



高精度行星减速机

HIGH PRECISION
PLANETARY REDUCER

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JWD MOTOR CO.,LTD.



高精度行星减速机系列
HIGH PRECISION PLANETARY REDUCER SERIES



HG直交轴齿轮减速电机系列
HG HYPOID GEAR MOTOR SERIES



无刷齿轮减速电机系列
BRUSHLESS GEAR MOTOR SERIES



小型齿轮减速电机系列
SMALL GEAR MOTOR SERIES



中型齿轮减速电机系列
MEDIUM GEAR MOTOR SERIES

高精度行星减速机系列

高强度 高精度 低噪音

质量方针：品质如金 顾客为本

公司目的：顾客满意

公司愿望：所有顾客——直接的或间接的——要求都应该得到满足

持续改进总体业绩是公司的一个永恒目标

Principle for quality: Take quality as gold and take customer as the foundation

Company goal: Customers are satisfied with our products

Company desire: Demands of all customers—whether they are direct or indirect—should be satisfied

A continuous improvement of overall achievements is an eternal goal of the company.

注意事项 Attention items:

- 1、客户按设备所给定的指标，选择具有相应技术参数的电机；
- 2、在定货时应标明电机的功率、电源电压及所需的转速（或速比）；
- 3、若有调整，恕不告知。请谅解。咨询事宜与本公司经营部、技术部联系。

- 1、The customer shall select the motors with relative technical parameters according to given index data of the equipment;
- 2、The power ,voltage and required speed(or speed ratio)shall be indicated clearly on the motor during order;
- 3、Please forgive us not to inform you any adjustment if that happened. Please not hesitate to contact business department and technology department of our company if you require consulting any further questions.

本样本内容如有改动，恕不另通知。Please forgive us not to inform you any adjustment if this sample book happened.

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● 行星齿轮减速机特点 Characteristic of the planetary gearbox

- 1、结构紧凑、重量轻、效率高。
- 2、回程间隙小、精度较高，使用寿命长。
- 3、在运转平台上具备了中低背隙，高效率，高输入转速，高输入扭矩，运转平顺，低噪音等特性。
- 4、在伺服控制的应用上，发挥了良好的伺服刚性效应，准确的定位控制。
- 5、使用终身免更换的润滑油，及全封闭式设计,无论安装在何处，都可以免维修操作。
- 1、Compact structure、light weight、high efficiency
- 2、Small backlash, high precision, long service life
- 3、In the running platform with low backlash, high efficiency, high input speed, high input torque, smooth operation, low noise characteristics
- 4、In the application of servo control, servo rigidity effect played a good, accurate positioning control
- 5、The use of lubricating oil lifelong free replacement, and totally enclosed design, regardless of where to install,free repair



● 用途 Application

广泛应用于机器人、起重运输、工程机械、自动化生产、冶金、矿山、石油化工、建筑机械、轻工纺织、医疗器械、仪器仪表、汽车、船舶、兵器和航空航天等工业领域。

Suitable for lifting and transporting, engineering machinery, automation, robot, metallurgy, mining, petrochemical, construction machinery, textile and light industry, medical equipment, instrumentation, automotive, shipbuilding, aerospace weapon and other industrial field.

● 注意事项 Attention items

在输出轴上安装连轴器、皮带轮等传动机构时，不可直接在出轴上以工具敲击安装，否则会造成减速器内部的损伤。
Installed in the gear out of the shaft couplings,pulleys and other transmission institutions.not directly knock on the output shaft to install,otherwise it will cause internal damage reducer.



● 行星齿轮减速机型号含义 Type meaning of the planetary gearheads

PGL 90 - 20 - P2 + (电动机规格／型号motor model)

① ② ③ ④ ⑤

①机型代号：其中PG表示为行星齿轮减速机 Series:PG is the planetary gearheads series.



PGL轴出



PGR转角轴出



PGF圆盘输出



PGFR转角圆盘

②规格：输出法兰面尺寸 Specification: the output flange size

60	90	115	142	180	220
60x60	90x90	115x115	142x142	180x180	220x220

③减速比 Ratio (例) 20为1:20

④背隙精度等级 Backlash precision

P0:超精密级 Micro backlash P1:精密等级 Precision backlash P2:标准背隙 Standard backlash

⑤电动机规格 / 型号

Motor model: according use to select motor

● RA方形转角减速机系列型号含义 Type meaning of the RA quadrate right-angle gearheads

RA S 60 - 5 + (电动机规格／型号motor model)

① ② ③ ④ ⑤

①系列代号：RA方形转角齿轮减速机

Series code: RA is the quadrate right-angle gearheads

②出轴样式output shaft:

H 空心轴 hollow

S 实心轴 solid

D 双实心轴 two-way solid

③规格：箱体尺寸

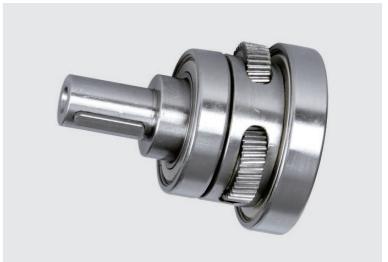
Specification: the main box size

④减速比 (例) 5为1:5

Ratio

⑤电动机规格 / 型号

Motor model: according use to select motor



PG系列整体设计上可容许伺服马达高转速的输入，达到最大扭力输出。直角设计可节省空间。精密齿轮设计及专业齿轮加工，制造出低运转背隙、高效率、低噪音及长寿命的行星减速机。PG series overall design suitable for combination operation with servo motor high-speed input and achieves maximum torque output. Right-angular designed drastically reducing the installation space. Precision gear design and gear processing, create a low backlash operation, high efficiency, low noise and long-life of the planetary gear.



(PGR采用此结构PGR with this structure)

螺旋伞齿采用高级合金钢为材质，在滚齿加工及热处理后，以每组配对的方式装配。达到高精度咬合点及低背隙、低噪音。Alloy steel spiral bevel gears lapping selected after hobbing and heat treatment to ensure high accuracy of the engagement point, low backlash and low noise.



太阳齿前端轴承直接置于行星固定架内，整体机械结构设计，以确保传动元件的同心度。The sun gear bearing is placed directly into the planetary arm bracket, the overall mechanical structure designed to ensure concentricity of the transmission components.



行星齿轮传动采用滚针轴承，满针排列不含保持架，以达到最大接触面积和最小间隙，提高了结构刚性和输出扭力。Planet gear transmission interface equipped with needle bearings, full needle roller bearings aligned without retainer achieve maximum exposure but smallest gap tolerances. Enhance over-all gear structure rigid and output torque.



出轴表面磨削处理，与油封搭配确保低摩擦，从而减少了启动负载，保持最佳的密封性，延长了使用寿命。Grinding process to smooth surface of output shaft, and with oil-seal to minimum friction coefficient and reducing start up load; result in the best seal-ability and extended lifespan.



齿轮箱与内环齿一体设计，经插齿机加工齿部。具有高精度，高扭力，高耐磨等特点。The gear box and internal gear ring are one-piece part, and processed with gear shaper machinery for high precision, high torque and abrade consumption.



输入端与电动机转轴的连接采用栓紧式机构，锁紧环经过动平衡分析，确保在高转速下两结合面的同心度和相对零转动。Input-end and motor shaft are coupled through a dynamic balanced collar clamping mechanism to ensure connection interface concentricity and zero slip power transmission at high speed.

● 行星齿轮减速电机关键参数的计算 Calculation of key parameters of planetary Gearhead

● 接收需求参数信息，如所需要输出转矩、输出转速、出轴尺寸规格等机械动参数，以及电压、相数等电参数。

Receive demand parameter information, such as mechanical dynamic parameters such as required output torque, output speed, output shaft size specifications, as well as electrical parameters such as voltage and phase number.

● 根据所需输出转矩计算选用参考转矩 Calculate and select reference torque based on the required output torque

$$\begin{aligned} T_{c2} &= Tr_2 * fs \\ T_{c2}: \text{选用参考转矩} & \quad \text{Select reference torque} \\ Tr_2: \text{所需输出转矩} & \quad \text{Required output torque} \\ fs: \text{使用系数} & \quad \text{use coefficient} \end{aligned}$$

负载类型 load type	每小时启动 次数Z Number of starts per hour	每日运行时间 (h 小时) Daily running time				
		h<4	4<h<8	8<h<12	12<h<16	16<h<24
均匀负载 uniform load	Z<10	0.85	0.95	1	1.2	1.6
	10<Z<30	0.9	1.1	1.15	1.4	1.8
	30<Z<100	1	1.2	1.3	1.6	2
中等负载 Moderate Load	Z<10	1	1.2	1.3	1.6	2
	10<Z<30	1.1	1.35	1.45	1.8	2.2
	30<Z<100	1.2	1.45	1.6	2	2.4
重负载 heavy load	Z<10	1.2	1.45	1.6	2	2.4
	10<Z<30	1.3	1.55	1.75	2.2	2.6
	30<Z<100	1.4	1.65	1.9	2.4	2.8

● 根据所需输出转速和电机转速计算选用减速比

Calculate and select the reduction ratio based on the required output speed and motor speed

$$i = n_1 / n_2$$

i: 减速比 ratio

n₁: 电动机输出转速 Motor output speed

n₂: 所需输出转速 Desired output speed

● 确定了T_{c2}和i后，根据减速机额定参数表，选择最接近计算值的传动比并满足T_n≥T_{c2}的减速机型号

After determining T_{c2} and i, select the transmission ratio closest to the calculated value and the gearbox model that meets T_n ≥ T_{c2} based on the gearbox rated parameter table

T_n: 额定输出转矩 Rated output torque

● 确定了所需输出转矩Tr₂、电动机输出转速n₁、效率 η ，按公式计算电动机功率

Determine the required output torque Tr₂, motor output speed n₁, and efficiency η , Calculate the motor power according to the formula

$$Pr_1 = Tr_2 * n_1 / (9550 * \eta * i)$$

选择功率满足P_n≥Pr₁的电动机型号Select a motor model with a power requirement of P_n ≥ Pr₁

● 提示：行星齿轮减速电机的产品实现是个多环节的体系工程，以上推算过程只是选择其中设计环节的一部分，仅供参考，实际顾客要求或生产不排除特殊情况，敬请注意。

Reminder: The product implementation of planetary gear reduction motors is a multi stage system engineering. The above calculation process is only a part of the selection of the design stage and is for reference only. The actual customer requirements or production do not exclude special situations. Please note.

● 电动机选用参考表 Motor selection reference

型号 Model	42	60	90	115	142	180
	√单节双节都可选 single or double stage			○仅限双节 only double stage		
	100W	√	√			
200W	√	√				
400W		√	√			
750W			√	√	√	
1KW			○	√	√	
1.5KW			○	√	√	
2.2KW				√	√	
3.75KW				√	√	
5.5KW						√
7.5KW						√
11KW						√
15KW						√
22KW						√
30KW						√

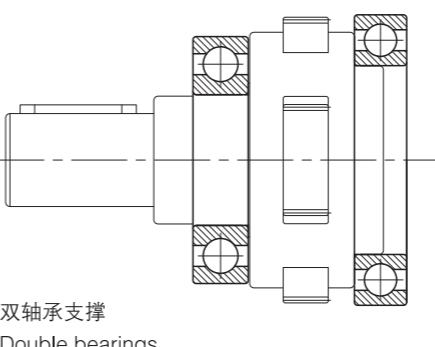
提示：以上表格仅供参考，请依据实际需求选用合适型号。

Note: the table is for reference only, please according use to select motor!

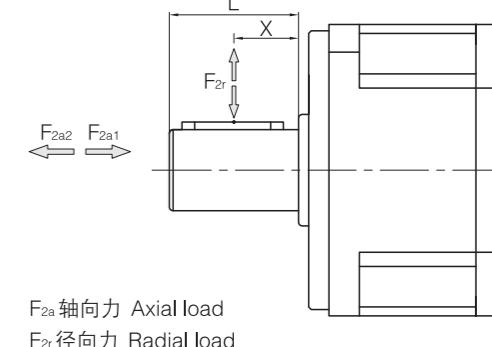
● 行星输出轴容许径向力和轴向力 Radial force and Axial force on output shaft

减速机输出轴所能承受的最大径向力和轴向力。在设计内部支撑时，采用大尺寸的轴承和较大跨距的双轴承结构，使其能承受较大的径向和轴向的负载。

The max. radial force and axial force on the output shaft of the gearbox. When designing internal support, large-sized bearings and a large-span double bearing structure are used to withstand large radial and axial loads.



双轴承支撑
Double bearings



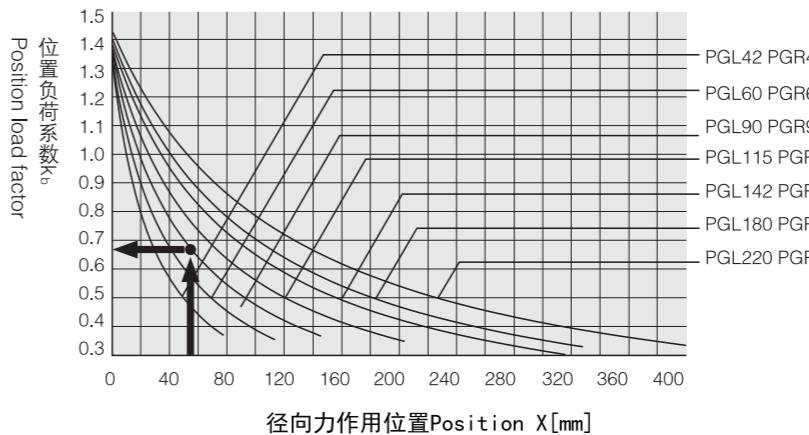
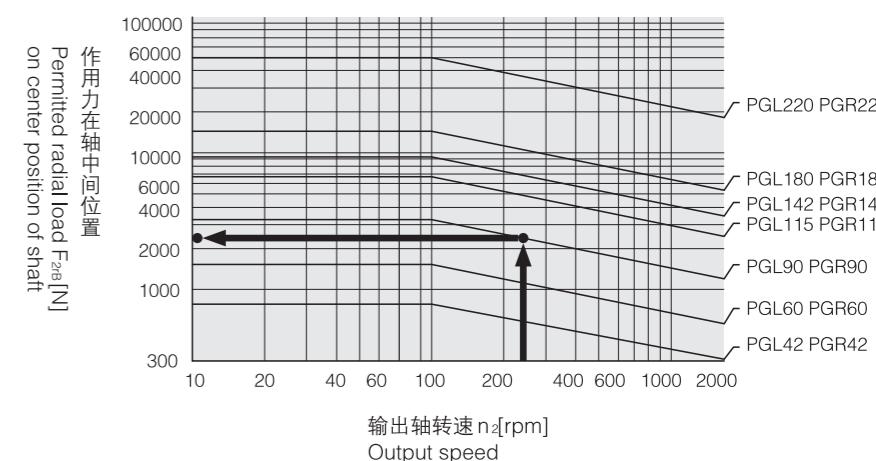
F_{2a}轴向力 Axial load
F_{2r}径向力 Radial load

当径向力F_{2r}作用于输出轴中间位置，即X=L/2时，不同规格的减速机在不同输出转速下，所能承受的径向力F_{2rB}参考下图。

When the radial force F_{2r} acts on the middle position of the output shaft, X=L/2, the radial force F_{2rB} that different specifications of reducers can withstand at different output speeds is shown in the following figure.

$$F_{2a1B}=0.2 \times F_{2rB}$$

$$F_{2a2B}=0.1 \times F_{2rB}$$



当径向力F_{2r}作用力不在输出轴中间位置时，越靠近减速机，即X< L/2时，所能承受的径向力越大；反之，越小。径向力作用位置X与对应的位置负荷系数k_b参考下图。

When the radial force F_{2r} is not in the middle position of the output shaft, the more close the gearbox, X< L/2, the greater the radial force it can withstand; On the contrary, the smaller. The radial force acting position X and the corresponding position load coefficient k_b refer to the following figure.

● 行星齿轮减速机常用术语解释 Explanation of commonly used terms

1.额定输入转速 (电机额定转速) $n_1[\text{rpm}]$: 在环境温度为20°C的条件下机械设备在正常运行的工作状况下的转速。

Rated input speed (motor rated speed) $n_1 [\text{rpm}]$: The speed at which mechanical equipment operates under normal operating conditions at an ambient temperature of 20 °C.

2.额定输入功率 (电机额定功率) $P[\text{w}]$: 直流电路中, 额定电压与额定电流的乘积就是电器的额定功率。

Rated input power (motor rated power) $P [\text{w}]$: In a DC circuit, the product of rated voltage and rated current is the rated power of the electrical appliance.

3.减速比*i*: 减速比是机械工程中评价减速机的一个重要指标。减速机通过齿轮等传动方式将输入轴输入的转速变换为输出轴的转速。

Reduction ratio *i*: Reduction ratio is an important indicator for evaluating reducers in mechanical engineering. The gearbox converts the input speed of the input shaft into the output shaft speed through transmission methods such as gears.

4.级数 (节数) : 一个行星减速机内行星齿轮的套数。相对的, 级数越大, 减速比越大, 相应的机体长度也越长。

Number of stages (knots): The number of sets of planetary gears in a planetary reducer. Relatively, the larger the number of stages, the greater the deceleration ratio, and the corresponding length of the body.

5.额度输出转速 $n_2[\text{rpm}]$: 按照公式 $n_2= n_1/i$

例如: 电机额度输入转速 $n_1=3000 \text{ rpm}$, 齿轮箱总减速比 $1:50$ (本公式中*i*取值50),
那么电机额度输出转速 $n_2=3000/50=60 \text{ rpm}$

Rated output speed $n_2 [\text{rpm}]$: According to the formula $n_2=n_1/i$

For example, the input speed of the motor is $n_1=3000 \text{ rpm}$, and the total reduction ratio of the gearbox is $1:50$ (in this formula, *i* is taken as 50). So the rated output speed of the motor is $n_2=3000/50=60 \text{ rpm}$

6.传动效率 η : 由于摩擦等引起的损失使有效效率小于100%。级数越多, 效率越低。

Transmission efficiency η : Due to friction and other losses, the effective efficiency is less than 100%. The more stages, the lower the efficiency.

7.额度输出扭矩 $T_n[\text{N.m}]$: 指减速机长时间(连续工作制)可以加载的力矩, 条件应满足负载均匀, 弯曲安全系数 >2.5 。

Rated output torque $T_n [\text{N.m}]$: Refers to the torque that can be loaded by the reducer for a long time (continuous working system), under the condition that the load is uniform and the bending safety factor is >2.5 .

8.最大输出扭矩: 指减速机在静态条件或频繁启动条件下所能承受的输出扭矩, 通常指峰值负载或启动负载。

Max. output torque: refers to the output torque that a gearbox can withstand under static or frequent starting conditions, usually referring to peak load or starting load.

9.寿命: 指在减速电机额度负载下, 额定输入转速时的连续工作时间。影响直流有刷电机的寿命最大因素是碳刷, 碳刷分外置与内置两种, 外置碳刷可换, 内置碳刷部可换。

Life: refers to the continuous working time at the rated input speed of the deceleration motor under rated load. The biggest factor affecting the lifespan of DC brush motors is carbon brushes, which can be divided into external and internal types. The external carbon brushes can be replaced, and the internal carbon brush part can be replaced.

10.背隙, 即回程间隙: 指减速电机输出轴与输入轴的最大偏差角, 单位为弧分[arcmin]。

Backlash, also known as return clearance, refers to the maximum deviation angle between the output shaft and input shaft of the deceleration motor, in arcminutes.

11.弧分[arcmin]: 1度为60弧分 ($60 \text{ arcmin}=60'=1^\circ$)。

12.转动惯量: 刚体绕轴转动惯性的度量, 与质量、直径、回转中心等有关。

Moment of inertia: A measure of the inertia of a rigid body rotating around an axis, related to mass, diameter, center of rotation, etc.

13.抗扭刚性[N.m /arcmin]: 由加载力矩与所产生扭转角之间的比率来定义. 举个例子, 一根轴输入端旋转了360度, 输出端只旋转359度, 轴的自身变形产生了1度的偏差, 类似拧麻花。在同样的作用扭矩下, 自身产生的扭转型变越大就说明此种材料抗扭性能越差, 扭转刚性越小。

Torsional stiffness [N.m/arcmin]: defined by the ratio between the loading torque and the resulting torsional angle. For example, when the input end of a shaft rotates 360 degrees and the output end rotates only 359 degrees, the deformation of the shaft itself produces a deviation of 1 degree, similar to twisting Fried Dough Twists. Under the same applied torque, the greater the torsional deformation generated by the material itself, the poorer its torsional resistance and lower its torsional rigidity.

14.定位精确度: 在高速机械往复运动中做到精确定位的关键在于尽量减少通过运动产生的角偏差, 定位精确度取决于两方面: 一个是与加载有关的偏转角, 涉及到回程间隙与扭转刚性, 另一个是与运动控制有关的偏转角, 涉及到同步偏差问题。

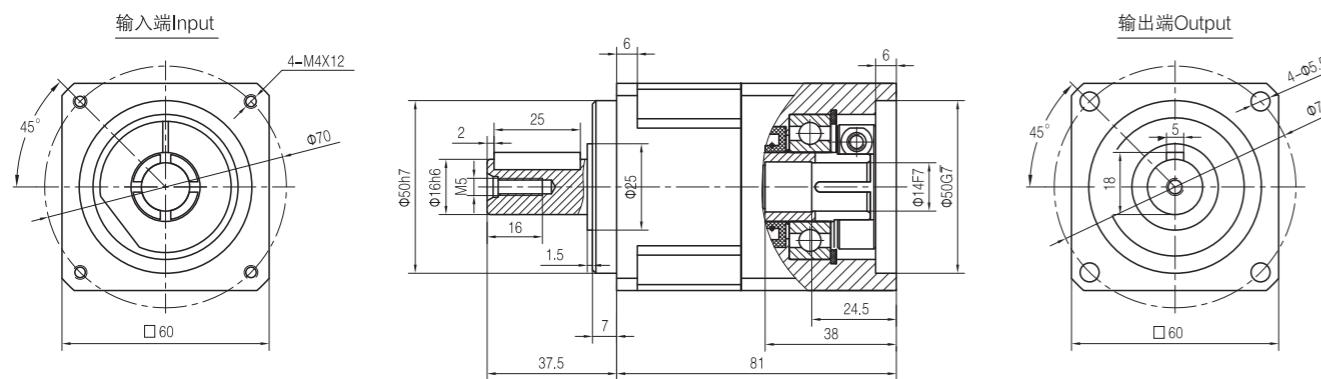
Positioning accuracy: The key to achieving precise positioning in high-speed mechanical reciprocating motion is to minimize the angular deviation generated through motion. Positioning accuracy depends on two aspects: one is the deflection angle related to loading, which involves return clearance and torsional rigidity, and the other is the deflection angle related to motion control, which involves synchronous deviation issues.

15.噪音[dB]:通常高精度行星减速机噪声测量是不带负载、输入3000rpm、距离1米处测得。

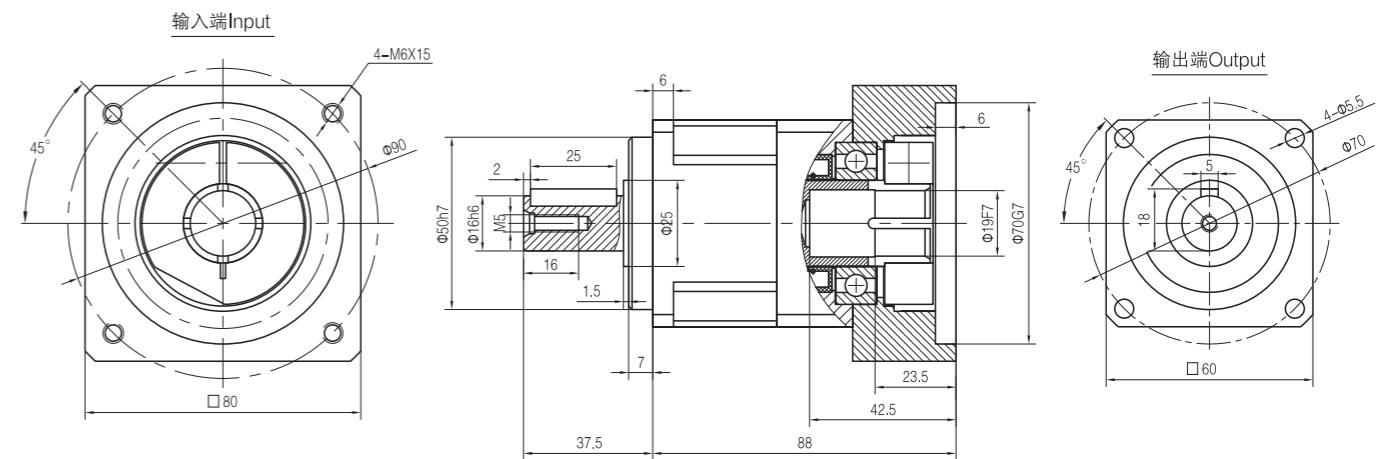
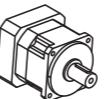
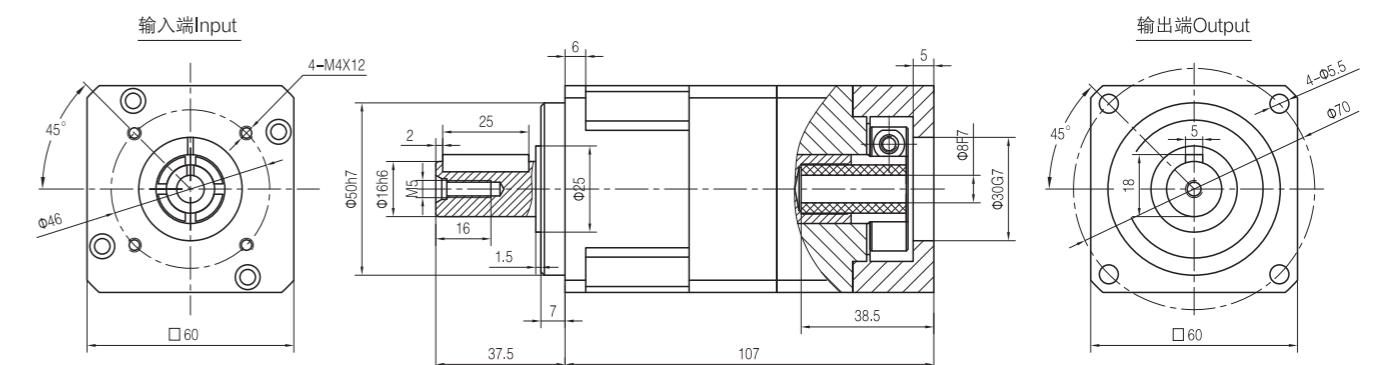
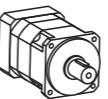
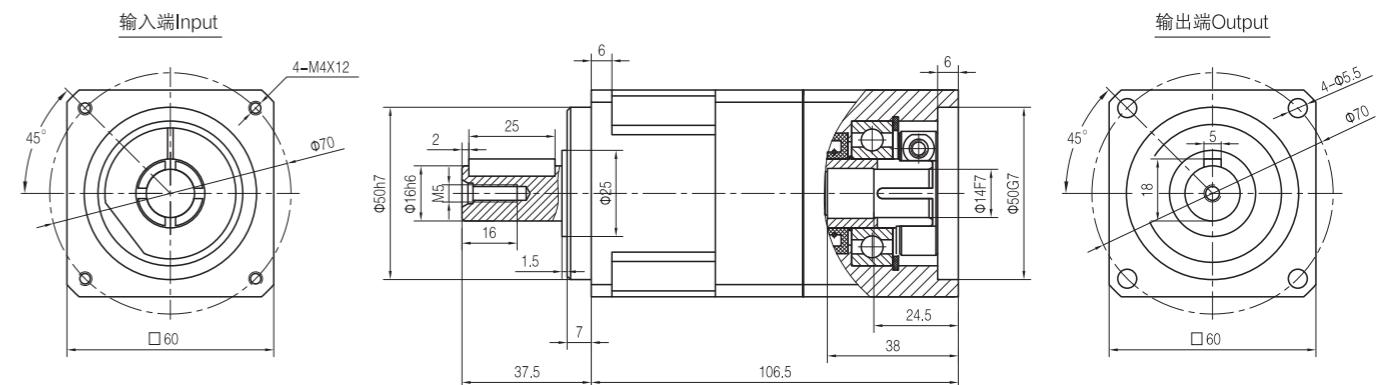
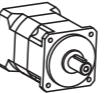
Noise [dB]: Usually, high-precision planetary reducers measure noise without load, at an input of 3000rpm, and at a distance of 1 meter.

PGL60

参数项 Items	单级 1-stage						两级 2-stage																							
减速比 Ratio	3	4	5	7	8	10	12	15	20	25	30	35	40	50	70	80	100													
额定输出力矩(N.m) Nominal output torque	55	50	60	50	45	40	55	55	50	60	55	60	50	60	50	45	40													
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																													
额定输入转速(rpm) Nominal input speed	5000																													
最大输入转速(rpm) Max. input speed	10000																													
超精密背隙(arcmin) Micro backlash P0	—																													
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																									
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																									
扭转刚性(N.m/arcmin) Torsional rigidity	7																													
容许径向力(N) Max.Radial load	1530																													
容许轴向力(N) Max.Axial load	765																													
使用温度(°C) operating Temp	-10°C ~ +90°C																													
使用寿命(hr) service life	20000(连续运转 10000)																													
效率(%) Efficiency	≥ 97%						≥ 94%																							
重量(kg) weight	1.3						1.9																							
噪音值(dB/1m) Noise level	≤ 58																													
防护等级 Protection class	IP65																													
转动惯量(kg.cm²) Inertia	0.16	0.14	0.13	0.13	0.13	0.13	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03													

PGL60 单级 1-stage
(输入端 Input 14-50-70-M4)

高精度行星减速机系列

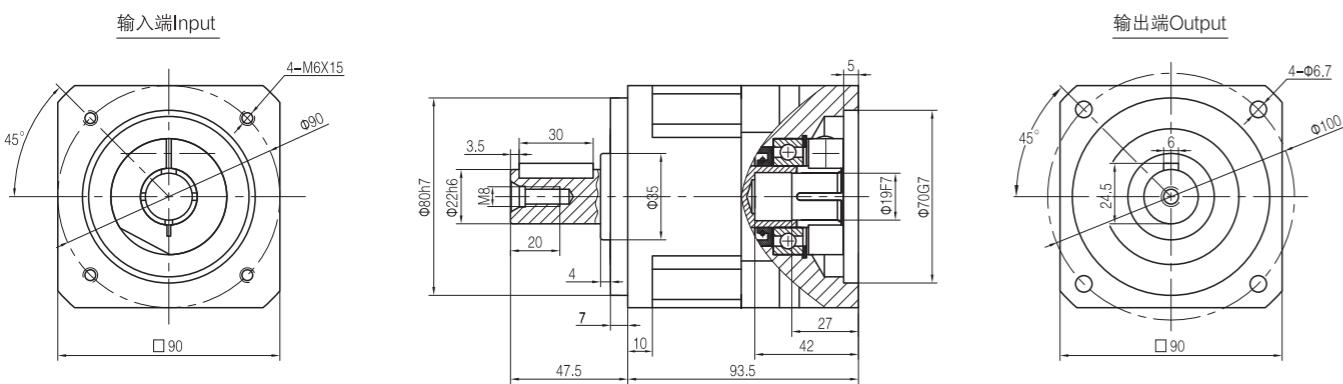
PGL60 单级 1-stage
(输入端 Input 19-70-90-M6)**PGL60** 两级 2-stage
(输入端 Input 8-30-46-M4)**PGL60** 两级 2-stage
(输入端 Input 14-50-70-M4)

PGL90



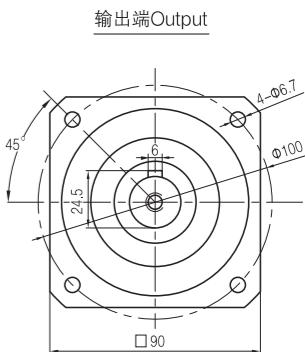
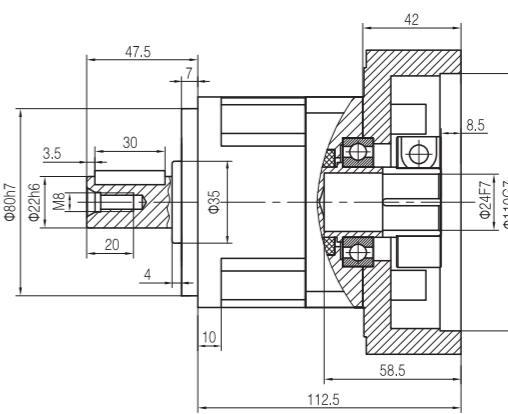
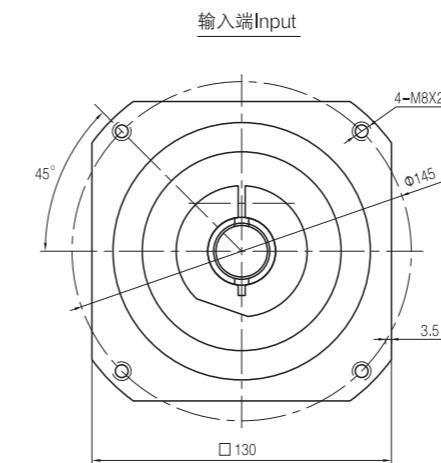
参数项 Items	单级 1-stage						两级 2-stage																							
减速比 Ratio	3	4	5	7	8	10	12	15	20	25	30	35	40	50	70	80	100													
额定输出力矩(N.m) Nominal output torque	130	140	160	140	120	100	130	130	140	160	130	160	140	160	140	120	100													
最大输出力矩(N.m) Max. output torque																														
额定输入转速(rpm) Nominal input speed																														
最大输入转速(rpm) Max. input speed																														
超精密背隙(arcmin) Micro backlash P0	≤ 1				—																									
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																									
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																									
扭转刚性(N.m/arcmin) Torsional rigidity	14																													
容许径向力(N) Max.Radial load	3250																													
容许轴向力(N) Max.Axial load	1625																													
使用温度(°C) operating Temp	-10°C ~ +90°C																													
使用寿命(hr) service life	20000(连续运转 10000)																													
效率(%) Efficiency	$\geq 97\%$				$\geq 94\%$																									
重量(kg) weight	3.7				4.1																									
噪音值(dB/1m) Noise level	≤ 60																													
防护等级 Protection class	IP65																													
转动惯量(kg.cm²) Inertia	0.61	0.48	0.47	0.45	0.44	0.44	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13													

PGL90 单级1-stage (输入端Input 19-70-90-M6)

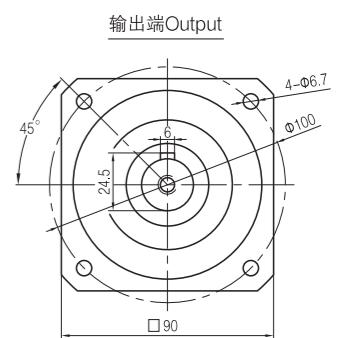
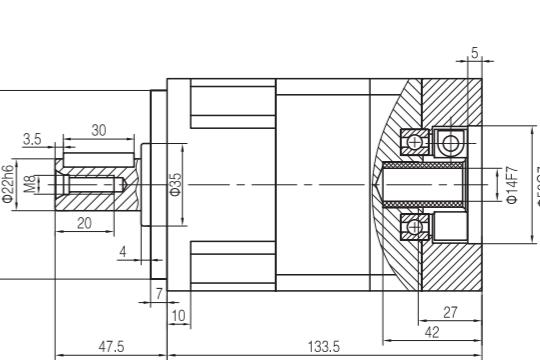
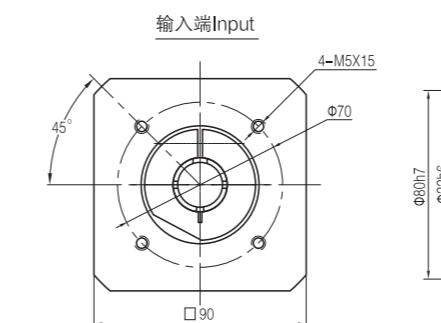
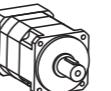


高精度行星减速机系列

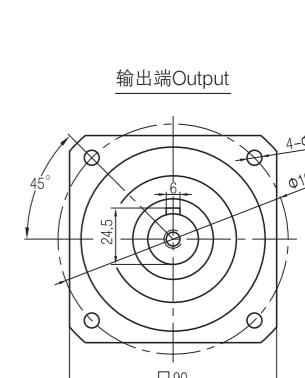
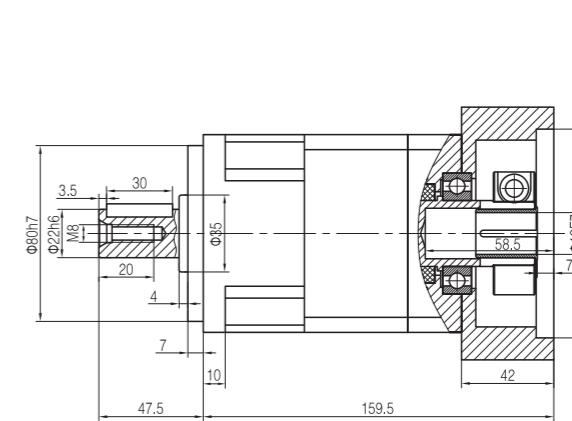
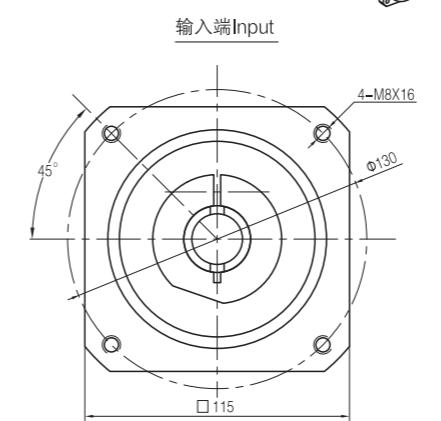
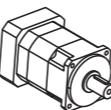
PGL90 单级1-stage (输入端Input 24-110-145-M8)



PGL90 两级2-stage (输入端Input 14-50-70-M5)



PGL90 两级2-stage (输入端Input 19-95-130-M8)



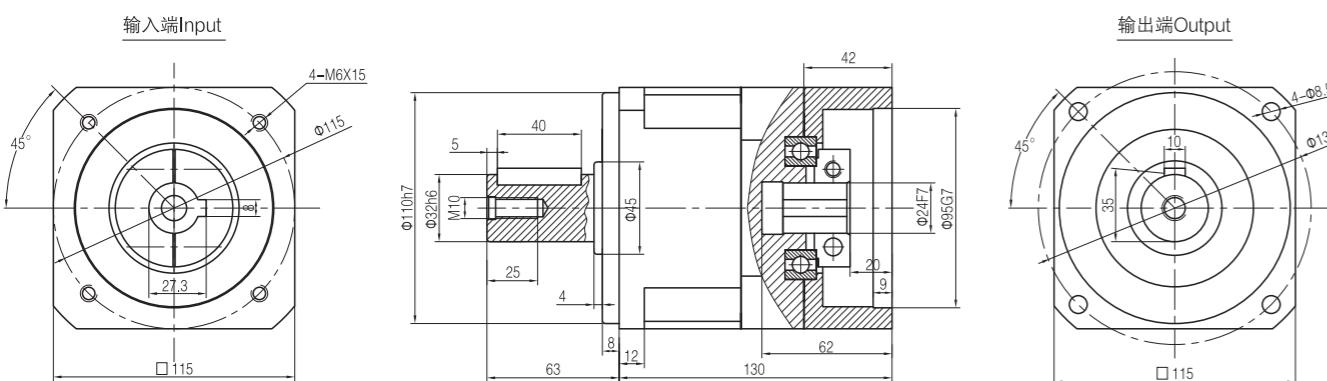
PGL115



参数项 Items	单级 1-stage							两级 2-stage														
级数 stage	3	4	5	6	7	8	10	12	15	20	25	35	40	50	70	80	100					
减速比 Ratio	208	290	330	310	300	260	230	208	208	290	330	330	290	330	300	260	230					
额定输出力矩(N.m) Nominal output torque	额定输出力矩 × 3 three times of Nominal output torque																					
最大输出力矩(N.m) Max. output torque	4000																					
额定输入转速(rpm) Nominal input speed	8000																					
最大输入转速(rpm) Max. input speed	≤ 1							≤ 3														
超精密背隙(arcmin) Micro backlash P0	≤ 3							≤ 5														
精密背隙(arcmin) Precision backlash P1	≤ 5							≤ 7														
标准背隙(arcmin) standard backlash P2	25																					
扭转刚性(N.m/arcmin) Torsional rigidity	6700																					
容许径向力(N) Max.Radial load	3350																					
使用温度(°C) operating Temp	-10°C ~ +90°C																					
使用寿命(hr) service life	20000(连续运转 10000)																					
效率(%) Efficiency	≥ 97%							≥ 94%														
重量(kg) weight	7.8							9														
噪音值(dB/1m) Noise level	≤ 63																					
防护等级 Protection class	IP65																					
转动惯量(kg.cm²) Inertia	3.25	2.74	2.71	2.65	2.62	2.58	2.57	0.47	0.47	0.47	0.47	0.47	0.47	0.44	0.44	0.44						

PGL115 单级1-stage

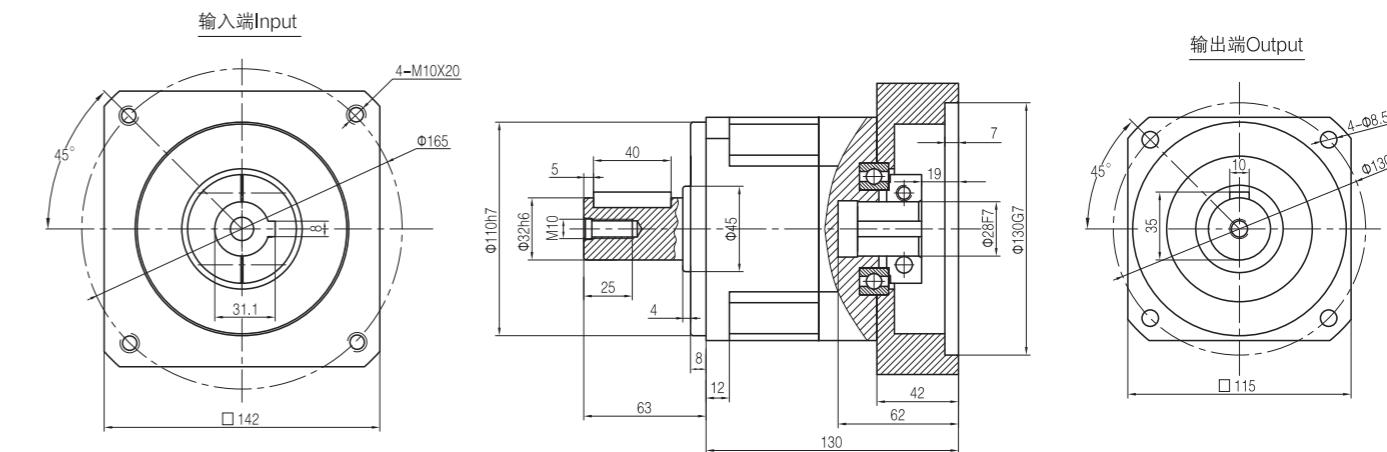
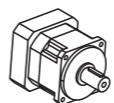
(输入端Input 24-95-115-M6)



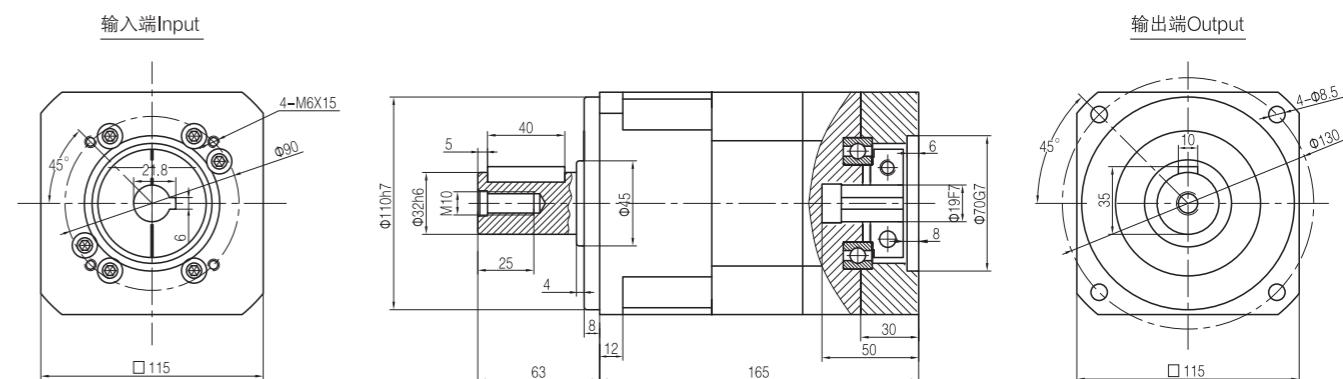
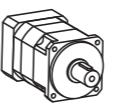
高精度行星减速机系列

HIGH PRECISION PLANETARY REDUCER

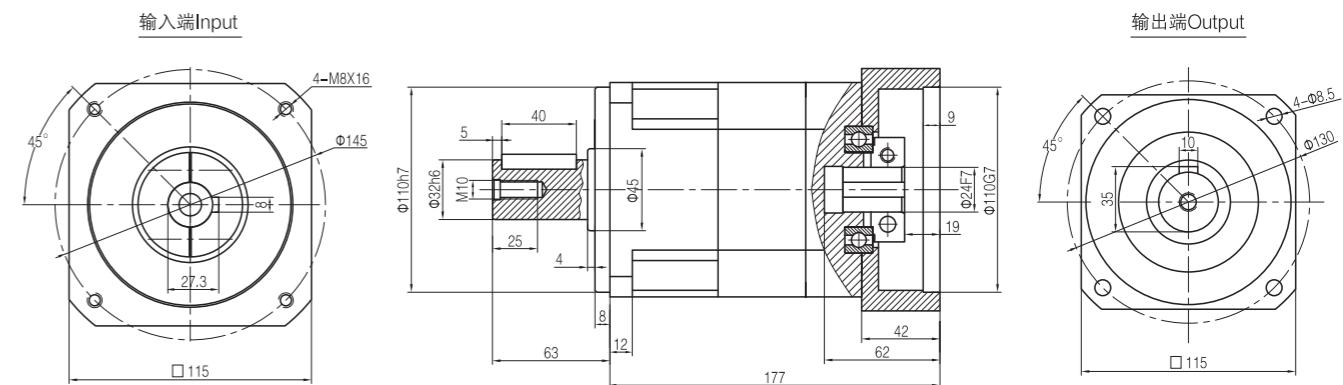
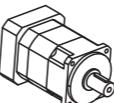
PGL115 单级1-stage (输入端Input 28-130-165-M10)



PGL115 两级2-stage (输入端Input 19-70-90-M6)



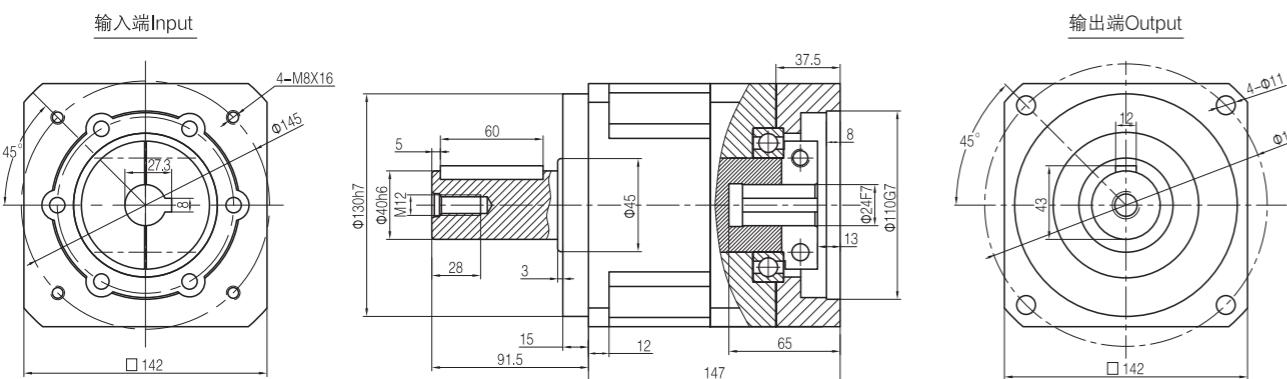
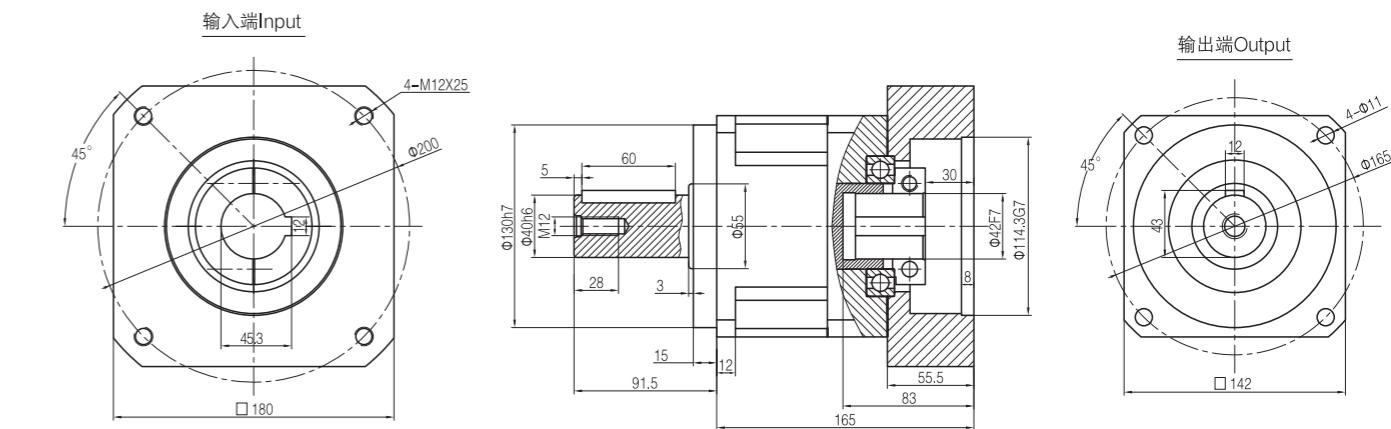
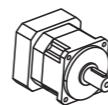
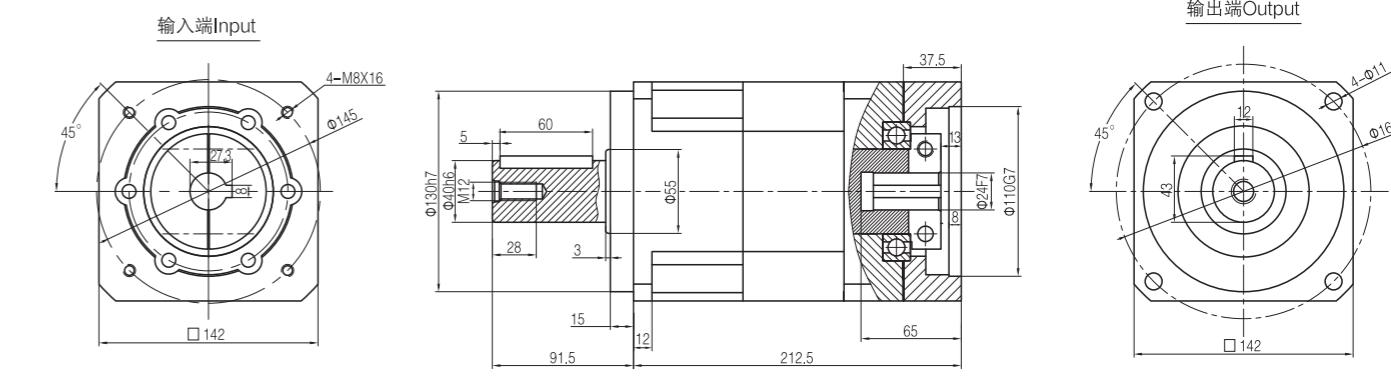
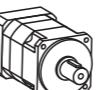
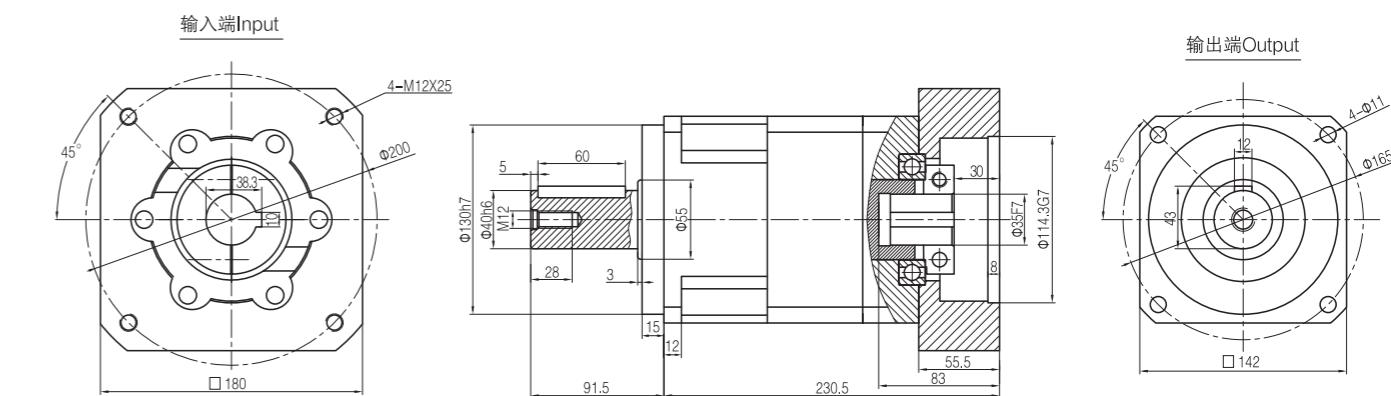
PGL115 两级2-stage (输入端Input 24-110-145-M8)



PGL142



参数项 Items	单级 1-stage							两级 2-stage																		
级数 stage	3	4	5	6	7	8	10	12	15	20	25	35	40	50	70	80	100									
减速比 Ratio	342	542	650	600	550	500	450	342	342	542	650	650	542	650	550	500	450									
额定输出力矩(N.m) Nominal output torque	额定输出力矩 × 3 three times of Nominal output torque																									
最大输出力矩(N.m) Max. output torque	3000																									
额定输入转速(rpm) Nominal input speed	6000																									
最大输入转速(rpm) Max. input speed	6000																									
超精密背隙(arcmin) Micro backlash P0	≤ 1				≤ 3																					
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																					
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																					
扭转刚性(N.m/arcmin) Torsional rigidity	50																									
容许径向力(N) Max.Radial load	9400																									
容许轴向力(N) Max.Axial load	4700																									
使用温度(°C) operating Temp	-10°C ~ +90°C																									
使用寿命(hr) service life	20000(连续运转 10000)																									
效率(%) Efficiency	≥ 97%				≥ 94%																					
重量(kg) weight	14.5				17.5																					
噪音值(dB/1m) Noise level	≤ 65																									
防护等级 Protection class	IP65																									
转动惯量(kg.cm²) Inertia	9.21	7.54	7.42	7.25	7.14	7.07	7.03	2.71	2.71	2.71	2.71	2.71	2.57	2.57	2.57											

PGL142 单级1-stage
(输入端Input 24-110-145-M8)PGL142 单级1-stage
(输入端Input 42-114.3-200-M12)PGL142 两级2-stage
(输入端Input 24-110-145-M8)PGL142 两级2-stage
(输入端Input 35-114.3-200-M12)

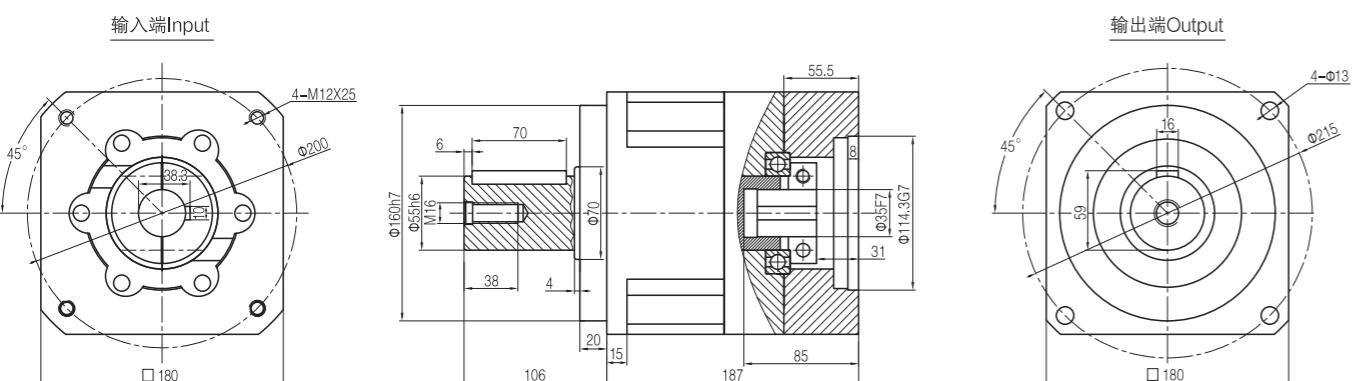
PGL180



参数项 Items	单级 1-stage							两级 2-stage																						
级数 stage	3	4	5	6	7	8	10	12	15	20	25	35	40	50	70	80	100													
减速比 Ratio	588	1050	1200	1100	1100	1000	520	588	588	1050	1200	1200	1200	1100	1000	520														
额定输出力矩(N.m) Nominal output torque	额定输出力矩 × 3 three times of Nominal output torque																													
最大输出力矩(N.m) Max. output torque	3000																													
额定输入转速(rpm) Nominal input speed	6000																													
最大输入转速(rpm) Max. input speed	6000																													
超精密背隙(arcmin) Micro backlash P0	≤ 1				≤ 3																									
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																									
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																									
扭转刚性(N.m/arcmin) Torsional rigidity	145																													
容许径向力(N) Max.Radial load	14500																													
容许轴向力(N) Max.Axial load	7250																													
使用温度(°C) operating Temp	-10°C ~ +90°C																													
使用寿命(hr) service life	20000(连续运转 10000)																													
效率(%) Efficiency	$\geq 97\%$							$\geq 94\%$																						
重量(kg) weight	29							33																						
噪音值(dB/1m) Noise level	≤ 67																													
防护等级 Protection class	IP65																													
转动惯量(kg.cm²) Inertia	28.98	23.67	23.29	22.75	22.48	22.59	22.51	7.42	7.42	7.42	7.42	7.42	7.42	7.03	7.03	7.03	7.03													

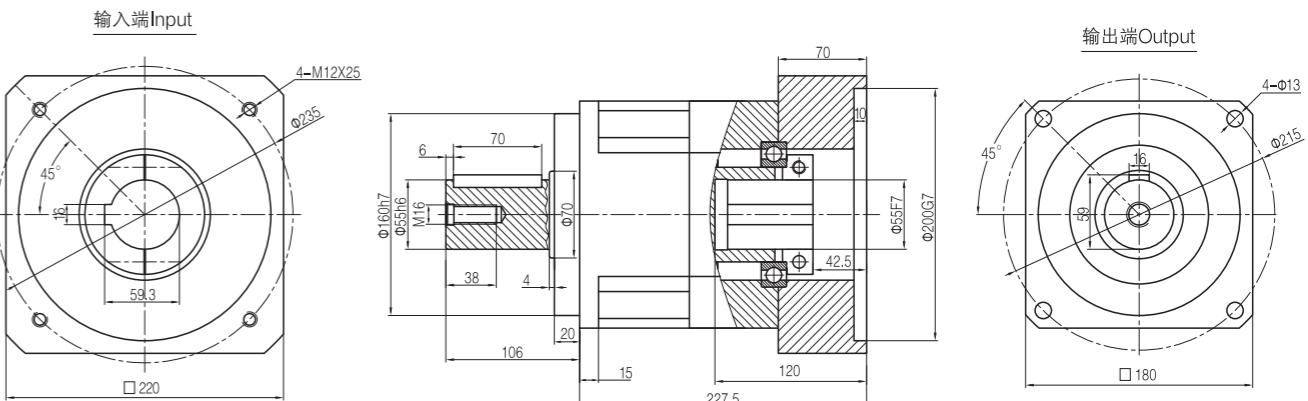
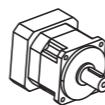
PGL180 单级1-stage

(输入端Input 35-114.3-200-M12)

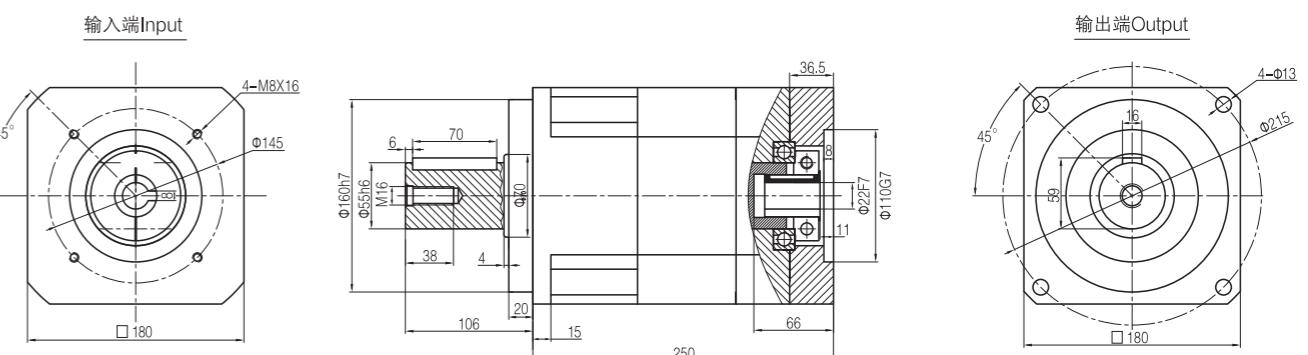
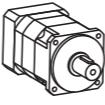


高精度行星减速机系列

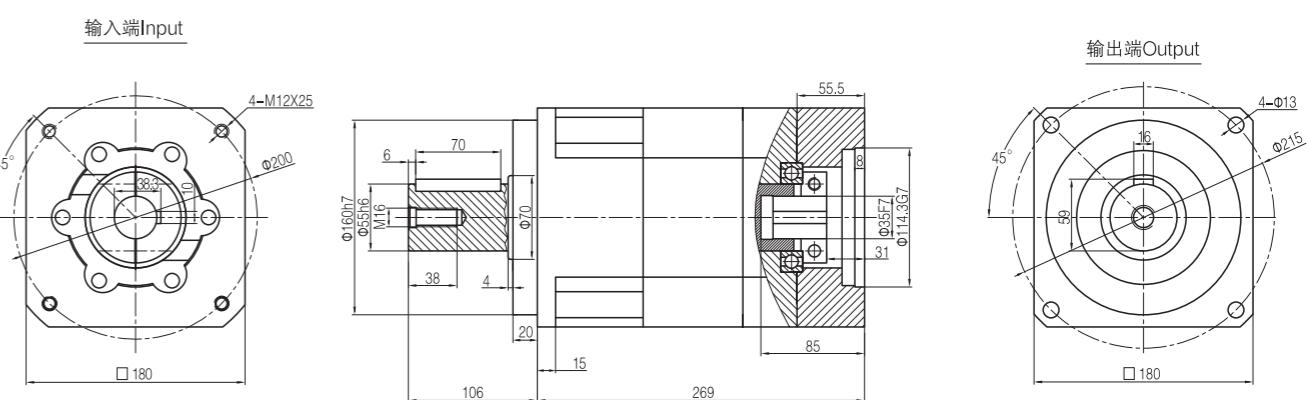
PGL180 单级1-stage
(输入端Input 55-200-235-M12)



PGL180 两级2-stage
(输入端Input 22-110-145-M8)



PGL180 两级2-stage
(输入端Input 35-114.3-200-M12)

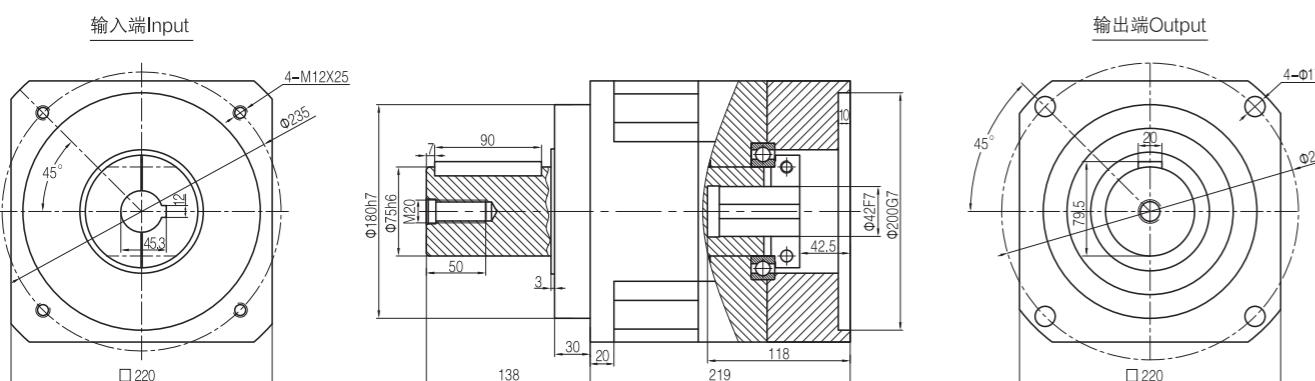


PGL220



参数项 Items	单级 1-stage							两级 2-stage																								
减速比 Stage Ratio	3	4	5	6	7	8	10	12	15	20	25	35	40	50	70	80	100															
额定输出力矩(N.m) Nominal output torque	1140	1700	2000	1900	1800	1600	1220	1140	1140	1700	2000	2000	2000	2000	1800	1600	1220															
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																															
额定输入转速(rpm) Nominal input speed	2000																															
最大输入转速(rpm) Max. input speed	4000																															
超精密背隙(arcmin) Micro backlash P0	≤ 1				≤ 3																											
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																											
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																											
扭转刚性(N.m/arcmin) Torsional rigidity	225																															
容许径向力(N) Max.Radial load	50000																															
容许轴向力(N) Max.Axial load	25000																															
使用温度(°C) operating Temp	-10°C ~ +90°C																															
使用寿命(hr) service life	20000(连续运转 10000)																															
效率(%) Efficiency	$\geq 97\%$							$\geq 94\%$																								
重量(kg) weight	48							60																								
噪音值(dB/1m) Noise level	≤ 70																															
防护等级 Protection class	IP65																															
转动惯量(kg.cm²) Inertia	69.6	54.4	53.3	51.7	51	50.8	50.6	23.3	23.3	23.3	23.3	23.3	23.3	22.5	22.5	22.5	22.5	22.5														

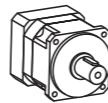
PGL220 单级1-stage
(输入端Input 42-200-235-M12)



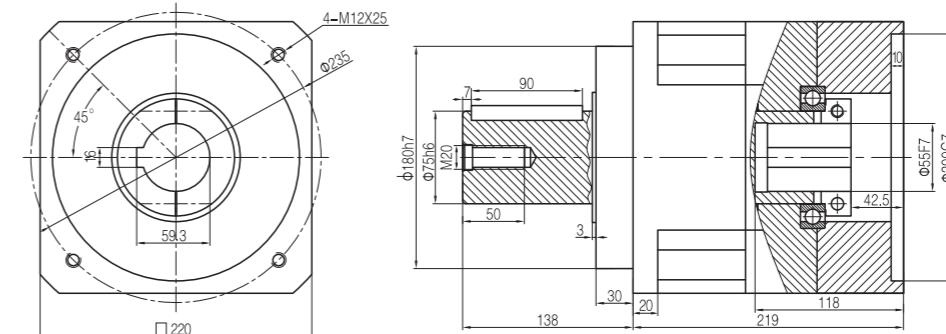
高精度行星减速机系列

PGL220 单级1-stage

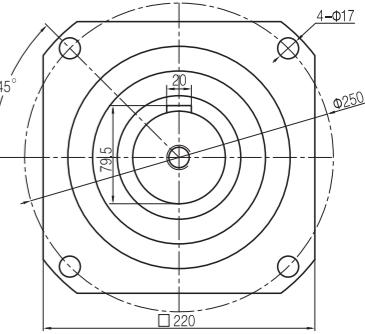
(输入端Input 55-200-235-M12)



输入端Input



输出端Output

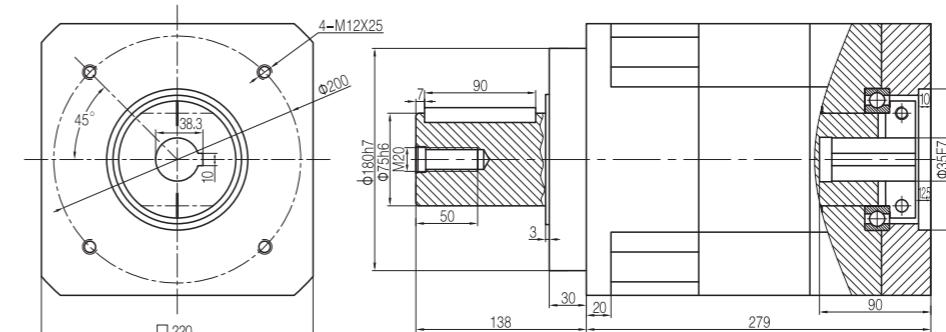


PGL220 两级2-stage

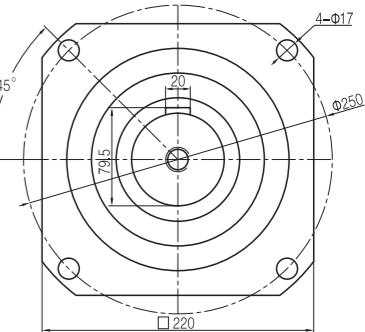
(输入端Input 35-114.3-200-M12)



输入端Input

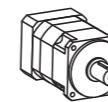


输出端Output

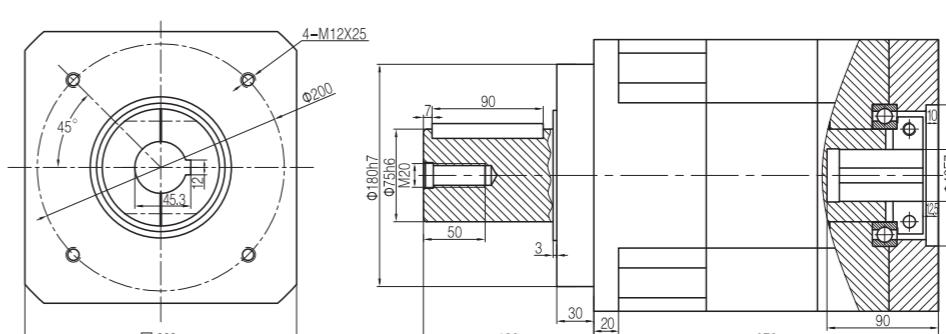


PGL220 两级2-stage

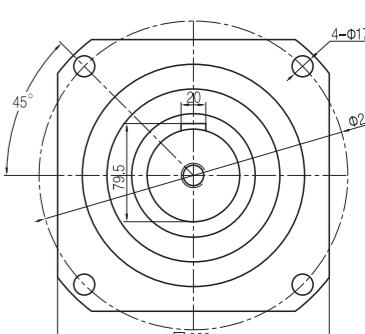
(输入端Input 42-114.3-200-M12)



输入端Input



输出端Output



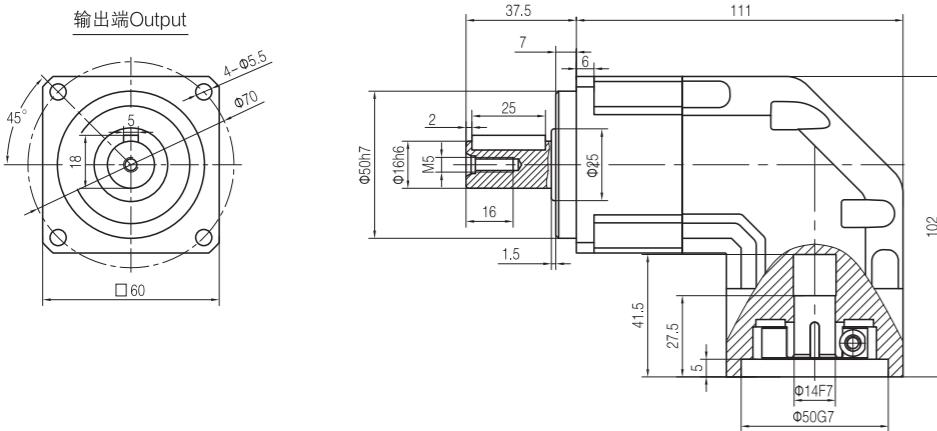
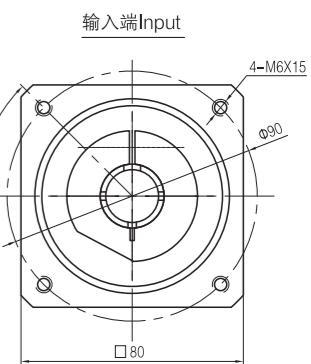
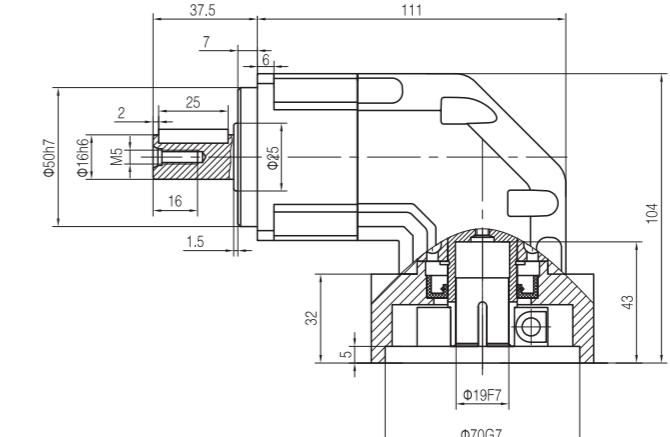
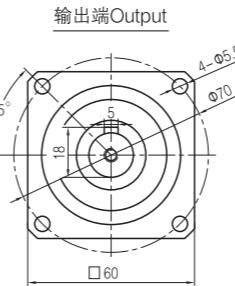
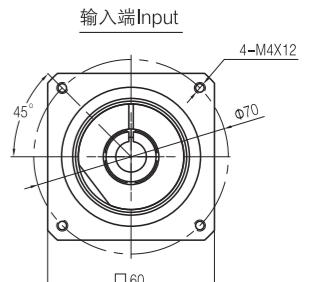
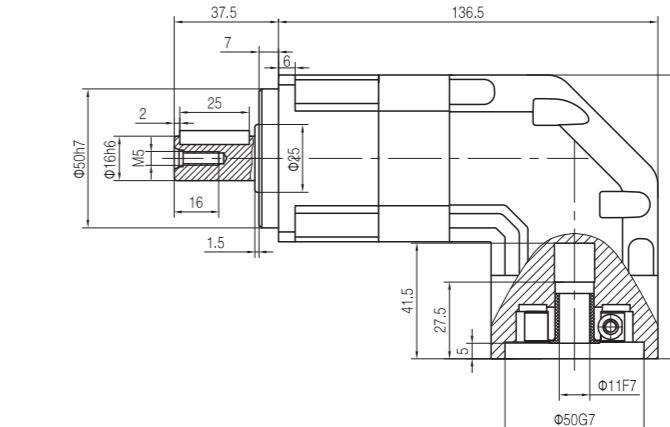
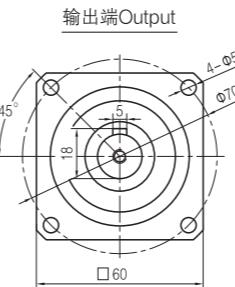
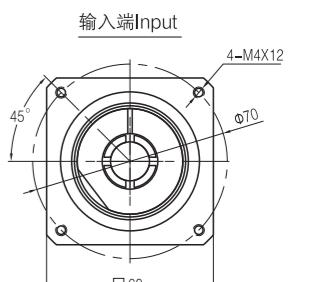
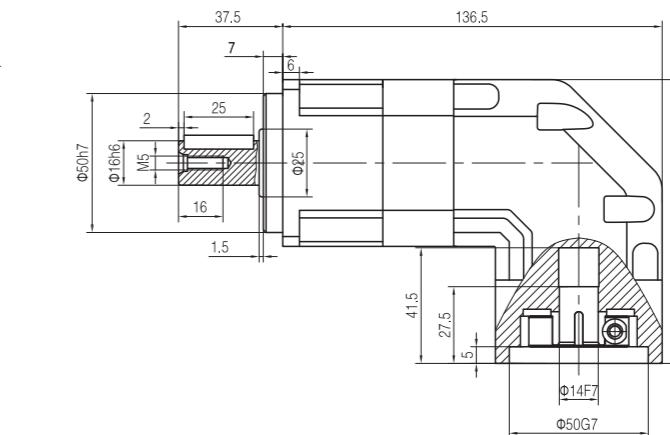
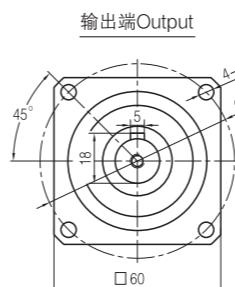
PGR60



参数项 Items	单级 1-stage						两级 2-stage																			
	3	4	5	7	8	10	12	15	20	25	30	35	40	50	70	80	100									
减速比 Ratio	55	50	60	50	45	40	55	55	50	60	55	60	50	60	50	45	40									
额定输出力矩(N.m) Nominal output torque	额定输出力矩 × 3 three times of Nominal output torque																									
最大输出力矩(N.m) Max. output torque	5000																									
额定输入转速(rpm) Nominal input speed	10000																									
最大输入转速(rpm) Max. input speed	—																									
超精密背隙(arcmin) Micro backlash P0	≤ 4						≤ 7																			
精密背隙(arcmin) Precision backlash P1	≤ 6						≤ 9																			
扭转刚性(N.m/arcmin) Torsional rigidity	7																									
容许径向力(N) Max.Radial load	1530																									
容许轴向力(N) Max.Axial load	765																									
使用温度(°C) operating Temp	-10°C ~ +90°C																									
使用寿命(hr) service life	20000(连续运转 10000)																									
效率(%) Efficiency	≥ 95%						≥ 92%																			
重量(kg) weight	2.1						2.5																			
噪音值(dB/1m) Noise level	≤ 63																									
防护等级 Protection class	IP65																									
转动惯量(kg.cm²) Inertia	0.35	0.35	0.35	0.35	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09										

PGR60 单级1-stage

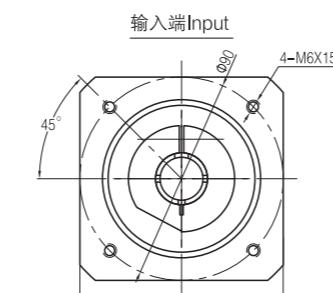
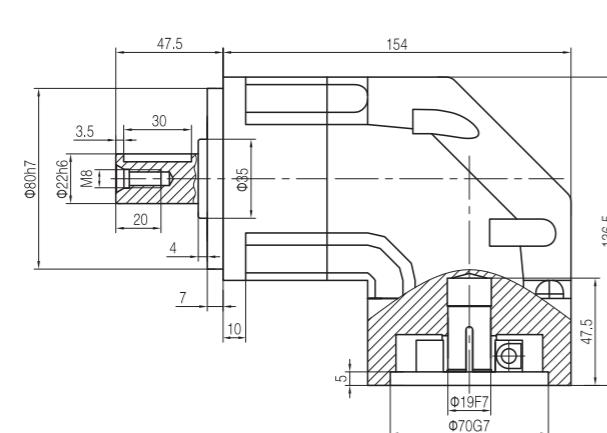
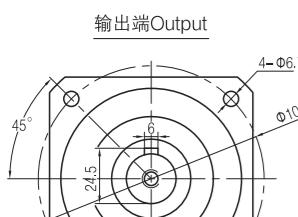
(输入端Input 14-50-70-M4)

PGR60 单级1-stage
(输入端Input 19-70-90-M6)PGR60 两级2-stage
(输入端Input 11-50-70-M4)PGR60 两级2-stage
(输入端Input 14-50-70-M4)

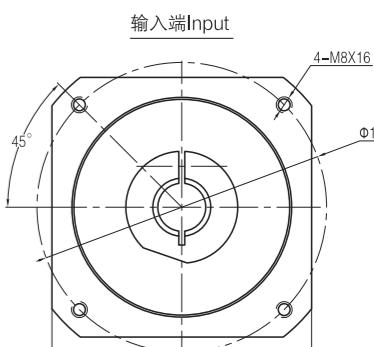
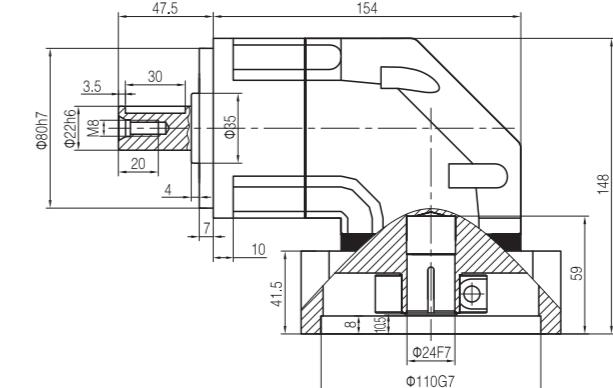
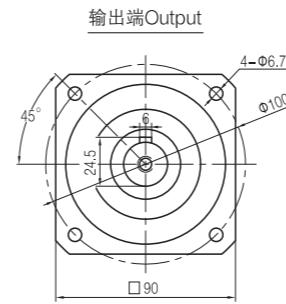
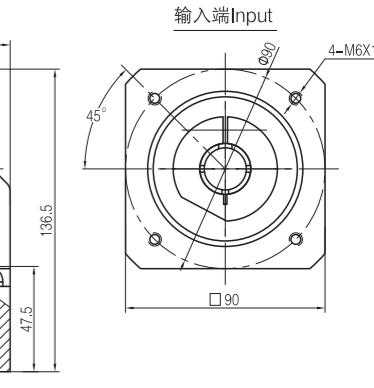
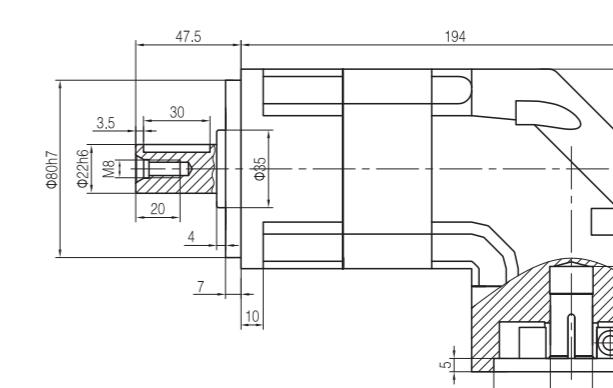
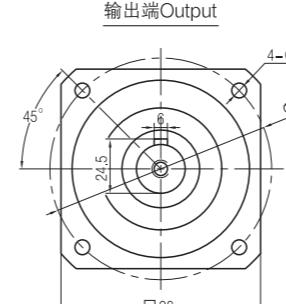
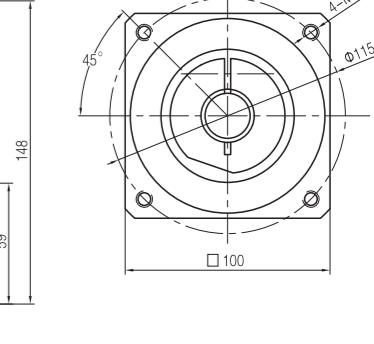
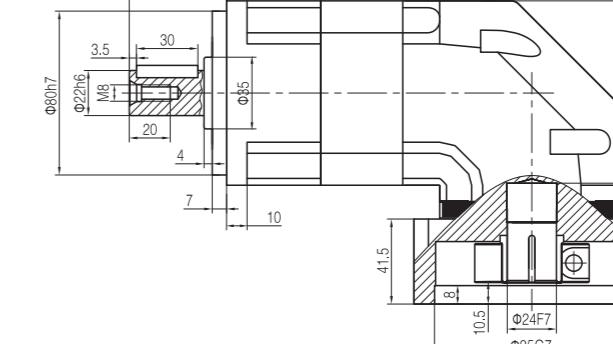
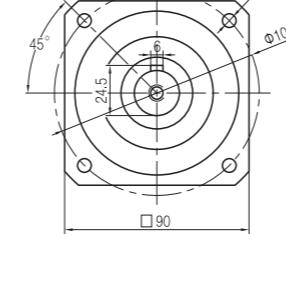
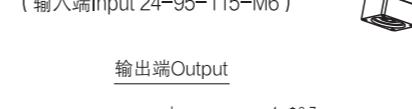
PGR90



参数项 Items	单级 1-stage												两级 2-stage																																	
	3	4	5	6	7	8	10	14	20	12	15	20	25	30	35	40	50	60	70	80	100	120	140	160	200																					
减速比 Ratio	130	140	160	150	140	140	160	140	100	130	130	140	160	130	160	140	160	150	160	140	160	120	140	120	100																					
额定输出力矩(N.m) Nominal output torque	额定输出力矩 × 3 three times of Nominal output torque																																													
最大输出力矩(N.m) Max. output torque	4000																																													
额定输入转速(rpm) Nominal input speed	8000																																													
最大输入转速(rpm) Max. input speed	8000																																													
超精密背隙(arcmin) Micro backlash P0	≤ 2						≤ 4																																							
精密背隙(arcmin) Precision backlash P1	≤ 4						≤ 7																																							
标准背隙(arcmin) standard backlash P2	≤ 6						≤ 9																																							
扭转刚性(N.m/arcmin) Torsional rigidity	14																																													
容许径向力(N) Max.Radial load	3250																																													
容许轴向力(N) Max.Axial load	1625																																													
使用温度(°C) operating Temp	-10°C ~ +90°C																																													
使用寿命(hr) service life	20000(连续运转 10000)																																													
效率(%) Efficiency	$\geq 95\%$						$\geq 92\%$																																							
重量(kg) weight	6.4						7.8																																							
噪音值(dB/1m) Noise level	≤ 65																																													
防护等级 Protection class	IP65																																													
转动惯量(kg.cm²) Inertia	2.25	2.25	2.25	2.25	2.25	1.87	1.87	1.87	1.87	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.31	0.35	0.31	0.31	0.31	0.31	0.31	0.31	0.31																					

PGR90 单级1-stage
(输入端Input 19-70-90-M6)

高精度行星减速机系列

PGR90 单级1-stage
(输入端Input 24-110-145-M8)PGR90 两级2-stage
(输入端Input 19-70-90-M6)PGR90 两级2-stage
(输入端Input 24-95-115-M6)

PGR115



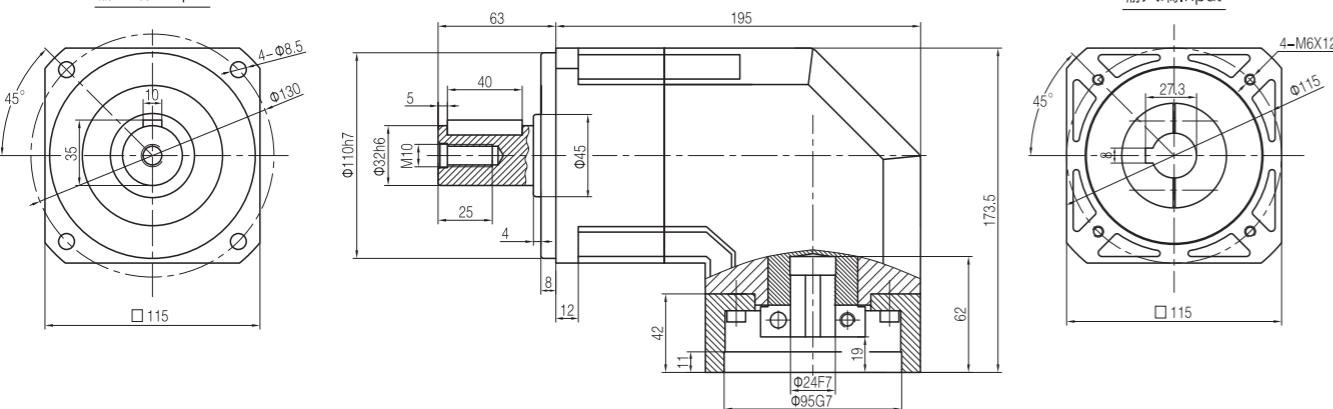
参数项 Items	单级 1-stage												两级 2-stage																								
	减速比 Stage Ratio	3	4	5	6	7	8	10	14	20	12	15	20	25	30	35	40	50	60	70	80	100	120	140	160	200											
额定输出力矩(N.m) Nominal output torque	208 290 330 310 300 290 330 300 230 208 208 290 330 208 330 290 330 310 330 290 330 310 300 260 230																																				
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																																				
额定输入转速(rpm) Nominal input speed	4000																																				
最大输入转速(rpm) Max. input speed	8000																																				
超精密背隙(arcmin) Micro backlash P0	≤ 2												≤ 4																								
精密背隙(arcmin) Precision backlash P1	≤ 4												≤ 7																								
标准背隙(arcmin) standard backlash P2	≤ 6												≤ 9																								
扭转刚性(N.m/arcmin) Torsional rigidity	25																																				
容许径向力(N) Max.Radial load	6700																																				
容许轴向力(N) Max.Axial load	3350																																				
使用温度(°C) operating Temp	-10°C ~ +90°C																																				
使用寿命(hr) service life	20000(连续运转 10000)																																				
效率(%) Efficiency	$\geq 95\%$												$\geq 92\%$																								
重量(kg) weight	13												14.2																								
噪音值(dB/1m) Noise level	≤ 68																																				
防护等级 Protection class	IP65																																				
转动惯量(kg.cm²) Inertia	6.84 6.84 6.84 6.84 6.84 6.25																																				

PGR115 单级1-stage

(输入端Input 24-95-115-M6)



输出端Output

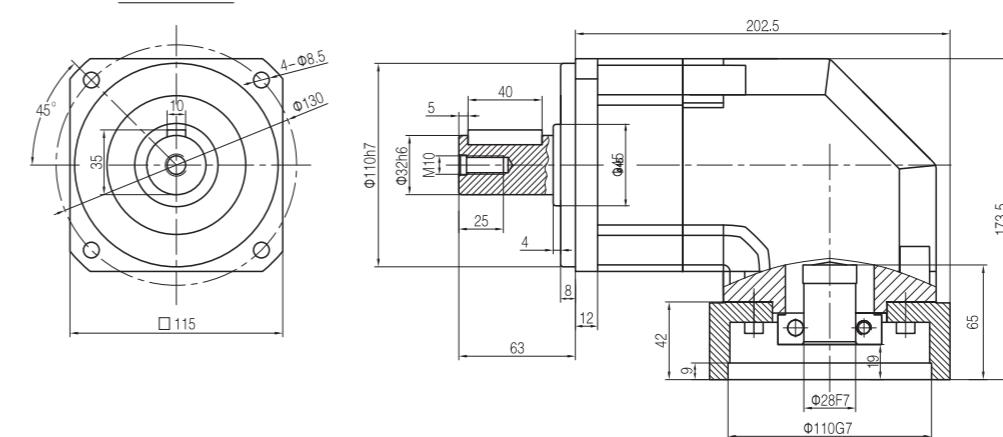


PGR115 单级1-stage

(输入端Input 28-110-145-M8)



输出端Output

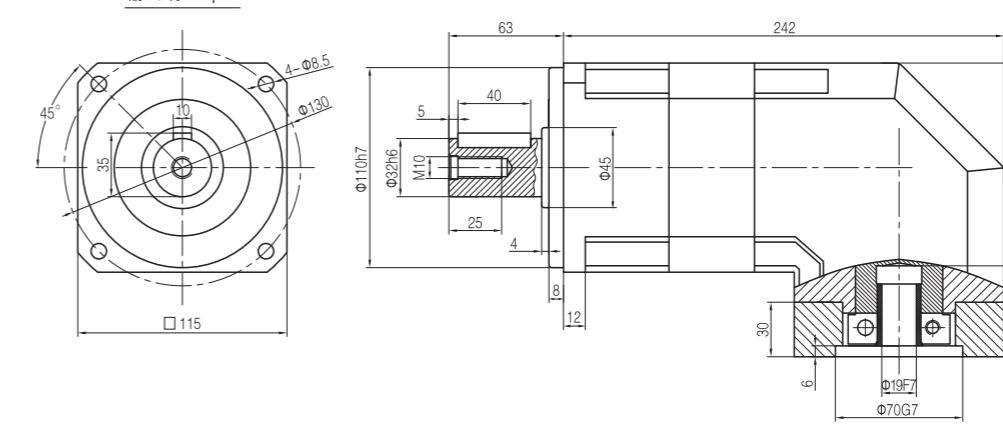


PGR115 两级2-stage

(输入端Input 19-70-90-M6)



输出端Output

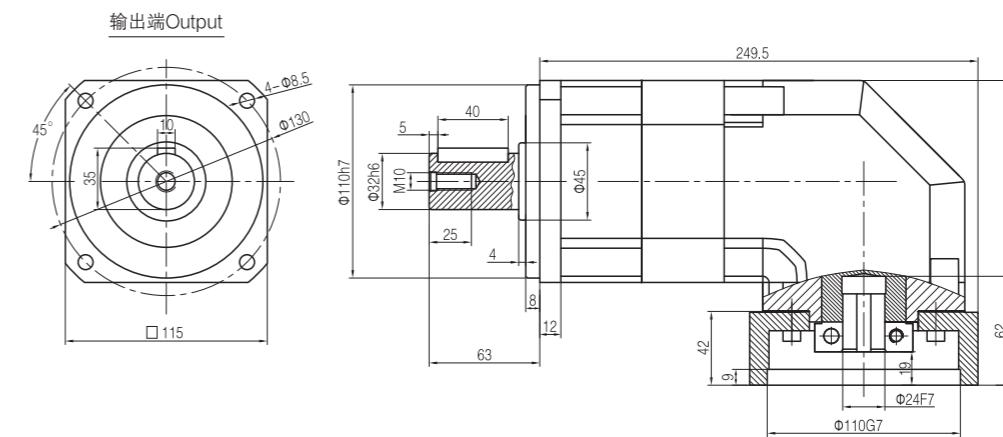


PGR115 两级2-stage

(输入端Input 24-110-145-M8)

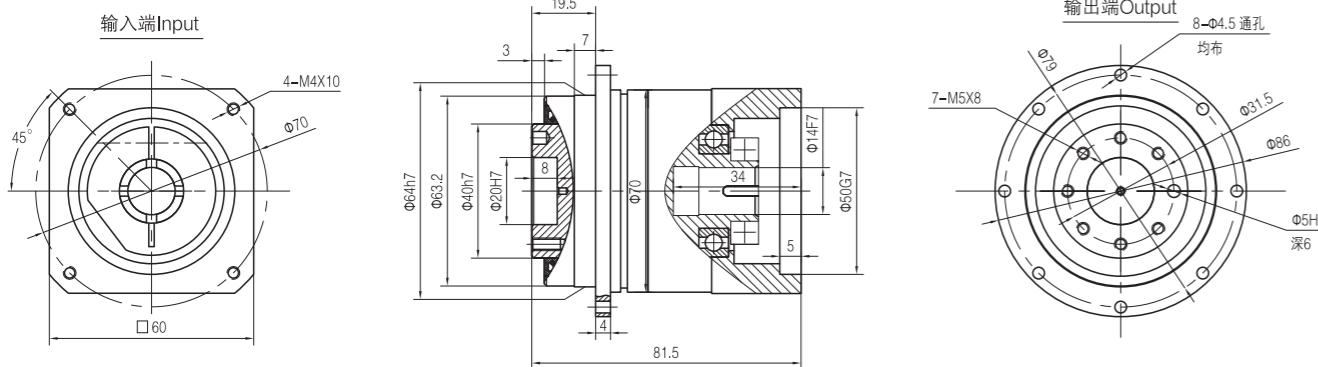
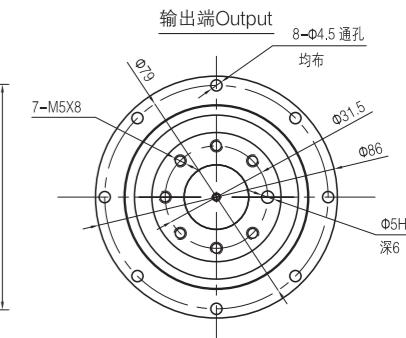
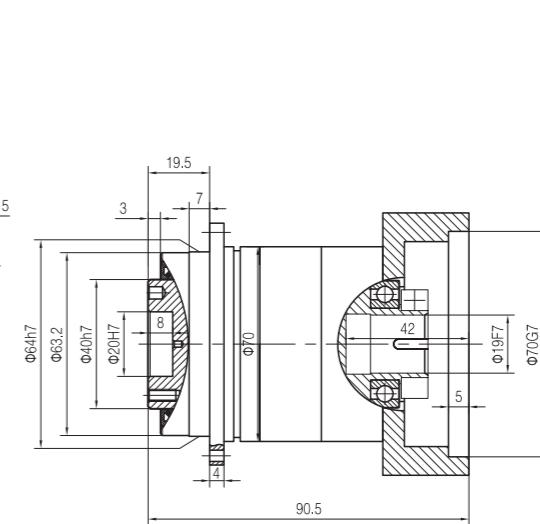
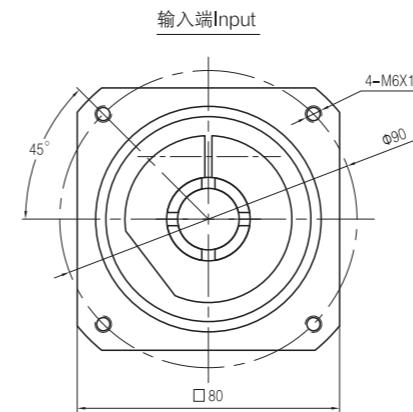
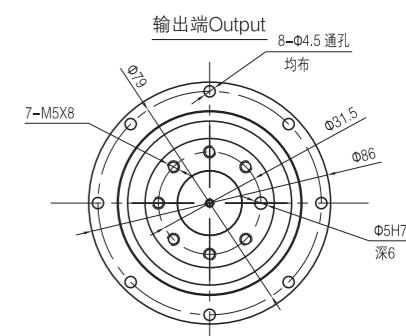
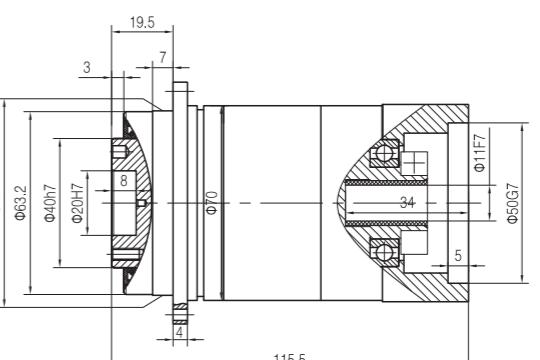
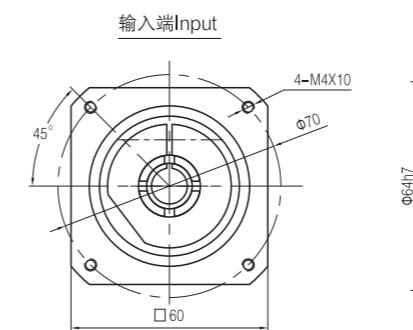
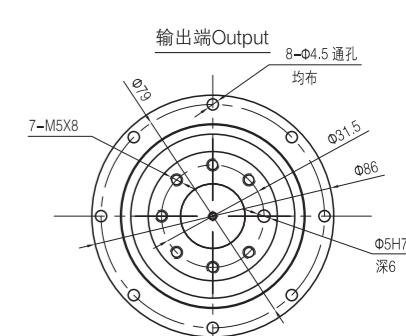
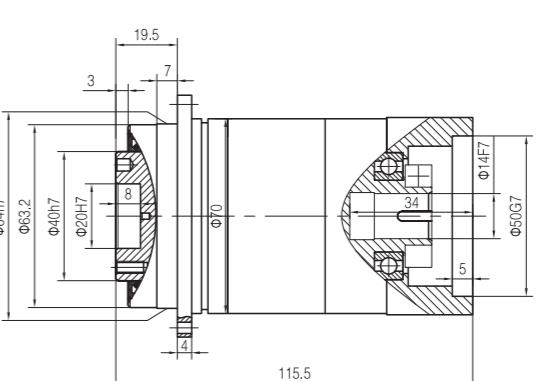
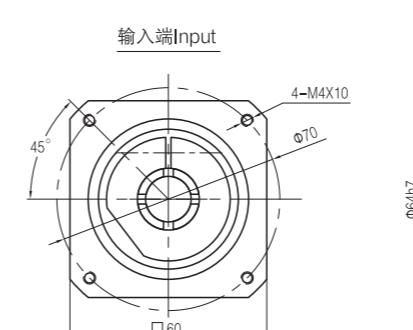


输出端Output



PGF64

参数项 Items	单级 1-stage						两级 2-stage														
减速比 Ratio	4	5	6	7	8	10	20	25	35	40	50	60									
额定输出力矩(N.m) Nominal output torque	48	60	55	50	45	40	48	60	60	48	60	55									
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																				
额定输入转速(rpm) Nominal input speed	5000																				
最大输入转速(rpm) Max. input speed	10000																				
超精密背隙(arcmin) Micro backlash P0	—																				
精密背隙(arcmin) Precision backlash P1	≤ 3			≤ 5																	
标准背隙(arcmin) standard backlash P2	≤ 5			≤ 7																	
扭转刚性(N.m/arcmin) Torsional rigidity	13																				
最大弯曲力矩(N.m) Max.bending torque	125																				
容许径向力(N) Max.radial load	2110																				
使用温度(°C) operating Temp	-10°C ~ +90°C																				
使用寿命(hr) service life	20000(连续运转 10000)																				
效率(%) Efficiency	≥ 97%				≥ 94%																
重量(kg) weight	1.2				1.6																
噪音值(dB/1m) Noise level	≤ 58																				
防护等级 Protection class	IP65																				
转动惯量(kg.cm²) Inertia	0.14	0.13	0.13	0.13	0.13	0.13	0.03	0.03	0.03	0.03	0.03	0.03									

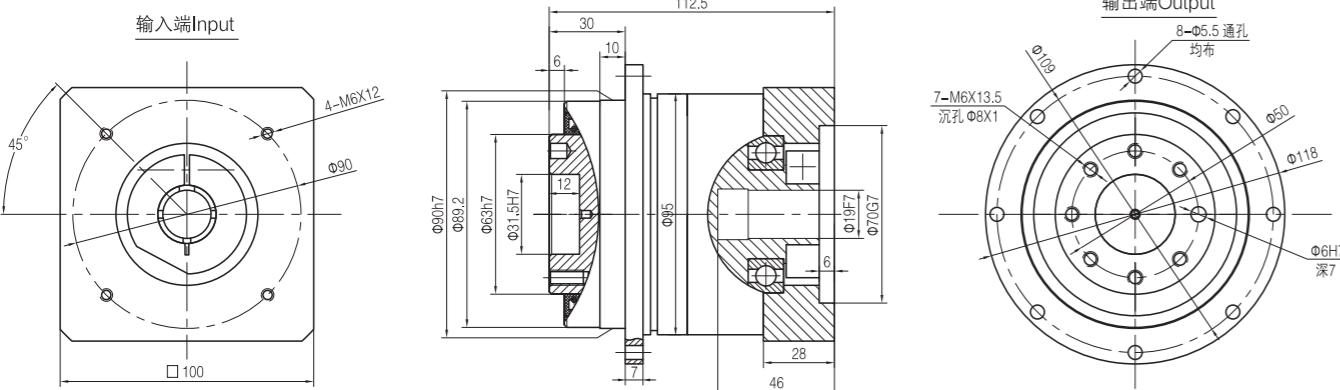
PGF64 单级 1-stage
(输入端 Input 14-50-70-M4)**PGF64** 单级 1-stage
(输入端 Input 19-70-90-M6)**PGF64** 两级 2-stage
(输入端 Input 11-50-70-M4)**PGF64** 两级 2-stage
(输入端 Input 14-50-70-M4)

PGF90



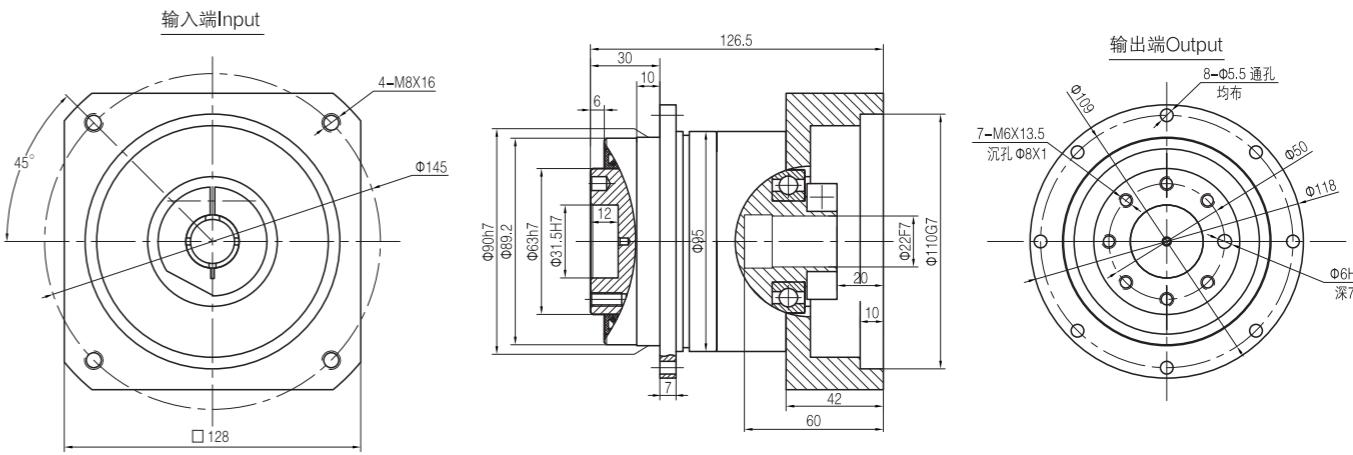
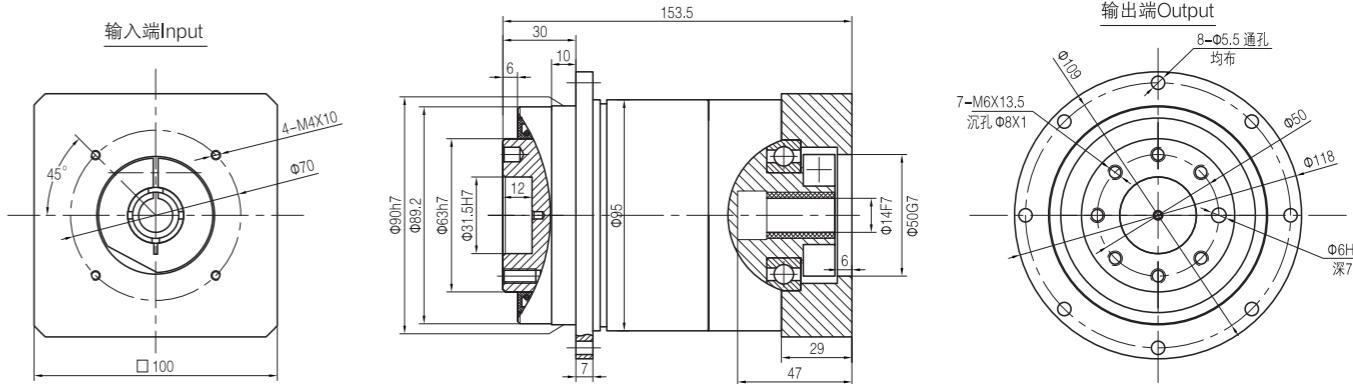
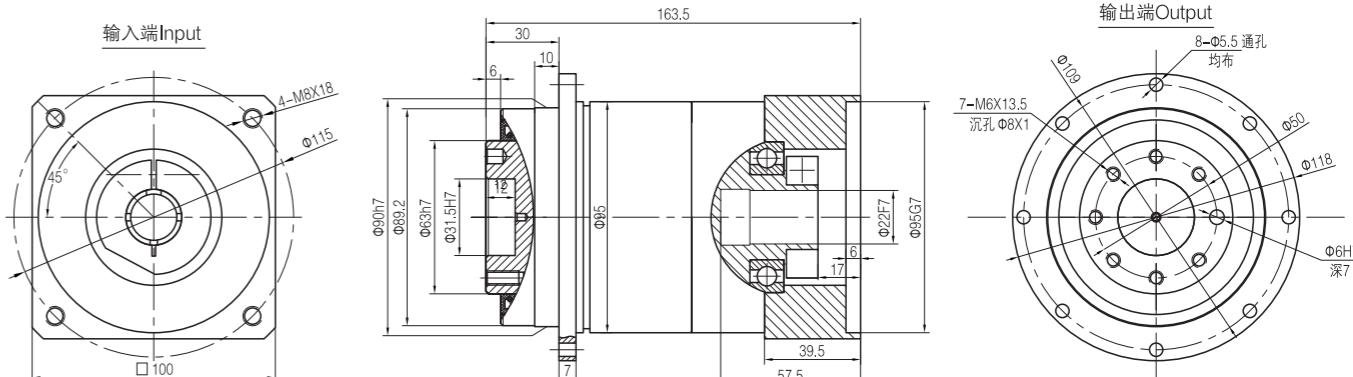
参数项 Items	单级 1-stage						两级 2-stage																			
减速比 Ratio	4	5	6	7	8	10	20	25	35	40	50	60	70	80	100											
额定输出力矩(N.m) Nominal output torque	130	160	150	140	120	100	130	160	160	130	160	150	140	120	100											
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																									
额定输入转速(rpm) Nominal input speed	4000																									
最大输入转速(rpm) Max. input speed	8000																									
超精密背隙(arcmin) Micro backlash P0	≤ 1				—																					
精密背隙(arcmin) Precision backlash P1	≤ 3				≤ 5																					
标准背隙(arcmin) standard backlash P2	≤ 5				≤ 7																					
扭转刚性(N.m/arcmin) Torsional rigidity	31																									
最大弯曲力矩(N.m) Max.bending torque	235																									
容许径向力(N) Max.radial load	2850																									
使用温度(°C) operating Temp	-10°C ~ +90°C																									
使用寿命(hr) service life	20000(连续运转 10000)																									
效率(%) Efficiency	≥ 97%						≥ 94%																			
重量(kg) weight	3.0						3.7																			
噪音值(dB/1m) Noise level	≤ 60																									
防护等级 Protection class	IP65																									
转动惯量(kg.cm²) Inertia	0.51	0.47	0.45	0.45	0.45	0.44	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13											

PGF90

单级 1-stage
(输入端 Input 19-70-90-M6)

高精度行星减速机系列

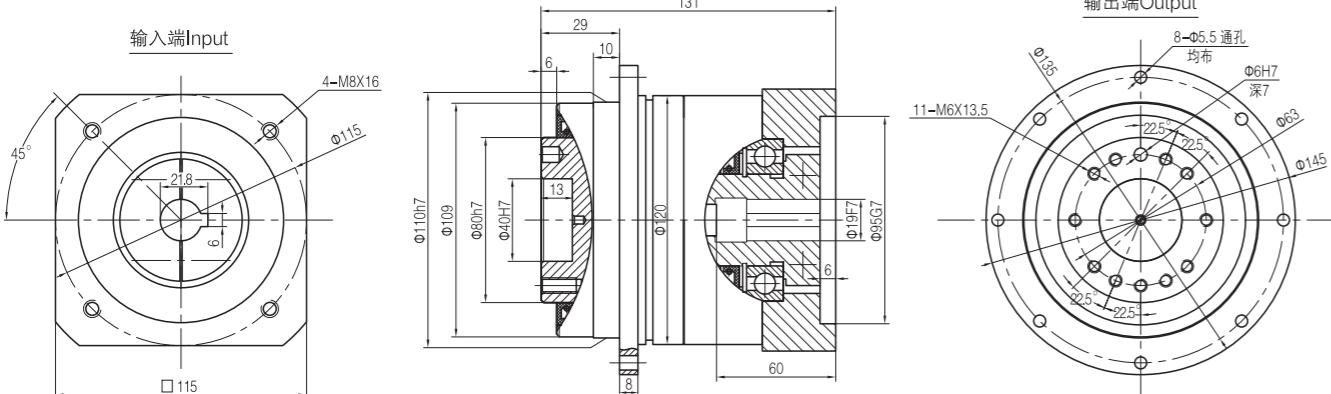
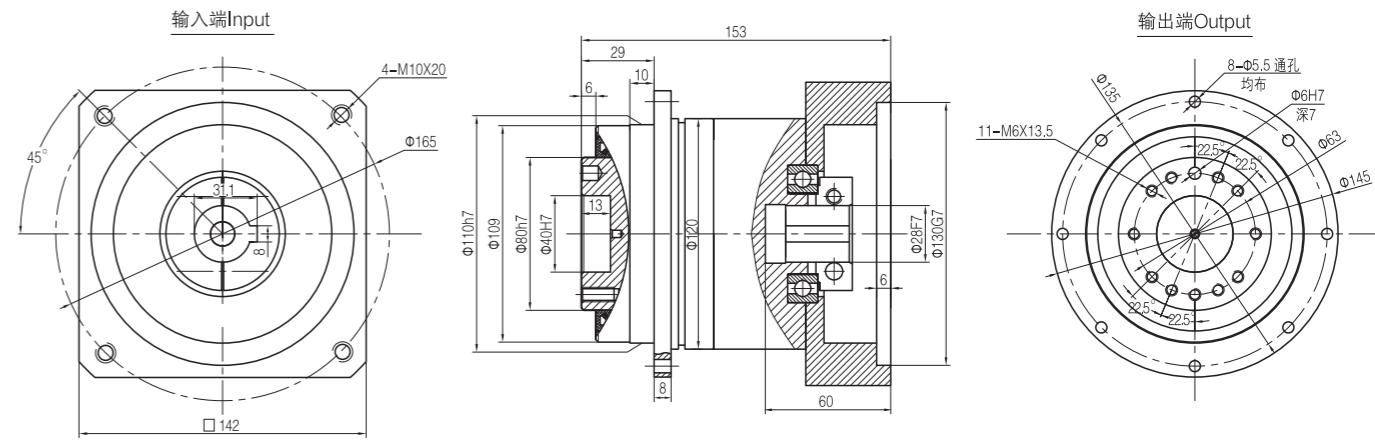
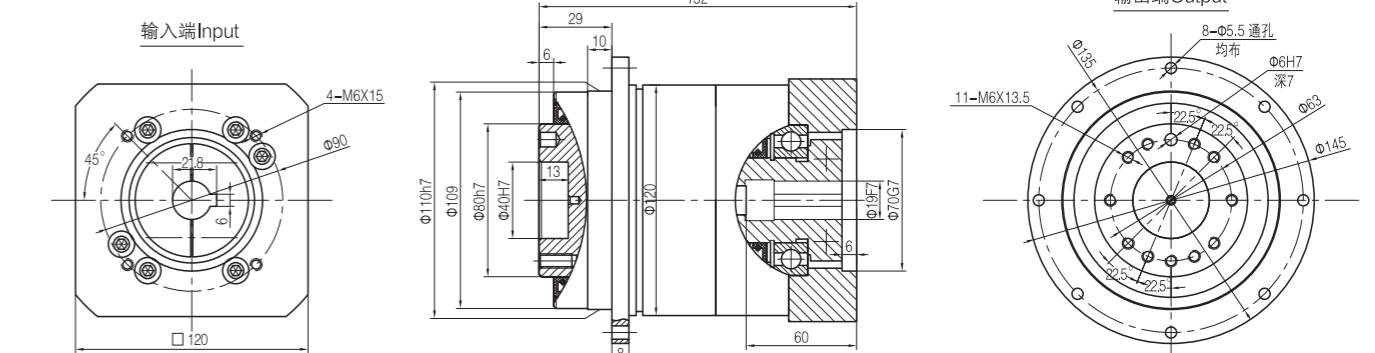
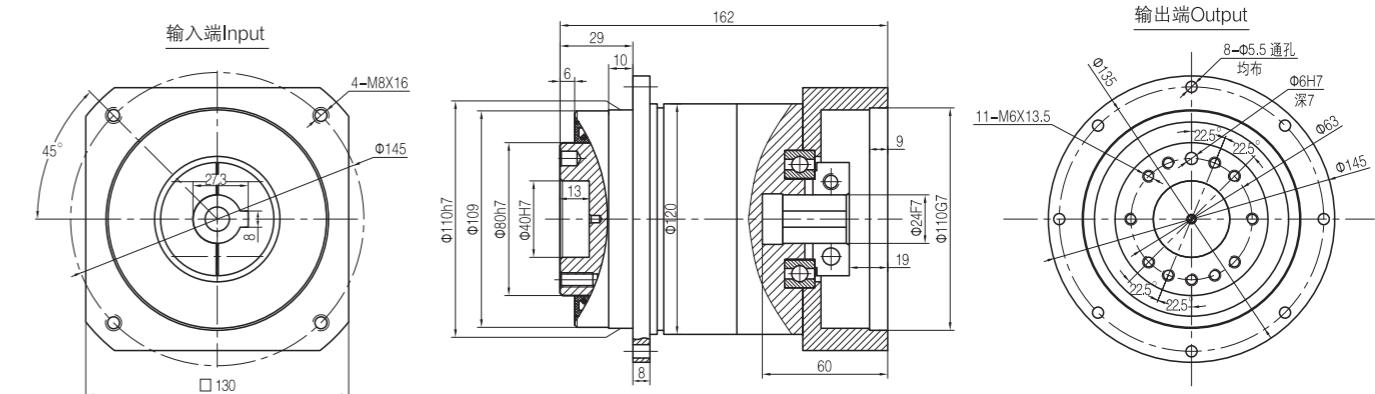
HIGH PRECISION PLANETARY REDUCER

PGF90 单级1-stage
(输入端 Input 22-110-145-M8)PGF90 两级2-stage
(输入端 Input 14-50-70-M4)PGF90 两级2-stage
(输入端 Input 22-95-115-M8)

PGF110



参数项 Items	单级 1-stage						两级 2-stage														
减速比 Ratio	4	5	6	7	8	10	20	25	35	40	50	60									
额定输出力矩(N.m) Nominal output torque	270	330	310	300	260	230	270	330	330	270	330	310									
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																				
额定输入转速(rpm) Nominal input speed	4000																				
最大输入转速(rpm) Max. input speed	8000																				
超精密背隙(arcmin) Micro backlash P0	≤ 1			≤ 3																	
精密背隙(arcmin) Precision backlash P1	≤ 3			≤ 5																	
标准背隙(arcmin) standard backlash P2	≤ 5			≤ 7																	
扭转刚性(N.m/arcmin) Torsional rigidity	82																				
最大弯曲力矩(N.m) Max.bending torque	430																				
容许径向力(N) Max.radial load	4800																				
使用温度(°C) operating Temp	-10°C ~ +90°C																				
使用寿命(hr) service life	20000(连续运转 10000)																				
效率(%) Efficiency	≥ 97%				≥ 94%																
重量(kg) weight	5.6				7.3																
噪音值(dB/1m) Noise level	≤ 63																				
防护等级 Protection class	IP65																				
转动惯量(kg.cm²) Inertia	2.87	2.71	2.65	2.62	2.58	2.57	0.47	0.47	0.47	0.44	0.44	0.44									

PGF110 单级1-stage
(输入端Input 19-95-115-M8)PGF110 单级1-stage
(输入端Input 28-130-165-M10)PGF110 两级2-stage
(输入端Input 19-70-90-M6)PGF110 两级2-stage
(输入端Input 24-110-145-M8)

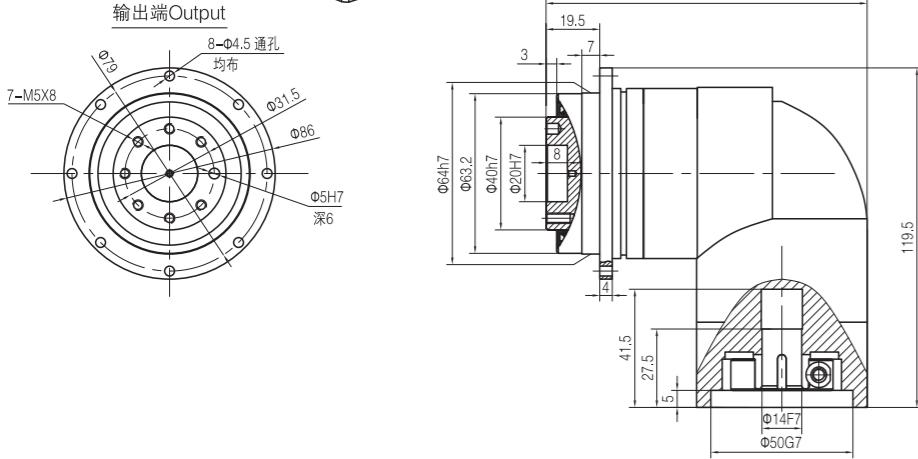
PGFR64



参数项 Items	单级 1-stage						两级 2-stage																		
	减速比 Ratio	4	5	6	7	8	10	20	25	35	40	50	60	70	80	100									
额定输出力矩(N.m) Nominal output torque	48	60	55	50	45	40	48	60	60	48	60	55	50	45	40										
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																								
额定输入转速(rpm) Nominal input speed	5000																								
最大输入转速(rpm) Max. input speed	10000																								
超精密背隙(arcmin) Micro backlash P0	—																								
精密背隙(arcmin) Precision backlash P1	≤ 4			≤ 7																					
标准背隙(arcmin) standard backlash P2	≤ 6			≤ 9																					
扭转刚性(N.m/arcmin) Torsional rigidity	13																								
最大弯曲力矩(N.m) Max.bending torque	125																								
容许径向力(N) Max.radial load	2110																								
使用温度(°C) operating Temp	-10°C ~ +90°C																								
使用寿命(hr) service life	20000(连续运转 10000)																								
效率(%) Efficiency	$\geq 95\%$			$\geq 92\%$																					
重量(kg) weight	2.1			2.5																					
噪音值(dB/1m) Noise level	≤ 63																								
防护等级 Protection class	IP65																								
转动惯量(kg.cm²) Inertia	0.35	0.35	0.35	0.35	0.07	0.07	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09											

PGFR64 单级 1-stage

(输入端 Input 14-50-70-M4)

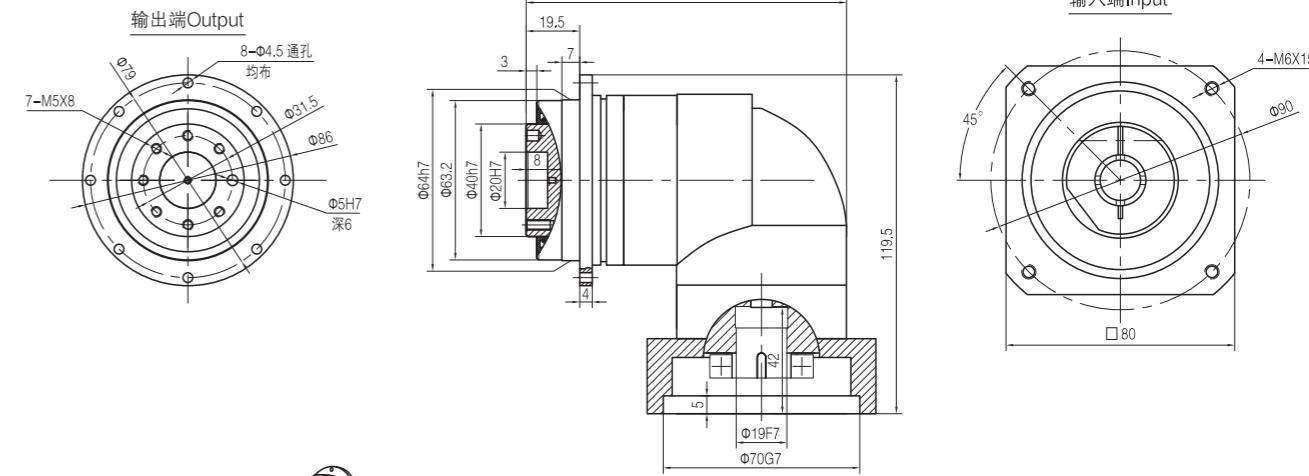


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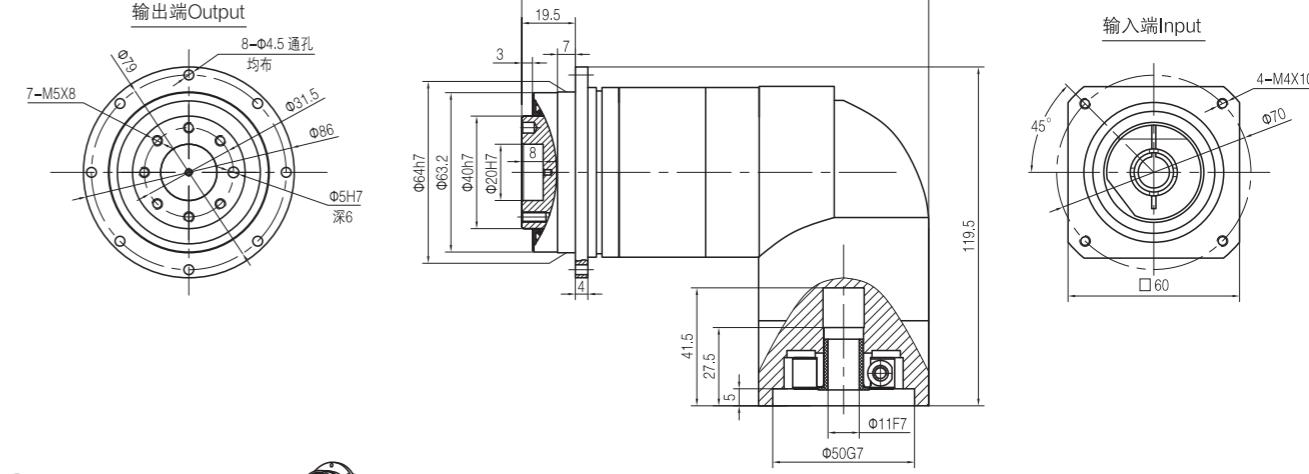
PGFR64 单级 1-stage

(输入端 Input 19-70-90-M6)



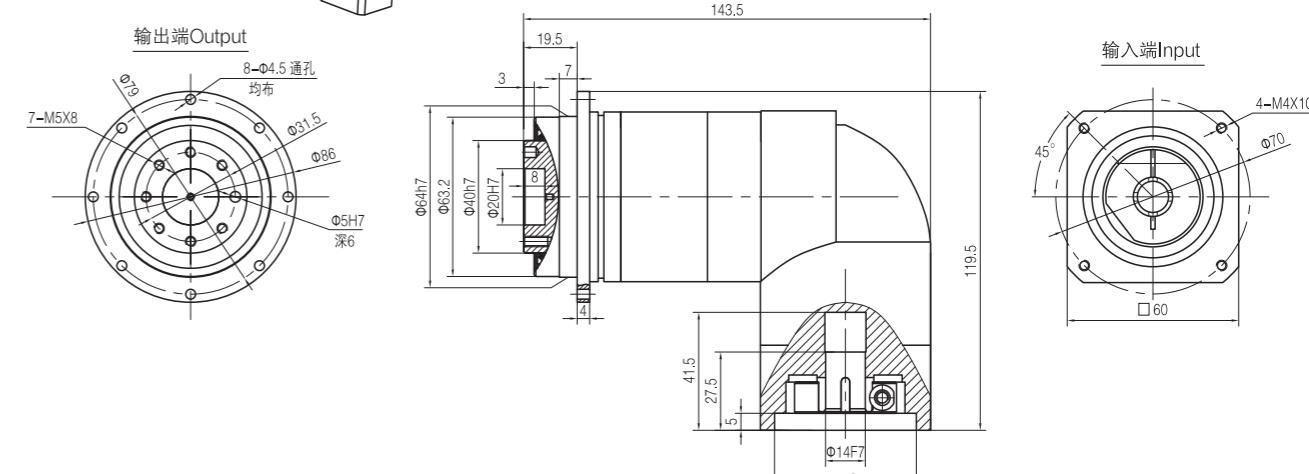
PGFR64 两级 2-stage

(输入端 Input 11-50-70-M4)



PGFR64 两级 2-stage

(输入端 Input 14-50-70-M4)



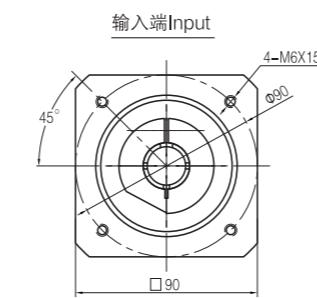
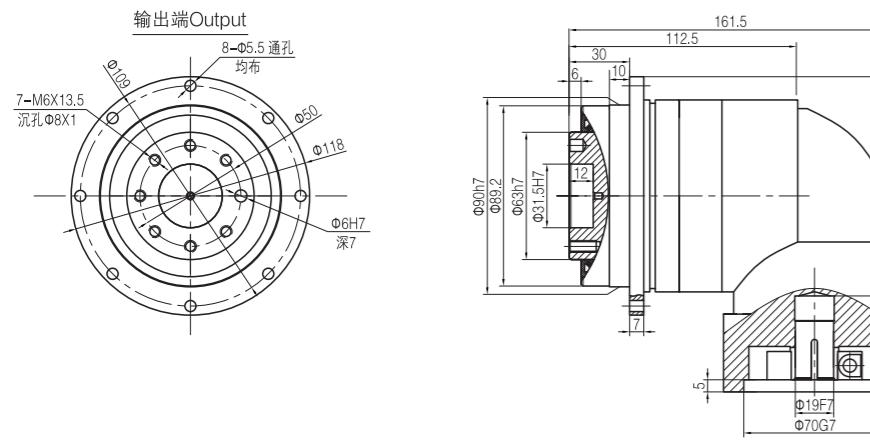
PGFR90



参数项 Items	单级 1-stage								两级 2-stage																										
	减速比 Ratio	4	5	6	7	8	10	14	20	20	25	35	40	50	60	70	80	100	120	140	160	200													
额定输出力矩(N.m) Nominal output torque	130 160 150 140 130 160 140 100 130 160 160 130 160 150 160 130 160 150 140 120 140 120 100																																		
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																																		
额定输入转速(rpm) Nominal input speed	4000																																		
最大输入转速(rpm) Max. input speed	8000																																		
超精密背隙(arcmin) Micro backlash P0	≤ 2								≤ 4																										
精密背隙(arcmin) Precision backlash P1	≤ 4								≤ 7																										
标准背隙(arcmin) standard backlash P2	≤ 6								≤ 9																										
扭转刚性(N.m/arcmin) Torsional rigidity	31																																		
最大弯曲力矩(N.m) Max.bending torque	235																																		
容许径向力(N) Max.radial load	2310																																		
使用温度(°C) operating Temp	-10°C ~ +90°C																																		
使用寿命(hr) service life	20000(连续运转 10000)																																		
效率(%) Efficiency	$\geq 95\%$								$\geq 92\%$																										
重量(kg) weight	5.9								6.6																										
噪音值(dB/1m) Noise level	≤ 65																																		
防护等级 Protection class	IP65																																		
转动惯量(kg.cm²) Inertia	2.25	2.25	2.25	2.25	1.87	1.87	1.87	1.87	0.35	0.35	0.35	0.35	0.31	0.35	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31													

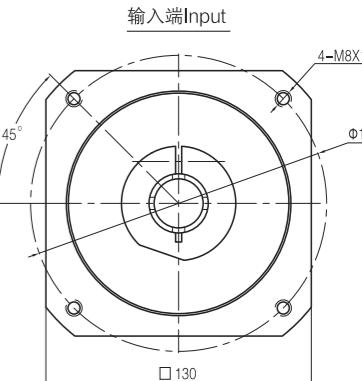
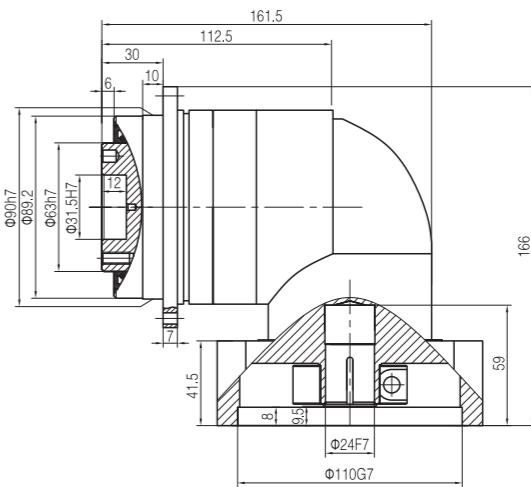
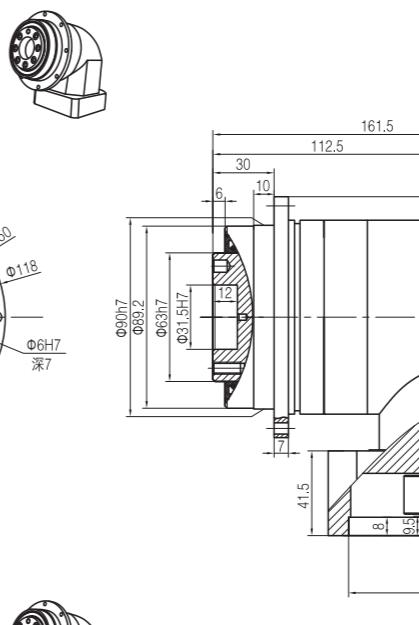
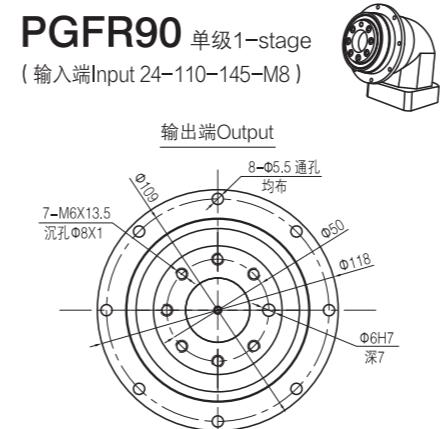
PGFR90 单级 1-stage

(输入端 Input 19-70-90-M6)



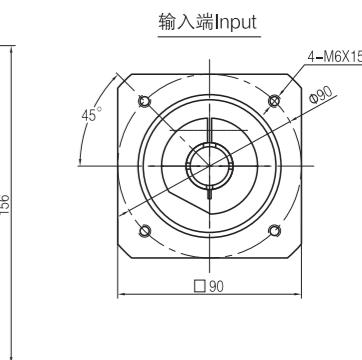
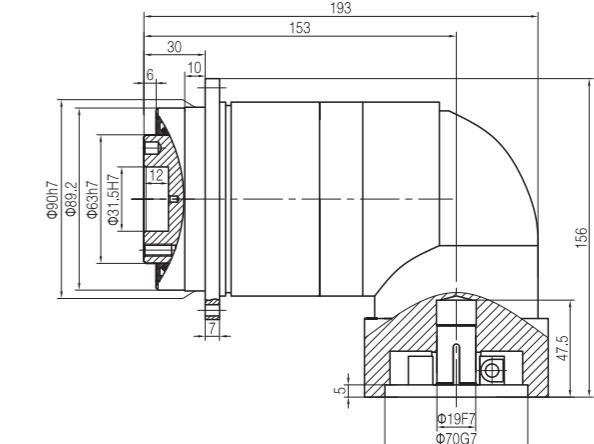
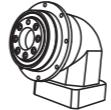
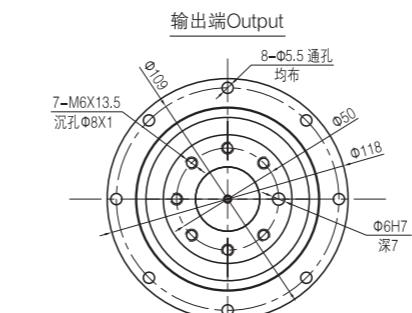
PGFR90 单级 1-stage

(输入端 Input 24-110-145-M8)



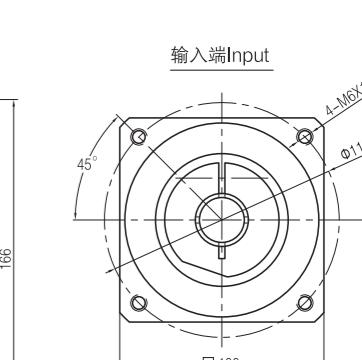
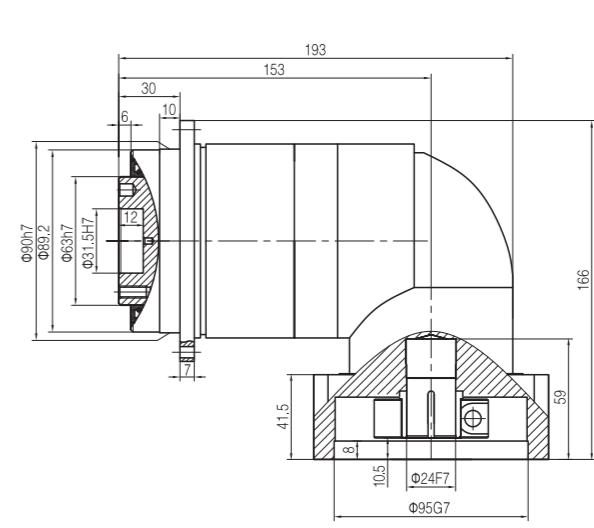
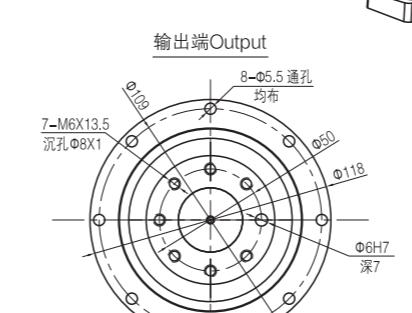
PGFR90 两级 2-stage

(输入端 Input 19-70-90-M6)



PGFR90 两级 2-stage

(输入端 Input 24-95-115-M6)



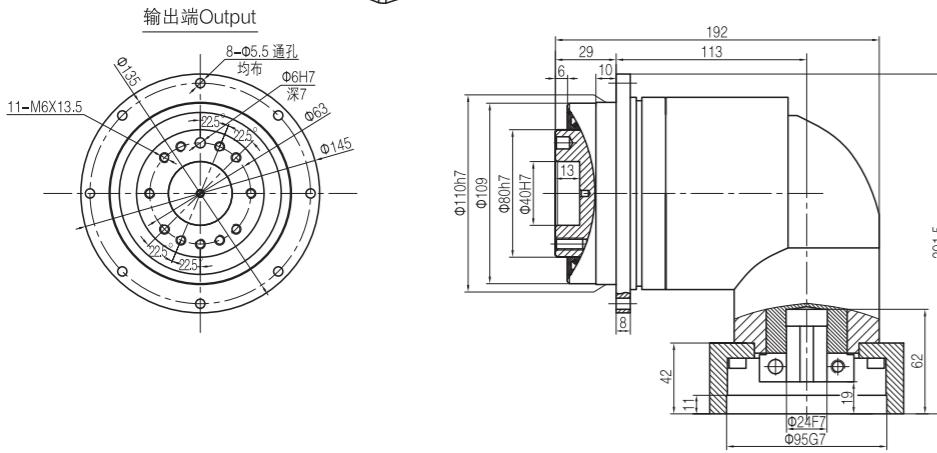
PGFR110



参数项 Items	单级 1-stage								两级 2-stage																										
	减速比 Ratio	4	5	6	7	8	10	14	20	20	25	35	40	50	60	70	80	100	120	140	160	200													
额定输出力矩(N.m) Nominal output torque	270 330 310 300 270 330 300 230 270 330 330 270 330 310 330 270 330 310 300 260 230																																		
最大输出力矩(N.m) Max. output torque	额定输出力矩 × 3 three times of Nominal output torque																																		
额定输入转速(rpm) Nominal input speed	4000																																		
最大输入转速(rpm) Max. input speed	8000																																		
超精密背隙(arcmin) Micro backlash P0	≤ 2								≤ 4																										
精密背隙(arcmin) Precision backlash P1	≤ 4								≤ 7																										
标准背隙(arcmin) standard backlash P2	≤ 6								≤ 9																										
扭转刚性(N.m/arcmin) Torsional rigidity	82																																		
最大弯曲力矩(N.m) Max.bending torque	430																																		
容许径向力(N) Max.radial load	4800																																		
使用温度(°C) operating Temp	-10°C ~ +90°C																																		
使用寿命(hr) service life	20000(连续运转 10000)																																		
效率(%) Efficiency	$\geq 95\%$								$\geq 92\%$																										
重量(kg) weight	10.5								12.2																										
噪音值(dB/1m) Noise level	≤ 68																																		
防护等级 Protection class	IP65																																		
转动惯量(kg.cm²) Inertia	6.84	6.84	6.84	6.84	6.25	6.25	6.25	6.25	2.25	2.25	2.25	2.25	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87	1.87													

PGFR110 单级 1-stage

(输入端 Input 24-95-115-M6)

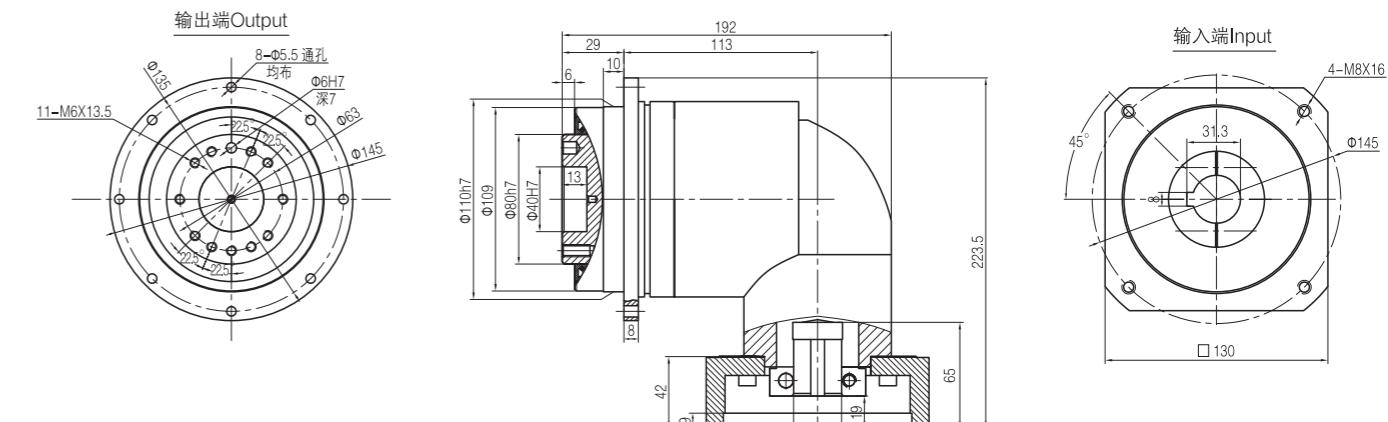


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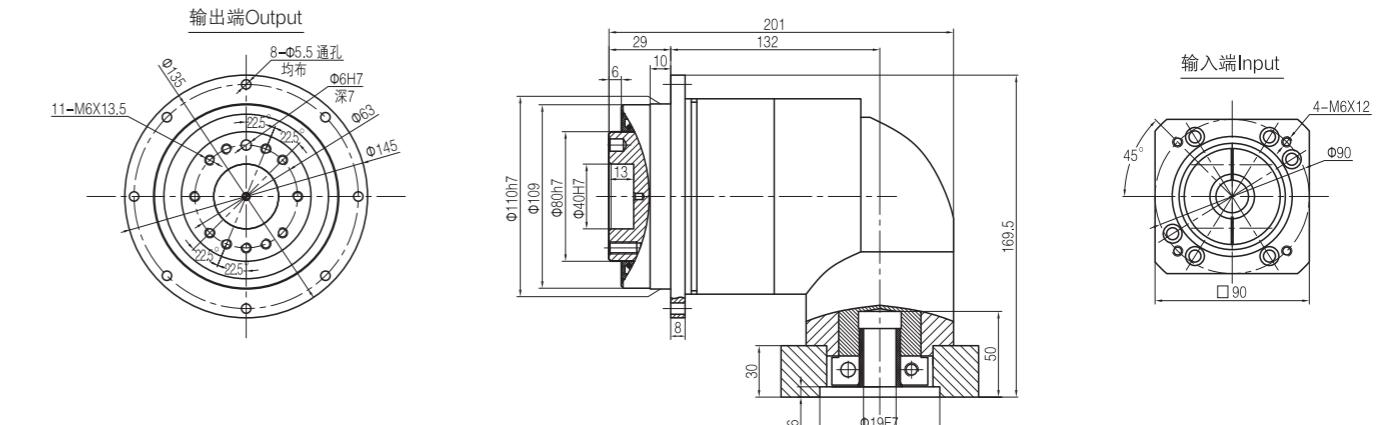
PGFR110 单级 1-stage

(输入端 Input 28-110-145-M8)



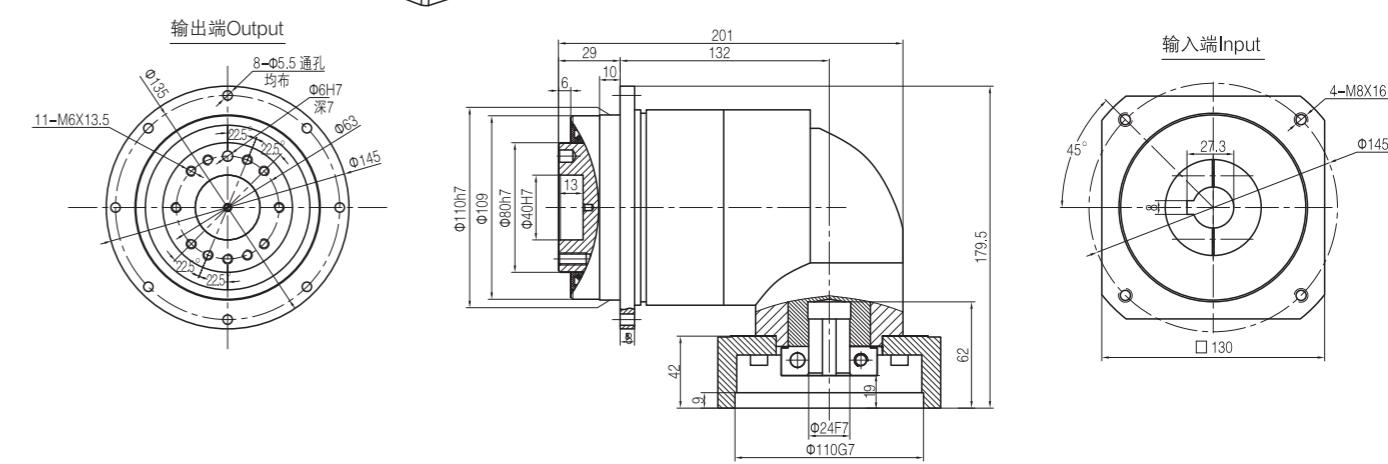
PGFR110 两级 2-stage

(输入端 Input 19-70-90-M6)



PGFR110 两级 2-stage

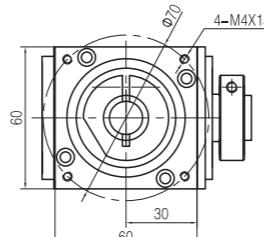
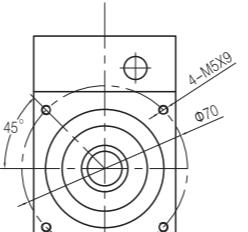
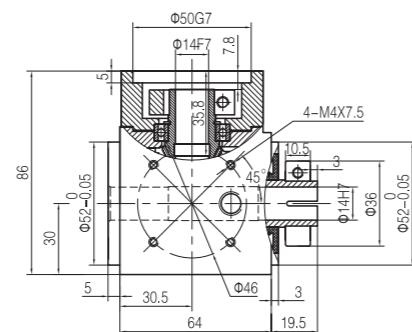
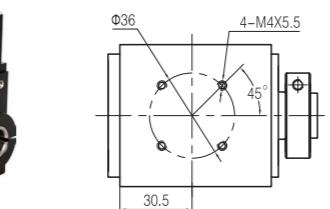
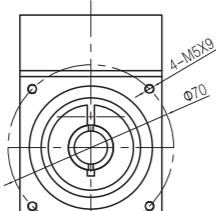
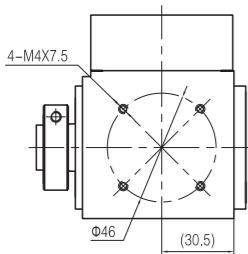
(输入端 Input 24-110-145-M8)



RAH60-2 空心出轴 hollow output shaft

(输入端 Input 14-50-70-M4)

速比 Ratio 1:2

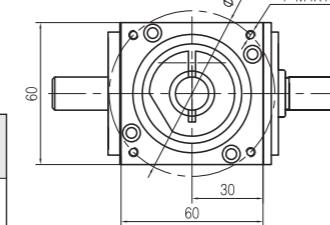
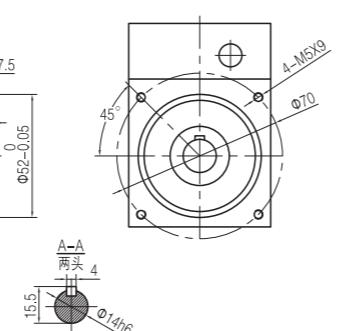
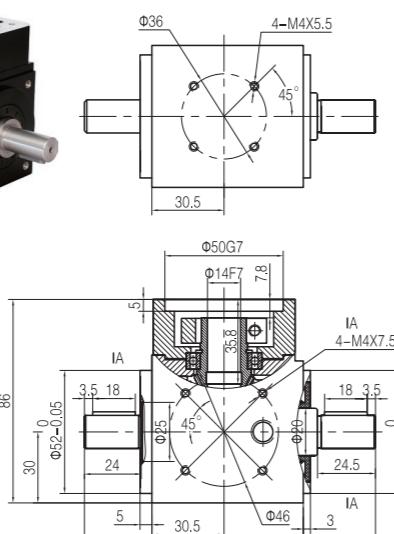
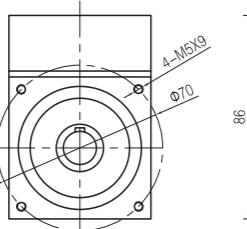
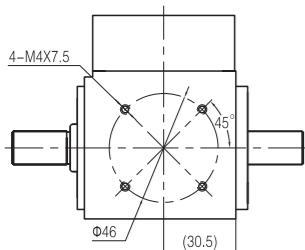
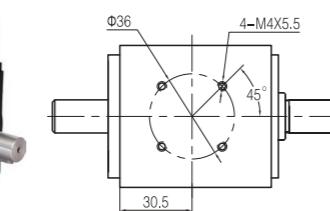
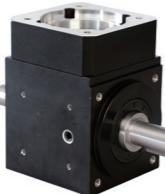


减速比 Ratio	允许负载 Allowable load	允许输入转速 Input speed	背隙 Backlash	重量 Weight
1:2	20N.m	2000~3000rpm	5~15弧分	1.2kg

RAD60-2 双出轴 right and left output shafts

(输入端 Input 14-50-70-M4)

速比 Ratio 1:2

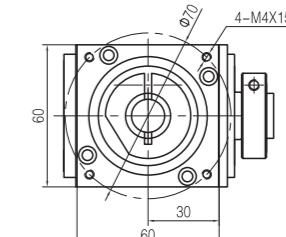
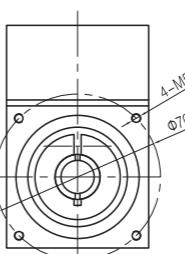
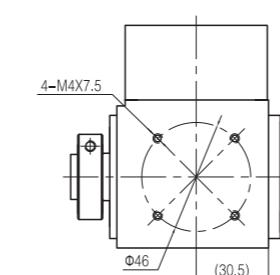
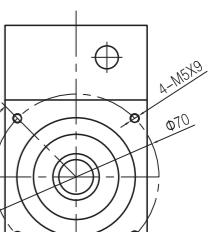
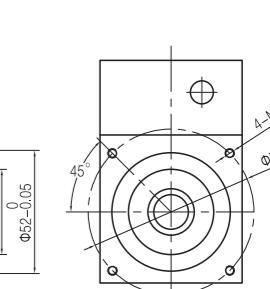
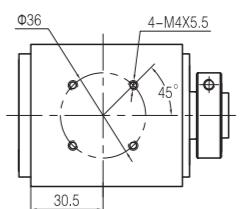


减速比 Ratio	允许负载 Allowable load	允许输入转速 Input speed	背隙 Backlash	重量 Weight
1:2	20N.m	2000~3000rpm	5~15弧分	1.2kg

RAH60-5 空心出轴 hollow output shaft

(输入端 Input 14-50-70-M4)

速比 Ratio 1:5

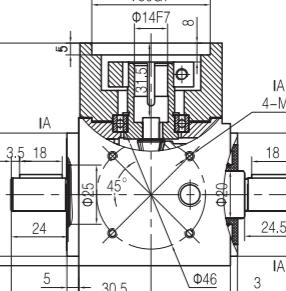
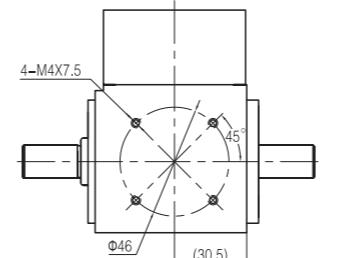
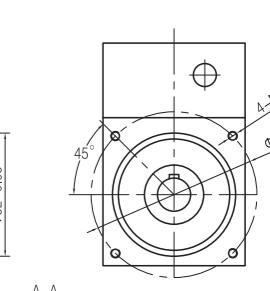
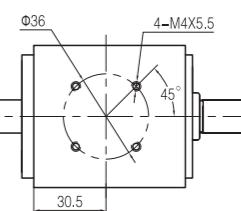


减速比 Ratio	允许负载 Allowable load	允许输入转速 Input speed	背隙 Backlash	重量 Weight
1:5	20N.m	2000~3000rpm	5~15弧分	1.2kg

RAD60-5 双出轴 right and left output shafts

(输入端 Input 14-50-70-M4)

速比 Ratio 1:5

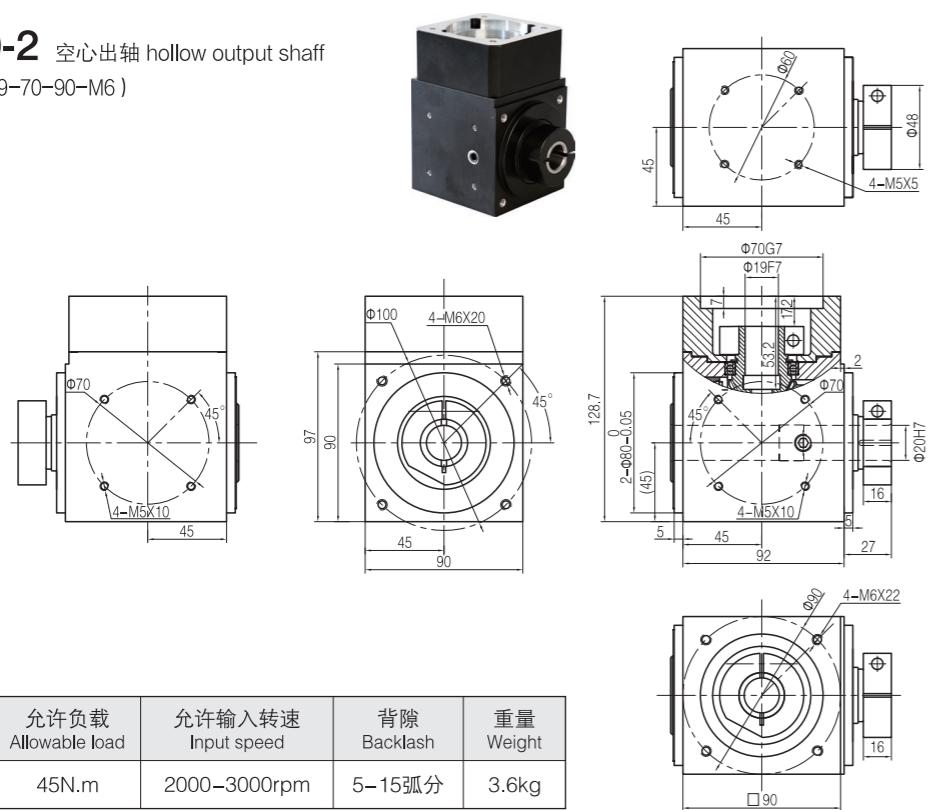


减速比 Ratio	允许负载 Allowable load	允许输入转速 Input speed	背隙 Backlash	重量 Weight
1:5	20N.m	2000~3000rpm	5~15弧分	1.2kg

RAH90-2 空心出轴 hollow output shaft

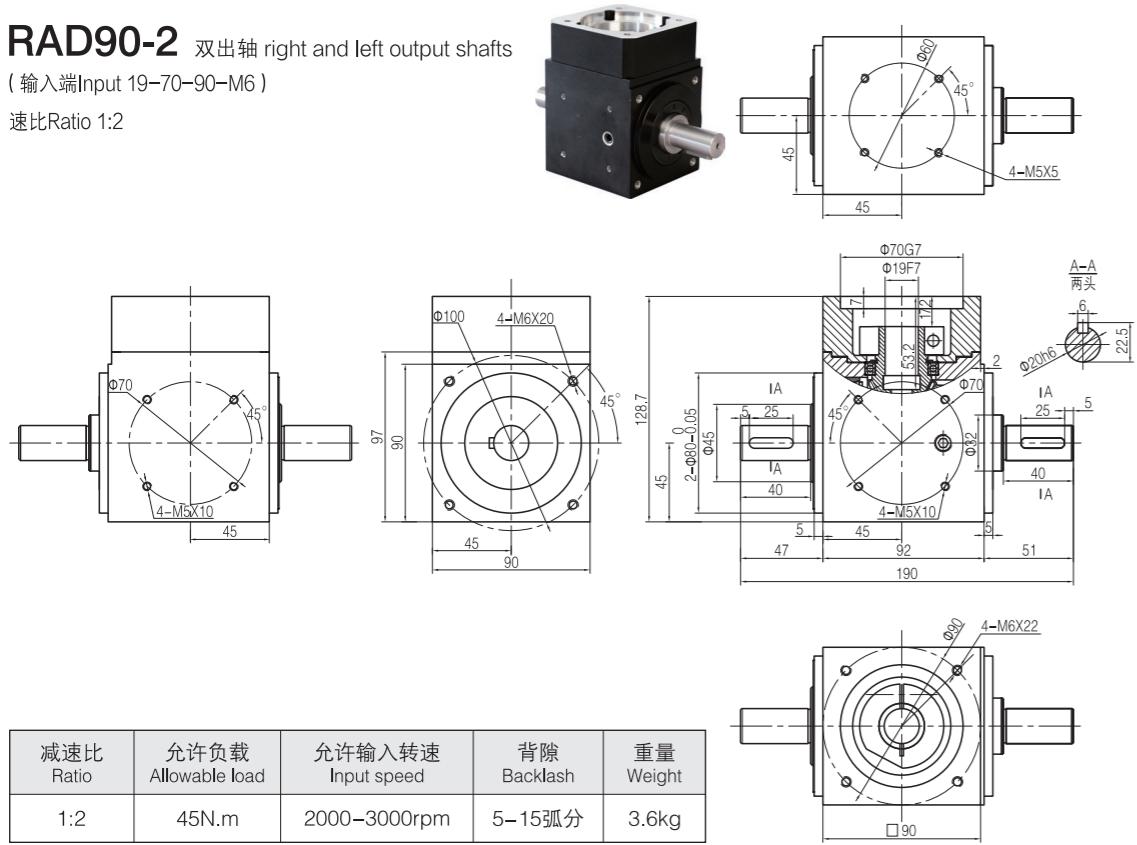
(输入端 Input 19-70-90-M6)

速比Ratio 1:2

**RAD90-2** 双出轴 right and left output shafts

(输入端 Input 19-70-90-M6)

速比Ratio 1:2

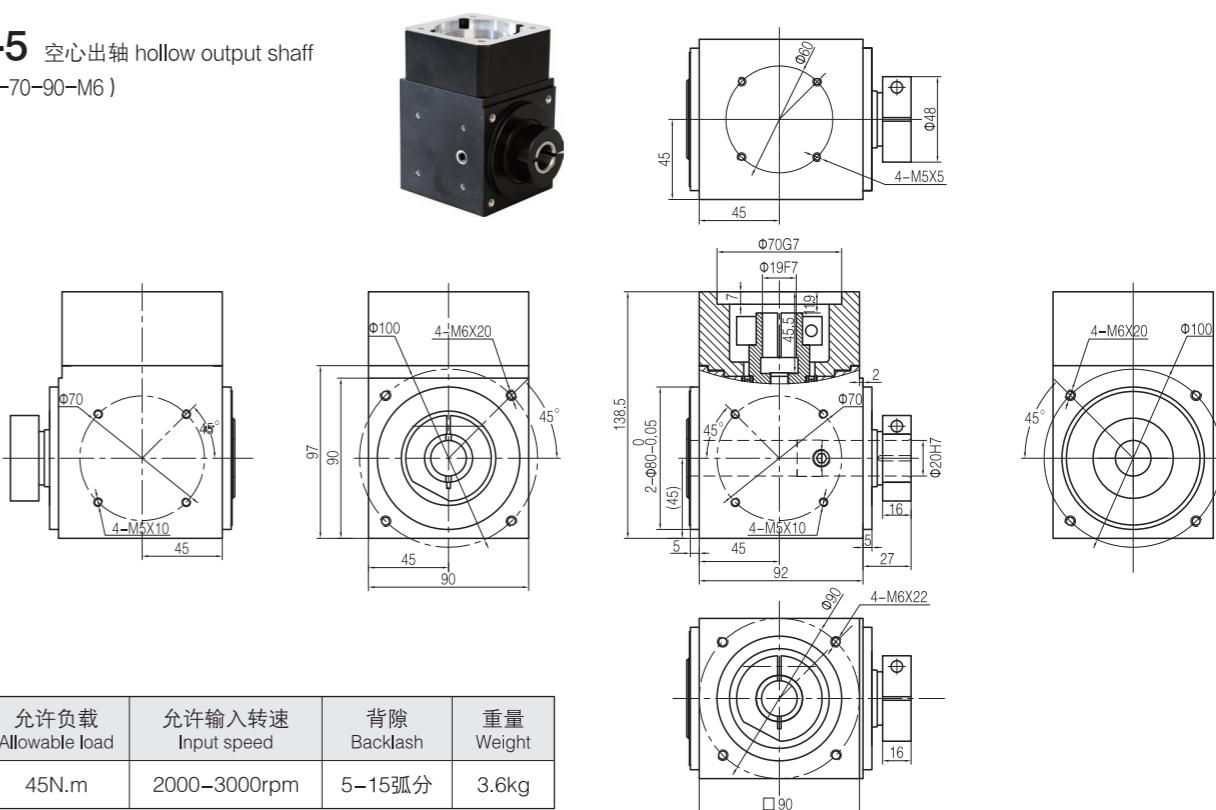


高精度行星减速机系列

RAH90-5 空心出轴 hollow output shaft

(输入端 Input 19-70-90-M6)

速比Ratio 1:5

**RAD90-5** 双出轴 right and left output shafts

(输入端 Input 19-70-90-M6)

速比Ratio 1:5

