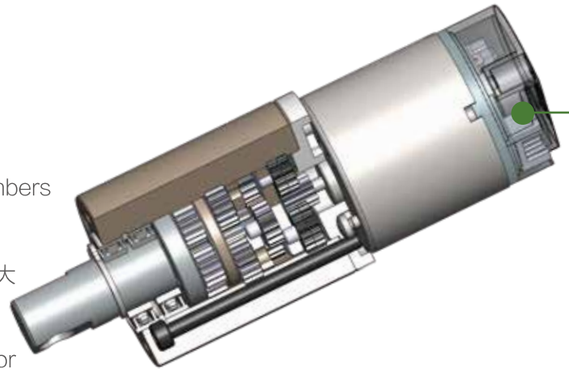
行星减速电机构造示意图 Schematic diagram of planetary gear motor constructure

产品命名 Product naming

例如：PG45775246000-369KE7

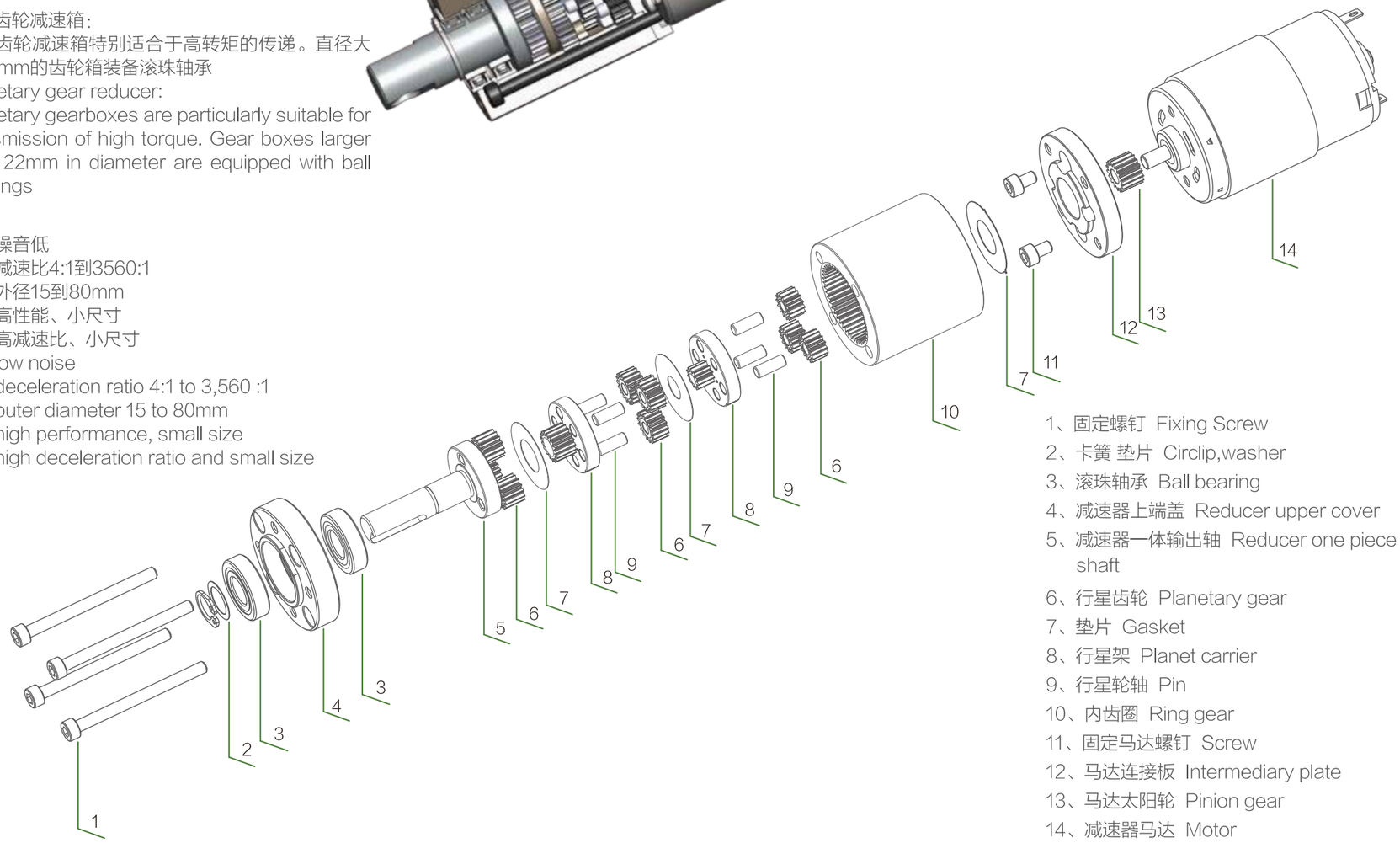
1 2 3 4 5 6 7 8

1：行星齿轮 Planet gear
2：减速箱外径 Gearbox housing
3：马达型号 Motor type
4：马达电压 Motor voltage
5：马达转速 Motor speed
6：减速箱速比 Reduction ratio
7：带编码器 Encoder
8：编码器脉冲数 Encoder pluse numbers



行星齿轮减速箱：
行星齿轮减速箱特别适合于高转矩的传递。直径大于22mm的齿轮箱装备滚珠轴承
Planetary gear reducer:
Planetary gearboxes are particularly suitable for transmission of high torque. Gear boxes larger than 22mm in diameter are equipped with ball bearings

——噪音低
——减速比4:1到3560:1
——外径15到80mm
——高性能、小尺寸
——高减速比、小尺寸
——low noise
——deceleration ratio 4:1 to 3,560 :1
——outer diameter 15 to 80mm
——high performance, small size
——high deceleration ratio and small size



译码器 Encoders

根据磁原理，电机轴上安装一个小的多极永磁体，由霍尔传感器记录磁通量的变化并反馈回电路做为A通道和B通道，以便实现马达定位。
In the magnetic principle, A small multipole permanent magnet is installed on the motor shaft. The change of magnetic flux is recorded by hall sensor and the feedback circuit is used as A channel and B channel ,which can make the motor positioning

1、固定螺钉 Fixing Screw
2、卡簧 垫片 Circlip,washer
3、滚珠轴承 Ball bearing
4、减速器上端盖 Reducer upper cover
5、减速器一体输出轴 Reducer one piece output shaft
6、行星齿轮 Planetary gear
7、垫片 Gasket
8、行星架 Planet carrier
9、行星轮轴 Pin
10、内齿圈 Ring gear
11、固定马达螺钉 Screw
12、马达连接板 Intermediary plate
13、马达太阳轮 Pinion gear
14、减速器马达 Motor

行星减速电机的选择
Selection of planetary reduction motor

根据需要的可用功率输出选择一个齿轮减速电机。
A geared motor is selected according to the required usable power-output.

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

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

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

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

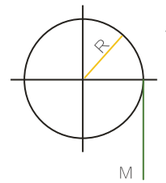
力矩转换表 Torque Conversion Chart

	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	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
1lb.in=1.152Kgf.cm　　1N.m=10.2Kgf.cm
1Kg.cm=0.868lb.in　　1oz.in=0.072Kgf.cm

力矩的意思，可用下图来解释。
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=4Lb	Torque=4Lb.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。
It is known that the vertical lifting body weight m(Kg) and rising speed V(m/s), and how many watts can be output from the motor.

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范围内。
The useful power of the gear motor must be greater than or equal to the power required under the driving load. Select by checking wheth-er the points corresponding to the operating conditions (torque and speed output) are higher than the points on the torque - speed curve.
The output torque of the gear motor must be within the maximum torque range when the gear box is running continuously.

选择减速比 Selecting the reduction gear ratio

有两个选择规则。
There are two selection rules
第一个规则只和减速齿轮要求的输出速度有关。对于大多数应用这个就足够了，并且容易使用，给出如下:
The first rule relates only to the output speed required by the reduc-tion gear. This is sufficient for most applications and easy to use, as shown below: