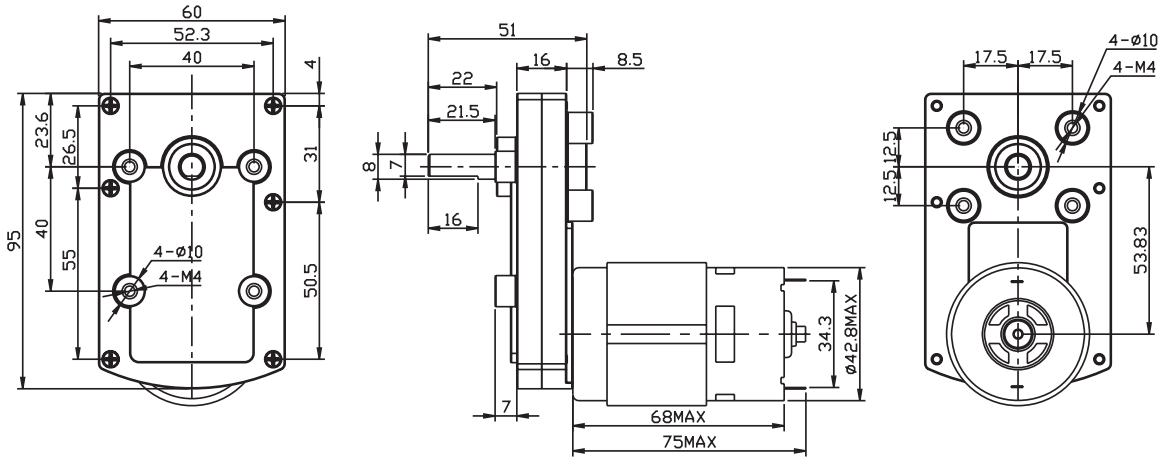
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-775123000-94K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-40ZY DC GEAR MOTOR Series

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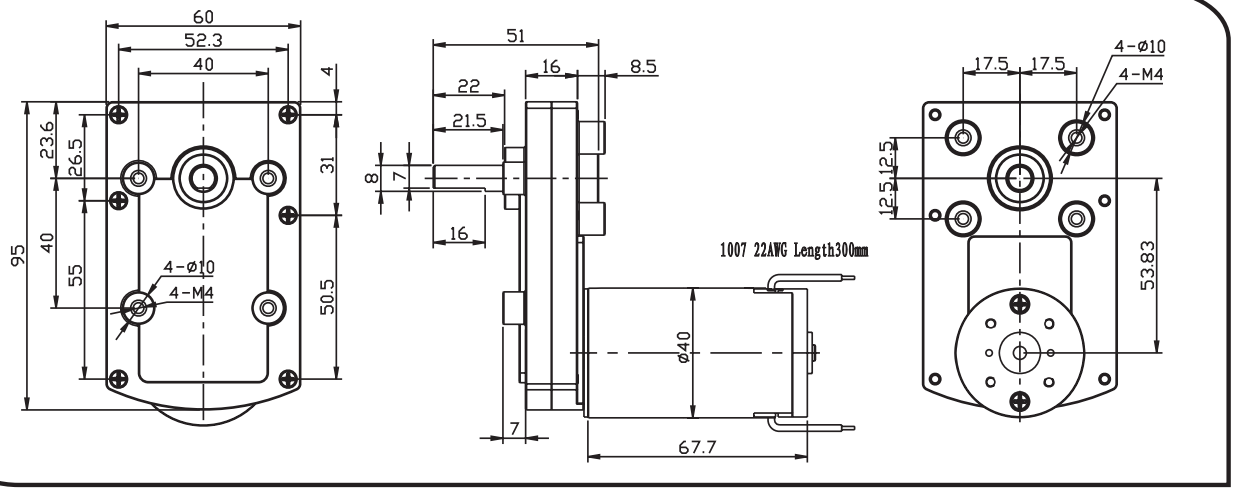
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤120	3000	≤750	2200	220	4.8	900	2.8
40ZY124500	12	≤190	4500	≤1500	3350	300	9.9	1200	6.0
40ZY126000	12	≤250	6000	≤3000	4500	400	18.0	1600	10
40ZY243000	24	≤80	3000	≤400	2200	220	4.8	900	1.5
40ZY244500	24	≤120	4500	≤800	3350	300	9.9	1200	3.0
40ZY246000	24	≤160	6000	≤1500	4500	400	18.0	1600	5.5

1、This table lists some motors parameters,others please refer to specific parameters of Page 152.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-40ZY123000-94K Motor please refer to the motor data 40ZY123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-45ZY DC GEAR MOTOR Series

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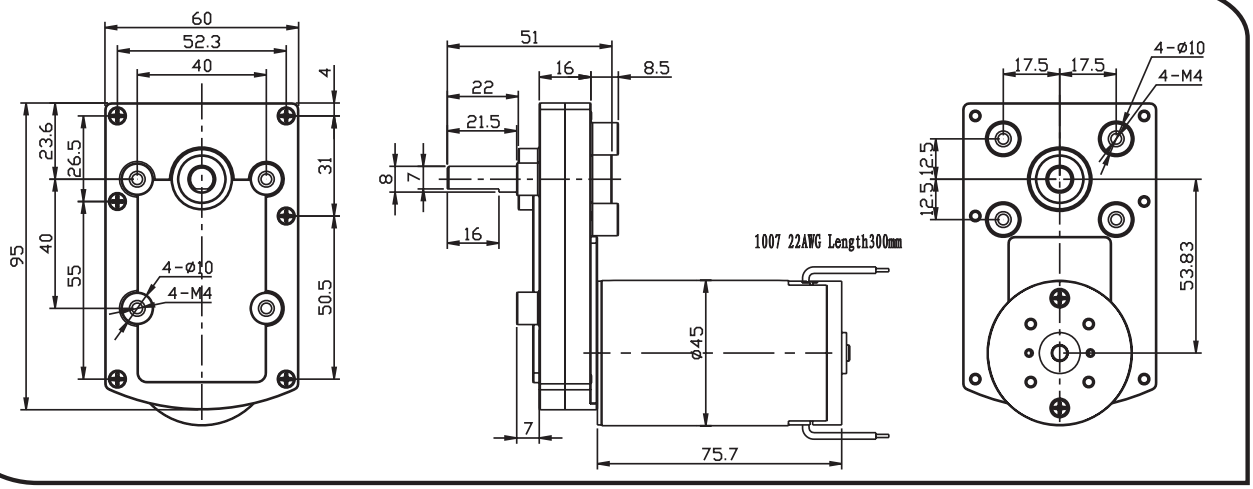
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. TT-45ZY123000-94K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



TT-YJ61 Series
SHADE POLE MOTOR

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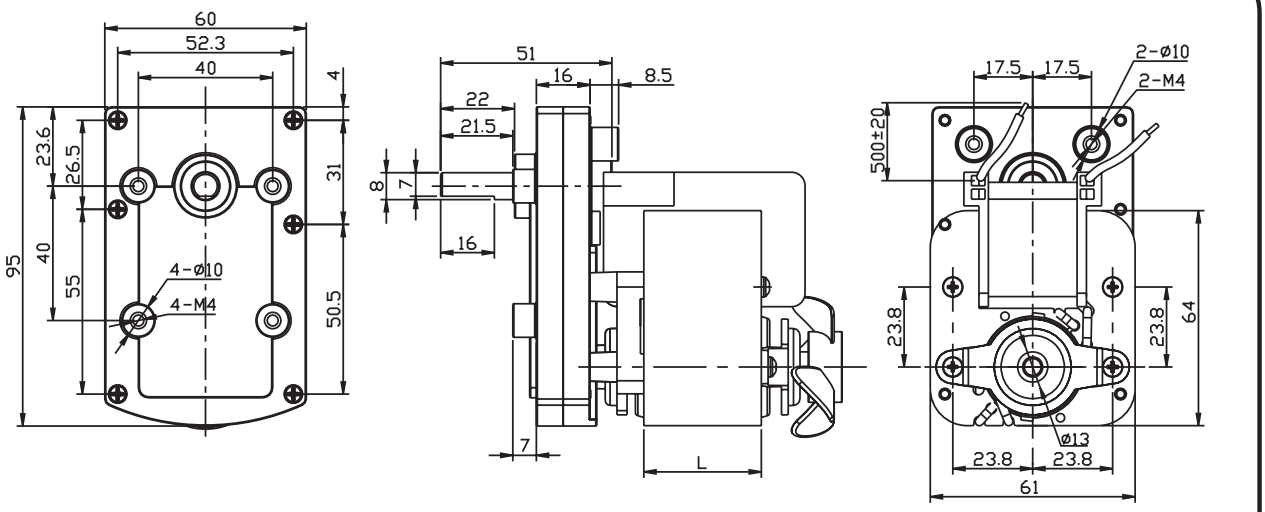
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:500~600g(APPROX)

Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



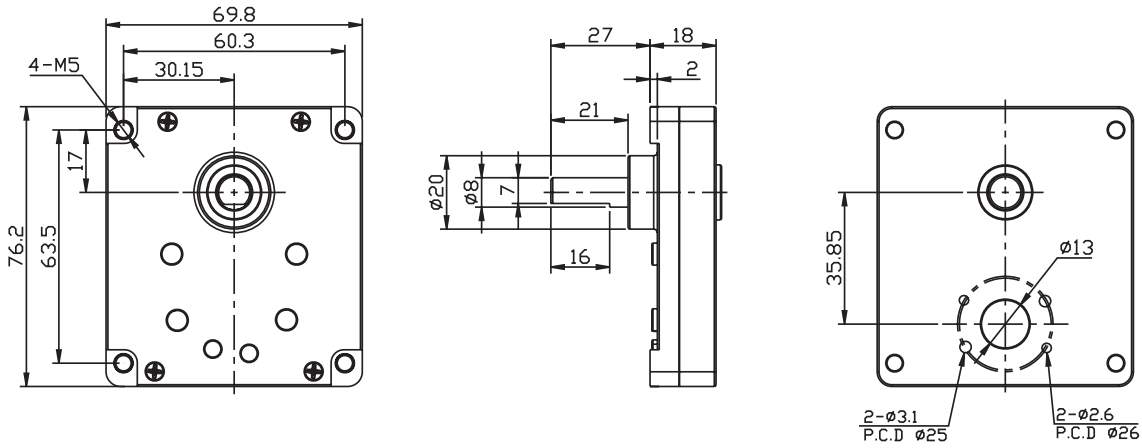
GEARED MOTOR TORQUE/SPEED

Reductionratio	1/36	1/66	1/94	1/149	1/196	1/211	1/277	1/394	1/624	1/830	1/1166
Numberofgeartrans	3			4					5		
Ratedspeed(rpm)at60Hz	77.7	42.4	29.7	18.7	14.2	13.2	10.1	7.1	4.4	3.3	2.4
TT-YJ61-10 L=10.5 (Kgf • cm) Rated torque	1.57	2.89	4.12	5.81	7.64	8.23	10.8	13.9	22.1	29.4	41.3
TT-YJ61-12 L=12 (Kgf • cm) Rated torque	2.10	3.85	5.49	7.75	10.2	11.0	14.4	18.6	29.4	39.2	55.0
TT-YJ61-14 L=14.5 (Kgf • cm) Rated torque	2.63	4.82	6.86	9.69	12.7	13.7	18.0	23.2	36.8	49.0	68.8
TT-YJ61-16 L=16.5 (Kgf • cm) Rated torque	3.68	6.74	9.61	13.6	17.8	19.2	25.2	32.5	51.5	68.6	80.0
TT-YJ61-20 L=20.5 (Kgf • cm) Rated torque	4.73	8.67	12.4	17.4	22.9	24.7	32.4	41.8	66.2	80.0	80.0
TT-YJ61-25 L=25.5 (Kgf • cm) Rated torque	5.78	10.6	15.1	21.3	28.0	30.2	39.6	51.1	80.0	80.0	80.0
TT-YJ61-30 L=30.5 (Kgf • cm) Rated torque	7.36	13.5	19.2	27.1	35.7	38.4	50.4	65.1	80.0	80.0	80.0
TT-YJ61-35 L=35.5 (Kgf • cm) Rated torque	9.20	16.9	24.0	33.9	44.6	48.0	63.0	80.0	80.0	80.0	80.0
TT-YJ61-40 L=40 (Kgf • cm) Rated torque	10.5	19.3	27.4	38.7	50.9	54.9	72.0	80.0	80.0	80.0	80.0
TT-YJ61-50 L=50 (Kgf • cm) Rated torque	13.6	25.1	35.7	50.3	66.2	71.3	80.0	80.0	80.0	80.0	80.0
Note	Voltage can make as customers' request										
Packing Details	CTN size:55X35XH18CM 24pcs/CTN N.W. 16Kgs										



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to545,555,775,YJ61 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

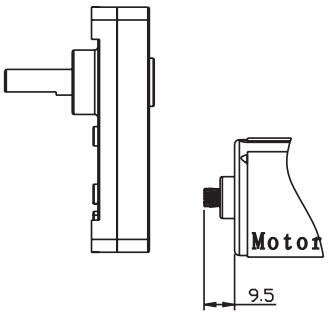


PINION SPECIFICATIONS

Module	0.4	0.5
No. of teeth	12	13
Pressure angle	20°	
Helix angle	15° left	———
Hole diameter	Φ3.16, Φ1.98	Φ3.16, Φ1.98, Φ2.5(D)
Reduction ratio	139，155，196，219 277，394，322，392 456，555，833	36，66，94

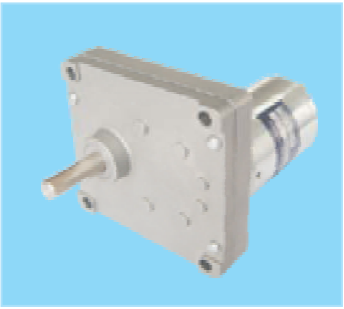
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
36,66	473/13, 4312/65	10kgf • cm	30kgf • cm	73%	3	different
94	18326/195	10kgf • cm	30kgf • cm	73%	3	different
139,155	1813/13,931/6	20kgf • cm	60kgf • cm	65%	4	same
196	196/1	20kgf • cm	60kgf • cm	65%	4	same
219	15827/72	20kgf • cm	60kgf • cm	65%	4	same
277	833/3	20kgf • cm	60kgf • cm	65%	4	same
322,392	645/2,392/1	30kgf • cm	90kgf • cm	65%	5	different
456,555	3655/8,1666/3	30kgf • cm	90kgf • cm	59%	5	different
833	833/1	30kgf • cm	90kgf • cm	59%	5	different



VF-545 DC GEAR MOTOR Series

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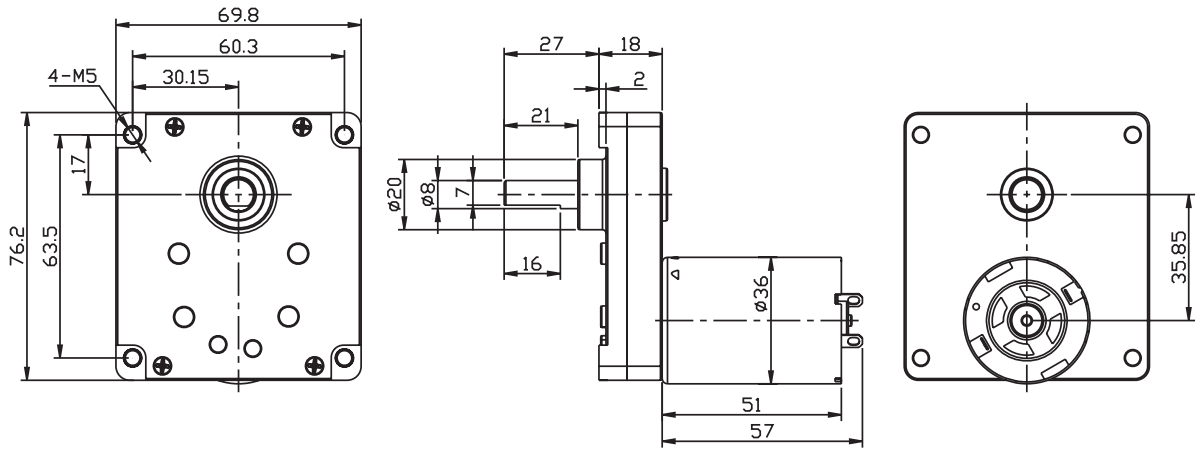
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Welding machine,Garbage disposers,Coffee machine,Mimeograph,Manostat,Paper shredder,Card conveyors,Central air-conditioning valve,Office equipment,Household appliances,Automatic actuator.

Weight: 450~500g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	139、155、196、219、277	322、392、456、555、833
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VF-545123000-94K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VF-555 DC GEAR MOTOR Series

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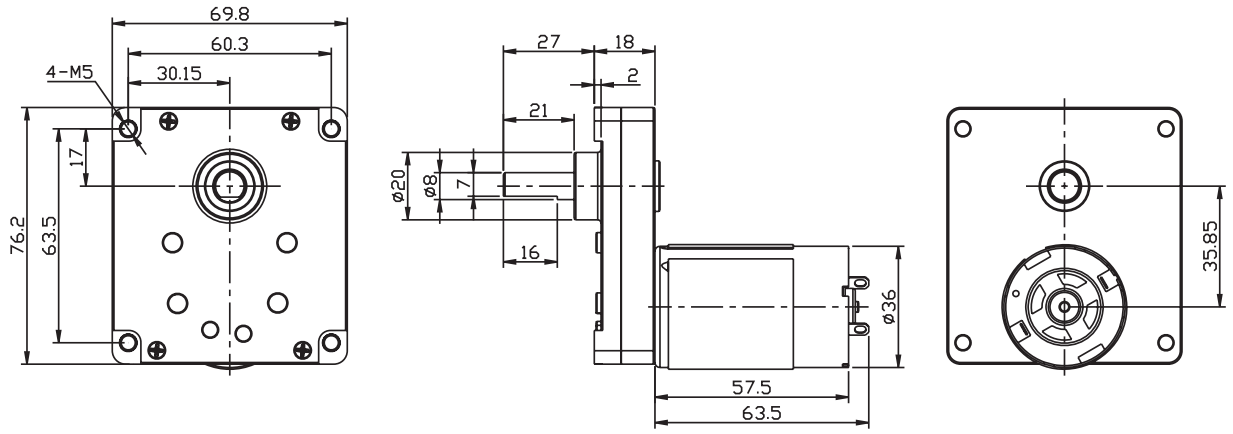
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	139、155、196、219、277	322、392、456、555、833
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VF-555123000-94K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VF-775 DC GEAR MOTOR Series

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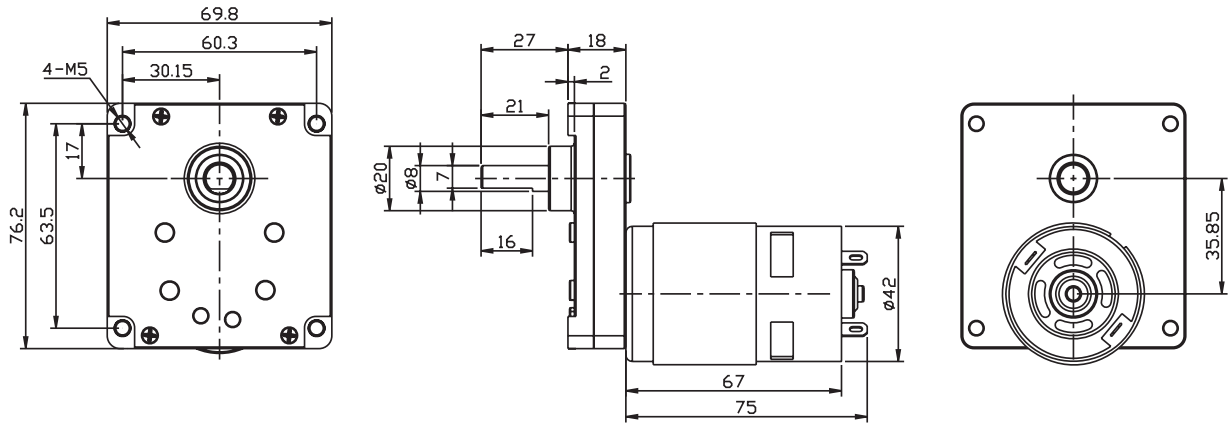
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	139、155、196、219、277	322、392、456、555、833
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VF-775123000-94K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VF-YJ61 Series
SHADE POLE MOTOR

SGMADA®

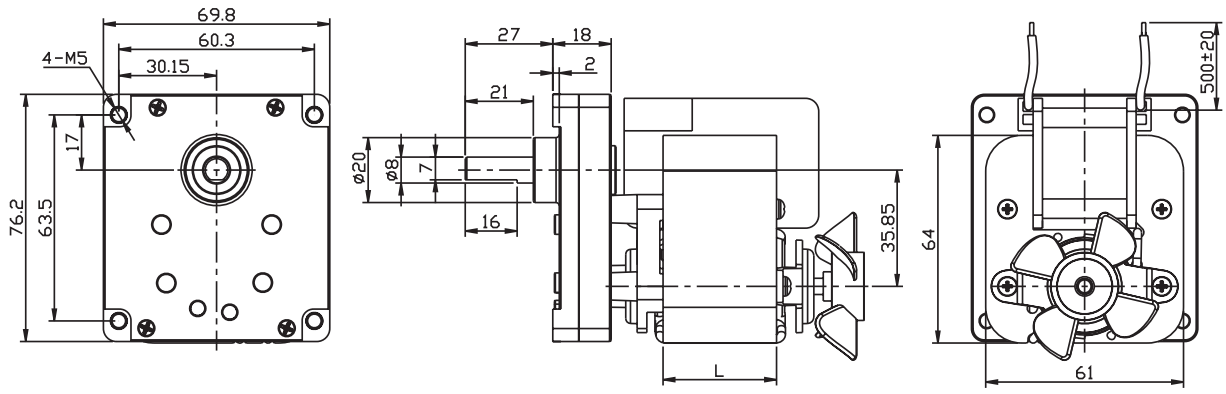
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:500~600g(APPROX)

Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



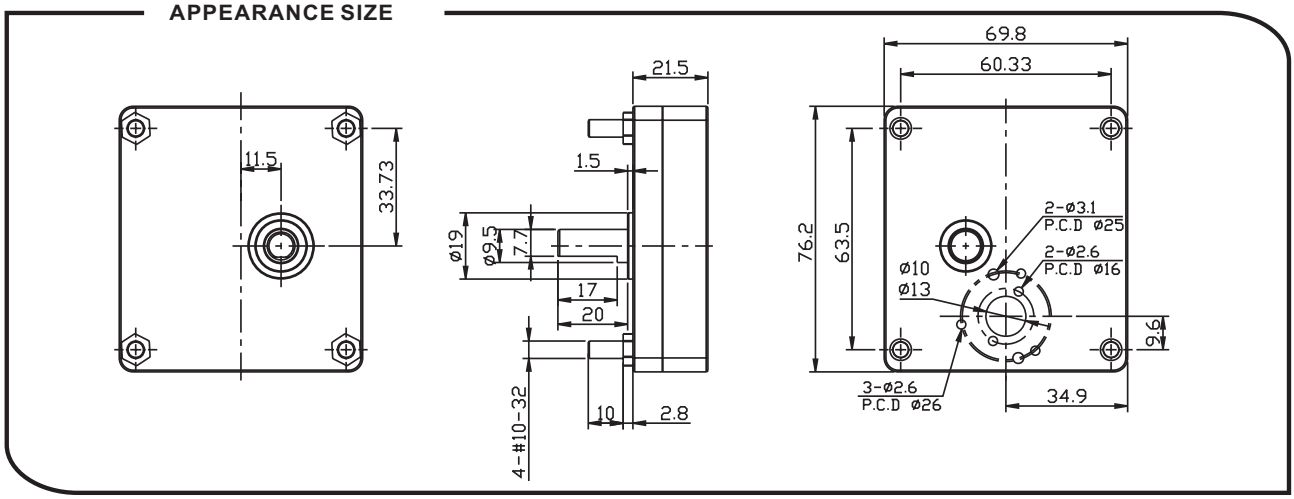
GEARED MOTOR TORQUE/SPEED

Reductionratio	1/36	1/66	1/94	1/139	1/155	1/196	1/219	1/277	1/322	1/392	1/456	1/555	1/833
Numberofgeartrans	3					4					5		
Ratedspeed(rpm)at60Hz	77.7	42.4	29.7	20.1	18.0	14.2	12.8	10.1	8.6	7.1	6.1	5.0	3.3
VF-YJ61-10 L=10.5 (Kgf • cm) Rated torque	1.57	2.89	4.12	5.42	6.04	7.64	8.54	10.8	11.4	13.9	16.1	19.6	29.5
VF-YJ61-12 L=12 (Kgf • cm) Rated torque	2.10	3.85	5.49	7.23	8.06	10.2	11.4	14.4	15.2	18.5	21.5	26.2	39.3
VF-YJ61-14 L=14.5 (Kgf • cm) Rated torque	2.63	4.82	6.86	9.03	10.1	12.7	14.2	18.0	19.0	23.1	26.9	32.7	49.1
VF-YJ61-16 L=16.5 (Kgf • cm) Rated torque	3.68	6.74	9.61	12.6	14.1	17.8	19.9	25.2	26.6	32.4	37.7	45.8	68.8
VF-YJ61-20 L=20.5 (Kgf • cm) Rated torque	4.73	8.67	12.4	16.3	18.1	22.9	25.6	32.4	34.2	41.6	48.4	58.9	80.0
VF-YJ61-25 L=25.5 (Kgf • cm) Rated torque	5.78	10.6	15.1	19.9	22.1	28.0	31.3	39.6	41.8	50.9	59.2	72.0	80.0
VF-YJ61-30 L=30.5 (Kgf • cm) Rated torque	7.36	13.5	19.2	25.3	28.2	35.7	39.8	50.4	53.2	64.8	80.0	80.0	80.0
VF-YJ61-35 L=35.5 (Kgf • cm) Rated torque	9.20	16.9	24.0	31.6	35.3	44.6	49.8	63.0	66.5	80.0	80.0	80.0	80.0
VF-YJ61-40 L=40 (Kgf • cm) Rated torque	10.5	19.3	27.4	36.1	40.3	50.9	56.9	72.0	76.0	80.0	80.0	80.0	80.0
VF-YJ61-50 L=50 (Kgf • cm) Rated torque	13.6	25.1	35.7	47.0	52.4	66.2	74.0	80.0	80.0	80.0	80.0	80.0	80.0
Note	Voltage can make as customers' request												
Packing Details	CTN size:55X35XH18CM 24pcs/CTN N.W. 16Kgs												



Note:1、Housing material：Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,545,555,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

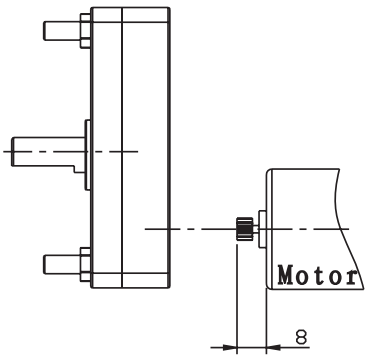


PINION SPECIFICATIONS

Module	0.5
No. of teeth	10
Pressure angle	20°
Hole diameter	Φ1.98
Reduction ratio	212,307,409,765,818,1105 1228,3061,4592,6632,9948

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
212,307	13818/65, 4606/15	1.5kgf • cm	4.5kgf • cm	65%	4	same
409	18242/45	1.5kgf • cm	4.5kgf • cm	65%	4	same
765,818	248724/325	5kgf • cm	15kgf • cm	59%	5	different
1105	27636/25	5kgf • cm	15kgf • cm	59%	5	different
1228	18424/15	5kgf • cm	15kgf • cm	59%	5	different
3061	994896/325	10kgf • cm	30kgf • cm	48%	7	different
4592	1492344/325	10kgf • cm	30kgf • cm	48%	7	different
6632	165816/25	10kgf • cm	30kgf • cm	48%	7	different
9948	248724/25	10kgf • cm	30kgf • cm	48%	7	different



VFO-38 DC GEAR MOTOR Series

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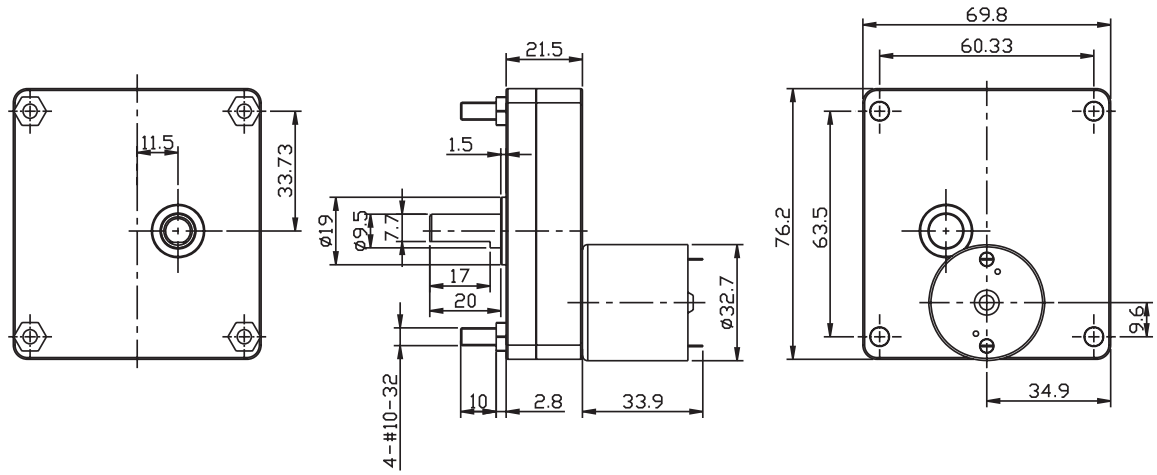
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:400~450g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	5 stages reduction	7 stages reduction
Reduction ratio	212、307、409	765、818、1105、1228	3061、4592、6632、9948
Max. Running torque	1.5Kgf • cm	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	4.5Kgf • cm	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	65%	59%	48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VFO-38123400-1105K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 1105.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VFO-385 DC GEAR MOTOR Series

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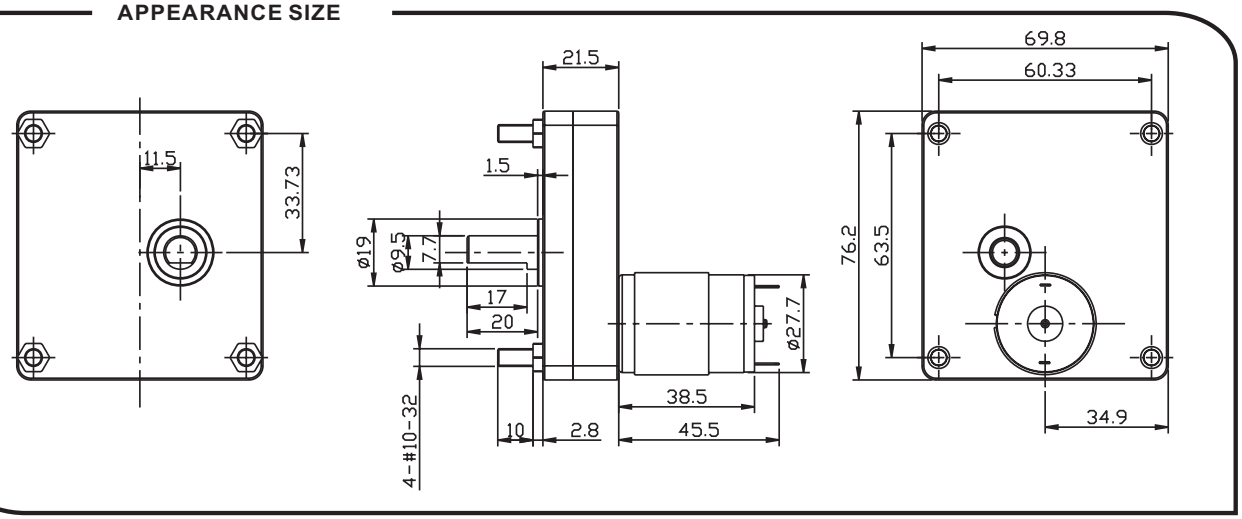
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:400~450g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	5 stages reduction	7 stages reduction
Reduction ratio	212、307、409	765、818、1105、1228	3061、4592、6632、9948
Max. Running torque	1.5Kgf • cm	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	4.5Kgf • cm	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	65%	59%	48%
Other reduction ratio please telephone or e-mail to our engineering department.			

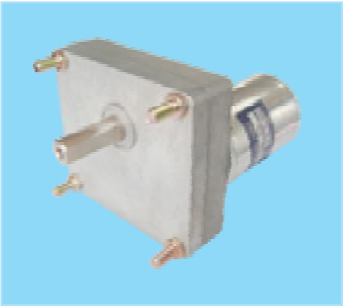
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-385123000	12	≤45	3000	≤150	2200	35	0.8	140	450
RS-385124500	12	≤70	4500	≤300	3300	55	1.8	220	1200
RS-385126000	12	≤100	6000	≤600	4500	80	3.6	320	1900
RS-385243000	24	≤25	3000	≤70	2200	35	0.8	140	230
RS-385244500	24	≤40	4500	≤150	3300	55	1.8	220	600
RS-385246000	24	≤50	6000	≤300	4500	80	3.6	320	1000

1、This table lists some motors parameters,others please refer to specific parameters of Page 143.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VFO-385123000-1105K Motor please refer to the motor data RS-385123000.Gearbox please refer to gearbox data reduction ratio 1105.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 139.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VFO-545 DC GEAR MOTOR Series

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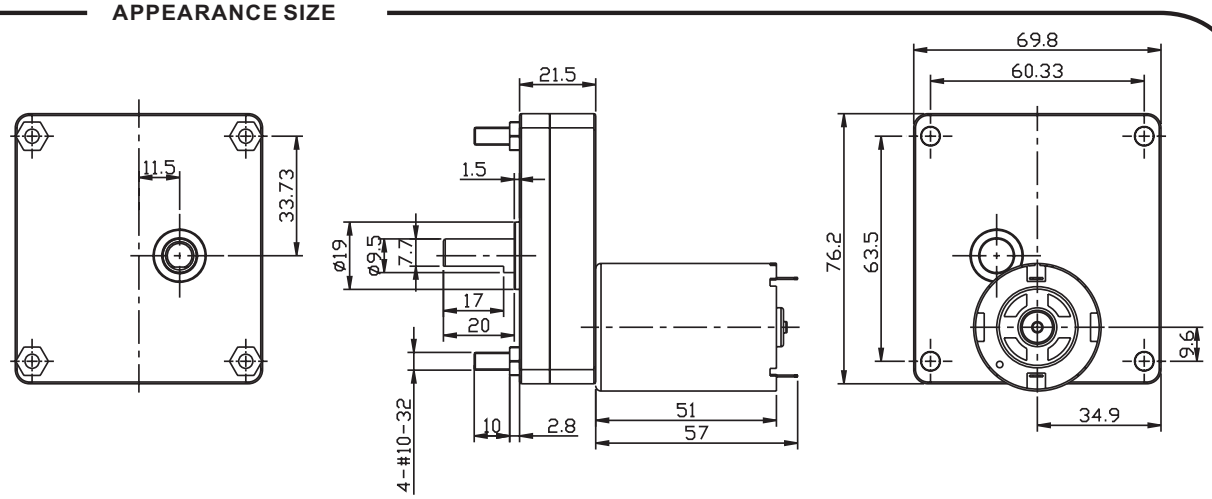
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:500~550g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	5 stages reduction	7 stages reduction
Reduction ratio	212、307、409	765、818、1105、1228	3061、4592、6632、9948
Max. Running torque	1.5Kgf • cm	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	4.5Kgf • cm	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	65%	59%	48%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

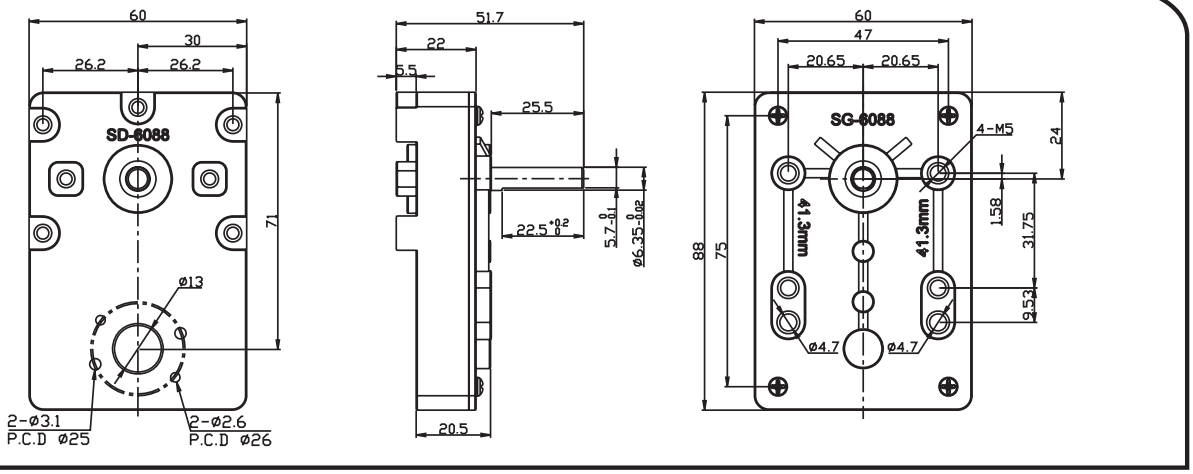
NOTE:

1、Gearmotor named methods: e.g. VFO-545123000-1105K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 1105.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to528,545,555,YJ61 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

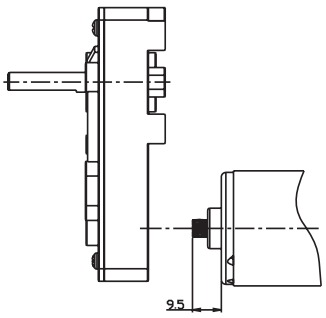


PINION SPECIFICATIONS

Module	0.4	0.4	0.4
No. of teeth	10	12	17
Pressure angle	20°		
Helix angle		15° left	
Hole diameter	Φ3.12, Φ1.96		
Reduction ratio	11.2,20.5,32.5 66.9,128	17.2，46.5，186，267	86.4，109

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
11.2	2871/256	5kgf • cm	15kgf • cm	73%	3	different
17.2	551/32	5kgf • cm	15kgf • cm	73%	3	different
20.5	8029/390	5kgf • cm	15kgf • cm	73%	3	different
32.5	1271/39	5kgf • cm	15kgf • cm	73%	3	different
46.5	931/20	5kgf • cm	15kgf • cm	73%	3	different
66.9	2009/30	10kgf • cm	30kgf • cm	73%	3	different
86.4	8815/102	10kgf • cm	30kgf • cm	65%	4	same
109	24108/221	10kgf • cm	30kgf • cm	65%	4	same
123	8036/65	10kgf • cm	30kgf • cm	65%	4	same
186	931/5	10kgf • cm	30kgf • cm	65%	4	same
267	4018/15	10kgf • cm	30kgf • cm	65%	4	same



VG-38 DC GEAR MOTOR Series

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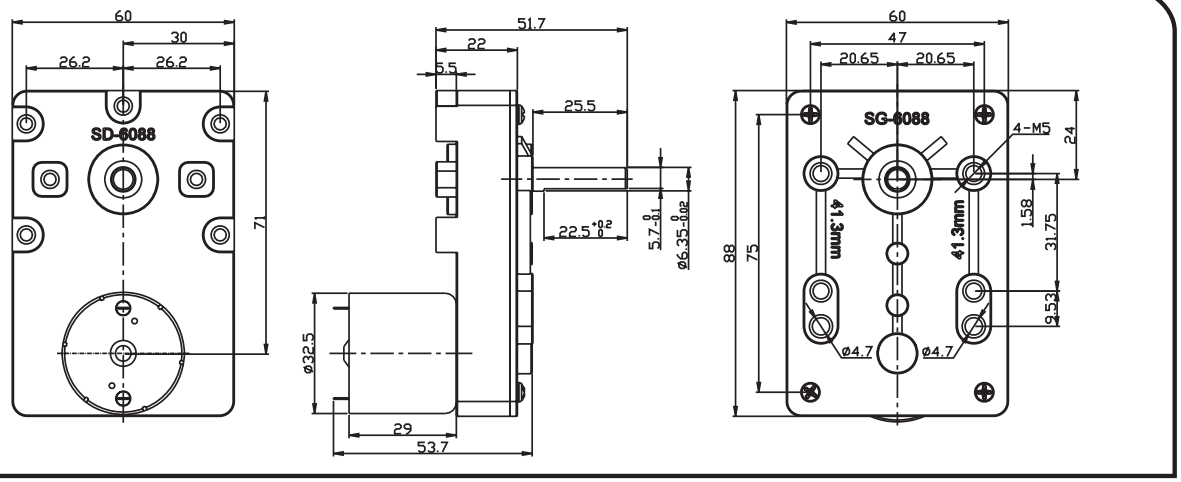
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 350~400g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction
Reduction ratio	11.2、17.2、20.5、32.5、46.5、66.9	86.4、109、123、186、267
Max. Running torque	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%
Other reduction ratio please telephone or e-mail to our engineering department.		

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VG-38123400-20.5K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 20.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.35mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VG-545 DC GEAR MOTOR Series

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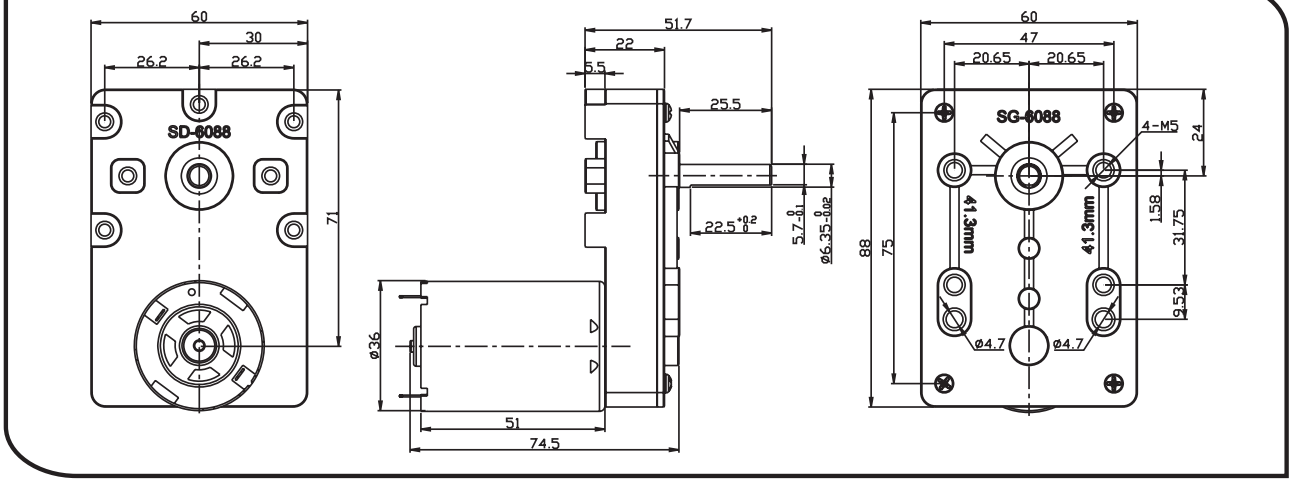
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction
Reduction ratio	11.2、17.2、20.5、32.5、46.5、66.9	86.4、109、123、186、267
Max. Running torque	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%
Other reduction ratio please telephone or e-mail to our engineering department.		

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VG-545123000-20.5K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 20.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.35mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VG-555 DC GEAR MOTOR Series

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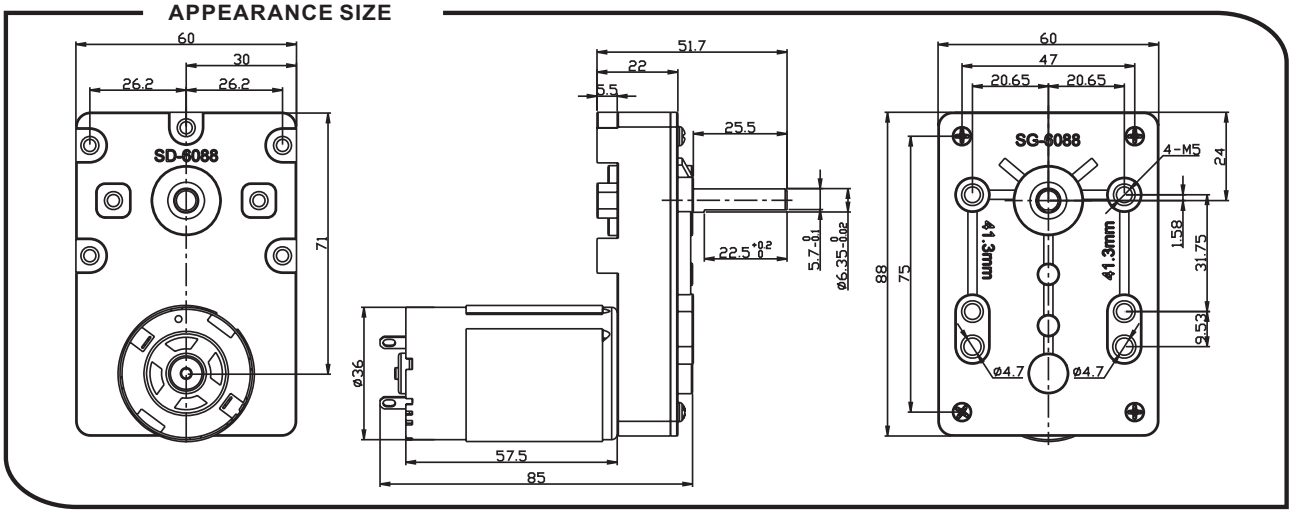
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction
Reduction ratio	11.2、17.2、20.5、32.5、46.5、66.9	86.4、109、123、186、267
Max. Running torque	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%
Other reduction ratio please telephone or e-mail to our engineering department.		

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. VG-555123000-20.5K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 20.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ6.35mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



VG-YJ61 Series
SHADE POLE MOTOR

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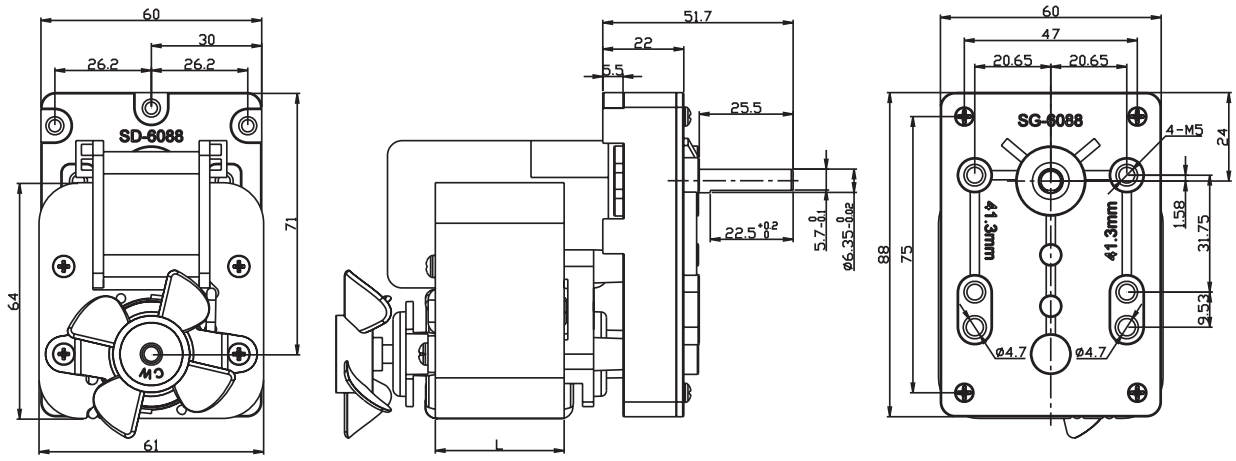
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:500~600g(APPROX)

Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



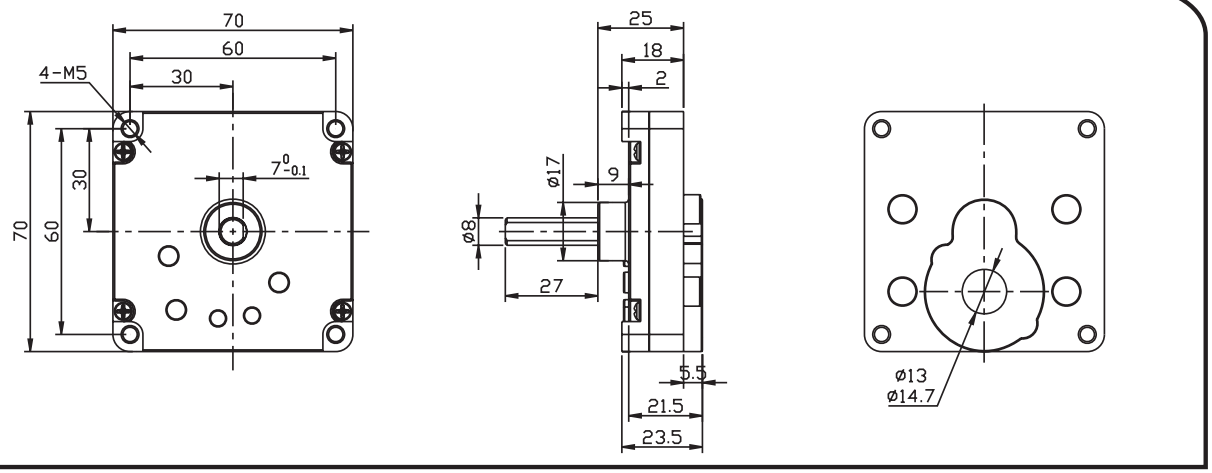
GEARED MOTOR TORQUE/SPEED

Reductionratio	1/11.2	1/17.2	1/20.5	1/32.5	1/46.5	1/66.9	1/86.4	1/109	1/123	1/186	1/267
Numberofgeartrans	3						4				
Ratedspeed(rpm)at60Hz	250	162	136	86.1	60.2	41.8	32.4	25.6	22.7	15.0	10.5
VG-YJ61-10 L=10.5 (Kgf • cm) Rated torque	0.50	0.75	0.90	1.42	2.04	2.93	3.37	4.25	4.80	7.25	10.4
VG-YJ61-12 L=12 (Kgf • cm) Rated torque	0.65	1.0	1.20	1.90	2.72	3.91	4.49	5.67	6.40	9.67	13.9
VG-YJ61-14 L=14.5 (Kgf • cm) Rated torque	0.81	1.25	1.50	2.37	3.39	4.88	5.62	7.09	8.0	12.1	17.4
VG-YJ61-16 L=16.5 (Kgf • cm) Rated torque	1.14	1.76	2.09	3.32	4.75	6.84	7.86	9.92	11.2	16.9	24.3
VG-YJ61-20 L=20.5 (Kgf • cm) Rated torque	1.47	2.26	2.69	4.27	6.11	8.79	10.1	12.7	14.4	21.7	31.2
VG-YJ61-25 L=25.5 (Kgf • cm) Rated torque	1.80	2.76	3.29	5.22	7.47	10.7	12.4	15.6	17.6	26.6	38.2
VG-YJ61-30 L=30.5 (Kgf • cm) Rated torque	2.30	3.52	4.19	6.64	9.50	13.7	15.7	19.8	22.4	33.8	48.6
VG-YJ61-35 L=35.5 (Kgf • cm) Rated torque	2.86	4.39	5.24	8.30	11.9	17.1	19.6	24.8	28.0	42.3	60.7
VG-YJ61-40 L=40 (Kgf • cm) Rated torque	3.27	5.02	5.99	9.49	13.6	19.5	22.5	28.3	32.0	48.4	69.4
VG-YJ61-50 L=50 (Kgf • cm) Rated torque	4.25	6.53	7.78	12.3	17.7	25.4	29.2	36.8	41.6	62.9	80.0
Note	Voltage can make as customers' request										
Packing Details	CTN size:55X35XH18CM 24pcs/CTN N.W. 16Kgs										



Note:1、Housing material： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 545,555,YJ61, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

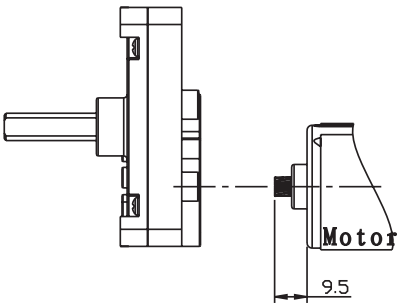


PINION SPECIFICATIONS

Module	0.4	0.5	
No. of teeth	12	10	13
Pressure angle	20°		
Helix angle	15° left	———	———
Hole diameter	Φ3.16	Φ2.5(D)	Φ2.5(D)
Reduction ratio	90，128，170 190，239，331 478，718	39，55	13，17.5，25

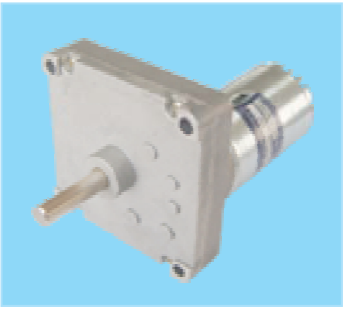
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
13,17.5,25	2079/160， 1134/65,126/5	10kgf • cm	30kgf • cm	73%	3	different
39,55	39/1,2223/40	10kgf • cm	30kgf • cm	73%	3	different
90,128	90/1,513/4	20kgf • cm	60kgf • cm	65%	4	same
170	44289/260	20kgf • cm	60kgf • cm	65%	4	same
190	7581/40	20kgf • cm	60kgf • cm	65%	4	same
239	1197/5	20kgf • cm	60kgf • cm	65%	4	same
331	21546/65	30kgf • cm	90kgf • cm	59%	5	different
478	2394/5	30kgf • cm	90kgf • cm	59%	5	different
718	3591/5	30kgf • cm	90kgf • cm	59%	5	different



MG-545 DC GEAR MOTOR Series

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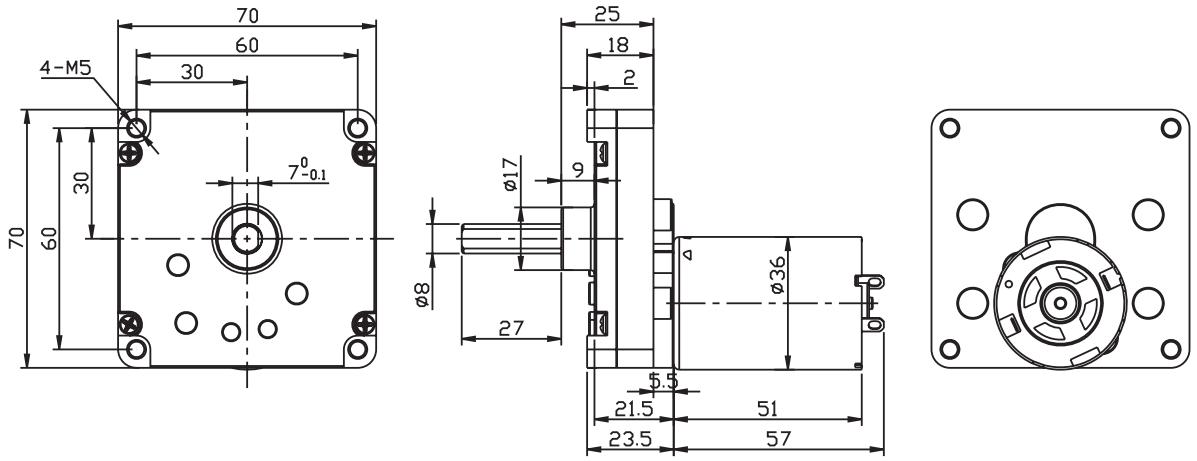
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、 auto shutter、 welding machines、 water meter IC card、 grill、 oven、 cleaning machine、 garbage disposers、 household appliances、 slot machines、money detector、automatic actuator、coffee machine、towel disposal、 lighting、coin refund devices、peristaltic pump.

Weight:400~430g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	13、17.5、25、39、55	90、128、170、 190、239	331、478、718
Max. Running torque	20Kgf • cm	30Kgf • cm	50Kgf • cm
Max. Gear breaking torque	60Kgf • cm	90Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. MG-545123000-90K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



MG-555 DC GEAR MOTOR Series

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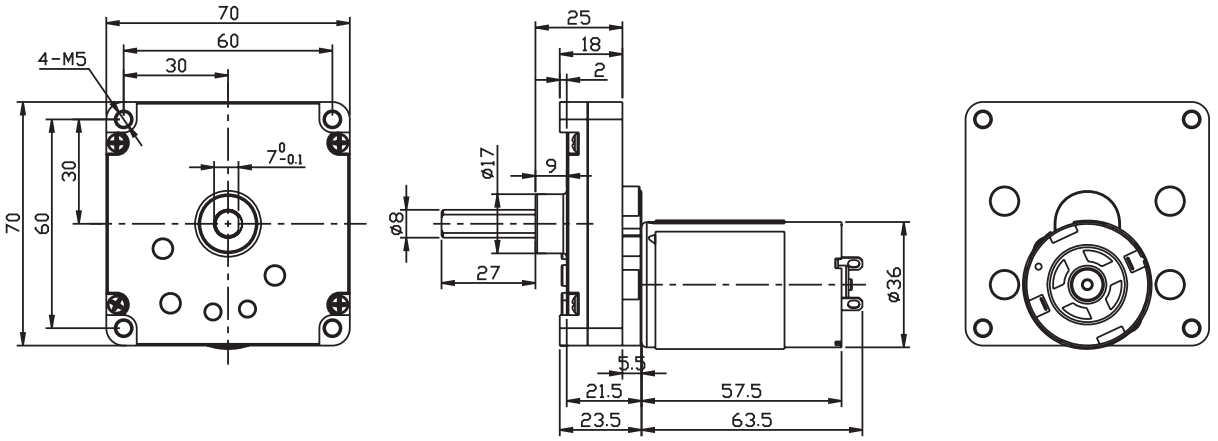
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	13、17.5、25、39、55	90、128、170、190、239	331、478、718
Max. Running torque	20Kgf • cm	30Kgf • cm	50Kgf • cm
Max. Gear breaking torque	60Kgf • cm	90Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. MG-555123000-90K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 90.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



MG-YJ61 Series
SHADE POLE MOTOR

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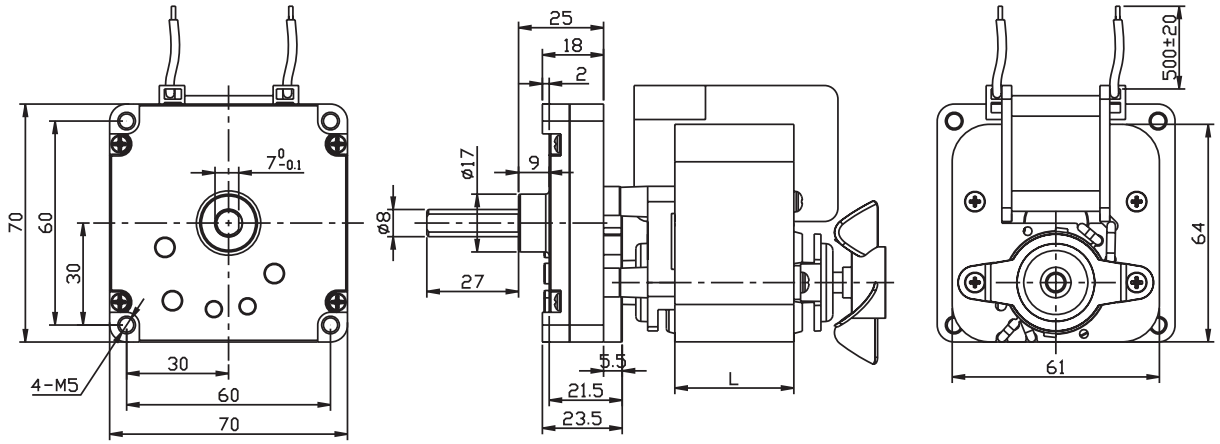
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:500~700g(APPROX)

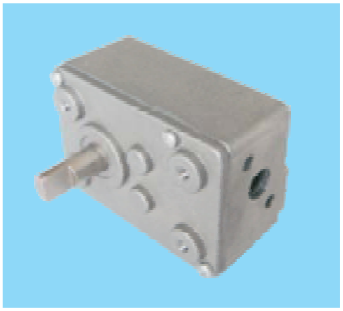
Typical applications: Labal printers、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

APPEARANCE SIZE



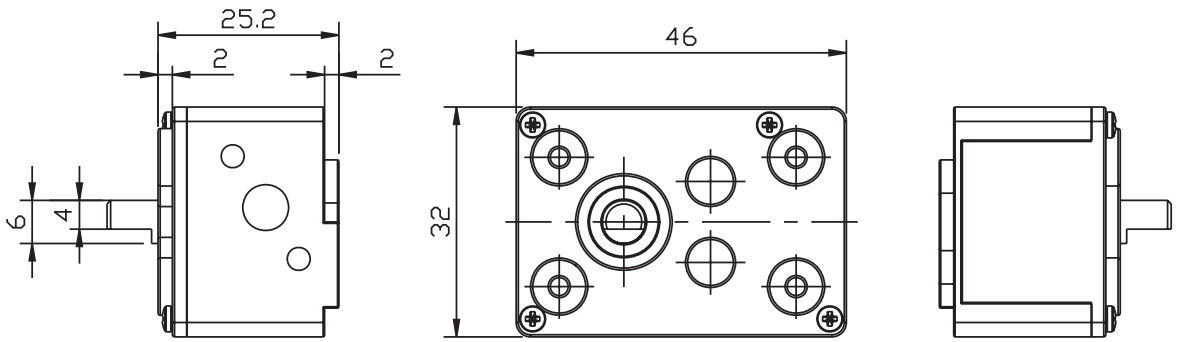
GEARED MOTOR TORQUE/SPEED

Reductionratio	1/13	1/17.5	1/25	1/39	1/55	1/90	1/128	1/170	1/190	1/239	1/331	1/478	1/718
Numberofgeartrans	3					4					5		
Ratedspeed(rpm)at60Hz	215	160	112	71.7	50.9	31.1	21.8	16.4	14.7	11.7	8.4	5.8	3.9
MG-YJ61-10 L=10.5 (Kgf • cm) Rated torque	0.62	0.88	1.22	1.75	2.39	3.56	5.05	6.65	7.51	9.46	13.1	18.8	25.4
MG-YJ61-12 L=12 (Kgf • cm) Rated torque	0.83	1.17	1.62	2.34	3.20	4.75	6.74	8.87	10.0	12.6	17.4	25.0	33.9
MG-YJ61-14 L=14.5 (Kgf • cm) Rated torque	1.04	1.46	2.03	2.92	4.0	5.94	8.43	11.1	12.5	15.8	21.8	31.4	42.4
MG-YJ61-16 L=16.5 (Kgf • cm) Rated torque	1.45	2.04	2.83	4.09	5.6	8.31	11.8	15.5	17.5	22.1	30.5	43.9	59.3
MG-YJ61-20 L=20.5 (Kgf • cm) Rated torque	1.87	2.62	3.64	5.26	7.2	10.7	15.2	20.0	22.6	28.4	39.2	56.4	76.3
MG-YJ61-25 L=25.5 (Kgf • cm) Rated torque	2.28	3.21	4.46	6.42	8.79	13.1	18.6	24.4	27.5	34.7	47.9	68.9	80.0
MG-YJ61-30 L=30.5 (Kgf • cm) Rated torque	2.90	4.08	5.67	8.18	11.2	16.6	23.5	31.0	35.0	44.2	61.0	80.0	80.0
MG-YJ61-35 L=35.5 (Kgf • cm) Rated torque	3.63	5.10	7.09	10.2	13.9	20.8	29.5	38.8	43.8	55.2	76.1	80.0	80.0
MG-YJ61-40 L=40 (Kgf • cm) Rated torque	4.15	5.83	8.10	11.7	16.0	23.8	33.8	44.4	50.1	63.1	80.0	80.0	80.0
MG-YJ61-50 L=50 (Kgf • cm) Rated torque	5.18	7.28	10.1	14.6	20.1	29.7	42.2	55.5	62.6	78.8	80.0	80.0	80.0
Note	Voltage can make as customers' request												
Packing Details	CTN size:55X35XH18CM 24pcs/CTN N.W. 16Kgs												



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 370 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

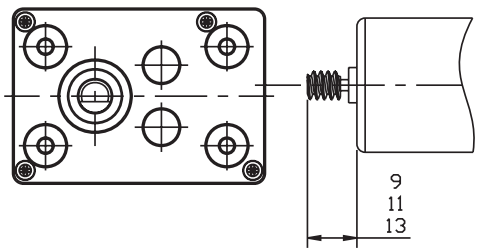


PINION SPECIFICATIONS

Module	0.5
No. of teeth	1
Pressure angle	20°
Helix angle	15°42' right
Hole diameter	Φ1.98
Reduction ratio	276，552，828，649，1656，2484

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
276	1551/160,1617/160	2kgf • cm	6kgf • cm	73%	3	Different
552	846/65,882/65	5kgf • cm	15kgf • cm	65%	4	same
828	4653/160,4851/160	5kgf • cm	15kgf • cm	65%	4	same
649	94/5,98/5	10kgf • cm	30kgf • cm	59%	5	different
1656	2538/65,2464/65	10kgf • cm	30kgf • cm	59%	5	different
2484	282/5,294/5	10kgf • cm	30kgf • cm	59%	5	different



WGM370 DC GEAR MOTOR Series

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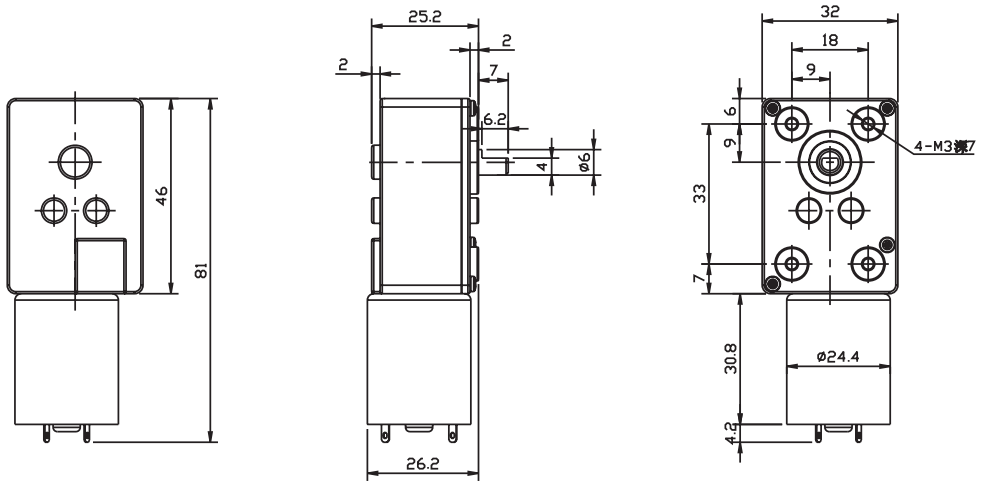
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Garbage disposers,Water IC card,Toys and gifts,Kind of figer-electroni locks,Optical equipment,Card conveyors,Robots,Towel dispensers,Office equipment,Household appliances,Automatic actuator.

Weight: 150~200g/pcs(approx)

Packing details: CTN size:41X26XH23cm 100pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	276	552、828	649、1656、2484
Max. Running torque	2Kgf • cm	5Kgf • cm	10Kgf • cm
Max. Gear breaking torque	6Kgf • cm	15Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RF-370063000	6	≤15	3000	≤100	2200	15	0.33	60	600
RF-370064500	6	≤25	4500	≤270	3300	24	0.8	90	1200
RF-370066000	6	≤40	6000	≤500	4500	30	1.4	120	1900
RF-370123000	12	≤15	3000	≤55	2200	15	0.33	60	280
RF-370126000	12	≤20	6000	≤250	4500	30	1.4	120	1200
RF-370246000	24	≤30	6000	≤130	4500	30	1.4	120	550

1、This table lists some motors parameters,others please refer to specific parameters of Page 142.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

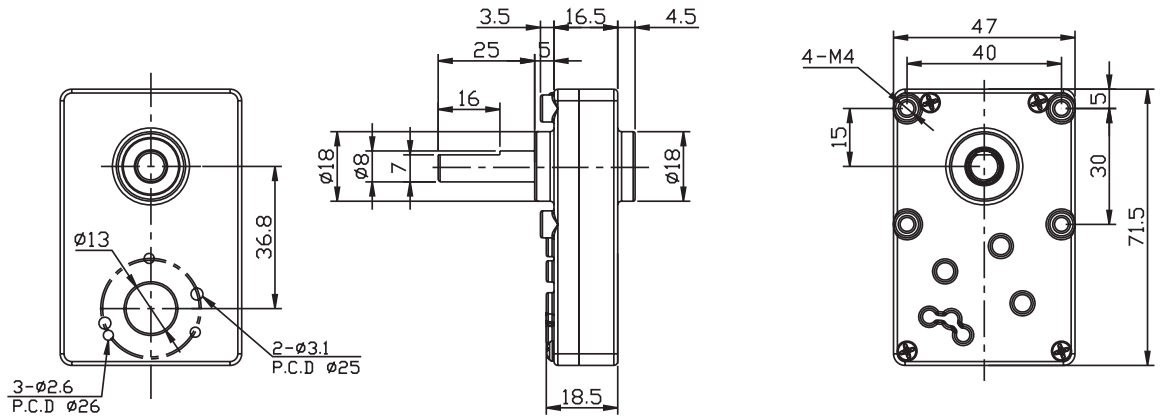
NOTE:

1、Gearmotor named methods: e.g. WGM370123000-276K Motor please refer to the motor data RF-370123000.Gearbox please refer to gearbox data reduction ratio 276.Related to gearmotor output speed and torque please refer to motor data.
2、Gearbox shell material:zinc alloy.
3、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
4、Standard output shaft after reducing:Φ6.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 528,545,555,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

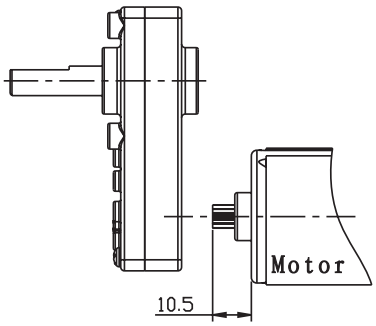


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	10	12
Pressure angle	20°	
Helix angle		15° left
Hole diameter	Φ3.16	Φ3.16, Φ1.98
Reduction ratio	73	135，174，252 391，505，730

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
73	1218/25	10kgf • cm	30kgf • cm	73%	3	different
135	135/1	20kgf • cm	60kgf • cm	65%	4	same
174	2268/13	20kgf • cm	60kgf • cm	65%	4	same
252	252/1	20kgf • cm	60kgf • cm	65%	4	same
391	783/2	30kgf • cm	90kgf • cm	59%	5	different
506	32886/65	30kgf • cm	90kgf • cm	59%	5	different
730	3654/5	30kgf • cm	90kgf • cm	59%	5	different



AF-38 DC GEAR MOTOR Series

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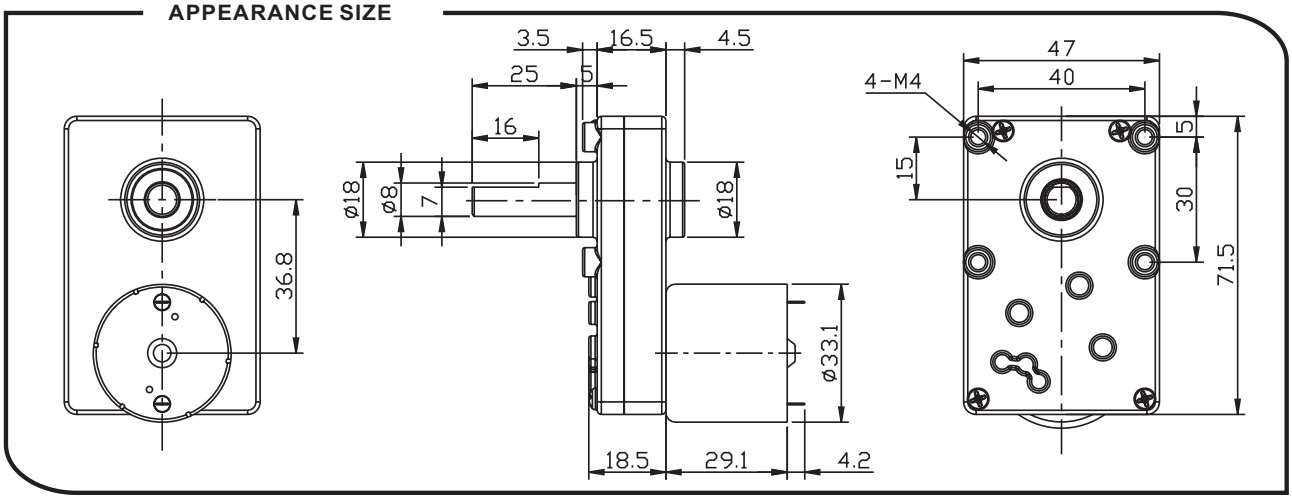
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:350~400g/pcs(approx)

Packing details:2CTN size:37X35.5XH17cm 12pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	73	135、174、252	391、506、730
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. AF-38123400-135K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 135.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



AF-545 DC GEAR MOTOR Series

SGMADA®

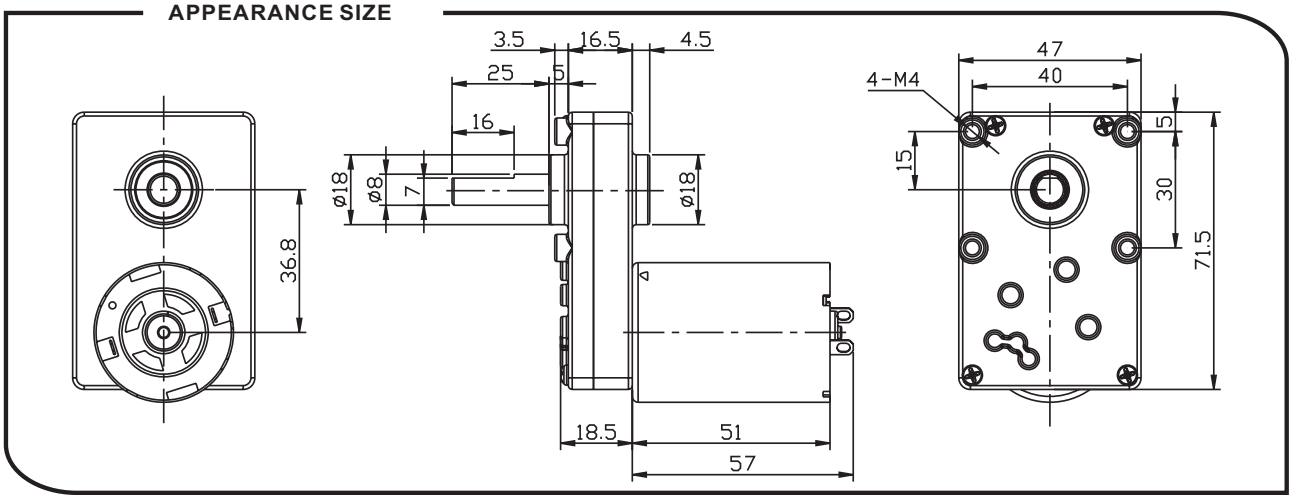
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:450~500g/pcs(approx)

Packing details:2CTN size:55X35XH18cm 12pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	73	135、174、252	391、506、730
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. AF-545123000-135K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 135.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



AF-555 DC GEAR MOTOR Series

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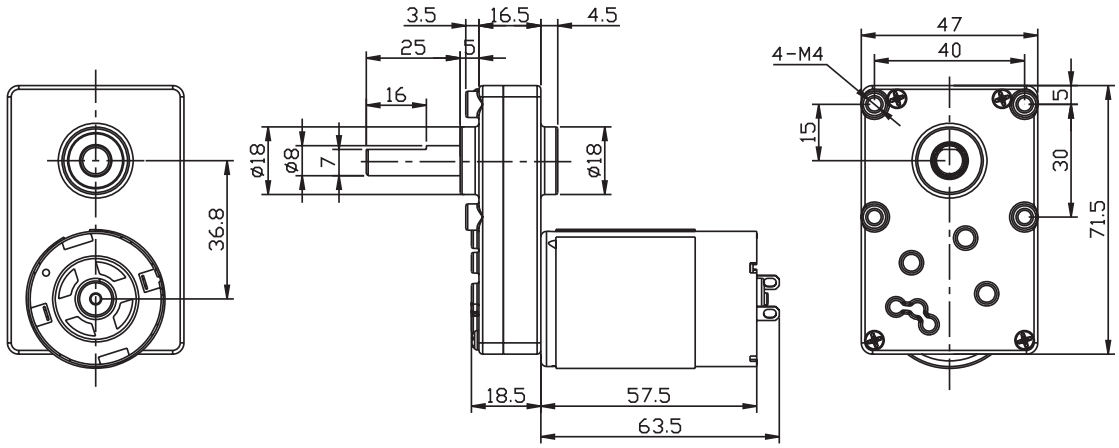
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:500~550g/pcs(approx)

Packing details:CTN size:55X35XH18cm 12pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	73	135、174、252	391、506、730
Max. Running torque	10Kgf • cm	20Kgf • cm	30Kgf • cm
Max. Gear breaking torque	30Kgf • cm	60Kgf • cm	90Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

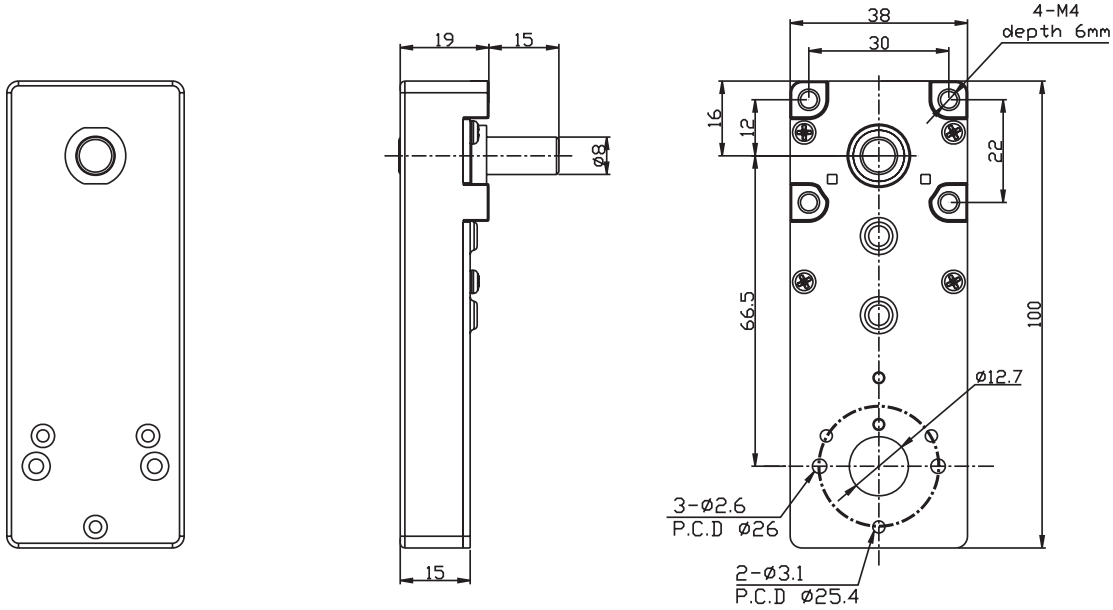
NOTE:

1、Gearmotor named methods: e.g. AF-555123000-135K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 135.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,ZY40,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

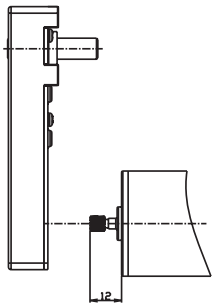


PINION SPECIFICATIONS

Module	0.4
No. of teeth	12
Pressure angle	20°
Helix angle	15° left
Hole diameter	Φ3.12, Φ1.96
Reduction ratio	162.5

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
162.5	1463/9	30kgf • cm	90kgf • cm	59%	5	different



CF-38 DC GEAR MOTOR Series

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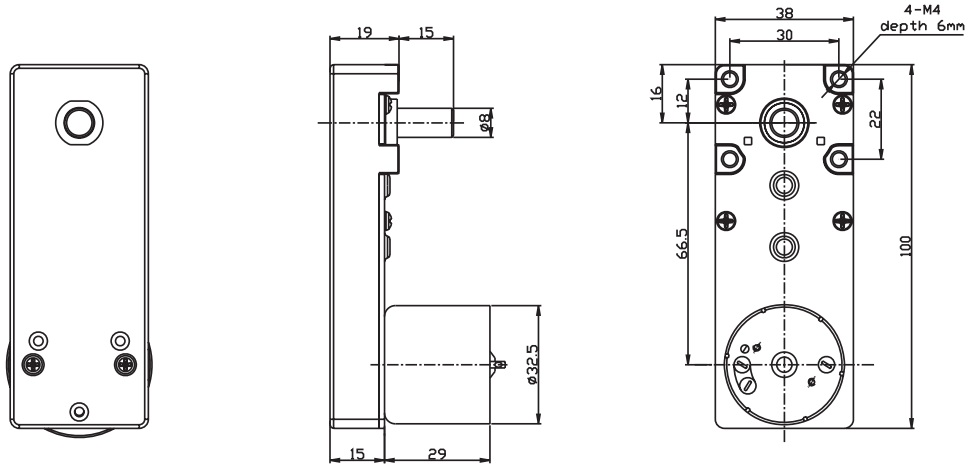
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:200~250g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.7Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	5 stages reduction
Reduction ratio	162.5
Max. Running torque	30Kgf • cm
Max. Gear breaking torque	90Kgf • cm
Max.Gearing efficiency	59%
Other reduction ratio please telephone or e-mail to our engineering department.	

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. CF-38123400-162.5K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 162.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



CF-545 DC GEAR MOTOR Series

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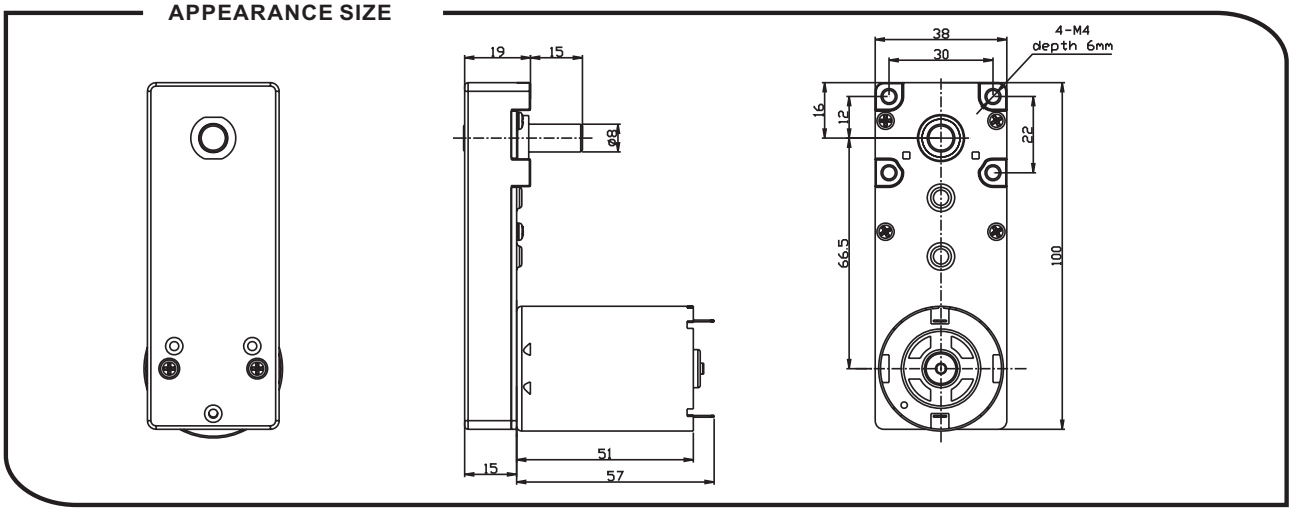
Main voltage: 6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~600g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.10Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	5 stages reduction
Reduction ratio	162.5
Max. Running torque	30Kgf • cm
Max. Gear breaking torque	90Kgf • cm
Max.Gearing efficiency	59%
Other reduction ratio please telephone or e-mail to our engineering department.	

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

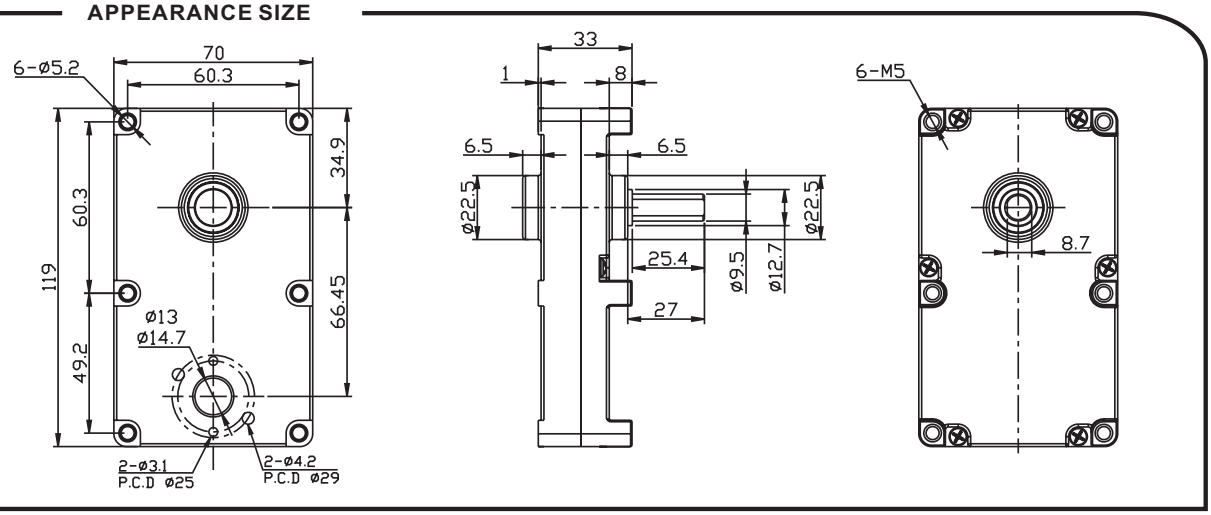
NOTE:

1、Gearmotor named methods: e.g. CF-545123000-162.5K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 162.5.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material：Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 545,555,775,40ZY,45ZY,YJ61 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 300kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

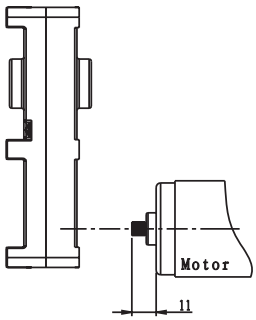


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	10	12
Pressure angle	20°	
Helix angle		15° left
Hole diameter	Φ2.5(D)	Φ3.16, Φ1.98
Reduction ratio	251，389，590 722，897	1269，1601，1929 3385，5078

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
251	30381/121	30kgf • cm	90kgf • cm	65%	4	Same
389,590	779/2,19475/33	50kgf • cm	150kgf • cm	65%	4	same
722,897	39729/55,49343/55	50kgf • cm	150kgf • cm	65%	4	same
1269	13965/11	80kgf • cm	240kgf • cm	59%	5	different
1601	229026/143	80kgf • cm	240kgf • cm	59%	5	different
1929	106134/55	80kgf • cm	240kgf • cm	59%	5	different
3385	37240/11	100kgf • cm	300kgf • cm	53%	6	same
5078	55860/11	100kgf • cm	300kgf • cm	53%	6	same



GF-545 DC GEAR MOTOR Series

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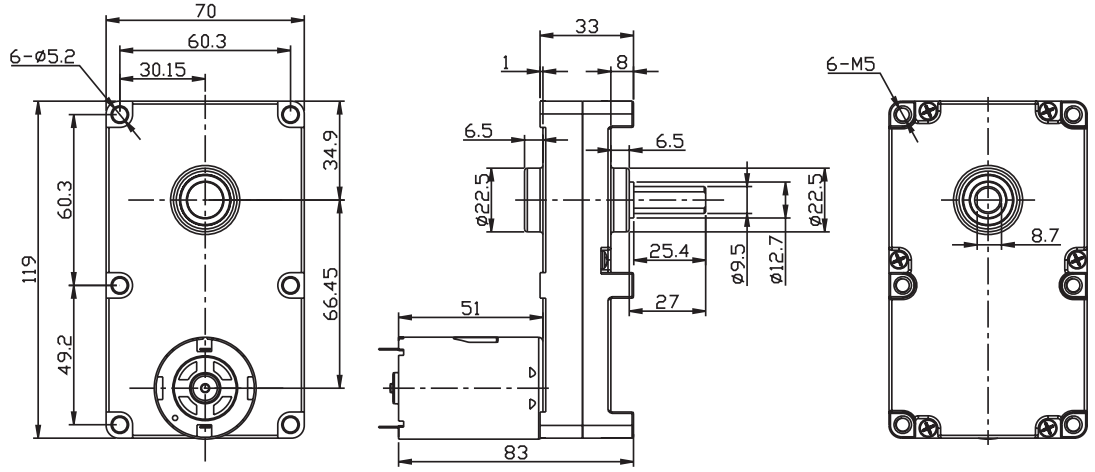
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Grill,Oven,Angular telescope,Garage gate,Electric advertising,Medical equipment,Aeromodelling,Paper shredder,Office equipment,Household appliances,Automatic actuator.

Weight: 850~900g/pcs(approx)

Packing details: CTN size:31X30XH28cm 12pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4stages reduction	4 stages reduction	5 stages reduction	6 stages reduction
Reduction ratio	251	389、590、722、897	1269、1601、1929	3385、5078
Max. Running torque	30Kgf • cm	50Kgf • cm	80Kgf • cm	100Kgf • cm
Max. Gear breaking torque	90Kgf • cm	150Kgf • cm	240Kgf • cm	300Kgf • cm
Max.Gearing efficiency	65%	65%	59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.				

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. GF-545123000-722K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 722.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



GF-555 DC GEAR MOTOR Series

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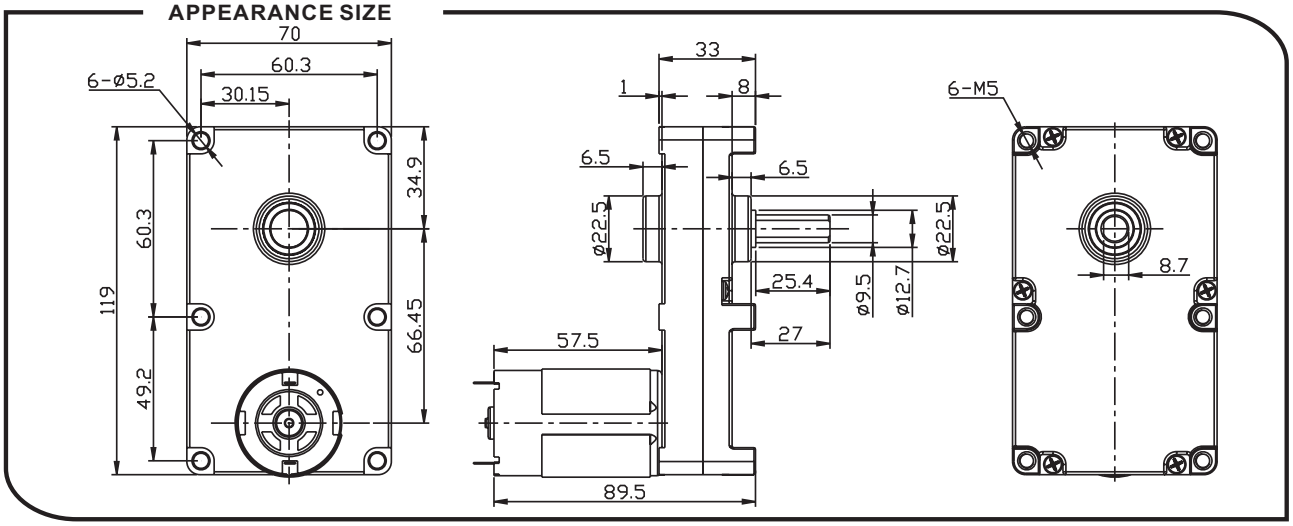
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:900~950g/pcs(approx)

Packing details:3CTN size:31X30XH28cm 4pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	4 stages reduction	5 stages reduction	6 stages reduction
Reduction ratio	251	389、590、722、897	1269、1601、1929	3385、5078
Max. Running torque	30Kgf • cm	50Kgf • cm	80Kgf • cm	100Kgf • cm
Max. Gear breaking torque	90Kgf • cm	150Kgf • cm	240Kgf • cm	300Kgf • cm
Max.Gearing efficiency	65%	65%	59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.				

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. GF-555123000-722K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 722.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



GF-775 DC GEAR MOTOR Series

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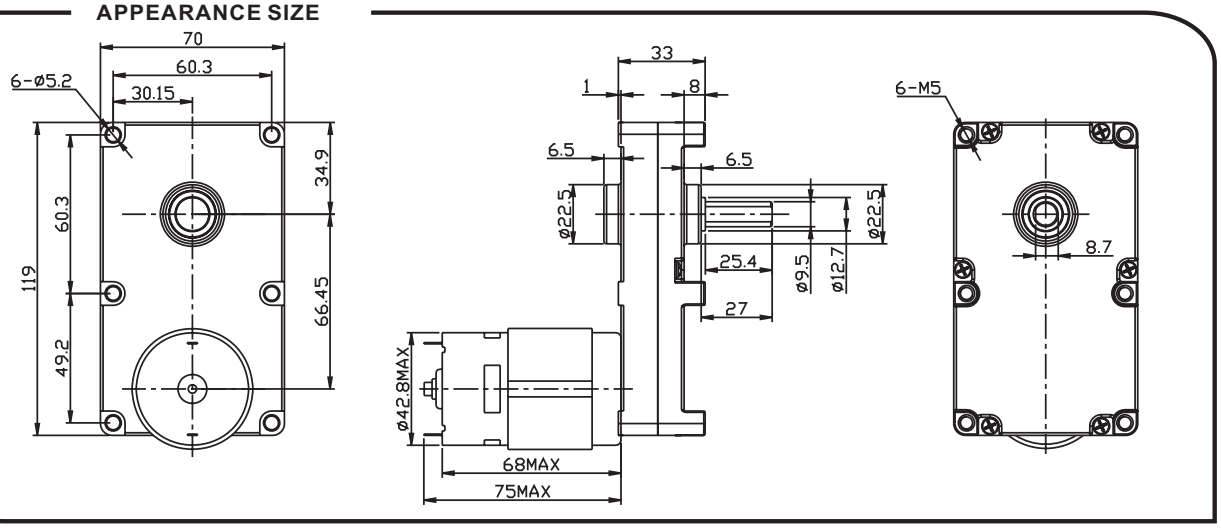
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:950~1000g/pcs(approx)

Packing details:3CTN size:31X30XH28cm 4pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	4 stages reduction	5 stages reduction	6 stages reduction
Reduction ratio	251	389、590、722、897	1269、1601、1929	3385、5078
Max. Running torque	30Kgf • cm	50Kgf • cm	80Kgf • cm	100Kgf • cm
Max. Gear breaking torque	90Kgf • cm	150Kgf • cm	240Kgf • cm	300Kgf • cm
Max.Gearing efficiency	65%	65%	59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.				

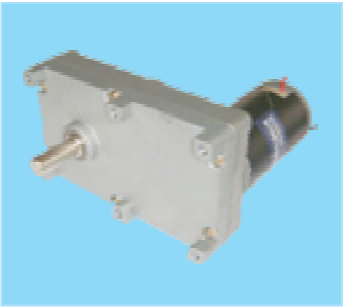
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
40ZY1245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
40ZY126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
40ZY243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
40ZY244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
40ZY246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. GF-775123000-722K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 722.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



GF-40ZY DC GEAR MOTOR Series

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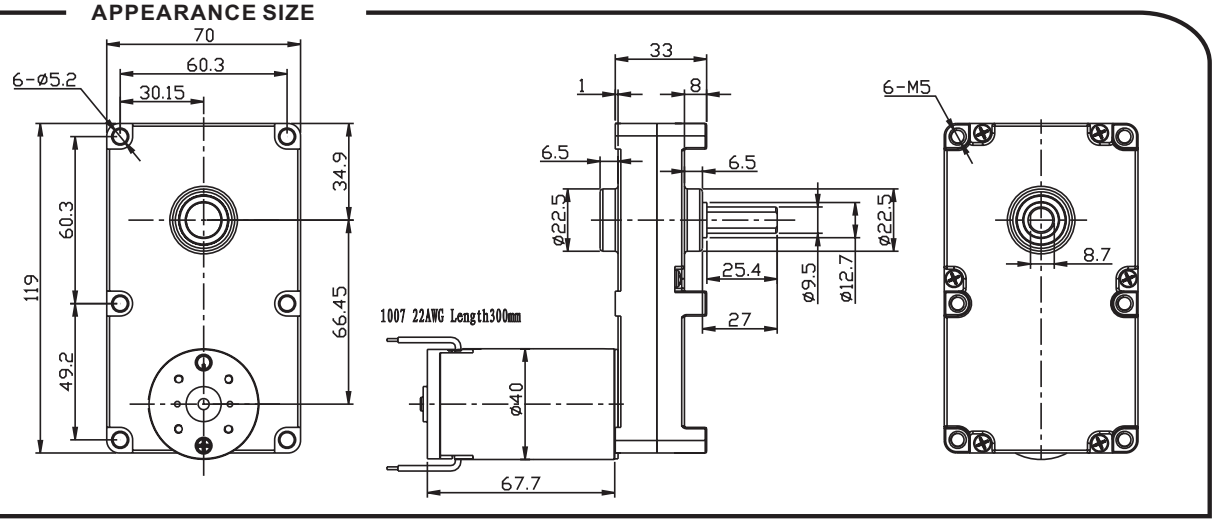
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:850~900g/pcs(approx)

Packing details:3CTN size:31X30XH28cm 4pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	4 stages reduction	5 stages reduction	6 stages reduction
Reduction ratio	251	389、590、722、897	1269、1601、1929	3385、5078
Max. Running torque	30Kgf • cm	50Kgf • cm	80Kgf • cm	100Kgf • cm
Max. Gear breaking torque	90Kgf • cm	150Kgf • cm	240Kgf • cm	300Kgf • cm
Max.Gearing efficiency	65%	65%	59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.				

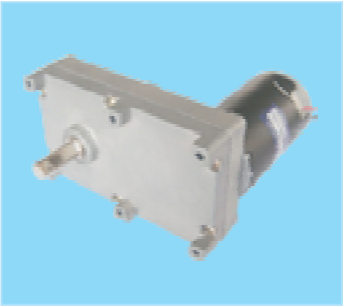
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤120	3000	≤750	2200	220	4.8	900	2.8
40ZY1245 00	12	≤190	4500	≤1500	3300	300	9.9	1200	6.0
40ZY126000	12	≤250	6000	≤3000	4500	400	18.0	1600	10
40ZY243000	24	≤80	3000	≤400	2200	220	4.8	900	1.5
40ZY244500	24	≤120	4500	≤800	3300	300	9.9	1200	3.0
40ZY246000	24	≤160	6000	≤1500	4500	400	18.0	1600	5.5

1、This table lists some motors parameters,others please refer to specific parameters of Page 152.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. GF-40ZY123000-722K Motor please refer to the motor data 40ZY123000.Gearbox please refer to gearbox data reduction ratio 722.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



GF-45ZY DC GEAR MOTOR Series

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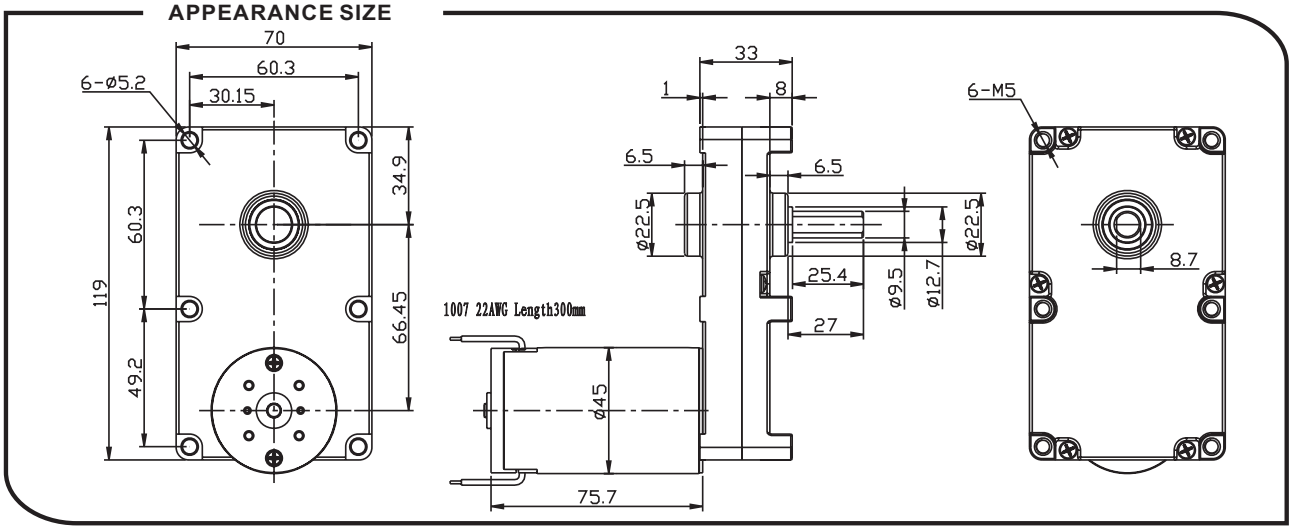
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:900~950g/pcs(approx)

Packing details:3CTN size:31X30XH28cm 4pcs/CTN G.W.12Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	4 stages reduction	4 stages reduction	5 stages reduction	6 stages reduction
Reduction ratio	251	389、590、722、897	1269、1601、1929	3385、5078
Max. Running torque	30Kgf • cm	50Kgf • cm	80Kgf • cm	100Kgf • cm
Max. Gear breaking torque	90Kgf • cm	150Kgf • cm	240Kgf • cm	300Kgf • cm
Max.Gearing efficiency	65%	65%	59%	53%
Other reduction ratio please telephone or e-mail to our engineering department.				

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. GF-45ZY123000-722K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 722.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ9.5mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



GF -YJ61 Series
SHADE POLE MOTOR

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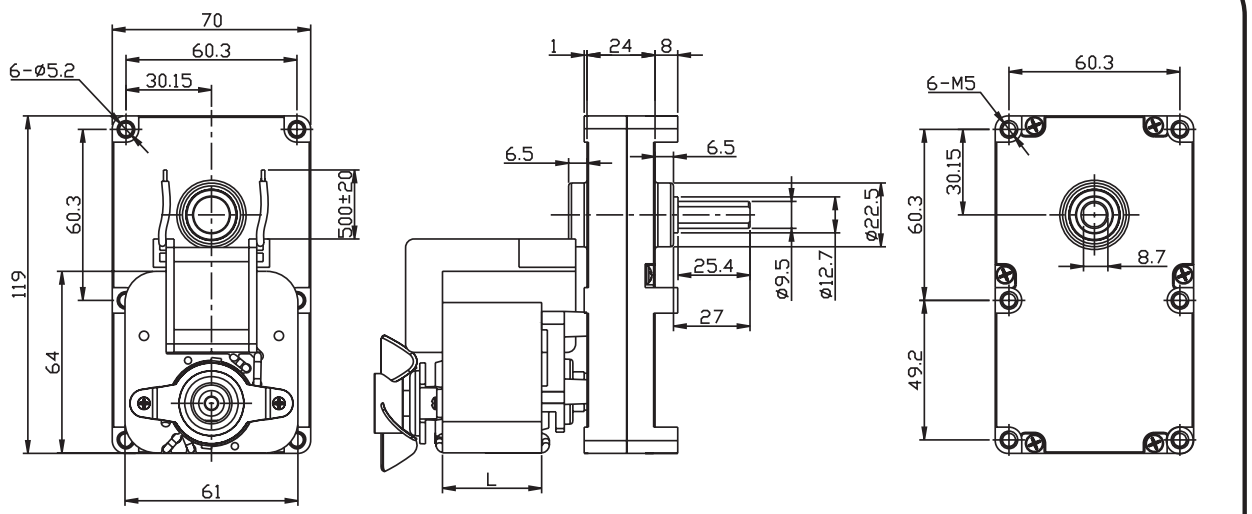
AC GEARED MOTOR

OUTPUT POWER: 1.0～15W(APPROX)

WEIGHT:1450～1700g(APPROX)

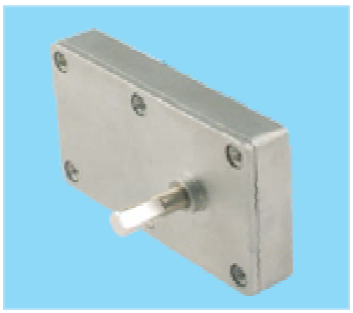
Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



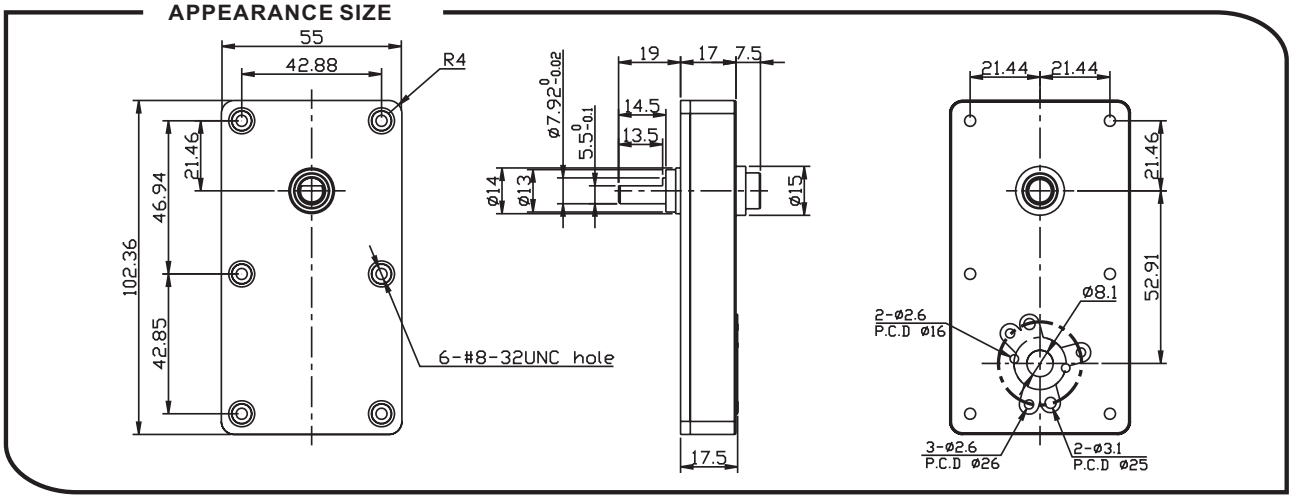
GEARED MOTOR TORQUE/SPEED

Reductionratio	1/251	1/389	1/590	1/722	1/897	1/1269	1/1601	1/1929	1/2708	1/3385	1/5078
Numberofgeartrans	4					5				6	
Ratedspeed(rpm)at60Hz	11.1	7.1	4.7	3.8	3.1	2.2	1.7	1.4	1.0	0.8	0.5
GF-YJ61-10 L=10.5 (Kgf • cm) Rated torque	9.8	15.2	23.0	28.2	35.0	44.9	56.7	68.2	95.9	108	161
GF-YJ61-12 L=12 (Kgf • cm) Rated torque	13.1	20.2	30.7	37.5	46.6	59.9	75.6	90.9	127	144	200
GF-YJ61-14 L=14.5 (Kgf • cm) Rated torque	16.3	25.3	38.3	46.9	58.3	74.9	94.5	113	159	179	200
GF-YJ61-16 L=16.5 (Kgf • cm) Rated torque	22.8	35.4	53.7	65.7	81.6	104	132	159	200	200	200
GF-YJ61-20 L=20.5 (Kgf • cm) Rated torque	29.4	45.5	69.0	84.5	105	134	170	200	200	200	200
GF-YJ61-25 L=25.5 (Kgf • cm) Rated torque	35.9	55.6	84.4	103	128	164	200	200	200	200	200
GF-YJ61-30 L=30.5 (Kgf • cm) Rated torque	45.7	70.8	107	131	163	200	200	200	200	200	200
GF-YJ61-35 L=35.5 (Kgf • cm) Rated torque	57.1	88.5	134	164	200	200	200	200	200	200	200
GF-YJ61-40 L=40 (Kgf • cm) Rated torque	65.3	101	153	187	200	200	200	200	200	200	200
GF-YJ61-50 L=50 (Kgf • cm) Rated torque	84.8	131	199	200	200	200	200	200	200	200	200
Note	Voltage can make as customers' request										
Packing Details	CTN size:31X30XH28CM 12pcs/CTN N.W. 20Kgs										



Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,545,555,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 90kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

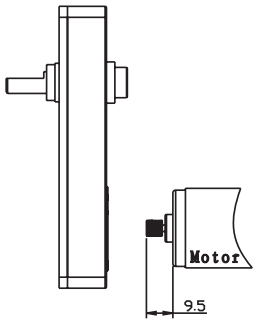


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	13	12
Pressure angle	20°	
Helix angle		15° left
Hole diameter	Φ3.12, Φ1.96, Φ2.5(D)	Φ3.12, Φ1.96
Reduction ratio	36，66，94，149 211，394	196，277，624 830，1166

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
36,66	473/13，4312/65	30kgf • cm	90kgf • cm	73%	3	different
94	18326/195	30kgf • cm	90kgf • cm	73%	3	different
149	9702/65	30kgf • cm	90kgf • cm	65%	4	same
196	196/1	40kgf • cm	120kgf • cm	65%	4	same
211	27489/130	40kgf • cm	120kgf • cm	65%	4	same
277	833/3	40kgf • cm	120kgf • cm	65%	4	same
394	128282/325	50kgf • cm	150kgf • cm	65%	4	same
624,830	2499/4，215747/260	50kgf • cm	150kgf • cm	59%	5	different
1166	17493/15	50kgf • cm	150kgf • cm	59%	5	different



JF-38 DC GEAR MOTOR Series

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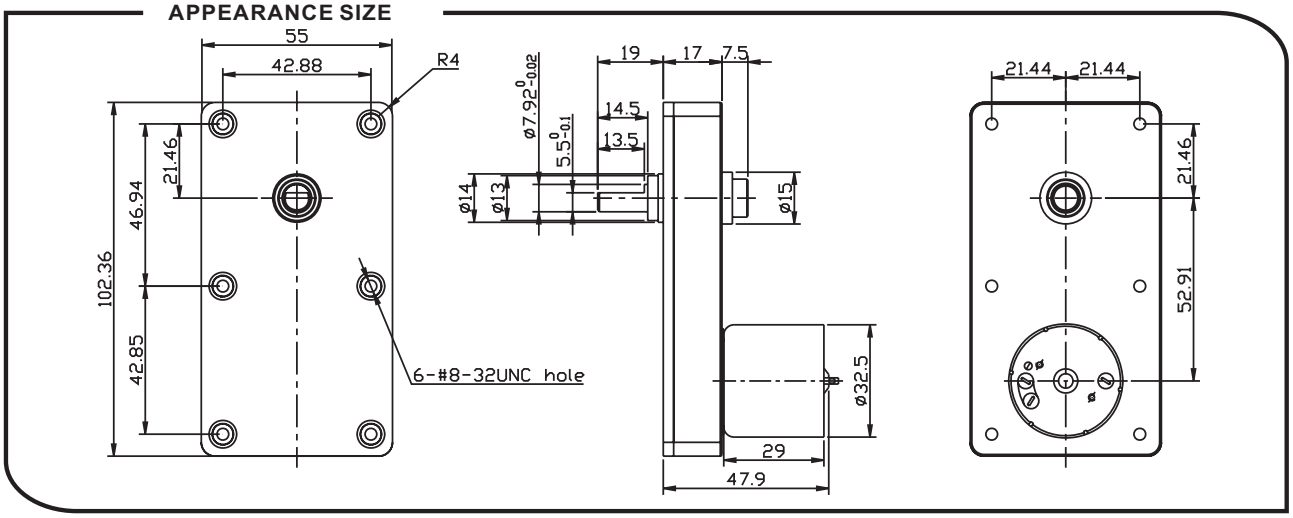
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 280~320g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.9Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. JF-38123400-94K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



JF-385 DC GEAR MOTOR Series

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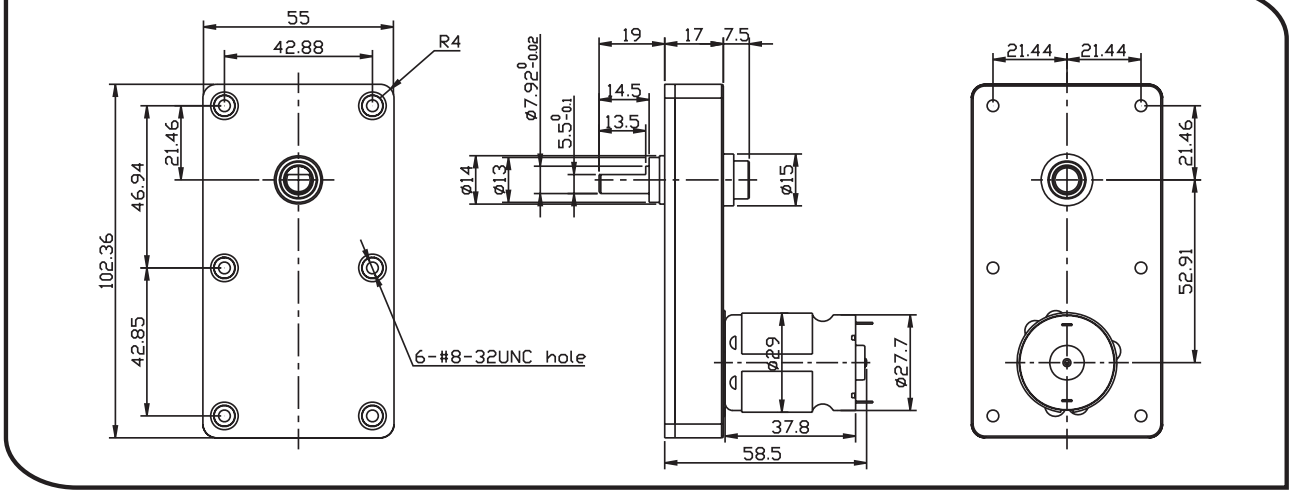
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:280~320g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.9Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-385123000	12	≤45	3000	≤150	2200	35	0.8	140	450
RS-385124500	12	≤70	4500	≤300	3300	55	1.8	220	1200
RS-385126000	12	≤100	6000	≤600	4500	80	3.6	320	1900
RS-385243000	24	≤25	3000	≤70	2200	35	0.8	140	230
RS-385244500	24	≤40	4500	≤150	3300	55	1.8	220	600
RS-385246000	24	≤50	6000	≤300	4500	80	3.6	320	1000

1、This table lists some motors parameters,others please refer to specific parameters of Page 143.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. JF-385123000-94K Motor please refer to the motor data RS-385123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 139.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



JF-545 DC GEAR MOTOR Series

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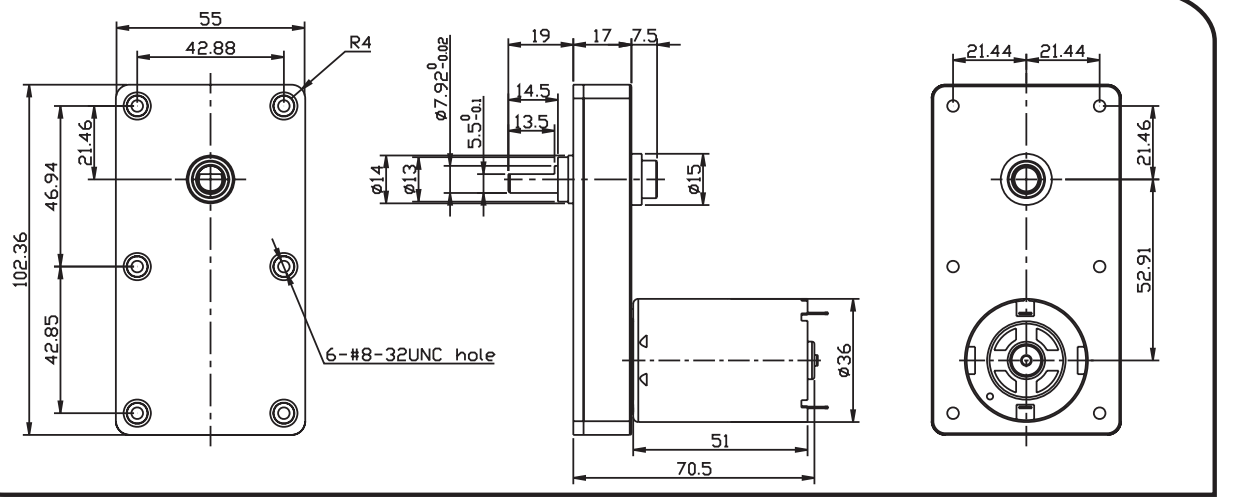
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、36VDC

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:300~350g/pcs(approx)

Packing details:CTN size:27.5X26XH22.5cm 40pcs/CTN G.W.14Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	5Kgf • cm	20Kgf • cm	50Kgf • cm
Max. Gear breaking torque	15Kgf • cm	60Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

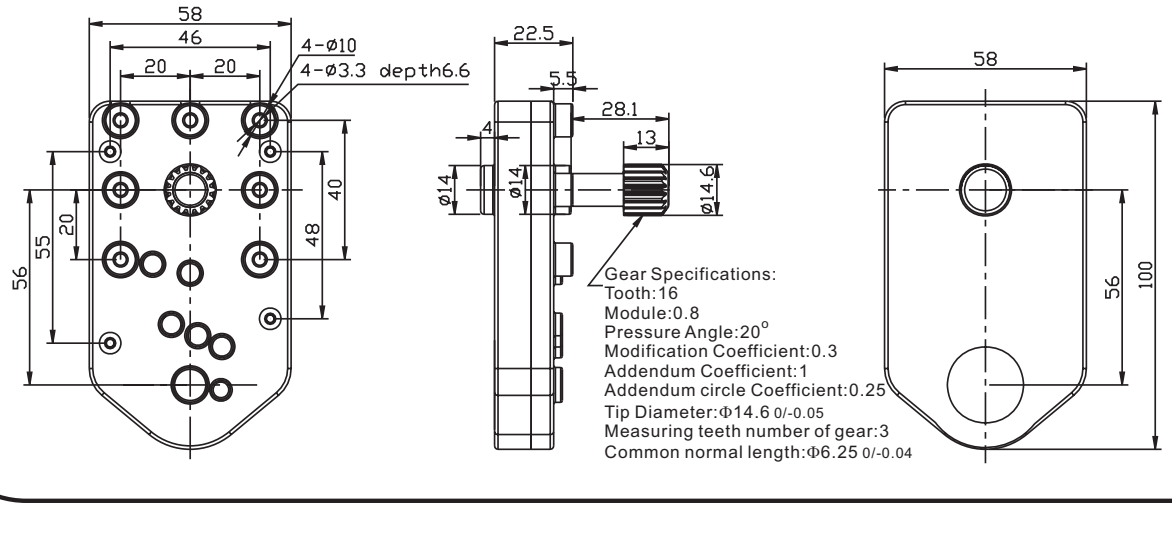
NOTE:

1、Gearmotor named methods: e.g. JF-545123000-94K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



Note:1、Housing material：Plastics
2、Backlash,at no-load：≤2.5°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.1mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to 520,528,545,555,385,395, motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 30kgf.cm.At this torque the gears will be broken easily.Be noted.
8、When install the gear motor please don t let the tapping screws go through into the gearbox internal more than 6mm.If so the gearbox will be demaged.

APPEARANCE SIZE

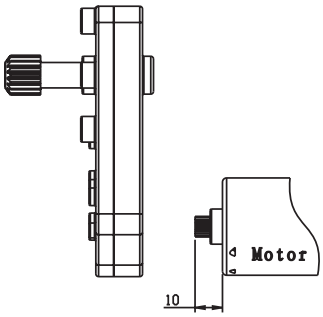


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	13	12
Pressure angle	20°	
Helix angle	———	15° left
Hole diameter	Φ3.12, Φ1.96, Φ2.5(D)	Φ3.12, Φ1.96
Reduction ratio	36，66，94，149 211，394	196，277，624 830，1166

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction（Relationship with motor）
36,66	473/13，4312/65	10kgf • cm	30kgf • cm	73%	3	different
94	18326/195	10kgf • cm	30kgf • cm	73%	3	different
149	9702/65	10kgf • cm	30kgf • cm	65%	4	same
196	196/1	10kgf • cm	30kgf • cm	65%	4	same
211	27489/130	10kgf • cm	30kgf • cm	65%	4	same
277	833/3	10kgf • cm	30kgf • cm	65%	4	same
394	128282/325	10kgf • cm	30kgf • cm	65%	4	same
624,830	2499/4，215747/260	10kgf • cm	30kgf • cm	59%	5	different
1166	17493/15	10kgf • cm	30kgf • cm	59%	5	different



PF-38 DC GEAR MOTOR Series

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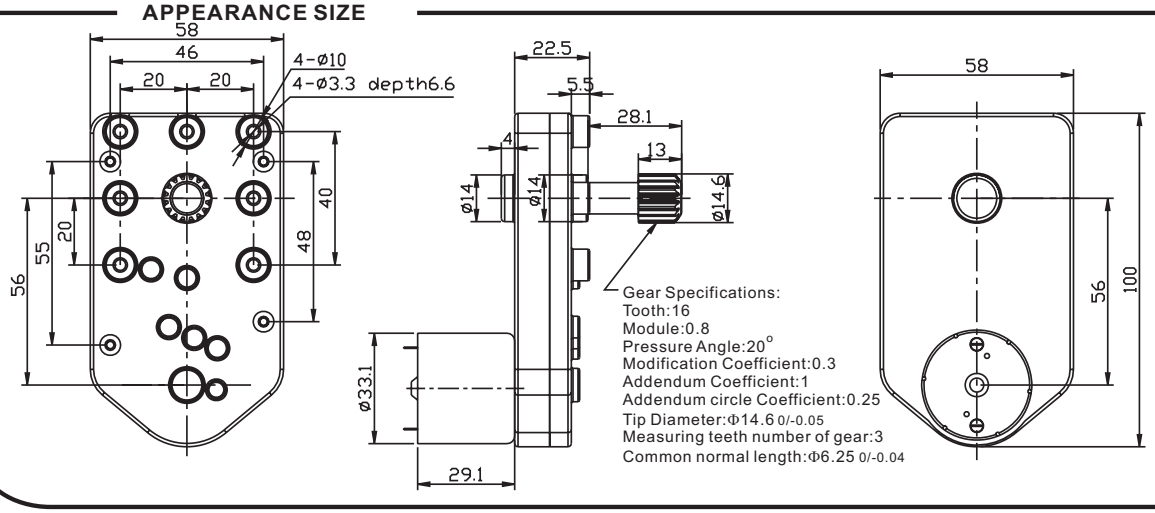
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:350~400g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	3Kgf • cm	6Kgf • cm	10Kgf • cm
Max. Gear breaking torque	9Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PF-38123400-94K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:Plastics.
4、Standard output shaft after reducing:Φ9.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



PF-385 DC GEAR MOTOR Series

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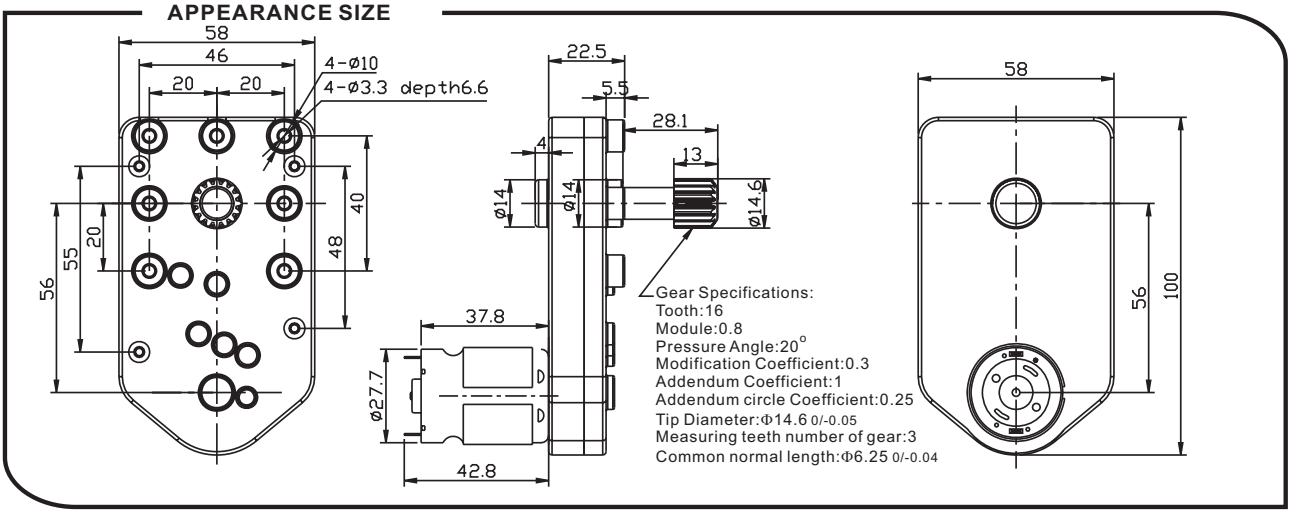
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:350~400g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	3Kgf • cm	6Kgf • cm	10Kgf • cm
Max. Gear breaking torque	9Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-385123000	12	≤45	3000	≤150	2200	35	0.8	140	450
RS-385124500	12	≤70	4500	≤300	3300	55	1.8	220	1200
RS-385126000	12	≤100	6000	≤600	4500	80	3.6	320	1900
RS-385243000	24	≤25	3000	≤70	2200	35	0.8	140	230
RS-385244500	24	≤40	4500	≤150	3300	55	1.8	220	600
RS-385246000	24	≤50	6000	≤300	4500	80	3.6	320	1000

1、This table lists some motors parameters,others please refer to specific parameters of Page 143.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PF-385123000-94K Motor please refer to the motor data RS-385123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page139.
3、Gearbox shell material:Plastics.
4、Standard output shaft after reducing:Φ9.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



PF-545 DC GEAR MOTOR Series

SGMADA®

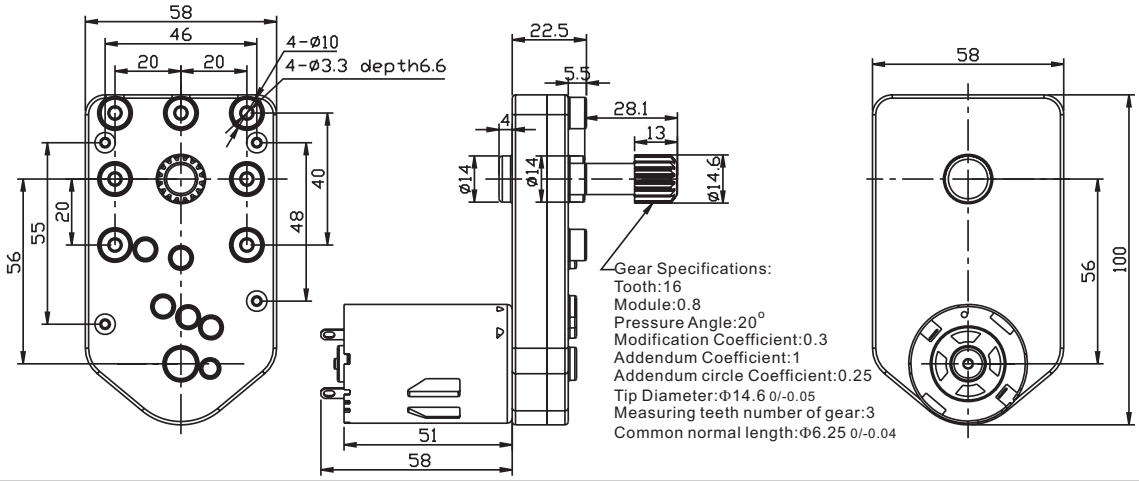
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 220~240g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.7Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	3Kgf • cm	6Kgf • cm	10Kgf • cm
Max. Gear breaking torque	9Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. PF-545123000-94K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:Plastics.
4、Standard output shaft after reducing:Φ9.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



PF-555 DC GEAR MOTOR Series

SGMADA®

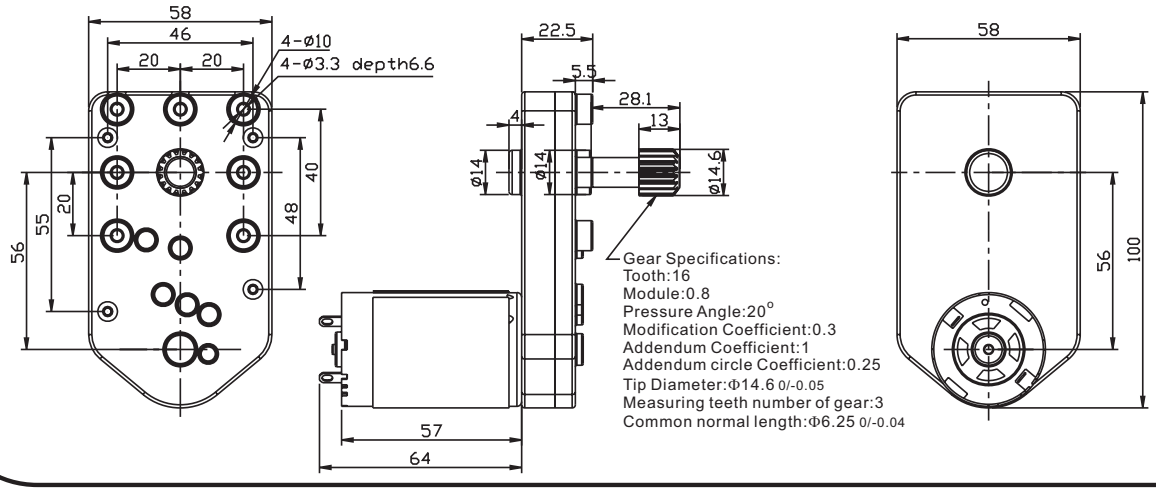
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	149、196、211、277、394	624、830、1166
Max. Running torque	3Kgf • cm	6Kgf • cm	10Kgf • cm
Max. Gear breaking torque	9Kgf • cm	18Kgf • cm	30Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

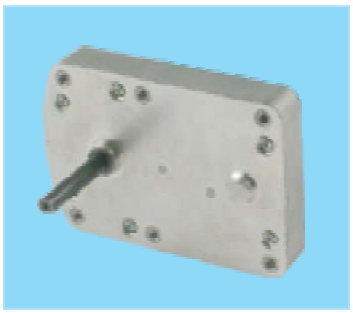
Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

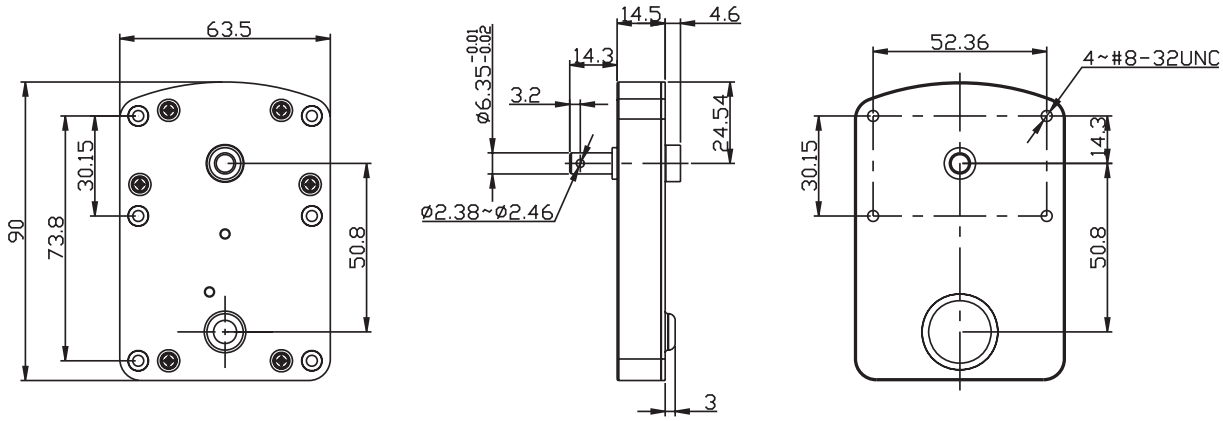
NOTE:

1、Gearmotor named methods: e.g. PF-555123000-94K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:Plastics.
4、Standard output shaft after reducing:Φ9.0mm.other sizes of the output shaft can make as client request.
5、Chart only for reference,products shall prevail the entity.



Note:1、Housing material：Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to YJ61AC shade pole motors.

APPEARANCE SIZE

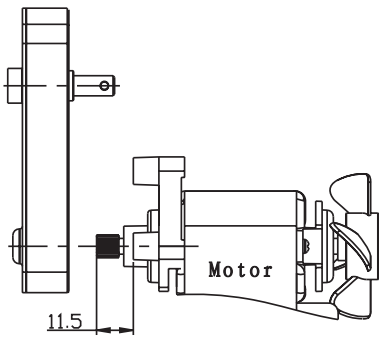


PINION SPECIFICATIONS

Module	0.4
No. of teeth	12
Pressure angle	20°
Helix angle	—— ——
Hole diameter	Φ3.16, Φ2.5(D)
Reduction ratio	27，35，49

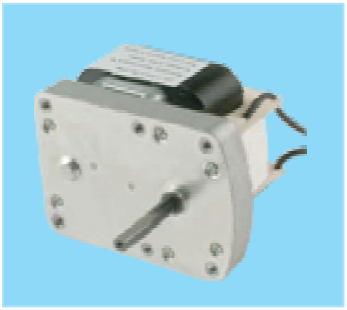
★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
27	8569/312	30kgf • cm	90kgf • cm	73%	3	different
35	5453/156	30kgf • cm	90kgf • cm	73%	3	different
49	49/1	30kgf • cm	90kgf • cm	73%	3	different



RF-YJ61 Series
SHADE POLE MOTOR

SGMADA®

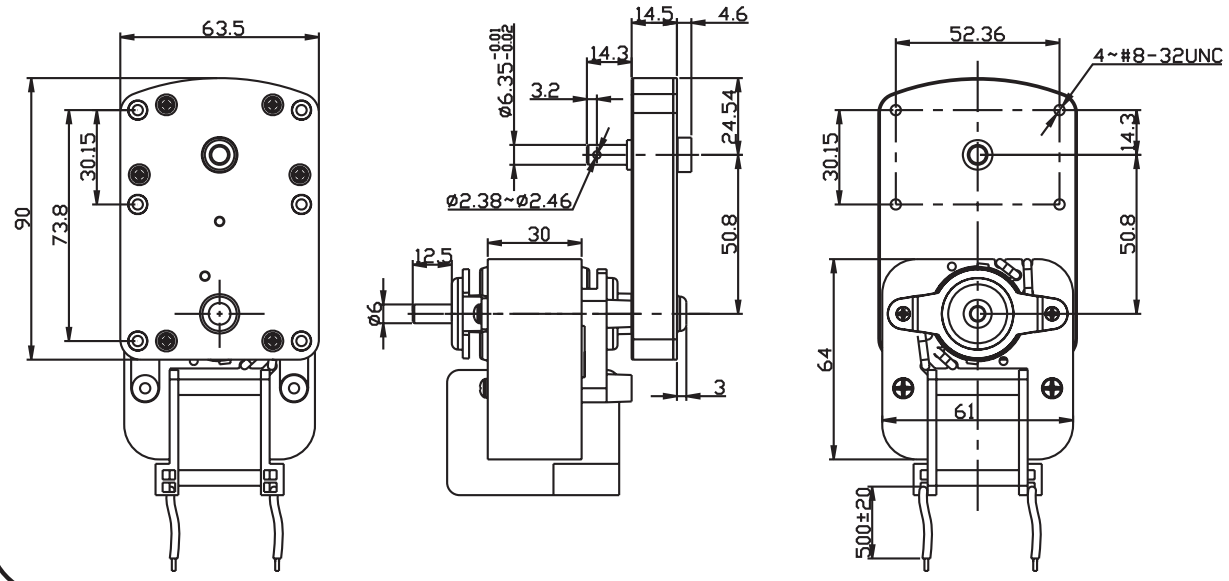
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:1000~1500g(APPROX)

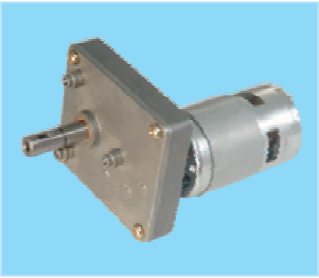
Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



GEARED MOTOR TORQUE/SPEED

Reductionratio	1/27	1/35	1/49
Numberofgeartrans	3		
Ratedspeed(rpm)at60Hz	103	80	57
RF-YJ61-10 L=10.5 (Kgf • cm) Rated torque	1.05	1.36	1.91
RF-YJ61-12 L=12 (Kgf • cm) Rated torque	1.40	1.82	2.54
RF-YJ61-14 L=14.5 (Kgf • cm) Rated torque	1.75	2.27	3.18
RF-YJ61-16 L=16.5 (Kgf • cm) Rated torque	2.46	3.18	4.46
RF-YJ61-20 L=20.5 (Kgf • cm) Rated torque	3.16	4.09	5.73
RF-YJ61-25 L=25.5 (Kgf • cm) Rated torque	3.86	5.01	7.01
RF-YJ61-30 L=30.5 (Kgf • cm) Rated torque	4.91	6.37	8.92
RF-YJ61-35 L=35.5 (Kgf • cm) Rated torque	6.14	7.96	11.1
RF-YJ61-40 L=40 (Kgf • cm) Rated torque	7.02	9.10	12.7
RF-YJ61-50 L=50 (Kgf • cm) Rated torque	9.12	11.8	16.5
Note	Voltage can make as customers' request		
Packing Details	CTN size:31X30XH28CM 12pcs/CTN N.W. 16Kgs		



TF-7752410000-52K

(24VDC STANDARD)

SGMADA®

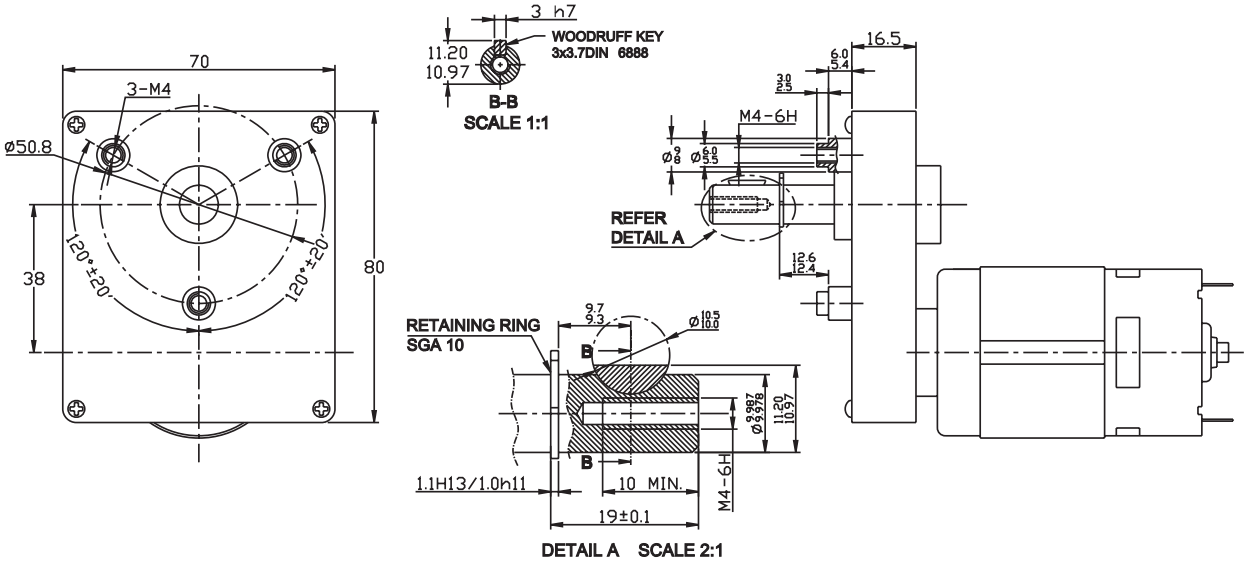
DC GEARED MOTOR

OUTPUT POWER: 27W(APPROX)

WEIGHT: 700～850g(APPROX)

Typical Applications: Welding feed、welding equipment、welding machines.

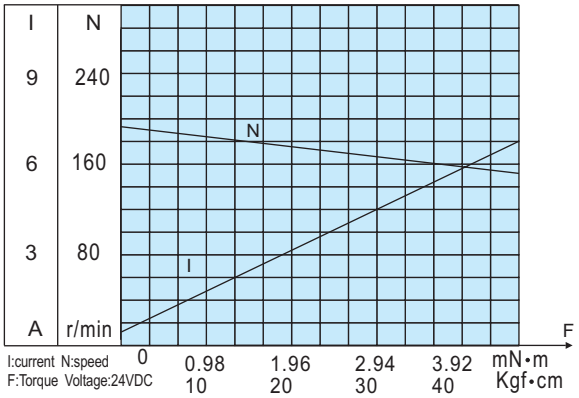
APPEARANCE SIZE



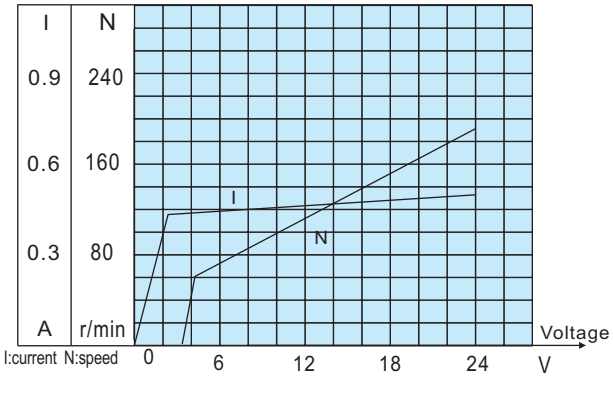
GEARED MOTOR TORQUE/SPEED/CURRENT

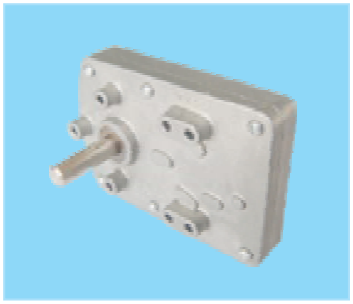
Geared motor name	Rated Volt.	No load		Load torque				At maximum efficiency		Output power
		Current	Speed	Current	Speed	Torque				
	V	mA	r/min	A	r/min	Kgf · cm	N · m	Kgf · cm	N · m	W
TF-7752410000-52K	24	≤750	190	≤2.5	180	15	1.47	100	98	27
Packing Details	CTN size:55X35XH18CM			24pcs/CTN		N.W. 18Kgs				

GEARED MOTOR SPEED/CURRENT/TORQUE/CURVE



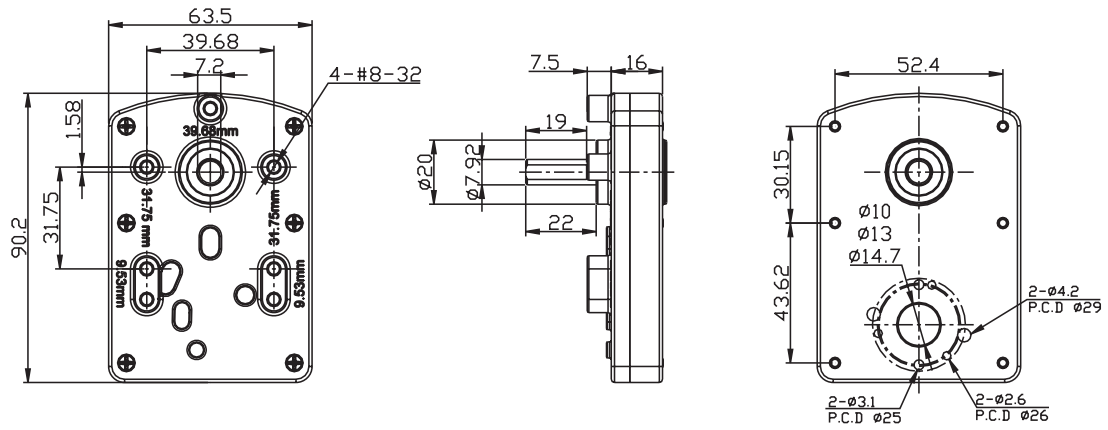
NO LOAD MOTOR VOLTAGE/SPEED/CURRENT/CURVE





Note:1、Housing material ： Zinc alloy
2、Backlash,at no-load：≤2°
3、Bearing at output：Sleeve bearings
4、Radial play of shaft：≤0.05mm
5、Thrust play shaft：≤0.5mm
6、The gear box can apply to528,545,555,775,ZY40,ZY45,YJ61 motors.
7、When the motors using at low speed,high gear ratio will cause gear motor torque more than 150kgf.cm.At this torque the gears will be broken easily.Be noted.

APPEARANCE SIZE

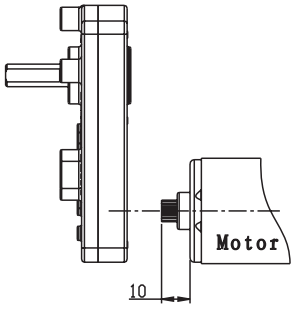


PINION SPECIFICATIONS

Module	0.5	0.4
No. of teeth	13	12
Pressure angle	20°	
Helix angle		15° left
Hole diameter	Φ3.12, Φ1.96, Φ2.5(D)	Φ3.12, Φ1.96
Reduction ratio	36，66，94	129,139,155,196,219,277 322,392,456,555,833

★Operating relative humidity 20%~85%RH
★Operating temperature range-10℃~+60℃

MOTOR INSTALLATION



GEARBOXES SPECIFICATIONS

Raduction ratio	Reduction absolute	Rated tolerance torque	Max breaking torque	Efficiency	Number of stages	Direction (Relationship with motor)
36	473/13	30kgf • cm	90kgf • cm	73%	3	different
66	4312/65	30kgf • cm	90kgf • cm	73%	3	different
94	54978/585	30kgf • cm	90kgf • cm	73%	3	different
129	15523/120	40kgf • cm	120kgf • cm	65%	4	same
139	1813/13	40kgf • cm	120kgf • cm	65%	4	same
155	931/6	40kgf • cm	120kgf • cm	65%	4	same
196	196/1	40kgf • cm	120kgf • cm	65%	4	same
219	15827/72	40kgf • cm	120kgf • cm	65%	4	same
277	833/3	50kgf • cm	150kgf • cm	59%	5	different
322	645/2	50kgf • cm	150kgf • cm	65%	5	different
392	392/1	50kgf • cm	150kgf • cm	65%	5	different
456	10965/24	50kgf • cm	150kgf • cm	59%	5	different
555	1666/3	50kgf • cm	150kgf • cm	59%	5	different
833	833/1	50kgf • cm	150kgf • cm	59%	5	different



ZF-38 DC GEAR MOTOR Series

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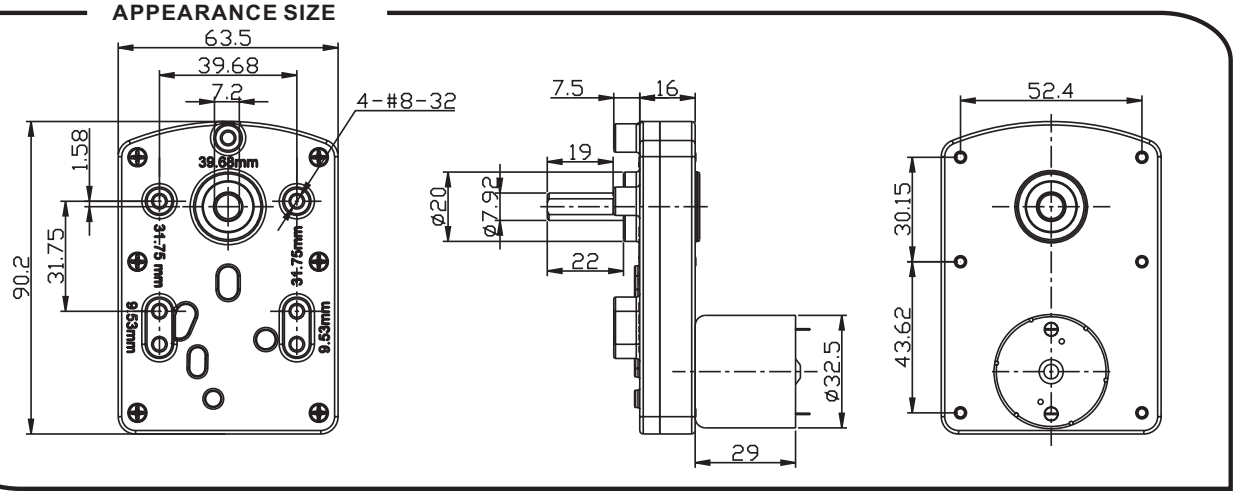
Main voltage:3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight:350~400g/pcs(approx)

Packing details:CTN size:55X35XH18cm 24pcs/CTN G.W.11Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
TG-38123400	12	≤40	3400	≤180	2500	40	1.0	160	720
TG-38124500	12	≤60	4500	≤350	3300	60	2.0	210	1400
TG-38126000	12	≤70	6000	≤720	4500	80	3.6	300	2800
TG-38243000	24	≤15	3000	≤80	2200	40	0.9	140	320
TG-38244500	24	≤25	4500	≤180	3300	60	2.0	210	730
TG-38246700	24	≤45	6700	≤360	4500	80	3.6	300	1400

1、This table lists some motors parameters,others please refer to specific parameters of Page 146.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-38123400-94K Motor please refer to the motor data TG-38123400.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 140.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-545 DC GEAR MOTOR Series

SGMADA®

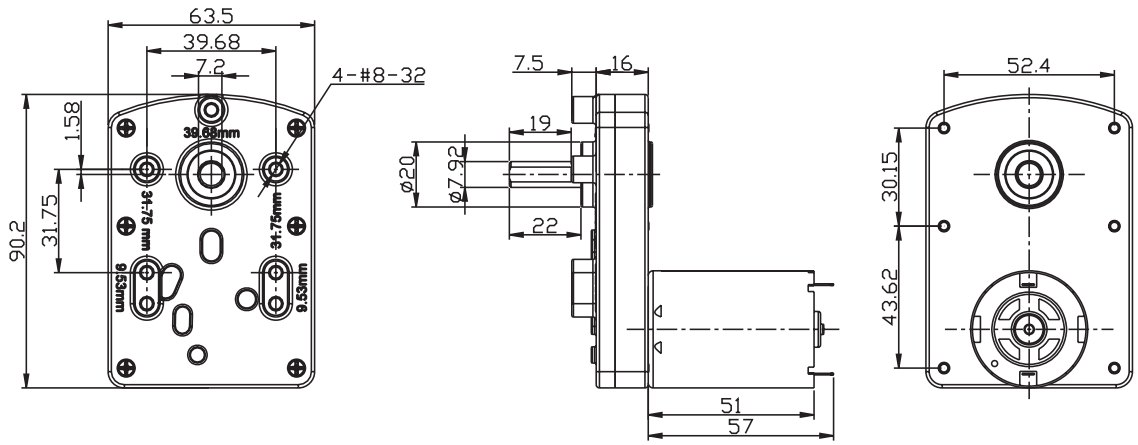
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 450~500g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.13Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-545123000	12	≤110	3000	≤450	2200	100	2.2	400	1800
RS-545124500	12	≤220	4500	≤800	3300	150	4.9	600	3000
RS-545126000	12	≤350	6000	≤1500	4500	200	9.0	800	5500
RS-545243000	24	≤60	3000	≤230	2200	100	2.2	400	900
RS-545244500	24	≤110	4500	≤400	3300	150	4.9	600	1500
RS-545246000	24	≤150	6000	≤750	4500	200	9.0	800	3000

1、This table lists some motors parameters,others please refer to specific parameters of Page 147.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-545123000-94K Motor please refer to the motor data RS-545123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-555 DC GEAR MOTOR Series

SGMADA®

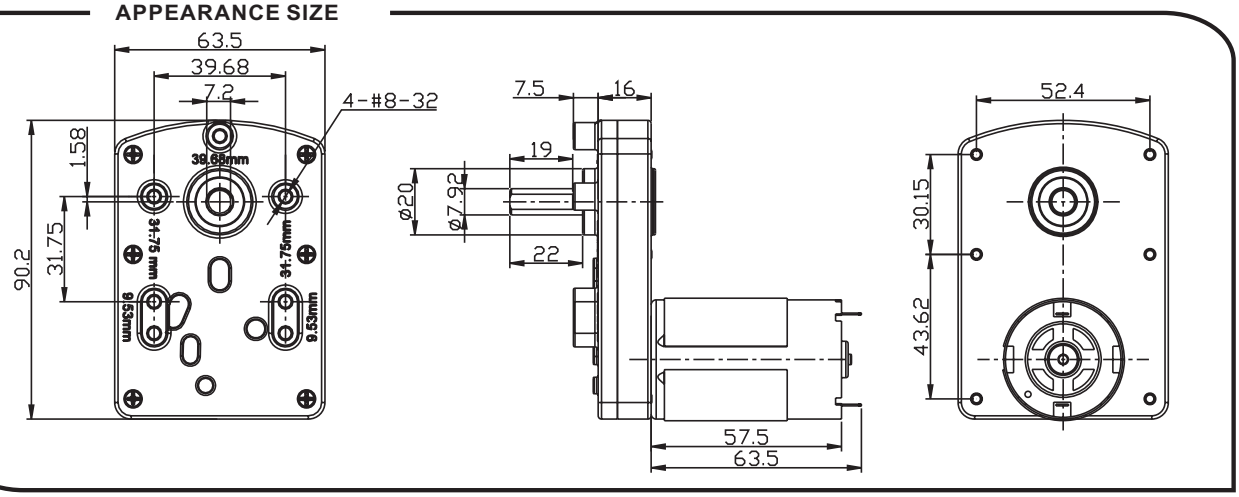
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.15Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	mA
RS-555123000	12	≤140	3000	≤800	2200	150	3.3	600	3000
RS-555124500	12	≤220	4500	≤1200	3300	220	7.2	880	4800
RS-555126000	12	≤350	6000	≤2000	4500	300	13.5	1200	6000
RS-555243000	24	≤70	3000	≤400	2200	150	3.3	600	1600
RS-555244500	24	≤110	4500	≤600	3300	220	7.2	880	3000
RS-555246000	24	≤180	6000	≤1000	4500	300	13.5	1200	4000

1、This table lists some motors parameters,others please refer to specific parameters of Page 148.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-555123000-94K Motor please refer to the motor data RS-555123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-775 DC GEAR MOTOR Series

SGMADA®

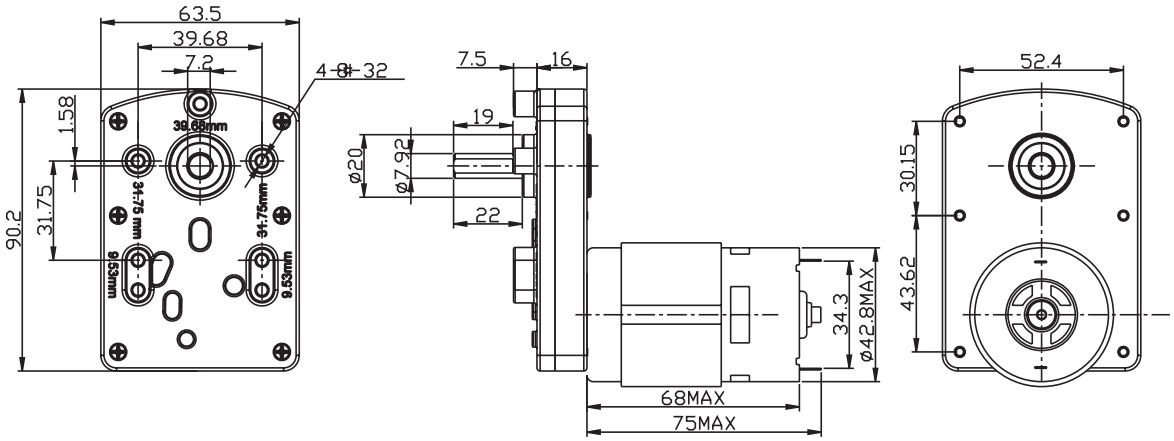
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
RS-775123000	12	≤220	3000	≤1000	2200	350	7.7	1400	3.5
RS-7751245 00	12	≤450	4500	≤2000	3300	500	16.5	2000	6.5
RS-775126000	12	≤900	6000	≤4000	4500	750	34	3000	13.0
RS-775243000	24	≤110	3000	≤500	2200	350	7.7	1400	1.8
RS-775244500	24	≤230	4500	≤1000	3300	500	16.5	2000	3.3
RS-775246000	24	≤450	6000	≤2000	4500	750	34	3000	7.0

1、This table lists some motors parameters,others please refer to specific parameters of Page 149.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed / reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-775123000-94K Motor please refer to the motor data RS-775123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 141.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-40ZY DC GEAR MOTOR Series

SGMADA®

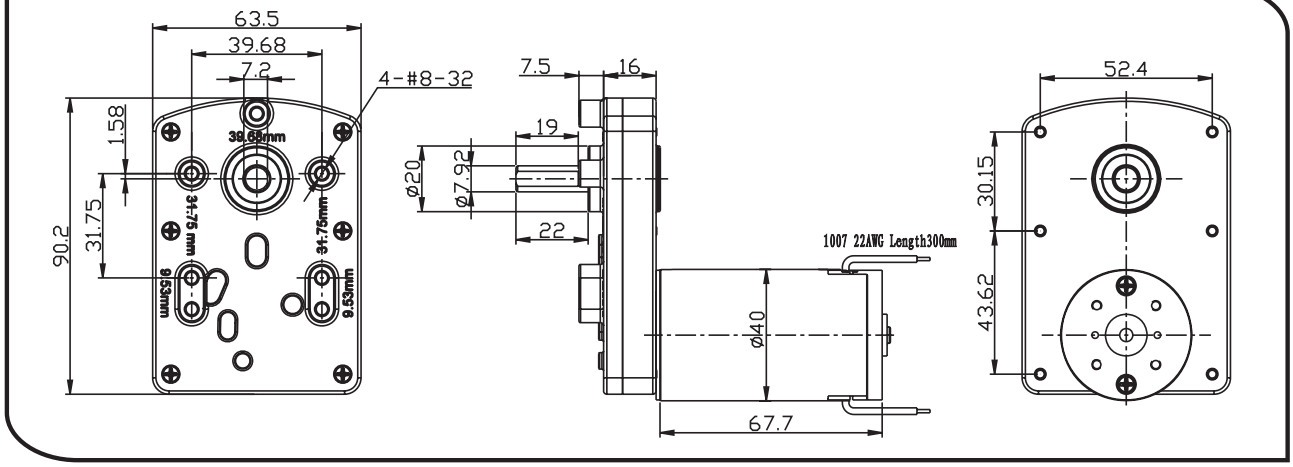
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
40ZY123000	12	≤120	3000	≤750	2200	220	4.8	900	2.8
40ZY124500	12	≤190	4500	≤1500	3300	300	9.9	1200	6.0
40ZY126000	12	≤250	6000	≤3000	4500	400	18.0	1600	10
40ZY243000	24	≤80	3000	≤400	2200	220	4.8	900	1.5
40ZY244500	24	≤120	4500	≤800	3300	300	9.9	1200	3.0
40ZY246000	24	≤160	6000	≤1500	4500	400	18.0	1600	5.5

1、This table lists some motors parameters,others please refer to specific parameters of Page 152.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-40ZY123000-94K Motor please refer to the motor data 40ZY123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-45ZY DC GEAR MOTOR Series

SGMADA®

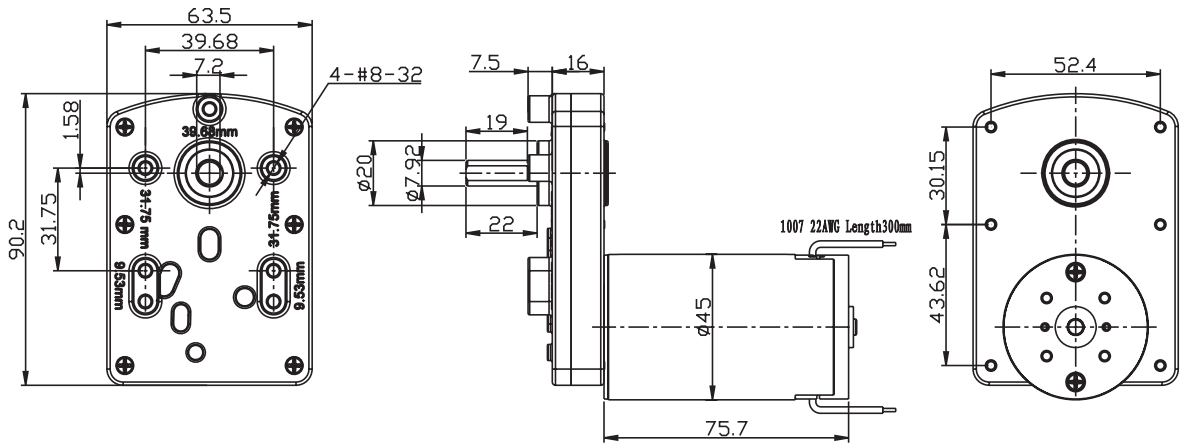
Main voltage: 3VDC、6VDC、9VDC、12VDC、24VDC、

Typical applications: Pan/Tilt camera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、automatic actuator、coffee machine、towel disposal、lighting、coin refund devices、peristaltic pump.

Weight: 650~700g/pcs(approx)

Packing details: CTN size:55X35XH18cm 24pcs/CTN G.W.18Kgs

APPEARANCE SIZE



Gearbox data:

Number of stages	3 stages reduction	4 stages reduction	5 stages reduction
Reduction ratio	36、66、94	129、139、155、196、219、277	322、392、456、555、833
Max. Running torque	30Kgf • cm	40Kgf • cm	50Kgf • cm
Max. Gear breaking torque	90Kgf • cm	120Kgf • cm	150Kgf • cm
Max.Gearing efficiency	73%	65%	59%
Other reduction ratio please telephone or e-mail to our engineering department.			

Motor data:

Motor name	Rated Volt. V	No load		Load torque				Stall torque	
		Current	Speed	Current	Speed	Torque	Output power	Torque	Current
		mA	r/min	mA	r/min	gf • cm	W	gf • cm	A
45ZY123000	12	≤250	3000	≤1700	2200	550	12.0	2200	6.5
45ZY124500	12	≤400	4500	≤3600	3300	800	26.4	3200	12.5
45ZY126000	12	≤70 0	6000	≤6900	4500	1100	49.5	4400	25
45ZY243000	24	≤180	3000	≤850	2200	550	12.0	2200	6.5
45ZY244500	24	≤280	4500	≤1800	3300	800	26.4	3200	6.3
45ZY246000	24	≤350	6000	≤3500	4500	1100	49.5	4400	13

1、This table lists some motors parameters,others please refer to specific parameters of Page 153.
2、After connecting motor and gearbox which isnamed gearmotor the output torque:motor torque X reduction ratio X gearing efficiency;output speed:motor speed /reduction ratio.

NOTE:

1、Gearmotor named methods: e.g. ZF-45ZY123000-94K Motor please refer to the motor data 45ZY123000.Gearbox please refer to gearbox data reduction ratio 94.Related to gearmotor output speed and torque please refer to motor data.
2、Motor can be installed with magnetic encorder,encorder parameters please refer to Page 138.
3、Gearbox shell material:zinc alloy.
4、Gearbox gear materials: The first stage gear:plastic gear.The final stage gear:45# steel Heat-treatment gear.Other stages gear:powder metallurgy gear.
5、Standard output shaft after reducing:Φ8.0mm.other sizes of the output shaft can make as client request.
6、Chart only for reference,products shall prevail the entity.



ZF-YJ61 Series
SHADE POLE MOTOR

SGMADA®

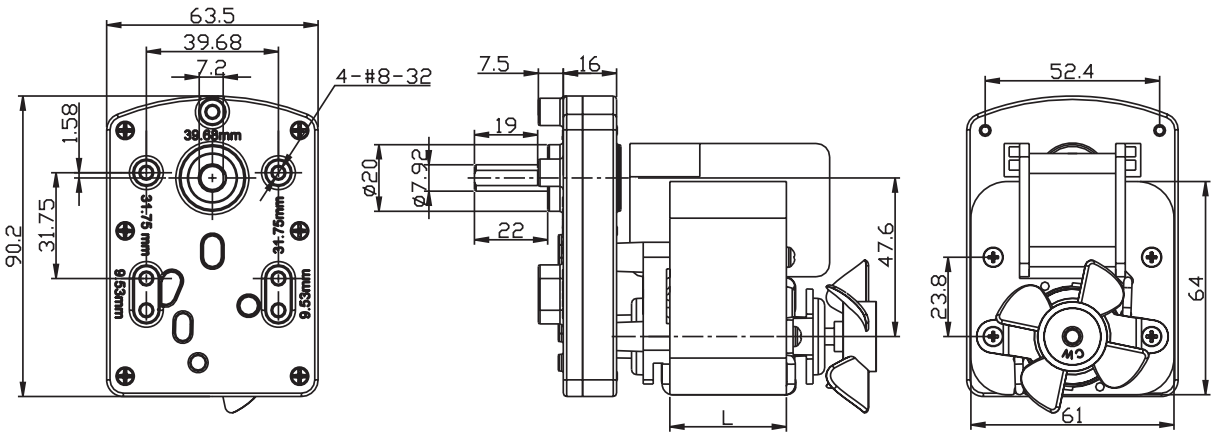
AC GEARED MOTOR

OUTPUT POWER: 1.0~15W(APPROX)

WEIGHT:500~600g(APPROX)

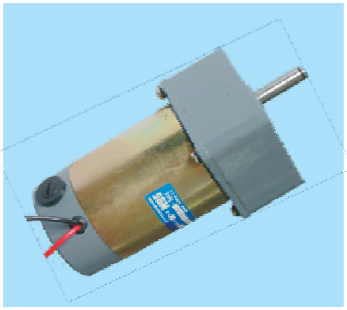
Typical applications: Pan/TiltCamera、auto shutter、welding machines、water meter IC card、grill、oven、cleaning machine、garbage disposers、household appliances、slot machines、money detector、 automatic actuator.

APPEARANCE SIZE



GEARED MOTOR TORQUE/SPEED

Reductionratio	1/36	1/66	1/94	1/129	1/139	1/155	1/196	1/219	1/277	1/322	1/392	1/456	1/555	1/833
Numberofgeartrans	3			4						5				
Ratedspeed(rpm)at60Hz	77.7	42.4	29.7	21.7	20.1	18.0	14.2	12.7	10.1	8.7	7.1	6.1	5.0	3.3
ZF-YJ61-10 L=10.5 (Kgf • cm) Rated torque	1.57	2.89	4.12	5.03	5.42	6.04	7.64	8.54	10.8	11.4	13.8	16.1	19.6	29.5
ZF-YJ61-12 L=12 (Kgf • cm) Rated torque	2.10	3.85	5.49	6.71	7.23	8.06	10.2	11.4	14.4	15.2	18.5	21.5	26.2	39.3
ZF-YJ61-14 L=14.5 (Kgf • cm) Rated torque	2.63	4.82	6.86	8.38	9.03	10.1	12.7	14.2	18.0	19.0	23.1	26.9	32.7	49.1
ZF-YJ61-16 L=16.5 (Kgf • cm) Rated torque	3.68	6.74	9.60	11.7	12.6	14.1	17.8	19.9	25.2	26.6	32.3	37.6	45.8	68.8
ZF-YJ61-20 L=20.5 (Kgf • cm) Rated torque	4.73	8.67	12.3	15.1	16.3	18.1	22.9	25.6	32.4	34.2	41.6	48.4	58.9	88.4
ZF-YJ61-25 L=25.5 (Kgf • cm) Rated torque	5.78	10.6	15.1	18.4	19.8	22.1	28.0	31.3	39.6	41.8	50.9	59.1	72.0	80.0
ZF-YJ61-30 L=30.5 (Kgf • cm) Rated torque	7.36	13.5	19.2	23.5	25.3	28.2	35.6	39.8	50.4	36.3	64.7	75.3	80.0	80.0
ZF-YJ61-35 L=35.5 (Kgf • cm) Rated torque	9.20	16.8	24.0	29.3	31.6	35.2	44.6	49.8	63.0	66.5	80.0	80.0	80.0	80.0
ZF-YJ61-40 L=40 (Kgf • cm) Rated torque	10.5	19.3	27.4	33.5	36.1	40.3	50.9	56.9	72.0	76.0	80.0	80.0	80.0	80.0
ZF-YJ61-50 L=50 (Kgf • cm) Rated torque	13.6	25.0	35.7	43.6	46.9	52.4	66.2	74.0	80.0	80.0	80.0	80.0	80.0	80.0
Note	Voltage can make as customers' request													
Packing Details	CTN size:55X35XH18CM 24pcs/CTN N.W. 16Kgs													



ZYT76 Series

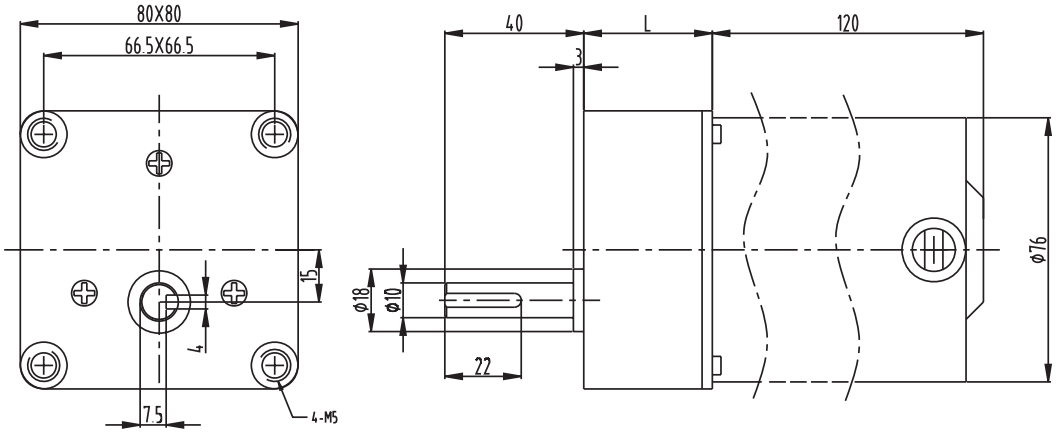
SGMADA®

DC GEARED MOTOR

OUTPUT POWER: 50～80W(APPROX) **WEIGHT:** 2.2～2.5Kg(APPROX)

Typical applications: Medical equipment,Amusement equipment,Garage gate,Electric advertising,Grill,Oven,Office equipment,Household appliances,Automatic actuator.

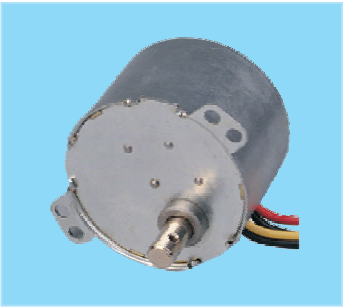
APPEARANCE SIZE



GEARED MOTOR TORQUE/SPEED/CURRENT

Geared motor name	Rated Volt.	No load		Load torque				At maximun efficiency		Output power
		Current	Speed	Current	Speed	Torque				
	V	mA	r/min	A	r/min	Kgf • cm	N • m	Kgf • cm	N • m	w
ZYT76-12V-50W-53R	12	≤800	53	≤7.0	40	120	11.8	400	39.2	50
ZYT76-24V-50W-53R	24	≤400	53	≤3.5	40	120	11.8	400	39.2	50
ZYT76-90V-50W-53R	90	≤100	53	≤0.9	40	120	11.8	400	39.2	50
ZYT76-220V-50W-53R	220	≤50	53	≤0.4	40	120	11.8	400	39.2	50
ZYT76-12V-50W-134R	12	≤800	134	≤7.0	100	50	4.9	150	14.7	50
ZYT76-24V-50W-134R	24	≤400	134	≤3.5	100	50	4.9	150	14.7	50
ZYT76-90V-50W-134R	90	≤100	134	≤0.9	100	50	4.9	150	14.7	50
ZYT76-220V-50W-134R	220	≤50	134	≤0.4	100	50	4.9	150	14.7	50
ZYT76-12V-80W-75R	12	≤900	75	≤12	60	140	13.7	500	49	80
ZYT76-24V-80W-75R	24	≤500	75	≤6.0	60	140	13.7	500	49	80
ZYT76-90V-80W-75R	90	≤120	75	≤1.6	60	140	13.7	500	49	80
ZYT76-220V-80W-75R	220	≤50	75	≤0.7	60	140	13.7	500	49	80
ZYT76-12V-80W-175R	12	≤900	175	≤12	140	60	5.88	200	19.6	80
ZYT76-24V-80W-175R	24	≤500	175	≤6.0	140	60	5.88	200	19.6	80
ZYT76-90V-80W-175R	90	≤120	175	≤1.6	140	60	5.88	200	19.6	80
ZYT76-220V-80W-175R	220	≤50	175	≤0.7	140	60	5.88	200	19.6	80
Note	Voltage can make as customers' request									
Packing details	CTN size:55X35XH18CM 6pcs /CTN N.W. 16Kgs									

49TYD-375-2 AC Permanent Magnet Synchronous Motor



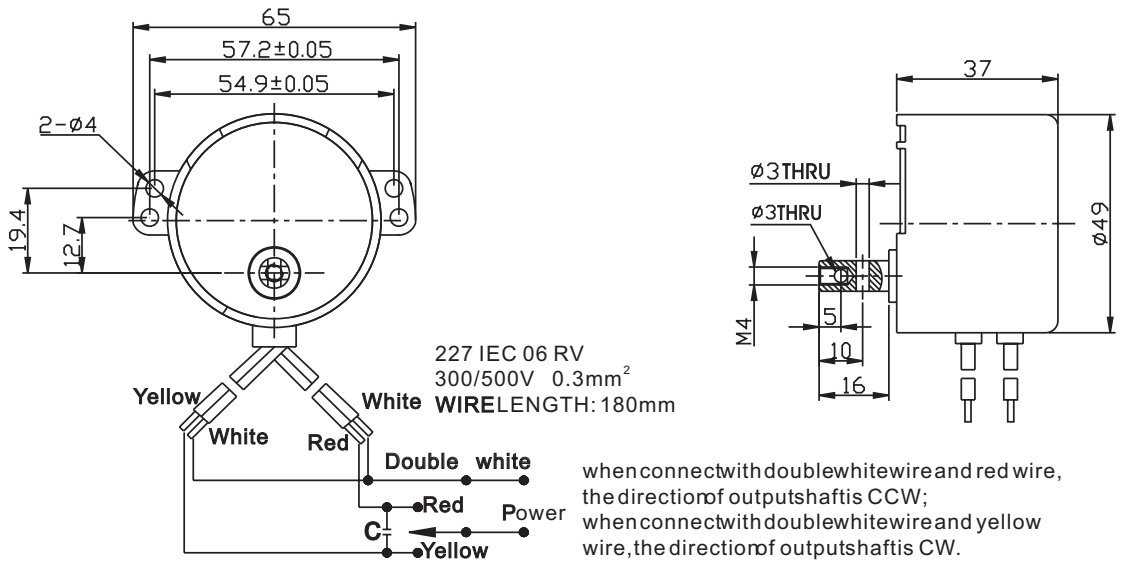
Main voltage: 12VAC、24VAC、110VAC、115VAC、220VAC、240VAC

Typical applications: Office Machines、CCTV Scanner &Pan /Tilt Units、Automatic Control Machines、Spotlights、Toys and Presents、Recorders、Air Conditioner、Micro Wave Ovens、Display Stand、Ventilating、Electric Fans、Household Electrics、Laminator、Oven、Electronic Timer、Washing machine timer、Other household appliances.

Weight: 210~250g/pcs(approx)

Packing details: CTN size:33X33XH30cm 100pcs/CTN G.W.24Kgs

APPEARANCE SIZE

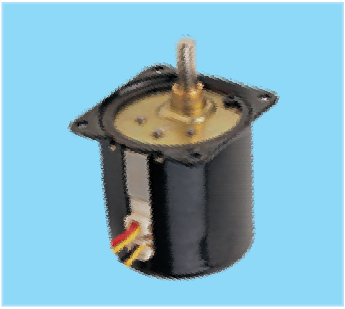


when connect with double white wire and red wire, the direction of output shaft is CCW;
when connect with double white wire and yellow wire, the direction of output shaft is CW.

Main technical data:

Model / Tech.items	49TYD—375-2										
Related voltage (V)	AC24V、 AC120V、 AC220V										
Frequency (Hz)	50/60										
Speed(at50Hz)(r/min)	1	1.5	2.5	4	5	8	15	20	30	60	100
Torque (Kgf.cm)	40	30	15	12	10	7	4	3.1	2	1.2	0.5
Related current (mA)	≤30(220V) ≤45(120V) ≤220(24V)										
Input Power (w)	≤5										
Noise (dB)	40										
Insulation strength	AC 1500V-1min cut off current :10mA										
Leakage current	≤0.25mA										
Insulation resistance	500VDC ≥100MΩ										
Direction of rotation	CW or CCW(Bi-directional controllable)										
Package details	CTN:33X33XH30 100pcs/CTN N.W.23.5Kg										

59TYD-375-2A AC Permanent Magnet Synchronous Motor SGMADA®



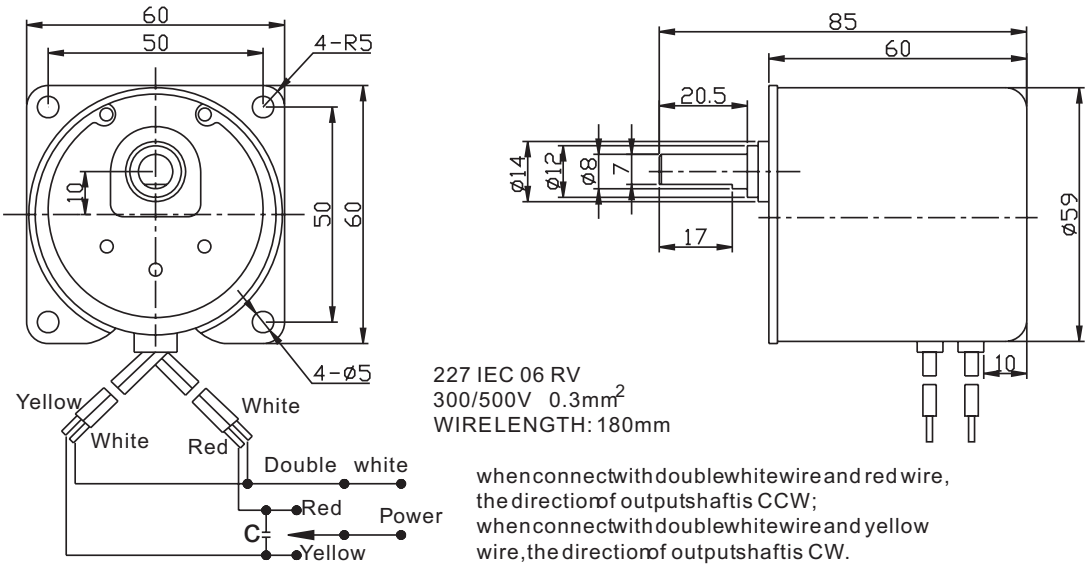
Main voltage: 12VAC、24VAC、110VAC、115VAC、220VAC、240VAC

Typical applications: Office Machines、CCTV Scanner &Pan /Tilt Units、Automatic Control Machines、Spotlights、Toys and Presents、Recorders、Air Conditioner、Micro Wave Ovens、Display Stand、Ventilating、Electric Fans、Household Electrics、Laminator、Oven、Electronic Timer、Washing machine timer、Other household appliances.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:49X37XH18cm 40pcs/CTN G.W.23Kgs

APPEARANCE SIZE



227 IEC 06 RV
300/500V 0.3mm²
WIRELENGTH: 180mm

when connect with double white wire and red wire, the direction of output shaft is CCW;
when connect with double white wire and yellow wire, the direction of output shaft is CW.

Main technical data:

Model / Tech.items	59TYD—375-2A					
Related voltage (V)	AC24V、 AC120V、 AC220V					
Frequency (Hz)	50/60					
Speed(at50Hz)(r/min)	1.6	5.0	12	20	40	104
Torque (Kgf.cm)	68	34	22	10	5	2.5
Related current (mA)	≤55(220V)		≤100(120V)		≤400(24V)	
Input Power (w)	≤11					
Noise (dB)	42					
Insulation strength	AC 1500V-1min cut off current :10mA					
Leakage current	≤0.25mA					
Insulation resistance	500VDC ≥100MΩ					
Direction of rotation	CW or CCW(Bi-directional controllable)					
Package details	CTN:49X37XH18 40pcs/CTN N.W.23Kg					

59TYD-375-2B AC Permanent Magnet Synchronous Motor SGMADA®



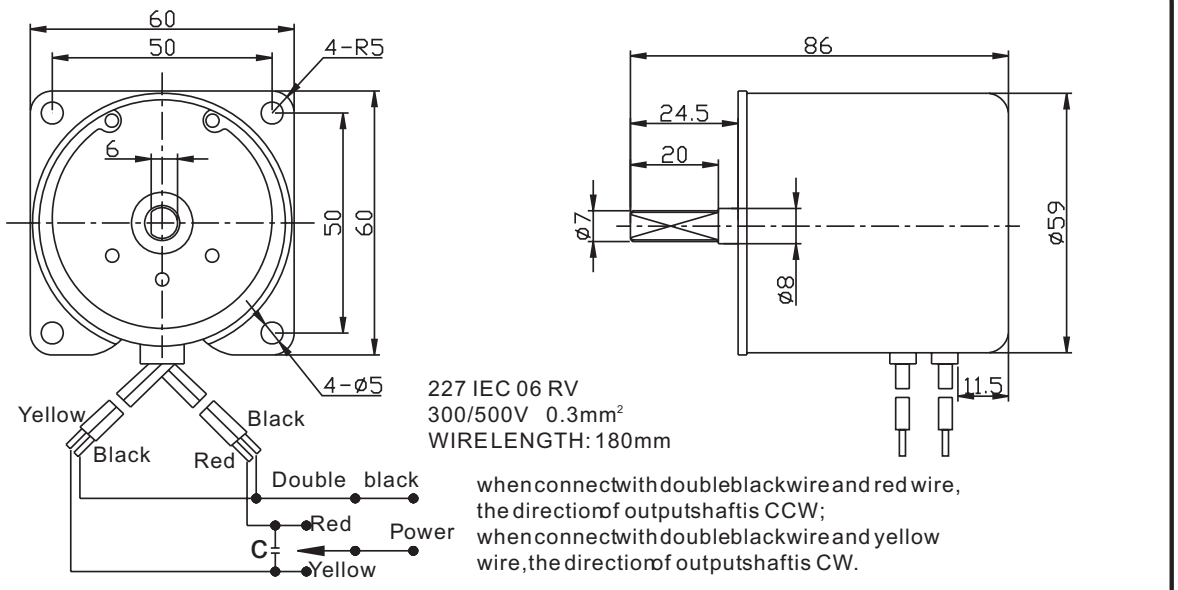
Main voltage: 12VAC、24VAC、110VAC、115VAC、220VAC、240VAC

Typical applications: Office Machines、CCTV Scanner &Pan /Tilt Units、Automatic Control Machines、Spotlights、Toys and Presents、Recorders、Air Conditioner、Micro Wave Ovens、Display Stand、Ventilating、Electric Fans、Household Electrics、Laminator、Oven、Electronic Timer、Washing machine timer、Other household appliances.

Weight: 500~550g/pcs(approx)

Packing details: CTN size:49X37XH18cm 40pcs/CTN G.W.23Kgs

APPEARANCE SIZE

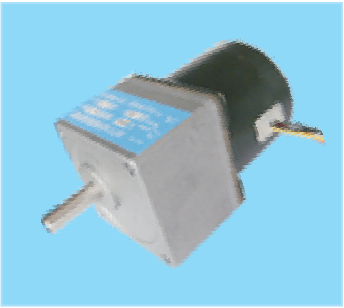


Main technical data:

Model / Tech.items						
Related voltage (V)	AC24V、 AC120V、 AC220V					
Frequency (Hz)	50/60					
Speed(at50Hz)(r/min)	5.0	8.0	15	20	60	100
Torque (Kgf.cm)	34	22	14	10	4	2.5
Related current (mA)	≤55(220V)		≤100(120V)		≤400(24V)	
Input Power (w)	≤11					
Noise (dB)	42					
Insulation strength	AC 1500V-1min cut off current :10mA					
Leakage current	≤0.25mA					
Insulation resistance	500VDC ≥100MΩ					
Direction of rotation	CW or CCW(Bi-directional controllable)					
Package details	CTN:49X37XH18 40pcs/CTN N.W.23Kg					

60KTYD AC Permanent Magnet Synchronous Motor

SGMADA®



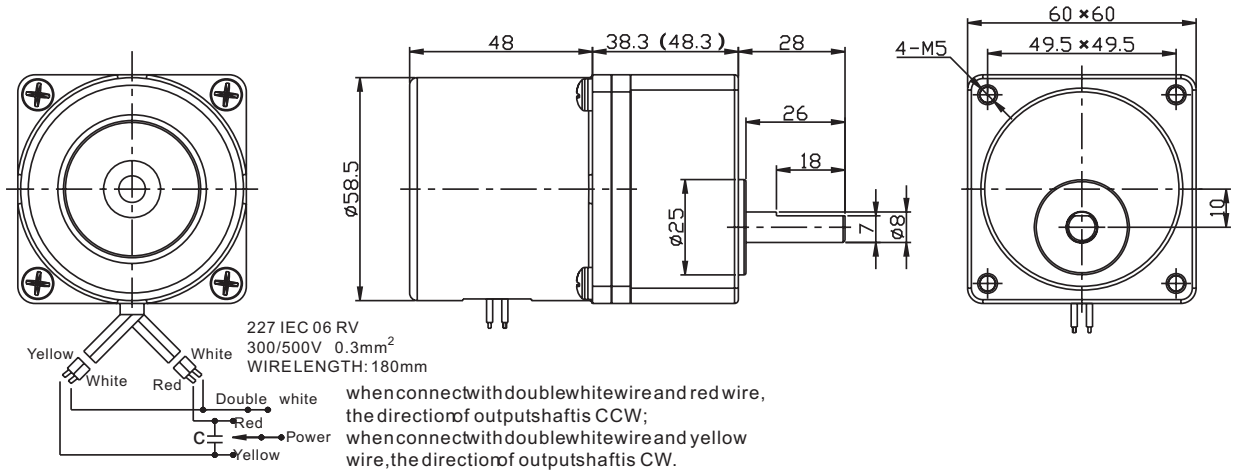
Main voltage: 12VAC、24VAC、110VAC、115VAC、220VAC、240VAC

Typical applications: Office Machines、CCTV Scanner &Pan /Tilt Units、Automatic Control Machines、Spotlights、Toys and Presents、Recorders、Air Conditioner、Micro Wave Ovens、Display Stand、Ventilating、Electric Fans、Household Electrics、Laminator、Oven、Electronic Timer、Washing machine timer、Other household appliances.

Weight: 800~900g/pcs(approx)

Packing details: CTN size:35X26XH19cm 10pcs/CTN G.W.10Kgs

APPEARANCE SIZE



Main technical data:

Model / Tech.items	60KTYD											
Related voltage (V)	AC24V、 AC120V、 AC220V											
Frequency (Hz)	50/60											
Speed(at50Hz)(r/min)	0.7	1.0	1.4	2.1	3	4	6.5	9.3	12	20	28	37
Torque (Kgf.cm)	100	100	100	100	80	60	40	25	22	12	10	8
Related current (mA)	≤70(220V) ≤130(120V) ≤630(24V)											
Input Power (w)	≤15											
Noise (dB)	42											
Insulation strength	AC 1500V-1min cut off current :10mA											
Leakage current	≤0.25mA											
Insulation resistance	500VDC ≥100MΩ											
Direction of rotation	CW or CCW(Bi-directional controllable)											
Package details	CTN:35X26XH19 10pcs/CTN N.W.10Kg											

(Encoders) ME-3237D

● 双向霍尔作用译码器
Two Channel Hall Effect Encoder

★使用相对湿度:20%~85%RH
Operating relative humidity

★使用温度范围:-40℃~+85℃
Operating temperature range






APPEARANCE SIZE



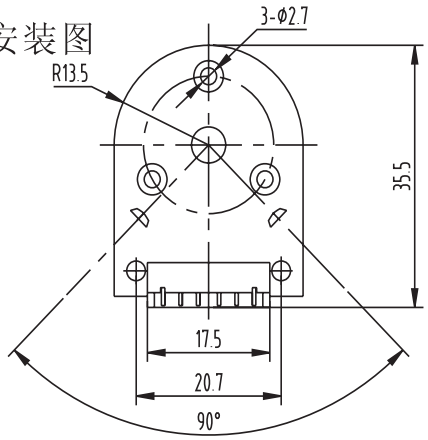
接口:
JST PHR-6
P=2.5-6P

Two Channel Encoder
Connections :

1. HALL SENSOR A Vout
2. HALL SENSOR B Vout
3. HALL SENSOR GND
4. HALL SENSOR Vcc
5. NC
6. NC



连接板安装图



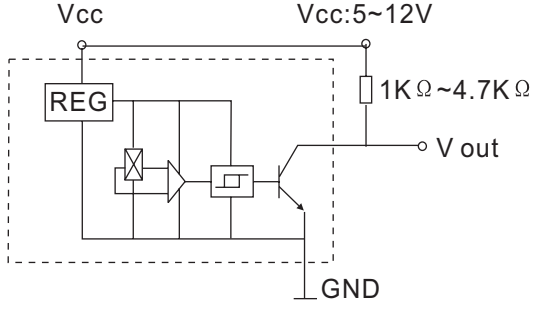
*此译码器主要安装在步进电机，空芯杯电机，钢管电机上.
*The encoder mainly install on the Stepping Motor , Coreless Motor,Tube Motor
*每周输出24PPR，30PPR
*Each turn output 24PPR,30PPR

ELECTRICAL CHARACTERISTICS

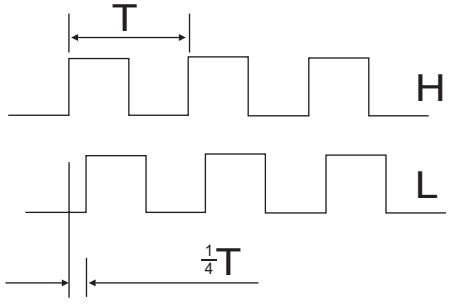
At V_s=4.5V to 24V with 20mA load with Ta=-40℃ to 125℃ [-40°F to 257°F] unless otherwise noted.

规格特性 CHARACTERISTICS	代号 SYMBOL	测试条件 TEST CONDITIONS	极小 MIN	基本 REF	最大 MAX	UNITS
输入电压 Supply Voltage	Vcc	---	4.5	--	24	V
输入电流 Supply Current	Ice	---	--	14	20	mA
输出电流 Output Current	Ic	Vce=12V; Gauss<-170	--	-<0.1	20	mA
输出漏电电流 Output Leakage Current	Icex	Output open;25℃[77°F]	--	--	10	μA
输出上升时间 Output Rise Time	Tr	RL=820Ω; CL=20pF;25℃	--	0.5	1.5	μS
输出下升时间 Output Fall Time	Tf	RL=820Ω; CL=20pF;25℃	--	0.2	1.5	μS

输出电路
Output Circuit



输出波形
Output Wave

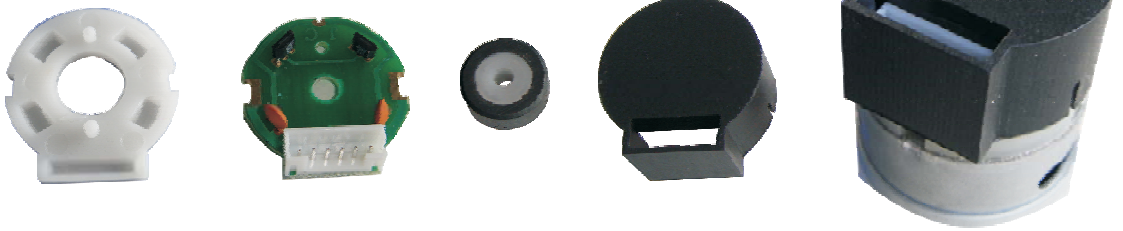


(Encoders) ME-28

● 双向霍尔作用译码器
Two Channel Hall Effect Encoder

★使用相对湿度:20%~85%RH
Operating relative humidity

★使用温度范围:-40℃~+85℃
Operating temperature range



APPEARANCE SIZE

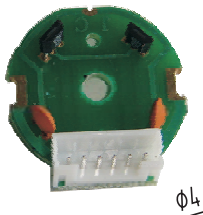


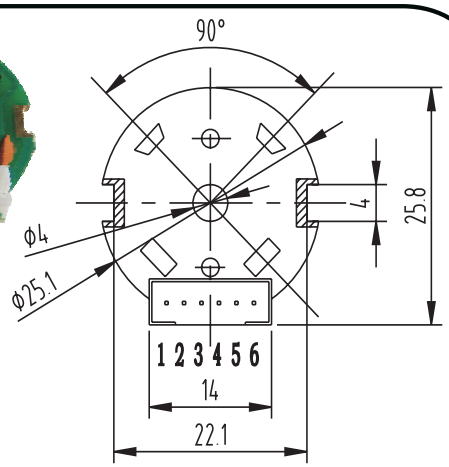
接口:
JST PHR-6
P=2.0-6P

Two Channel Encoder
Connections :

1. MOTOR-
2. MOTOR+
3. HALL SENSOR Vcc
4. HALL SENSOR GND
5. HALL SENSOR A Vout
6. HALL SENSOR B Vout

*此译码器主要安装在RS-385、395电机上.
*The encoder mainly install on the Motor of RS-385、395
*每周输出3PPR，7PPR, 12PPR, 13PPR
*Each turn output 3PPR,7PPR,12PPR,13PPR



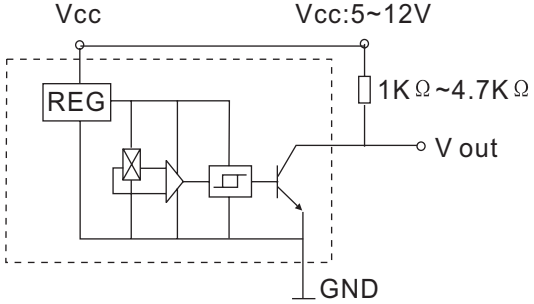


ELECTRICAL CHARACTERISTICS

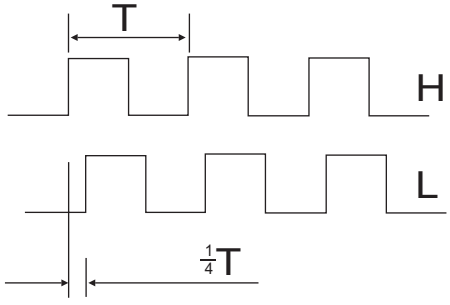
At V_s=4.5V to 24V with 20mA load with Ta=-40℃ to 125℃ [-40°F to 257°F] unless otherwise noted.

规格特性 CHARACTERISTICS	代号 SYMBOL	测试条件 TEST CONDITIONS	极小 MIN	基本 REF	最大 MAX	UNITS
输入电压 Supply Voltage	Vcc	---	4.5	--	24	V
输入电流 Supply Current	Ice	---	--	14	20	mA
输出电流 Output Current	Ic	Vce=12V; Gauss<-170	--	-<0.1	20	mA
输出漏电电流 Output Leakage Current	Icex	Output open;25℃[77°F]	--	--	10	μA
输出上升时间 Output Rise Time	Tr	RL=820Ω; CL=20pF;25℃	--	0.5	1.5	μS
输出下升时间 Output Fall Time	Tf	RL=820Ω; CL=20pF;25℃	--	0.2	1.5	μS

输出电路
Output Circuit



输出波形
Output Wave

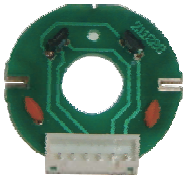


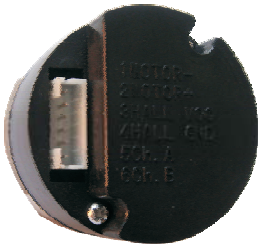
(Encoders) ME-32

● 双向霍尔作用译码器
Two Channel Hall Effect Encoder

★使用相对湿度:20%~85%RH
Operating relative humidity

★使用温度范围:-40℃~+85℃
Operating temperature range



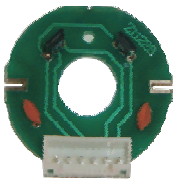
APPEARANCE SIZE



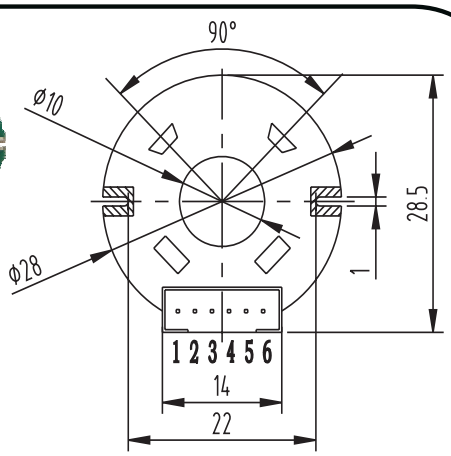
接口:
JST PHR-6
P=2.0-6P

Two Channel Encoder
Connections :

1. MOTOR-
2. MOTOR+
3. HALL SENSOR Vcc
4. HALL SENSOR GND
5. HALL SENSOR A Vout
6. HALL SENSOR B Vout



*此译码器主要安装在MR-36ZY电机上.
*The encoder mainly install on the Motor of MR-36ZY
*每周输出3PPR, 7PPR, 12PPR, 13PPR
*Each turn output 3PPR,7PPR,12PPR,13PPR

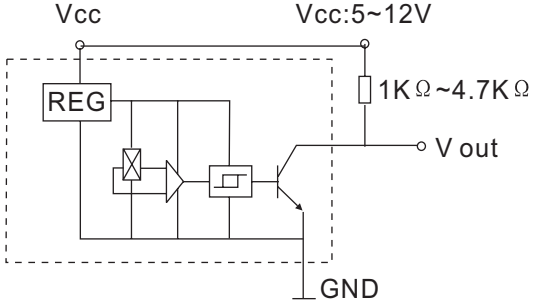


ELECTRICAL CHARACTERISTICS

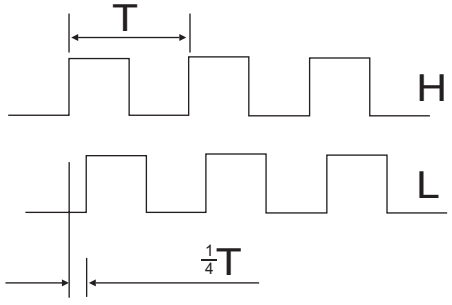
At V_s=4.5V to 24V with 20mA load with Ta=-40℃ to 125℃ [-40°F to 257°F] unless otherwise noted.

规格特性 CHARACTERISTICS	代号 SYMBOL	测试条件 TEST CONDITIONS	极小 MIN	基本 REF	最大 MAX	UNITS
输入电压 Supply Voltage	Vcc	---	4.5	--	24	V
输入电流 Supply Current	Ice	---	--	14	20	mA
输出电流 Output Current	Ic	Vce=12V; Gauss<-170	--	-<0.1	20	mA
输出漏电电流 Output Leakage Current	Icex	Output open;25℃[77°F]	--	--	10	μA
输出上升时间 Output Rise Time	Tr	RL=820Ω; CL=20pF;25℃	--	0.5	1.5	μS
输出下升时间 Output Fall Time	Tf	RL=820Ω; CL=20pF;25℃	--	0.2	1.5	μS

输出电路
Output Circuit



输出波形
Output Wave

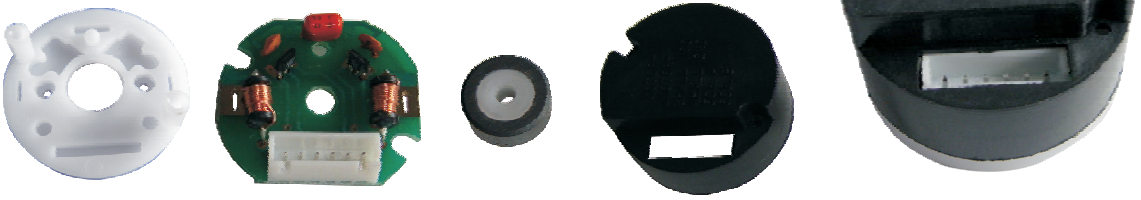


(Encoders) ME-37

● 双向霍尔作用译码器
Two Channel Hall Effect Encoder

★使用相对湿度:20%~85%RH
Operating relative humidity

★使用温度范围:-40℃~+85℃
Operating temperature range



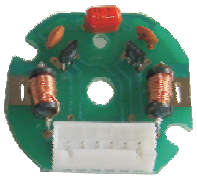
APPEARANCE SIZE



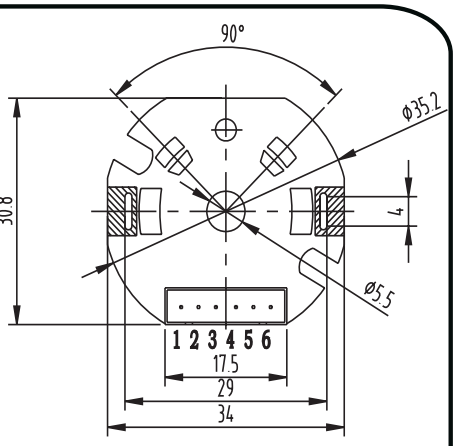
接口:
JST PHR-6
P=2.5-6P

Two Channel Encoder
Connections :

1. MOTOR-
2. MOTOR+
3. HALL SENSOR Vcc
4. HALL SENSOR GND
5. HALL SENSOR A Vout
6. HALL SENSOR B Vout



*此译码器主要安装在RS-545、555、775电机上.
*The encoder mainly install on the Motor of RS-545、555、775
*每周输出3PPR，7PPR，12PPR，13PPR
*Each turn output 3PPR,7PPR,12PPR,13PPR

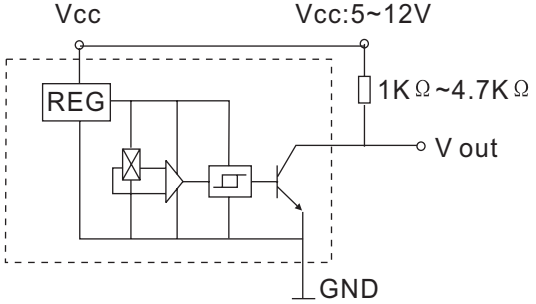


ELECTRICAL CHARACTERISTICS

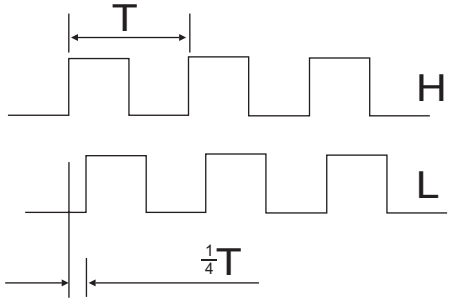
At V_s=4.5V to 24V with 20mA load with Ta=-40℃ to 125℃ [-40°F to 257°F] unless otherwise noted.

规格特性 CHARACTERISTICS	代号 SYMBOL	测试条件 TEST CONDITIONS	极小 MIN	基本 REF	最大 MAX	UNITS
输入电压 Supply Voltage	Vcc	---	4.5	--	24	V
输入电流 Supply Current	Ice	---	--	14	20	mA
输出电流 Output Current	Ic	Vce=12V; Gauss<-170	--	-<0.1	20	mA
输出漏电电流 Output Leakage Current	Icex	Output open;25℃[77°F]	--	--	10	μA
输出上升时间 Output Rise Time	Tr	RL=820Ω; CL=20pF;25℃	--	0.5	1.5	μS
输出下升时间 Output Fall Time	Tf	RL=820Ω; CL=20pF;25℃	--	0.2	1.5	μS

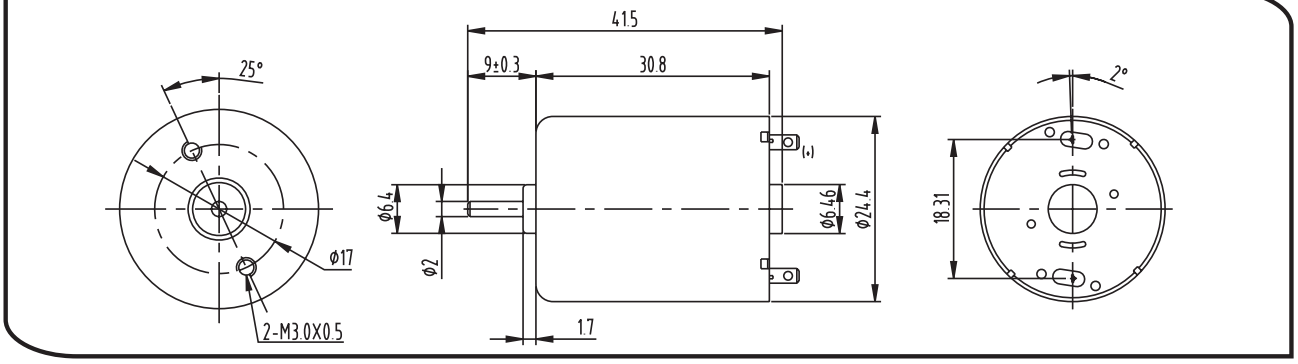
输出电路
Output Circuit



输出波形
Output Wave



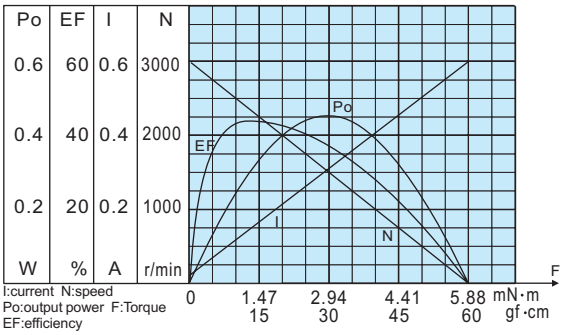
APPEARANCE SIZE



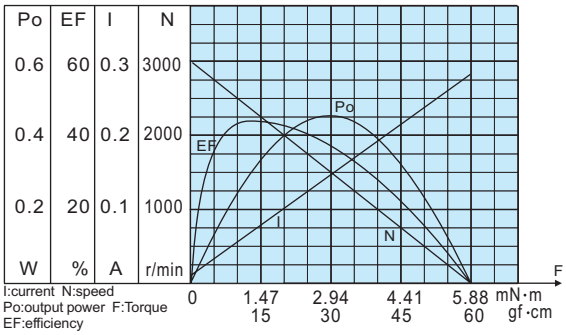
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
RF-370063000	6	⩽15	3000	⩽100	2200	15	0.33	60	600
RF-370064500	6	⩽25	4500	⩽270	3300	24	0.8	90	1200
RF-370066000	6	⩽40	6000	⩽500	4500	30	1.4	120	1900
RF-370123000	12	⩽15	3000	⩽55	2200	15	0.33	60	280
RF-370126000	12	⩽20	6000	⩽250	4500	30	1.4	120	1200
RF-370246000	24	⩽30	6000	⩽130	4500	30	1.4	120	550

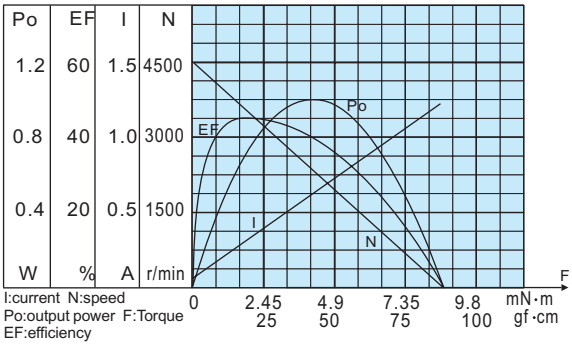
RF-370063000CHARACTERISTICS



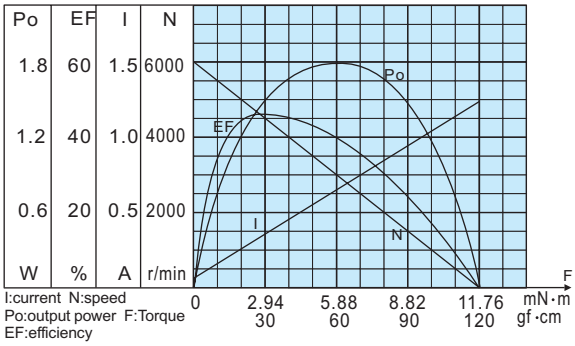
RF-370123000CHARACTERISTICS



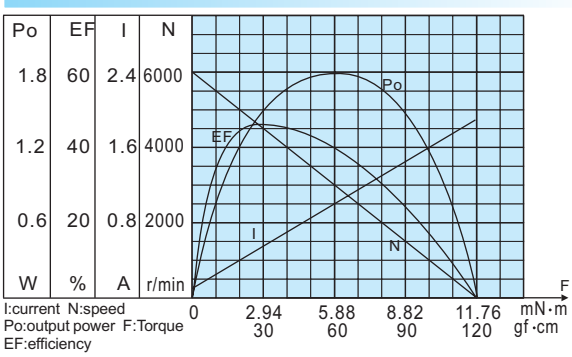
RF-370064500CHARACTERISTICS



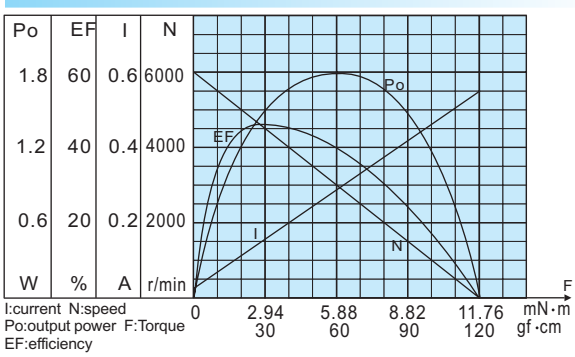
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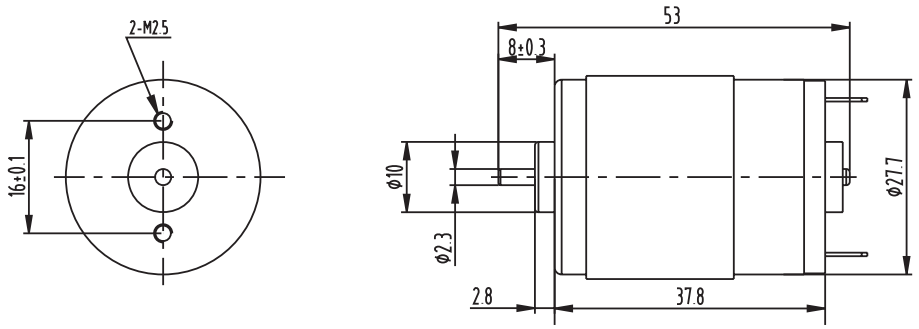
RF-370066000CHARACTERISTICS



RF-370246000CHARACTERISTICS



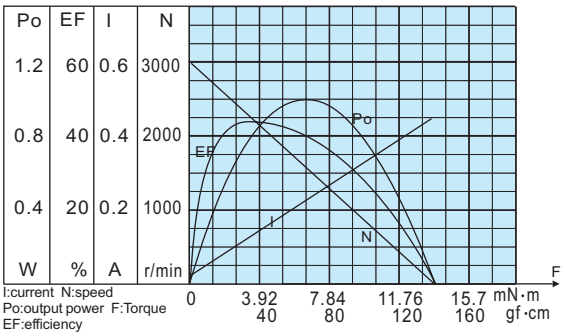
APPEARANCE SIZE



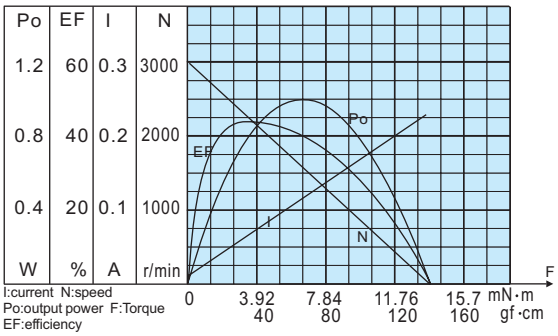
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
RS-385123000	12	⩽45	3000	⩽150	2200	35	0.8	140	450
RS-385124500	12	⩽70	4500	⩽300	3300	55	1.8	220	1200
RS-385126000	12	⩽100	6000	⩽600	4500	80	3.6	320	1900
RS-385243000	24	⩽25	3000	⩽70	2200	35	0.8	140	230
RS-385244500	24	⩽40	4500	⩽150	3300	55	1.8	220	600
RS-385246000	24	⩽50	6000	⩽300	4500	80	3.6	320	1000

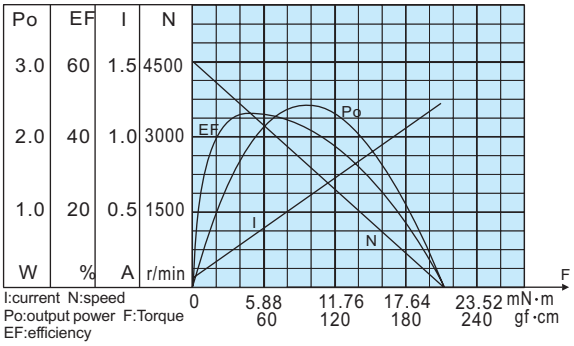
RS-385123000CHARACTERISTICS



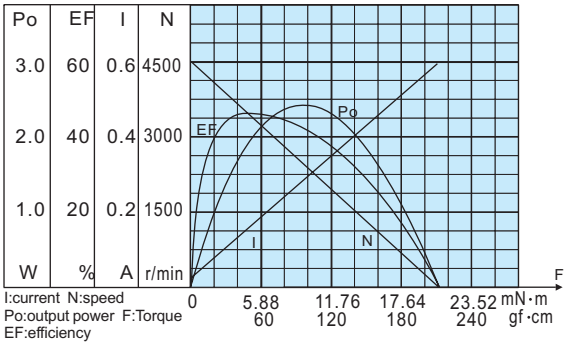
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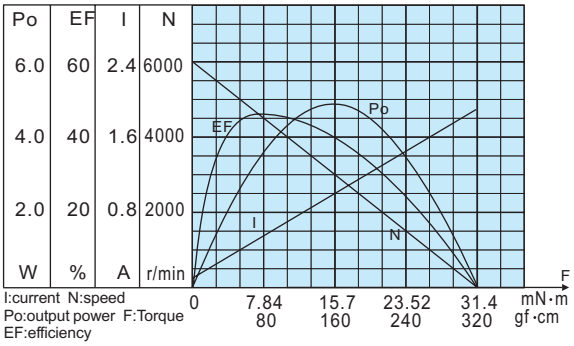
RS-385124500CHARACTERISTICS



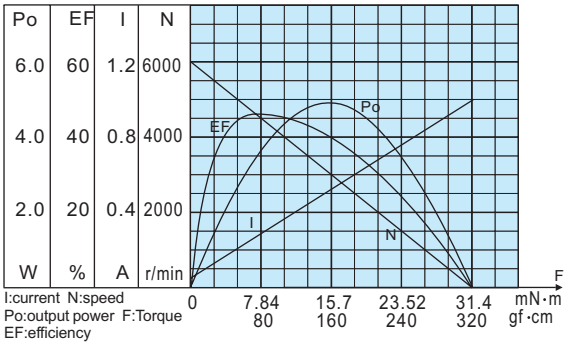
RS-385244500CHARACTERISTICS



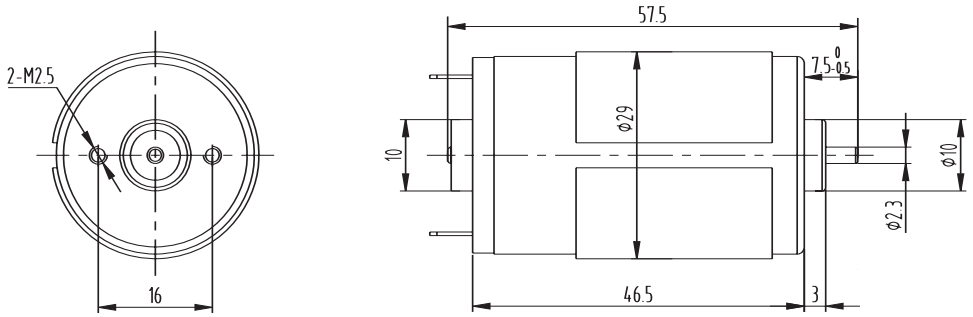
RS-385126000CHARACTERISTICS



RS-385246000CHARACTERISTICS



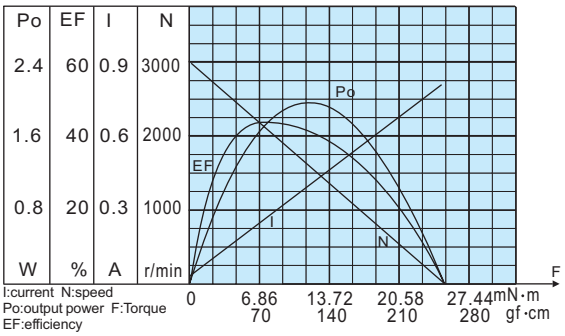
APPEARANCE SIZE



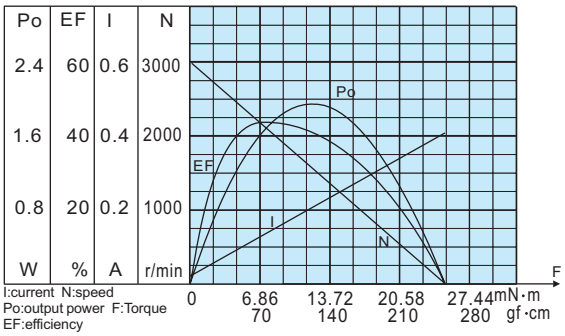
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
RS-395123000	12	⩽60	3000	⩽250	2200	65	1.4	260	800
RS-395124500	12	⩽90	4500	⩽430	3300	80	2.6	320	1400
RS-395126000	12	⩽130	6000	⩽750	4500	105	4.7	420	2600
RS-395243000	24	⩽40	3000	⩽120	2200	65	1.4	260	400
RS-395244500	24	⩽50	4500	⩽220	3300	80	2.6	320	700
RS-395246000	24	⩽70	6000	⩽380	4500	105	4.7	420	1400

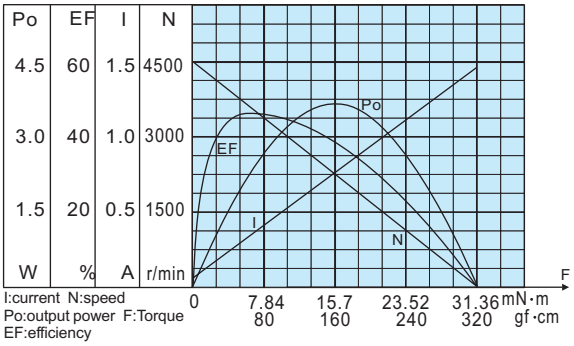
RS-395123000CHARACTERISTICS



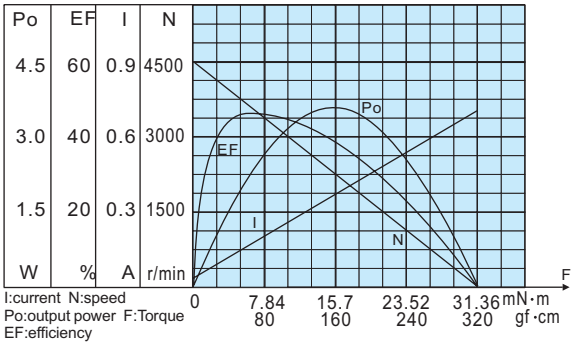
RS-395243000CHARACTERISTICS



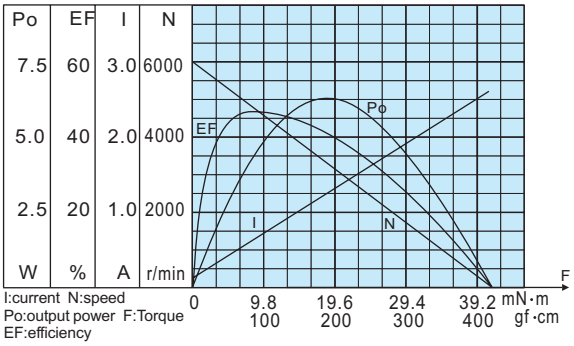
RS-395124500CHARACTERISTICS



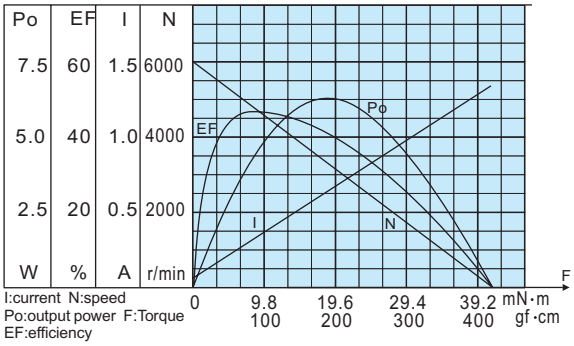
RS-395244500CHARACTERISTICS



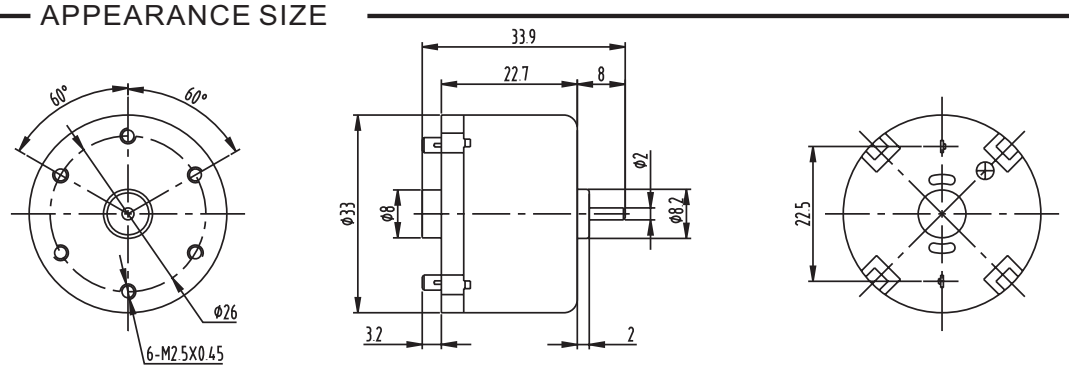
RS-395126000CHARACTERISTICS



RS-395246000CHARACTERISTICS



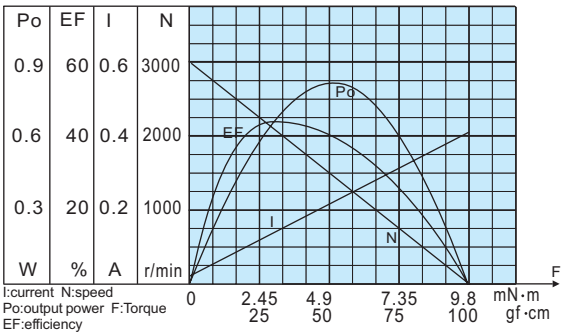
APPEARANCE SIZE



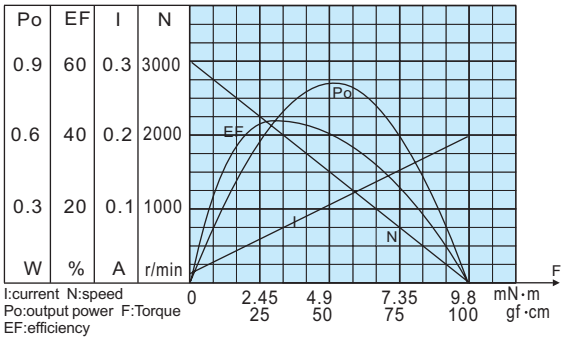
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
PM-33123000	12	⩽20	3000	⩽110	2200	25	0.55	100	400
PM-33124500	12	⩽30	4500	⩽220	3300	35	1.2	140	850
PM-33126000	12	⩽40	6000	⩽410	4500	45	2.3	180	1400
PM-33243000	24	⩽15	3000	⩽60	2200	25	0.55	100	200
PM-33244500	24	⩽20	4500	⩽110	3300	35	1.2	140	420
PM-33246000	24	⩽30	6000	⩽200	4500	45	2.3	180	700

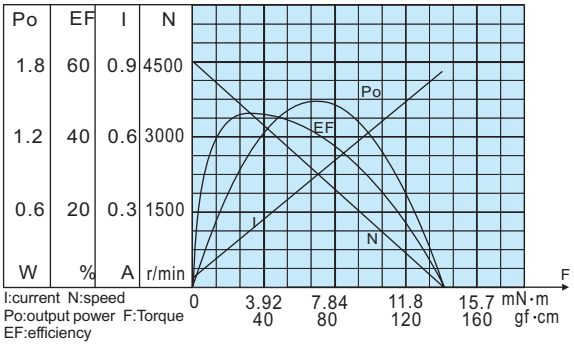
PM-33123000CHARACTERISTICS



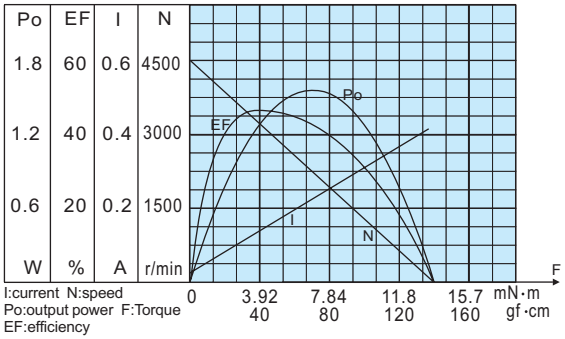
PM-33243000 CHARACTERISTICS



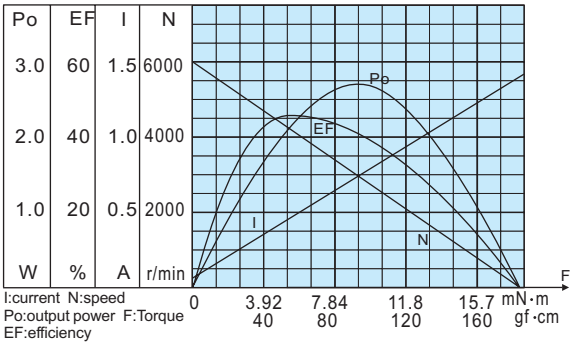
PM-33124500CHARACTERISTICS



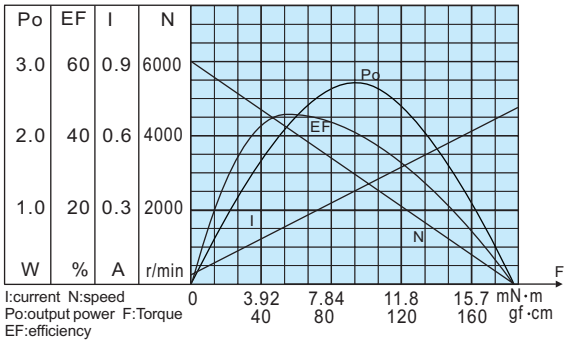
PM-33244500 CHARACTERISTICS



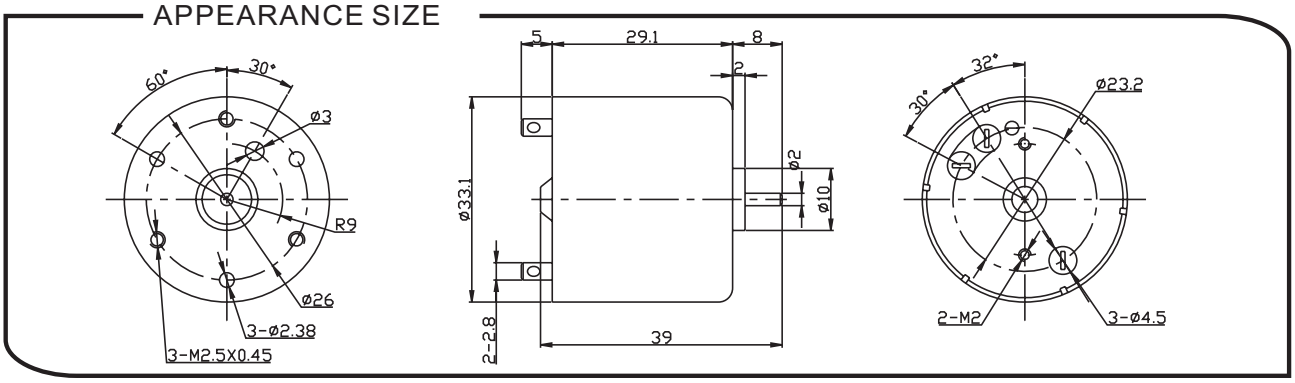
PM-33126000CHARACTERISTICS



PM-33246000 CHARACTERISTICS



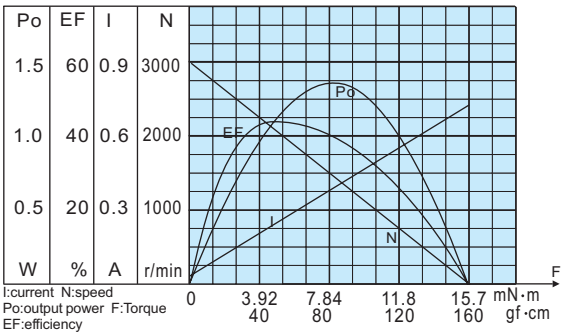
APPEARANCE SIZE



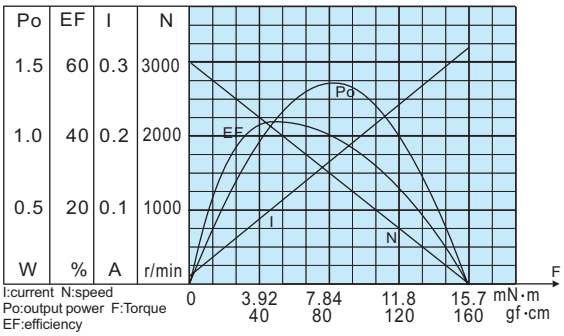
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
TG-38123400	12	⩽40	3400	⩽180	2500	40	1.0	160	720
TG-38124500	12	⩽50	4500	⩽350	3300	60	2.0	210	1400
TG-38126000	12	⩽70	6000	⩽720	4500	80	3.6	300	2800
TG-38243000	24	⩽15	3000	⩽80	2200	40	0.9	140	320
TG-38244500	24	⩽25	4500	⩽180	3300	60	2.0	210	730
TG-38246700	24	⩽45	6700	⩽360	4500	80	3.6	300	1400

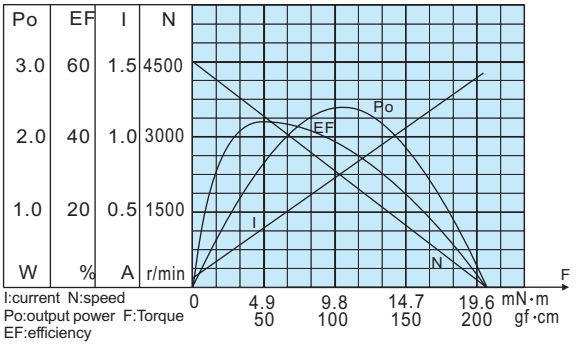
TG-38123000CHARACTERISTICS



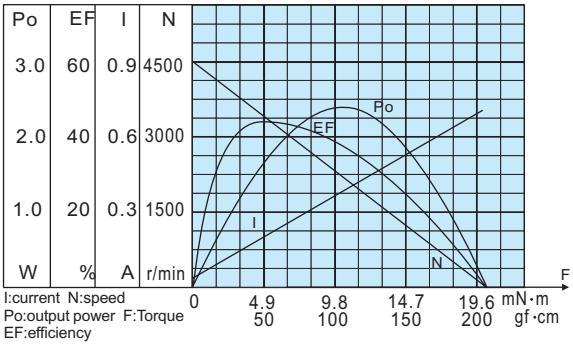
TG-38243000CHARACTERISTICS



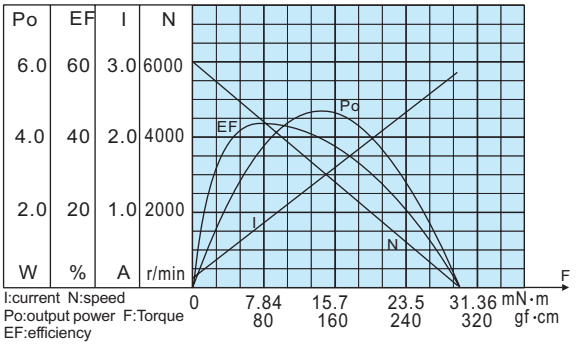
TG-38124500CHARACTERISTICS



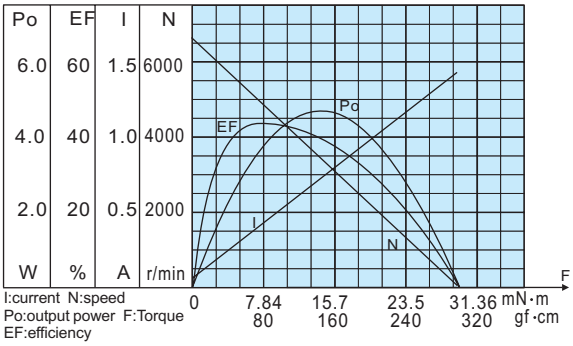
TG-38244500CHARACTERISTICS



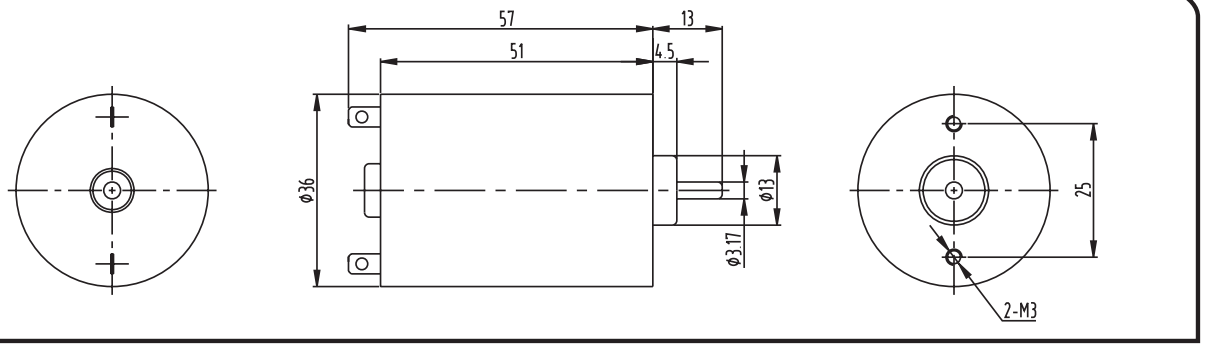
TG-38126000CHARACTERISTICS



TG-38246700CHARACTERISTICS



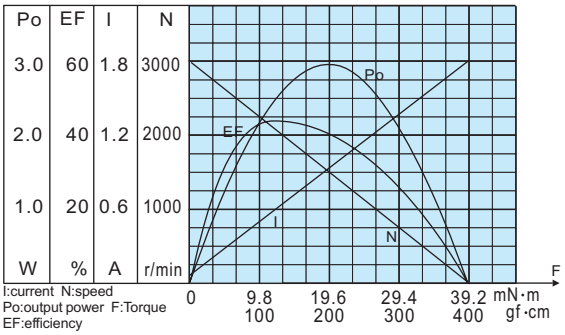
APPEARANCE SIZE



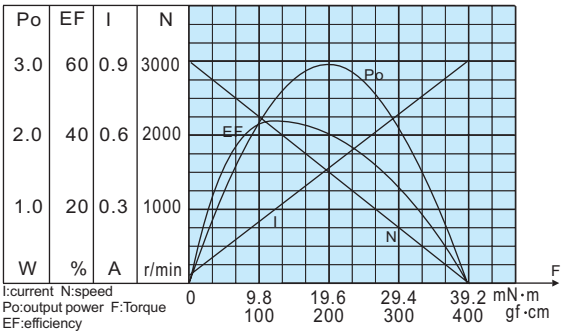
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
RS-545123000	12	⩽110	3000	⩽450	2200	100	2.2	400	1800
RS-545124500	12	⩽220	4500	⩽800	3300	150	4.9	600	3000
RS-545126000	12	⩽300	6000	⩽1500	4500	200	9.0	800	5500
RS-545243000	24	⩽60	3000	⩽230	2200	100	2.2	400	900
RS-545244500	24	⩽110	4500	⩽400	3300	150	4.9	600	1500
RS-545246000	24	⩽150	6000	⩽750	4500	200	9.0	800	3000

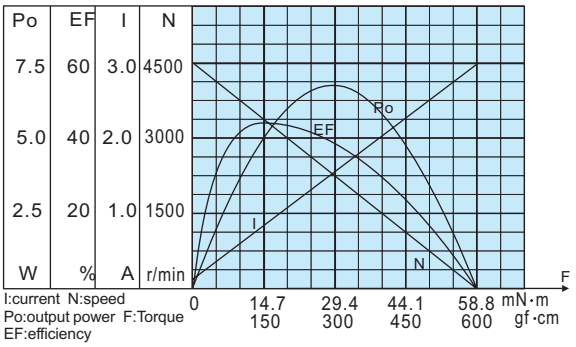
RS-545123000CHARACTERISTICS



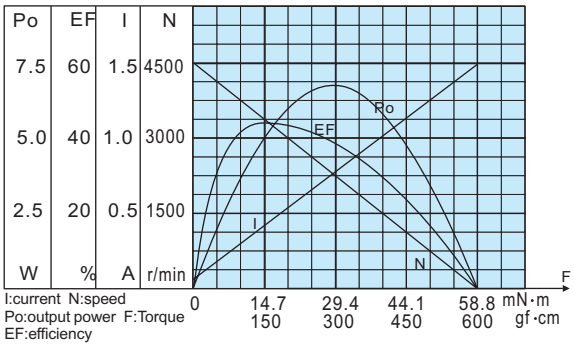
RS-545243000CHARACTERISTICS



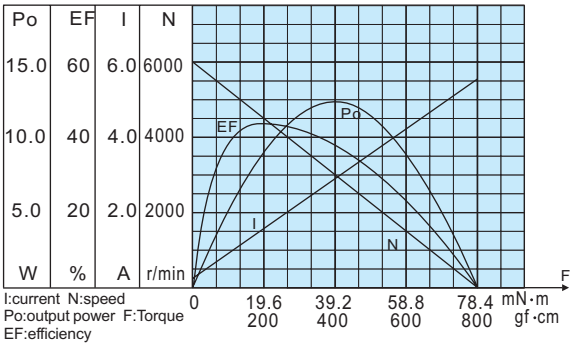
RS-545124500CHARACTERISTICS



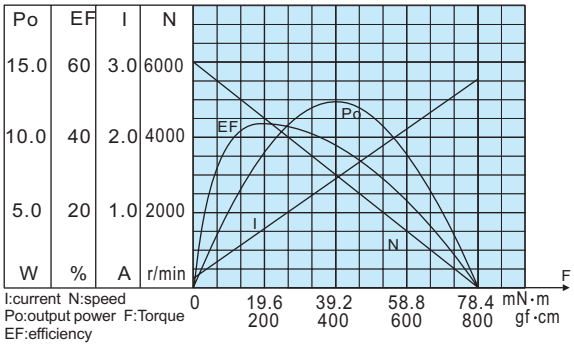
RS-545244500CHARACTERISTICS



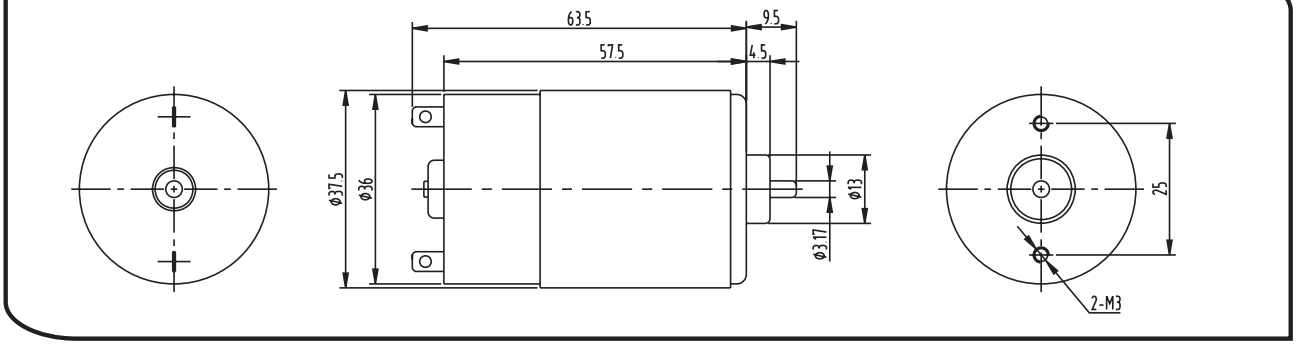
RS-545126000CHARACTERISTICS



RS-545246000CHARACTERISTICS



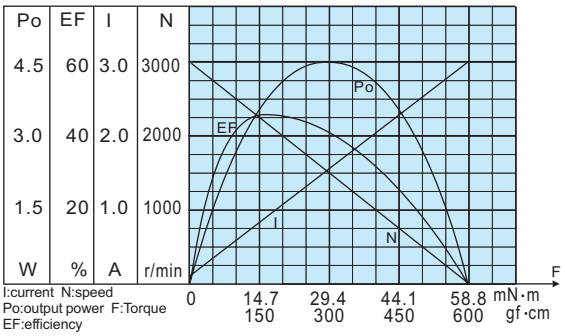
APPEARANCE SIZE



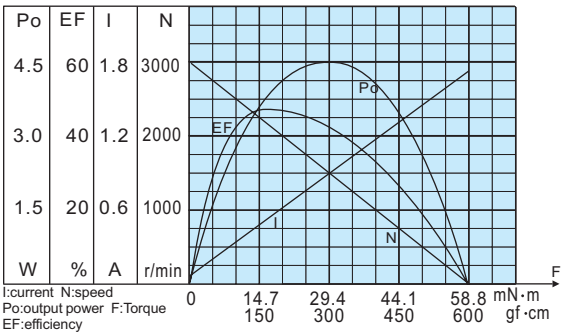
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
RS-555123000	12	⩽140	3000	⩽800	2200	150	3.3	600	3000
RS-555124500	12	⩽220	4500	⩽1200	3300	220	7.2	880	4800
RS-555126000	12	⩽350	6000	⩽2000	4500	300	13.5	1200	6000
RS-555243000	24	⩽70	3000	⩽400	2200	150	3.3	600	1600
RS-555244500	24	⩽110	4500	⩽600	3300	220	7.2	880	3000
RS-555246000	24	⩽180	6000	⩽1000	4500	300	13.5	1200	4000

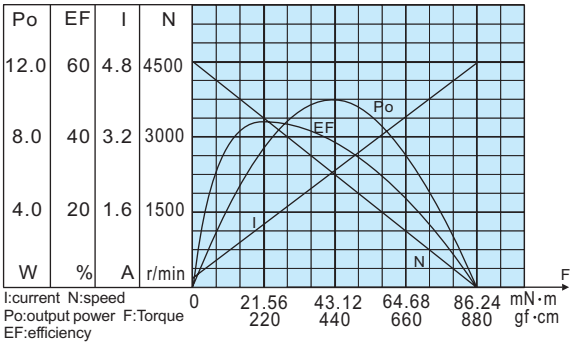
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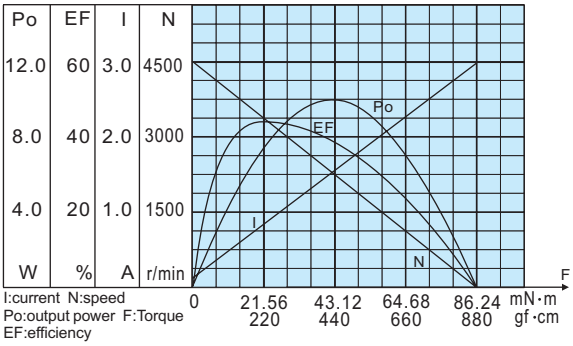
RS-555243000CHARACTERISTICS



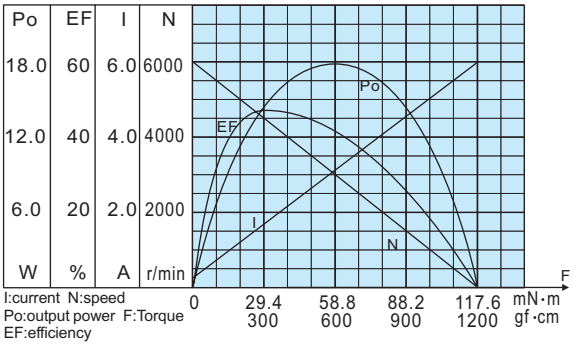
RS-555124500CHARACTERISTICS



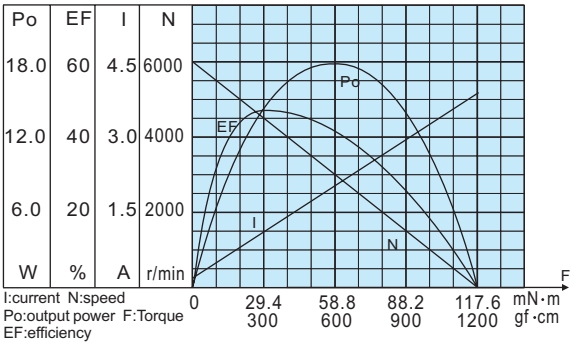
RS-555244500CHARACTERISTICS



RS-555126000CHARACTERISTICS

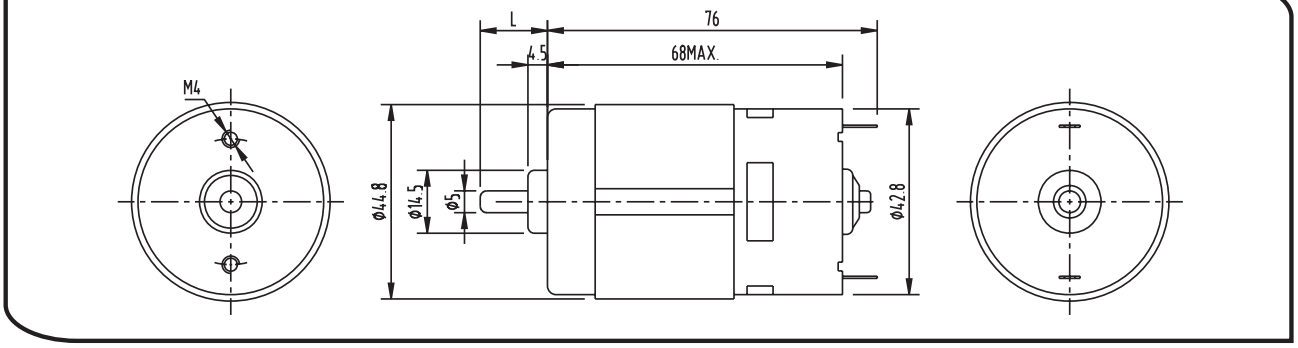


RS-555246000CHARACTERISTICS



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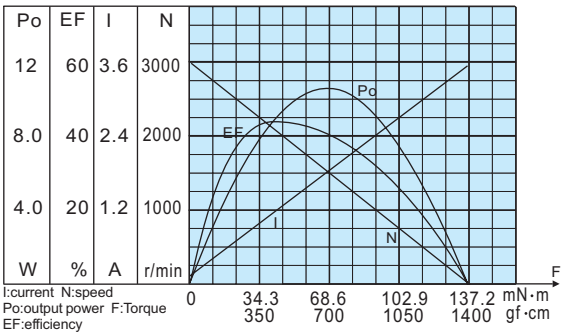
APPEARANCE SIZE



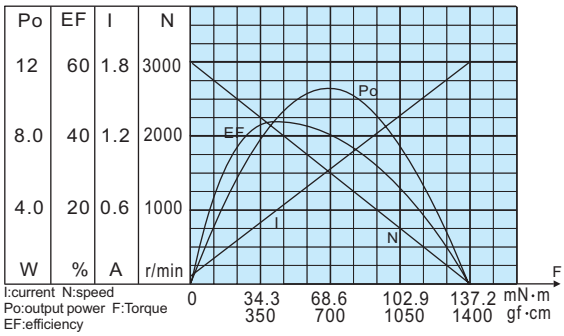
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	A
RS-775123000	12	⩽220	3000	⩽1000	2200	350	7.7	1400	3.5
RS-775124500	12	⩽450	4500	⩽2000	3300	500	16.5	2000	6.5
RS-775126000	12	⩽900	6000	⩽4000	4500	750	34	3000	13.0
RS-775243000	24	⩽110	3000	⩽500	2200	350	7.7	1400	1.8
RS-775244500	24	⩽230	4500	⩽1000	3300	500	16.5	2000	3.3
RS-775246000	24	⩽450	6000	⩽2000	4500	750	34	3000	7.0

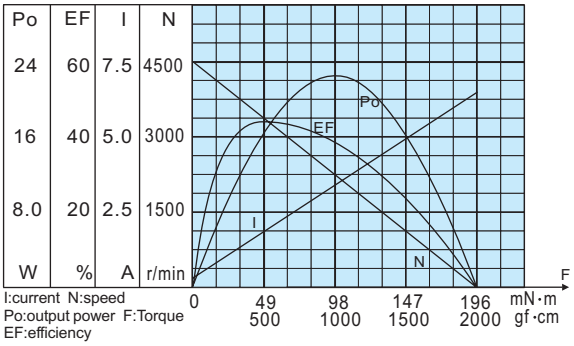
RS-775123000CHARACTERISTICS



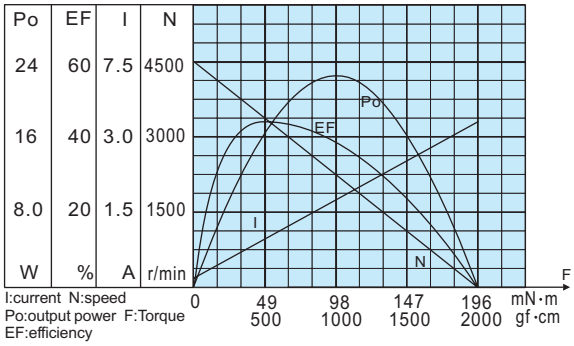
RS-775243000CHARACTERISTICS



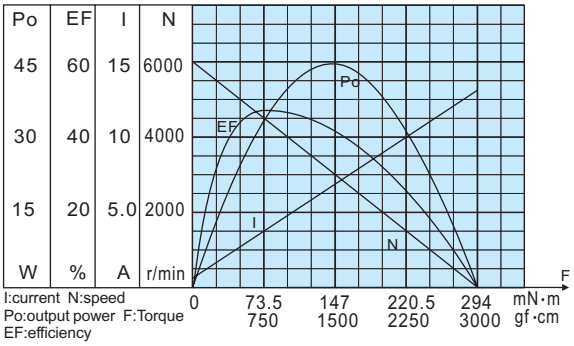
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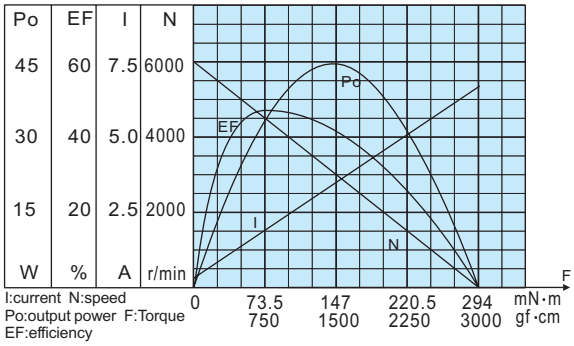
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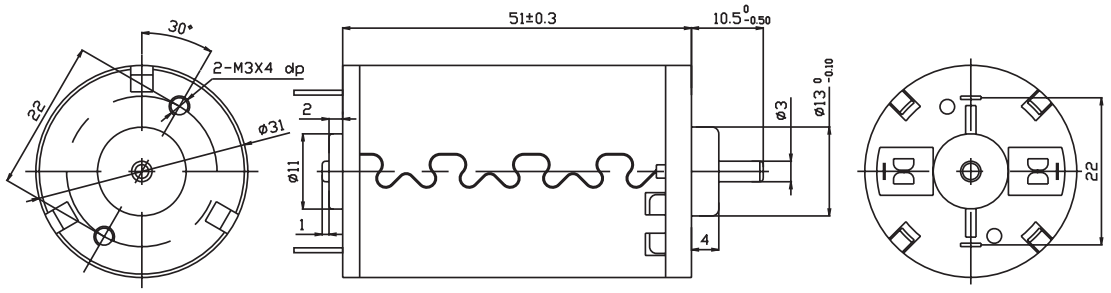
RS-775126000CHARACTERISTICS



RS-775246000CHARACTERISTICS



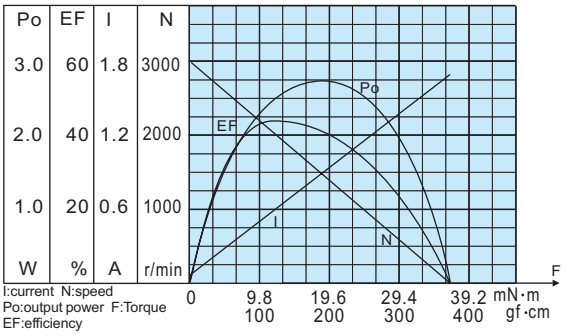
APPEARANCE SIZE



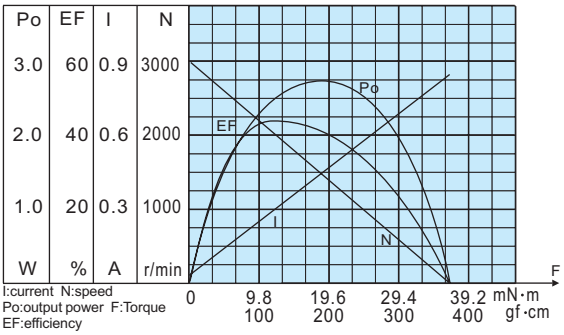
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
31ZY123000	12	⩽100	3000	⩽400	2200	90	2.0	360	1600
31ZY124500	12	⩽150	4500	⩽700	3300	130	4.3	520	2700
31ZY126000	12	⩽220	6000	⩽1200	4500	180	8.0	720	5000
31ZY243000	24	⩽60	3000	⩽200	2200	90	2.0	360	800
31ZY244500	24	⩽90	4500	⩽350	3300	130	4.3	520	1300
31ZY246000	24	⩽130	6000	⩽650	4500	180	8.0	720	2600

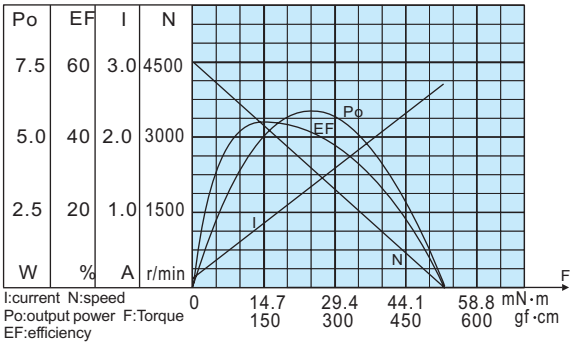
31ZY123000CHARACTERISTICS



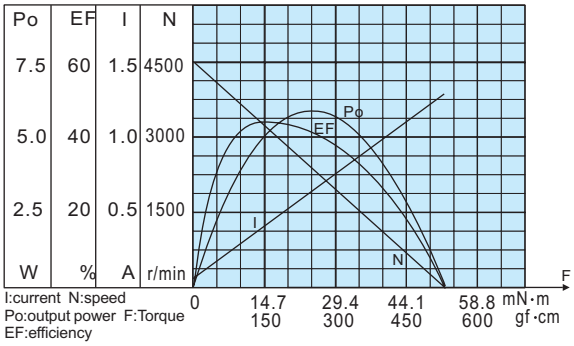
31ZY243000CHARACTERISTICS



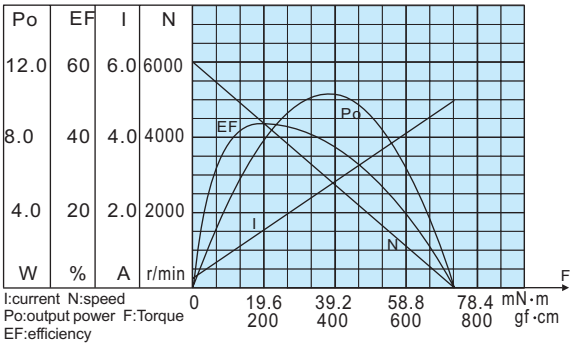
31ZY124500CHARACTERISTICS



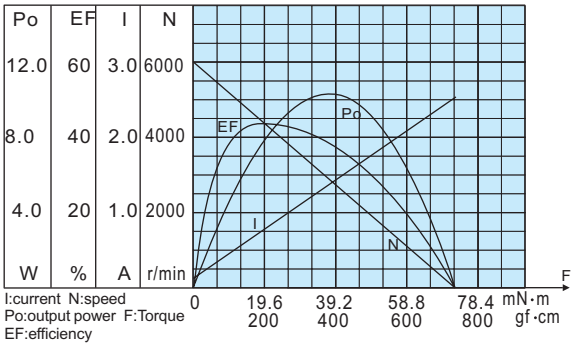
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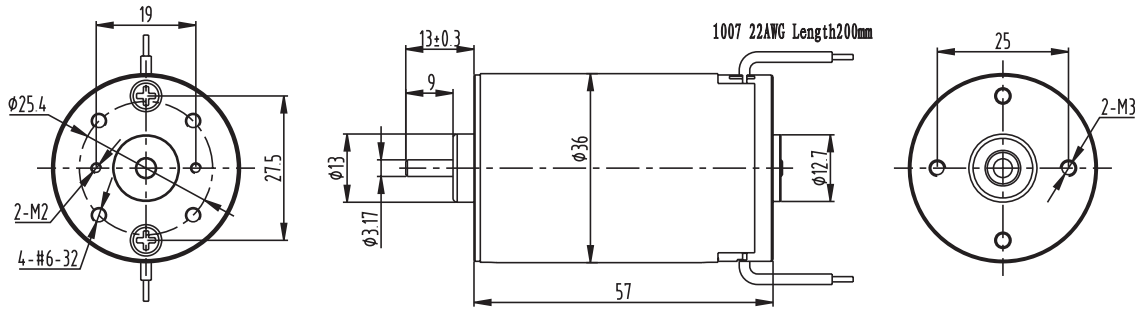
31ZY126000CHARACTERISTICS



31ZY246000CHARACTERISTICS



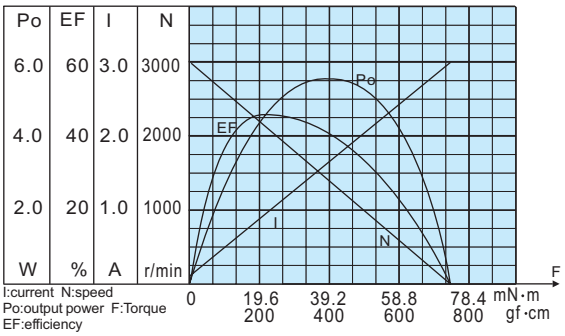
APPEARANCE SIZE



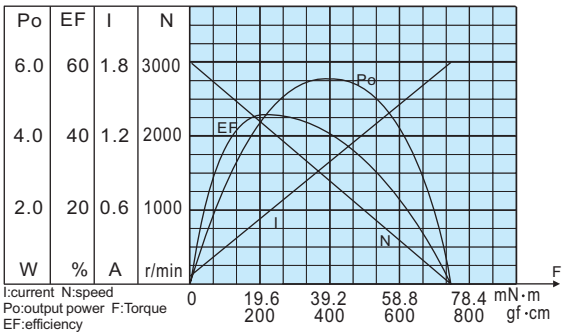
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
36ZY123000	12	⩽140	3000	⩽800	2200	180	4.0	750	3000
36ZY124500	12	⩽220	4500	⩽1200	3300	250	8.5	950	4800
36ZY126000	12	⩽350	6000	⩽2000	4500	350	15.0	1400	6000
36ZY243000	24	⩽70	3000	⩽400	2200	180	4.0	750	1600
36ZY244500	24	⩽110	4500	⩽600	3300	250	8.5	950	3000
36ZY246000	24	⩽180	6000	⩽1000	4500	350	15.0	1400	4000

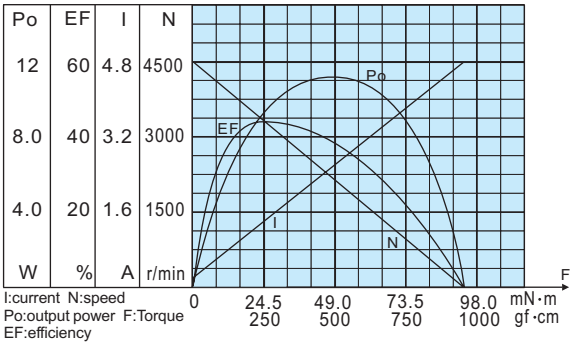
36ZY123000CHARACTERISTICS



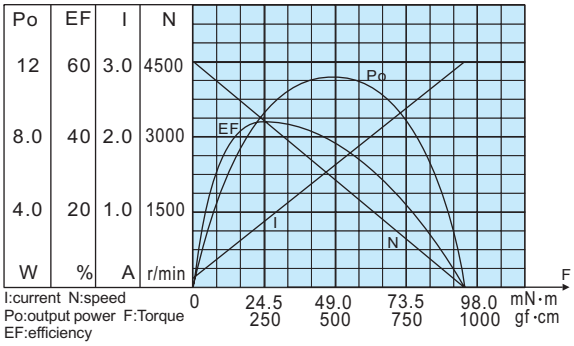
36ZY243000CHARACTERISTICS



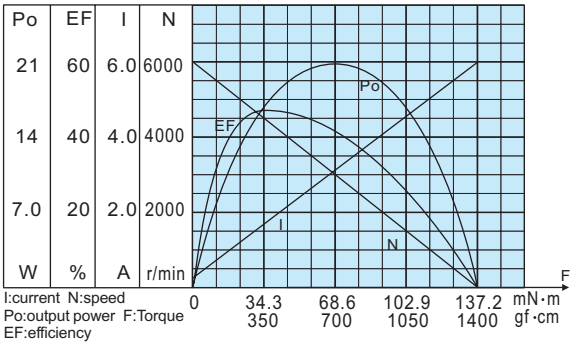
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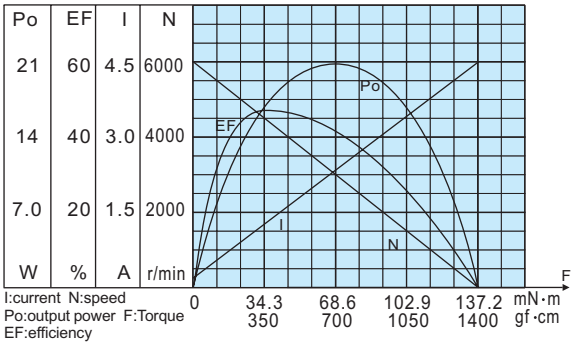
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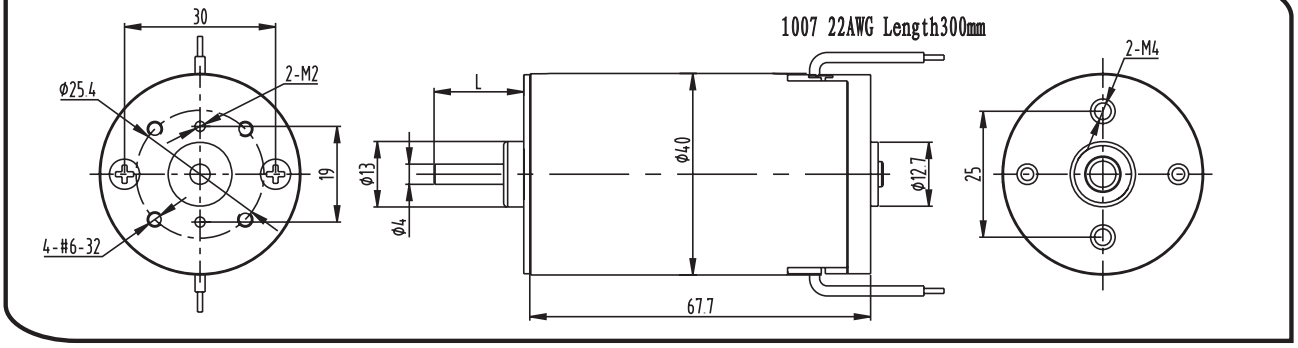
36ZY126000CHARACTERISTICS



36ZY246000CHARACTERISTICS



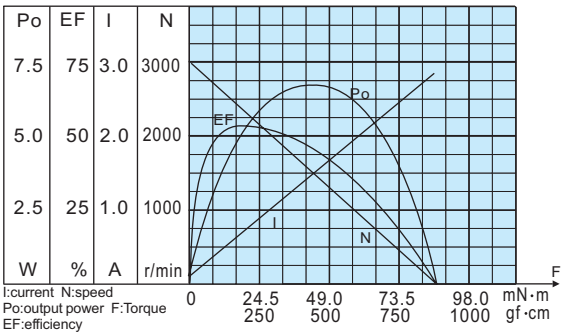
APPEARANCE SIZE



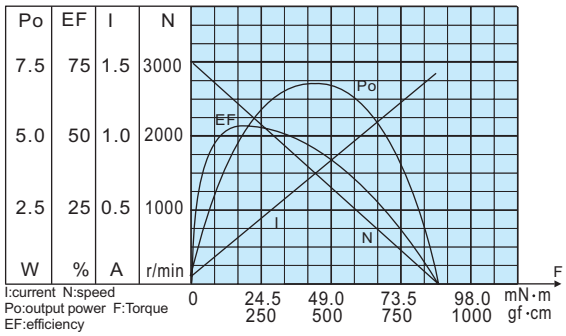
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	A
40ZY123000	12	⩽120	3000	⩽750	2200	220	4.8	900	2.8
40ZY124500	12	⩽190	4500	⩽1500	3300	300	9.9	1200	6.0
40ZY126000	12	⩽250	6000	⩽3000	4500	400	18.0	1600	10
40ZY243000	24	⩽80	3000	⩽400	2200	220	4.8	900	1.5
40ZY244500	24	⩽120	4500	⩽800	3300	300	9.9	1200	3.0
40ZY246000	24	⩽160	6000	⩽1500	4500	400	18.0	1600	5.5

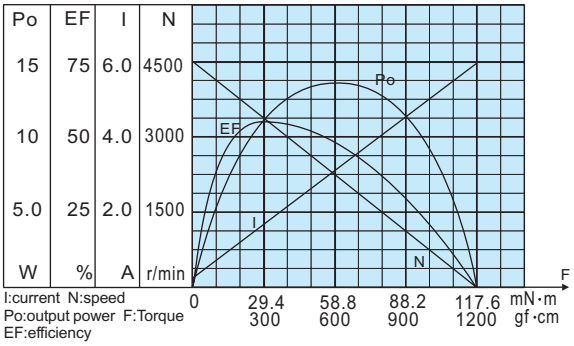
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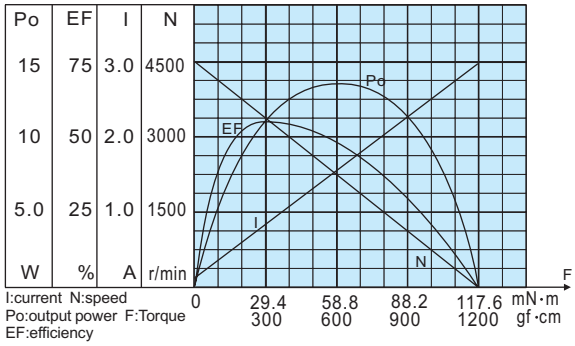
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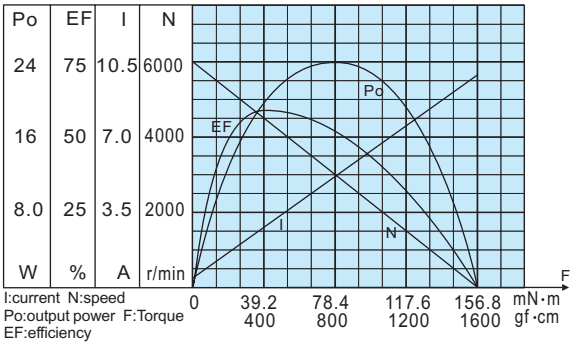
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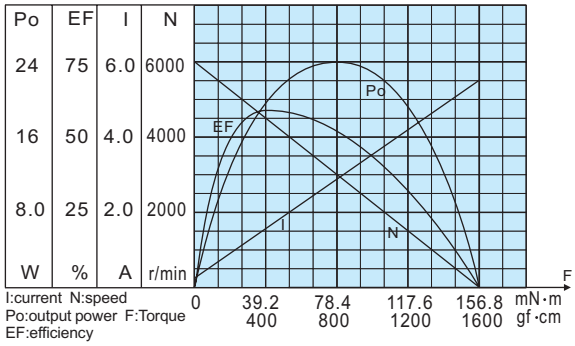
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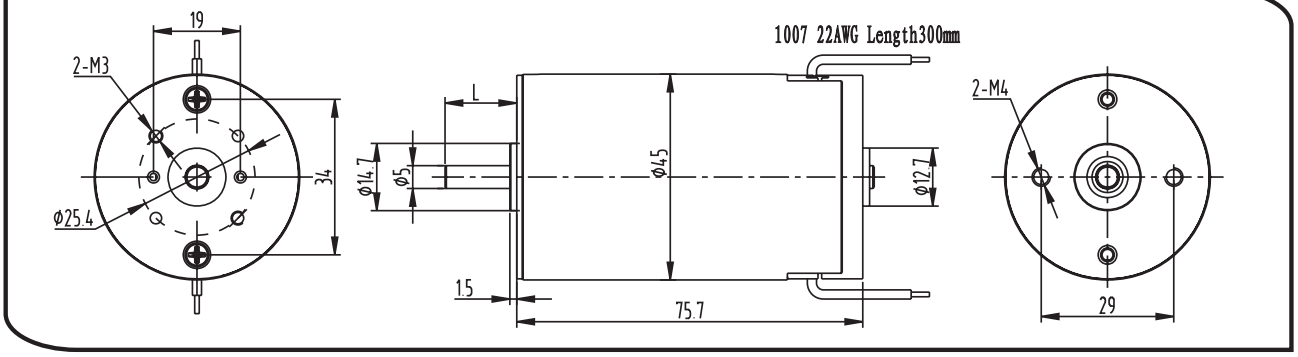
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40ZY246000CHARACTERISTICS



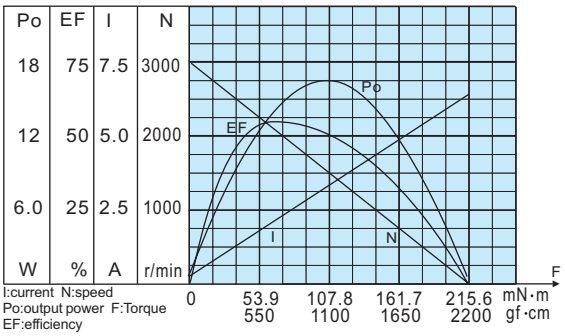
APPEARANCE SIZE



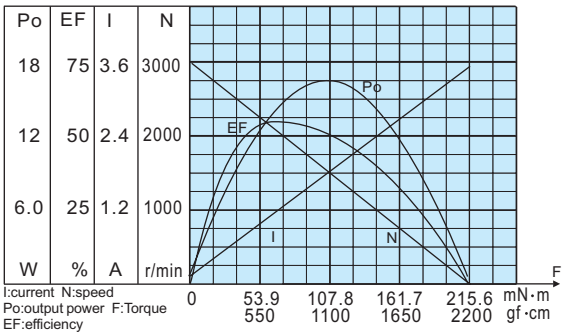
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	A
45ZY123000	12	⩽250	3000	⩽1700	2200	550	12.0	2200	6.5
45ZY124500	12	⩽400	4500	⩽3600	3300	800	26.4	3200	12.5
45ZY126000	12	⩽700	6000	⩽6900	4500	1100	49.5	4400	25
45ZY243000	24	⩽180	3000	⩽850	2200	550	12.0	2200	3.5
45ZY244500	24	⩽280	4500	⩽1800	3300	800	26.4	3200	6.3
45ZY246000	24	⩽350	6000	⩽3500	4500	1100	49.5	4400	13

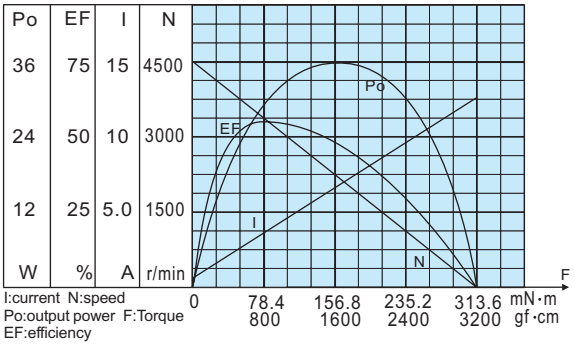
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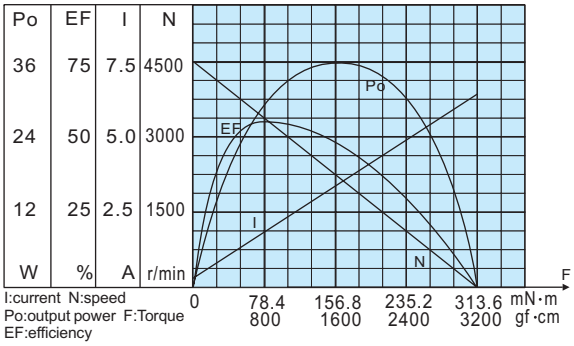
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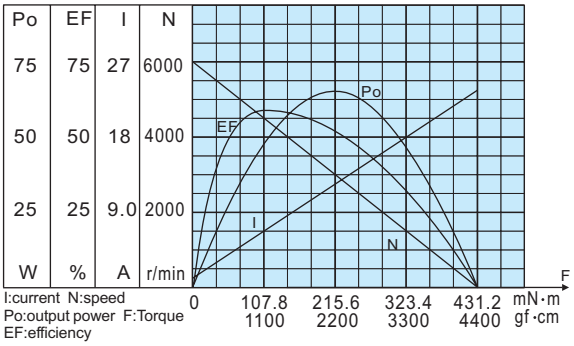
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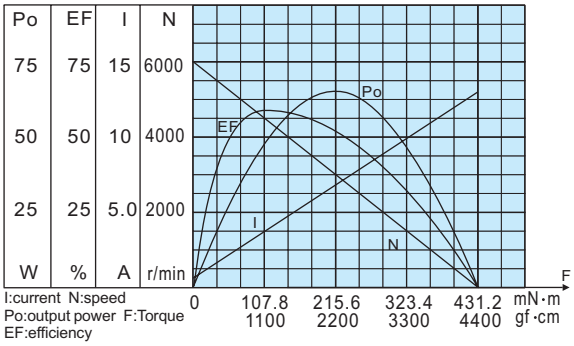
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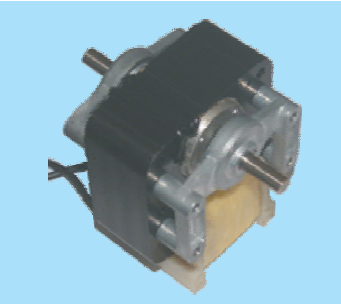


45ZY126000CHARACTERISTICS



45ZY246000CHARACTERISTICS





YJ61 SINGLE PHSE SHADE POLE MOTOR

SGMADA®

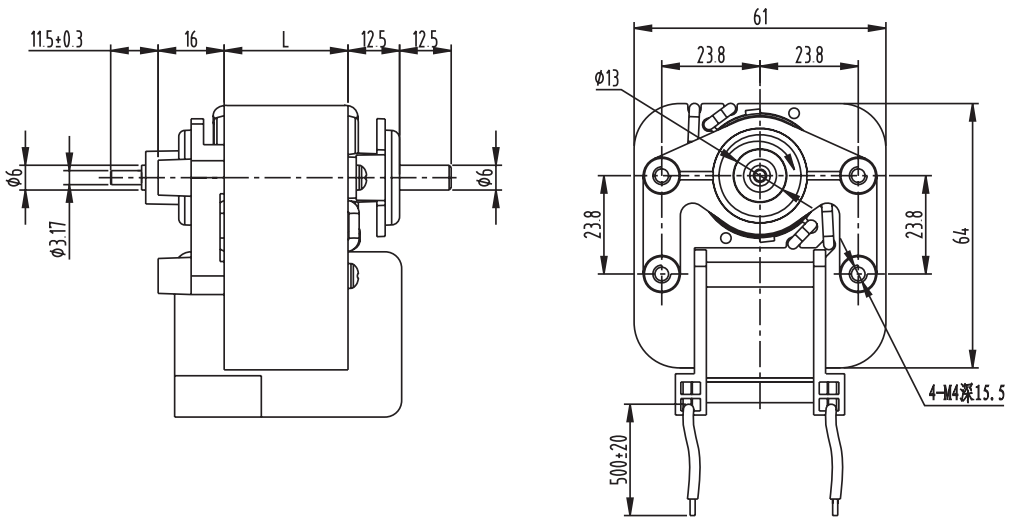
1、Single phase shade pole motor is safe and reliable,low noise Characteristics hard,good starting,long life,etc.

2、Motors have UL TUV certification.

3、Motor direction、size “A”、wire length “L” can made as Customers'request.

4、Apply for different type of gearboxes:TT(60X95)、GF(70X119)、MG(70X70)、VG(60X88)、VF(69.8X76.2)、RF(63.5X90.2)、ZF(63.5X90.2)gearbox.

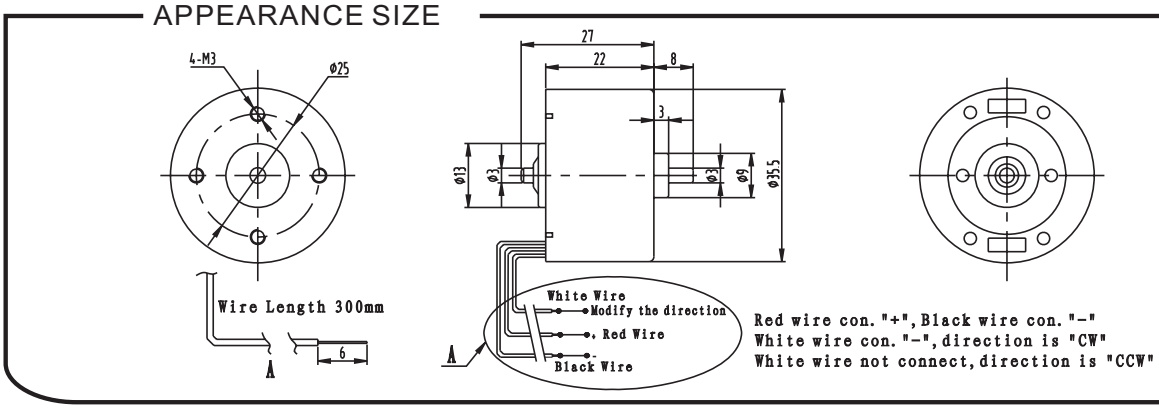
APPEARANCE SIZE



MOTOR SPECIFICATIONS

MOTOR MODEL	Size(A) mm	Rated Volt. V	At maximum efficiency				
			Freq.	Current	Speed	Torque	Input
			Hz	A	r/min	g • cm	Power(W)
YJ61-10/1	10.5	220～240	50	0.16	2200	70	17.5
YJ61-10/2	10.5	100～120	60	0.18	2700	60	16
YJ61-12/1	12	220～240	50	0.16	2400	80	17
YJ61-12/2	12	100～120	60	0.20	2600	80	18
YJ61-14/1	14.5	220～240	50	0.18	2400	100	19
YJ61-14/2	14.5	100～120	60	0.20	2600	100	20
YJ61-16/1	16.5	220～240	50	0.25	2450	140	26
YJ61-16/2	16.5	100～120	60	0.28	2600	140	27
YJ61-20/1	20.5	220～240	50	0.30	2450	180	30
YJ61-20/2	20.5	100～120	60	0.38	2700	180	32
YJ61-25/1	25.5	220～240	50	0.33	2400	220	35
YJ61-25/2	25.5	100～120	60	0.41	2600	220	42
YJ61-30/1	30.5	220～240	50	0.45	2400	280	45
YJ61-30/2	30.5	100～120	60	0.52	2600	280	46
YJ61-35/1	35.5	220～240	50	0.65	2500	350	53
YJ61-35/2	35.5	100～120	60	0.90	2800	350	58
YJ61-40/1	40	220～240	50	0.83	2500	400	62
YJ61-40/2	40	100～120	60	1.20	2800	400	75
YJ61-50/1	50	220～240	50	1.5	2500	520	82
YJ61-50/2	50	100～120	60	1.60	2800	520	85

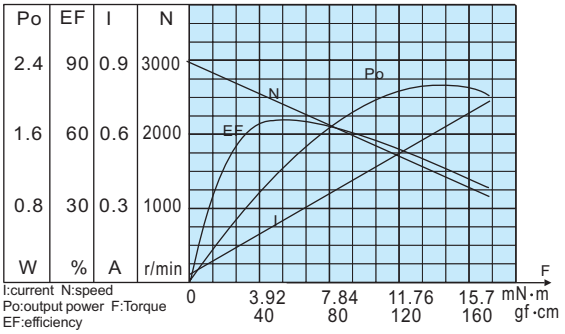
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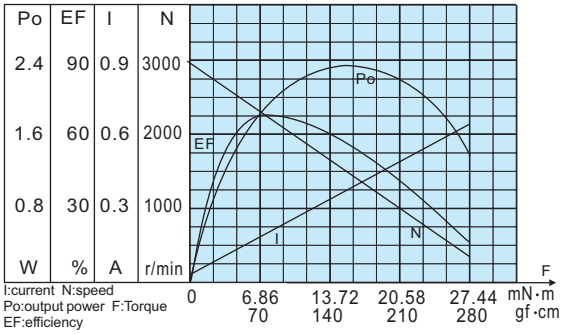
MOTOR TORQUE/SPEED/CURRENT

MOTOR MODEL	Rated Volt. V	No load		At maximum efficiency				Stall	
		Current	Speed	Current	Speed	Torque	Power	Torque	Current
		mA	r/min	mA	r/min	g·cm	W	g·cm	mA
37BL123000	12	⩽180	3000	⩽280	2200	70	1.5	170	700
37BL124500	12	⩽250	4500	⩽350	3300	100	3.3	170	700
37BL126000	12	⩽300	6000	⩽500	4500	140	6.0	170	700
37BL243000	24	⩽150	3000	⩽230	2200	80	1.8	280	700
37BL244500	24	⩽200	4500	⩽400	3300	125	4.0	280	700
37BL246000	24	⩽250	6000	⩽750	4500	160	7.0	280	700

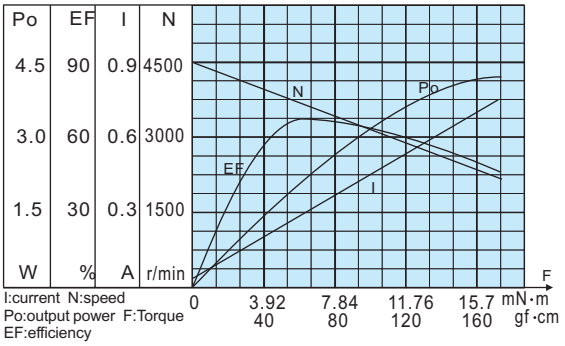
37BL123000CHARACTERISTICS



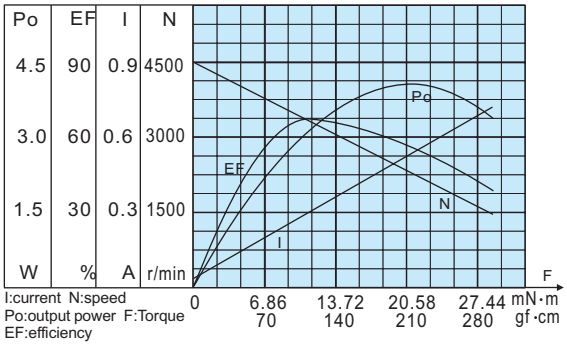
37BL243000CHARACTERISTICS



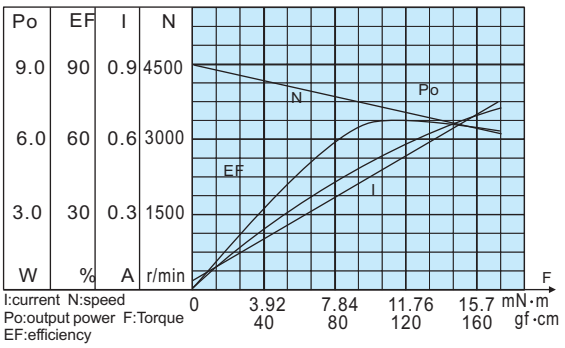
37BL124500CHARACTERISTICS



37BL244500CHARACTERISTICS



37BL126000CHARACTERISTICS



37BL246000CHARACTERISTICS

