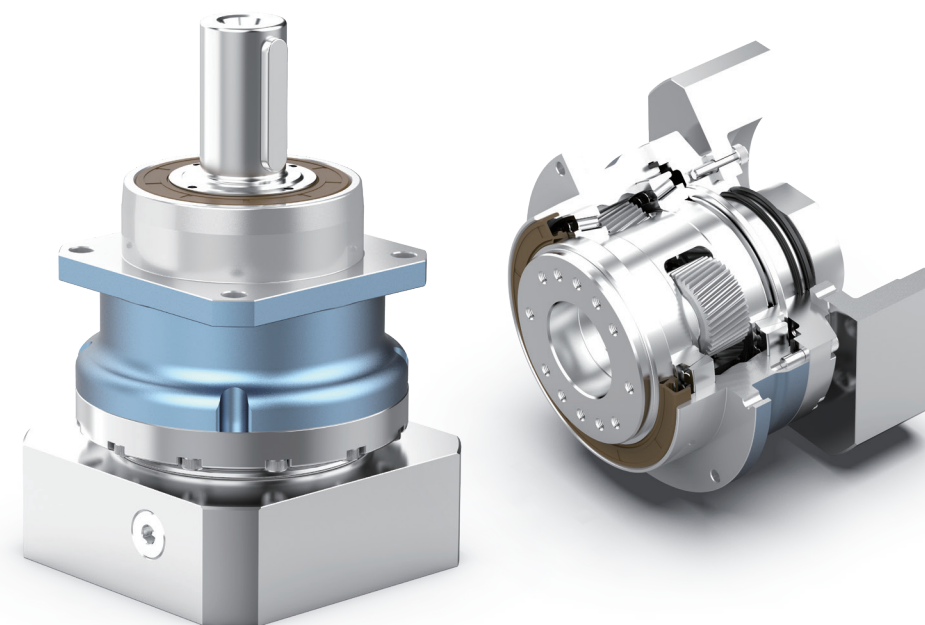




行星减速机产品目录

PLANETARY GEARBOX
CONTENTS



WANSHSIN®

万鑫精工（湖南）股份有限公司
WANSHSIN SEIKOU (HUNAN) CO., LTD
企业官网: www.wanshsin.com
生产基地: 湖南省长沙市宁乡高新区万鑫精工产业园



官微二维码



官网二维码

致力于打造恒久高精度精密减速机

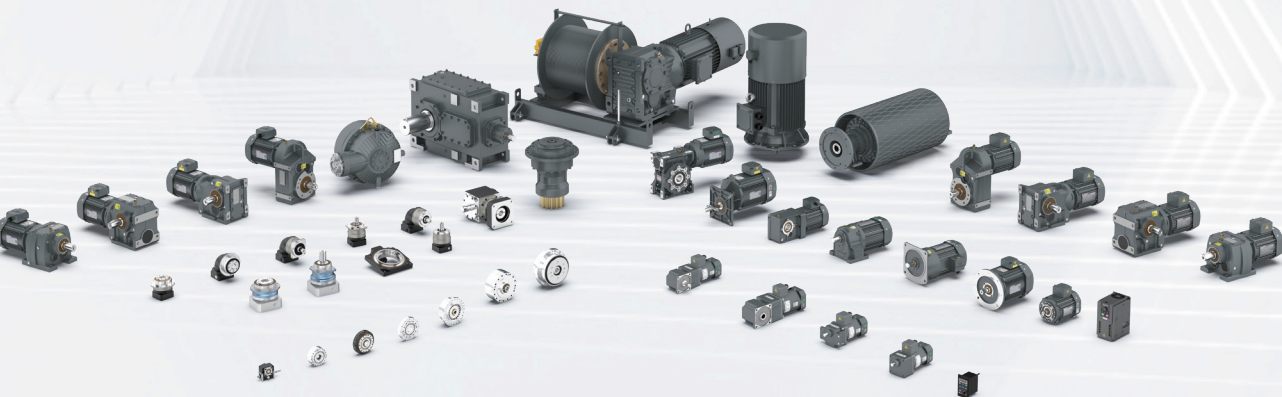
Committed To Build Enduring Highly-precision Gearbox

万鑫精工(湖南)股份有限公司

WANSHSIN Seikou(Hunan)Co., Ltd.

专业化减速机 / 减速电机 / 变频器制造商
智能自动化全套方案提供商

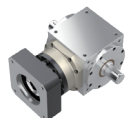
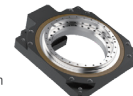
SPECIALIZED REDUCER / REDUCTION MOTOR / INVERTER MANUFACTURER
INTELLIGENT AUTOMATION SOLUTION PROVIDER



致力于打造
恒久高精度精密减速机

Committed To Build
Enduring Highly-precision Gearbox

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万鑫精工(湖南)股份有限公司

WANSHSIN Seikou(Hunan)Co., Ltd.



宁乡总部基地

万鑫精工, 2009年创始于广东东莞, 2014年总部搬迁至湖南长沙。目前在广东东莞、湖南长沙、株洲有三个生产基地, 是国家专精特新重点"小巨人"企业, 拥有湖南省企业技术中心、湖南省减速机工程技术研究中心和长沙技术创新中心三大技术平台, 在湖南总部、日本、深圳设立三大研发中心, 以创新引领行业高质量发展。

万鑫精工, 是集研发、生产、销售、服务于一体的专业化减速机、减速电机、变频器制造商及智能化全套方案提供商, 产品覆盖轻工、重工, 已广泛应用于新能源、机器人、自动化、智能仓储、物流、食品等行业领域。万鑫精工已逐步成为行业内各大龙头企业的长期合作伙伴。

WANSHSIN was founded in 2009 in Dongguan Guangdong, and moved its headquarters to Changsha, Hunan in 2014. At present, WANSHSIN has five manufacturing bases in Dongguan, Changsha and Zhuzhou of Hunan province, and three technology innovation platforms. WANSHSIN has also established three R&D centers in Japan, Shenzhen and Hunan headquarters to lead the high-quality development of the industry with innovation.

WANSHSIN is a professional gearbox and gear motor manufacturer and intelligent automation complete solution provider, integrating R&D, production, sales and service. WANSHSIN ranks the First in this industry in Hunan Province and the Tenth in China. Products include gear reducer, gear motor and controller (servo driver, inverter, etc). They are widely used in lithium battery industry, automated production lines, robots, automobile manufacturing, engineering machinery, warehousing and logistics, metallurgy chemicals, ceramics, animal husbandry and other industries. WANSHSIN has gradually become a reliable long-term partner of those leading enterprises of relevant industries.

核心竞争力

Core Competitiveness



一、研发领先

Leading R&D Capability

先后成立三大研发中心, 以创新引领行业高质量发展。

Three major R&D centers have been established to lead the industry's high-quality development with innovation.

二、品质卓越

Excellent Quality

行业率先启动先进的汽车行业产品质量先期策划; 配置了大量进口国际先进检验/检测设备保证产品质量。

We are the pioneer in introducing and launching the advanced automotive industry quality control standards pre-planning of product quality and have equipped with a large number of imported international advanced inspection/testing equipment to ensure product quality.

三、制造先进

Advanced Manufacturing

拥有上百台总价值过亿元的国内外先进加工设备, 制造能力处于国内领先地位。

We have hundreds of domestic advanced processing equipment with a total value of more than 100 million yuan, and our capacity is in a leading position in China.

四、服务快速

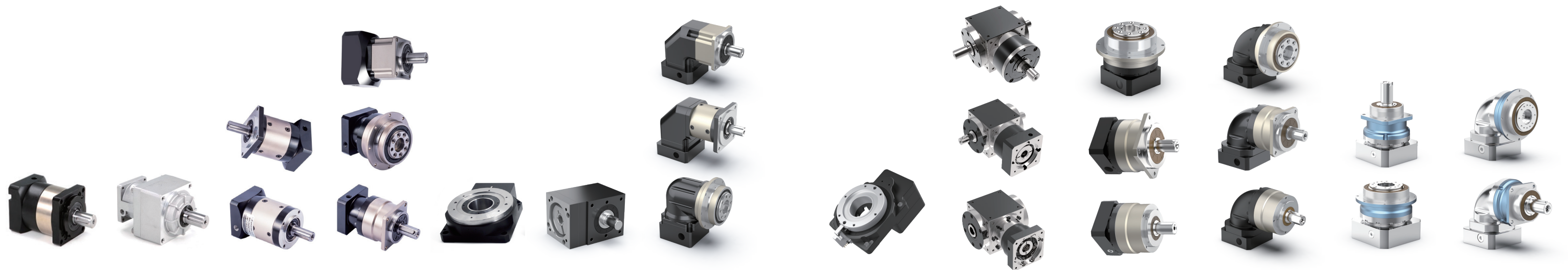
Fast Service

自建仓储系统, 仓储库存足; 交付周期短, 常规产品、非标产品快速交付; 配置国内多家TOP级物流商; 售后响应速度快。

Self built warehouse system with sufficient inventory; Short delivery cycle, fast delivery of conventional and non-standard products; Configure with a number of domestic TOP-level logistics providers; Fast after-sales response.

精密行星发展历程

Development History



2012

WME系列
WME series

2013

WSF系列
WSF series

2014

WPL&WPF系列
WPL&WPF series

2015

WAB&WVRB&
WAE&WAD系列
WAB&WVRB&
WAE&WAD series

2016

WT系列
WT series

2017

WR系列
WR series

2018

R行星转角系列
R Right angle series

2019

WTN系列
WTN series

2020

WAT系列
WAT series

2021

WVRB&WAE&
WAD-B系列
WVRB&WAE&
WAD-B series

2022

WVRBR&WAER&
WADR-B系列
WVRBR&WAER&
WADR-B series

2023

WTH&WSH系列
WTH&WSH series

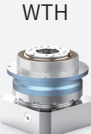
2024

WTHR&WSHR系列
WTHR&WSHR series

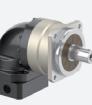
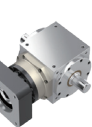
精密行星特性一览

Features

★ 标准Standard / ★★ 加强Enhanced / ★★★ 最优Optimal

	产品 Product	产品结构 Structure	产品特点 Features	输出方式 Output types	最大额定 扭矩(Nm) Max rated torque (Nm)	减速比 Ratio	径向力 Radial force	轴向力 Axial force	空载运 行扭矩 No-load operating torque	经济性 Economy
高 刚 性 High rigidity	 WSH	同轴 Coaxial	•最高的精度和性能 •最高轴向、径向承载能力 •最高的刚性 •安静、高速运行 • highest precision and performance • highest radial and axial loading force • highest rigidity • high speed low noise	• 实心轴 • 配齿轮 • Solid shaft • with pinion	2400	≥3	★★★	★★★★	★★	★★
	 WTH	同轴 Coaxial	•最高的精度和动态性 •最高轴向、径向承载能力 •最高的抗倾覆刚度 •安静运行、尺寸紧凑 • highest precision and dynamic performance • highest radial and axial loading force • highest overturning rigidity • compact dimension with lower noise	• 法兰盘 • 配齿轮 • 法兰盘 • 配齿轮 • flange • with pinion	2050	≥4	★★★★	★★★★	★★	★
	 WSHR	转角 Right angle	•最高轴向、径向承载能力 •轴向尺寸紧凑 • highest radial and axial loading force • compact dimension	• 实心轴 • 配齿轮 • Solid shaft • with pinion	2400	≥3	★★★★	★★★★	★	★
	 WTHR	转角 Right angle	•最高的抗倾覆刚度 •轴向尺寸紧凑 • highest overturning rigidity • compact dimension	• 法兰盘 • 配齿轮 • 法兰盘 • 配齿轮 • flange • with pinion	2050	≥4	★★★★	★★★★	★	★
	 WAD	同轴 Coaxial	•较高的精度和动态性 •可承受较大轴向、径向力 •尺寸紧凑 • high accuracy and dynamism • enduring high radial and axial loading force • compact dimension	• 法兰盘 • 法兰盘 • Flange	2000	≥4	★★	★★	★★★★	★★
通 用 斜 齿 Universal	 WAE	同轴 Coaxial	•较高的精度和动态性 •可承受较大径向力 •安装灵活 • high accuracy and dynamism • enduring high radial loading force • flexible installation	• 实心轴 • Solid shaft	2000	≥3	★★	★	★★★★	★★★★

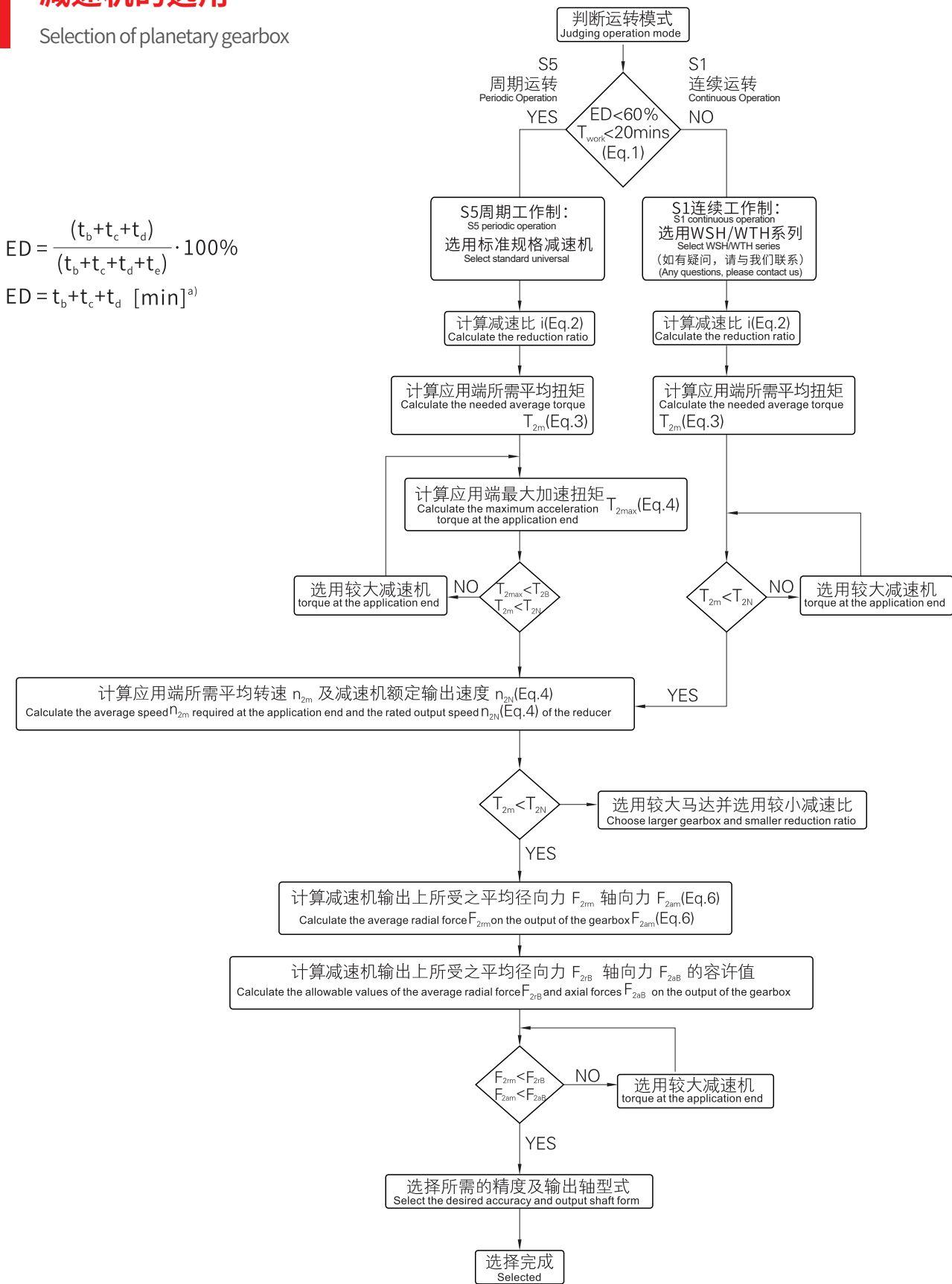
★ 标准Standard / ★★ 加强Enhanced / ★★★ 最优Optimal

	产品 Product	产品结构 Structure	产品特点 Features	输出方式 Output types	最大额定 扭矩(Nm) Max rated torque (Nm)	减速比 Ratio	径向力 Radial force	轴向力 Axial force	空载运 行扭矩 No-load operating torque	经济性 Economy
通 用 斜 齿 Universal	 WVRB	同轴 Coaxial	•较高的精度和动态性 •可承受较大径向力 •经济、高性价比、通用性好 • high accuracy and dynamism • enduring high radial loading force • economical, high cost-effectiveness with good versatility	• 实心轴 • Solid shaft	2000	≥3	★★	★	★★★★	★★★★
	 WADR	转角 Right angle	•轴向尺寸紧凑 • Compact axial size	• 法兰盘 • Flange	2000	≥4	★★	★★	★★	★
	 WAER	转角 Right angle	•轴向尺寸紧凑 • Compact axial size	• 实心轴 • Solid shaft	2000	≥3	★★	★	★★	★★
	 WVRBR	转角 Right angle	•轴向尺寸紧凑 •通用性较好 • Compact axial size • Good versatility	• 实心轴 • Solid shaft	2000	≥3	★★	★	★★	★★
灵 活 Flexible	 WAT	转角 Right angle	•较高的刚性 •最紧凑的轴向尺寸 •安装方式多样化 •根据客户需求定制 • high rigidity • The most compact axial dimension • Diverse installation methods • customizable	• 实心轴 • 空心轴 • 缩紧盘 • solid shaft • hollow shaft • shrink disk	1300	≥1	★★	★★	★★	★★
专 用 Professional	 WTN	平行轴 parallel-axis	•大盘面输出 •轴向承载能力强 •最高的盘面旋转精度 • large diameter flange output • high axial loading force • Highest surface rotation accuracy	• 大盘面 • Big diameter flange	400	≥5	★★	★★★★	★	★★

减速机的选用

Selection of planetary gearbox

$$ED = \frac{(t_b+t_c+t_d)}{(t_b+t_c+t_d+t_e)} \cdot 100\%$$
$$ED = t_b+t_c+t_d \text{ [min]}^a)$$



S5 周期运转之建议事项
一般的应用惯量须符合以下公式:
 $\frac{J_L}{J_m} \leq 4 \times J_m$

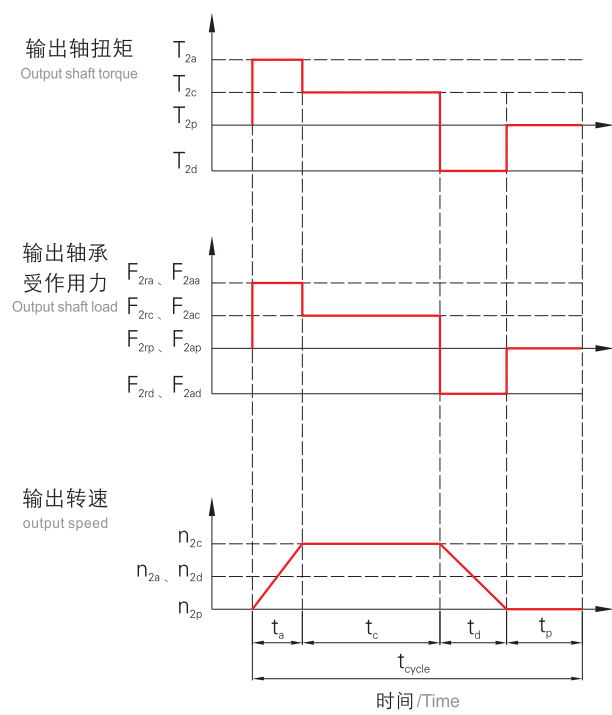
最适当的应用惯量须符合以下公式:
 $\frac{J_L}{J_m} \cong J_m$

J_L : 负载惯量 J_m : 马达惯量

S5 suggestions for cycle operation
General application inertia must conform to the following formula
 $\frac{J_L}{J_m} \leq 4 \times J_m$

The most appropriate application inertia must conform to the following formula
 $\frac{J_L}{J_m} \cong J_m$

J_L : Load inertia J_m : Motor inertia



1 $ED = \frac{t_a+t_c+t_d}{t_{cycle}} \times 100\%$, $t_{work} = t_a+t_c+t_d$

下标说明 Subscript description:
a. 加速, c. 等速, d. 减速, p. 停止 (Eq.1)
a. accelerate, c. constant, d. decelerate, p. stop

2 $i \cong \frac{n_m}{n_{work}}$

n_m : 马达输出速度 n_{work} : 实际应用速度 (Eq.2)
 n_m : Motor output speed n_{work} : Actual application speed

3 $T_{2m} = 3 \sqrt{\frac{n_{2a} \times t_a \times T_{2a}^3 + n_{2c} \times t_c \times T_{2c}^3 + n_{2d} \times t_d \times T_{2d}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.3)

4 $T_{2max} = T_{mB} \times i \times k_s \times \eta$

Ks	周期次数 / 小时
1.0	0~1000
1.1	1000~1500
1.3	1500~2000
1.6	2000~3000
1.8	3000~5000

T_{mB} 马达最大输出扭矩 Motor maximum output torque
 η 减速机运转效率 Gearbox operating efficiency (Eq.4)

5 $n_{2a} = n_{2d} = \frac{1}{2} \times n_{2c}$

$n_{2m} = \frac{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}{T_a+t_c+t_d}$

$n_{2N} = \frac{n_{1N}}{i}$ (Eq.5)

6 $F_{2rm} = 3 \sqrt{\frac{n_{2a} \times t_a \times F_{2ra}^3 + n_{2c} \times t_c \times F_{2rc}^3 + n_{2d} \times t_d \times F_{2rd}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$

$F_{2am} = 3 \sqrt{\frac{n_{2a} \times t_a \times F_{2aa}^3 + n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$ (Eq.6)

油脂及油封选用

Selection for Grease and Oil Seals

工况、环境 Operating Conditions, Environment	油脂 Grease	油封材质 Oil Seal Material
连续工作制S1 ^(d) Continuous Operation S1 ^(d)	润滑油 Lubricating Oil	氟橡胶 Fluoroelastomer rubber
间歇工作制S5 Intermittent Operation S5	润滑脂 Grease	氟橡胶 Fluoroelastomer rubber
低温环境(-60℃~-20℃) ^(e) Low-Temperature Environment (-60℃~-20℃) ^(e)	低温润滑脂 Low-Temperature Grease	丁腈橡胶 Nitrile Rubber
高温环境(>+40℃) ^(e) High-Temperature Environment (>+40℃) ^(e)	高温润滑油 High-Temperature Lubricating Oil	氟橡胶 Fluoroelastomer rubber

(d) S1工作制工况，请联系我们，提供减速机安装位置，可能要增加透气塞，且安装时将透气塞方向朝上；

(e) 高、低温环境，下单时请备注具体的极限温度；

注意：减速机外壳温度，不得超过Tmax≤+90℃

S1(d): Kindly reach out gearbox installation details. Additional breather plug may be required, oriented upwards during installation.

(e) : Please specify exact extreme temperatures for high or low-temperature environments when placing your order.

Caution: Gearbox casing temperature should not exceed Tmax ≤ +90℃.

疲劳工况

Fatigue Conditions

当使用工况中，存在循环疲劳特性时，计算扭矩时需要考虑安全系数。

When operating under conditions involving cyclic fatigue characteristics, it is necessary to consider a safety factor when calculating torque.

根据工况选取安全系数 Selection of Safety Factor Based on Operating Conditions						
加载类型 Load Type	每小时 启/停次数 Z Start/Stop times per Hour	总运行时间(h) Total Operating Time (h)				
		≤5000	10000	15000	25000	50000
		每天运行时间(h) Operating Time per Day (h)				
		h<4	4<h<8	8<h<12	12<h<16	16<h<24
均匀载荷 Uniform Load	Z<10	0.9	1	1.15	1.3	1.6
	10<Z<30	0.95	1.15	1.3	1.5	1.8
	30<Z<100	1	1.25	1.45	1.6	2
轻微冲击 Slight Impact	Z<10	1	1.25	1.45	1.6	2
	10<Z<30	1.1	1.4	1.6	1.8	2.2
	30<Z<100	1.2	1.5	1.7	2	2.4
强烈冲击 Severe Impact	Z<10	1.2	1.5	1.7	2	2.4
	10<Z<30	1.3	1.6	1.8	2.1	2.6
	30<Z<100	1.4	1.75	2	2.3	2.8

高刚性需求

High Rigidity Requirements

当使用工况中，存在较大径向力、轴向力要求，且对精度要求较高时，应优先选用高刚性行星WSH/WTH系列，如必须选用标准系列，需要加固输出轴，请联系我们的工程师。

For applications demanding substantial radial and axial forces with high precision, it is advisable to prioritize the use of the high-rigidity WSH/WTH series. If the standard series is necessary, please contact our engineers for necessary output shaft reinforcement options.

低摩擦扭矩需求

Low Friction Torque Requirements

当使用工况中，对减速机启动瞬时扭矩、运行扭矩、温升要求较高，但对减速机精度要求较低，且无明显冲击载荷，请联系我们，做对应定制。

For applications where there is a high demand for instantaneous and running torque, as well as temperature rise, but low precision is acceptable, and there are no significant impact loads, please reach out to us for corresponding custom solutions.

防护要求

Protection Requirements

工作环境 Operating Environment	防护等级 Protection Level	表面处理 Surface Treatment	螺丝外观 Screw Appearance
一般室内环境 General Indoor Environment	Ip65	默认 Default	镀镍 Nickel Plating
一般室外环境 ^(f) General Outdoor Environment ^(f)	Ip65	喷漆 Paint Coating	达克罗 Dacromet Coating
沿海、化工 ^(g) Coastal, Chemical Industry ^(g)	Ip67	强化喷漆 Enhanced Paint Coating	达克罗 Dacromet Coating

(f) 一般室外环境，请联系我们，或直接推荐使用WSH/WTH系列；

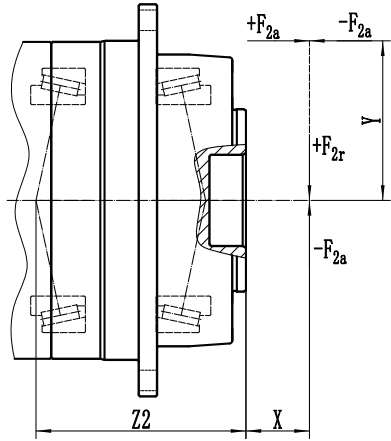
(g) 沿海、化工等腐蚀性环境，请联系我们，如需提高耐腐蚀能力，通过减速机外表面，整个额外增加喷漆工艺。

(f) : For general outdoor environments, please contact us, or consider using the WSH/WTH series directly.

(g): In corrosive environments such as coastal or chemical settings, please get in touch with us. If enhanced corrosion resistance is required, an additional paint coating process can be applied to the entire exterior surface of the gearbox.

WTH轴承受力实例

WTH Series Bearing Load Diagram



最大侧倾力矩/Max Tilting Moment $M_{2K} = \frac{F_{2a} \cdot Y + F_{2r} \cdot (X+Z2)}{1000}$

$M_{2K} : (Nm)$
 $F_{2a}, F_{2r} : (N)$
 $X, Y, Z2 : (mm)$

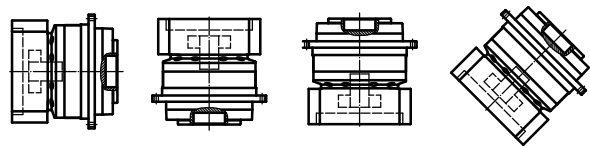
WSH & WSHR	60	75	100	140	180	210
Z2 (mm)	38.8	45.2	85.8	104.7	120.6	146.5
WTH & WTHR	64	90	110	140	200	
Z2 (mm)	46	63.3	69.4	86.2	129.9	

注意:输出转速为100rpm / Applied to the output shaft center at 100rpm

WTH减速机安装位置

WTH Installation Location

- B5-水平
B5-Level
- V1-输出
竖直朝下
V1-Output
vertical down
- V3-输出
竖直朝上
V3-Output
vertical up
- S-任意角度
倾斜安装
S- Any angle
inclined installation

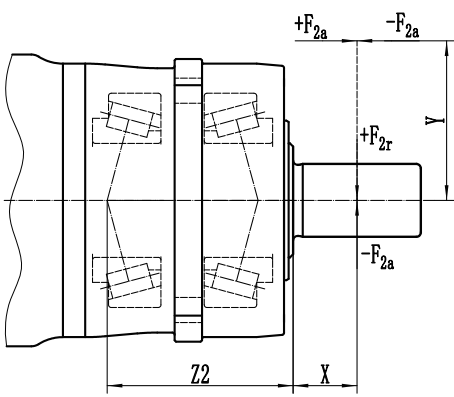


安装位置仅与油量有关, 仅供参考, 不是下单时的必须信息!

The installation position relates to the oil volume only, provided for reference only, not obligatory when ordering!

WSH轴承受力实例

WSH Series Bearing Load Diagram



弧分 (arcmin)

arcmin

1度分为60弧分 (60arcmin=60').如背隙精度标为1 arcmin时, 减速机转一圈, 输出端的角偏差为1/60°; 在实际应用中, 这个角偏差与轴直径有关: $b=2\pi \cdot r \cdot a^\circ/360^\circ$. 就是说, 输出端半径为50mm时, 减速机背隙精度为3'时, 减速机转一圈的偏差为**b=0.044mm**。

1 degree equals 60 arcmin (1°=60'). If the backlash of gearbox is marked as 1 arcmin, it means when the reducer completes one revolution, the angular deviation at the output end is 1/60°. In practical applications, this angular deviation is related to the shaft diameter: output $b = 2\pi \cdot r \cdot a^\circ/360^\circ$. That is when the output shaft diameter is 50 mm, and the gearbox backlash is 3', when the reducer completes one revolution, the angular deviation $b=0.044mm$.

急停扭矩 (T2Not)

Emergency Stop Torque

指减速机输出端所能加载的最大瞬间力矩。这个力矩可在减速机寿命期内加载 1000次。绝对不能超过 1000次! ($T_{2Not}=3 \cdot T_{2N}$)

Refers to the maximum instantaneous torque that can be loaded onto the output end of the reducer. This torque can be loaded 1000 times during the reducer's lifespan. Definitely no more than 1000 times! ($T_{2Not}=3 \cdot T_{2N}$)

占空比 (ED)

Effective Duty Cycle

由一个工作周期确定。通过加速时间 (t_a)、匀速运转 (如果适用) (t_c) 和减速时间 (t_d), 可以计算出以分钟为单位的占空比。考虑停顿时间 t_e 时, 占空比表示为百分比形式。

Determined by one working cycle. Through acceleration time, constant-speed time (if it is appropriate) and deceleration time, we can figure out its duty cycle in minutes. When considering dwell time, the duty cycle is expressed in percentage.

$ED[\%] = \left[\frac{(t_b+t_c+t_d)}{(t_b+t_c+t_d+t_e)} \right] \cdot 100$

运动持续时间
The duration of motion
周期持续时间
The duration of the cycle

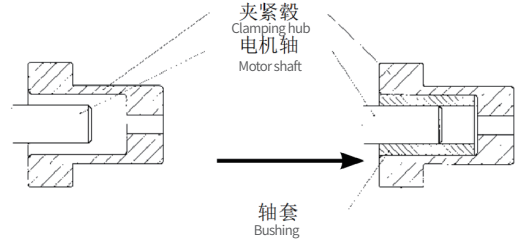
$ED[\text{min}] = t_b+t_c+t_d$

轴套

Bushing

如果电机轴直径, 小于夹紧毂内孔, 则可使用轴套, 来抵消直径差距。

If the motor shaft diameter is less than the bore of clamping hub, a busing can be used to compensate the diameter difference.



工作噪声

Working noise

产品样册中指定的噪音值, 是根据速比 i=10 或 100, 且输入转速 n=2000或3000 rpm 的减速机, 在1m处测得的最大允许值, 减速机的尺寸、速比与转速, 直接影响噪声等级。通常转速越高, 噪音越大; 速比越大, 噪音越小。

The noise value specified in the product catalog represents the maximum allowable value measured at a distance of 1 meter when the gearbox is operating at the ratio i=10 or 100 while its input speed n=2000 or 3000 rpm. The size, reduction ratio and input speed of the gearbox directly affect the noise level. Typically, higher speeds result in louder noise, while larger reduction ratios lead to smaller noise.

连续工作制 (S1)

Continuous Operation S1

连续工作制由→占空比定义。如果占空比 ED>60% 或长于20分钟, 则为连续工作制。→工作模式

Continuous operation is defined by →duty cycle. If the duty cycle ED>60% or longer than 20 minutes, it is continuous operation. →Working mode

周期工作制（S5）
Periodic Operation S5

周期工作制由→占空比定义。如果占空比ED≤60% 且短于 20分钟，则为周期工作制。→工作模式

Periodic operation is defined by→duty cycle. If the duty cycle ED ≤60% and less than 20 minutes, it is periodic operation. →Working mode

空载力矩（T₀₁₂）
No load running torque

指加载到入力轴上，以克服减速机内的摩擦力的力矩。产品目录中指定的值，是在输入转速 n=2000或3000 rpm，20℃的环境温度下持续运转2min所测得的。

Refers to the torque loaded on the input shaft to overcome the internal friction of the reducer. The values specified in the product catalog are measured when the product continuously runs for 2 minutes at an input speed n=2000 or 3000rpm, under an ambient temperature of 20°C.

额定力矩（T2N）
Rated output torque

齿轮箱输出端转速100rpm，环境温度20℃，平稳无冲击的工况下，长时间连续工作(S1工作制)，可以加载的力矩。

The rated output torque refers to the torque that can be loaded when the output speed of the gearbox is 100 rpm, the ambient temperature is 20°C, and under stable, non-impact conditions, for long-term continuous operation (S1 duty cycle).

转动惯量（J）
Rotational inertia

用于表示物体保持自己转动状态（运动或静止）特性参数。

It is used to represent the characteristic parameters of the object maintaining its own rotation state (moving or stationary).

惯量比(λ)
Ratio of inertia

指负载惯量与驱动系统惯量（电机+减速机）之间的比值。惯量比决定了系统的可控性，惯量比越大，高动态的动作过程，就越难精确控制，建议控制惯量比λ<5。减速机可将负载惯量降低 1/i²，输出端的外部负载惯量，折算到入力端的计算公式：

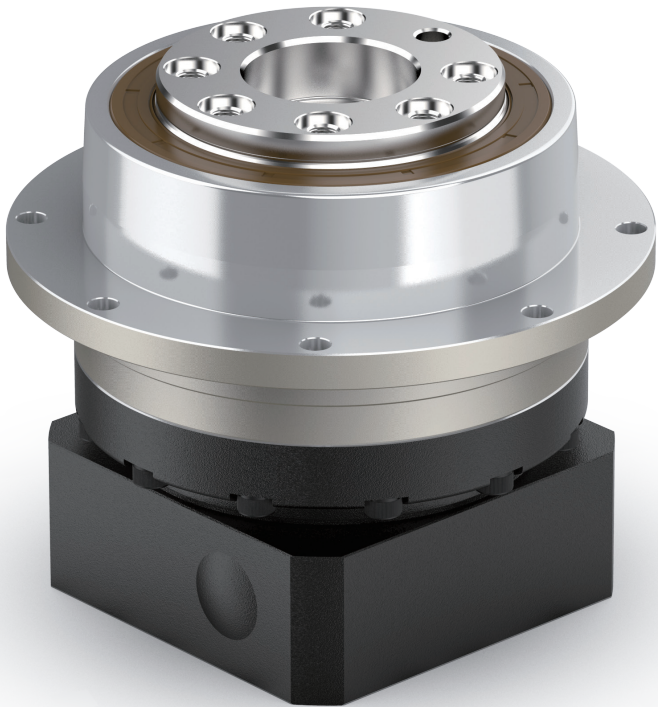
Refers to the ratio between the load inertia and the drive system inertia (motor + reducer). The inertia ratio determines the controllability of the system. The larger the inertia ratio, the more difficult it is to precisely control high-dynamic motion processes. It is recommended that the control inertia ratio be <5. The reducer can reduce the load inertia 1/i². The external load inertia at the output converted to the calculation formula of input force:

$J = J_{\text{负载}} / i^2$	$J = J_{\text{load}} / i^2$
$\lambda = (J + J_1) / J_{\text{电机}}$	$\text{Enter} = (J + J_1) / J_{\text{motor}}$
一般负载 λ ≤ 10	General load input ≤ 10
低动态负载 λ ≤ 5	Low dynamic load ≤ 5
高动态负载 λ ≤ 1	High dynamic load input ≤ 1

WAD Series planetary gearbox
系列行星减速机

FEATURES
产品特点

- » 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- » 行星轮采用满滚针设计，增加接触面积以提高结构刚性与输出扭矩。
- » 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- » 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- » 输入端与马达轴连接采用特殊抱紧方式，以获取最大的夹紧力和零背隙的动力传递。
- » The planet gear carrier and output end adopt an integrated double-supported structure design to ensure maximum torsional rigidity, toughness, and rotational accuracy.
- » The planet gear adopts a full needle roller design to increase the contact area and improve the structural rigidity and output torque.
- » The gear uses low carbon steel carburized and quenched to achieve a surface hardness of HRC62 to obtain the best wear resistance and impact toughness.
- » The gear profile is designed with assistance from imported software to obtain the best possible design, thereby reducing noise.
- » The connection between the input end and the motor shaft adopts a special clamping method to achieve maximum clamping force and zero backlash power transmission.

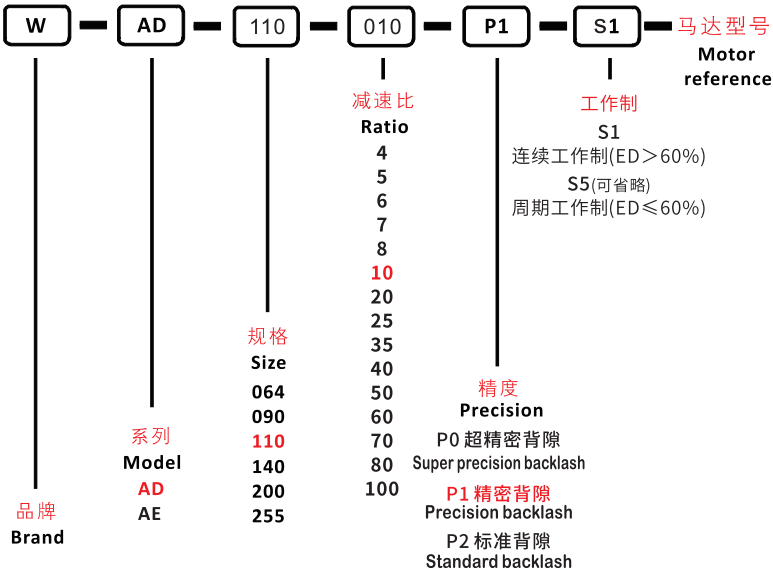


- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
 - 要求用于S1连续工作制时，请与我们联系
 - 或推荐使用WSH/WTB系列
- The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
·if it needs to be used for S1 continuous operation, please contact us
·Alternatively, we recommend using the WSH/WTB series

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

- 机种、型号、扭矩
 - 减速比或出力轴转速
 - 工况及连接方式
 - 数量及安装的机械名称
 - 入力方式和入力转速
 - 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
Ratio or output speed
Working conditions and connection methods
Quantity and installed machine name
Input mode and input speed
Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

减速机性能资料 /Performance

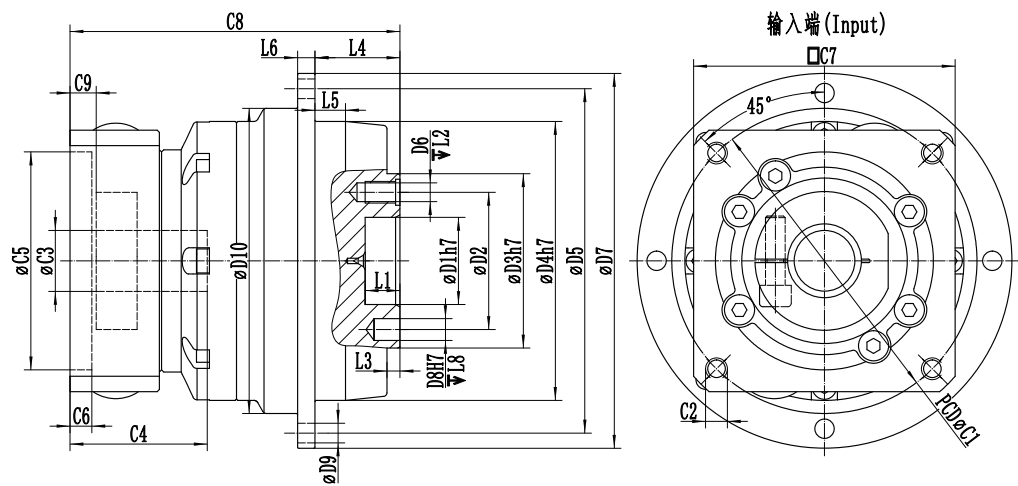
规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAD064	WAD090	WAD110	WAD140	WAD200	WAD255
额定输出力矩 Rated output torque T_{2N}	Nm	1	4	48	130	270	560	1100	1700
			5	60	160	330	650	1200	2000
			6	50	140	300	550	1100	1800
			7	50	140	300	550	1000	1700
			8	40	100	230	450	850	1450
			10	35	90	200	400	760	1350
		2	20	48	130	270	560	1100	1700
			25	60	160	330	650	1200	2000
			35	50	140	300	550	1000	1700
			40	48	130	270	560	1100	1700
			50	60	160	330	650	1200	2000
			60	50	140	300	550	1100	1800
			70	50	140	300	550	1000	1700
			80	40	100	230	450	850	1450
			100	35	90	200	400	760	1350
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	4 ~ 100 三倍额定输出力矩(允许1000次) / Triple rated output torque						
额定输入转速 /Rated input speed n_{1N}	rpm	1,2	4 ~ 100	5000	4000	4000	3000	3000	2000
最大输入转速 /Maximum iutput speed n_{1B}		1,2	4 ~ 100	10000	8000	8000	6000	6000	4000
超精密背隙 /Super precision backlash P_0	arcmin	1	4 ~ 10	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
		2	20 ~ 100	≤3	≤3	≤3	≤3	≤3	≤3
精密背隙 /Precision backlash P_1	arcmin	1	4 ~ 10	≤3	≤3	≤3	≤3	≤3	≤3
		2	20 ~ 100	≤5	≤5	≤5	≤5	≤5	≤5
标准背隙 /Standard backlash P_2	arcmin	1	4 ~ 10	≤5	≤5	≤5	≤5	≤5	≤5
		2	20 ~ 100	≤8	≤8	≤8	≤8	≤8	≤8
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	4 ~ 100	13	31	82	151	440	1006
最大弯曲力矩 Maximum bending torque M_{2KB}	Nm	1,2	4 ~ 100	125	235	430	1300	3064	5900
容许轴向力 /Allowable axial force F_{2aB}	N	1,2	4 ~ 100	1050	2850	3500	10590	16660	29430
使用寿命 /Lifespan	hr	1,2	4 ~ 100	20000					
效率 /Efficiency	%	1	4 ~ 10	≥97%					
		2	20 ~ 100	≥94%					
重量 /Weight	kg	1	4 ~ 10	1.1	2.9	5.4	11.9	31.6	56.1
		2	20 ~ 100	1.7	4.2	8	15.9	36.9	70.4
使用温度 /Working temperature	℃	1,2	4 ~ 100	-20℃~+40℃					
润滑 /Lubricating		1,2	合成润滑油脂 /Synthetic lubricating grease						
防护等级 /IP Grade		1,2	4 ~ 100	IP65					
安装方向 /Installation direction		1,2	4 ~ 100	任意方向 /In any direction					
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1,2	4 ~ 100	≤58	≤60	≤63	≤65	≤67	≤70

ROTATIONAL INERTIA OF REDUCER

减速机转动惯量 /Rotational inertia

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAD064	WAD090	WAD110	WAD140	WAD200	WAD255
转动惯量J1 Rotational inertia J1	kg · cm ²	1	4	0.14	0.51	2.87	7.54	25.03	58.31
			5	0.13	0.47	2.71	7.42	23.29	53.27
			6	0.13	0.45	2.61	7.14	22.48	50.97
			7	0.13	0.45	2.67	7.14	22.48	50.97
			8	0.13	0.44	2.57	7.03	22.51	50.56
			10	0.13	0.44	2.57	7.03	22.51	50.56
		2	20	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.13	0.44	2.57	7.03	22.51
			50	0.03	0.13	0.44	2.57	7.03	22.51
			60	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.13	0.44	2.57	7.03	22.51

1. 减速比 (i=N_{in}/N_{out})
1. Ratio (i=N_{in}/N_{out})
2. 最大加速力矩 T_{2B} =60% of T_{2NOT}
2. Maximum acceleration torque T_{2B} =60% of T_{2NOT}
3. 输出转速 100rpm ,作用于输出轴中心位置
3. Output speed 100rpm, acting on the center of the output shaft

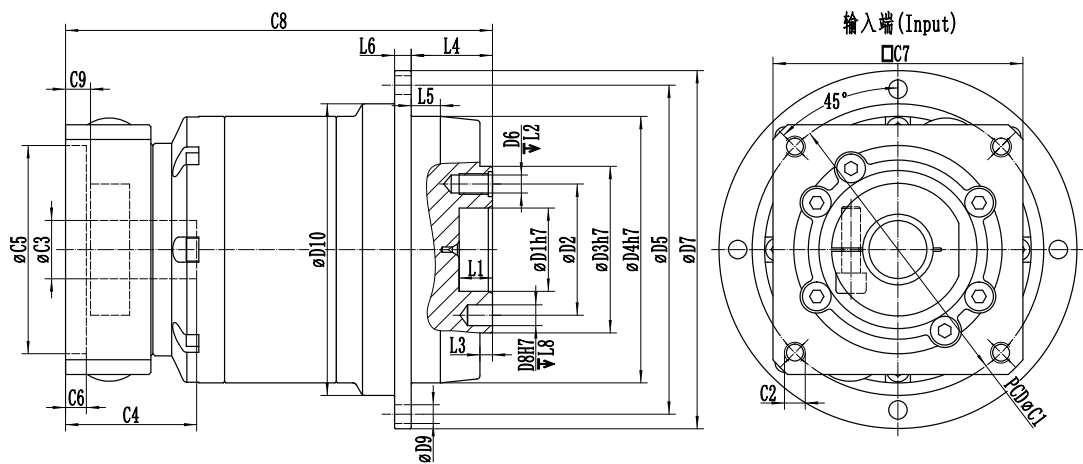


DIMENSION SINGLE SECTION

尺寸 (单节, 减速比 i=4 ~ 10)

Dimension(single stage, Ratio i=4~10)

尺寸 /Dimension	WAD064	WAD090	WAD110	WAD140	WAD200	WAD255
D1 H7	20	31.5	40	50	80	100
D2	31.5	50	63	80	125	140
D3 h7	40	63	80	100	160	180
D4 h7	64	90	110	140	200	255
D5	79	109	135	168	233	280
D6	7×M5×0.8P	7×M6×1P	11×M6×1P	11×M8×1.25P	11×M10×1.5P	12×M16×2.0P
D7	86	118	145	179	247	300
D8 H7	5	6	6	8	10	12
D9	8×4.5	8×5.5	8×5.5	12×6.6	12×9	16×13.5
D10	70	95	125	152	212	255
L1	8	12	12	12	16	20
L2	8	13.5	13.5	17	22.5	30.5
L3	3	6	6	6	8	12
L4	19.5	30	29	38	50	66
L5	7	10	10	14.6	15	20
L6	4	7	8	10	12	18
L7	7.7	7.5	10	12	15	20
L8	6	7	7	7	10	10
C1	70	90	90	145	145	200
C2	M4	M5	M5	M8	M8	M12
C3	≤14	≤19	≤19	≤24	≤24	≤35
C4	31.5	41	41	59	60	81
C5	50	70	70	110	110	114.3
C6	5	5	6	14	14	19
C7	60	80	80	130	130	180
C8	76	85.5	102	120	127.5	153.5
C9	6	9	9.5	23.5	19.5	25



DIMENSION DOUBLE SECTION

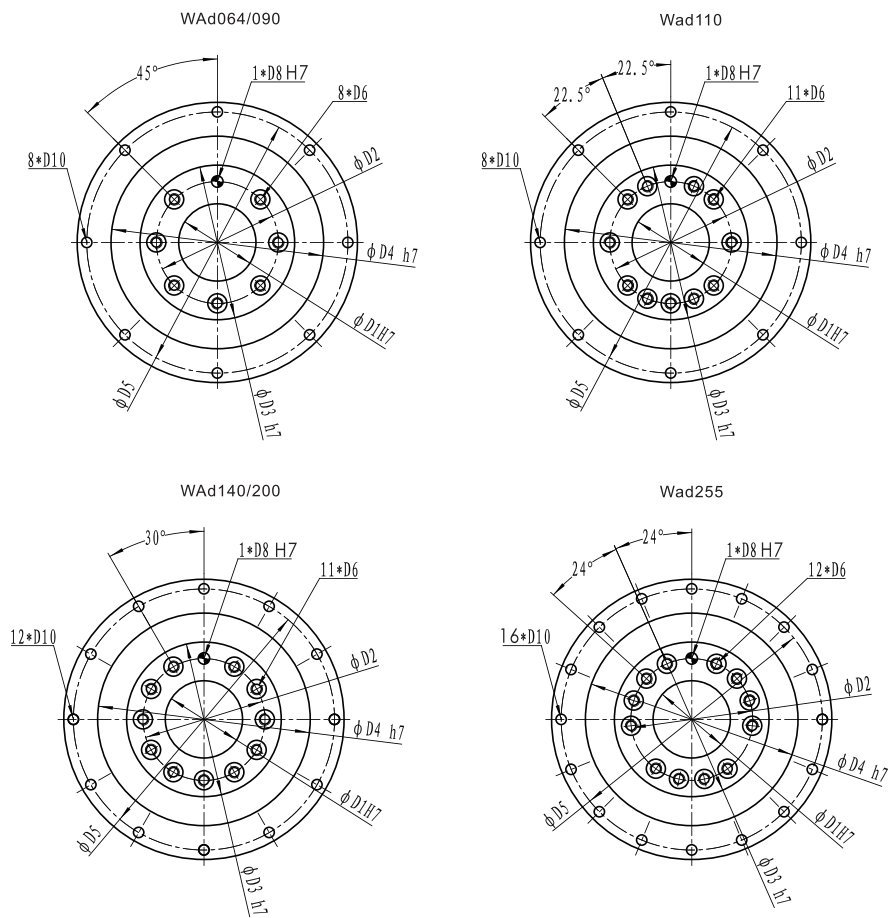
尺寸（双节，减速比 i=20~100）
Dimension(double stage,Ratio i=20~100)

尺寸/Dimension	WAD064		WAD090		WAD110		WAD140		WAD200		WAD255	
D1 H7	20		31.5		40		50		80		100	
D2	31.5		50		63		80		125		140	
D3 h7	40		63		80		100		160		180	
D4 h7	64		90		110		140		200		255	
D5	79		109		135		168		233		280	
D6	7×M5×0.8P		7×M6×1P		11×M6×1P		11×M8×1.25P		11×M10×1.5P		12×M16×2.0P	
D7	86		118		145		179		247		300	
D8 H7	5		6		6		8		10		12	
D9	8×4.5		8×5.5		8×5.5		12×6.6		12×9		16×13.5	
D10	70		95		125		152		212		255	
L1	8		12		12		12		16		20	
L2	8		13.5		13.5		17		22.5		20	
L3	3		6		6		6		8		12	
L4	19.5		30		29		38		50		66	
L5	7		10		10		14.6		15		20	
L6	4		7		8		10		12		18	
L7	7.7		7.5		10		12		15		20	
L8	6		7		7		7		10		10	
C1	70	90	70	90	145	90	145	145	200	200	200	235
C2	M4	M5	M4	M5	M8	M5	M8	M8	M12	M12	M12	M12
C3	≤14	≤19	≤14	≤19	≤24	≤19	≤24	≤24	≤35	≤35	≤42	≤55
C4	31.5	41	31.5	41	59	41	60	60	81	81	114	117
C5	50	70	50	70	110	70	110	110	114.3	114.3	114.3	200
C6	5	5	5	6	14	6	14	14	19	19	10	20
C7	60	80	60	80	130	80	130	130	180	180	180	220
C8	108	121	123	139.5	157.5	142	172.5	194	234.5	298	294	332.5
C9	6	9	6	9.5	21.5	19.5	25	19.5	21	21	46	38.5

DIMENSION

OUTPUT SHAFT DISK SURFACE

出力轴盘面尺寸 /Output Shaft Disk Dimension



尺寸/Dimension	WAD064		WAD090		WAD110		WAD140		WAD200		WAD255	
D1 H7	20		31.5		40		50		80		100	
D2	31.5		50		63		80		125		140	
D3 h7	40		63		80		100		160		180	
D4 h7	64		90		110		140		200		255	
D5	79		109		135		168		233		280	
D6	M5*0.8P		M6*1.0P		M6*1.0P		M8*1.25P		M10*1.5P		M16*2.0P	
D8 H7	5		6		6		8		10		12	
D10	4.5		5.5		5.5		6.8		9		13.5	

WVRB

Series planetary gearbox
系列行星减速机

FEATURES

产品特点

- 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- 行星轮采用满滚针设计，增加接触面积以提高结构刚性与输出扭矩。
- 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- 输入端与马达轴连接采用特殊抱紧方式，以获取最大的夹紧力和零背隙的动力传递。
- The planet gear carrier and output end adopt an integrated double-supported structure design to ensure maximum torsional rigidity, toughness, and rotational accuracy.
- The planet gear adopts a full needle roller design to increase the contact area and improve the structural rigidity and output torque.
- The gear uses low carbon steel carburized and quenched to achieve a surface hardness of HRC62 to obtain the best wear resistance and impact toughness.
- The gear profile is designed with assistance from imported software to obtain the best possible design, thereby reducing noise.
- The connection between the input end and the motor shaft adopts a special clamping method to achieve maximum clamping force and zero backlash power transmission.

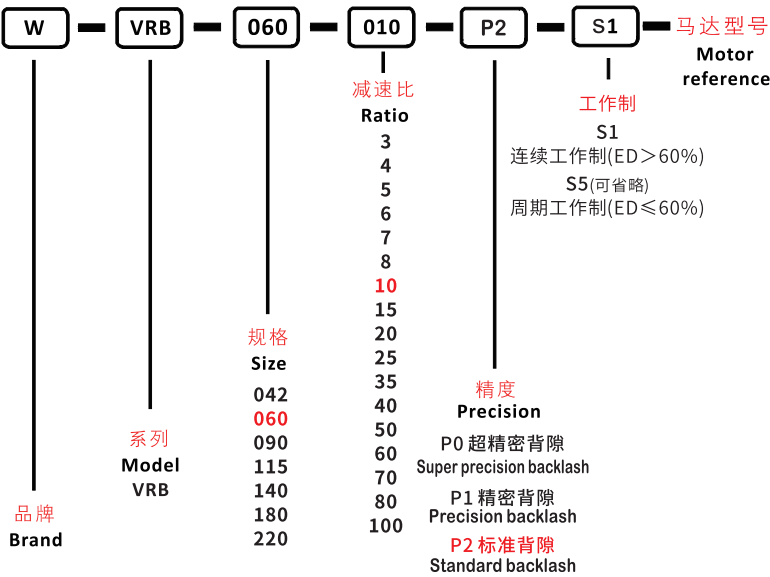


- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
- 要求用于S1连续工作制时，请与我们联系
- 或推荐使用WSH/WTH系列
- The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
- if it needs to be used for S1 continuous operation, please contact us
- Alternatively, we recommend using the WSH/WTH series

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

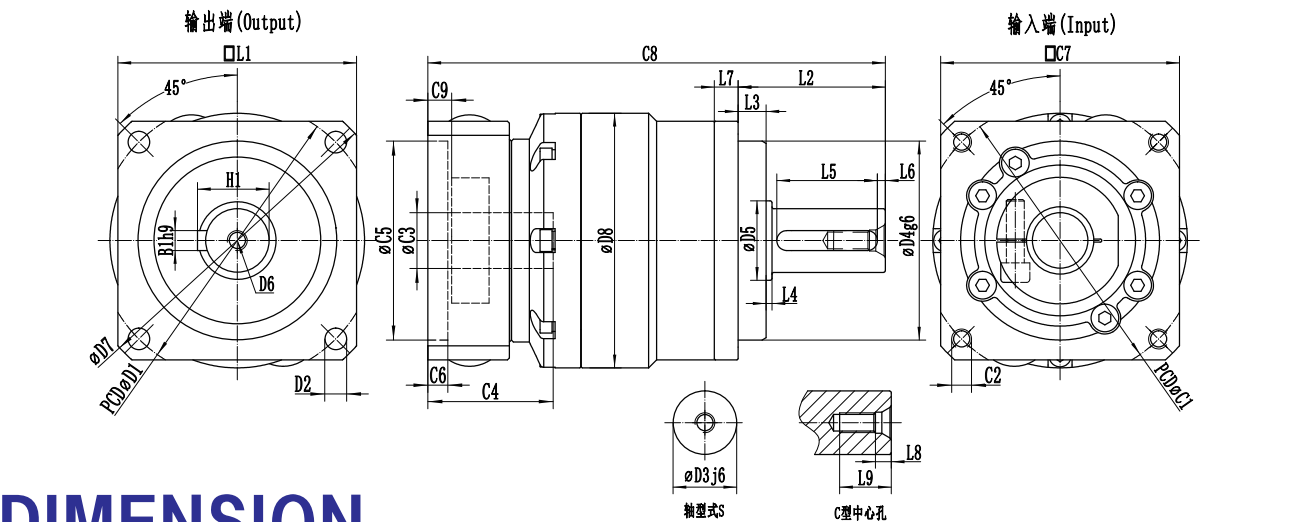
减速机性能资料 /Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WVRB042	WVRB060	WVRB090	WVRB115	WVRB140	WVRB180	WVRB220
额定出力矩 Rated output torque T_{2N}	Nm	1	3	19	50	130	208	342	588	1140
			4	20	55	140	290	542	1050	1700
			5	22	60	160	330	650	1200	2000
			6	20	55	150	310	600	1100	1900
			7	15	50	140	300	550	1000	1700
			8	12	40	100	230	450	850	1450
			10	10	35	90	200	400	760	1350
		2	15	19	50	130	208	342	588	1140
			20	20	55	140	290	542	1050	1700
			25	22	60	160	330	650	1200	2000
			30	20	55	150	310	600	1100	1900
			35	15	50	140	300	550	1000	1700
			40	20	55	140	290	542	1050	1700
			50	22	60	160	330	650	1200	2000
			60	20	55	150	310	600	1100	1900
			70	15	50	140	300	550	1000	1700
			80	12	40	100	230	450	850	1450
			100	10	35	90	200	400	760	1350
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	3 ~ 100	三倍额定出力矩(允许1000次) / Triple rated output torque						
额定输入转速/Rated input speed Ω_{1N}	rpm	1,2	3 ~ 100	5000	5000	4000	4000	3000	3000	2000
最大输入转速/Maximum iutput speed Ω_{1B}	rpm	1,2	3 ~ 100	10000	10000	8000	8000	6000	6000	4000
超精密背隙/Super precision backlash P_0	arcmin	1	3 ~ 10	-	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
		2	15 ~ 100	-	≤3	≤3	≤3	≤3	≤3	≤3
精密背隙/Precision backlash P_1	arcmin	1	3 ~ 10	-	≤3	≤3	≤3	≤3	≤3	≤3
		2	15 ~ 100	-	≤5	≤5	≤5	≤5	≤5	≤5
标准背隙/Standard backlash P_2	arcmin	1	3 ~ 10	≤12	≤5	≤5	≤5	≤5	≤5	≤5
		2	15 ~ 100	≤16	≤8	≤8	≤8	≤8	≤8	≤8
扭转刚性/Torsional rigidity	Nm/arcmin	1,2	3 ~ 100	3	7	14	25	50	145	225
容许径向力/Allowable radial force F_{2aB}	N	1,2	3 ~ 100	780	1530	3250	6700	9400	14500	20000
容许轴向力/Allowable axial force F_{2aB}	N	1,2	3 ~ 100	390	765	1625	3350	4700	7250	10000
使用寿命 /Lifespan	hr	1,2	3 ~ 100	20000						
效率 /Efficiency	%	1	3 ~ 10	≥97%						
		2	15 ~ 100	≥94%						
重量 /Weight	kg	1	3 ~ 10	0.6	1.5	3.7	7.8	16	36	53
		2	15 ~ 100	0.7	1.6	4.2	11	17	37	54
使用温度 /Working temperature	℃	1,2	3 ~ 100	-20℃ - +40℃						
润滑 /Lubricating		1,2	合成润滑油脂 /Synthetic lubricating grease							
防护等级 /IP Grade		1,2	3 ~ 100	IP65						
安装方向 /Installation direction		1,2	3 ~ 100	任意方向 /In any direction						
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1,2	3 ~ 100	≤56	≤58	≤60	≤63	≤65	≤67	≤70

ROTATIONAL INERTIA OF REDUCER

减速机转动惯量 /Rotational inertia

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WVRB042	WVRB060	WVRB090	WVRB115	WVRB140	WVRB180	WVRB220		
转动惯量J1 Rotational inertia J1	kg • cm ²	1	3	0.053	0.22	1.2	5.3	20	44	90		
			4	0.041	0.17	0.95	4.1	15	28	62		
			5	0.036	0.16	0.86	3.6	14	22	52		
			6	0.034	0.15	0.82	3.3	13	18	47		
			7	0.032	0.14	0.79	3.2	12	16	42		
			8	0.031	0.14	0.77	3.1	12	15	40		
			10	0.03	0.14	0.75	3	11	14	38		
		2	15	0.035	0.14	0.72	2.8	11	12	36		
			20	0.034	0.13	0.72	2.8	11	12	35		
			25	0.034	0.13	0.71	2.8	11	12	35		
			30	0.03	0.13	0.7	2.7	10	11	34		
			35	0.034	0.13	0.71	2.7	11	12	35		
			40	0.03	0.13	0.7	2.7	10	11	33		
			50	0.03	0.13	0.69	2.7	10	11	33		
			60	0.03	0.13	0.69	2.7	10	11	33		
			70	0.03	0.13	0.69	2.7	10	11	33		
			80	0.03	0.13	0.69	2.7	10	11	33		
			100	0.03	0.13	0.69	2.7	10	11	33		
1. 减速比 (i=N _{in} /N _{out}) 1. Ratio (i=N _{in} /N _{out})				2. 最大加速力矩 T _{2B} =60% of T _{2NOT} 2. Maximum acceleration torque T _{2B} =60% of T _{2NOT}				3. 输出转数 100rpm ,作用于输出轴中心位置 3. Output speed100rpm,acting on the center of the output shaft				

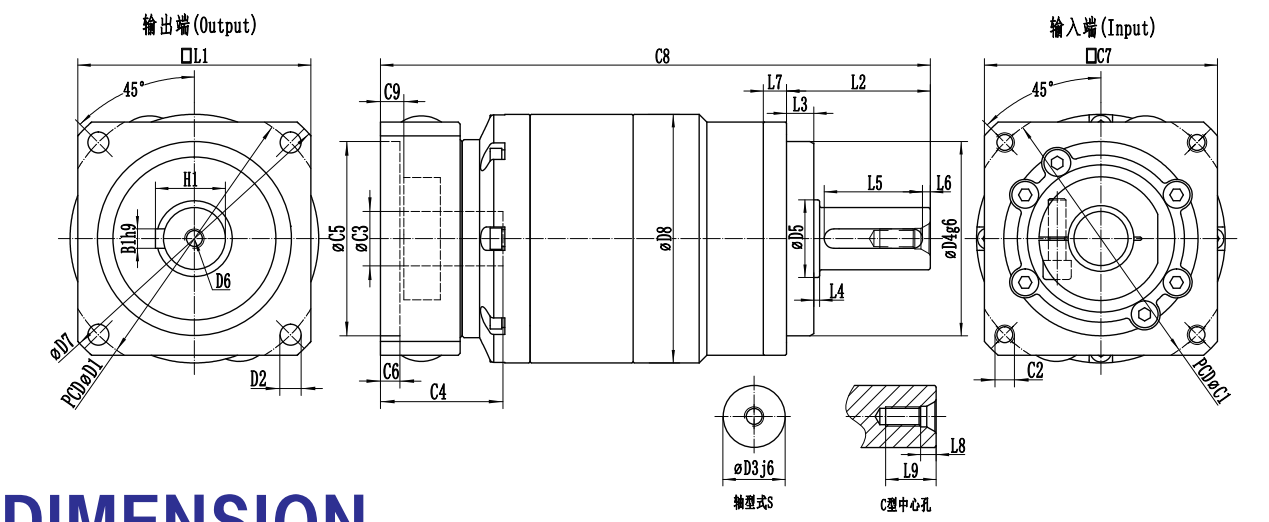


DIMENSION

SINGLE SECTION

尺寸 (单节, 减速比 i=3~10)
Dimension(single stage,Ratio i=3~10)

尺寸 /Dimension	WVRB042		WVRB060		WVRB090		WVRB115		WVRB140			WVRB180			WVRB220															
D1	50		70		100		130		165			215			250															
D2	3.5		5.5		6.6		9		11			13.5			17															
D3 j6	13		16		22		32		40			55			75															
D4 g6	35		50		80		110		130			160			180															
D5	15		18		30		40		50			70			85															
D6	M4*0.7P		M5*0.8P		M8*1.25P		M12*1.75P		M16*2.0P			M20*2.5P			M20*2.5P															
D7	57		80		116		152		185			240			290															
L1	42		60		90		115		140			180			220															
L2	26		37		48		60		95			105			138															
L3	5.5		7		10		7		13			20			30															
L4	1		1.5		1.5		2		3			3			3															
L5	16		25		30		40		63			70			90															
L6	2		1		2		5		5			6			7															
L7	4		6		8		10		12			15			20															
L8	3.2		4.8		7.2		10		12			15			15															
L9	10		12.5		19		28		36			42			42															
C1	46	70	70	90	90	145	145	200	145	200	200	200	200	235	200	235														
C2	M4	M4	M4	M5	M5	M8	M8	M12	M8	M12	M12	M12	M12	M12	M12	M12														
C3	≤8	≤11	≤14	≤19	≤19	≤24	≤24	≤35	≤24	≤35	≤42	≤35	≤42	≤55	≤42	≤55														
C4	26	31.5	31.5	41	41	59	60	81	60	81	114	81	114	117	114	117														
C5	30	50	50	70	70	110	110	114.3	110	114.3	114.3	114.3	114.3	200	114.3	200														
C6	5	5	5	5	6	14	14	19	14	19	15	8	10	24	20	20														
C7	48	60	60	80	80	130	130	180	130	180	180	180	180	220	180	220														
C8	86	95	115	124.5	147	165	199.5	225.5	258	279	312	285	318	321	374	377														
C9	6		6		9		9.5		21.5		19.5		23.5		20.5		21		54		15		46		35		35.5		38.5	
B1 h9	5		5		6		10		12			16			20															
H1	15		18		24.5		35		43			59			79.5															



DIMENSION

SINGLE SECTION

尺寸 (双节, 减速比 i=15~100)
Dimension(double stage,Ratio i=15~100)

尺寸 /Dimension	WVRB042		WVRB060		WVRB090			WVRB115		WVRB140		WVRB180		WVRB220	
D1	50		70		100			130		165		215		250	
D2	3.5		5.5		6.6			9		11		13.5		17	
D3 j6	13		16		22			32		40		55		75	
D4 g6	35		50		80			110		130		160		180	
D5	15		18		30			40		50		70		85	
D6	M4*0.7P		M5*0.8P		M8*1.25P			M12*1.75P		M16*2.0P		M20*2.5P		M20*2.5P	
D7	57		80		116			152		185		240		290	
L1	42		60		90			115		140		180		220	
L2	26		37		48			60		95		105		138	
L3	5.5		7		10			7		13		20		30	
L4	1		1.5		1.5			2		3		3		3	
L5	16		25		30			40		63		70		90	
L6	2		1		2			5		5		6		7	
L7	4		7		8			10		12		15		20	
L8	3.2		4.8		7.2			10		12		15		15	
L9	10		12.5		19			28		36		42		42	
C1	46	70	70	90	70	90	145	90	145	145	200	200	200	200	235
C2	M4	M4	M4	M5	M4	M5	M8	M5	M8	M8	M12	M12	M12	M12	M12
C3	≤8	≤11	≤14	≤19	≤14	≤19	≤24	≤19	≤24	≤24	≤35	≤35	≤42	≤42	≤55
C4	26	31.5	31.5	41	31.5	41	59	41	60	60	80	81	114	114	117
C5	30	50	50	70	50	70	110	70	110	110	114.3	114.3	114.3	114.3	200
C6	5	5	5	5	5	6	14	6	14	14	19	19	10	10	20
C7	48	60	60	80	60	80	130	80	130	130	180	180	180	180	220
C8	107	116	147	160	168	184.5	202.5	214	244.5	299.5	340	344.5	386.5	441.5	444.5
C9	6	11.5	6	9	6	9.5	21.5	19.5	25	19.5	21	21	46	46	38.5
B1 h9	5		5		6			10		12		16		20	
H1	15		18		24.5			35		43		59		79.5	

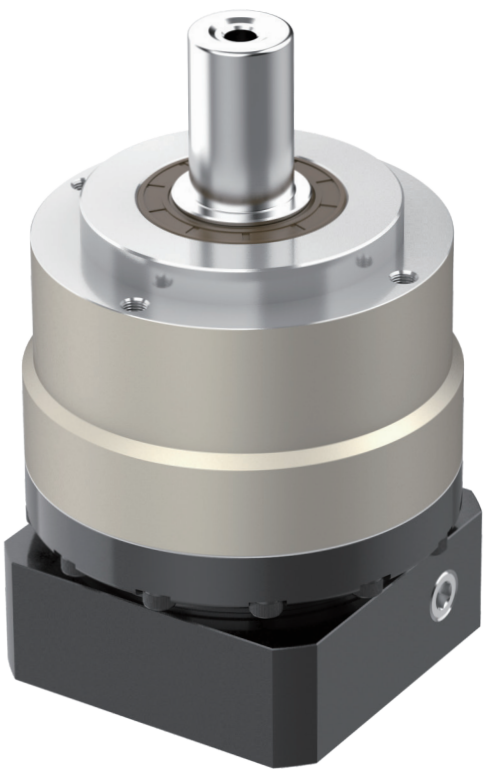
WAE

Series planetary gearbox
系列行星减速机

FEATURES

产品特点

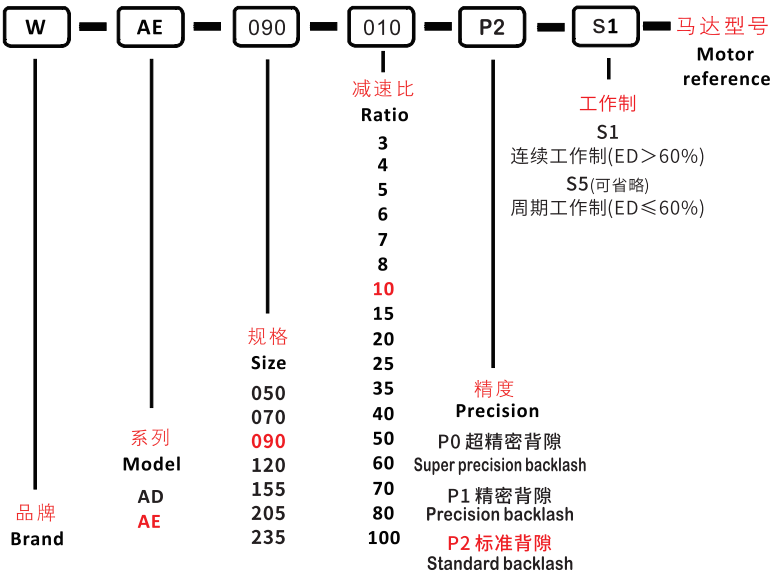
- » 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- » 行星轮采用满滚针设计，增加接触面积以提高结构刚性 with 输出扭矩。
- » 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- » 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- » 输入端与马达轴连接采用特殊抱紧方式，以获取最大的夹紧力和零背隙的动力传递。
- » The planet gear carrier and output end adopt an integrated double-supported structure design to ensure maximum torsional rigidity, toughness, and rotational accuracy.
- » The planet gear adopts a full needle roller design to increase the contact area and improve the structural rigidity and output torque.
- » The gear uses low carbon steel carburized and quenched to achieve a surface hardness of HRC62 to obtain the best wear resistance and impact toughness.
- » The gear profile is designed with assistance from imported software to obtain the best possible design, thereby reducing noise.
- » The connection between the input end and the motor shaft adopts a special clamping method to achieve maximum clamping force and zero backlash power transmission.



- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
- 要求用于S1连续工作制时，请与我们联系
- 或推荐使用WSH/WTH系列
- The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
- if it needs to be used for S1 continuous operation, please contact us
- Alternatively, we recommend using the WSH/WTH series

INDICATION FOR MODEL
SELECTION

机种型号表示



GENERAL NOTICES

订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

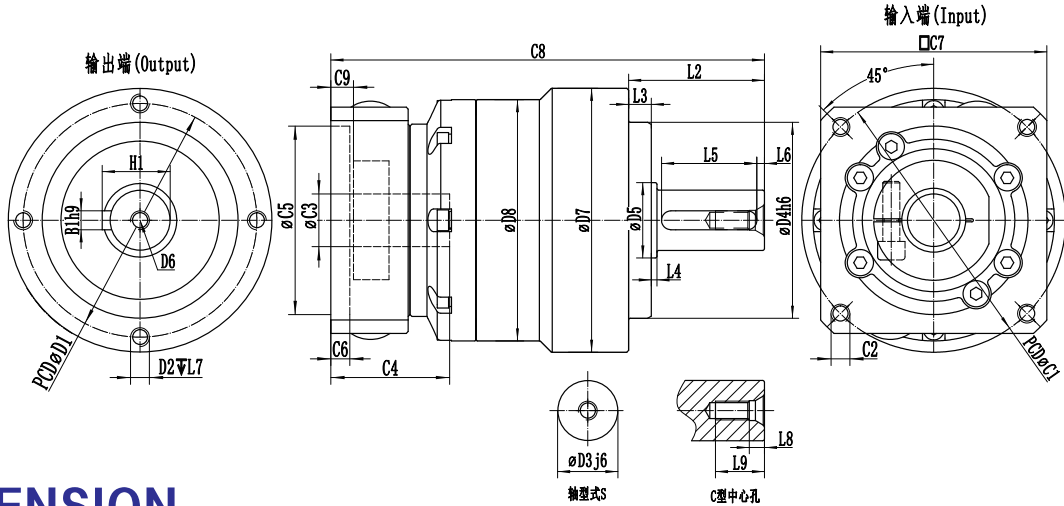
减速机性能资料/Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
额定输出力矩 Rated output torque T_{2N}	Nm	1	3	20	55	130	208	342	588	1140
			4	19	50	140	290	542	1050	1700
			5	22	60	160	330	650	1200	2000
			6	20	55	150	310	600	1100	1900
			7	15	50	140	300	550	1000	1700
			8	12	40	100	230	450	850	1450
			10	10	35	90	200	400	760	1350
		2	15	20	55	130	208	342	588	1140
			20	19	50	140	290	542	1050	1700
			25	22	60	160	330	650	1200	2000
			30	20	55	150	310	600	1100	1900
			35	15	50	140	300	550	1000	1700
			40	19	50	140	290	542	1050	1700
			50	22	60	160	330	650	1200	2000
			60	20	55	150	310	600	1100	1900
			70	15	50	140	300	550	1000	1700
			80	12	40	100	230	450	850	1450
			100	10	35	90	200	400	760	1350
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	3倍额定输出力矩(允许1000次) / Triple rated output torque							
额定输入转速 /Rated input speed n_{1N}	rpm	1,2	3 ~ 100	5000	5000	4000	4000	3000	3000	2000
最大输入转速 /Maximum iutput speed n_{1B}		1,2	3 ~ 100	10000	10000	8000	8000	6000	6000	4000
超精密背隙 /Super precision backlash P_0	arcmin	1	3 ~ 10	-	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5	≤1.5
		2	15 ~ 100	-	≤3	≤3	≤3	≤3	≤3	≤3
精密背隙 /Precision backlash P_1	arcmin	1	3 ~ 10	-	≤3	≤3	≤3	≤3	≤3	≤3
		2	15 ~ 100	-	≤5	≤5	≤5	≤5	≤5	≤5
标准背隙 /Standard backlash P_2	arcmin	1	3 ~ 10	≤12	≤5	≤5	≤5	≤5	≤5	≤5
		2	15 ~ 100	≤16	≤8	≤8	≤8	≤8	≤8	≤8
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	3 ~ 100	3	7	14	25	50	145	225
容许径向力 /Allowable radial force F_{2aB}	N	1,2	3 ~ 100	780	1530	3250	6700	9400	14500	20000
容许轴向力 /Allowable axial force F_{2aB}	N	1,2	3 ~ 100	390	765	1625	3350	4700	7250	10000
使用寿命 /Lifespan	hr	1,2	3 ~ 100	20000						
效率 /Efficiency	%	1	3 ~ 10	≥97%						
		2	15 ~ 100	≥94%						
重量 /Weight	kg	1	3 ~ 10	0.6	1.2	3.7	7.5	16	36	53
		2	15 ~ 100	0.7	1.6	4.2	10.7	17	37	54
使用温度 /Working temperature	℃	1,2	3 ~ 100	-20℃ - +40℃						
润滑 /Lubricating		1,2	合成润滑油脂 /Synthetic lubricating grease							
防护等级 /IP Grade		1,2	3 ~ 100	IP65						
安装方向 /Installation direction		1,2	3 ~ 100	任意方向 /In any direction						
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1,2	3 ~ 100	≤56	≤58	≤60	≤63	≤65	≤67	≤70

ROTATIONAL INERTIA OF REDUCER

减速机转动惯量 /Rotational inertia

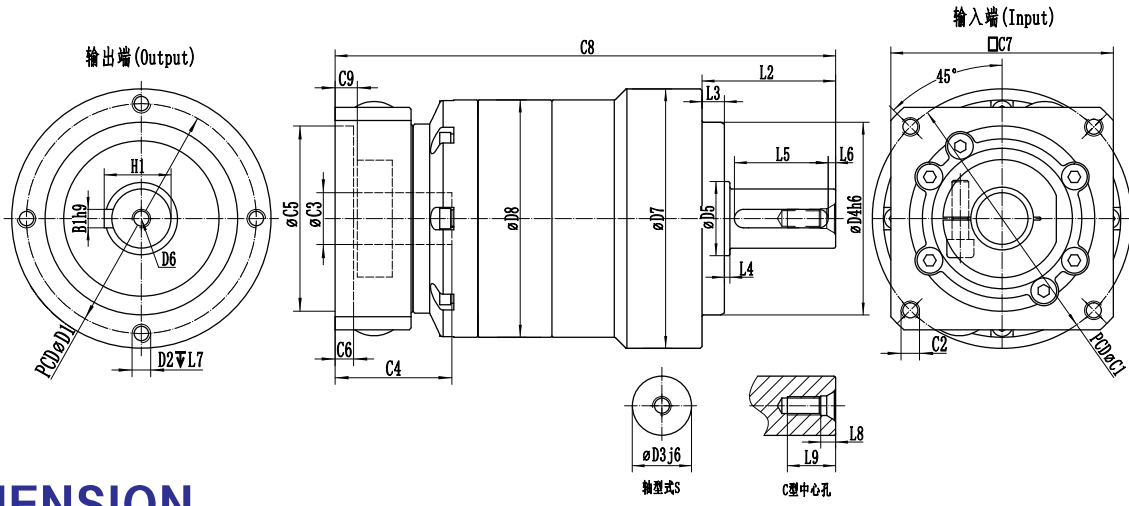
规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
转动惯量J1 Rotational inertia J1	kg · cm ²	1	3	0.03	0.16	0.61	3.25	9.21	28.98	69.61
			4	0.03	0.14	0.48	2.74	7.54	23.67	54.37
			5	0.03	0.13	0.47	2.71	7.42	23.29	53.27
			6	0.03	0.13	0.45	2.65	7.25	22.75	51.72
			7	0.03	0.13	0.45	2.62	7.14	22.48	50.97
			8	0.03	0.13	0.44	2.58	7.07	22.59	50.84
			10	0.03	0.13	0.44	2.57	7.03	22.51	50.56
		2	15	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			20	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			25	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			30	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			35	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			40	0.03	0.03	0.13	0.47	2.71	7.42	23.29
			50	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			60	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			70	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			80	0.03	0.03	0.13	0.44	2.57	7.03	22.51
			100	0.03	0.03	0.13	0.44	2.57	7.03	22.51
1.减速比 (i=N _{in} /N _{out}) 1. Ratio(i=N _{in} /N _{out})				2.最大加速力矩 T _{2B} =60% of T _{2NOT} 2. Maximum acceleration torque T _{2B} =60% of T _{2NOT}				3. 输出转数 100rpm ,作用于输出轴中心位置 3. Output speed100rpm,acting on the center of the output shaft		



DIMENSION
SINGLE SECTION

尺寸 (单节, 减速比 i=3~10)
Dimension(single stage,Ratio i=3~10)

尺寸 /Dimension	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
D1	44	62	80	108	140	184	210
D2	M4*0.7P	M5*0.8P	M6*1.0P	M8*1.25P	M10*1.5P	M12*1.75P	M16*2.0P
D3 j6	12	16	22	32	40	55	75
D4 g6	35	52	68	90	120	160	180
D5	15	18	30	40	50	70	85
D6	M4*0.7P	M5*0.8P	M8*1.25P	M12*1.75P	M16*2.0P	M20*2.5P	M20*2.5P
D7	50	70	90	120	155	205	235
D8	53	64	94	125	150	200	225
L1	-	-	-	-	-	-	-
L2	24.5	36	46	70	97	100	126
L3	4	6.5		17	15	15	18
L4	1	1	1	1.5	3	3	3
L5	14	25	30	40	63	70	90
L6	2	1	2	5	5	6	7
L7	10	10	12	16	20	22	28
L8	3.2	4.8	7.2	10	12	15	15
L9	10	12.5	19	28	36	42	42
C1	46	70	90	90	145	145	200
C2	M4*0.7P	M4	M5	M5	M8	M8	M12
C3	≤8	≤14	≤19	≤19	≤24	≤24	≤35
C4	26	31.5	41	41	59	60	81
C5	30	50	70	70	110	110	114.3
C6	5	5	5	6	14	14	19
C7	42	60	80	80	130	130	180
C8	86	115	124.5	147	165	199.5	225.5
C9	6	6	9	9.5	21.5	19.5	23.5
B1 h9	4	5	6	10	12	16	20
H1	13.5	18	24.5	35	43	59	79.5



DIMENSION
DOUBLE SECTION

尺寸 (双节, 减速比 i=15~100)
Dimension(double stage,Ratio i=15~100)

尺寸 /Dimension	WAE050	WAE070	WAE090	WAE120	WAE155	WAE205	WAE235
D1	44	62	80	108	140	184	210
D2	M4*0.7P	M5*0.8P	M6*1.0P	M8*1.25P	M10*1.5P	M12*1.75P	M16*2.0P
D3 j6	12	16	22	32	40	55	75
D4 g6	35	52	68	90	120	160	180
D5	15	18	30	40	50	70	85
D6	M4*0.7P	M5*0.8P	M8*1.25P	M12*1.75P	M16*2.0P	M20*2.5P	M20*2.5P
D7	50	70	90	120	155	205	235
D8	53	64	94	125	150	200	225
L1	-	-	-	-	-	-	-
L2	24.5	36	46	70	97	100	126
L3	4	6.5	8	17	15	15	18
L4	1	1	1	1.5	3	3	3
L5	14	25	30	40	63	70	90
L6	2	1	2	5	5	6	7
L7	10	10	12	16	20	22	28
L8	3.2	4.8	7.2	10	12	15	15
L9	10	12.5	19	28	36	42	42
C1	46	70	90	90	145	145	200
C2	M4*0.7P	M4	M5	M4	M5	M8	M5
C3	≤8	≤14	≤19	≤14	≤19	≤24	≤19
C4	26	31.5	41	31.5	41	59	41
C5	30	50	70	50	70	110	70
C6	5	5	5	5	6	14	6
C7	42	60	80	60	80	130	80
C8	107	147	160	168	184.5	202.5	214
C9	6	6	9	6	9.5	21.5	19.5
B1 h9	4	5	6	10	12	16	20
H1	13.5	18	24.5	35	43	59	79.5

WADR

Series planetary gearbox
系列行星减速机

FEATURES

产品特点

- 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- 行星轮采用满滚针设计，增加接触面积以提高结构刚性与输出扭矩。
- 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- 采用蜗线伞齿轮设计，容许输出扭矩高、比直伞齿轮高30%以上。
- 高容许输入转速，比直伞齿轮输入高8倍以上。
- 蜗线伞齿轮的啮合齿印，经最佳优化设计，接触齿面负载均一，运转寿命长。
- 蜗线伞齿轮啮合，经最佳运动误差分析与严格的制程控制，以确保高精度的运转背隙。
- Planetary boom and output shaft are intergrated structure designed to ensure maximum torsional rigidity.
- Planetary wheel with full needle design, increase the contact area to improve the rigidity and output torque.
- The gears are carburized and quenched to the HRC62 with low carbon steel surface for optimum wear and impact toughness.
- Gears refer to foreign imported software-assisted design to obtain the best tooth shape to reduce noise.
- Adopt spiral bevel gear design, allow high output torque, more than 30% higher than straight bevel gear.
- High tolerance input speed, more than 8 times higher than straight bevel gear input.
- The meshing tooth imprint of spiral bevel gear has been optimized by optimum design, and the contact tooth surface load is uniform, and long running life.
- Cochlear bevel gears are meshed by optimum motion error analysis and strict process control to ensure high precision running back clearance.

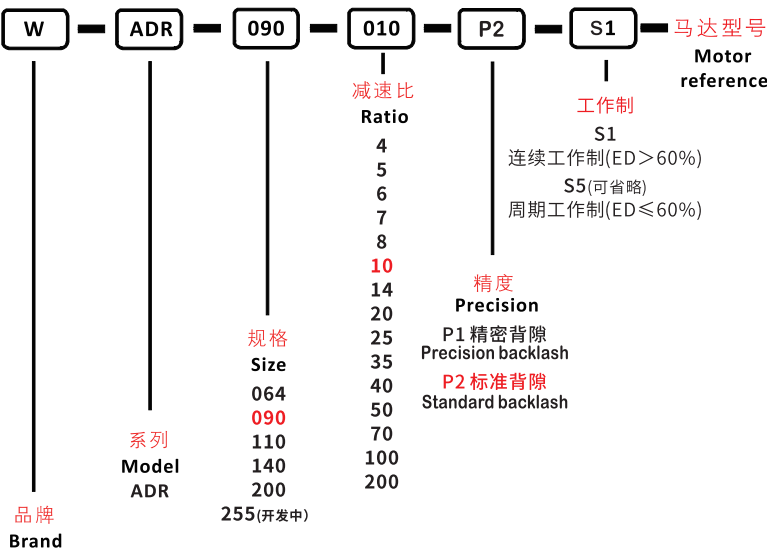


- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
- 要求用于S1连续工作制时，请与我们联系
- 或推荐使用WSHR/WTHR系列
- The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
- if it needs to be used for S1 continuous operation, please contact us
- Alternatively, we recommend using the WSH/WTH series

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

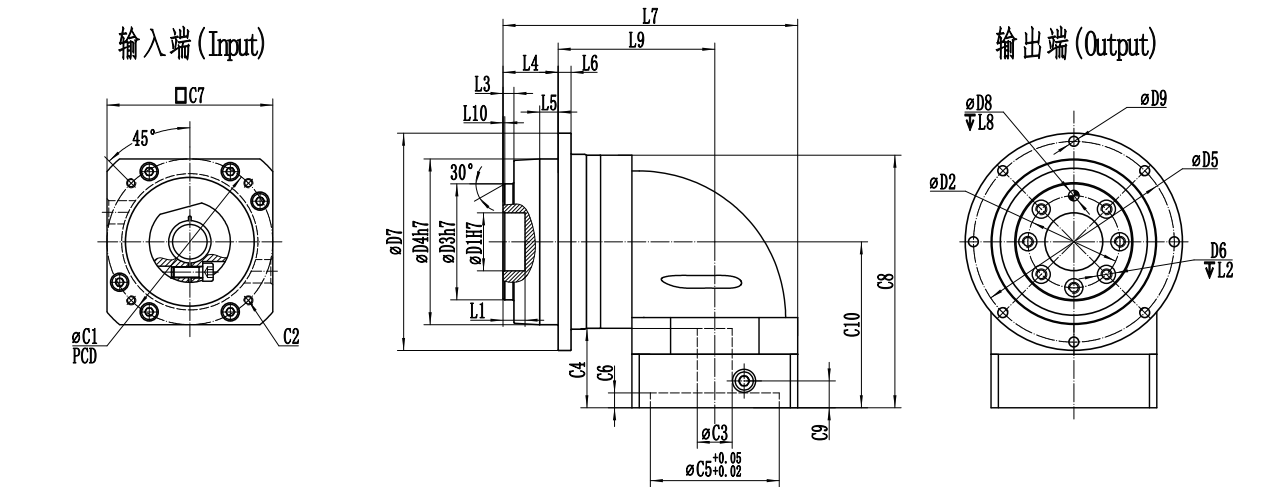
PLANETARY GEARBOX

减速机性能资料/Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WADR064	WADR090	WADR110	WADR140	WADR200	WADR255
额定输出力矩 Rated output torque T _{2N}	Nm	1	4	48	130	270	560	1100	-
			5	60	160	330	650	1200	-
			6	50	140	300	550	1100	-
			7	50	140	300	550	1000	-
			8	48	130	270	560	1100	-
			10	60	160	330	650	1200	-
			14	50	140	300	550	1000	-
			20	35	90	200	400	760	-
		2	25	60	160	330	650	1200	-
			35	50	140	300	550	1000	-
			40	48	130	270	560	1100	-
			50	60	160	330	650	1200	-
			70	50	140	300	550	1000	-
			100	60	160	330	650	1200	-
			140	50	140	300	550	1000	-
			200	35	90	200	400	760	-
急停扭矩 /Emergency stop torque T _{2NOT}	Nm	1,2	4~200	三倍额定输出力矩(允许1000次) / Triple rated output torque					-
额定输入转速 /Rated input speed n _{1N}	rpm	1,2	4~200	5000	4000	4000	3000	3000	-
最大输入转速 /Maximum iutput speed n _{1B}	rpm	1,2	4~200	10000	8000	8000	6000	6000	-
精密背隙 /Precision backlash P ₁	arcmin	1	4~20	≤5	≤5	≤5	≤5	≤5	-
		2	25~200	≤7	≤7	≤7	≤7	≤7	-
标准背隙 /Standard backlash P ₂	arcmin	1	4~20	≤7	≤7	≤7	≤7	≤7	-
		2	25~200	≤10	≤10	≤10	≤10	≤10	-
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	4~200	13	31	82	151	440	-
最大弯曲力矩 Maximum bending torque M _{2KB}	Nm	1,2	4~200	125	235	430	1300	3064	-
容许轴向力 /Allowable axial force F _{2aB}	N	1,2	4~200	1050	2850	3500	10590	16660	-
使用寿命 /Lifespan	hr	1,2	4~200	20000					-
效率 /Efficiency	%	1	≥95%					-	
		2	≥92%					-	
重量 /Weight	kg	1	4~20	1.9	4.5	9.8	20.1	46.6	-
		2	25~200	2.1	5.9	10.5	21.9	53.9	-
使用温度 /Working temperature	℃	1,2	4~200	-20℃ - +40℃					-
润滑 /Lubricating		合成润滑脂 /Synthetic lubricating grease							
防护等级 /IP Grade		1,2	4~200	IP65					-
安装方向 /Installation direction		1,2	4~200	任意方向 /In any direction					-
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1,2	4~200	≤63	≤65	≤68	≤70	≤72	-

减速机转动惯量 /Rotational inertia

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WADR064	WADR090	WADR110	WADR140	WADR200	WADR255
转动惯量J1 Rotational inertia J1	kg.cm ²	1	4~10	0.35	2.25	6.84	23.4	-	-
			14	0.07	1.87	6.25	21.8	-	-
			20	0.07	1.87	6.25	21.8	-	-
		2	25~100	0.09	0.35	2.25	6.84	-	-
			140~200	-	0.31	1.87	6.25	-	-



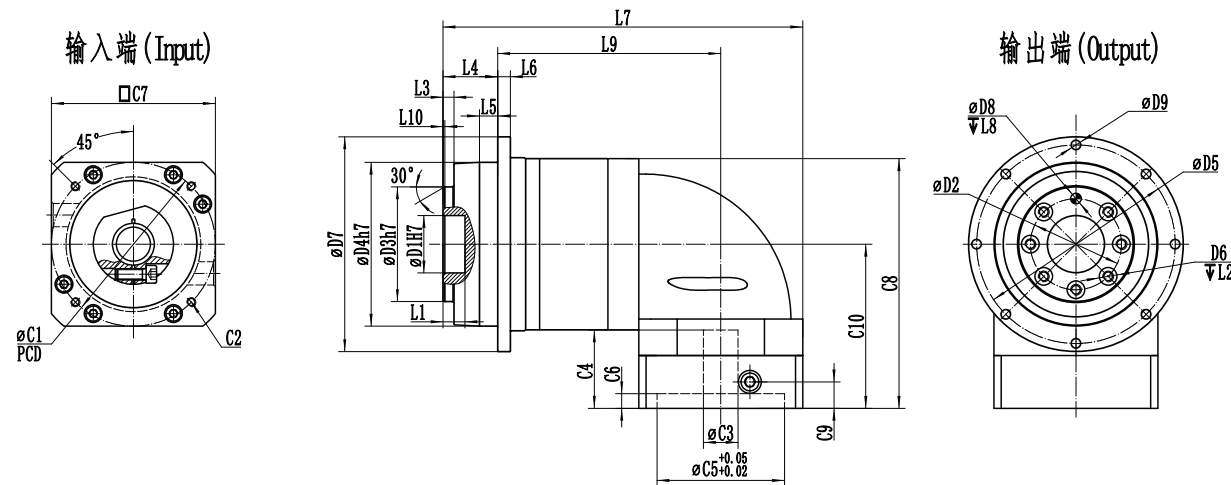
DIMENSION

SINGLE SECTION

尺寸 (单节, 减速比 i=4 ~ 20)

/Dimension(single stage,Ratio i=4~20)

尺寸 /Dimension	WADR064	WADR090	WADR110	WADR140	WADR200	WADR255
D1H7	20	31.5	40	50	80	-
D2	31.5	50	63	80	125	-
D3h7	40	63	80	100	160	-
D4h7	64	90	110	140	200	-
D5	79	109	135	168	233	-
D6	7-M5	7-M6	11-M6	11-M8	11-M10	-
D7	86	118	145	179	247	-
D8H7	5	6	6	8	10	-
D9	8-4.5	8-5.5	8-5.5	12-6.6	12-9	-
L1	8	12	12	12	16	-
L2	9	12	12	17	23	-
L3	3	6	6	6	8	-
L4	19.5	30	29	38	50	-
L5	7	10	10	14.6	15	-
L6	4	7	8	10	12	-
L7	113.2	160	187	241.5	301.5	-
L8	6	7	7	7	10	-
L9	63.7	85	100.5	132.5	161.5	-
L10	0.5	1	1	1	1.5	-
C1	70	90	145	200	200	-
C2	4-M4	4-M5	4-M8	4-M12	4-M12	-
C3	≤14	≤19/≤24	≤24/≤35	≤35/≤42	≤42	-
C4	35	43	71	86	119	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	60	90	130	180	180	-
C8	103.9	137.1	189	237.5	300.5	-
C9	11.5	14.5	27	32	65	-
C10	71.9	90.1	126.5	162.5	162.5	-



DIMENSION

SINGLE SECTION

尺寸 (双节, 减速比 $i=25\sim 200$)

/Dimension(double stage,Ratio i=25~200)

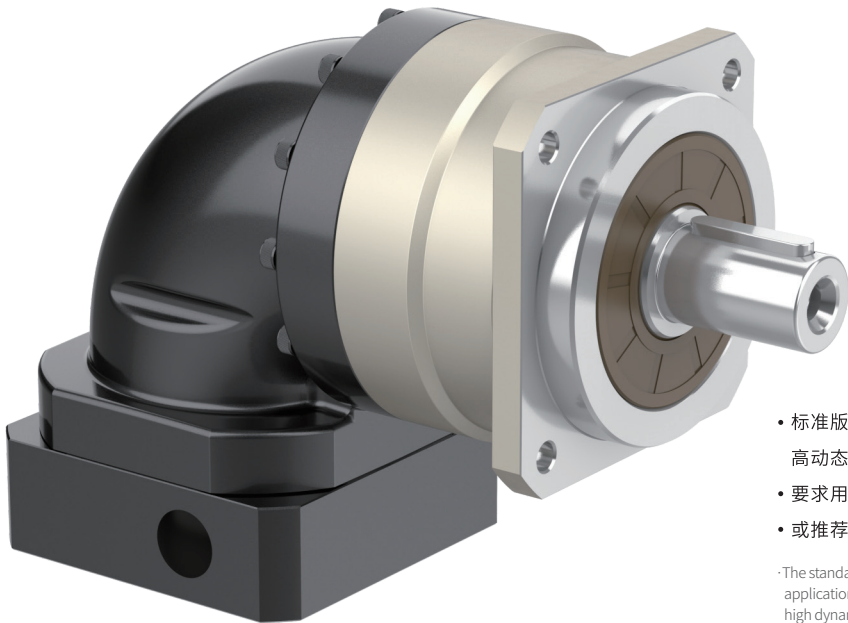
尺寸/Dimension	WADR064	WADR090	WADR110	WADR140	WADR200	WADR255
D1H7	20	31.5	40	50	80	-
D2	31.5	50	63	80	125	-
D3h7	40	63	80	100	160	-
D4h7	64	90	110	140	200	-
D5	79	109	135	168	233	-
D6	7-M5	7-M6	11-M6	11-M8	11-M10	-
D7	86	118	145	179	247	-
D8H7	5	6	6	8	10	-
D9	8-4.5	8-5.5	8-5.5	12-6.6	12-9	-
L1	8	12	12	12	16	-
L2	9	12	12	17	23	-
L3	3	6	6	6	8	-
L4	19.5	30	29	38	50	-
L5	7	10	10	14.6	15	-
L6	4	7	8	10	12	-
L7	145.2	197.5	232	302.5	339	-
L8	6	7	7	7	10	-
L9	95.7	122.5	145.5	193.5	199	-
L10	0.5	1	1	1	1.5	-
C1	70	90	145	200	200	-
C2	4-M4	4-M5	4-M8	4-M12	4-M12	-
C3	≤14	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	-
C4	35	43	71	86	119	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	60	90	130	180	180	-
C8	103.9	137.1	189	237.5	300.5	-
C9	11.5	14.5	27	32	65	-
C10	71.9	90.1	126.5	162.5	162.5	-

WVRBR Series planetary gearbox
系列行星减速机

FEATURES

产品特点

- » 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
 - » 行星轮采用满滚针设计，增加接触面积以提高结构刚性 & 输出扭矩。
 - » 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
 - » 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
 - » 采用蜗线伞齿轮设计，容许输出扭矩高、比直伞齿轮高30%以上。
 - » 高容许输入转速，比直伞齿轮输入高8倍以上。
 - » 蜗线伞齿轮的啮合齿印，经最佳优化设计，接触齿面负载均一，运转寿命长。
 - » 蜗线伞齿轮啮合，经最佳运动误差分析与严格的制程控制，以确保高精度的运转背隙。
-
- » Planetary boom and output shaft are intergrated structure designed to ensure maximum torsional rigidity.
 - » Planetary wheel with full needle design,increase the contact area to improve the rigidity and output torque.
 - » The gears are carburized and quenched to the HRC62 with low carbon steel surface for optimum wear and impact toughness.
 - » Gears refer to foreign imported software-assisted design to obtain the best tooth shape to reduce noise.
 - » Adopt spiral bevel gear design, allow high output torque, more than 30% higher than straight bevel gear.
 - » High tolerance input speed, more than 8 times higher than straight bevel gear input.
 - » The meshing tooth imprint of spiral bevel gear has been optimized by optimum design, and the contact tooth surface load is uniform, and long running life.
 - » Cochlear bevel gears are meshed by optimum motion error analysis and strict process control to ensure high precision running back clearance.



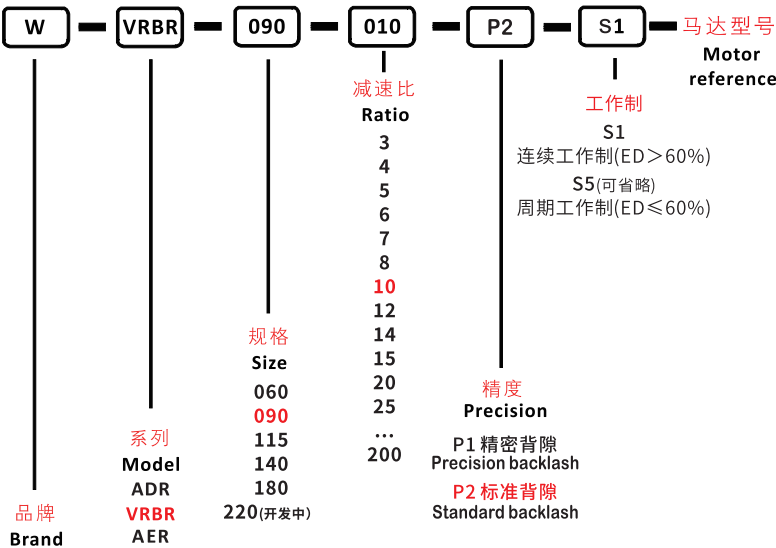
- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
- 要求用于S1连续工作制时，请与我们联系
- 或推荐使用WSHR/WTBR系列

· The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
· if it needs to be used for S1 continuous operation, please contact us
· Alternatively, we recommend using the WSH/WTB series

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

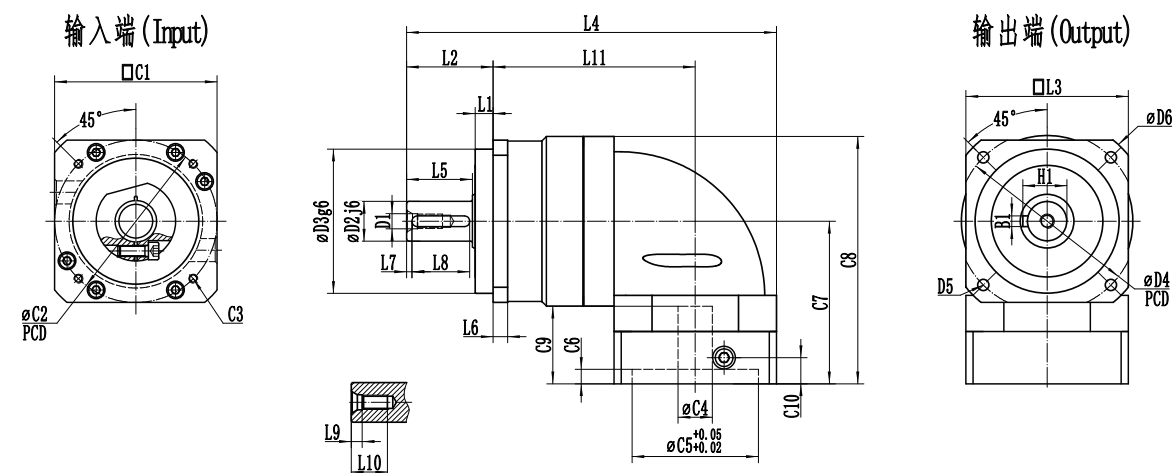
- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

减速机性能资料/Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WVRBR060	WVRBR090	WVRBR115	WVRBR140	WVRBR180	WVRBR220
额定出力矩 Rated output torque T_{2N}	Nm	1	3	55	130	208	342	588	1140
			4	50	140	290	540	1050	1700
			5	60	160	330	650	1200	2000
			6	55	150	310	600	1100	1900
			7	50	140	300	550	1000	1700
			8	50	140	290	542	1050	1450
			10	60	160	330	650	1200	2000
			12	55	150	310	600	1100	1900
			14	50	140	300	550	1000	1700
			20	35	90	200	400	760	1350
		2	15	55	130	208	342	588	1140
			25	60	160	330	650	1200	2000
			30	55	130	208	342	588	1140
			35	50	140	300	550	1000	1700
			40	50	140	290	542	1050	1700
			50	60	160	330	650	1200	2000
			60	55	150	310	600	1100	1900
			70	50	140	300	550	1000	1700
			80	50	140	290	542	1050	1700
			100	60	160	330	650	1200	2000
			120	55	150	310	600	1100	1900
			140	50	140	300	550	1000	1700
			160	40	100	230	450	850	1450
			200	35	90	200	400	760	1350
急停扭矩 /Emergency stop torque T_{2NOT}	Nm	1,2	3倍额定出力矩(允许1000次) / Triple rated output torque						
额定输入转速 /Rated input speed n_{1N}	rpm	1,2	3~200	5000	4000	4000	3000	3000	2000
最大输入转速 /Maximum iutput speed n_{1B}	rpm	1,2	3~200	10000	8000	8000	6000	6000	3500
精密背隙 /Precision backlash P_1	arcmin	1	3~20	≤5	≤5	≤5	≤5	≤5	≤5
		2	15~200	≤7	≤7	≤7	≤7	≤7	≤7
标准背隙 /Standard backlash P_2	arcmin	1	3~20	≤7	≤7	≤7	≤7	≤7	≤7
		2	15~200	≤10	≤10	≤10	≤10	≤10	≤10
扭转刚性 /Torsional rigidity	Nm/arcmin	1,2	3~200	7	14	25	50	145	225
容许径向力 /Allowable radial force F_{2aB}	N	1,2	3~200	1530	3250	6700	9400	14500	20000
容许轴向力 /Allowable axial force F_{2aB}	N	1,2	3~200	765	1625	3350	4700	7250	10000
使用寿命 /Lifespan	hr	1,2	3~200	20000					
效率 /Efficiency	%	1	3~20	95%					
		2	25~200	92%					
重量 /Weight	kg	1	3~20	2.1	6.4	13	24.5	51	68
		2	25~200	1.5	7.8	14.2	27.5	54	72
使用温度 /Working temperature	°C	1,2	3~200	-20°C - +40°C					
润滑 /Lubricating			合成润滑脂 /Synthetic lubricating grease						
防护等级 /IP Grade		1,2	3~200	IP65					
安装方向 /Installation direction			3~200	任意方向 /In any direction					
噪音值 (n1=3000, 无负载) Noise level (n1=3000, off load)	dB(A)	1,2	3~200	≤63	≤65	≤68	≤70	≤72	≤74

减速机转动惯量 /Rotational inertia

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WVRBR060	WVRBR090	WVRBR115	WVRBR140	WVRBR180	WVRBR220
转动惯量 J1 Rotational inertia J1	kg.cm ²	1	3~10	0.35	2.25	6.84	23.4	68.9	105
			12~14	0.07	1.87	6.25	21.8	65.6	85
			20	0.07	1.87	6.25	21.8	65.6	82
		2	15	0.35	2.25	6.84	23.4	68.9	75
			25~100	0.09	0.35	2.25	6.84	23.4	67
			120~200	0.01	0.31	1.87	6.25	21.8	65



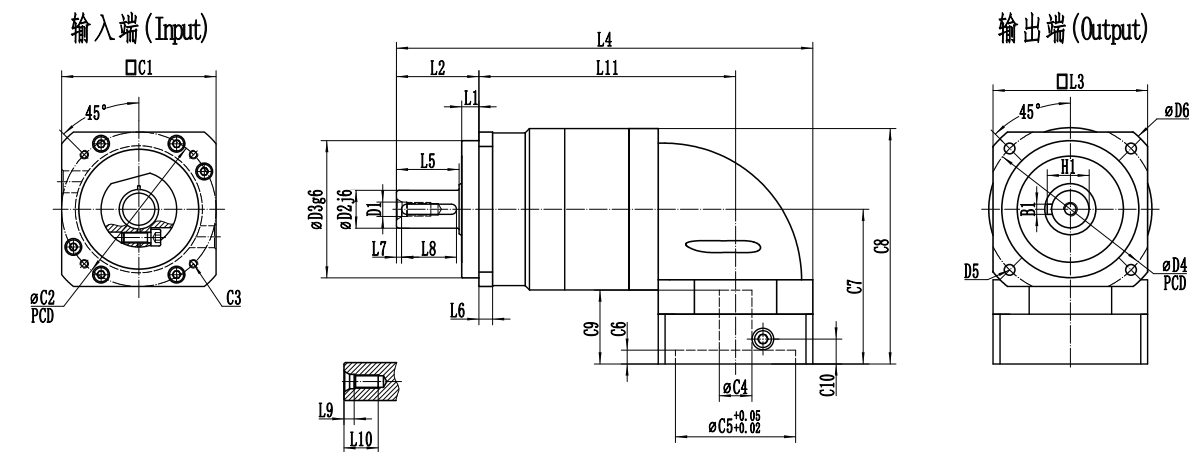
DIMENSION

DOUBLE SECTION

尺寸 (单节, 减速比 i=3~20)

Dimension(single stage,Ratio i=3~20)

尺寸/Dimension	WVRBR060	WVRBR090	WVRBR115	WVRBR140	WVRBR180	WVRBR220
D1	M5	M8	M12	M16	M20	-
D2j6	16	22	32	40	55	-
D3g6	50	80	110	130	160	-
D4	70	100	130	165	215	-
D5	4-5.5	4-6.6	4-9	4-11	4-13.5	-
D6	80	116	152	185	240	-
L1	7	10	7	13	20	-
L2	37	48	60	95	105	-
L3	60	90	115	140	180	-
L4	52.2	205	259	347	394	-
L5	28.5	36.5	51	79	82	-
L6	6	8	10	12	15	-
L7	1	2	5	5	6	-
L8	25	30	40	63	70	-
L9	4	6	10	12	11.5	-
L10	13	20	28	36	42	-
L11	85.2	112	141.5	181	199	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	≤14	≤19/≤24	≤24/≤35	≤35/≤42	≤42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	103.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.5	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-



DIMENSION

DOUBLE SECTION

尺寸 (双节, 减速比 i=15~200)

Dimension(double stage,Ratio i=15~200)

尺寸/Dimension	WVRBR060	WVRBR090	WVRBR115	WVRBR140	WVRBR180	WVRBR220
D1	M5	M8	M12	M16	M20	-
D2j6	16	22	32	40	55	-
D3g6	50	80	110	130	160	-
D4	70	100	130	165	215	-
D5	4-5.5	4-6.6	4-9	4-11	4-13.5	-
D6	80	116	152	185	240	-
L1	7	10	7	13	20	-
L2	37	48	60	95	105	-
L3	60	90	115	140	180	-
L4	184.2	242.5	304	408	431.5	-
L5	28.5	36.5	51	79	82	-
L6	6	8	10	12	15	-
L7	1	2	5	5	6	-
L8	25	30	40	63	70	-
L9	4	6	10	12	11.5	-
L10	13	20	28	36	42	-
L11	117.2	149.5	186.5	242	236.5	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	≤14	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	103.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.6	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-

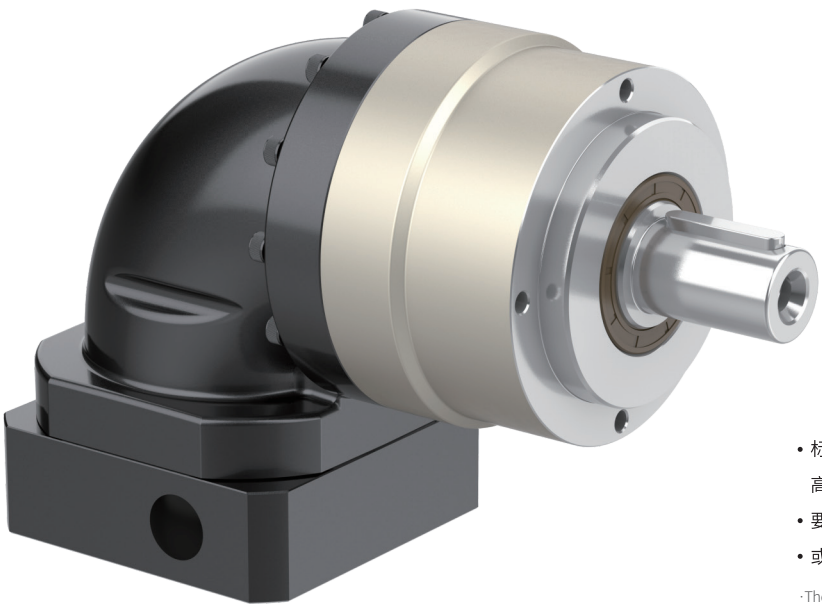
WAER

Series planetary gearbox
系列行星减速机

FEATURES

产品特点

- 行星臂架与输出轴采用一体式结构设计，确保最大的扭转刚性。
- 行星轮采用满滚针设计，增加接触面积以提高结构刚性 with 输出扭矩。
- 齿轮采用低碳钢表面渗碳淬火到HRC62，以获得最佳的耐磨及冲击韧性。
- 齿形引用国外进口软件辅助设计，以获得最佳的齿形降低噪音。
- 采用蜗线伞齿轮设计，容许输出扭矩高、比直伞齿轮高30%以上。
- 高容许输入转速，比直伞齿轮输入高8倍以上。
- 蜗线伞齿轮的啮合齿印，经最佳优化设计，接触齿面负载均一，运转寿命长。
- 蜗线伞齿轮啮合，经最佳运动误差分析与严格的制程控制，以确保高精度的运转背隙。
- Planetary boom and output shaft are intergrated structure designed to ensure maximum torsional rigidity.
- Planetary wheel with full needle design,increase the contact area to improve the rigidity and output torque.
- The gears are carburized and quenched to the HRC62 with low carbon steel surface for optimum wear and impact toughness.
- Gears refer to foreign imported software-assisted design to obtain the best tooth shape to reduce noise.
- Adopt spiral bevel gear design, allow high output torque, more than 30% higher than straight bevel gear.
- High tolerance input speed, more than 8 times higher than straight bevel gear input.
- The meshing tooth imprint of spiral bevel gear has been optimized by optimum design, and the contact tooth surface load is uniform, and long running life.
- Cochlear bevel gears are meshed by optimum motion error analysis and strict process control to ensure high precision running back clearance.

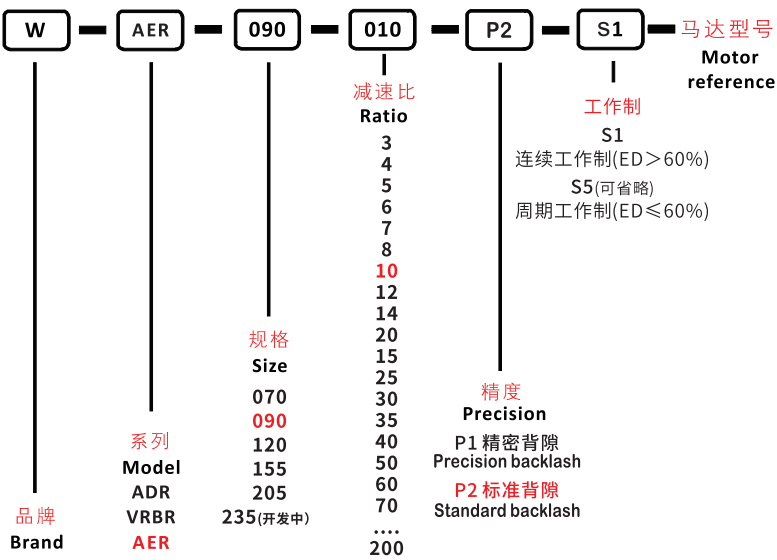


- 标准版行星减速机，适用于高定位精度、高动态周期工作制的应用上
- 要求用于S1连续工作制时，请与我们联系
- 或推荐使用WSHR/WTHR系列
- The standard planetary gearbox is suitable for applications that requires high positioning accuracy and high dynamic periodic operation
- if it needs to be used for S1 continuous operation, please contact us
- Alternatively, we recommend using the WSH/WTH series

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

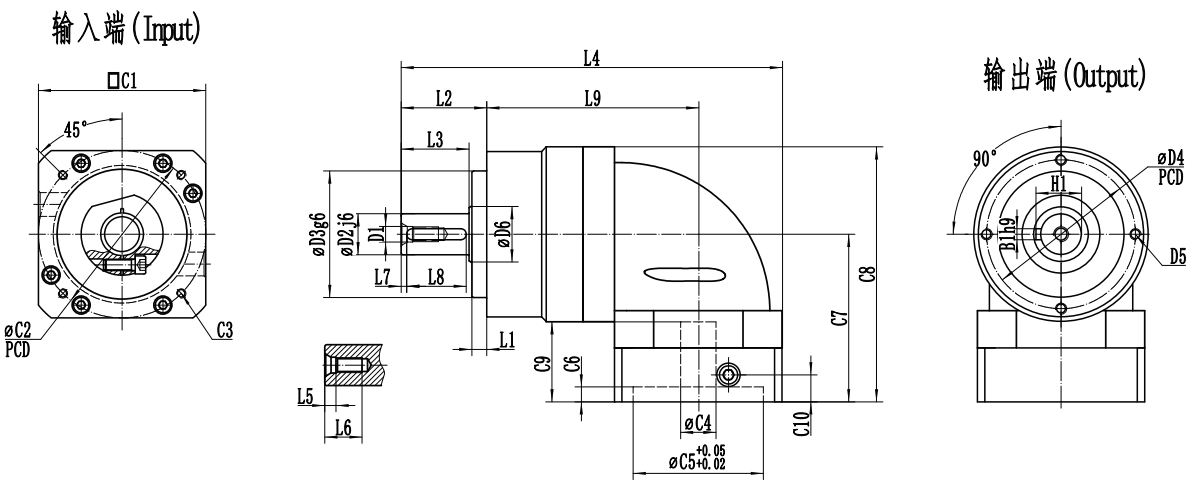
- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

减速机性能资料/Performance

规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
额定输出力矩 Rated output torque T _{2N}	Nm	1	3	55	130	208	342	588	-
			4	50	140	290	540	1050	-
			5	60	160	330	650	1200	-
			6	55	150	310	600	1100	-
			7	50	140	300	550	1000	-
			8	50	140	290	542	1050	-
			10	60	160	330	650	1200	-
			12	55	150	310	600	1100	-
			14	50	140	300	550	1000	-
			20	35	90	200	400	760	-
		2	15	55	130	208	342	588	-
			25	60	160	330	650	1200	-
			30	55	130	208	342	588	-
			35	50	140	300	550	1000	-
			40	50	140	290	542	1050	-
			50	60	160	330	650	1200	-
			60	55	150	310	600	1100	-
			70	50	140	300	550	1000	-
			80	50	140	290	542	1050	-
			100	60	160	330	650	1200	-
急停扭矩/Emergency stop torque T _{2NOT}	Nm	1,2	3~200	三倍额定输出力矩(允许1000次) / Triple rated output torque					
		1,2	3~200	5000	4000	4000	3000	3000	-
额定输入转速/Rated input speed n _{1N}	rpm	1,2	3~200	10000	8000	8000	6000	6000	-
最大输入转速/Maximum iutput speed n _{1B}	rpm	1,2	3~200	≤5	≤5	≤5	≤5	≤5	-
精密背隙/Precision backlash P ₁	arcmin	1	3~20	≤7	≤7	≤7	≤7	≤7	-
		2	15~200	≤10	≤10	≤10	≤10	≤10	-
标准背隙/Standard backlash P ₂	arcmin	1	3~20	≤7	≤7	≤7	≤7	≤7	-
		2	15~200	≤10	≤10	≤10	≤10	≤10	-
扭转刚性/Torsional rigidity	Nm/arcmin	1,2	3~200	7	14	25	50	145	-
容许径向力/Allowable radial force F _{2aB}	N	1,2	3~200	1530	3250	6700	9400	14500	-
容许轴向力/Allowable axial force F _{2aB}	N	1,2	3~200	765	1625	3350	4700	7250	-
使用寿命 /Lifespan	hr	1,2	3~200	20000					
		1	3~20	95%					
效率 /Efficiency	%	2	25~200	92%					
		1	3~20	2.1	6.4	13	24.5	51	-
重量 /Weight	kg	2	25~200	1.5	7.8	14.2	27.5	54	-
使用温度 /Working temperature	°C	1,2	3~200	-20°C - +40°C					
润滑 /Lubricating				合成润滑脂 /Synthetic lubricating grease					
防护等级 /IP Grade		1,2	3~200	IP65					
安装方向 /Installation direction			3~200	任意方向 /In any direction					
噪音值(n1=3000, 无负载) Noise level (n1=3000, off load)	dB(A)	1,2	3~200	≤63	≤65	≤68	≤70	≤72	-

减速机转动惯量 /Rotational inertia

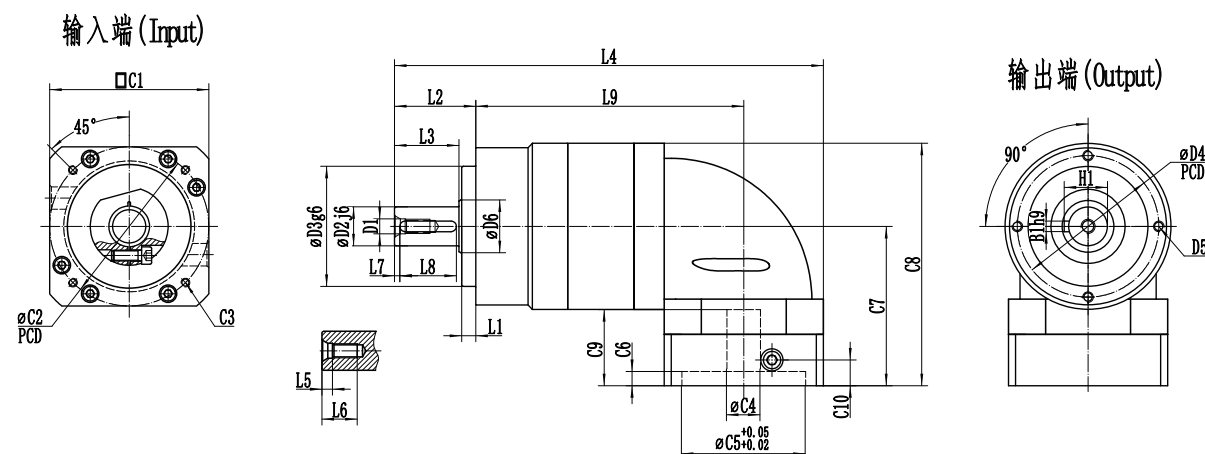
规格 Specification	单位 Unit	节数 Stage	减速比 Ratio	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
转动惯量J1 Rotational inertia J1	kg.cm²	1	3~10	0.35	2.25	6.84	23.4	68.9	-
			12、14	0.07	1.87	6.25	21.8	65.6	-
			20	0.07	1.87	6.25	21.8	65.6	-
		2	15	0.35	2.25	6.84	23.4	68.9	-
			25~100	0.09	0.35	2.25	6.84	23.4	-
			0.007	0.01	0.31	1.87	6.25	21.8	-



DIMENSION
SINGLE SECTION

尺寸 (单节, 减速比 i=3~20)
Dimension(single stage, Ratio i=3~200)

尺寸/Dimension	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
D1	M5	M8	M12	M16	M16	-
D2j6	16	22	32	40	55	-
D3g6	52	68	90	120	160	-
D4	62	80	108	140	184	-
D5	4-M5	4-M6	4-M8	4-M10	4-M12	-
D6	17.5	29.8	39.5	49.5	69.5	-
L1	6.5	8	17	15	15	-
L2	36	46	70	97	100	-
L3	28.5	36.5	51	79	82	-
L4	152.2	205	259	347	394	-
L5	4	6	10	12	11.5	-
L6	13	20	28	36	42	-
L7	1	2	5	5	6	-
L8	25	30	40	63	70	-
L9	86.2	114	131.5	179	204	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	≤14	≤19/≤24	≤24/≤35	≤35/≤42	≤42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	106.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.5	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-



DIMENSION

SINGLE SECTION

尺寸 (双节, 减速比 $i=15\sim 200$)

Dimension(double stage,Ratio i=15~200)

尺寸/Dimension	WAER070	WAER090	WAER120	WAER155	WAER205	WAER235
D1	M5	M8	M12	M16	M16	-
D2j6	16	22	32	40	55	-
D3g6	52	68	90	120	160	-
D4	62	80	108	140	184	-
D5	4-M5	4-M6	4-M8	4-M10	4-M12	-
D6	17.5	29.8	39.5	49.5	69.5	-
L1	6.5	8	17	15	15	-
L2	36	46	70	97	100	-
L3	28.5	36.5	51	79	82	-
L4	184.2	242.5	304	408	431.5	-
L5	4	6	10	12	11.5	-
L6	13	20	28	36	42	-
L7	1	2	5	5	6	-
L8	25	30	40	63	70	-
L9	118.2	151.5	176.5	240	241.5	-
C1	60	90	130	180	180	-
C2	70	90	145	200	200	-
C3	4-M4	4-M5	4-M8	4-M12	4-M12	-
C4	≤14	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	-
C5	50	70	110	114.3	114.3	-
C6	5	8	14	19	15	-
C7	71.9	90.1	126.5	162.5	195.5	-
C8	106.9	137.1	189	237.5	295.5	-
C9	35	43	71	86	119	-
C10	11.5	14.5	27	32	65	-
B1	5	6	10	12	16	-
H1	18	24.5	35	43	59	-

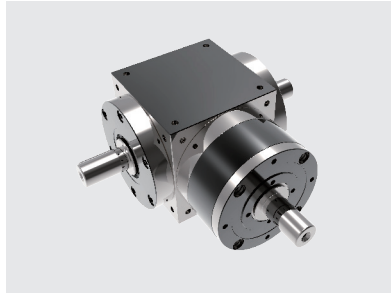
WAT

Series planetary gearbox
系列行星减速机

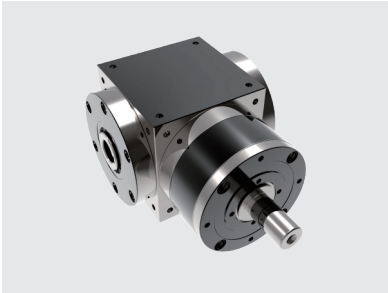
FEATURES

产品特点

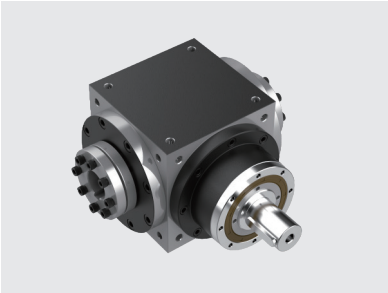
- ▶▶▶ 采用顶级蜗线伞齿轮的设计软体,经最佳化设计接触齿面负载均容许高扭矩输出,齿轮采用高强度渗碳合金钢,研磨精密度符合DIN5级标准以内。
- ▶▶▶ 高精度研磨的蜗线伞齿轮组结合最佳化设计的另一齿轮组可以达到1000:1的减速比。
- ▶▶▶ 高扭矩低背隙的精简结构设计适用于精密伺服的应用。
- ▶▶▶ 专利的油封设计,免保养无需更换润滑油,运转寿命长。
- ▶▶▶ By using top-level design software for worm gear and worm wheel, the contact tooth surface load can allow for high torque output through optimal design. The gear is made of high-strength carburized alloy steel and ground to a precision level within DIN 5 standards.
- ▶▶▶ The high-precision ground worm and helical gear set, combined with another optimized gear set, can achieve a reduction ratio of 1000:1.
- ▶▶▶ The compact design with high torque and low backlash is suitable for precision servo applications.
- ▶▶▶ The patented oil seal design eliminates the need for maintenance and oil replacement, thus ensuring long service life.



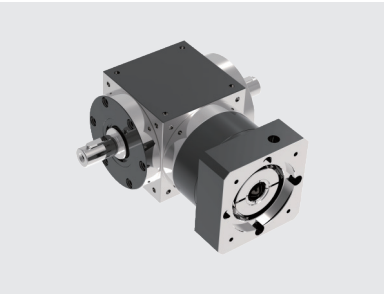
WATAD/L/R系列



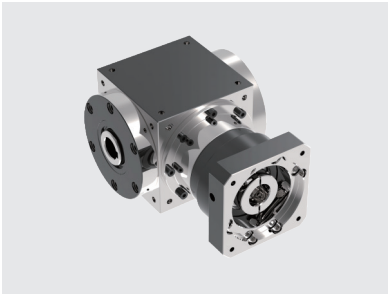
WATAH系列



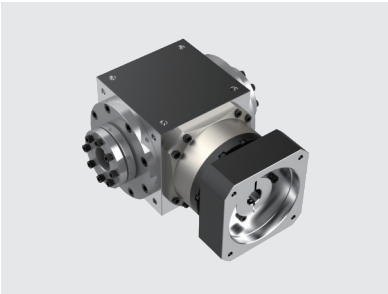
WATAC系列



WATD/L/R系列



WATH系列

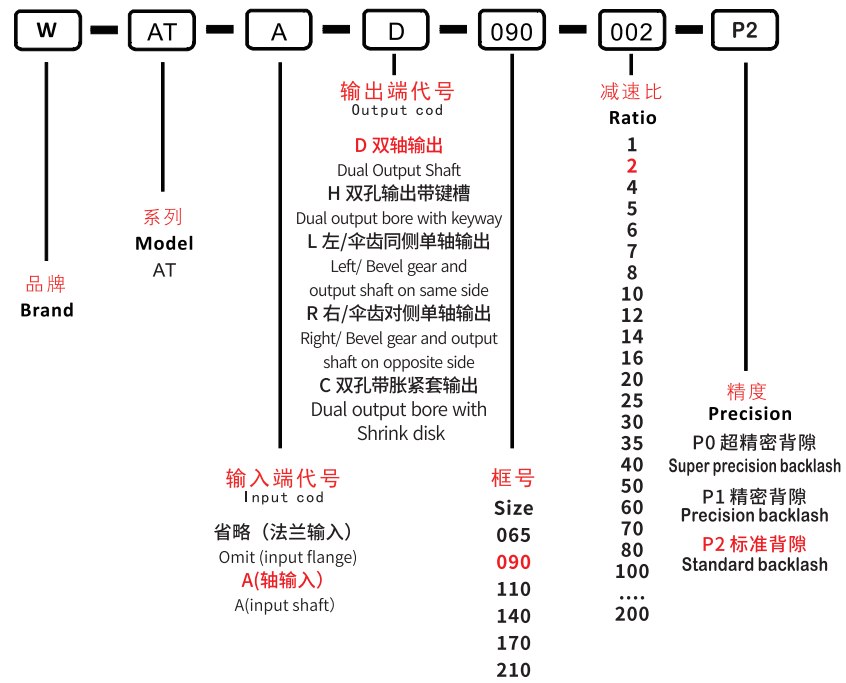


WATC系列

INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

PLANETARY GEARBOX

减速机性能资料 /Performance

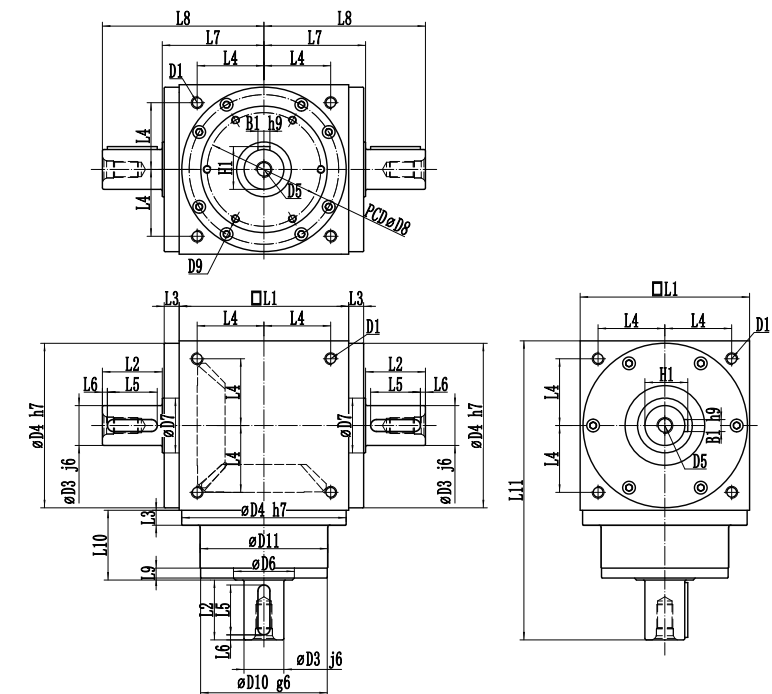
规格 Specification	单位 Unit	极数 Stage	减速比 Ratio	WAT065	WAT090	WAT110	WAT140	WAT170	WAT210
额定输出扭矩 Rated Output Torque T2N	Nm	1	1	25	78	150	360	580	1300
			2	25	68	150	360	580	1300
		2	4	25	50	150	305	580	1300
			5	25	60	150	330	580	1300
			6	25	50	140	300	550	1000
			7	25	50	140	300	550	1000
			8	25	68	150	360	580	1300
			10	25	68	150	360	580	1300
			12	25	68	150	360	580	1300
			14	25	68	150	360	580	1300
			16	25	68	150	360	580	1300
			20	25	68	150	360	580	1300
		3	25	25	60	150	330	580	1300
			30	25	50	140	300	550	1000
			35	25	50	140	300	550	1000
			40	25	68	150	360	580	1300
			50	25	68	150	360	580	1300
			60	25	68	150	360	580	1300
			70	25	68	150	360	580	1300
			80	25	68	150	360	580	1300
			100	25	68	150	360	580	1300
			120	25	68	150	360	580	1300
			140	25	68	150	360	580	1300
			160	25	68	150	360	580	1300
			200	25	68	150	360	580	1300
急停扭矩/Emergency stop Torque T2NOT	Nm	1, 2, 3	1~200	2倍额定输出力矩 (允许1000次) 2 Times T2N					
额定输入转速/Rated Input Speed n _{IN}	rpm	1	1~2	3000	3000	3000	3000	3000	2000
		2	4~20	3000	3000	3000	3000	3000	3000
		3	25~200	3000	3000	3000	3000	3000	3000
最大输入转速/Max Input Speed n _{1B}	rpm	1	1~2	6000	6000	5000	4500	3500	3000
		2	4~20	6000	6000	5000	4500	3500	3000
		3	25~200	6000	6000	6000	5000	4500	3500
超精密背隙/Super Precision Backlash P0	arcmin	1	1~2	-	-	-	-	-	-
		2	4~20	≤4	≤4	≤4	≤4	≤4	≤4
		3	25~200	≤6	≤6	≤6	≤6	≤6	≤6
精密背隙/Precision Backlash P1	arcmin	1	1~2	≤4	≤4	≤4	≤4	≤4	≤4
		2	4~20	≤6	≤6	≤6	≤6	≤6	≤6
		3	25~200	≤8	≤8	≤8	≤8	≤8	≤8

PLANETARY GEARBOX

减速机性能资料 /Performance

规格 Specification	单位 Unit	极数 Stage	减速比 Ratio	WAT065	WAT090	WAT110	WAT140	WAT170	WAT210
标准背隙/StandardBacklashP2	arcmin	1	1~2	≤6	≤6	≤6	≤6	≤6	≤6
		2	4~20	≤8	≤8	≤8	≤8	≤8	≤8
		3	25~200	≤10	≤10	≤10	≤10	≤10	≤10
容许径向力/Allowable Radial Force F2R	N			2000	3200	5000	6500	9100	13000
容许轴向力/Allowable Axle Force F2A	N			1000	1600	2500	3250	4550	6500
使用寿命/Service Life	h					20000			
效率/Efficient	%	1	1~2			≥97			
		2	4~20			≥95			
		3	25~200			≥92			
使用温度/Operating temperature	°C					-20°C - +40°C			
重量/Weight	kg	1	1~2	3	7	11.5	19.5	34	65
		2	4~20	3.2	8	14	24	38	74
		3	25~200	3.4	8.5	14.5	27	39	75
防护等级/Protection class						Ip65			
润滑/Lubrication				全合成润滑油/Synthetic Lubricating Oil					
安装方向/Mounting position				任意方向 /In any direction					
噪音值 (n1=3000rpm,无负载) Noise level (n1=3000rpm,off load)	dB(A)	1		≤72	≤74	≤76	≤78	≤80	≤82
		2		≤62	≤62	≤64	≤66	≤68	≤72
		3		≤62	≤62	≤64	≤66	≤68	≤72

WATAD-L1

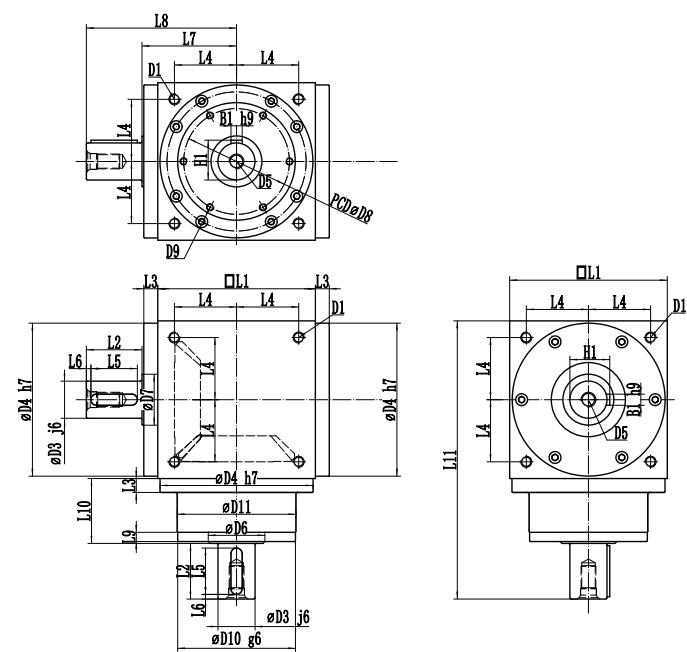


尺寸 (单节, 减速比 $i=1\sim 2$)

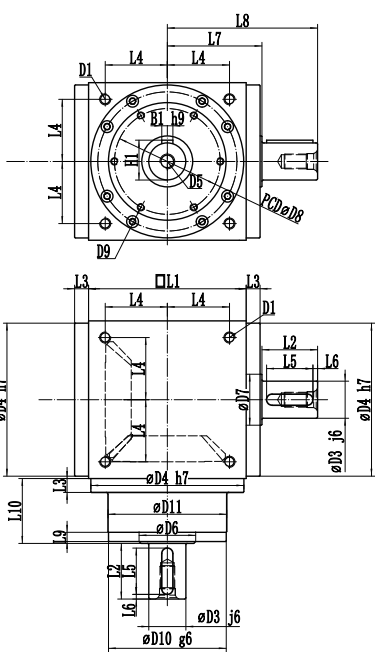
Dimension (single stage, Ratio $i=1\sim 2$)

尺寸/Dimension	WATAD065	WATAD090	WATAD110	WATAD140	WATAD170	WATAD210
D1	M5↓10	M6↓12	M8↓16	M10↓20	M12↓25	M16↓32
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4↓8	M5↓10	M8↓16	M12↓25	M16↓32	M16↓32
D6	29.5	39.5	49.5	59.5	74.5	94.5
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	53	76	95	92	114	142
D9	4-M4↓8	4-M5↓10	6-M6↓12	6-M6↓12	6-M8↓16	6-M8↓16
D10 g6	62.9	87	107	103	127	158
D11	62.5	87.5	106	104	128	160
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L9	8	8	8	10	10	10
L10	43	55	60	60	70	90
L11	127.5	180	210	250	300	375
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5

WATAL-L1



WATAR

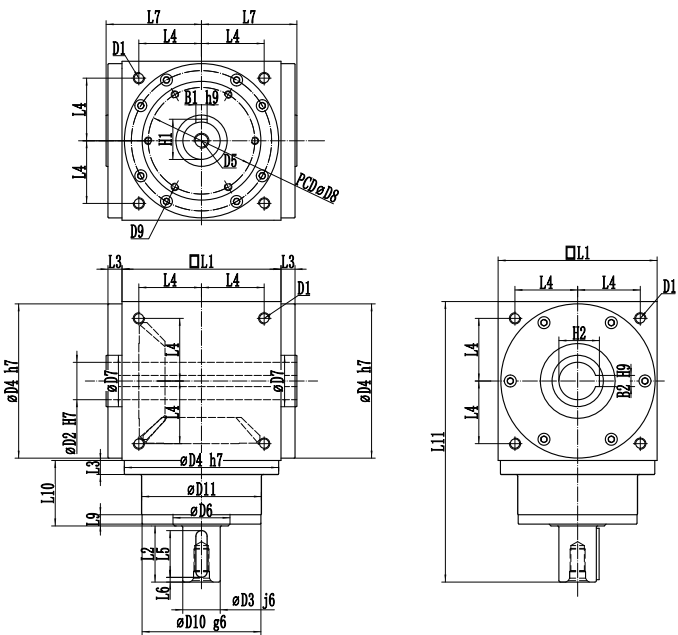


尺寸（单节，减速比 i=1~2）

Dimension（singlestage, Ratio i=1~2）

尺寸/Dimension	WATAL/R065	WATAL/R090	WATAL/R110	WATAL/R140	WATAL/R170	WATAL/R210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4 ↓ 8	M5 ↓ 10	M8 ↓ 16	M12 ↓ 25	M16 ↓ 32	M16 ↓ 32
D6	29.5	39.5	49.5	59.5	74.5	94.5
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	53	76	95	92	114	142
D9	4-M4 ↓ 8	4-M5 ↓ 10	6-M6 ↓ 12	6-M6 ↓ 12	6-M8 ↓ 16	6-M8 ↓ 16
D10 g6	62.9	87	107	103	127	158
D11	62	86	106	104	128	160
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L9	8	8	8	10	10	10
L10	43	55	60	60	70	90
L11	127.5	180	210	250	300	375
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5

WATAH-L1

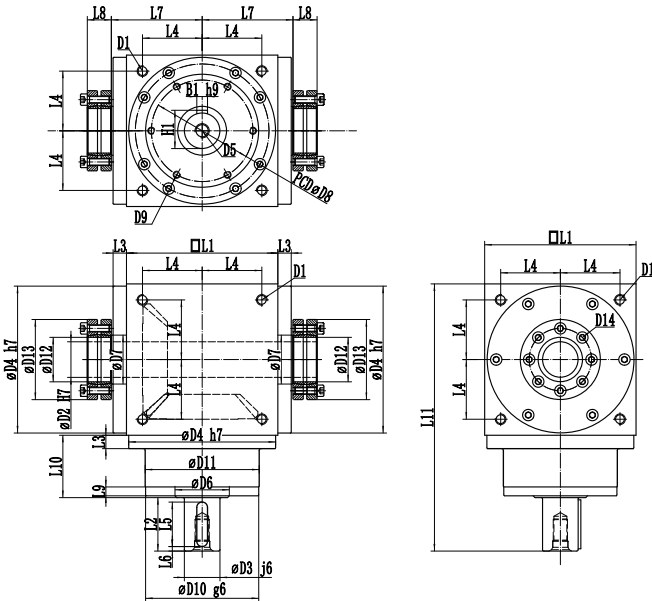


尺寸（单节，减速比 i=1~2）

Dimension（single stage, Ratio i=1~2）

尺寸/Dimension	WATAH065	WATAH090	WATAH110	WATAH140	WATAH170	WATAH210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D2 H7	13	18	22	32	40	50
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4 ↓ 8	M5 ↓ 10	M8 ↓ 16	M12 ↓ 25	M16 ↓ 32	M16 ↓ 32
D6	29.5	39.5	49.5	59.5	74.5	94.5
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	53	76	95	92	114	142
D9	4-M4 ↓ 8	4-M5 ↓ 10	6-M6 ↓ 12	6-M6 ↓ 12	6-M8 ↓ 16	6-M8 ↓ 16
D10 g6	62.9	87	107	103	127	158
D11	62.5	87.5	106	104	128	160
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L9	8	8	8	10	10	10
L10	43	55	60	60	70	90
L11	127.5	180	210	250	300	375
B1 h9	5	6	6	10	12	14
B2 H9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5
H2	15.3	20.8	24.8	35.3	43.3	53.8

WATAC-L1

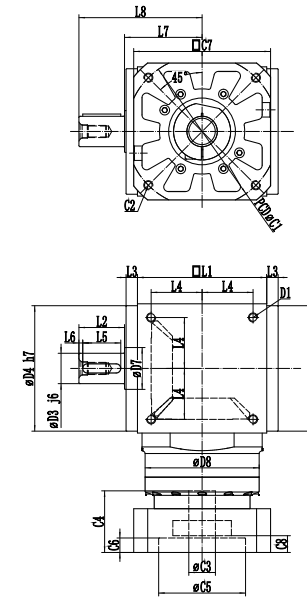


尺寸 (单节, 减速比 $i=1\sim 2$)

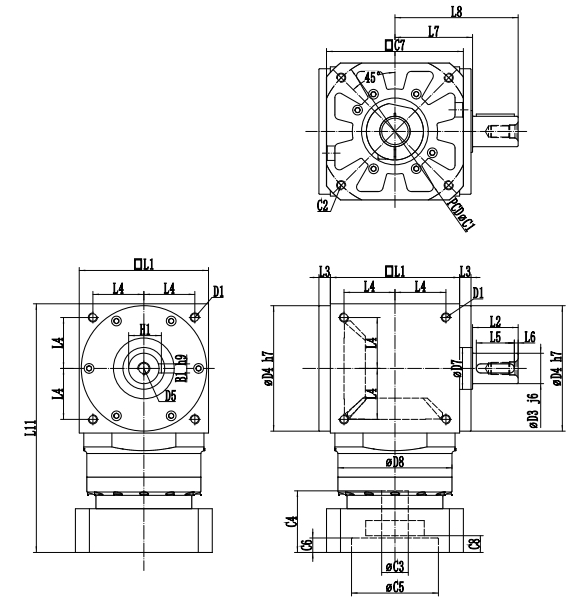
Dimension (single stage, Ratio $i=1\sim 2$)

尺寸/Dimension	WATAC065	WATAC090	WATAC110	WATAC140	WATAC170	WATAC210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D2 H7	13	18	22	32	40	50
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4 ↓ 8	M5 ↓ 10	M8 ↓ 16	M12 ↓ 25	M16 ↓ 32	M16 ↓ 32
D6	29.5	39.5	49.5	59.5	74.5	94.5
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	53	76	95	92	114	142
D9	4-M4 ↓ 8	4-M5 ↓ 10	6-M6 ↓ 12	6-M6 ↓ 12	6-M8 ↓ 16	6-M8 ↓ 16
D10 g6	62.9	87	107	103	127	158
D11	62	86	106	104	128	160
D12	16	22	27	44	50	62
D13	41	50	53	80	90	110
D14	6-M6	6-M6	7-M6	8-M6	8-M8	8-M8
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	18	20	20	25	27	30
L9	8	8	8	10	10	10
L10	43	55	60	60	70	90
L11	127.5	180	210	250	300	375
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5

WATL-L2



WATR-L2

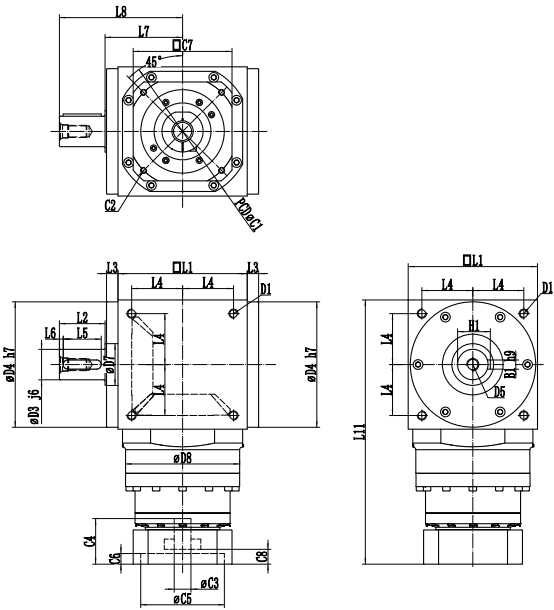


尺寸 (双节, 减速比 $i=4\sim 20$)

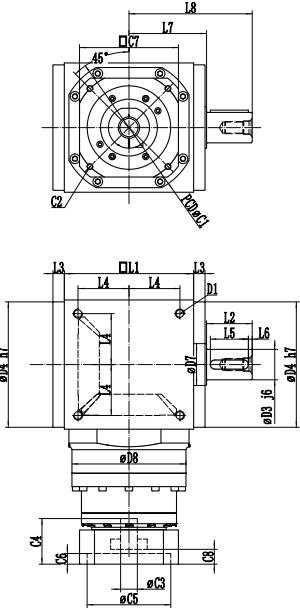
Dimension (double stage, Ratio $i=4\sim 20$)

尺寸/Dimension	WATL/R065	WATL/R090	WATL/R110	WATL/R140	WATL/R170	WATL/R210
D1	M5↓10	M6↓12	M8↓16	M10↓20	M12↓25	M16↓32
D3j6	13	18	22	32	40	50
D4h7	63	88	108	135	165	205
D5	M4↓8	M5↓10	M8↓16	M12↓25	M16↓32	M16↓32
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L11	129/138.5	155.8/165.3	197/215	255.5/281.5	327/360	401/404
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5
C1	70/90	70/90	90/145	145/200	200	200/235
C2	M4/M5	M4/M5	M5/M8	M8/M12	M12	M12
C3	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	≤42/≤55
C4	31.5/41	31.5/41	41/59	60/81	81/114	114/117
C5	50/70	50/70	70/110	110/114.3	114.3	114.3/200
C6	5/6	5/6	6/14	14/19	19/15	10/24
C7	60/80	60/80	80/130	130/180	180	180/220
C8	6.5/8.7	6.5/8.7	9.5/21.5	19.5/23.5	23.5/56.5	46/35

WATL-L3



WATR-L3

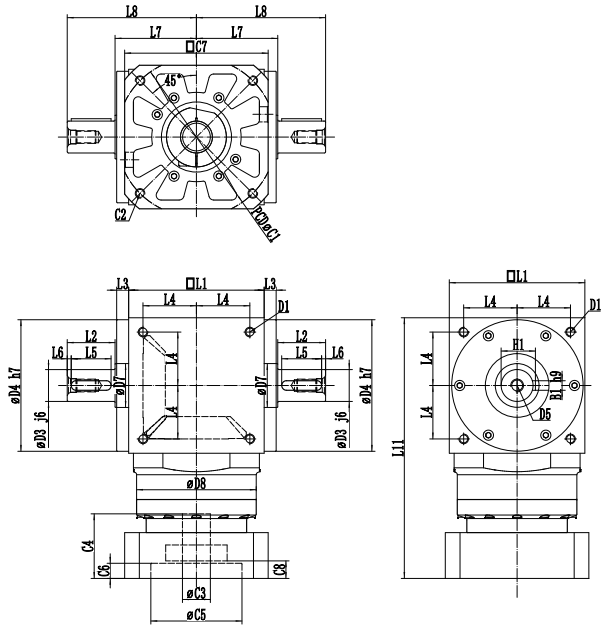


尺寸（三节，减速比 i=25~200）

Dimension (3stage, Ratio i=25~200)

尺寸/Dimension	WATL/R065	WATL/R090	WATL/R110	WATL/R140	WATL/R170	WATL/R210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4 ↓ 8	M5 ↓ 10	M8 ↓ 16	M12 ↓ 25	M16 ↓ 32	M16 ↓ 32
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L11	161/170.5	187.8/197.3	216.5/234.5	270/300.5	347.5/388	427.5/460.5
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5
C1	70/90	70/90	70/90	90/145	145/200	200
C2	M4/M5	M4/M5	M4/M5	M5/M8	M8/M12	M12
C3	≤14/≤19	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42
C4	31.5/41	31.5/41	31.5/41	41/60	60/81	81/114
C5	50/70	50/70	50/70	70/110	110/114.3	114.3
C6	5/6	5/6	50/70	6/14	14/19	19/15
C7	60/80	60/80	60/80	80/130	130/180	180
C8	6.5/8.7	6.5/8.7	6.5/9.5	9.5/19.5	19.5/23.5	23.5/56.5

WATD-L2

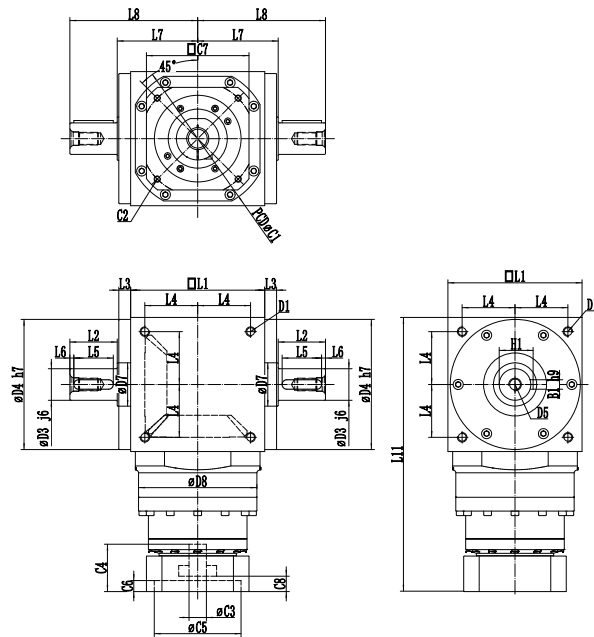


尺寸（双节，减速比 i=4~20）

Dimension (double stage, Ratio i=4~20)

尺寸/Dimension	WATD065	WATD090	WATD110	WATD140	WATAD170	WATAD210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4 ↓ 8	M5 ↓ 10	M8 ↓ 16	M12 ↓ 25	M16 ↓ 32	M16 ↓ 32
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L11	129/138.5	155.8/165.3	197/215	255.5/281.5	327/360	401/404
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5
C1	70/90	70/90	90/145	145/200	200	200/235
C2	M4/M5	M4/M5	M5/M8	M8/M12	M12	M12
C3	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	≤42/≤55
C4	31.5/41	31.5/41	41/59	60/81	81/114	114/117
C5	50/70	50/70	70/110	110/114.3	114.3	114.3/200
C6	5/6	5/6	6/14	14/19	19/15	10/24
C7	60/80	60/80	80/130	130/180	180	180/220
C8	6.5/8.7	6.5/8.7	9.5/21.5	19.5/23.5	23.5/56.5	46/35

WATD-L3

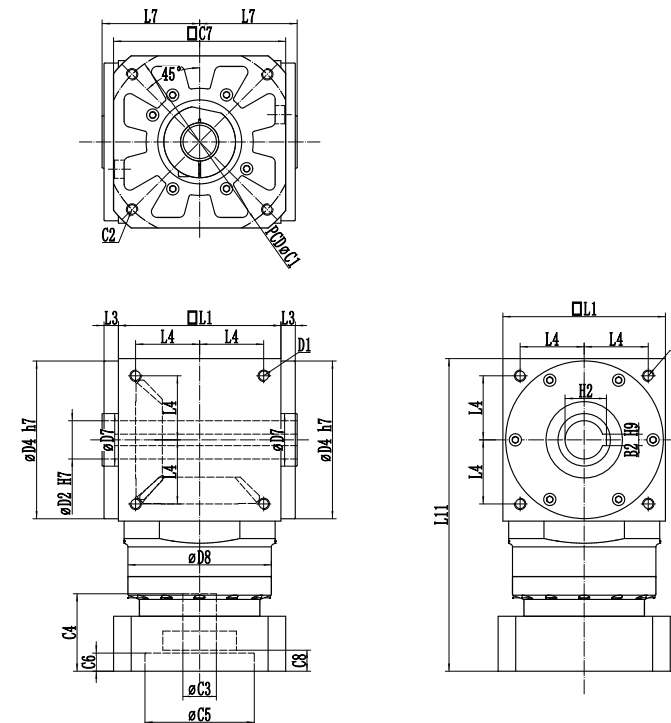


尺寸 (三节, 减速比 $i=25\sim 200$)

Dimension (3 stage, Ratio $i=25\sim 200$)

尺寸/Dimension	WATD065	WATD090	WATD110	WATD140	WATAD170	WATAD210
D1	M5↓10	M6↓12	M8↓16	M10↓20	M12↓25	M16↓32
D3 j6	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D5	M4↓8	M5↓10	M8↓16	M12↓25	M16↓32	M16↓32
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L2	19.5	35	40	50	60	75
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L5	16	25	32	44	55	69
L6	2	5	3	2.5	2.5	2.5
L7	47.5	62	72	87	102	127
L8	67	97	112	137	162	202
L11	161/170.5	187.8/197.3	216.5/234.5	270/300.5	347.5/388	427.5/460.5
B1 h9	5	6	6	10	12	14
H1	15	20.5	24.5	35	43	53.5
C1	70/90	70/90	90/145	145/200	200	200/235
C2	M4/M5	M4/M5	M4/M5	M5/M8	M8/M12	M12
C3	≤14/≤19	≤14/≤19	≤19/≤24	≤19/≤24	≤24/≤35	≤35/≤42
C4	31.5/41	31.5/41	31.5/41	41/60	60/81	81/114
C5	50/70	50/70	50/70	70/110	110/114.3	114.3
C6	5/6	5/6	5/6	6/14	14/19	19/15
C7	60/80	60/80	60/80	80/130	130/180	180
C8	6.5/8.7	6.5/8.7	6.5/9.5	9.5/19.5	19.5/23.5	23.5/56.5

WATH-L2

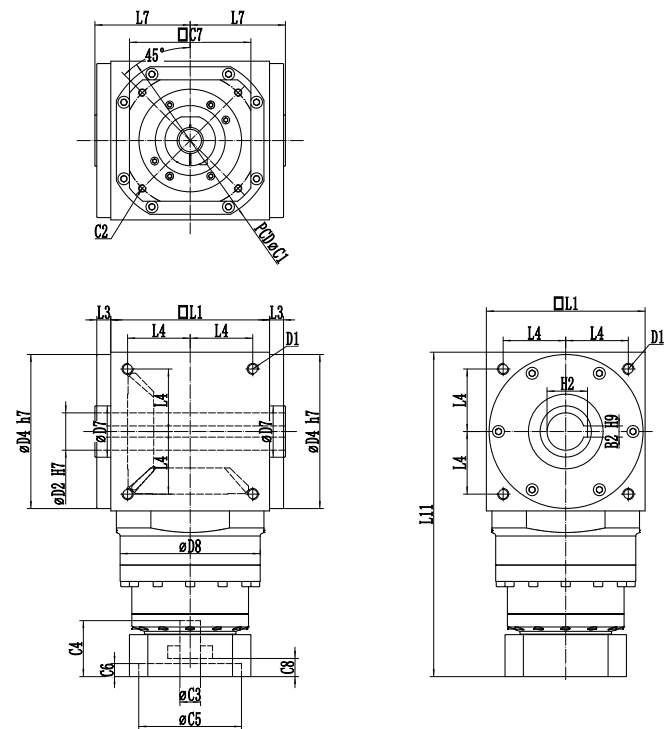


尺寸 (双节, 减速比 $i=4\sim 20$)

Dimension (double stage, Ratio $i=4\sim 20$)

尺寸/Dimension	WATH065	WATH090	WATH110	WATH140	WATH170	WATH210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D2 H7	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L7	47.5	62	72	87	102	127
L11	129/138.5	155.8/165.3	197/215	255.5/281.5	327/36	401/404
B2 H9	5	6	6	10	012	14
H2	15.3	20.8	24.8	35.3	43.3	53.8
C1	70/90	70/90	90/145	145/200	200	200/235
C2	M4/M5	M4/M5	M5/M8	M8/M12	M12	M12
C3	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	≤42/≤55
C4	31.5/41	31.5/41	41/59	60/81	81/114	114/117
C5	50/70	50/70	70/110	110/114.3	114.3	114.3/200
C6	5/6	5/6	6/14	14/19	19/15	10/24
C7	60/80	60/80	80/130	130/180	180	180/220
C8	6.5/8.7	6.5/8.7	9.5/21.5	19.5/23.5	23.5/56.5	46/35

WATH-L3

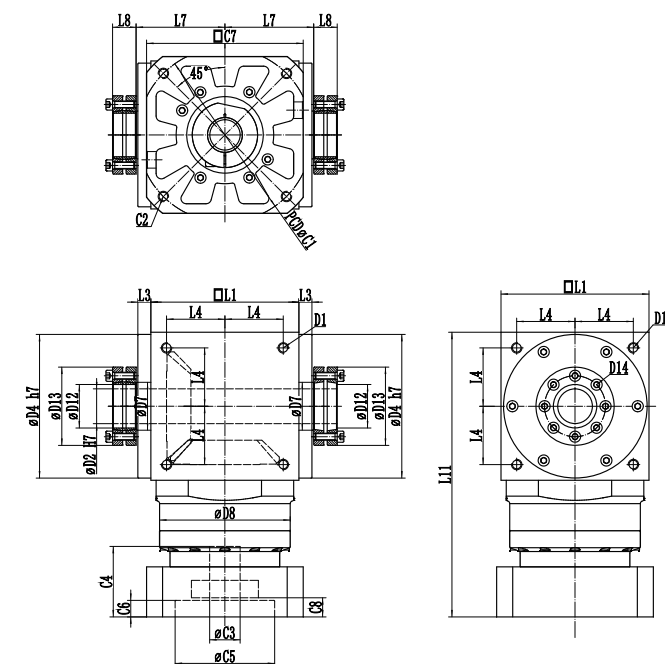


尺寸（双节，减速比 i=25~200）

Dimension (doublestage, Ratio i=25~200)

尺寸/Dimension	WATH065	WATH090	WATH110	WATH140	WATH170	WATH210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D2 H7	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
L1	65	90	110	140	170	210
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L7	47.5	62	72	87	102	127
L11	161/170.5	187.8/197.3	216.5/234.5	270/300.5	347.5/388	427.5/460.5
B2 H9	5	6	6	10	12	14
H2	15.3	20.8	24.8	35.3	43.3	53.8
C1	70/90	70/90	70/90	90/145	145/200	200
C2	M4/M5	M4/M5	M4/M5	M5/M8	M8/M12	M12
C3	≤14/≤19	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42
C4	31.5/41	31.5/41	31.5/41	41/60	60/81	81/114
C5	50/70	50/70	50/70	70/110	110/114.3	114.3
C6	5/6	5/6	5/6	6/14	14/19	19/15
C7	60/80	60/80	60/80	80/130	130/180	180
C8	6.5/8.7	6.5/8.7	6.5/9.5	9.5/19.5	19.5/23.5	23.5/56.5

WATC-L2



尺寸（双节，减速比 i=4~20）

Dimension (double stage, Ratio i=4~20)

尺寸/Dimension	WATC065	WATC090	WATC110	WATC140	WATC170	WATC210
D1	M5 ↓ 10	M6 ↓ 12	M8 ↓ 16	M10 ↓ 20	M12 ↓ 25	M16 ↓ 32
D2 H7	13	18	22	32	40	50
D4 h7	63	88	108	135	165	205
D7	19.9	29.9	39.9	44.9	54.9	74.9
D8	64	64	94	125	150	170
D12	16	22	27	44	50	62
D13	41	50	53	80	90	110
D14	6-M6	6-M6	7-M6	8-M6	8-M8	8-M8
L1	65	90	110	140	170	210
L3	13	15	15	15	15	20
L4	27	36	44	55	67	85
L7	47.5	62	72	87	102	127
L8	18	20	20	25	27	30
L11	129/138.5	155.8/165.3	197/215	255.5/281.5	327/360	401/404
C1	70/90	70/90	90/145	145/200	200	200/235
C2	M4/M5	M4/M5	M5/M8	M8/M12	M12	M12
C3	≤14/≤19	≤14/≤19	≤19/≤24	≤24/≤35	≤35/≤42	≤42/≤55
C4	31.5/41	31.5/41	41/59	60/81	81/114	114/117
C5	50/70	50/70	70/110	110/114.3	114.3	114.3/200
C6	5/6	5/6	6/14	14/23	19/15	24
C7	60/80	60/80	80/130	130/180	180	180/220
C8	6.5/8.7	6.5/8.7	9.5/21.5	19.5/23.5	23.5/56.5	46/35

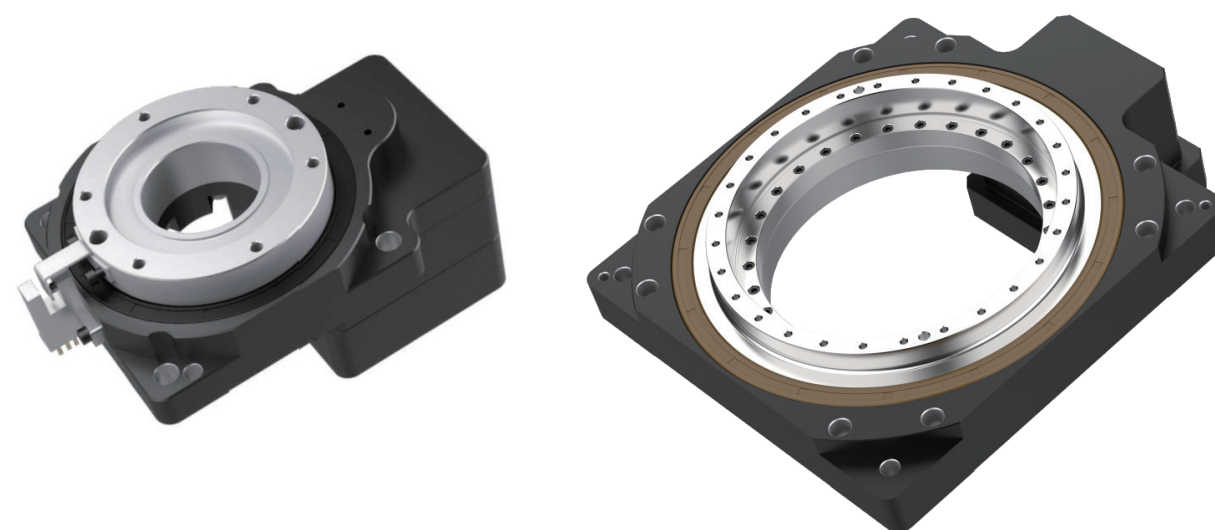
WTN

Hollow Rotary Platform
系列中空旋转平台

FEATURES

产品特点

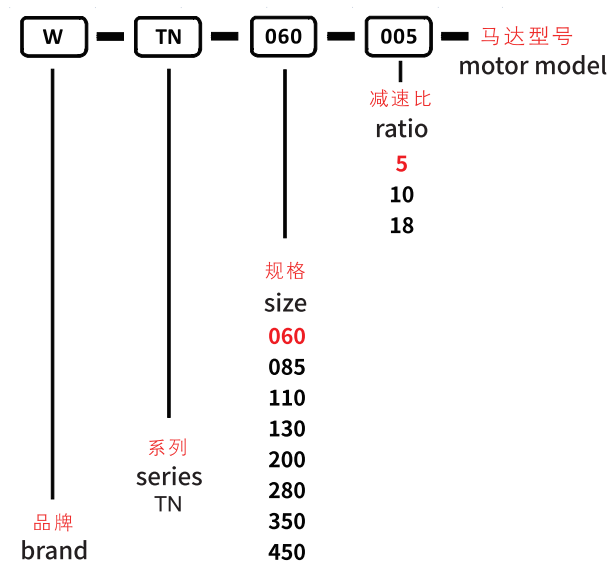
- » 相对DD马达、分割器优势、价格更低
- » 中空孔更大，配线、管方便
- » 体积更小，功率密度更大
- » 交叉轴承输出，承载更大
- » Competitive price
- » Larger hollow hole, convenient for wiring and piping
- » Compact size, greater power density
- » Crossed roller bearing output, with greater load-bearing capacity



INDICATION FOR MODEL

SELECTION

机种型号表示



GENERAL NOTICES

订货须知

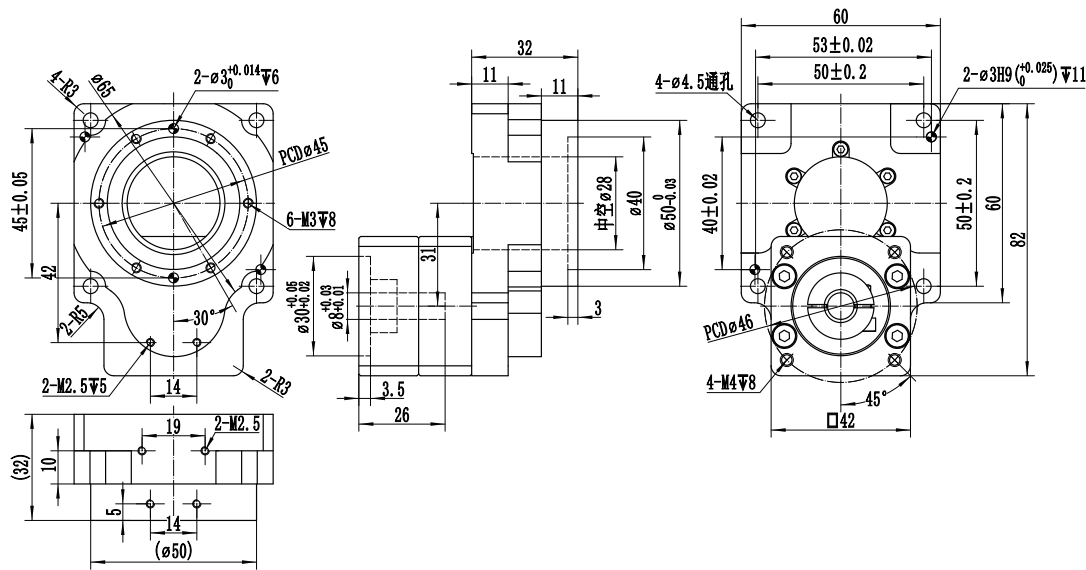
- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

WTN060性能参数/Heavy-load type

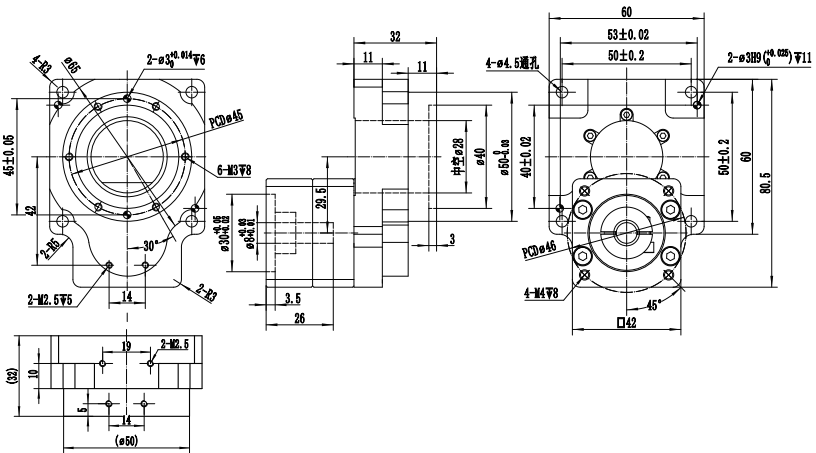
WTN060系列性能表/WTN060 series Performance data sheet

特性/Specifications	单位/unit	WTN060	WTN060+WVRB042	WTN060+WRS042
搭载马达型号/Applicable motor models		42型步进马达 42 stepper motor	50W~100W伺服电机 50W~100W servo motor	电机轴径≤8 motor shaft diameter
支撑旋转平台轴承/Bearing type		交叉滚子轴承/crossed roller bearing		
减速比/Ratio		5 10 18	25 40 50 70 100	15 30 50
转动惯量/Rotational inertia	Kg.m ²	3507x10-7		
额定输出扭矩/Rated output torque	N·m	5.2 4.6 1.2	5.2	5.2
额定输出转速/Rated output speed	rpm	300		
角度传动精度/Angular transmission accuracy	arcmin	<2		
反复定位精度/Reset positioning accuracy	arcsec	<15		
齿隙/Backlash	arcmin	<1	<3	<3
允许轴向负载/Allowable axial load	N	250		
允许惯性力矩/Allowable moment of inertia	N·m	5		
旋转平台平行度/Parallelism of rotation platform	mm	0.015		
旋转平台同心度/Concentricity of rotation platform	mm	0.01		
输出端面跳动/Output end face runout	mm	0.008		
噪音/Noise	dB	65	60	65
使用寿命/Service life	h	20000		
防护等级/Protection level	IP	40		
重量/Weight	Kg	0.6	1.2	1.3

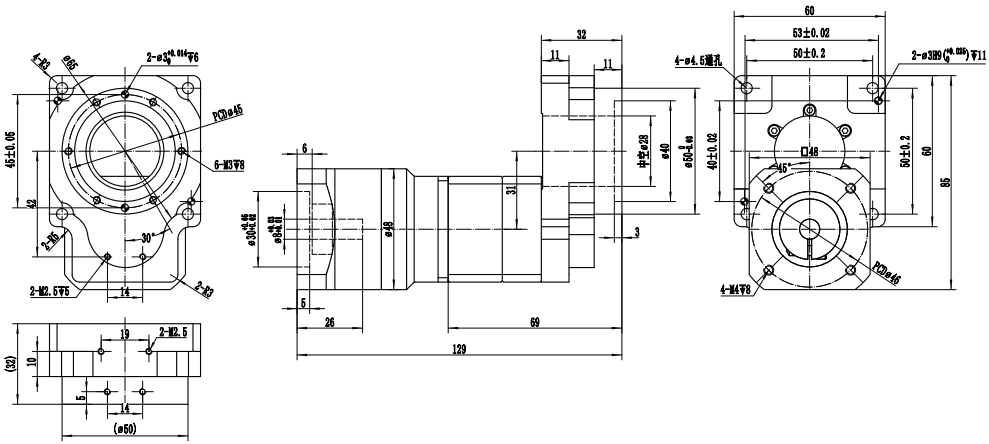
5/10比外形图 / Ratio 5/10 dimension



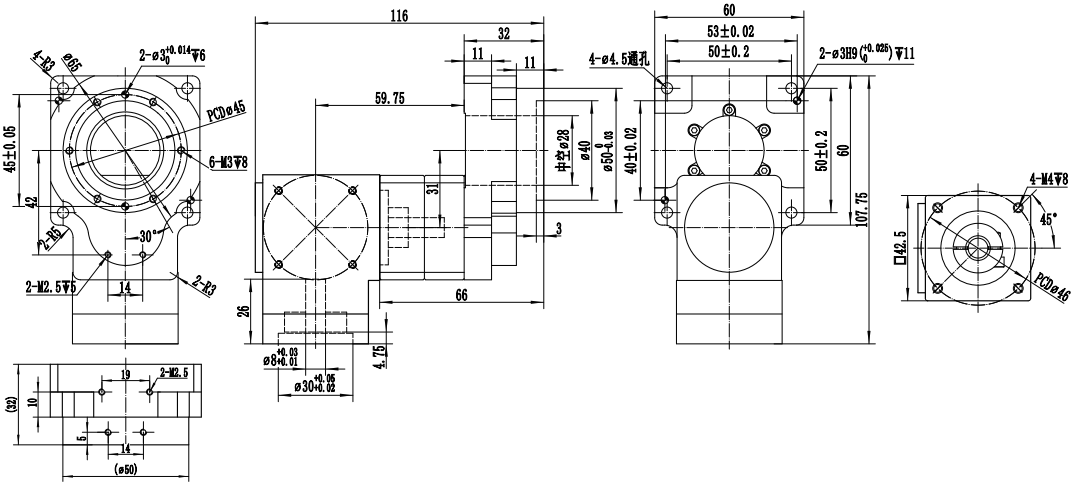
18比外形图 / Ratio 18 dimension



组合行星外形图 / Combined gearbox dimension



组合转角外形图 / Combined right-angle gearbox dimension

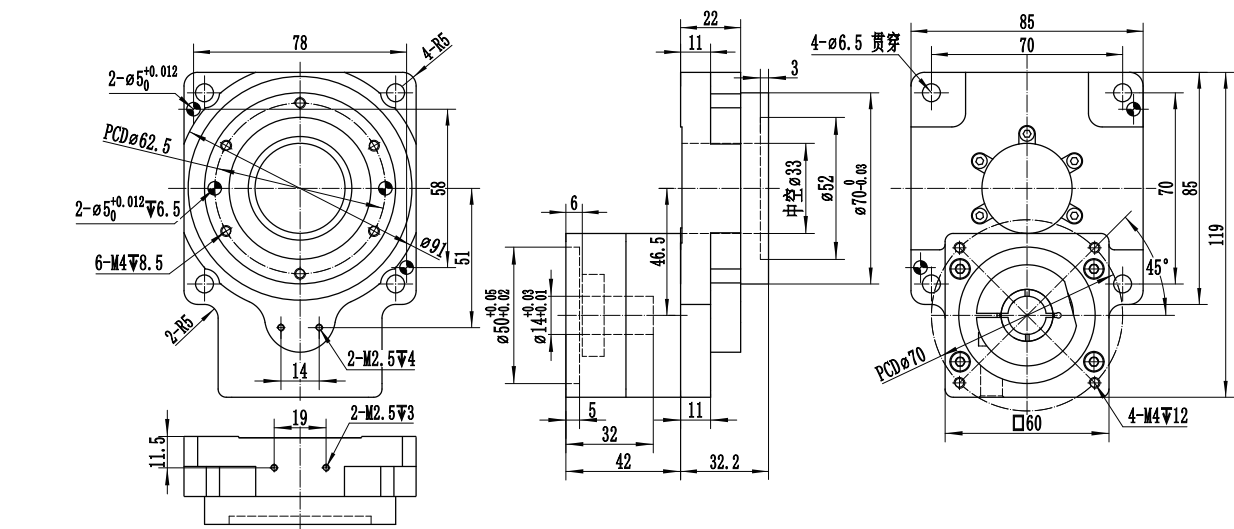


WTN085性能参数/Heavy-load type

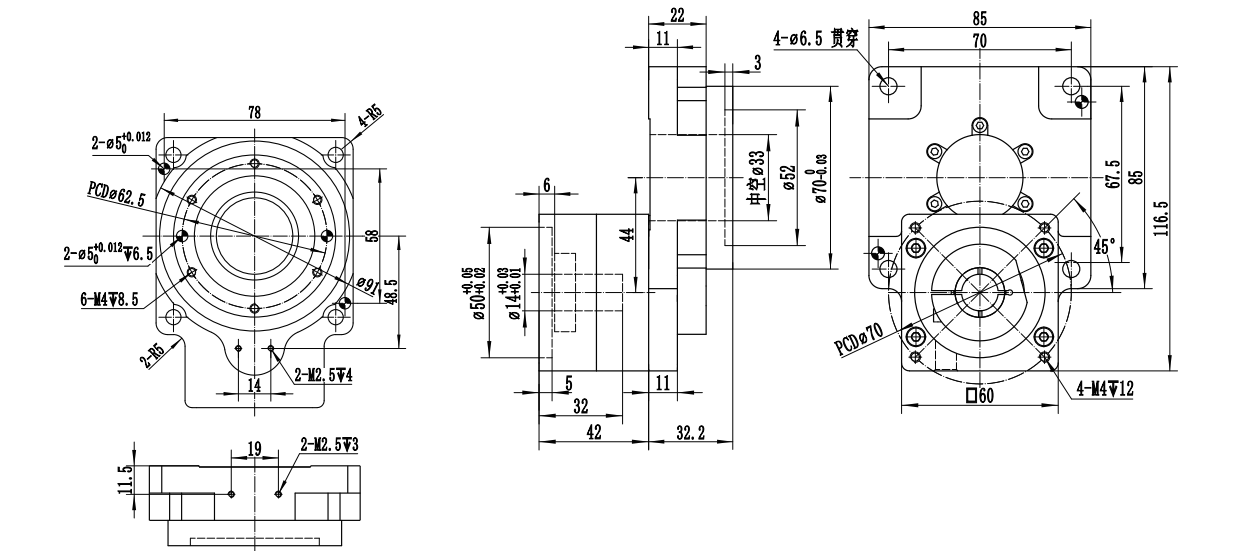
WTN085系列性能表/WTN085 series Performance data sheet

特性/Specifications	单位/ unit	WTN085	WTN085+WVRB060	WTN085+WRS060
搭载马达型号 /Applicable motor models		57型步进马达 57 stepper motor	200W~400W伺服电机 200W~400W servo motor	电机轴径≤14 motor shaft diameter
支撑旋转平台轴承/Bearing type		交叉滚子轴承/crossed roller bearing		
减速比/Ratio		5 10	30 40 50 70 100	15 30 50
转动惯量 /Rotational inertia	Kg.m ²	12593x10-7		
额定输出扭矩 /Rated output torque	N·m	12 10	12	12
额定输出转速 /Rated output speed	rpm	300		
角度传动精度 /Angular transmission accuracy	arcmin	<2		
反复定位精度 /Reset positioning accuracy	arcsec	<15		
齿隙 /Backlash	arcmin	<1	<2	<2
允许轴向负载 /Allowable axial load	N	500		
允许惯性力矩 /Allowable moment of inertia	N·m	10		
旋转平台平行度 /Parallelism of rotation platform	mm	0.015		
旋转平台同心度 /Concentricity of rotation platform	mm	0.01		
输出端面跳动 /Output end face runout	mm	0.008		
噪音 /Noise	dB	65	60	65
使用寿命 /Service life	h	20000		
防护等级 /Protection level	IP	40		
重量 /Weight	Kg	1.2	2.7	2.5

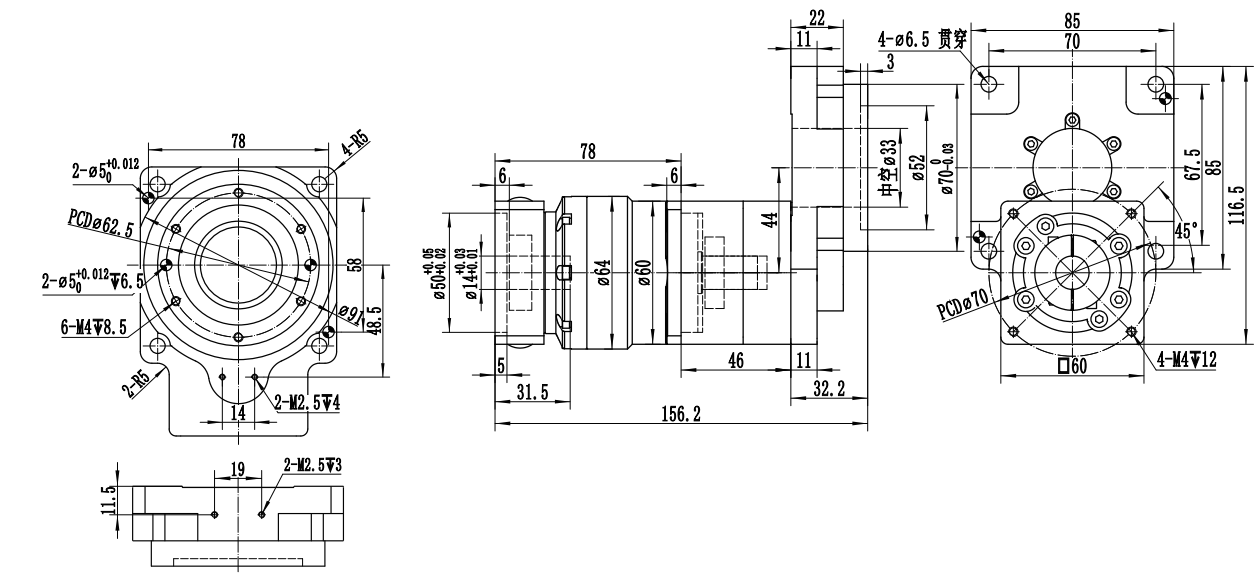
5比外形图 / Ratio 5 dimension



10比外形图 / Ratio 10 dimension

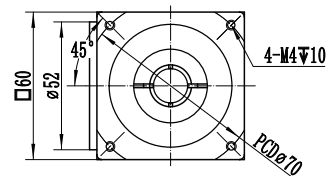
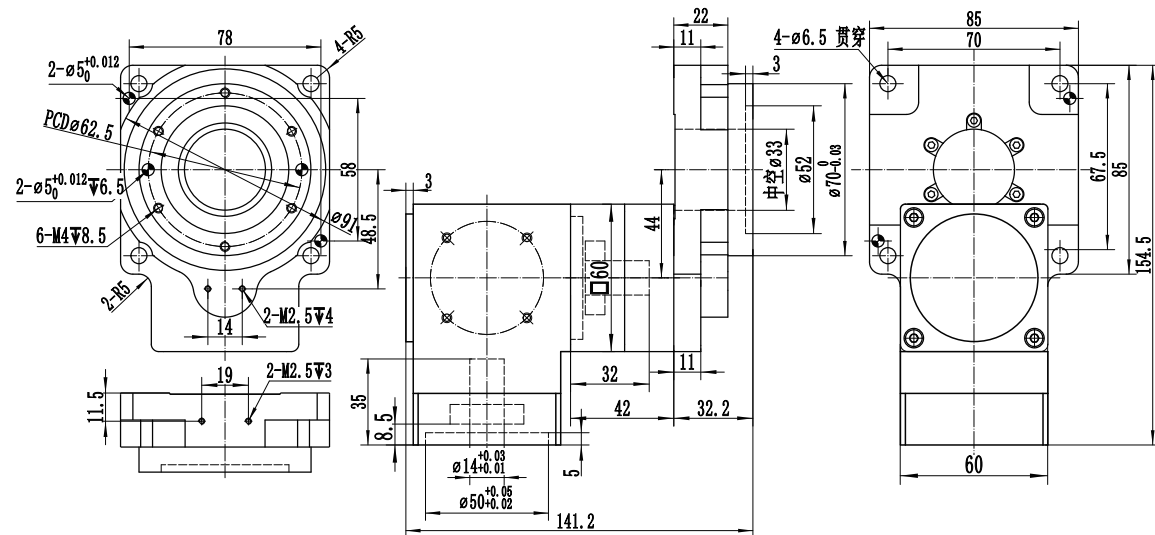


组合行星外形图 / Combined gearbox dimension



组合转角外形图

Combined right-angle gearbox dimension

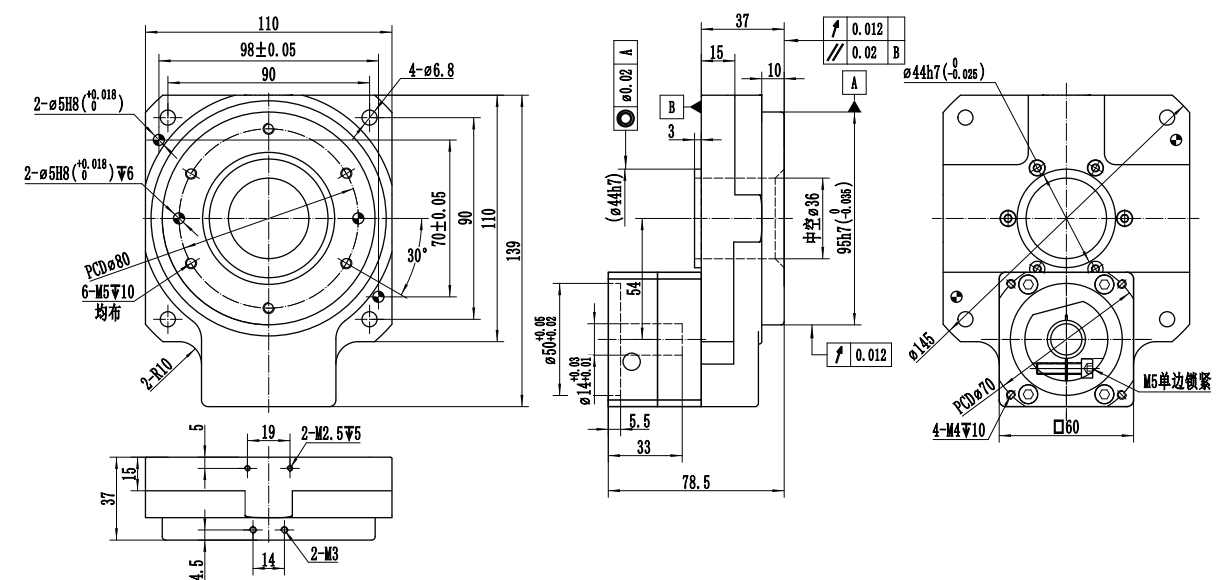


WTN110性能参数/Heavy-load type

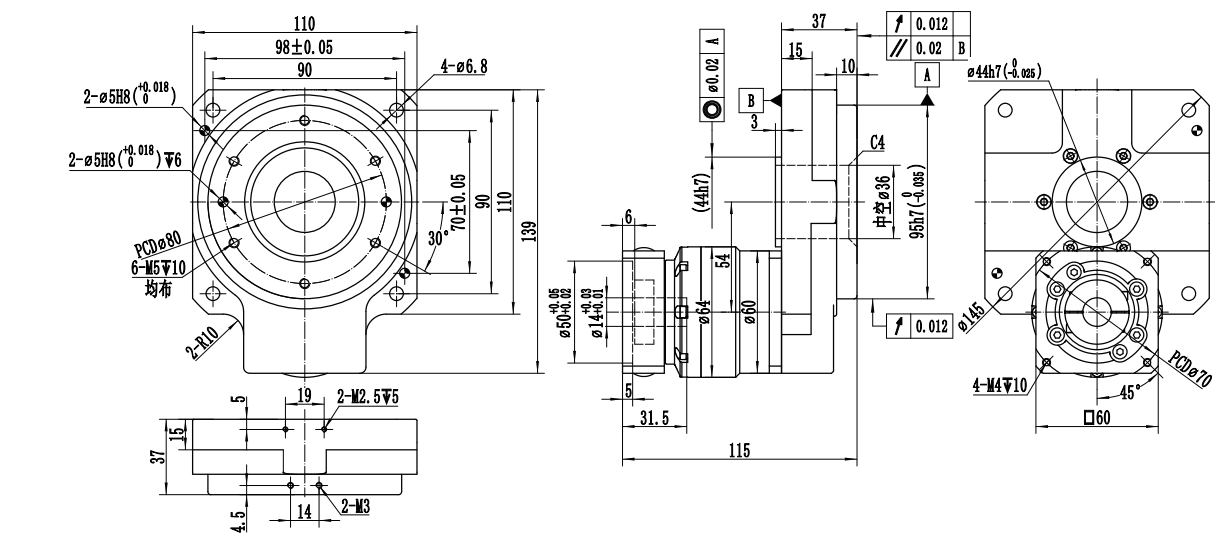
WTN110系列性能表/WTN110 series Performance data sheet

特性/Specifications	单位/unit	WTN110	WTN110+WVRB060					WTN110+WRS060				
搭载马达型号/Applicable motor models		57型步进马达 57 stepper motor	200W~400W伺服电机 200W~400W servo motor					电机轴径≤14 motor shaft diameter				
支撑旋转平台轴承/Bearing type		交叉滚子轴承/crossed roller bearing										
减速比/Ratio		10	30	40	50	70	100	10	30	50		
转动惯量/Rotational inertia	Kg.m ²	1483x10-6										
额定输出扭矩/Rated output torque	N·m	40	40					40				
额定输出转速/Rated output speed	rpm	300										
角度传动精度/Angular transmission accuracy	arcmin	<1.5										
反复定位精度/Reset positioning accuracy	arcsec	<15										
齿隙/Backlash	arcmin	<1	<2					<2				
允许轴向负载/Allowable axial load	N		1000									
允许惯性力矩/Allowable moment of inertia	N·m		25									
旋转平台平行度/Parallelism of rotation platform	mm		0.02									
旋转平台同心度/Concentricity of rotation platform	mm		0.012									
输出端面跳动/Output end face runout	mm		0.012									
噪音/Noise	dB	65	60					65				
使用寿命/Service life	h		20000									
防护等级/Protection level	IP		40									
重量/Weight	Kg	2.2	3.5					3.5				

10比外形图 / Ratio 10 dimension

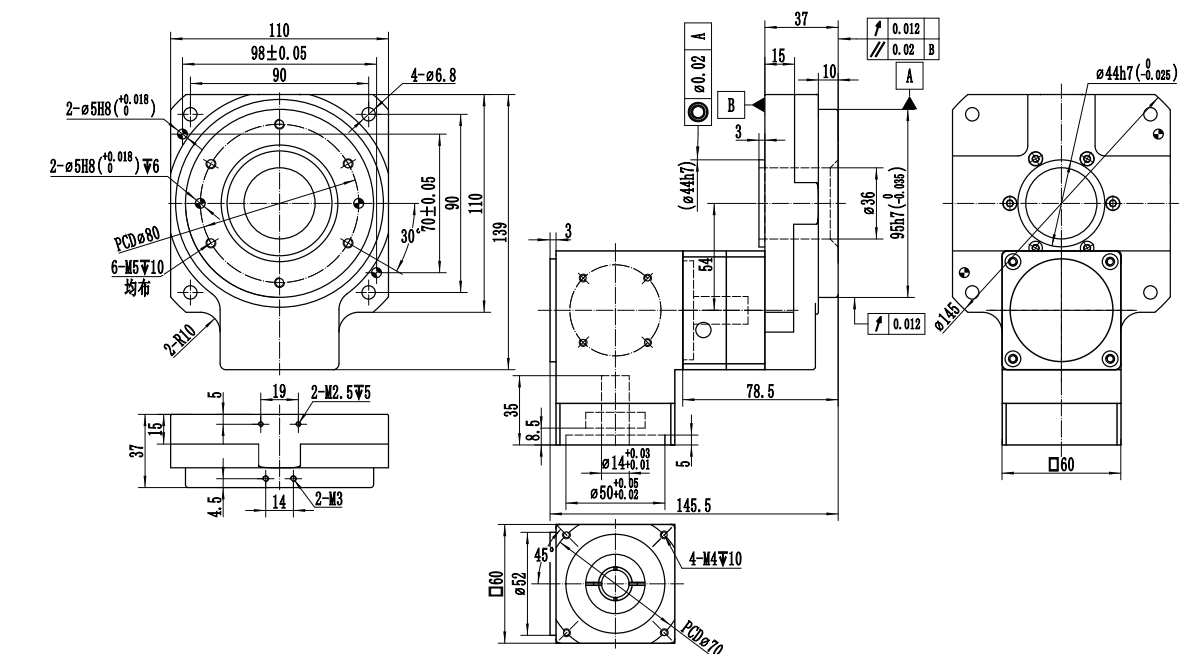


组合行星外形图 / Combined gearbox dimension



组合转角外形图

Combined right-angle gearbox dimension

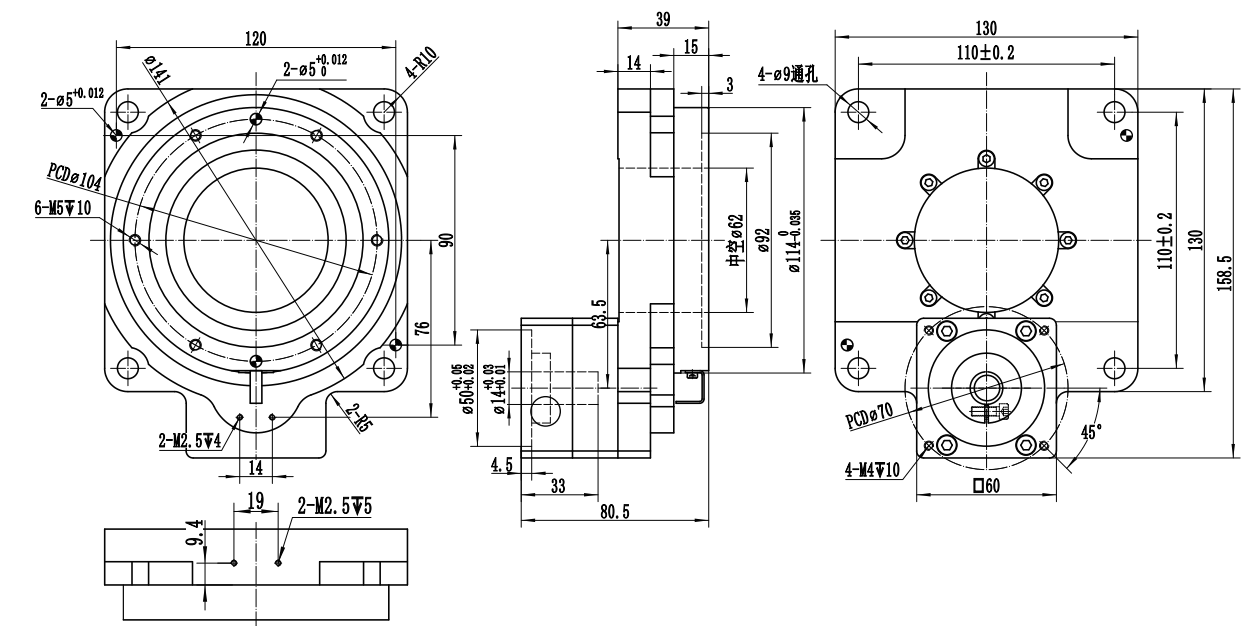


WTN130性能参数/Heavy-load type

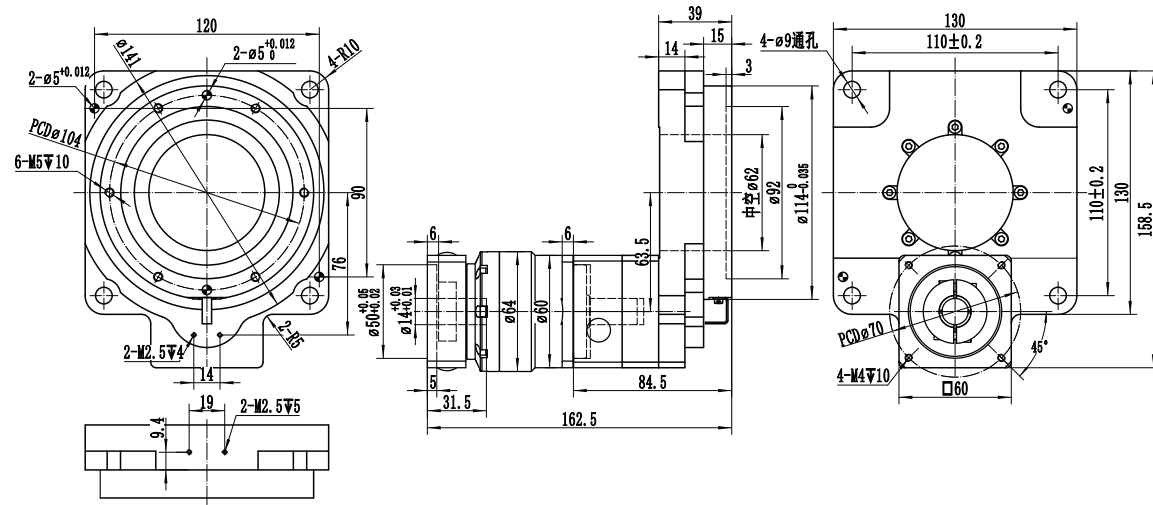
WTN130系列性能表/WTN130 series Performance data sheet

特性/Specifications	单位/unit	WTN130	WTN130+WVRB060	WTN130+WRS060
搭载马达型号/Applicable motor models		57型步进马达 57 stepper motor	200W~400W伺服电机 200W~400W servo motor	电机轴径≤14 motor shaft diameter
支撑旋转平台轴承/Bearing type		交叉滚子轴承/crossed roller bearing		
减速比/Ratio		10 18	30 40 50 70 100	10 30 50
转动惯量/Rotational inertia	Kg.m ²	8155x10-6		
额定输出扭矩/Rated output torque	N·m	32 20	32	32
额定输出转速/Rated output speed	rpm	200		
角度传动精度/Angular transmission accuracy	arcmin	<1.5		
反复定位精度/Reset positioning accuracy	arcsec	<15		
齿隙/Backlash	arcmin	<1	<2	<2
允许轴向负载/Allowable axial load	N	2000		
允许惯性力矩/Allowable moment of inertia	N·m	50		
旋转平台平行度/Parallelism of rotation platform	mm	0.02		
旋转平台同心度/Concentricity of rotation platform	mm	0.012		
输出端面跳动/Output end face runout	mm	0.012		
噪音/Noise	dB	65	60	65
使用寿命/Service life	h	20000		
防护等级/Protection level	IP	40		
重量/Weight	Kg	2.8	4.3	4.1

10/18比外形图 / Ratio 10/18 dimension

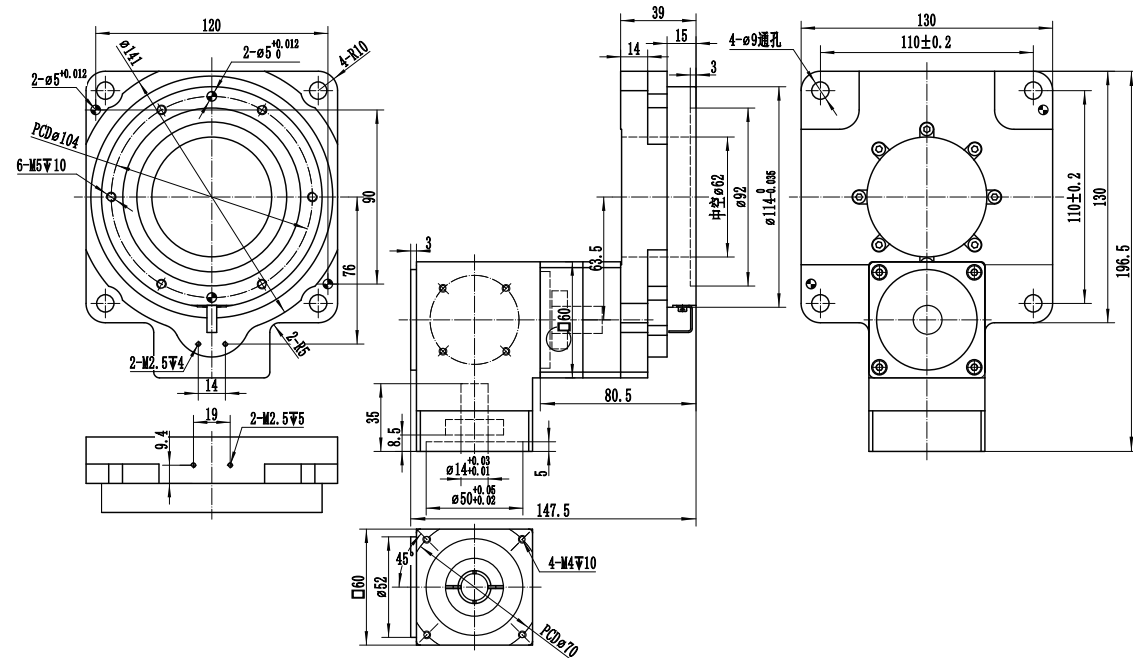


组合行星外形图 / Combined gearbox dimension



组合转角外形图

Combined right-angle gearbox dimension

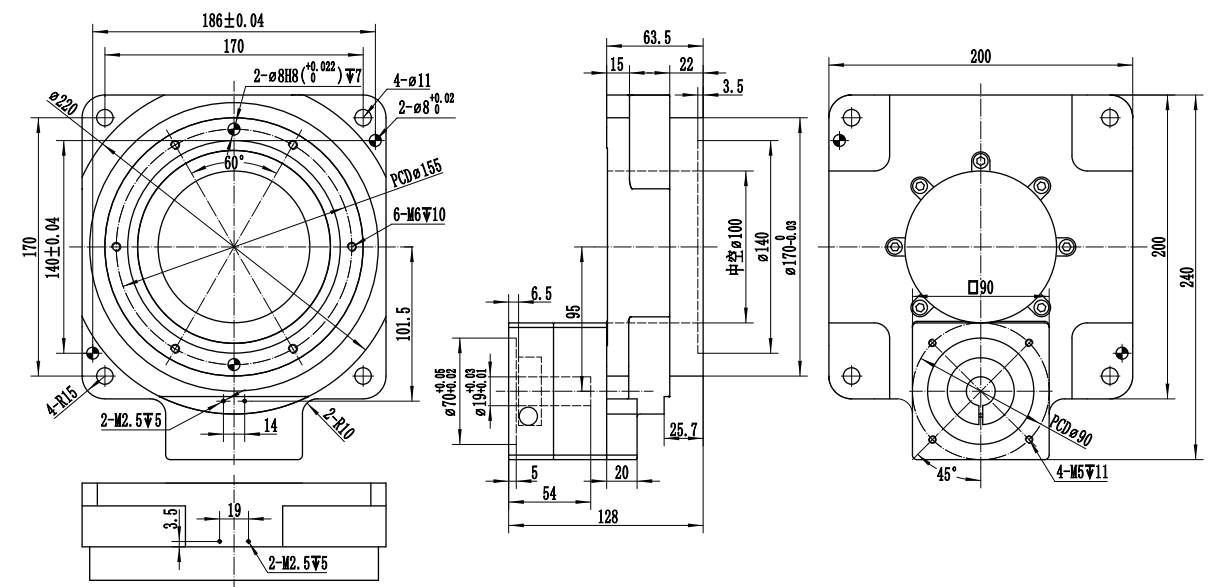


WTN200性能参数/Heavy-load type

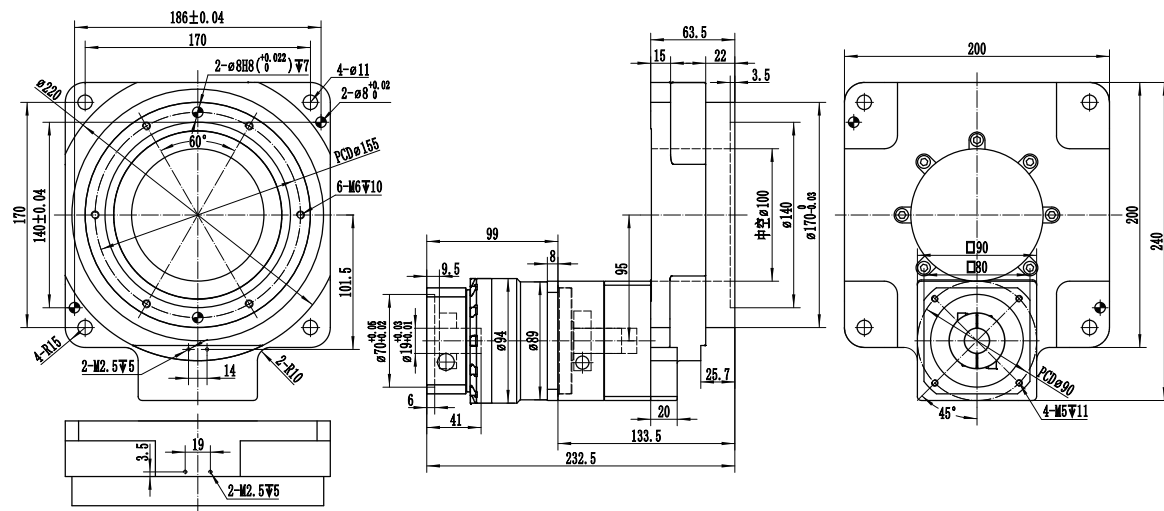
WTN200系列性能表/WTN200 series Performance data sheet

特性/Specifications	单位/ unit	WTN200	WTN200+WVRB090	WTN200+WRS090
搭载马达型号/ Applicable motor models		86型步进马达 86 stepper motor	750W伺服电机 750W servo motor	电机轴径≤19 motor shaft diameter
支撑旋转平台轴承/ Bearing type		交叉滚子轴承/ crossed roller bearing		
减速比/ Ratio		10 18	30 40 50 70 100	10 30 50
转动惯量/ Rotational inertia	Kg.m ²	36122x10-6		
额定输出扭矩/ Rated output torque	N·m	70 70	70	70
额定输出转速/ Rated output speed	rpm	200		
角度传动精度/ Angular transmission accuracy	arcmin	<1		
反复定位精度/ Reset positioning accuracy	arcsec	<10		
齿隙/ Backlash	arcmin	<1	<2	<2
允许轴向负载/ Allowable axial load	N	4000		
允许惯性力矩/ Allowable moment of inertia	N·m	100		
旋转平台平行度/ Parallelism of rotation platform	mm	0.02		
旋转平台同心度/ Concentricity of rotation platform	mm	0.012		
输出端面跳动/ Output end face runout	mm	0.012		
噪音/ Noise	dB	67	62	67
使用寿命/ Service life	h	20000		
防护等级/ Protection level	IP	40		
重量/ Weight	Kg	9.6	13.3	13.7

10/18比外形图 / Ratio 10/18 dimension

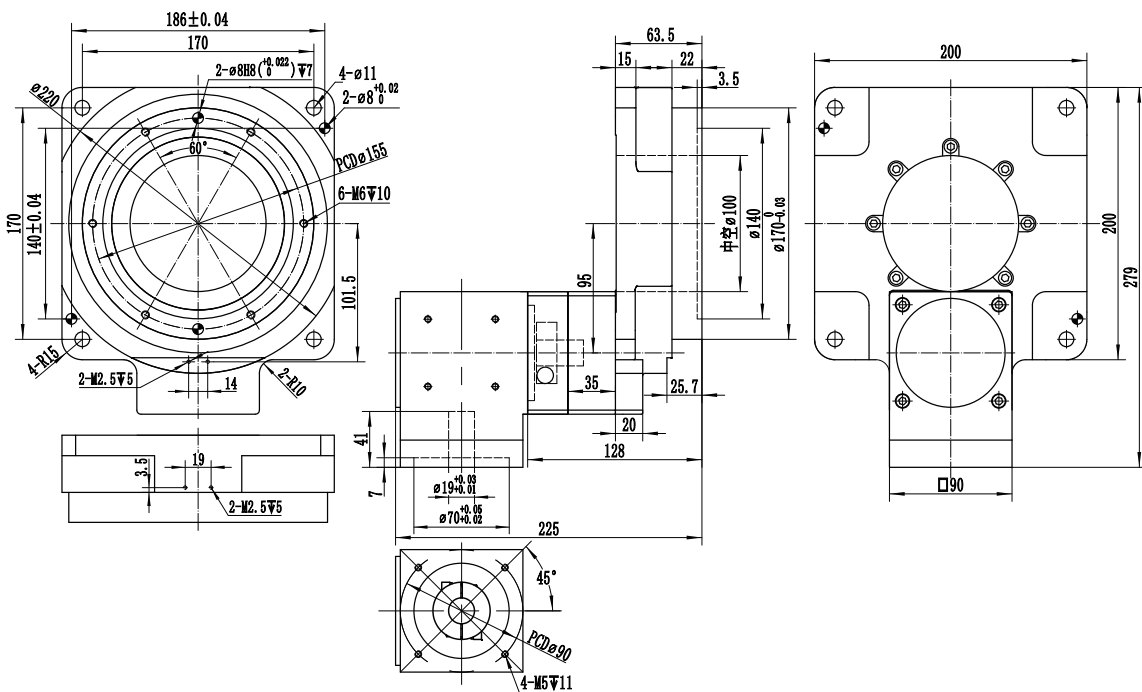


组合行星外形图 / Combined gearbox dimension



组合转角外形图

Combined right-angle gearbox dimension

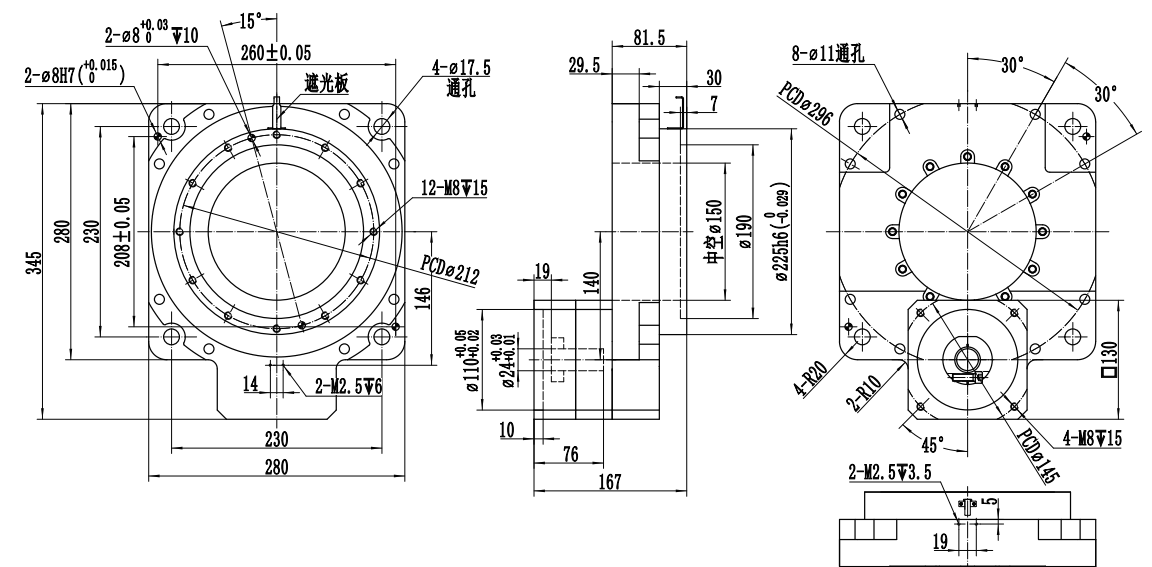


WTN280性能参数/Heavy-load type

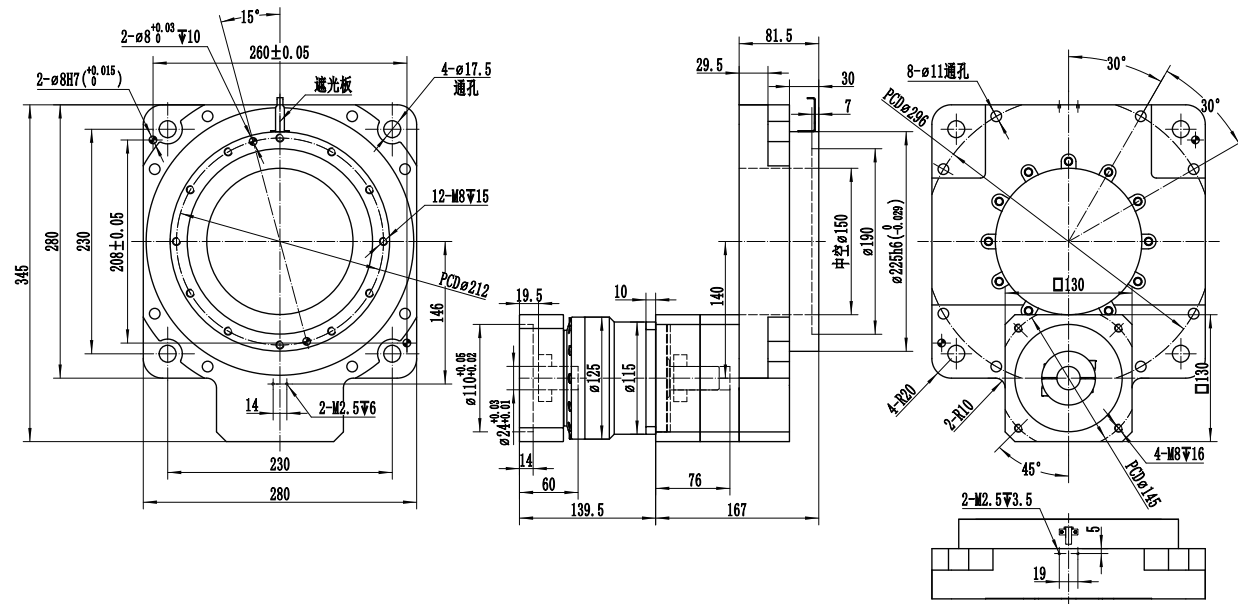
WTN280系列性能表/WTN280 series Performance data sheet

特性/Specifications	单位/unit	WTN280	WTN280+WVRB115					
搭载马达型号/Applicable motor models		110/130型步进马达 110/130 stepper motor	1000W~3000W伺服电机 1000W~3000W servo motor		电机轴径≤24 motor shaft diameter			
支撑旋转平台轴承/Bearing type			交叉滚子轴承/crossed roller bearing					
减速比/Ratio		10	30	40	50	70	100	
转动惯量/Rotational inertia	Kg.m ²	14600x10-5						
额定输出扭矩/Rated output torque	N·m	180	180					
急停扭矩/Emergency stop Torque T2NOT	rpm	3倍额定输出扭矩/Rated output torque						
额定输出转速/Rated output speed	rpm	200						
角度传动精度/Angular transmission accuracy	arcmin	<1						
反复定位精度/Reset positioning accuracy	arcsec	<10						
齿隙/Backlash	arcmin	<1	<2					
允许轴向负载/Allowable axial load	N	7000						
允许惯性力矩/Allowable moment of inertia	N·m	200						
旋转平台平行度/Parallelism of rotation platform	mm	0.030						
旋转平台同心度/Concentricity of rotation platform	mm	0.015						
输出端面跳动/Output end face runout	mm	0.015						
噪音/Noise	dB	71	65					
使用寿命/Service life	h	20000						
防护等级/Protection level	IP	40						
重量/Weight	Kg	18	25.8					

10比外形图 / Ratio 10 dimension



组合行星外形图 / Combined gearbox dimension



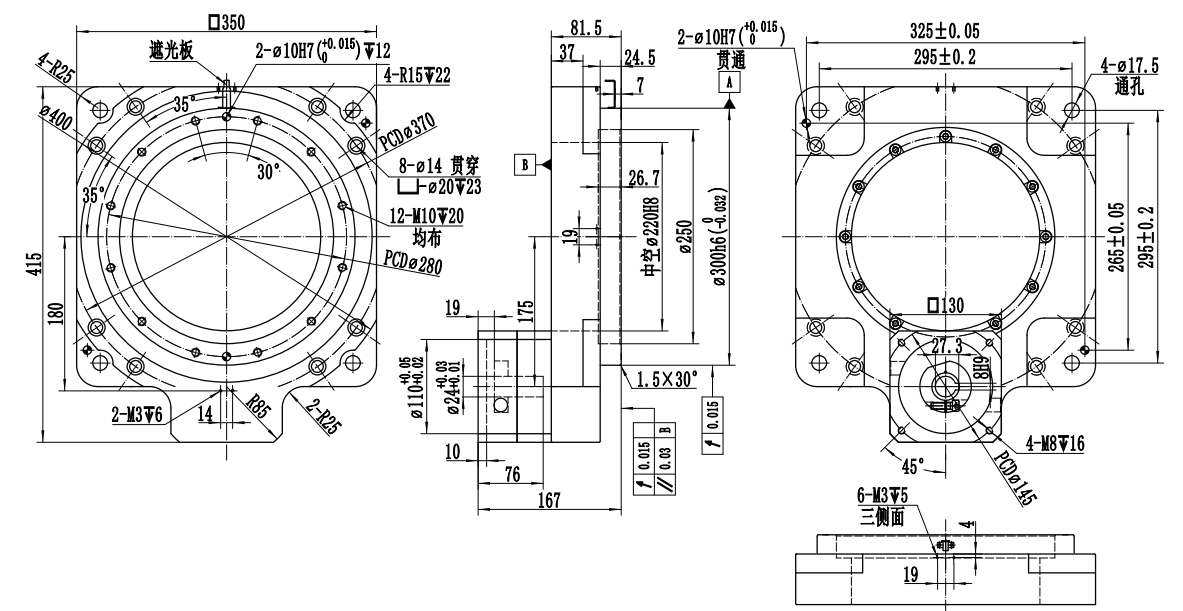
WTN350性能参数/Heavy-load type

WTN350系列性能表/WTN350 series Performance data sheet

特性/Specifications	单位/unit	WTN350	WTN350+WVRB115				
搭载马达型号/Applicable motor models		130型步进马达 130 stepper motor	1000W~4400W伺服电机 1000W~3000W servo motor		电机轴径≤35 motor shaft diameter		
支撑旋转平台轴承/Bearing type			交叉滚子轴承/crossed roller bearing				
减速比/Ratio		10 18	30	40	50	70	100
转动惯量/Rotational inertia	Kg.m ²	25500X10-5					
额定输出扭矩/Rated output torque	N·m	320 260	320				
急停扭矩/Emergency stop Torque T2WOT	rpm	3倍额定输出扭矩/Rated output torque					
额定输出转速/Rated output speed	rpm	150					
角度传动精度/Angular transmission accuracy	arcmin	<1					
反复定位精度/Reset positioning accuracy	arcsec	<10					
齿隙/Backlash	arcmin	<1	<1.5				
允许轴向负载/Allowable axial load	N	9000					
允许惯性力矩/Allowable moment of inertia	N·m	300					
旋转平台平行度/Parallelism of rotation platform	mm	0.03					
旋转平台同心度/Concentricity of rotation platform	mm	0.015					
输出端面跳动/Output end face runout	mm	0.015					
噪音/Noise	dB	73	66				
使用寿命/Service life	h	20000					
防护等级/Protection level	IP			40			
重量/Weight	Kg	25.5		33.3			

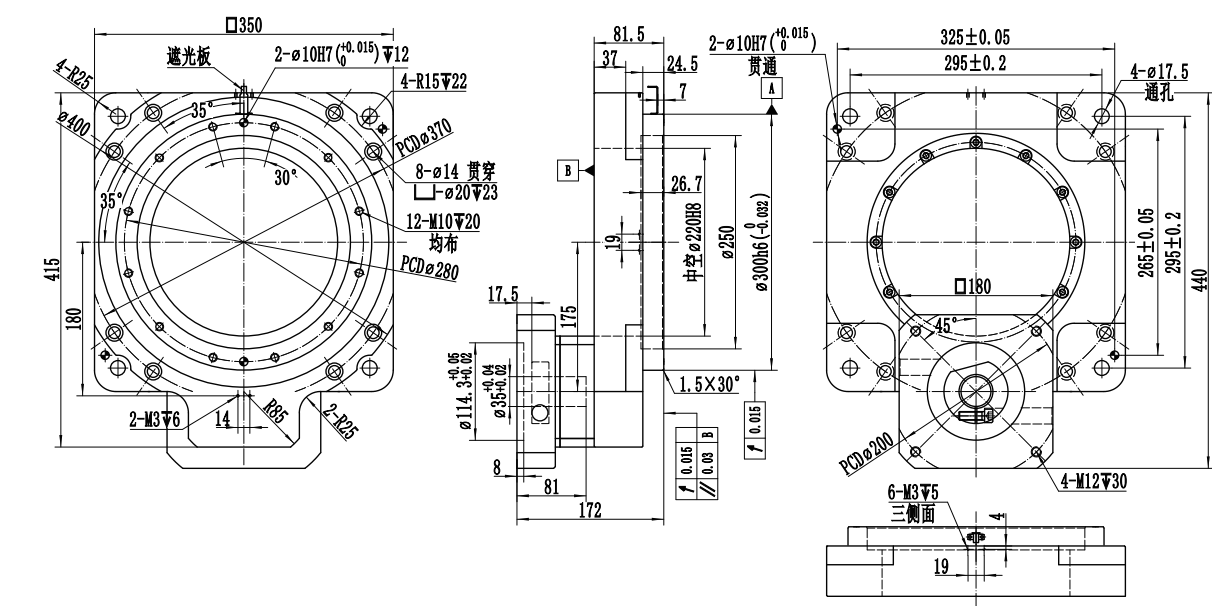
10/18比电机轴24外形图

Ratio 10/18 dimension(motor shaft OD 24mm)

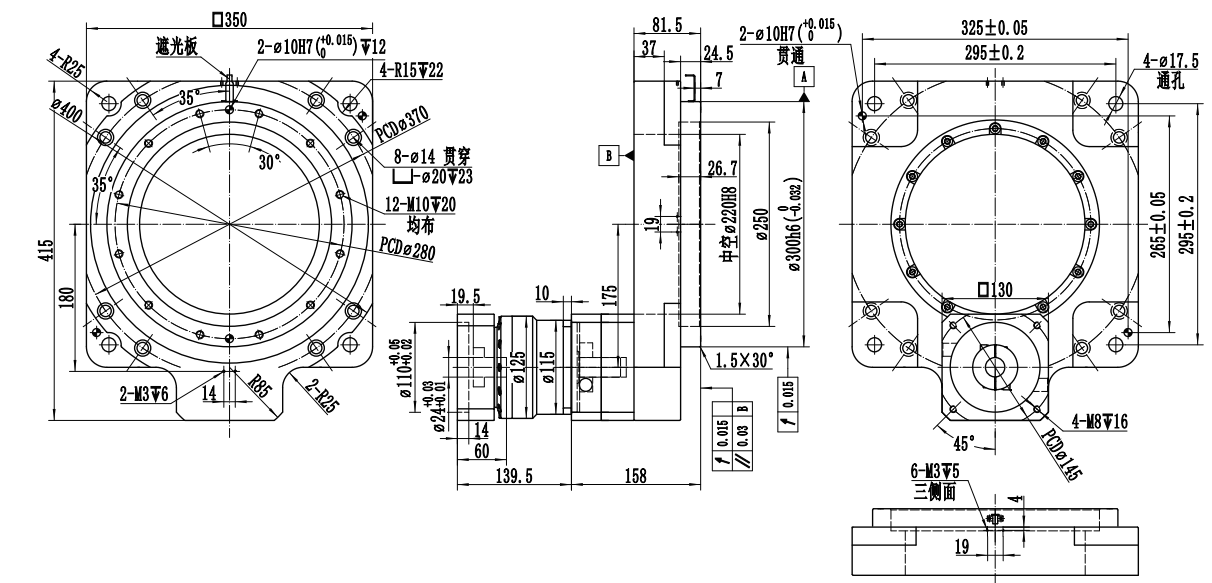


10/18比电机轴35外形图

Ratio 10/18 dimension(motor shaft OD 35mm)



组合行星外形图 / Combined gearbox dimension

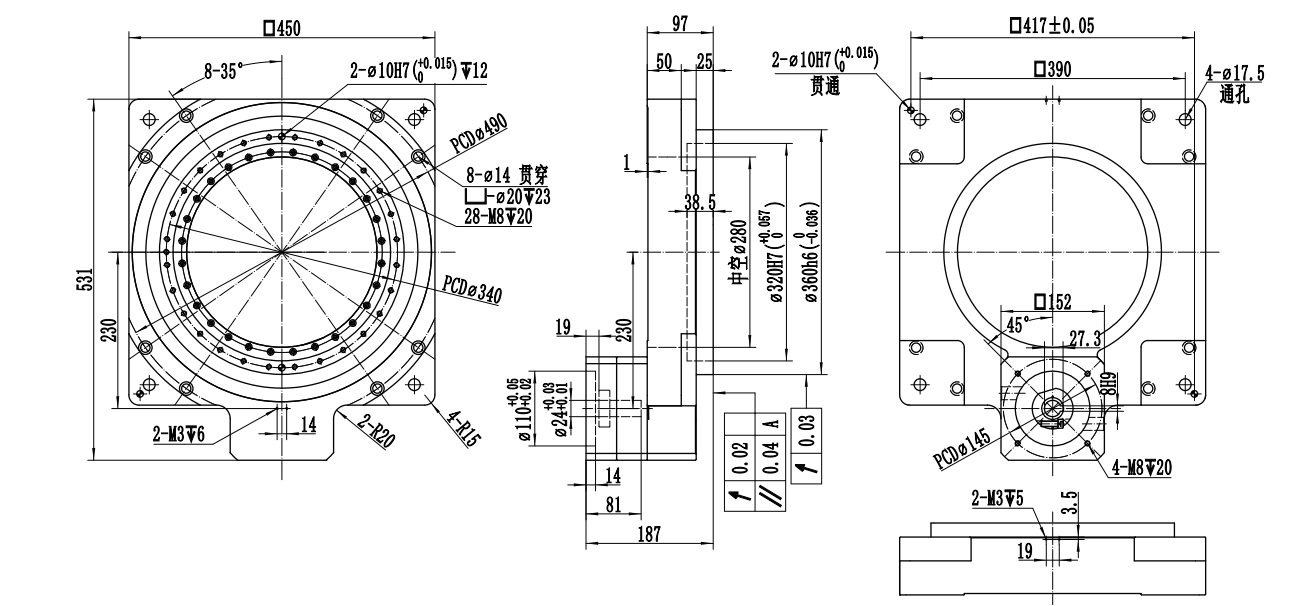


WTN450性能参数/Heavy-load type

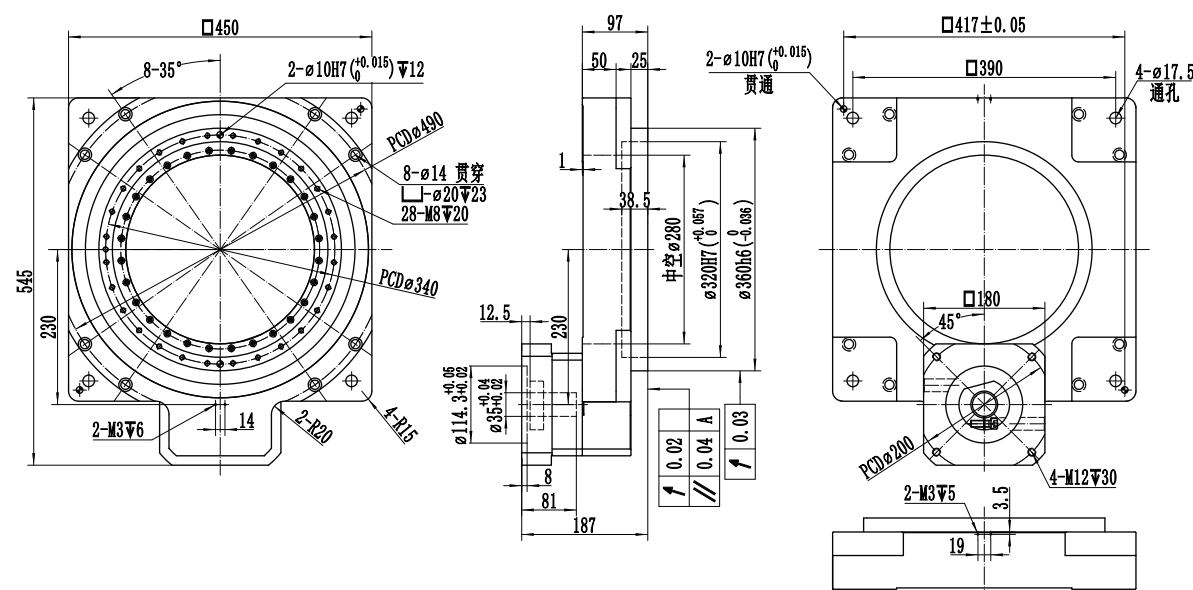
WTN450系列性能表/WTN450 series Performance data sheet

特性/Specifications	单位/unit	WTN450	WTN450+WVRB115				
搭载马达型号/Applicable motor models		130型步进马达 130 stepper motor	1000W~5500W伺服电机 1000W~5500W servo motor				
支撑旋转平台轴承/Bearing type		交叉滚子轴承/crossed roller bearing					电机轴径≤38 motor shaft diameter
减速比/Ratio		10	30	40	50	70	100
转动惯量/Rotational inertia	Kg.m ²	80500X10-5					
额定输出扭矩/Rated output torque	N·m	400	400				
急停扭矩/Emergency stop Torque T2NOT	rpm	3倍额定输出扭矩/Rated output torque					
额定输出转速/Rated output speed	rpm	150					
角度传动精度/Angular transmission accuracy	arcmin	<1					
反复定位精度/Reset positioning accuracy	arcsec	<10					
齿隙/Backlash	arcmin	<1		<1.5			
允许轴向负载/Allowable axial load	N	11000					
允许惯性力矩/Allowable moment of inertia	N·m	400					
旋转平台平行度/Parallelism of rotation platform	mm	0.040					
旋转平台同心度/Concentricity of rotation platform	mm	0.02					
输出端面跳动/Output end face runout	mm	0.02					
噪音/Noise	dB	75	66				
使用寿命/Service life	h	20000					
防护等级/Protection level	IP	40					
重量/Weight	Kg	49	56.8				

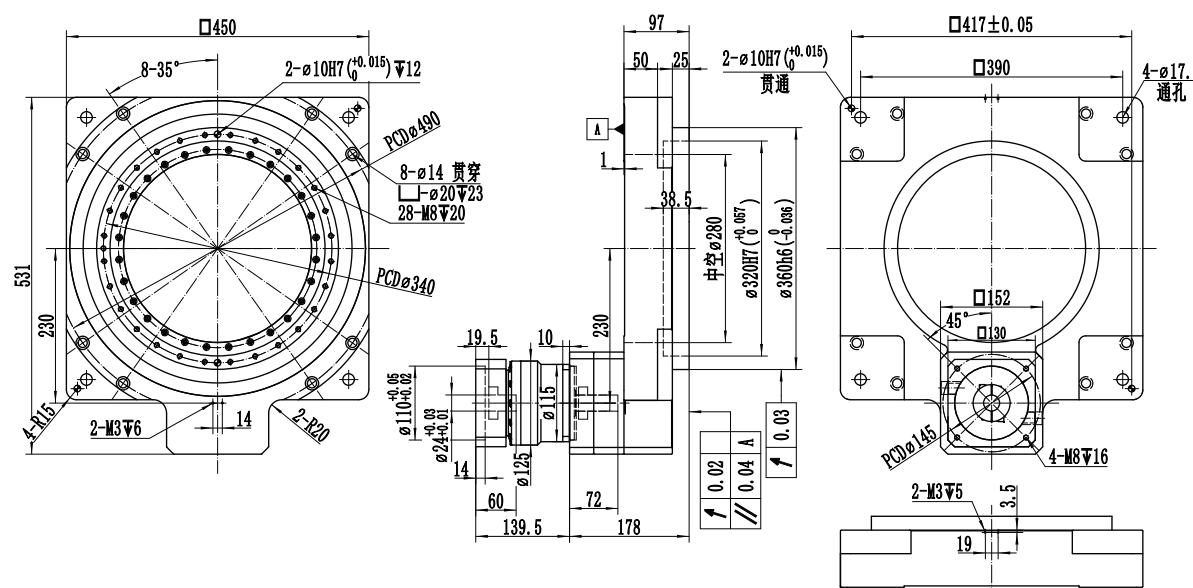
电机轴24外形图 / Dimension(motor shaft OD 24mm)



电机轴35外形图 / Dimension(motor shaft OD 35mm)



组合行星外形图 / Combined gearbox dimension



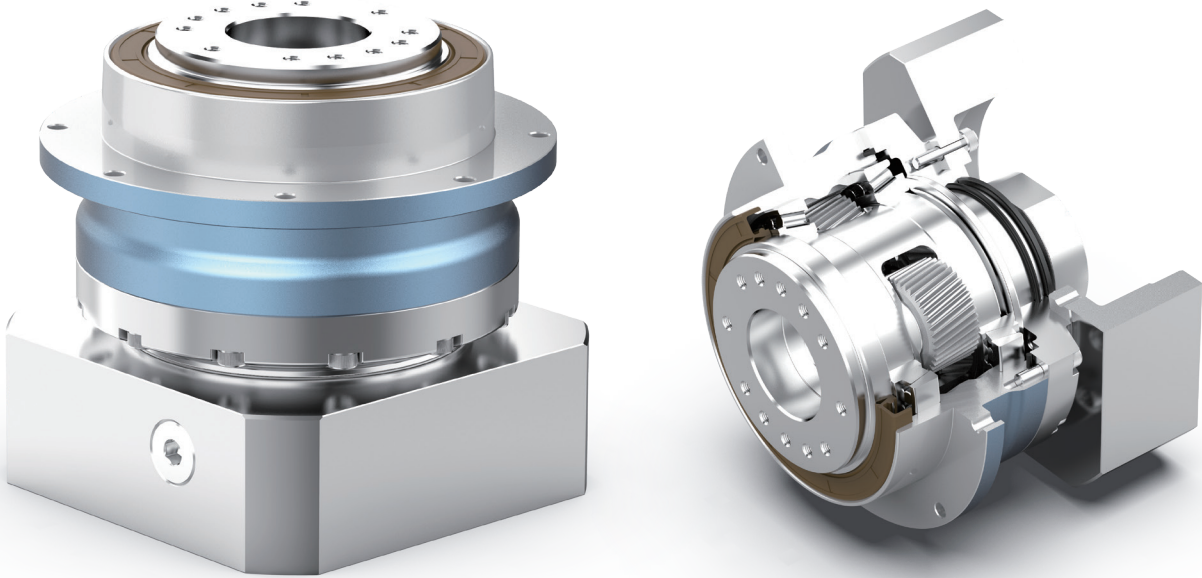
WTH

Series planetary gearbox
系列行星减速机

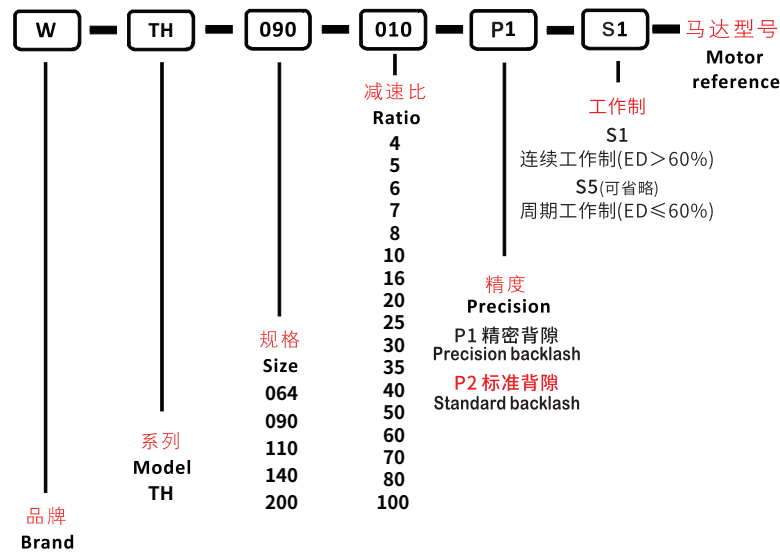
FEATURES

产品特点

- » 高精度, 尺寸短, 密封性好
 - » 安装尺寸通用性高
 - » 显著提升整体刚性、耐振性、任意方向的承载能力
 - » 内齿轮增加特殊工艺, 确保整个寿命周期内, 精度保持更优
 - » 输出轴承采用双支撑结构, 跨距长, 倾覆力矩能力更优
 - » 相比市场同型号, 总长进一步缩短, 功率密度更高
-
- » High precision, compact dimensions, excellent sealing performance.
 - » High universality in installation dimensions.
 - » Significantly enhances overall rigidity, vibration resistance, and load-bearing capacity in any direction.
 - » Special manufacturing processes for annular gear to ensure superior accuracy throughout its entire lifespan.
 - » The output bearings adopt a double-support structure, leads to a longer span and superior overturning torque capacity.
 - » Compared to similar models in the market, its total length is further reduced, resulting in higher power density.



INDICATION FOR MODEL
SELECTION
机种型号表示



GENERAL NOTICES
订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

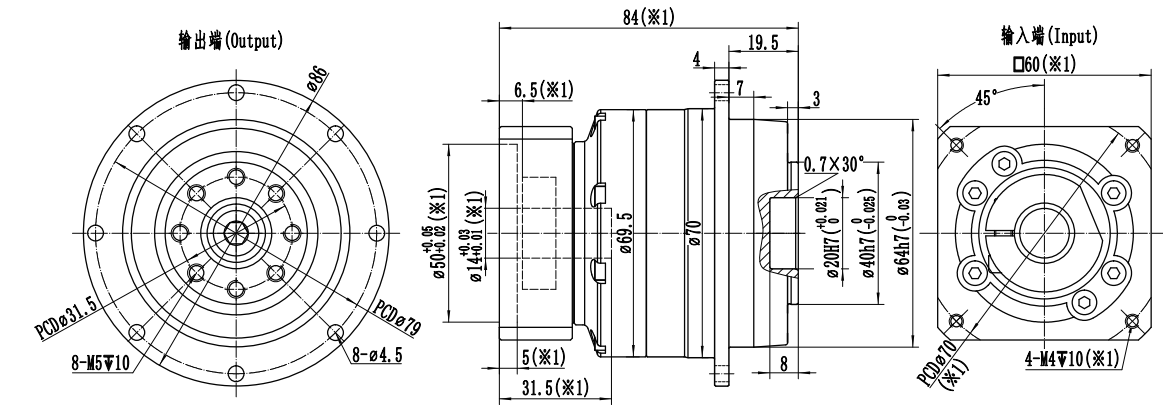
WTH064-1级

规格/Specification		WTH064-1级/1-Stage					
减速比/Ratio	单位/Unit	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	55	60	55	50	40	35
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}					
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.55	0.45	0.45	0.33	0.27	0.27
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5					
扭转刚性/Torsional rigidity	Nm/arcmin	13					
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	130					
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	2500					
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	2000					
使用寿命/Service Life	h	20000					
效率/Efficient	%	≥97					
使用环境温度/Use of temperature	°C	-20°C~+40°C					
重量/Weight	kg	1.5					
防护等级/Protection class		IP65					
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil					
噪音/Noise	dB(A)	≤58					
转动惯量/Rotational inertia J ₁	≤14	kg.cm ²	0.22	0.2	0.18	0.18	0.18
	≤19		0.55	0.5	0.45	0.45	0.45

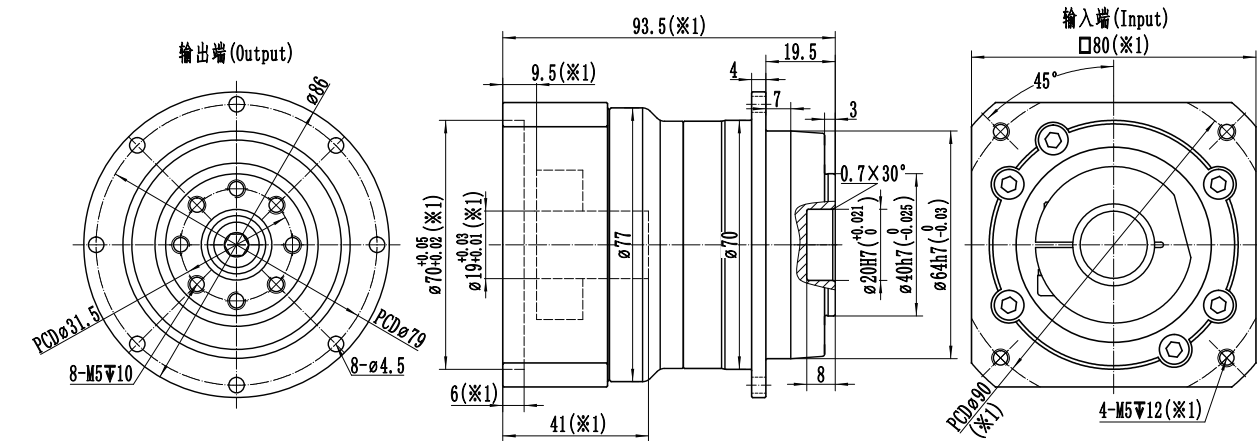
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※ Please install the motor as requested.

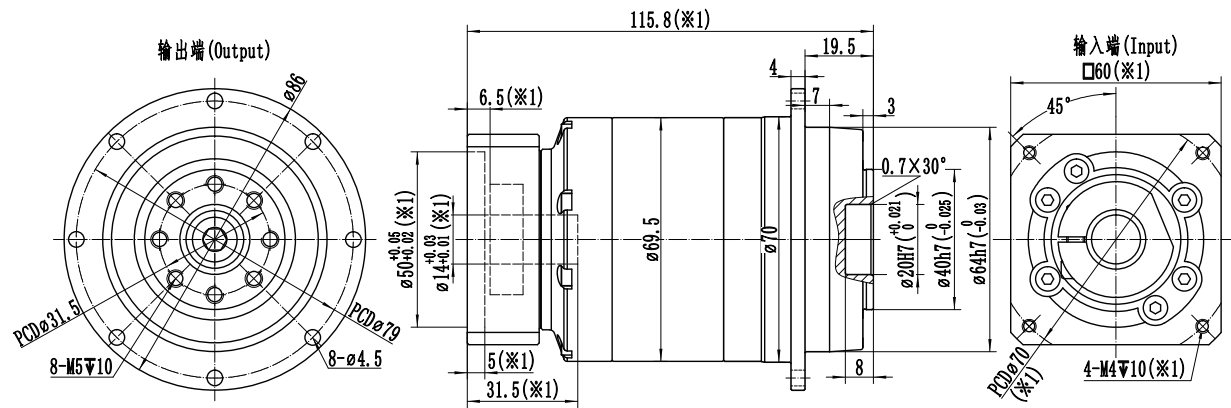
WTH064-2级

规格/Specification		WTH064-2级/2-Stage											
减速比/Ratio	单位/Unit	16	20	25	30	35	40	50	60	70	80	100	
额定输出扭矩/Rated Output Torque T _{2N}	Nm	55	55	60	55	50	55	60	55	50	40	35	
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3500	3500	3500	3500	3500	4000	4000	4000	4000	4000	4000	
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.45	0.32	0.32	0.32	0.32	0.2	0.2	0.2	0.2	0.16	0.16	
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity	Nm/arcmin	13											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	130											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	2500											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	2000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	2.1											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤58											
转动惯量/Rotational inertia J ₁	≤8	kg.cm ²	0.12	0.1	0.1	0.1	0.1	0.08	0.08	0.08	0.08	0.08	0.08
	≤14		0.22	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15	0.15

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



- ※1: 尺寸会随电机尺寸而变化；
 ※2: 电机轴尺寸偏小时，可能会使用轴套，轴套最小壁厚1mm；
 ※减速机夹紧孔需要开键槽时，请提前备注；
 ※注意安装前检查电机轴径和减速机夹紧孔径；
 ※请按要求安装电机
- ※1: Dimension will vary with the motor size;
 ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
 ※ If Keyway is needed for the clamping bore, please notify in advance;
 ※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
 ※Please install the motor as requested.

WTH090-1级

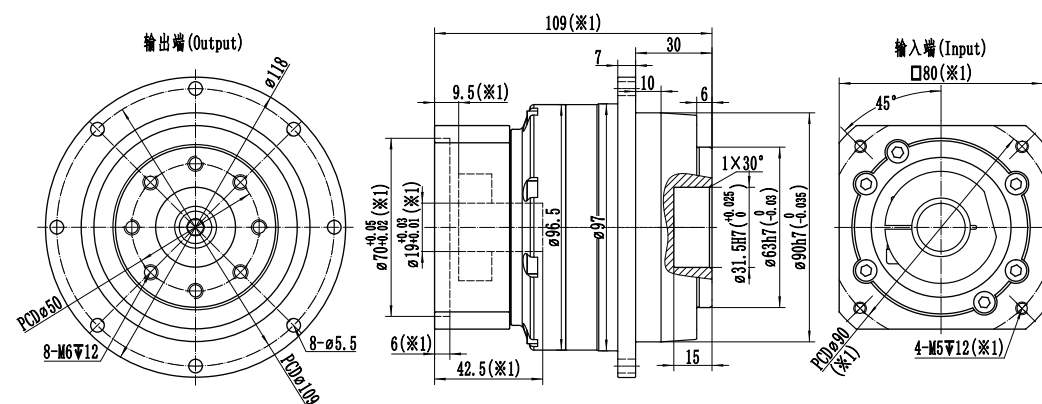
规格/Specification		WTH090-1级/1-Stage					
减速比/Ratio	单位/Unit	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}					
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	1.1	0.75	0.75	0.6	0.5	0.5
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5					
扭转刚性/Torsional rigidity	Nm/arcmin	31					
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	280					
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	4800					
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	3500					
使用寿命/Service Life	h	20000					
效率/Efficient	%	≥97					
使用环境温度/Use of temperature	°C	-20°C~+40°C					
重量/Weight	kg	3.8					
防护等级/Protection class		IP65					
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil					
噪音/Noise	dB(A)	≤60					
转动惯量/Rotational inertia J1	≤19	kg.cm ²	0.85	0.75	0.65	0.65	0.65
	≤24		2.1	2	1.9	1.9	1.9

(a)环境温度超过20°C时，建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时，不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径

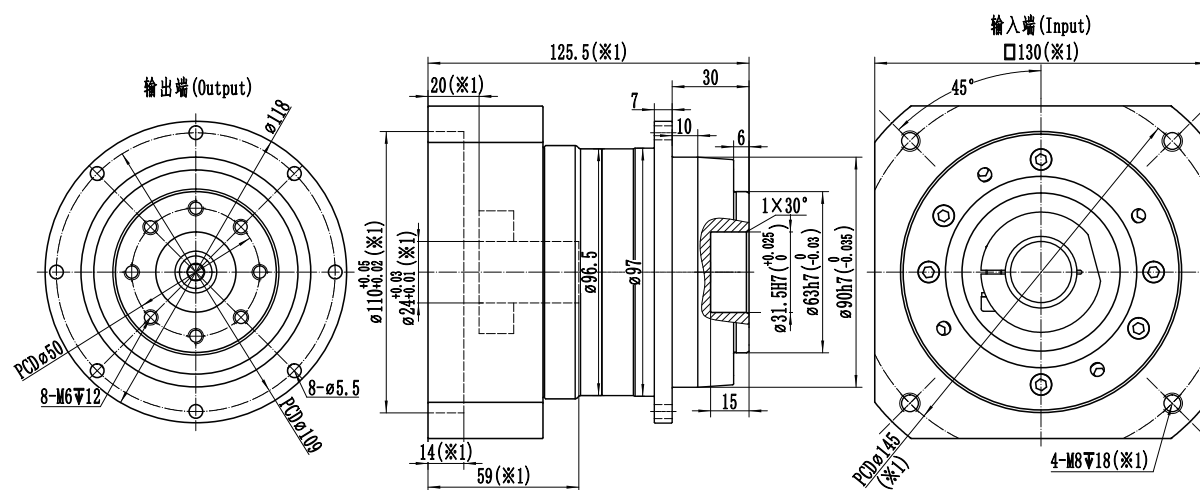
Max.19(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大24(※2)夹紧孔直径

Max.24(※2)clamping hub' s bore diameter



※1:尺寸会随电机尺寸而变化;

※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;

※减速机夹紧孔需要开键槽时,请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ If Keyway is needed for the clamping bore, please notify in advance;

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※Please install the motor as requested.

WTH090-2級

规格/Specification			WTH090-2级/2-Stage										
减速比/Ratio		单位/Unit	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}		Nm	150	150	160	150	140	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}										
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	3500	3500	3500	3500	3500	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}		rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)		Nm	0.7	0.5	0.5	0.5	0.5	0.35	0.35	0.35	0.35	0.3	0.3
最大背隙/Max Backlash		arcmin	P0≤3 / P1≤5 / P2≤8										
扭转刚性/Torsional rigidity		Nm/arcmin	31										
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	280										
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	4800										
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	3500										
使用寿命/Service Life		h	20000										
效率/Efficienct		%	≥95										
使用环境温度/Use of temperature		°C	-20°C~+40°C										
重量/Weight		kg	4.4										
防护等级/Protection class			IP65										
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise		dB(A)	≤60										
转动惯量/Rotational inertia J1	≤14	kg.cm ²	0.22	0.19	0.19	0.19	0.19	0.16	0.16	0.16	0.16	0.16	0.16
	≤19		0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5

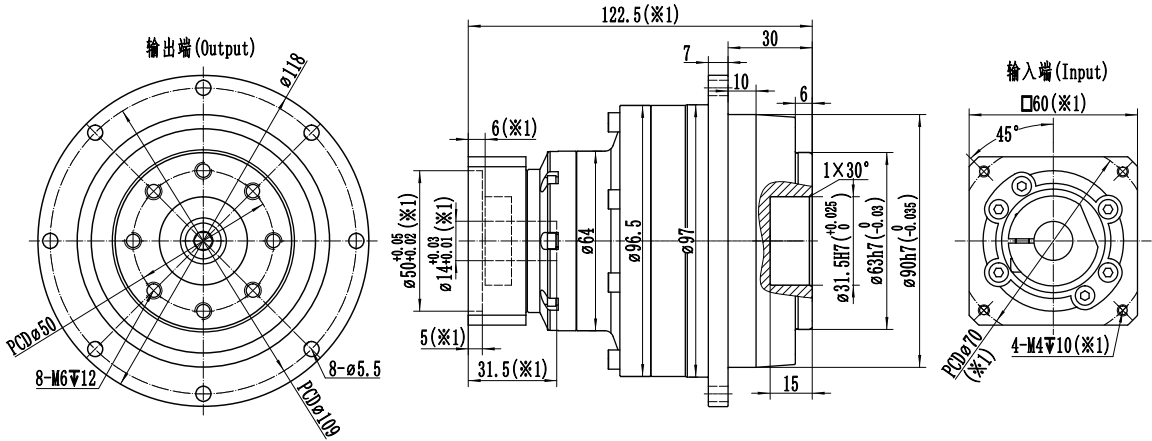
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

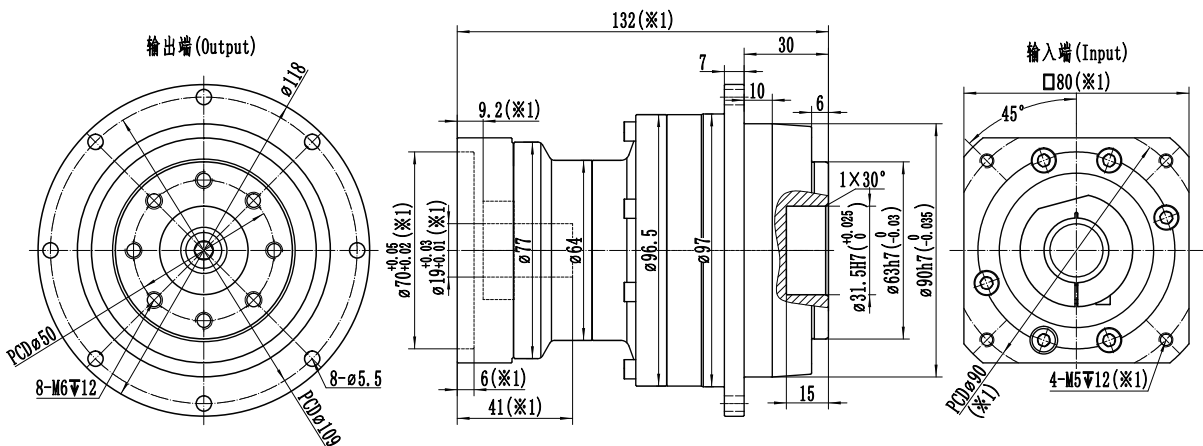
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大19(※2)夹紧孔直径
Max.19(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WTH110-1级

规格/Specification		WTH110-1级/1-Stage					
减速比/Ratio	单位/Unit	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	330	330	310	300	230	200
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}					
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2800	2800	2800	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n ₁ =3000rpm, 20°C, 运转2min内)	Nm	2	1.5	1.5	1.3	1	1
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5					
扭转刚性/Torsional rigidity	Nm/arcmin	82					
最大侧倾力矩/Max Tilting Moment M _{2k}	Nm	510					
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	7800					
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	6000					
使用寿命/Service Life	h	20000					
效率/Efficient	%	≥97					
使用环境温度/Use of temperature	°C	-20°C~+40°C					
重量/Weight	kg	6.1					
防护等级/Protection class		IP65					
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil					
噪音/Noise	dB(A)	≤63					
转动惯量/Rotational inertia J ₁	≤19	kg.cm ²	2.5	2	1.5	1.5	1.5
	≤24		3	2.5	2	2	2
	≤28		3.5	3	2.5	2.5	2.5
	≤35		10	9.5	9	9	9

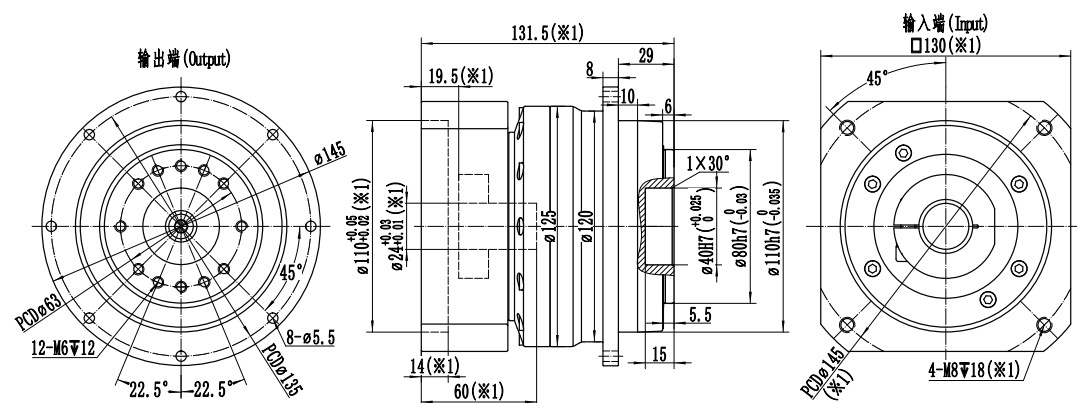
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

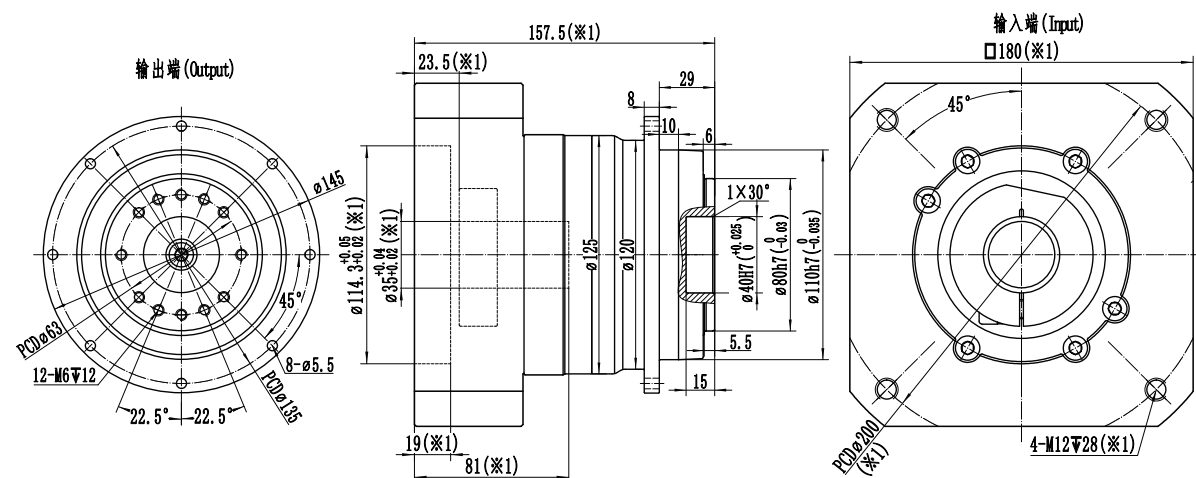
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



- ※1: 尺寸会随电机尺寸而变化;
- ※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
- ※减速机夹紧孔需要开键槽时, 请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

WTH110-2级

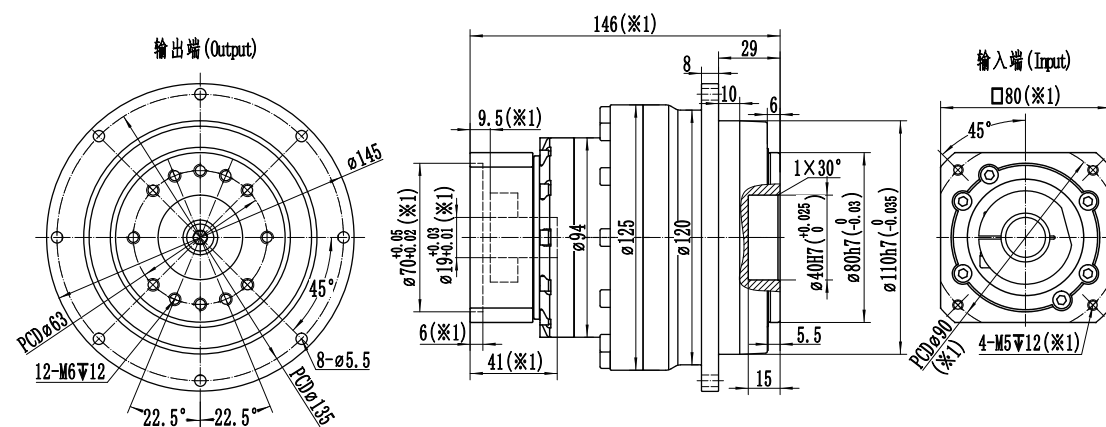
规格/Specification			WTH110-2级/2-Stage										
减速比/Ratio		单位/Unit	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}		Nm	330	330	330	310	300	330	330	310	300	230	200
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}										
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	3300	3300	3300	3300	3300	3800	3800	3800	3800	3800	3800
最大输入转速/Max Input Speed n _{1B}		rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)		Nm	0.95	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5
最大背隙/Max Backlash		arcmin	P0≤3 / P1≤5 / P2≤8										
扭转刚性/Torsional rigidity		Nm/arcmin	82										
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	510										
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	7800										
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	6000										
使用寿命/Service Life		h	20000										
效率/Efficient		%	≥95										
使用环境温度/Use of temperature		℃	-20℃~+40℃										
重量/Weight		kg	6.8										
防护等级/Protection class			IP65										
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise		dB(A)	≤61										
转动惯量/Rotational inertia J ₁	≤19	kg.cm ²	0.85	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6
	≤24		2.1	1.9	1.9	1.9	1.9	1.85	1.85	1.85	1.85	1.85	1.85

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

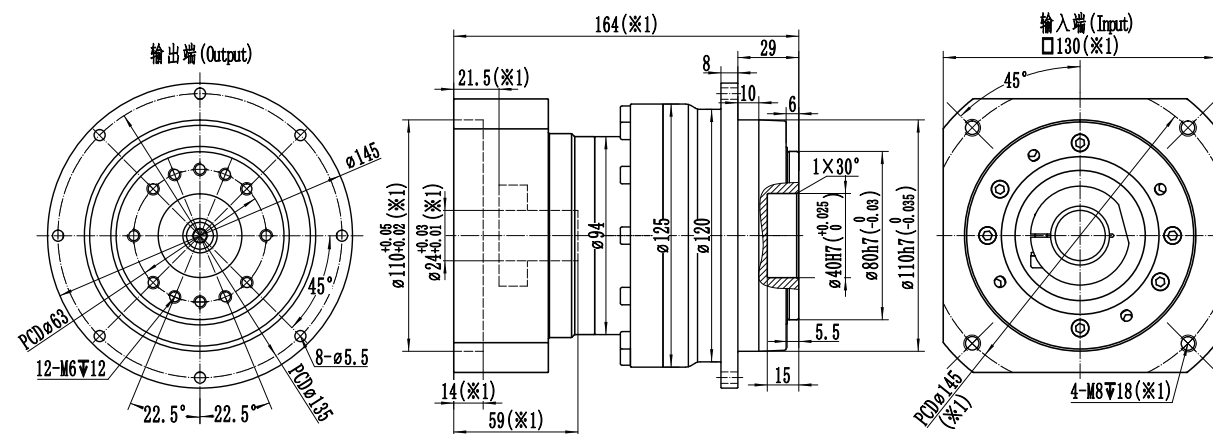
(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



- ※1: 尺寸会随电机尺寸而变化;
- ※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
- ※减速机夹紧孔需要开键槽时, 请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WTH140-1级

规格/Specification			WTH140-1级/1-Stage					
减速比/Ratio		单位/Unit	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}		Nm	650	650	600	550	450	400
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}					
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2500	2500	2500	3000	3000	3000
最大输入转速/Max Input Speed n _{1B}		rpm	4500	4500	4500	4500	4500	4500
空载力矩/No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)		Nm	3.6	2.8	2.8	2	1.35	1.35
最大背隙/Max Backlash		arcmin	P0≤1.5 / P1≤3 / P2≤5					
扭转刚性/Torsional rigidity		Nm/arcmin	155					
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	1350					
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	13000					
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	11000					
使用寿命/Service Life		h	20000					
效率/Efficienct		%	≥97					
使用环境温度/Use of temperature		℃	-20℃~+40℃					
重量/Weight		kg	14.5					
防护等级/Protection class			IP65					
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil					
噪音/Noise		dB(A)	≤65					
转动惯量/Rotational inertia J1	≤24	kg.cm ²	7	5.5	4.5	4.5	4.5	4.5
	≤28		8	6.5	5.5	5.5	5.5	5.5
	≤35		11.5	10	9	9	9	9
	≤42		24	23	22	22	22	22

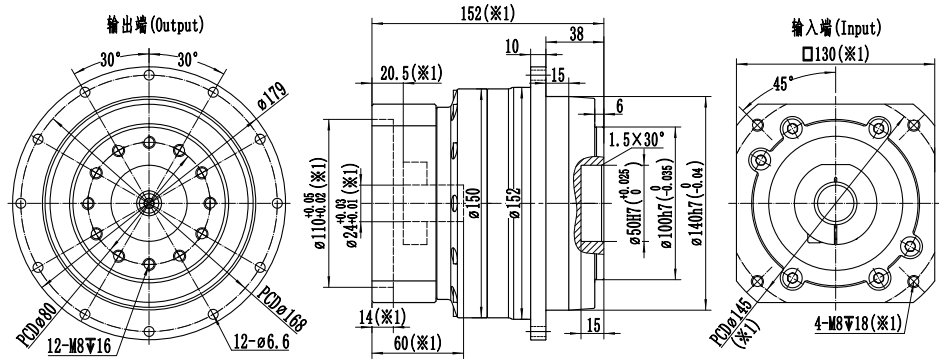
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

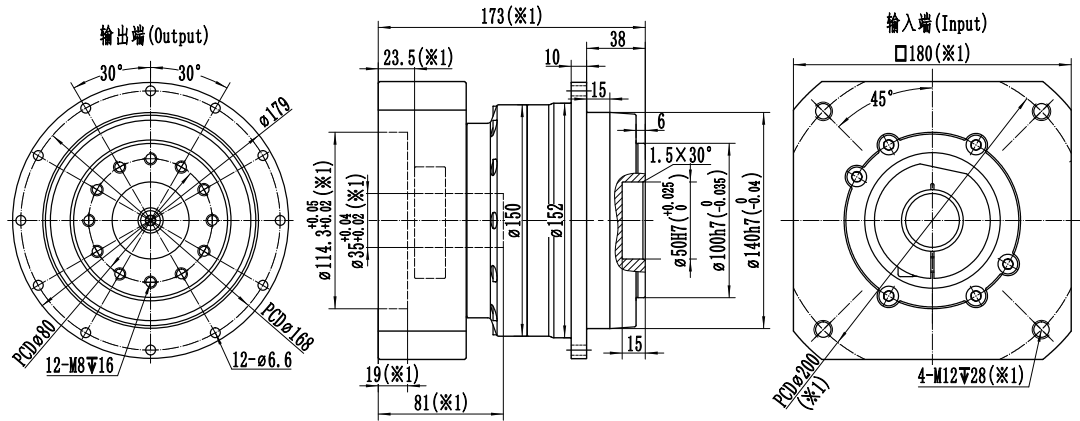
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

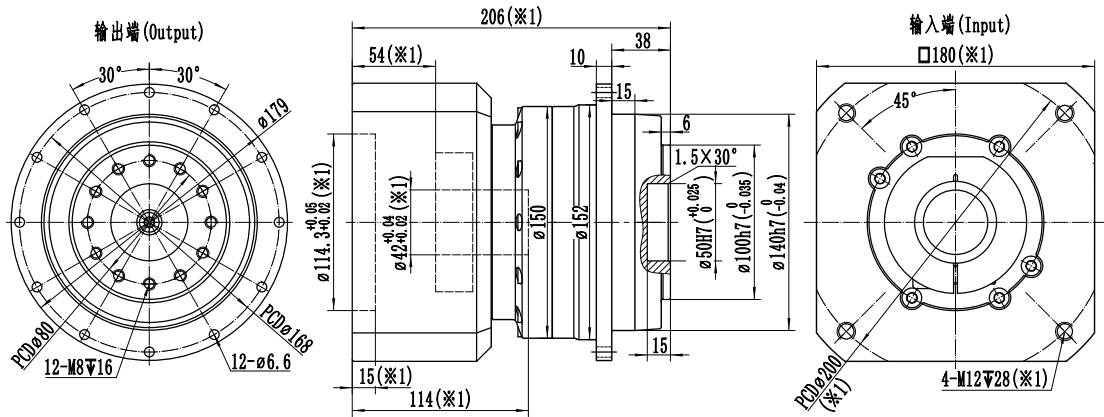
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub' s bore diameter



- ※1: 尺寸会随电机尺寸而变化;

※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;

※减速机夹紧孔需要开键槽时, 请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机
- ※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ If Keyway is needed for the clamping bore, please notify in advance;

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※Please install the motor as requested.

WTH140-2级

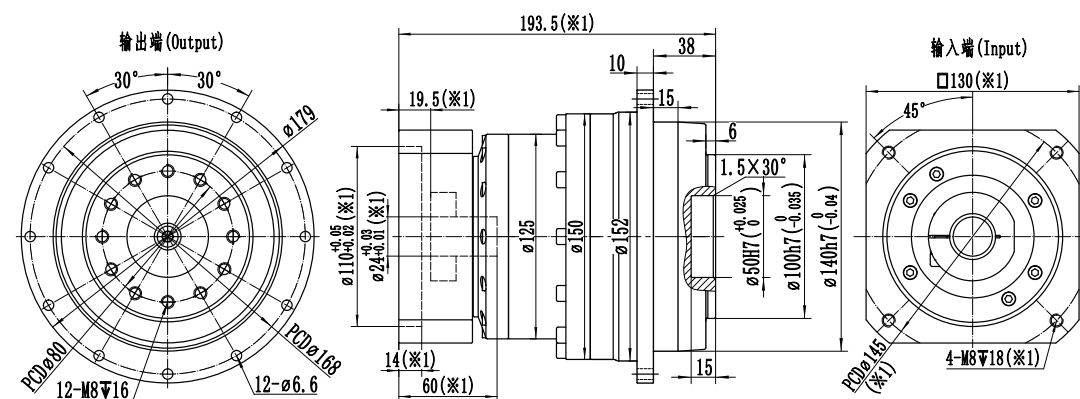
规格/Specification		WTH140-2级/2-Stage										
减速比/Ratio	单位/Unit	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}	Nm	650	650	650	600	550	650	650	600	550	450	400
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}										
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3000	3000	3000	3000	3000	3300	3300	3300	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)	Nm	1.5	1.3	1.3	1.3	1.3	1.1	1.1	1.1	1.1	0.95	0.95
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8										
扭转刚性/Torsional rigidity	Nm/arcmin	155										
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	1350										
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	13000										
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	11000										
使用寿命/Service Life	h	20000										
效率/Efficient	%	≥95										
使用环境温度/Use of temperature	℃	-20℃~+40℃										
重量/Weight	kg	16.5										
防护等级/Protection class		IP65										
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise	dB(A)	≤63										
转动惯量/Rotational inertia J ₁	≤19	kg.cm ²	3.2	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
	≤24		3.7	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9
	≤28		4.2	3.3	3.3	3.3	3.3	2.4	2.4	2.4	2.4	2.4
	≤35		10	9.3	9.3	9.3	9.3	8.5	8.5	8.5	8.5	8.5

- (a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
- (b)作用于输出轴中心点/Applied to the center point of the output shaft.
- (c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径

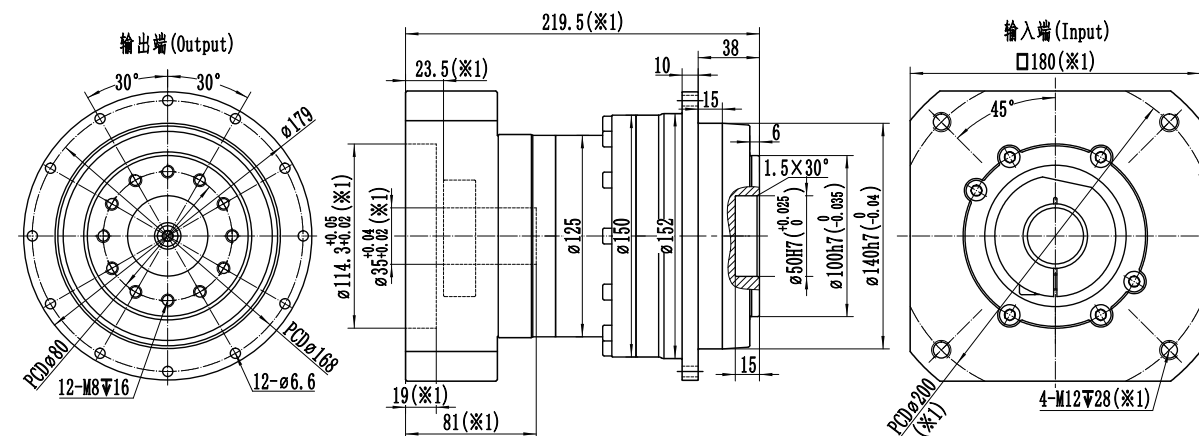
Max.24(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径

Max.35(※2)clamping hub' s bore diameter



※1:尺寸会随电机尺寸而变化;

※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;

※减速机夹紧孔需要开键槽时,请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径；

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ If Keyway is needed for the clamping bore, please notify in advance;

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※Please install the motor as requested.

WTH200-1级

规格/Specification			WTH200-1级/1-Stage					
减速比/Ratio		单位/Unit	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}		Nm	2000	2050	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}					
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	1500	1500	1500	2000	2000	2000
最大输入转速/Max Input Speed n _{1B}		rpm	3000	3000	3000	3000	3000	3000
空载力矩/No Load Running Torque (n ₁ =2000rpm,20℃,运转2min内)		Nm	8.1	6.1	6.1	4.5	3	3
最大背隙/Max Backlash		arcmin	P0≤1.5 / P1≤3 / P2≤5					
扭转刚性/Torsional rigidity		Nm/arcmin	650					
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	3400					
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	26000					
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	21000					
使用寿命/Service Life		h	20000					
效率/Efficienct		%	≥97					
使用环境温度/Use of temperature		℃	-20℃~+40℃					
重量/Weight		kg	41					
防护等级/Protection class			IP65					
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil					
噪音/Noise		dB(A)	≤66					
转动惯量/Rotational inertia J1	≤35	kg.cm ²	37	30	22	19	12	12
	≤42		48	41	33	30	23	23
	≤55		70	61	53	50	43	43
	≤65		98	89	81	78	71	71

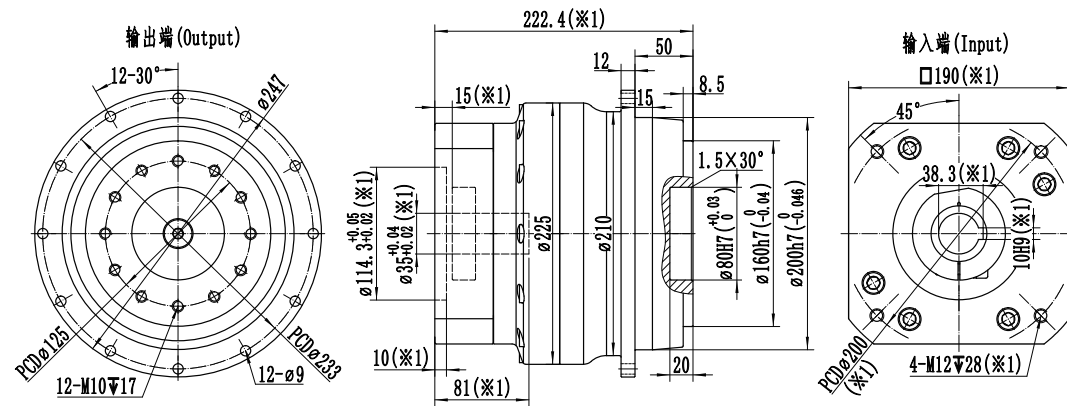
(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

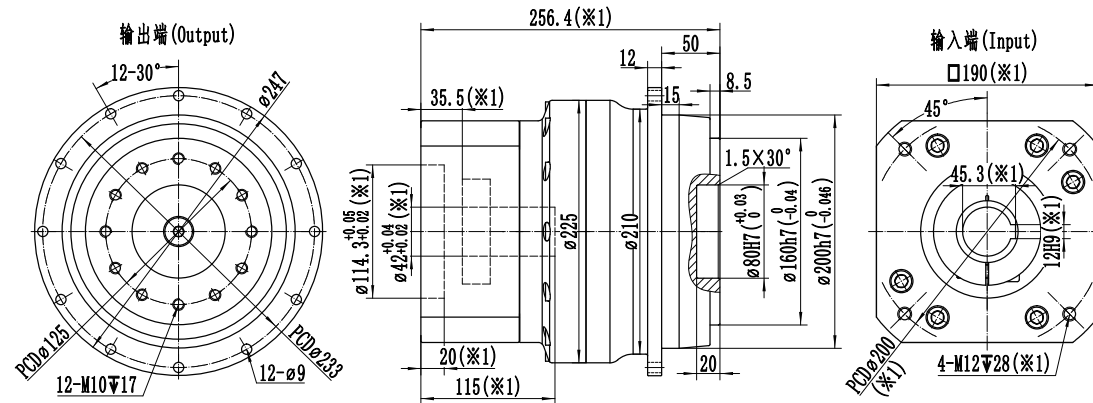
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter

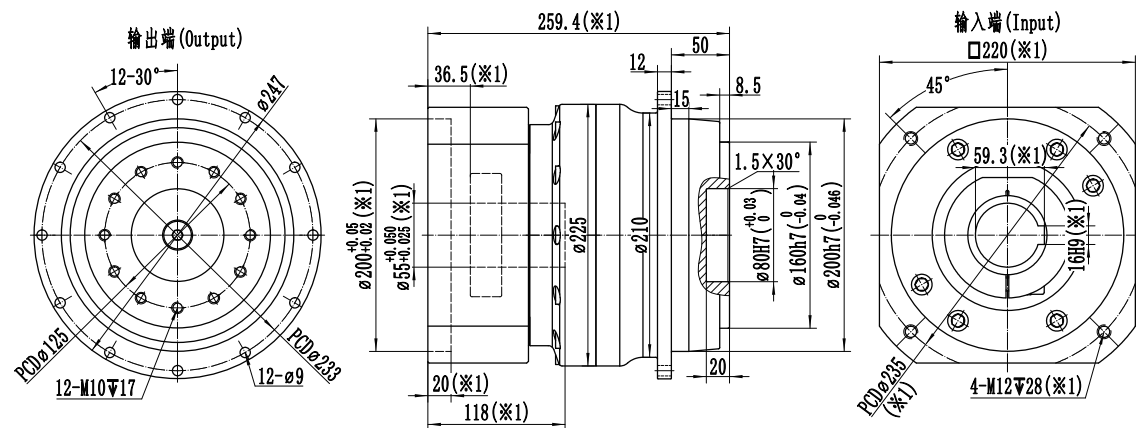
电机轴直径/motor shaft diameter (mm)



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



- ※1: 尺寸会随电机尺寸而变化；
- ※2: 电机轴尺寸偏小时，可能会使用轴套，轴套最小壁厚1mm；
- ※WTH200减速机，夹紧孔默认开键槽，无需开键槽时，请提前备注；
- ※注意安装前检查电机轴径和减速机夹紧孔径；
- ※请按要求的安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ WTH200 gearbox: Default keyway on input shaft. Please notify if not needed.
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

WTH200-2級

规格/Specification			WTH200-2级/2-Stage										
减速比/Ratio		单位/Unit	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}		Nm	2000	2000	2050	1950	1700	2000	2050	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}										
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2000	2000	2000	2000	2000	2500	2500	2500	2500	2500	2500
最大输入转速/Max Input Speed n _{1B}		rpm	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
空载力矩/No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)		Nm	4.3	2.85	2.85	2.85	2.85	2.3	2.3	2.3	2.3	2.15	2.15
最大背隙/Max Backlash		arcmin	P0≤3 / P1≤5 / P2≤8										
扭转刚性/Torsional rigidity		Nm/arcmin	650										
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	3400										
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	26000										
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	21000										
使用寿命/Service Life		h	20000										
效率/Efficienct		%	≥95										
使用环境温度/Use of temperature		°C	-20°C~+40°C										
重量/Weight		kg	49										
防护等级/Protection class			IP65										
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise		dB(A)	≤66										
转动惯量/Rotational inertia J ₁	≤28	kg.cm ²	13.5	8.5	8.5	8.5	8.5	7.5	7.5	7.5	7.5	7.5	7.5
	≤35		16	11	11	11	11	10	10	10	10	10	10
	≤42		27	22	22	22	22	17	17	17	17	16	16
	≤55		41	36	36	36	36	31	31	31	31	30	30

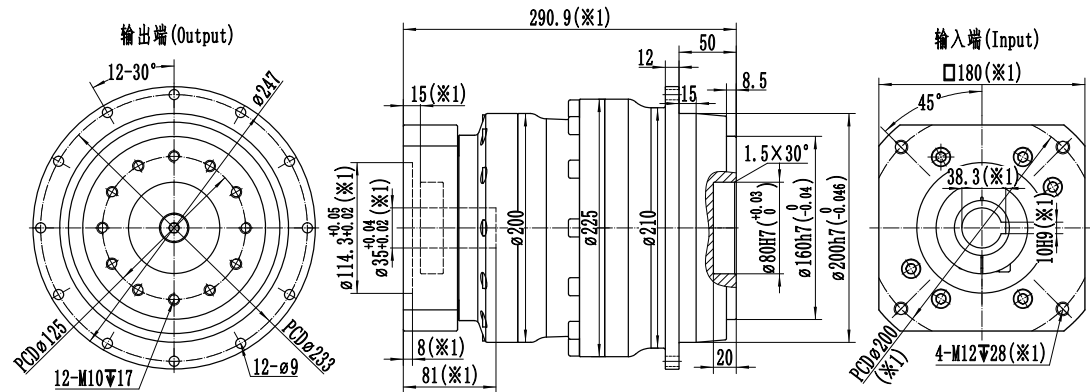
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

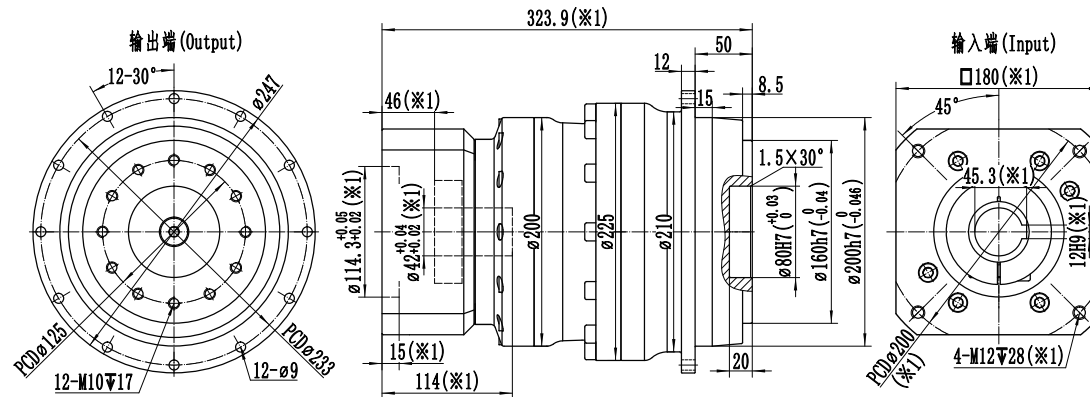
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter

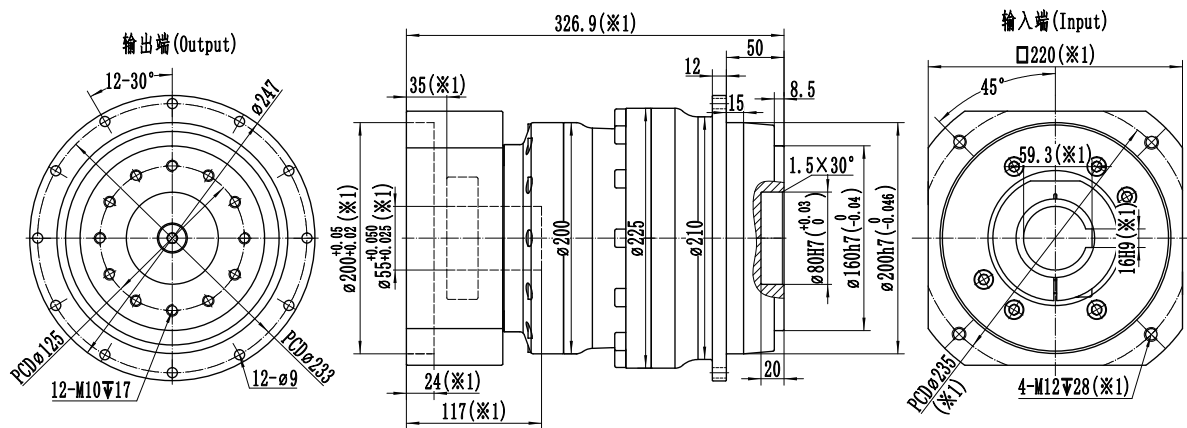
电机轴直径/motor shaft diameter (mm)



最大42(※2)夹紧孔直径
Max.45(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;

※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;

※WTH200减速机, 夹紧孔默认开键槽, 无需开键槽时, 请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※WTH200 gearbox: Default keyway on input shaft. Please notify if not needed.

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

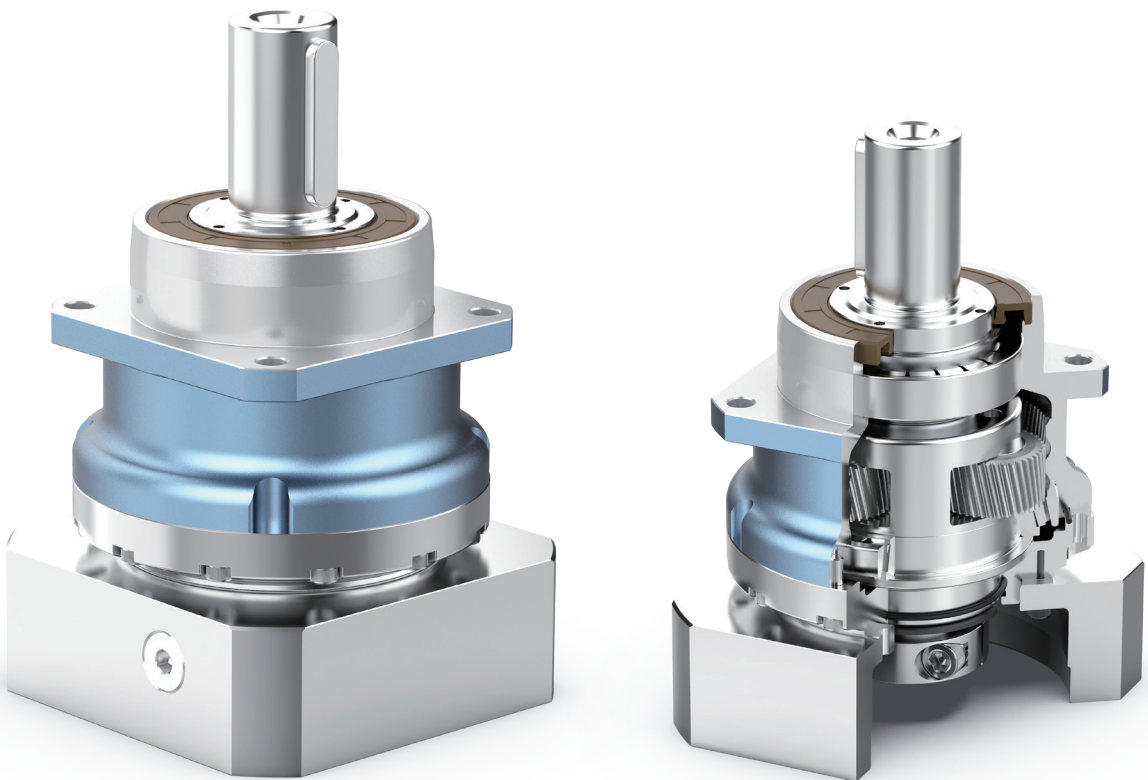
※Please install the motor as requested.

WSH Series planetary gearbox 系列行星减速机

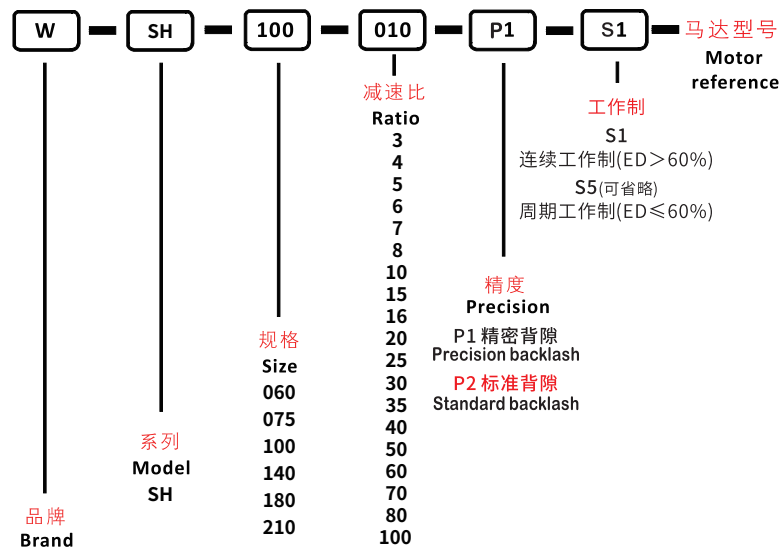
FEATURES

产品特点

- » 高精度, 尺寸短, 密封性好
- » 安装尺寸通用性高
- » 显著提升整体刚性、耐振性、任意方向的承载能力
- » 内齿轮增加特殊工艺, 确保整个寿命周期内, 精度保持更优
- » WSH100及其以上系列, 输出轴承采用双支撑结构, 跨距长, 倾覆力矩能力更优
- » 相比市场同型号, 总长进一步缩短, 功率密度更高
- » High precision, compact dimensions, excellent sealing performance.
- » High universality in installation dimensions.
- » Significantly enhances overall rigidity, vibration resistance, and load-bearing capacity in any direction.
- » Special manufacturing processes for annular gear to ensure superior accuracy throughout its entire lifespan.
- » For WSH series with size 100 above, the output bearings adopt a double-support structure, leads to a longer span and superior overturning torque capacity.
- » Compared to similar models in the market, its total length is further reduced, resulting in higher power density.



INDICATION FOR MODEL
SELECTION
机种型号表示



GENERAL NOTICES
订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

WSH060-1级

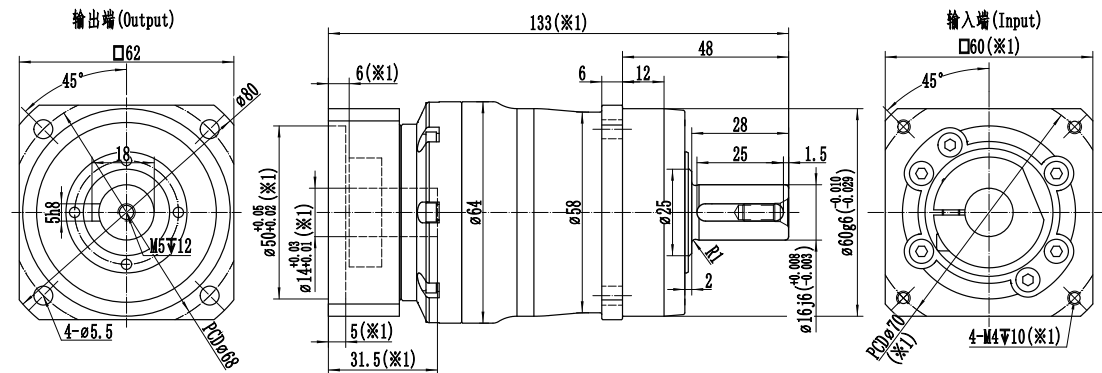
规格/Specification		WSH060-1级/1-Stage						
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	50	55	60	55	50	40	35
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	3300	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.6	0.5	0.4	0.4	0.3	0.25	0.25
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity	Nm/arcmin	7						
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	160						
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	3000						
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	2400						
使用寿命/Service Life	h	20000						
效率/Efficienct	%	≥97						
使用环境温度/Use of temperature	°C	-20°C~+40°C						
重量/Weight	kg	1.6						
防护等级/Protection class		IP65						
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise	dB(A)	≤58						
转动惯量/Rotational inertia J1	≤14	kg.cm ²	0.28	0.22	0.2	0.18	0.18	0.18
	≤19		0.61	0.55	0.5	0.45	0.45	0.45

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

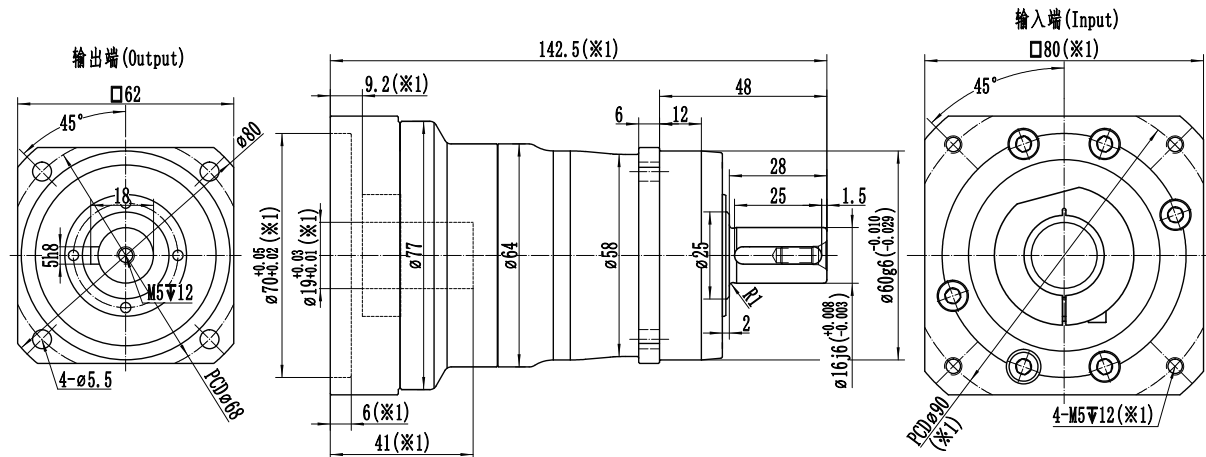
(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter



最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※减速机夹紧孔需要开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Key Way is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WSH060-2级

规格/Specification			WSH060-2级/2-Stage											
减速比/Ratio		单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}		Nm	50	55	55	60	55	50	55	60	55	50	40	35
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	3500	3500	3500	3500	3500	3500	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}		rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)		Nm	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.16	0.16
最大背隙/Max Backlash		arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity		Nm/arcmin	7											
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	160											
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	3000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	2400											
使用寿命/Service Life		h	20000											
效率/Efficienct		%	≥95											
使用环境温度/Use of temperature		°C	-20°C~+40°C											
重量/Weight		kg	2.2											
防护等级/Protection class			IP65											
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise		dB(A)	≤58											
转动惯量/Rotational inertia J ₁	≤8	kg.cm ²	0.12	0.12	0.1	0.1	0.1	0.1	0.08	0.08	0.08	0.08	0.08	0.08
	≤14		0.22	0.22	0.17	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15	0.15

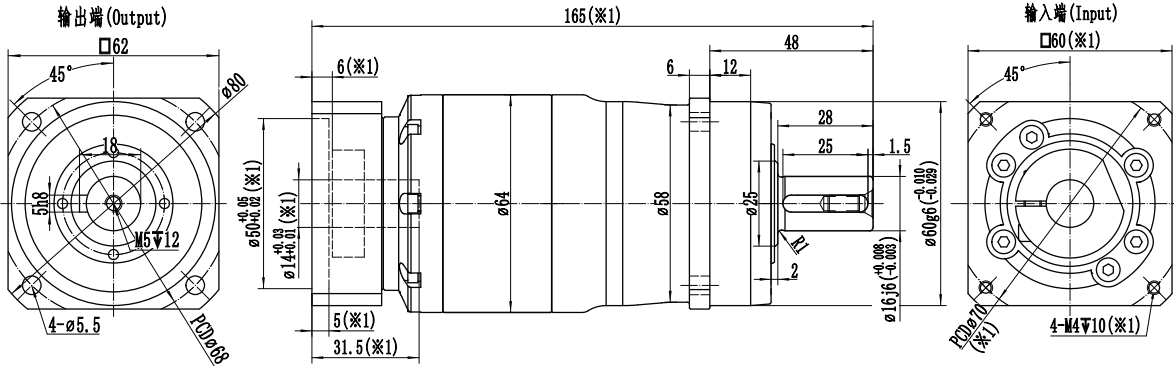
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



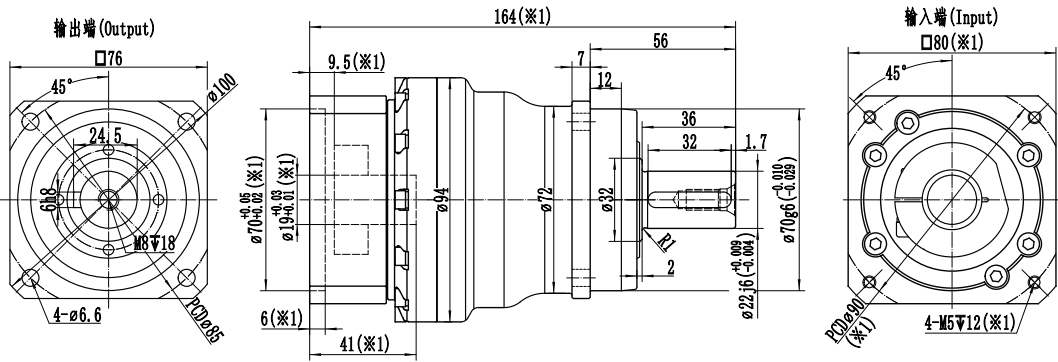
- ※1: 尺寸会随电机尺寸而变化；
 ※2: 电机轴尺寸偏小时，可能会使用轴套，轴套最小壁厚1mm；
 ※减速机夹紧孔需要开键槽时，请提前备注；
 ※注意安装前检查电机轴径和减速机夹紧孔径；
 ※请按要求安装电机
- ※1: Dimension will vary with the motor size;
 ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
 ※ If Keyway is needed for the clamping bore, please notify in advance;
 ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
 ※ Please install the motor as requested.

WSH075-1级

规格/Specification		WSH075-1级/1-Stage						
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	130	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	3300	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	1.2	1	0.7	0.7	0.6	0.5	0.5
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity	Nm/arcmin	14						
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	270						
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	4500						
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	3350						
使用寿命/Service Life	h	20000						
效率/Efficienct	%	≥97						
使用环境温度/Use of temperature	°C	-20°C~+40°C						
重量/Weight	kg	4						
防护等级/Protection class		IP65						
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise	dB(A)	≤60						
转动惯量/Rotational inertia J1	≤19	kg.cm ²	1	0.8	0.7	0.6	0.6	0.6
	≤24		2.2	2	1.9	1.8	1.8	1.8

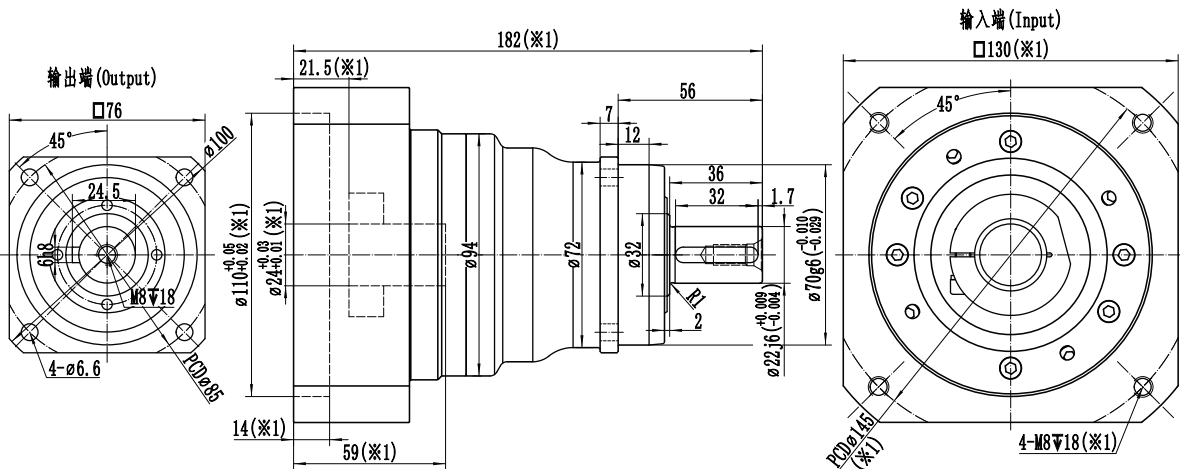
(a)环境温度超过20°C时，建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时，不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



电机轴直径/motor shaft diameter (mm)

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

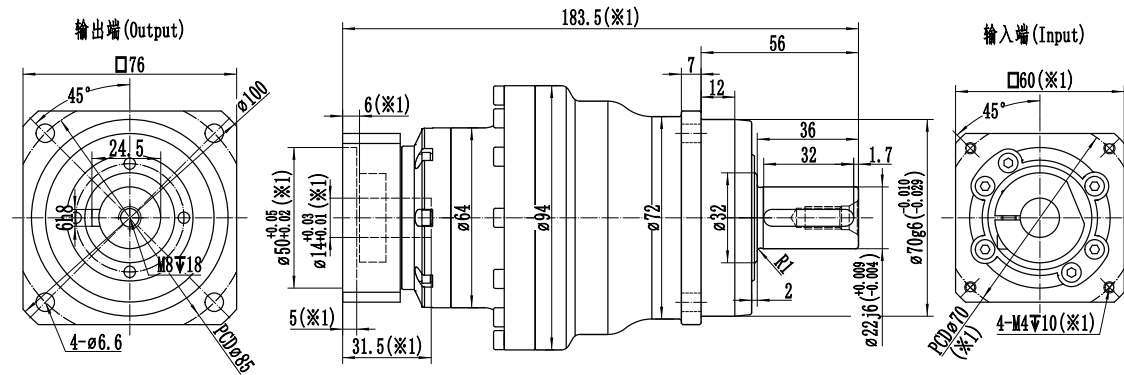
※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSH075-2级

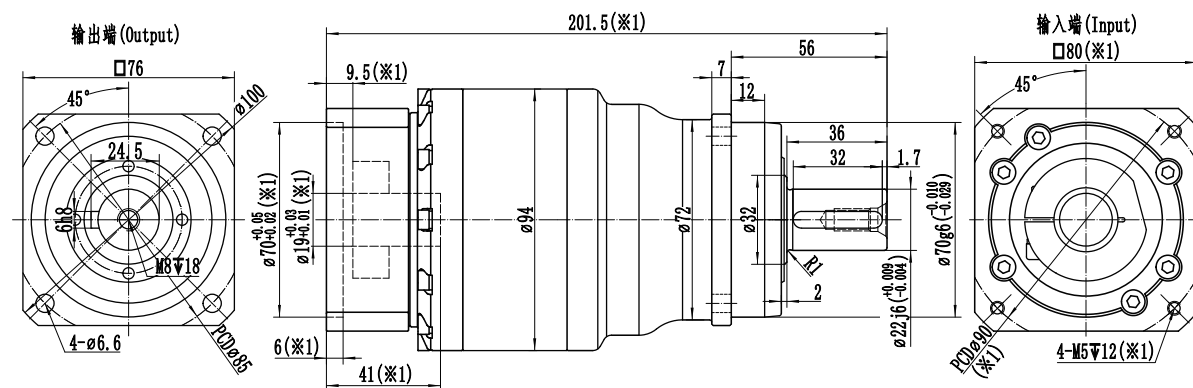
规格/Specification		WSH075-2级/2-Stage											
减速比/Ratio	单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}	Nm	130	150	150	160	150	140	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3500	3500	3500	3500	3500	3500	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.7	0.7	0.5	0.5	0.5	0.5	0.35	0.35	0.35	0.35	0.3	0.3
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity	Nm/arcmin	14											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	270											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	4500											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	3350											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	4.6											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤60											
转动惯量/Rotational inertia J ₁	≤14	kg.cm ²	0.22	0.22	0.19	0.19	0.19	0.19	0.16	0.16	0.16	0.16	0.16
	≤19		0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.5	0.5

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter



最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※减速机夹紧孔需要开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

WSH100-1级

规格/Specification			WSH100-1级/1-Stage						
减速比/Ratio		单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}		Nm	230	330	330	310	300	230	200
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2800	2800	2800	2800	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}		rpm	5000	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n1=3000rpm,20°C,运转2min内)		Nm	2.3	1.9	1.4	1.4	1.2	0.95	0.95
最大背隙/Max Backlash		arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity		Nm/arcmin	32						
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	670						
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	8500						
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	7000						
使用寿命/Service Life		h	20000						
效率/Efficienct		%	≥97						
使用环境温度/Use of temperature		°C	-20°C~+40°C						
重量/Weight		kg	6.4						
防护等级/Protection class			IP65						
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise		dB(A)	≤63						
转动惯量/Rotational inertia J1	≤19	kg.cm ²	3.5	2.5	2	1.5	1.5	1.5	1.5
	≤24		4	3	2.5	2	2	2	2
	≤28		4.5	3.5	3	2.5	2.5	2.5	2.5
	≤35		11.5	10	9.5	9	9	9	9

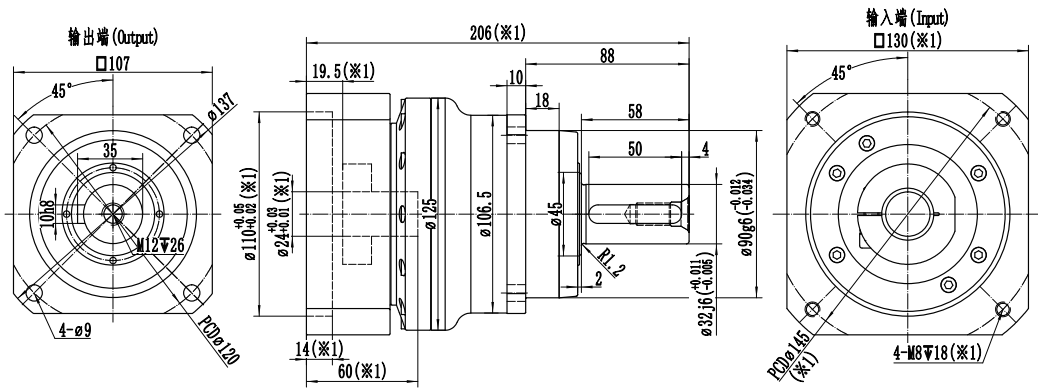
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

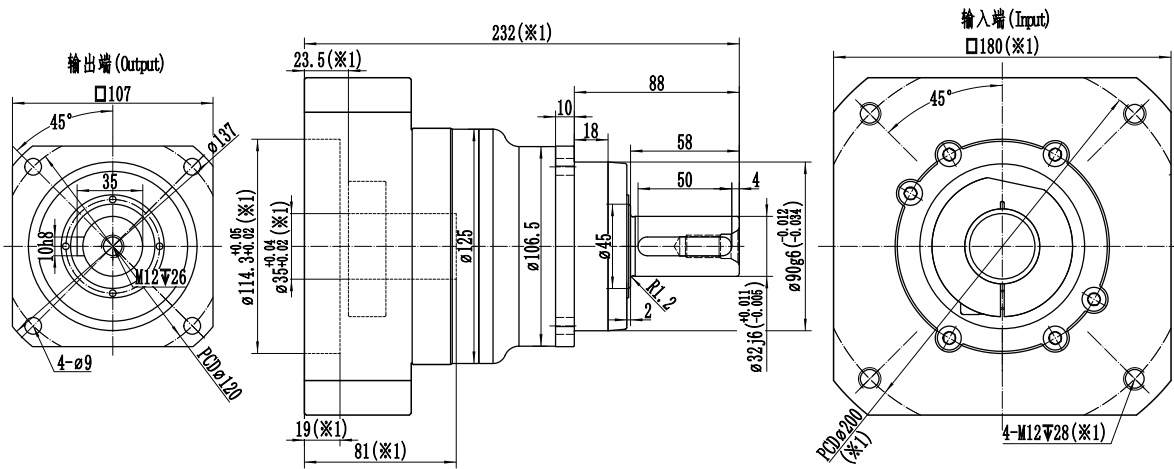
(c)要求改为润滑脂时,不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※ Please install the motor as requested.

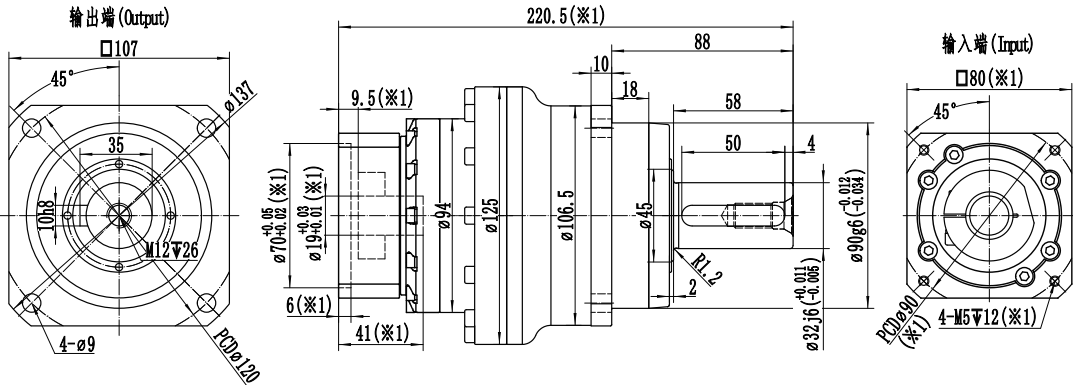
WSH100-2级

规格/Specification		WSH100-2级/2-Stage											
减速比/Ratio	单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}	Nm	230	330	330	330	310	300	330	330	310	300	230	200
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	3300	3300	3300	3800	3800	3800	3800	3800	3800
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.95	0.95	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity	Nm/arcmin	32											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	670											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	8500											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	7000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	7.1											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤61											
转动惯量/Rotational inertia J1	≤19	kg.cm ²	0.85	0.85	0.7	0.7	0.7	0.7	0.6	0.6	0.6	0.6	0.6
	≤24		2.1	2.1	1.9	1.9	1.9	1.9	1.85	1.85	1.85	1.85	1.85

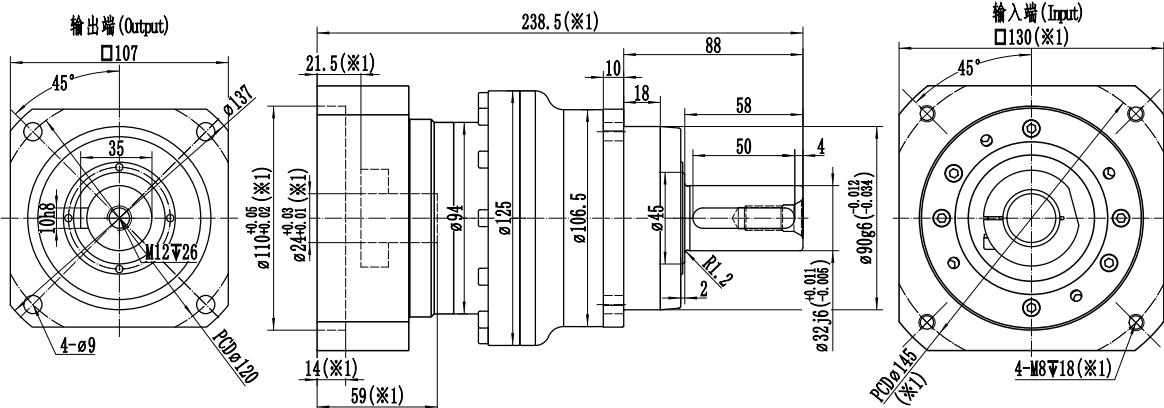
(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b) 作用于输出轴中心点/Applied to the center point of the output shaft.
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

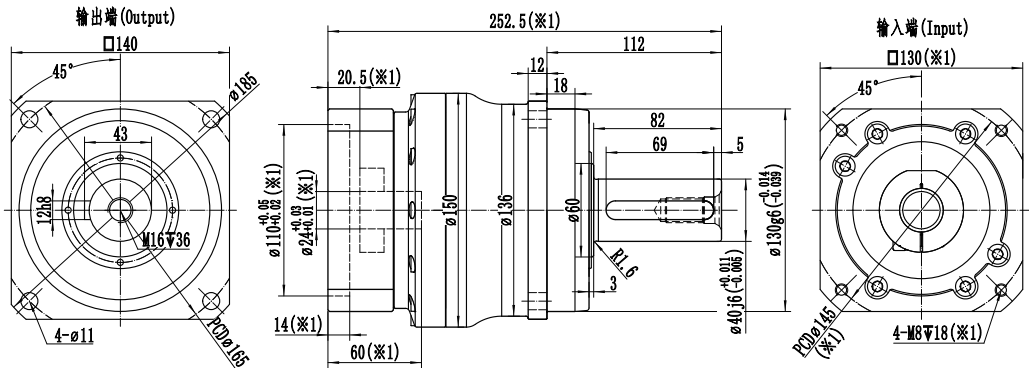
WSH140-1级

规格/Specification		WSH140-1级/1-Stage						
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	400	650	650	600	550	450	400
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2500	2500	2500	2500	3000	3000	3000
最大输入转速/Max Input Speed n _{1B}	rpm	4500	4500	4500	4500	4500	4500	4500
空载力矩/No Load Running Torque (n ₁ =3000rpm, 20℃, 运转2min内)	Nm	4.3	3.4	2.6	2.6	1.9	1.3	1.3
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity	Nm/arcmin	60						
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	1630						
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	16000						
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	12000						
使用寿命/Service Life	h	20000						
效率/Efficient	%	≥97						
使用环境温度/Use of temperature	℃	-20℃~+40℃						
重量/Weight	kg	15.1						
防护等级/Protection class		IP65						
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise	dB(A)	≤65						
转动惯量/Rotational inertia J1	≤24	kg.cm ²	9.5	7	5.5	4.5	4.5	4.5
	≤28		10.5	8	6.5	5.5	5.5	5.5
	≤35		14.5	11.5	10	9	9	9
	≤42		26	24	23	22	22	22

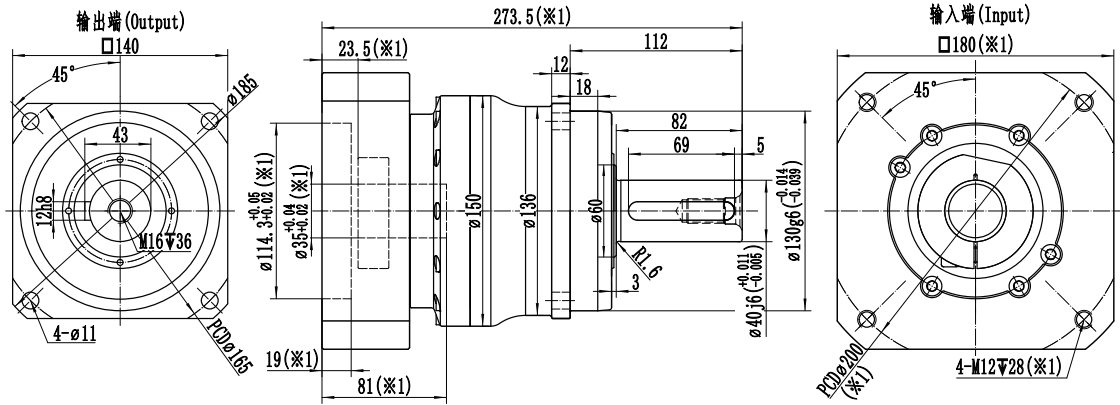
(a) 环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
(b) 作用于输出轴中心点/Applied to the center point of the output shaft.
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

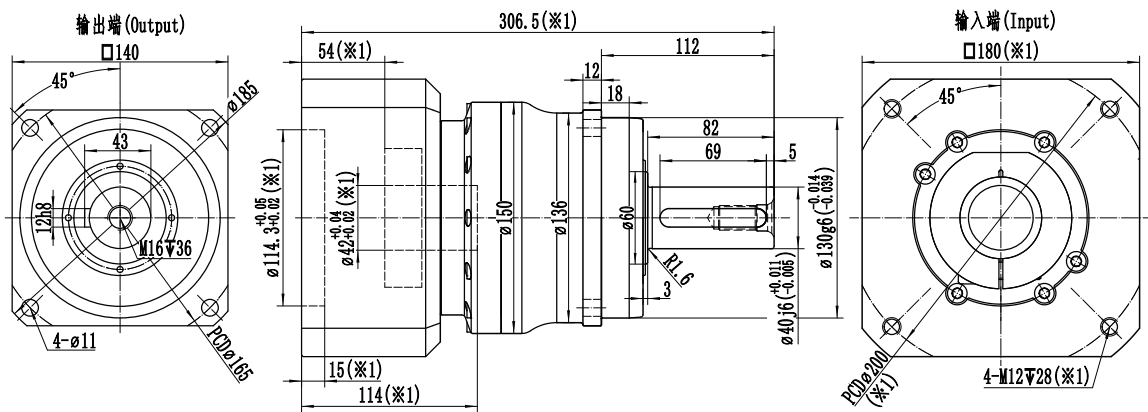
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

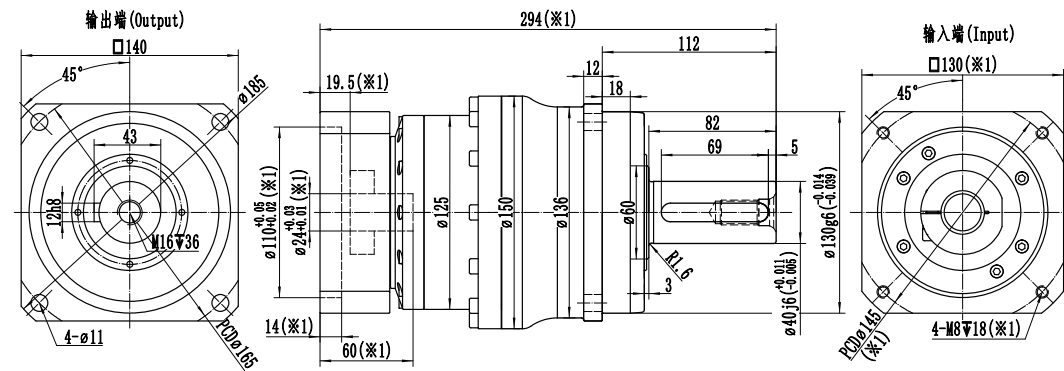
※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSH140-2级

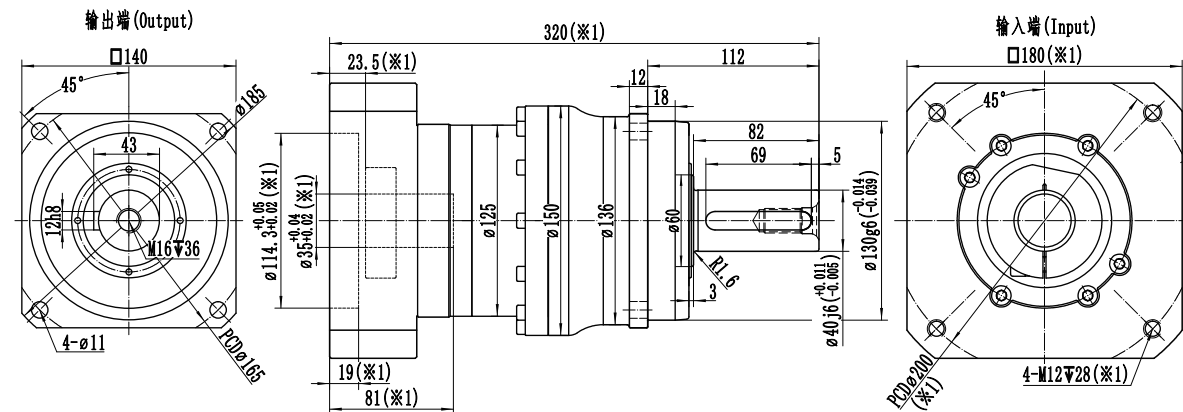
规格/Specification		WSH140-2级/2-Stage											
减速比/Ratio	单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}	Nm	400	650	650	650	600	550	650	650	600	550	450	400
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3000	3000	3000	3000	3000	3000	3300	3300	3300	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	1.5	1.5	1.3	1.3	1.3	1.3	1.1	1.1	1.1	1.1	0.95	0.95
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity	Nm/arcmin	60											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	1630											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	16000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	12000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	17.1											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤63											
转动惯量/Rotational inertia J1	≤19	kg.cm ²	3.2	3.2	2.3	2.3	2.3	2.3	1.4	1.4	1.4	1.4	1.4
	≤24		3.7	3.7	2.8	2.8	2.8	2.8	1.9	1.9	1.9	1.9	1.9
	≤28		4.2	4.2	3.3	3.3	3.3	3.3	2.4	2.4	2.4	2.4	2.4
	≤35		10	10	9.3	9.3	9.3	9.3	8.5	8.5	8.5	8.5	8.5

(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b) 作用于输出轴中心点/Applied to the center point of the output shaft.
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※减速机夹紧孔需要开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

WSH180-1级

规格/Specification			WSH180-1级/1-Stage						
减速比/Ratio		单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}		Nm	1000	1400	1400	1100	1000	850	760
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2000	2000	2000	2000	2500	2500	2500
最大输入转速/Max Input Speed n _{1B}		rpm	3500	3500	3500	3500	3500	3500	3500
空载力矩/No Load Running Torque (n ₁ =2000rpm,20℃,运转2min内)		Nm	7.2	5.7	4.3	4.3	3.2	2.15	2.15
最大背隙/Max Backlash		arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity		Nm/arcmin	175						
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	3200						
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	23000						
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	19000						
使用寿命/Service Life		h	20000						
效率/Efficienct		%	≥97						
使用环境温度/Use of temperature		℃	-20℃~+40℃						
重量/Weight		kg	30						
防护等级/Protection class			IP65						
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise		dB(A)	≤66						
转动惯量/Rotational inertia J1	≤28	kg.cm ²	-	-	-	-	-	-	-
	≤35		52	25	20	16	14	12	12
	≤42		52	36	31	27	25	23	23
	≤55		66	50	45	40	38	36	36

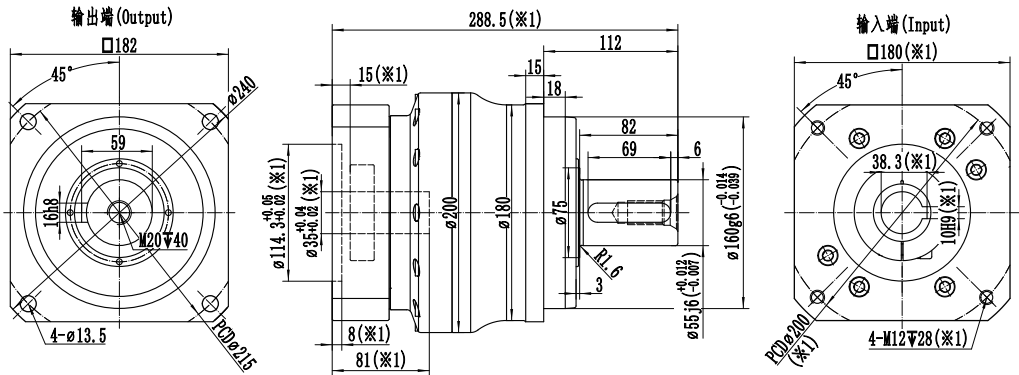
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

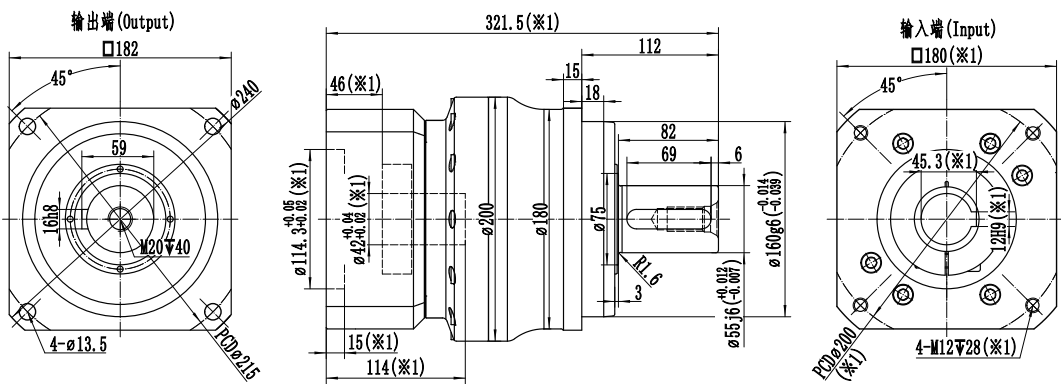
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter

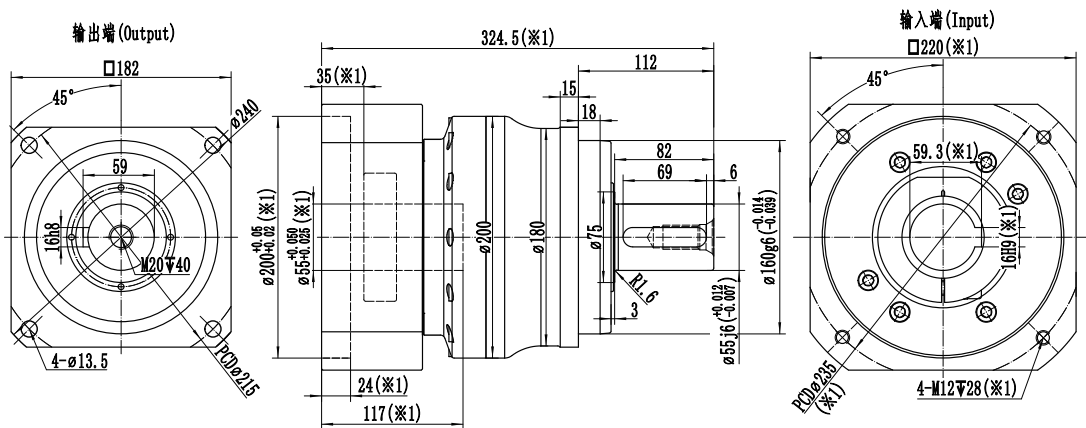
电机轴直径/motor shaft diameter (mm)



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



- ※1: 尺寸会随电机尺寸而变化;
 - ※2: 电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
 - ※WSH180减速机,夹紧孔默认开键槽,无需开键槽时,请提前备注;
 - ※注意安装前检查电机轴径和减速机夹紧孔径;
 - ※请按要求安装电机
- ※1: Dimension will vary with the motor size;
 - ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
 - ※WSH180 gearbox: Default keyway on input shaft. Please notify if not needed.
 - ※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
 - ※Please install the motor as requested.

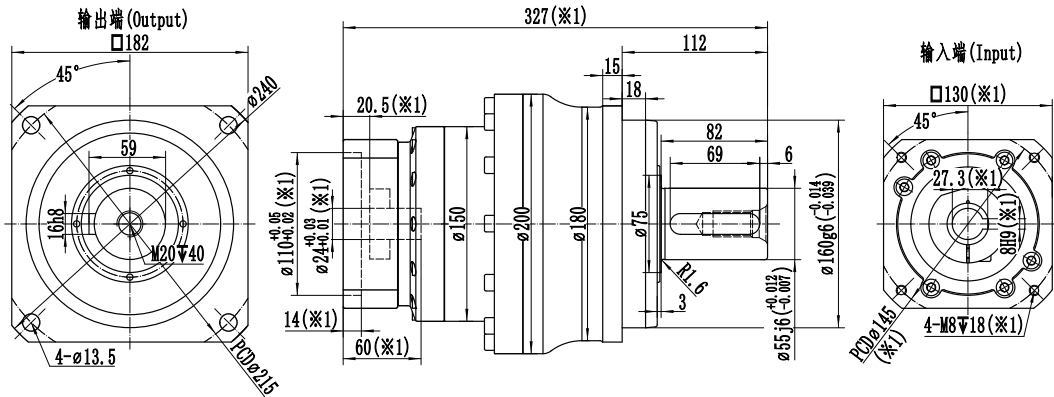
WSH180-2级

规格/Specification		WSH180-2级/2-Stage											
减速比/Ratio	单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}	Nm	1000	1400	1400	1400	1100	1100	1400	1400	1100	1000	850	760
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) / 3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2500	2500	2500	2500	2500	2500	3000	3000	3000	3000	3000	3000
最大输入转速/Max Input Speed n _{1B}	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
空载力矩/No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)	Nm	2.6	2.6	1.7	1.7	1.7	1.7	1.4	1.4	1.4	1.4	1.3	1.3
最大背隙/Max Backlash	arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity	Nm/arcmin	175											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	3200											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	23000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	19000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	35											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤65											
转动惯量/Rotational inertia J ₁	≤24	kg.cm ²	6	6	5	5	5	5	4	4	4	4	4
	≤28		6.5	6.5	5.5	5.5	5.5	5.5	4.5	4.5	4.5	4.5	4.5
	≤35		8	8	7	7	7	7	6	6	6	6	6
	≤42		20	20	19	19	19	19	18	18	18	18	18

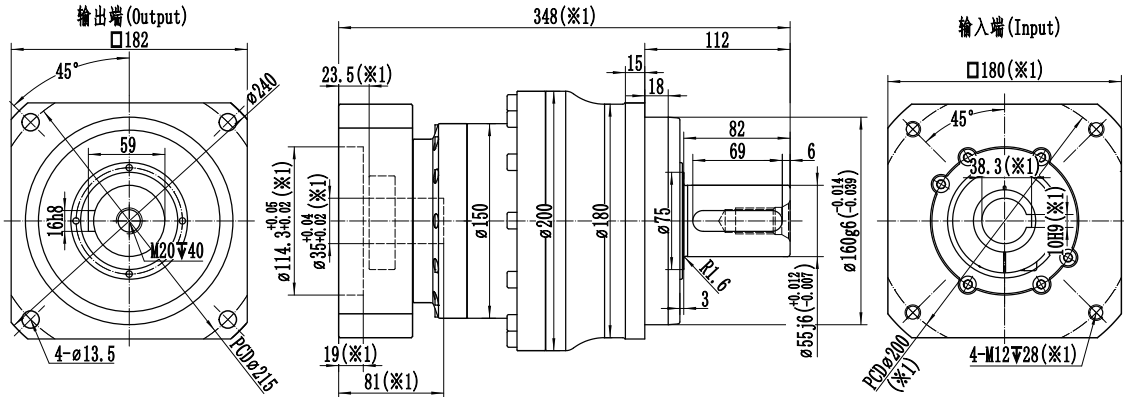
- (a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
- (b)作用于输出轴中心点/Applied to the center point of the output shaft.
- (c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

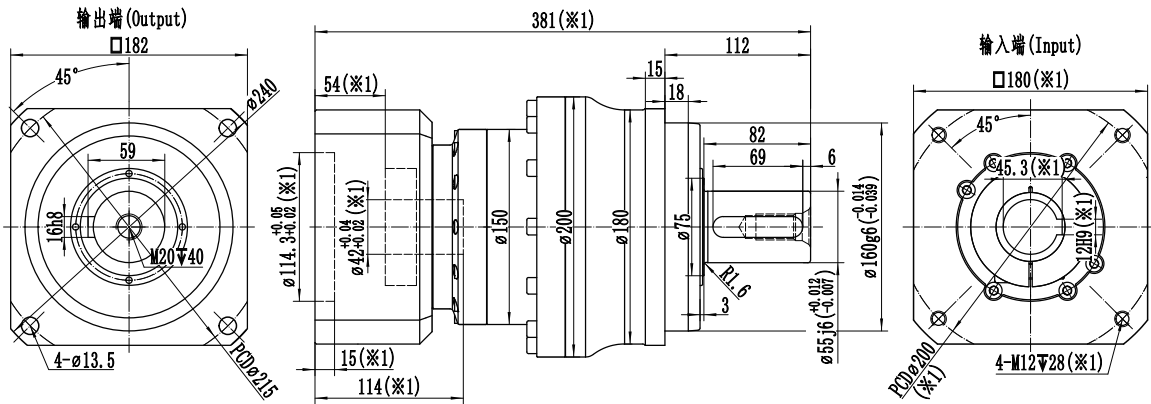
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※WSH180减速机, 夹紧孔默认开键槽, 无需开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

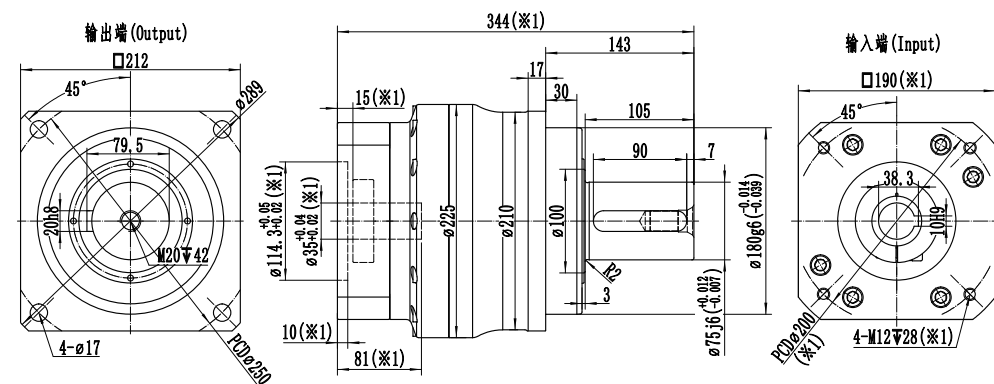
※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ WSH180 gearbox: Default keyway on input shaft. Please notify if not needed.
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSH210-1级

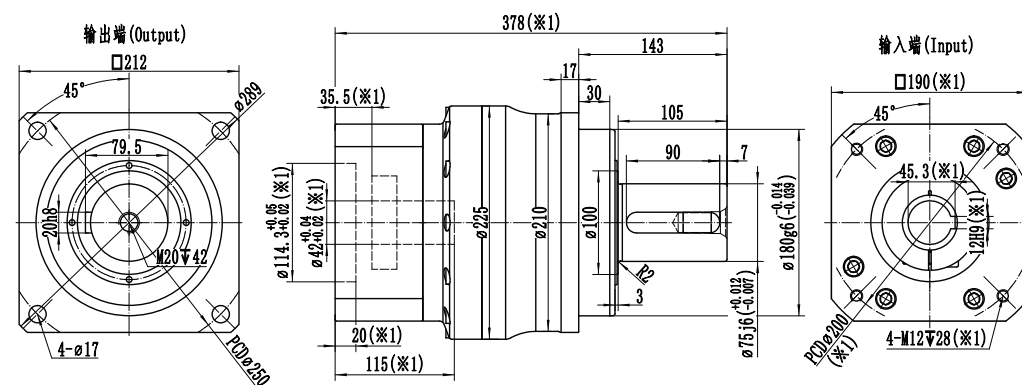
规格/Specification		WSH210-1级/1-Stage						
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10
额定输出扭矩/Rated Output Torque T _{2N}	Nm	1800	2400	2400	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}						
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	1500	1500	1500	1500	2000	2000	2000
最大输入转速/Max Input Speed n _{1B}	rpm	3000	3000	3000	3000	3000	3000	3000
空载力矩/No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)	Nm	9.55	7.65	5.7	5.7	4.2	2.85	2.85
最大背隙/Max Backlash	arcmin	P0≤1.5 / P1≤3 / P2≤5						
扭转刚性/Torsional rigidity	Nm/arcmin	410						
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	5300						
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	30000						
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	24000						
使用寿命/Service Life	h	20000						
效率/Efficient	%	≥97						
使用环境温度/Use of temperature	°C	-20°C~+40°C						
重量/Weight	kg	50						
防护等级/Protection class		IP65						
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil						
噪音/Noise	dB(A)	≤66						
转动惯量/Rotational inertia J1	≤42	kg.cm ²	80	58	51	43	40	33
	≤55		105	80	71	63	60	53
	≤65		133	108	99	91	88	81

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

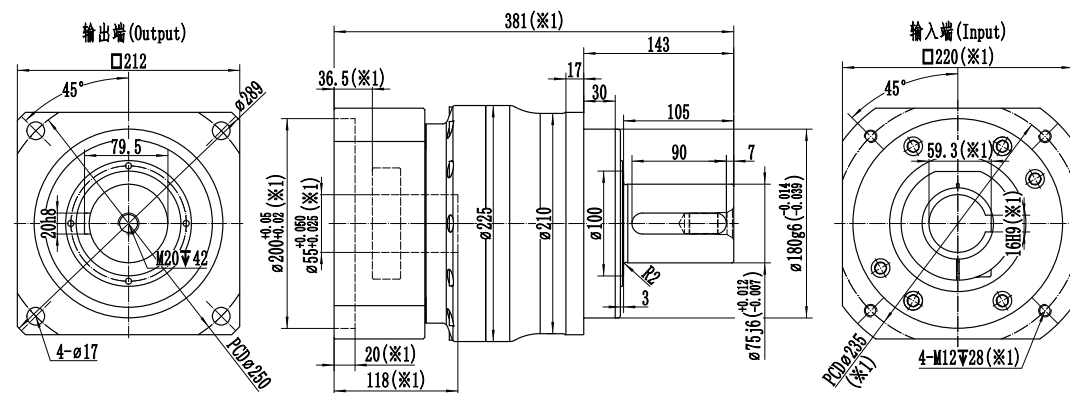
最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※WSH210减速机,夹紧孔默认开键槽,无需开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ WSH210 gearbox: Default keyway on input shaft. Please notify if not needed.
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WSH210-2級

规格/Specification			WSH210-2级/2-Stage											
减速比/Ratio		单位/Unit	15	16	20	25	30	35	40	50	60	70	80	100
额定输出扭矩/Rated Output Torque T _{2N}		Nm	1800	2400	2400	2400	1950	1700	2400	2400	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2000	2000	2000	2000	2000	2000	2500	2500	2500	2500	2500	2500
最大输入转速/Max Input Speed n _{1B}		rpm	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
空载力矩/No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)		Nm	4.3	4.3	2.85	2.85	2.85	2.85	2.3	2.3	2.3	2.3	2.15	2.15
最大背隙/Max Backlash		arcmin	P0≤3 / P1≤5 / P2≤8											
扭转刚性/Torsional rigidity		Nm/arcmin	410											
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	5300											
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	30000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	24000											
使用寿命/Service Life		h	20000											
效率/Efficienct		%	≥95											
使用环境温度/Use of temperature		°C	-20°C~+40°C											
重量/Weight		kg	57											
防护等级/Protection class			IP65											
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise		dB(A)	≤66											
转动惯量/Rotational inertia J1	≤35	kg.cm²	18	18	13	13	13	13	10	10	10	10	10	10
	≤42		29	29	24	24	24	24	19	19	19	19	19	19
	≤55		43	43	38	38	38	38	33	33	33	33	33	33

(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.

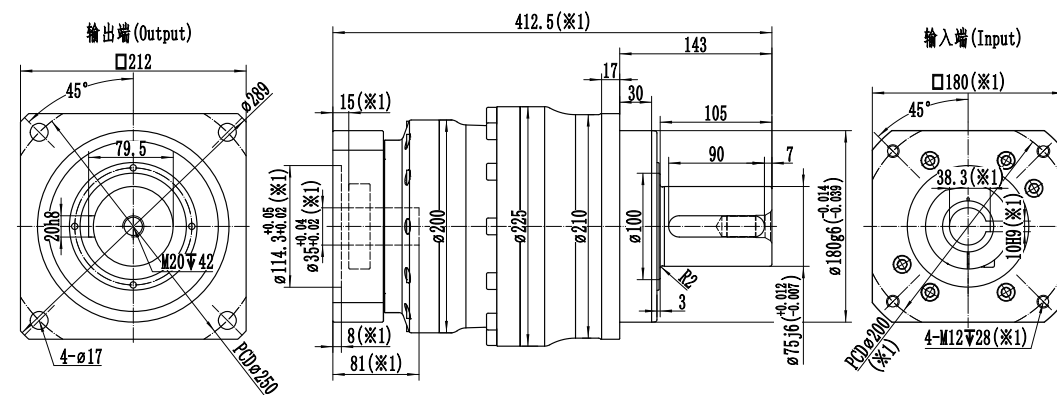
(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径

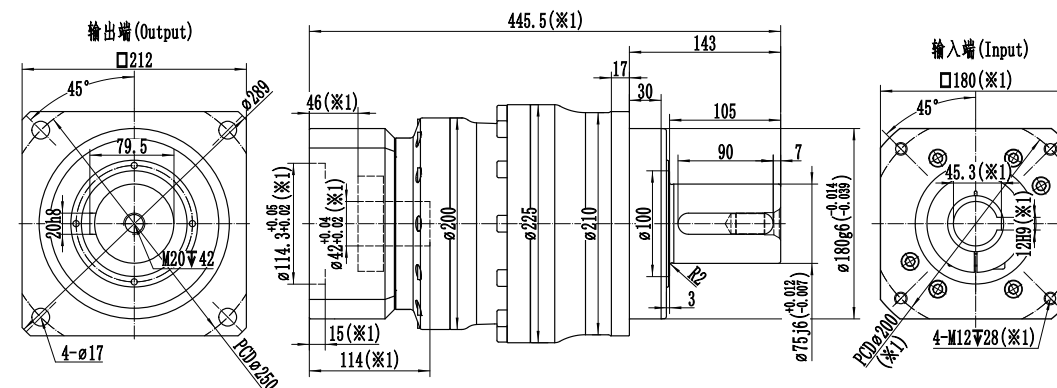
Max.35(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



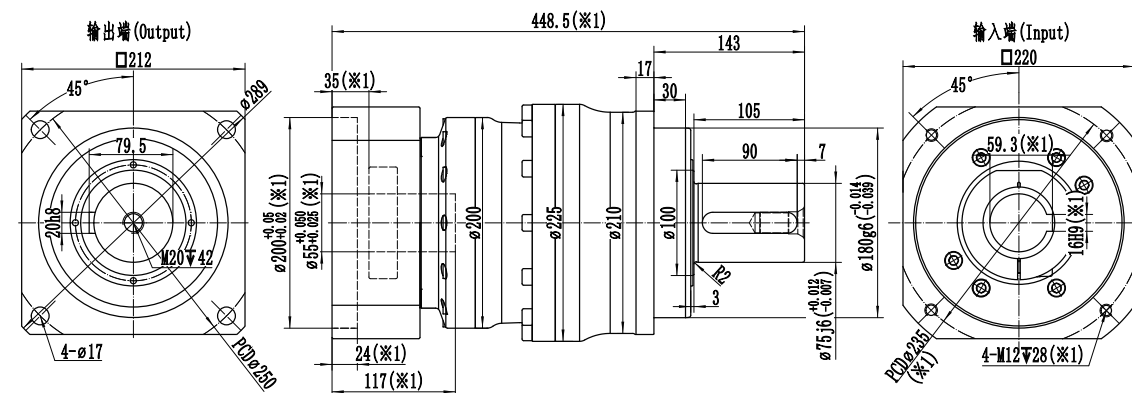
最大42(※2)夹紧孔直径

Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径

Max.55(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;

※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;

※WSH210减速机, 夹紧孔默认开键槽, 无需开键槽时, 请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ WSH210 gearbox: Default keyway on input shaft. Please notify if not needed.

※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※ Please install the motor as requested.

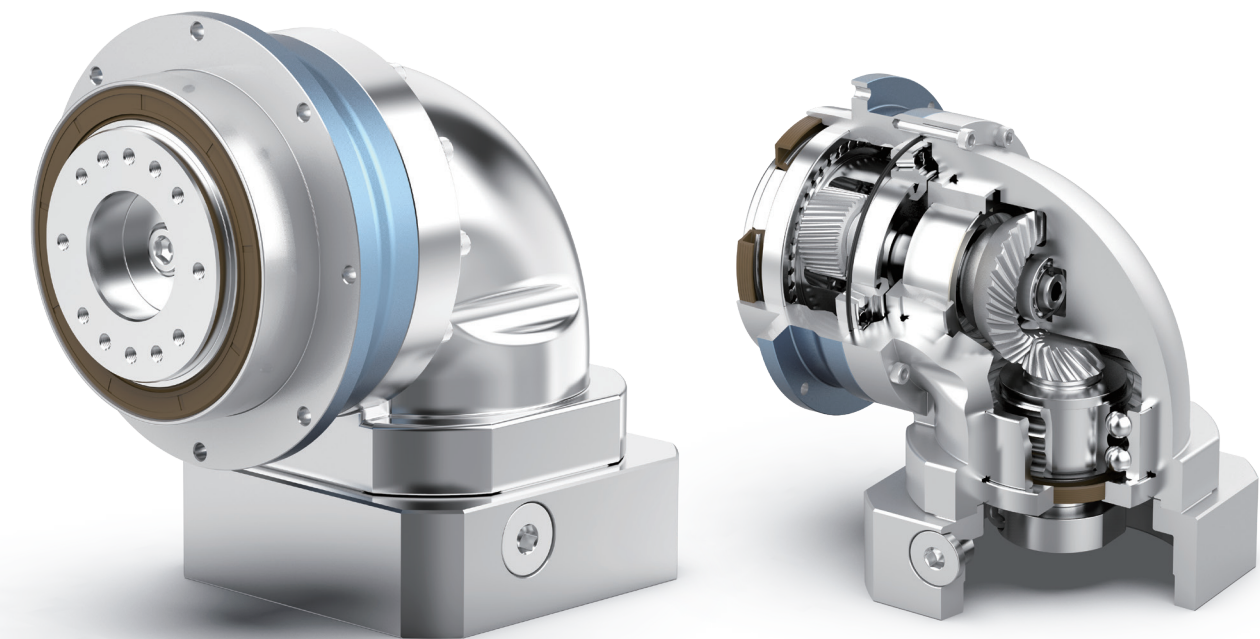
WTHR

Series planetary gearbox
系列行星减速机

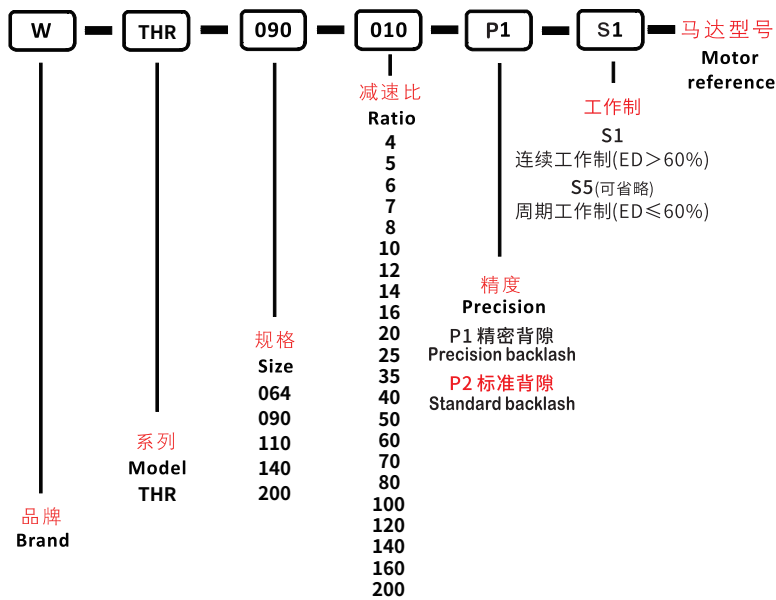
FEATURES

产品特点

- » 转速更高、更稳定、振动更小
 - » 安装尺寸通用性高
 - » 全新生产工艺, 精度保持更优
 - » 显著提升整体刚性、耐振性、任意方向的承载能力
 - » 输入级采用特殊工艺的螺旋锥齿轮, 工作噪音更低, 背隙更小
 - » 相比市场同型号, 总长进一步缩短, 功率密度更高
-
- » Higher and more stable rotation speed, less vibration.
 - » High universality in installation dimensions.
 - » Brand-new manufacturing processes for superior accuracy retention.
 - » Significantly enhances overall rigidity, vibration resistance, and load-bearing capacity in any direction.
 - » Special manufacturing processes for input stages using spiral bevel gears, resulting in lower working noise and higher precision.
 - » Compared to similar models in the market, its total length is further reduced, resulting in higher power density.



INDICATION FOR MODEL
SELECTION
机种型号表示



GENERAL NOTICES
订货须知

- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

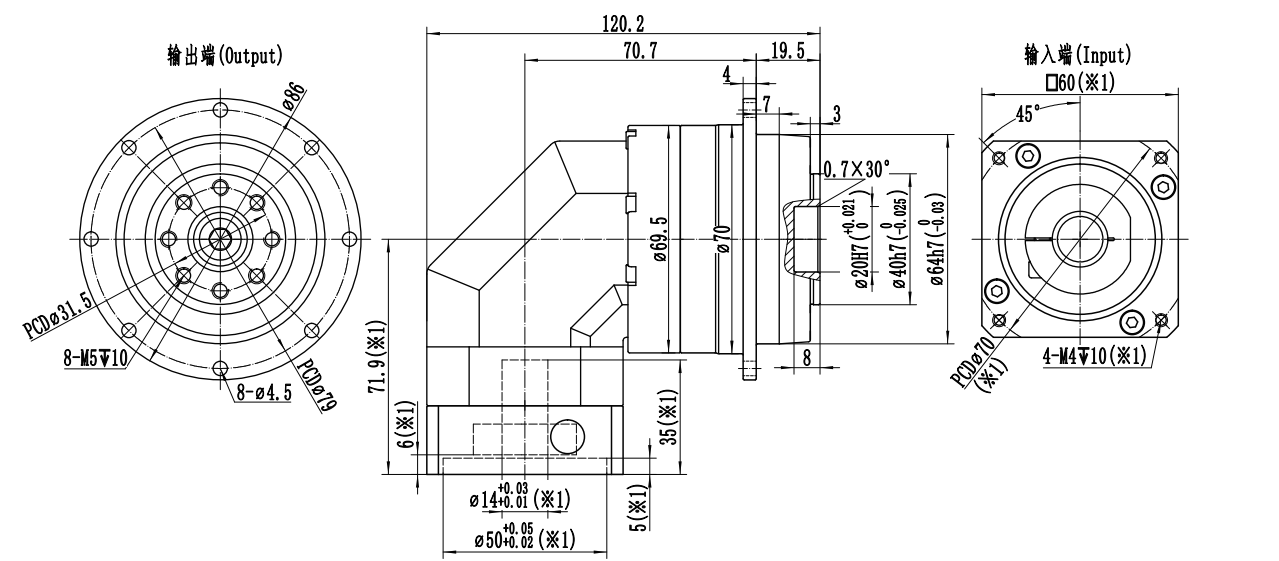
WTHR064-1级

规格/Specification		WTHR064-1级/1-Stage									
减速比/Ratio	单位/Unit	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/Rated Output Torque T _{2N}	Nm	55	60	55	50	55	60	55	50	40	35
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}									
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	3300	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)	Nm	0.65	0.55	0.55	0.55	0.45	0.4	0.4	0.4	0.35	0.35
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6									
扭转刚性/Torsional rigidity	Nm/arcmin	13									
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	130									
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	2500									
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	2000									
使用寿命/Service Life	h	20000									
效率/Efficient	%	≥95									
使用环境温度/Use of temperature	℃	-20℃~+40℃									
重量/Weight	kg	2.2									
防护等级/Protection class		IP65									
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil									
噪音/Noise	dB(A)	≤63									
转动惯量/Rotational inertia J ₁	≤14	kg.cm ²	0.42	0.4	0.38	0.38	0.33	0.31	0.31	0.31	0.31
	≤19		0.75	0.7	0.65	0.65	0.68	0.63	0.58	0.58	0.58

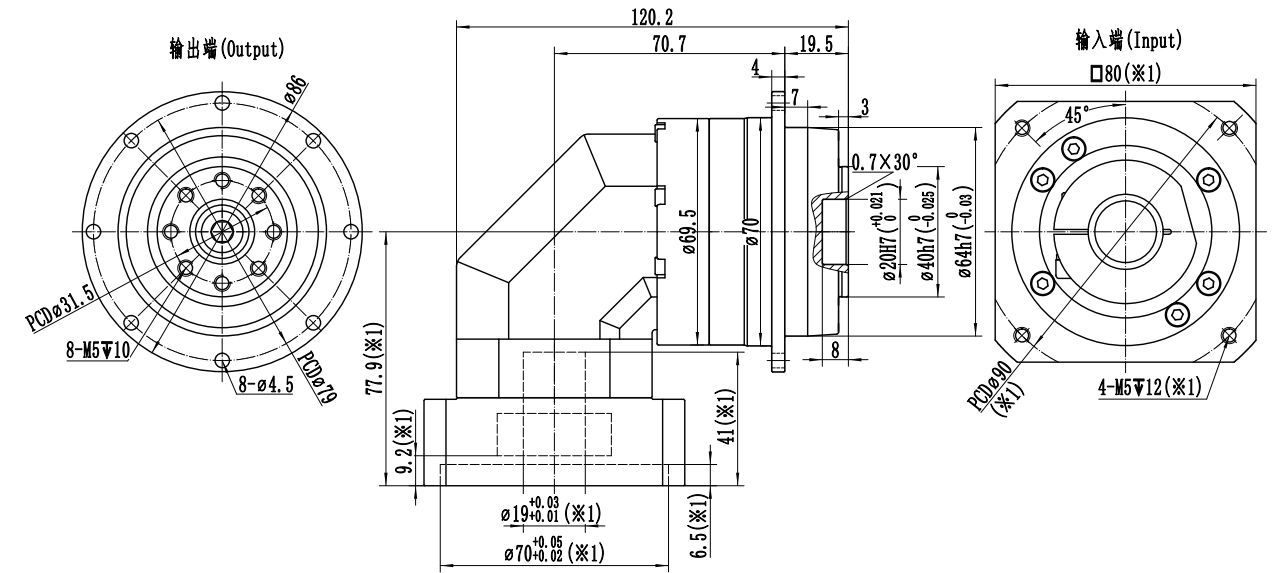
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
 Max.14(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



最大19(※2)夹紧孔直径
 Max.19(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
 ※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
 ※减速机夹紧孔需要开键槽时, 请提前备注;
 ※注意安装前检查电机轴径和减速机夹紧孔径;
 ※请按要求安装电机

※1: Dimension will vary with the motor size;
 ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
 ※ If Keyway is needed for the clamping bore, please notify in advance;
 ※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
 ※Please install the motor as requested.

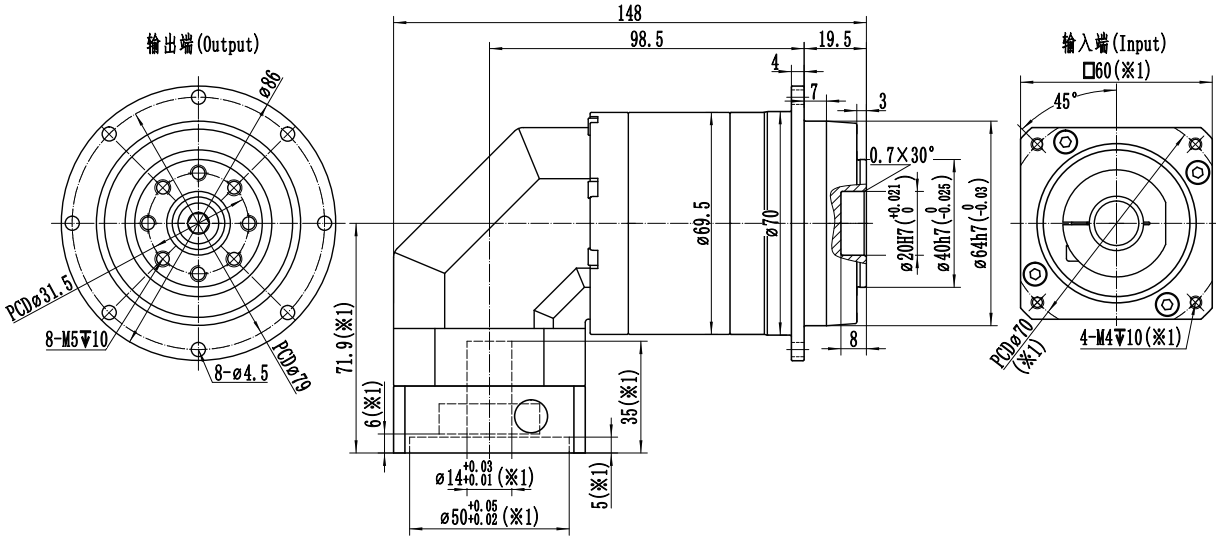
WTHR064-2级

规格/Specification		WTHR064-2级/2-Stage											
减速比/Ratio	单位/Unit	25	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/Rated Output Torque T _{2N}	Nm	60	50	55	60	55	50	55	60	55	50	40	35
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.5	0.5	0.4	0.4	0.4	0.4	0.35	0.35	0.35	0.35	0.3	0.3
最大背隙/Max Backlash	arcmin	P1≤7 / P2≤9											
扭转刚性/Torsional rigidity	Nm/arcmin	13											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	130											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	2500											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	2000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥92											
使用环境温度/Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	2.8											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤63											
转动惯量/Rotational inertia J1	≤8	kg.cm ²	0.3	0.3	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
	≤14		0.37	0.37	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
 (b)作用于输出轴中心点/Applied to the center point of the output shaft.
 (c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



- ※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机
- ※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※ Please install the motor as requested.

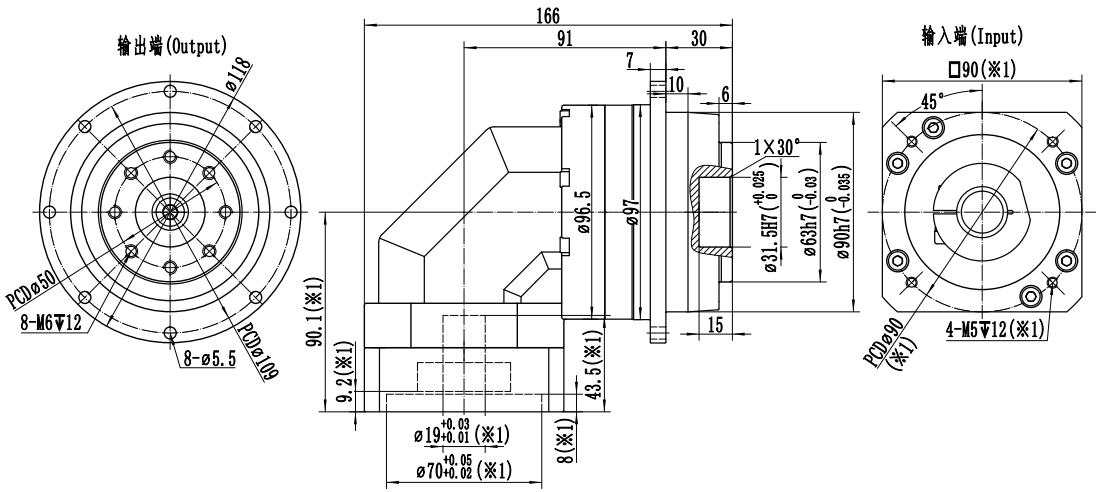
WTHR090-1级

规格/Specification		WTHR090-1级/1-Stage									
减速比/Ratio	单位/Unit	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/Rated Output Torque T _{2N}	Nm	150	160	150	140	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}									
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	3300	3300	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	1.2	0.95	0.95	0.95	0.85	0.8	0.8	0.8	0.7	0.7
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6									
扭转刚性/Torsional rigidity	Nm/arcmin	31									
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	280									
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	4800									
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	3500									
使用寿命/Service Life	h	20000									
效率/Efficient	%	≥95									
使用环境温度/Use of temperature	°C	-20°C~+40°C									
重量/Weight	kg	6.5									
防护等级/Protection class		IP65									
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil									
噪音/Noise	dB(A)	≤65									
转动惯量/Rotational inertia J1	≤19	kg.cm ²	2.5	2.4	2.3	2.3	2	1.9	1.8	1.8	1.8
	≤24		3.7	3.6	3.5	3.5	3.2	3.1	3	3	3

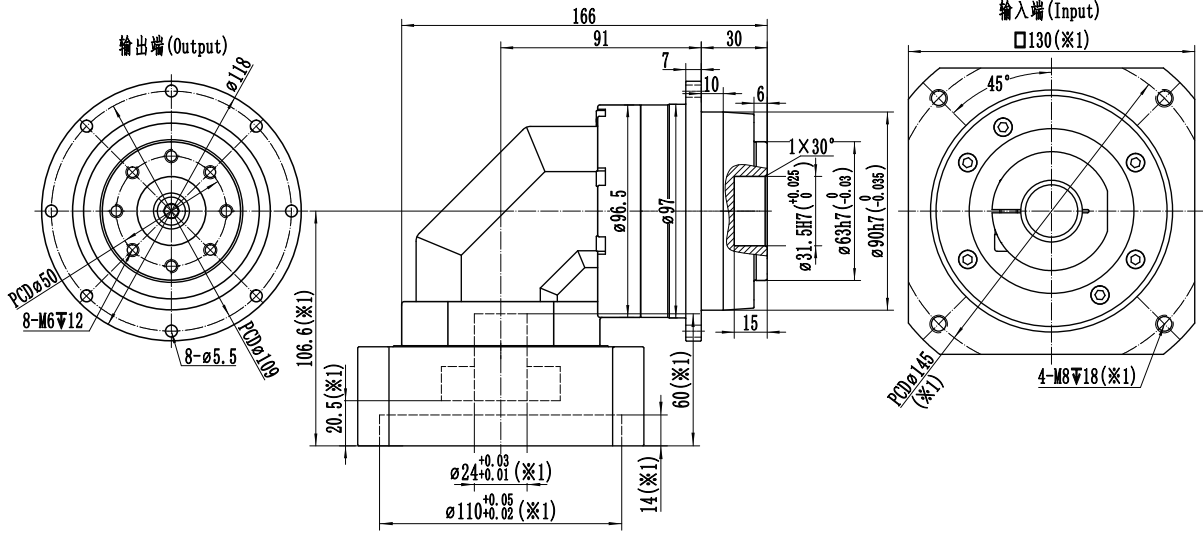
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时,请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

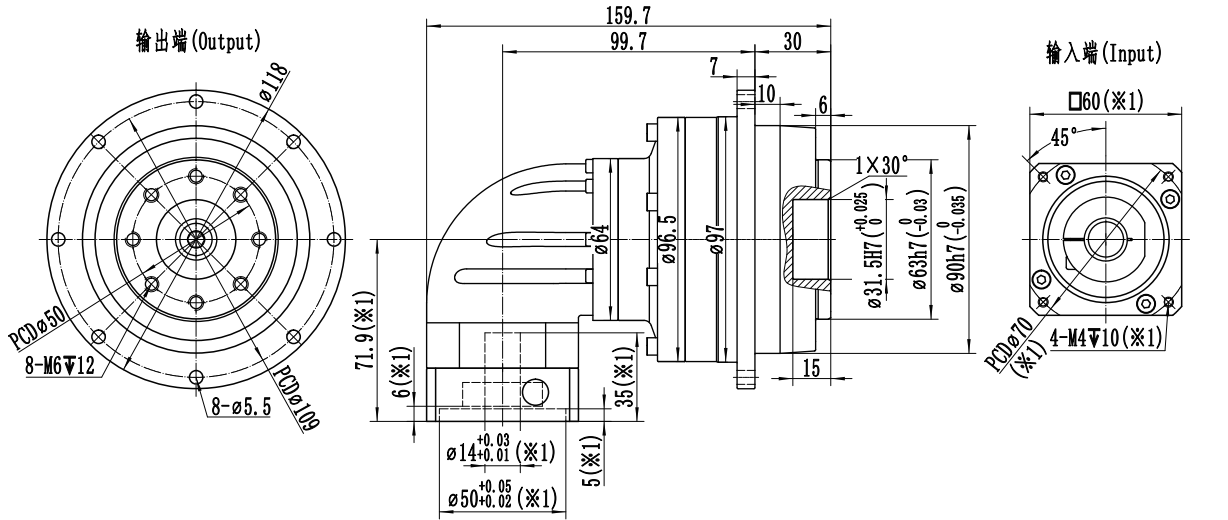
WTHR090-2级

规格/Specification		WTHR090-2级/2-Stage											
减速比/Ratio	单位/Unit	25	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/Rated Output Torque T _{2N}	Nm	160	140	150	160	150	140	150	160	150	140	100	90
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	3300	3300	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
最大输入转速/Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)	Nm	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.35	0.35
最大背隙/Max Backlash	arcmin	P1≤7 / P2≤9											
扭转刚性/Torsional rigidity	Nm/arcmin	31											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	280											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	4800											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	3500											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥92											
使用环境温度/Use of temperature	℃	-20℃~+40℃											
重量/Weight	kg	5.1											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤63											
转动惯量/Rotational inertia J1	≤14	kg.cm ²	0.45	0.45	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
	≤19		0.8	0.8	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66

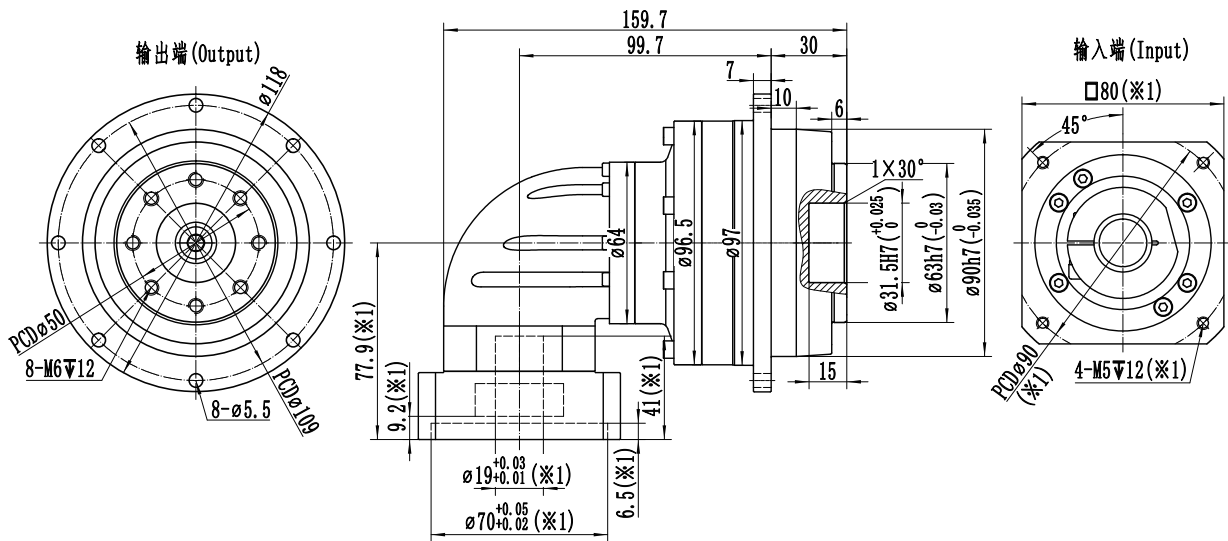
(a)环境温度超过20℃时,建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时,不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大19(※2)夹紧孔直径
Max.19(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WTHR110-1级

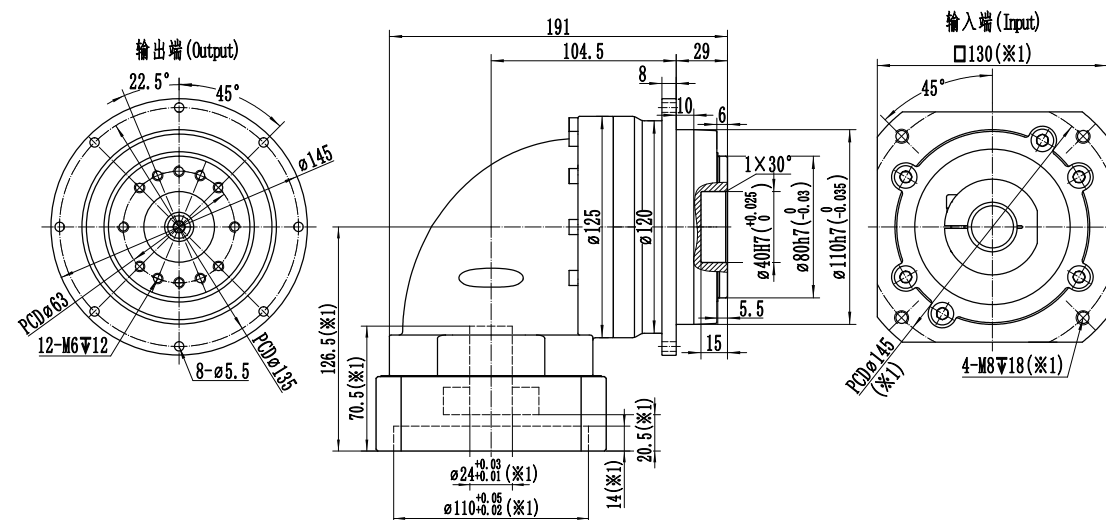
规格/Specification		WTHR110-1级/1-Stage									
减速比/Ratio	单位/Unit	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/Rated Output Torque T _{2N}	Nm	330	330	310	300	330	330	310	300	230	200
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}									
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2800	2800	2800	3300	3300	3300	3300	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	2.3	1.9	1.9	1.9	1.6	1.55	1.55	1.55	1.4	1.4
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6									
扭转刚性/Torsional rigidity	Nm/arcmin	82									
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	510									
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	7800									
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	6000									
使用寿命/Service Life	h	20000									
效率/Efficient	%	≥95									
使用环境温度/Use of temperature	°C	-20°C~+40°C									
重量/Weight	kg	11.3									
防护等级/Protection class		IP65									
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil									
噪音/Noise	dB(A)	≤68									
转动惯量/Rotational inertia J1	≤19	kg.cm ²	5.9	5.4	4.9	4.9	4.4	4.3	4.2	4.2	4.2
	≤24		6.4	5.9	5.4	5.4	4.9	4.8	4.7	4.7	4.7
	≤28		6.9	6.4	5.9	5.9	5.4	5.3	5.2	5.2	5.2
	≤35		13.4	12.9	12.4	12.4	11.5	11.2	11	11	11

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径

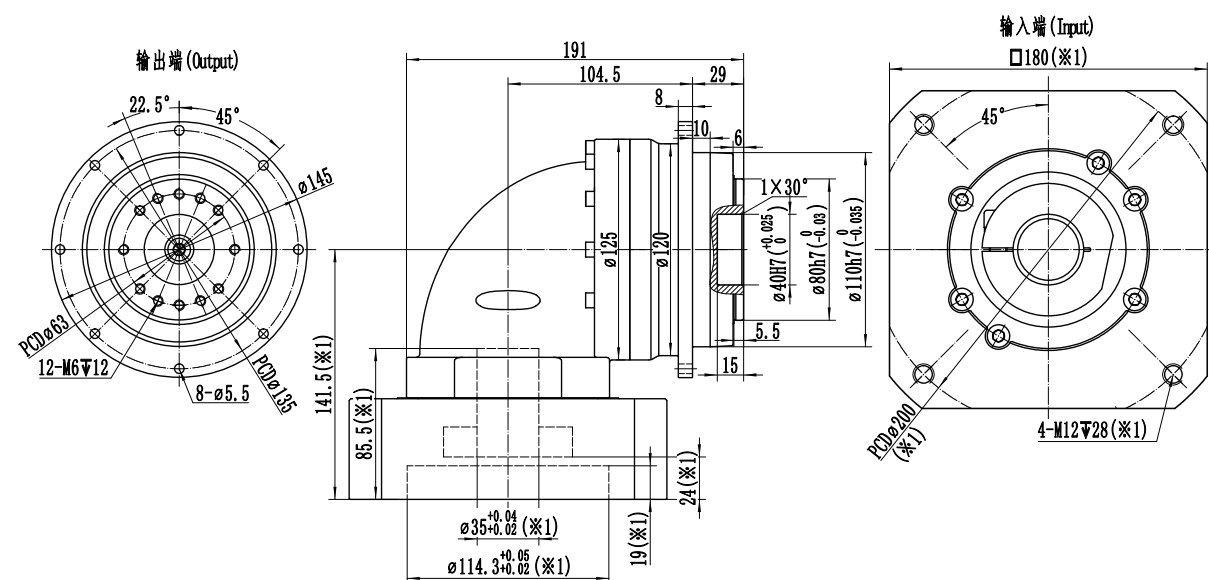
Max.24(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径

Max.35(※2)clamping hub' s bore diameter



※1:尺寸会随电机尺寸而变化;

※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;

※减速机夹紧孔需要开键槽时,请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径；

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ If Keyway is needed for the clamping bore, please notify in advance;

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※Please install the motor as requested.

WTHR110-2级

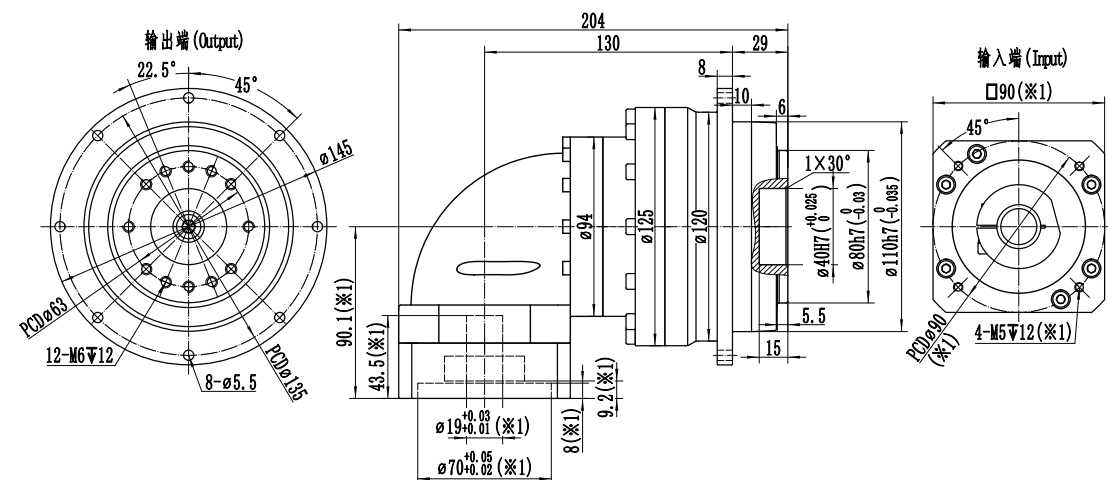
[illegible]

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

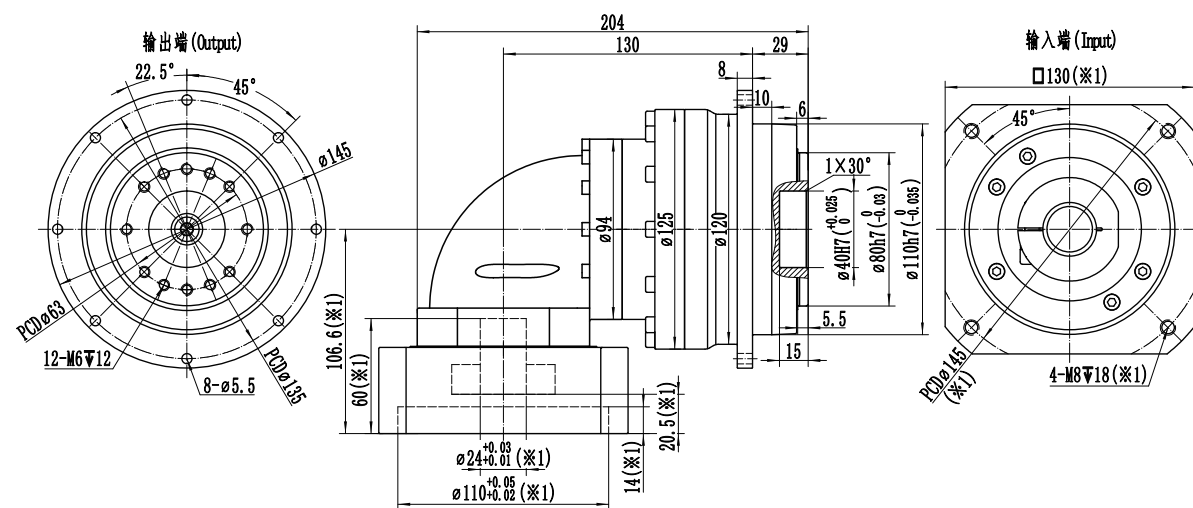
(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※减速机夹紧孔需要开槽键时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WTHR140-1级

规格/Specification			WTHR140-1级/1-Stage									
减速比/Ratio		单位/Unit	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/Rated Output Torque T _{2N}		Nm	650	650	600	550	650	650	600	550	450	400
急停扭矩/Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}									
额定输入转速/Rated Input Speed n _{1N} ^(a)		rpm	2300	2300	2300	2300	2800	2800	2800	2800	2800	2800
最大输入转速/Max Input Speed n _{1B}		rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
空载力矩/No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)		Nm	4.4	3.6	3.6	3.6	3.1	3	3	3	2.9	2.9
最大背隙/Max Backlash		arcmin	P1≤4 / P2≤6									
扭转刚性/Torsional rigidity		Nm/arcmin	155									
最大侧倾力矩/Max Tilting Moment M _{2K}		Nm	1350									
容许径向力/Allowable Radial Force F _{2R} ^(b)		N	13000									
容许轴向力/Allowable Axle Force F _{2A} ^(b)		N	11000									
使用寿命/Service Life		h	20000									
效率/Efficient		%	≥95									
使用环境温度/Use of temperature		°C	-20°C~+40°C									
重量/Weight		kg	23									
防护等级/Protection class			IP65									
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil									
噪音/Noise		dB(A)	≤70									
转动惯量/Rotational inertia J ₁	≤24	kg.cm ²	19	17.5	16.5	16.5	15.3	15	14.8	14.8	14.8	14.8
	≤28		20	18.5	17.5	17.5	16.3	16	15.8	15.8	15.8	15.8
	≤35		23.5	22	21	21	19.8	19.5	19.3	19.3	19.3	19.3
	≤42		36	35	34	34	32.8	32.5	32.3	32.3	32.3	32.3

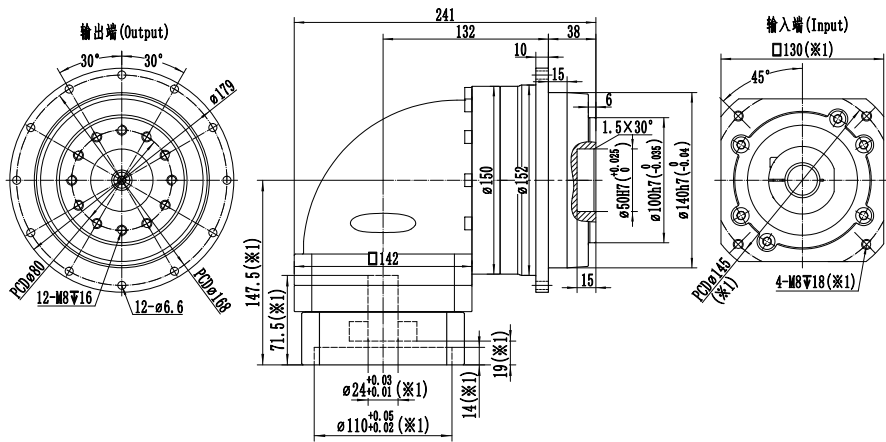
(a)环境温度超过20°C时,建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

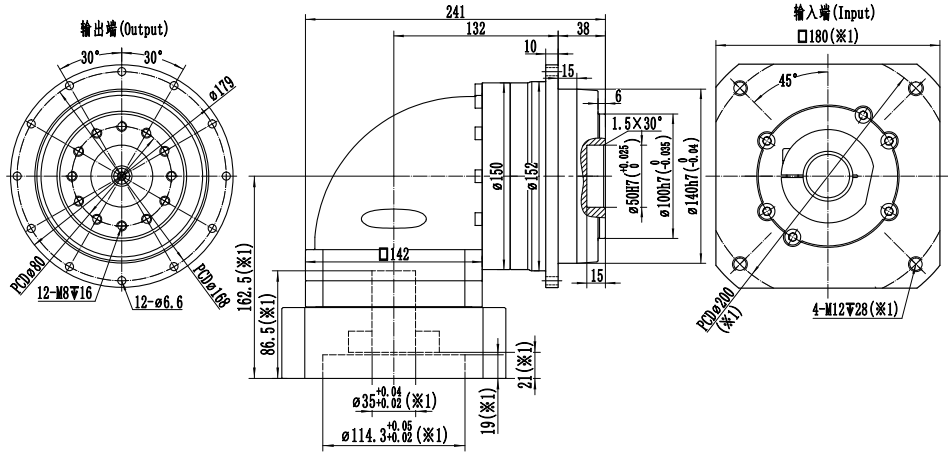
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter

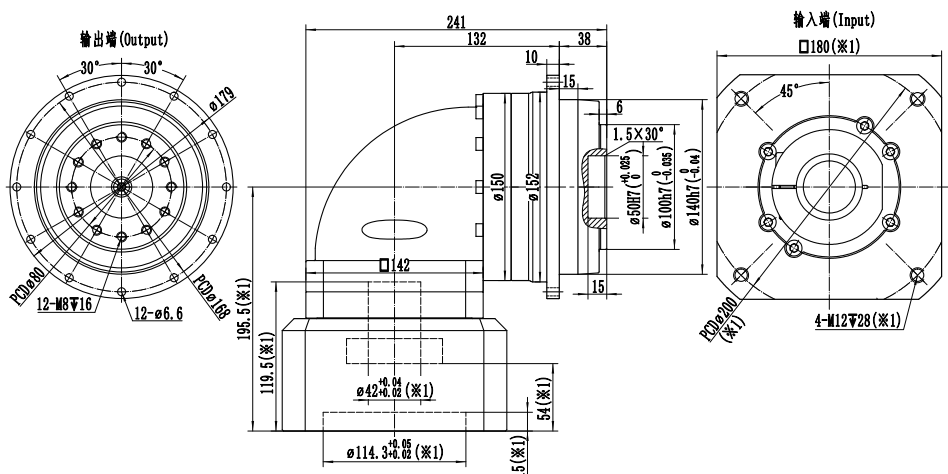
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※ Please install the motor as requested.

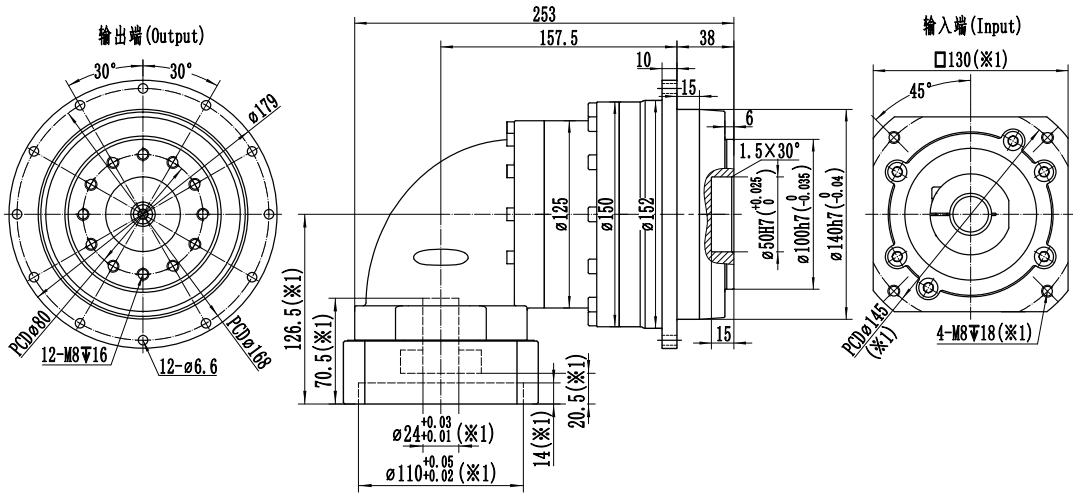
WTHR140-2级

规格/Specification		WTHR140-2级/2-Stage											
减速比/Ratio	单位/Unit	25	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/Rated Output Torque T _{2N}	Nm	650	550	650	650	600	550	650	650	600	500	450	400
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2800	2800	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300
最大输入转速/Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
空载力矩/No Load Running Torque (n1=3000rpm,20℃,运转2min内)	Nm	2	2	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6
最大背隙/Max Backlash	arcmin	P1≤7 / P2≤9											
扭转刚性/Torsional rigidity	Nm/arcmin	155											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	1350											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	13000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	11000											
使用寿命/Service Life	h	20000											
效率/Efficienct	%	≥92											
使用环境温度/Use of temperature	℃	-20℃~+40℃											
重量/Weight	kg	21.7											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤68											
转动惯量/Rotational inertia J1	≤19	kg.cm ²	5.5	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	≤24		6	6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	≤28		6.5	6.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	≤35		13	13	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3

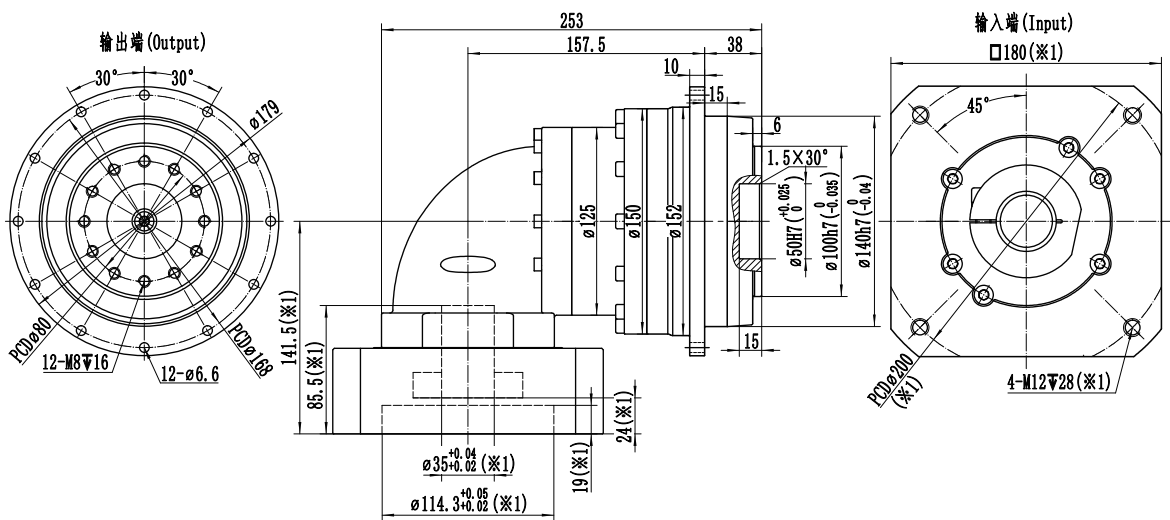
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
 Max.24(※2)clamping hub's bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
 Max.35(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
 ※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
 ※减速机夹紧孔需要开键槽时, 请提前备注;
 ※注意安装前检查电机轴径和减速机夹紧孔径;
 ※请按要求安装电机

※1: Dimension will vary with the motor size;
 ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
 ※ If Keyway is needed for the clamping bore, please notify in advance;
 ※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
 ※Please install the motor as requested.

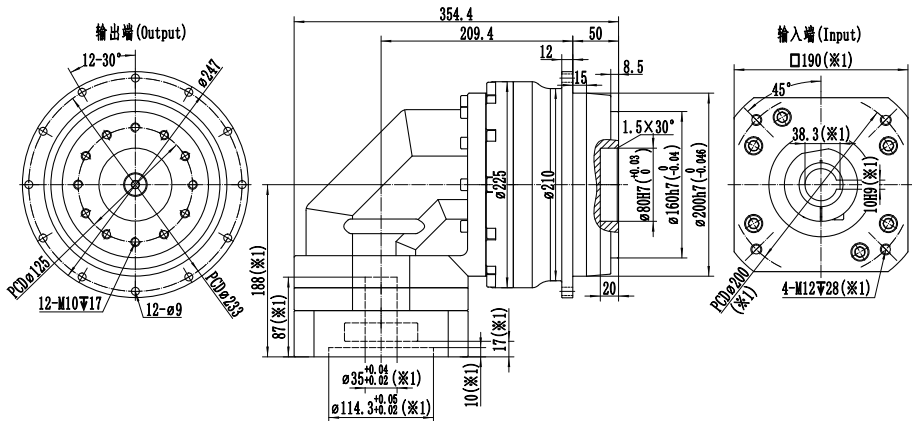
WTHR200-1级

规格/Specification		WTHR200-1级/1-Stage									
减速比/Ratio	单位/Unit	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/Rated Output Torque T _{2N}	Nm	2000	2050	1950	1700	2000	2050	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}									
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	1500	1500	1500	1500	1500	1800	1800	1800	1800	1800
最大输入转速/Max Input Speed n _{1B}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
空载力矩/No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)	Nm	13.5	11	11	11	9	9	9	9	7.5	7.5
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6									
扭转刚性/Torsional rigidity	Nm/arcmin	650									
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	3400									
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	26000									
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	21000									
使用寿命/Service Life	h	20000									
效率/Efficient	%	≥95									
使用环境温度/Use of temperature	°C	-20°C~+40°C									
重量/Weight	kg	61.5									
防护等级/Protection class		IP65									
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil									
噪音/Noise	dB(A)	≤72									
转动惯量/Rotational inertia J1	≤28	kg.cm ²	-	-	-	-	-	-	-	-	-
	≤35		72	67	62	62	57	52	52	52	52
	≤42		92	87	82	82	77	72	72	72	72
	≤55		120	115	110	110	105	100	100	100	100

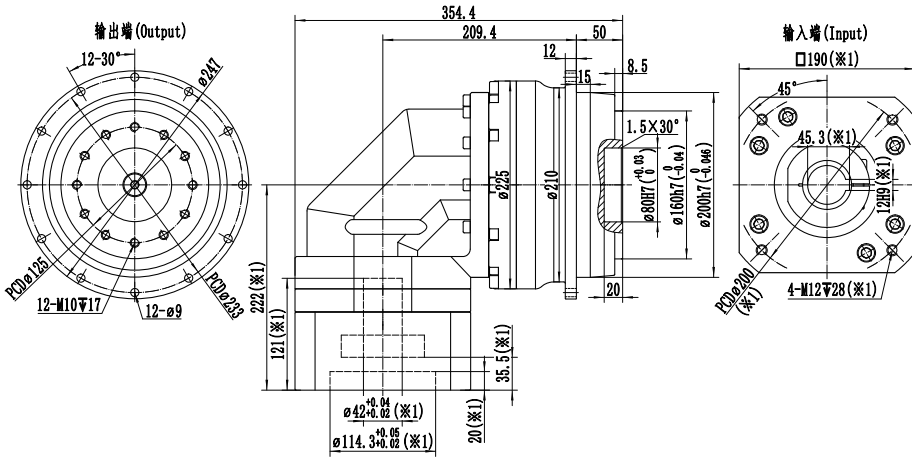
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
 (b)作用于输出轴中心点/Applied to the center point of the output shaft.
 (c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter

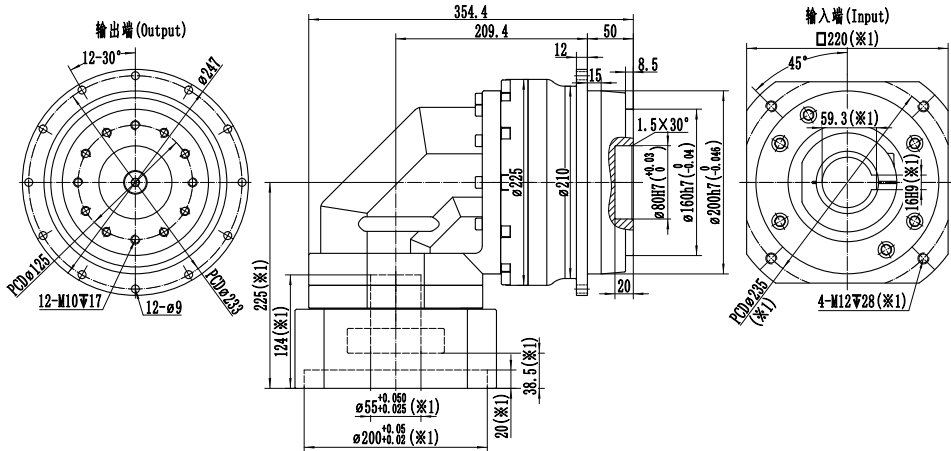
电机轴直径/motor shaft diameter (mm)



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※WTHR200减速机, 夹紧孔默认开键槽, 无需开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※WTHR200 gearbox: Default keyway on input shaft. Please notify if not needed.
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WTHR200-2级

规格/Specification		WTHR200-2级/2-Stage											
减速比/Ratio	单位/Unit	25	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/Rated Output Torque T _{2N}	Nm	2025	1700	2000	2050	1950	1700	2000	2050	1950	1700	1450	1350
急停扭矩/Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/Rated Input Speed n _{1N} ^(a)	rpm	2000	2000	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
最大输入转速/Max Input Speed n _{1B}	rpm	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
空载力矩/No Load Running Torque (n ₁ =2000rpm,20℃,运转2min内)	Nm	4.4	4.4	4	4	4	4	3.8	3.8	3.8	3.8	3.7	3.7
最大背隙/Max Backlash	arcmin	P1≤7 / P2≤9											
扭转刚性/Torsional rigidity	Nm/arcmin	650											
最大侧倾力矩/Max Tilting Moment M _{2K}	Nm	3400											
容许径向力/Allowable Radial Force F _{2R} ^(b)	N	26000											
容许轴向力/Allowable Axle Force F _{2A} ^(b)	N	21000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥92											
使用环境温度/Use of temperature	℃	-20℃~+40℃											
重量/Weight	kg	59.5											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤70											
转动惯量/Rotational inertia J1	≤24	kg.cm ²	21.8	21.8	20	20	20	20	20	20	20	20	20
	≤28		22.8	22.8	21	21	21	21	21	21	21	21	21
	≤35		26.3	26.3	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5	24.5
	≤42		39.3	39.3	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5

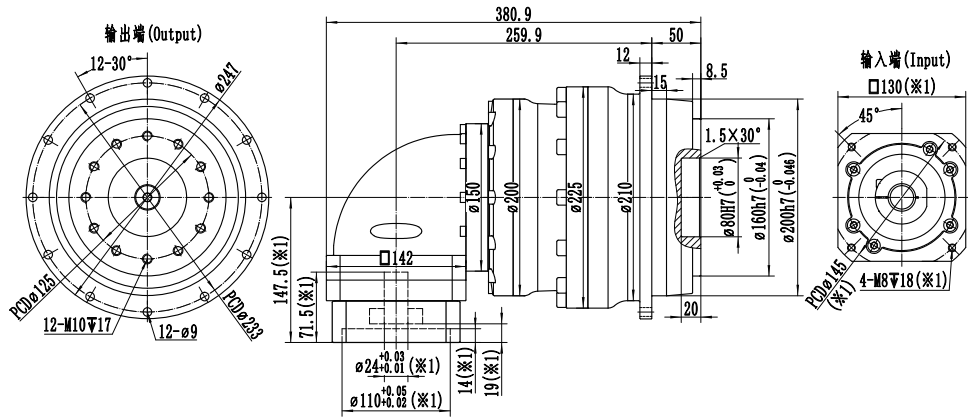
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点./Applied to the center point of the output shaft.

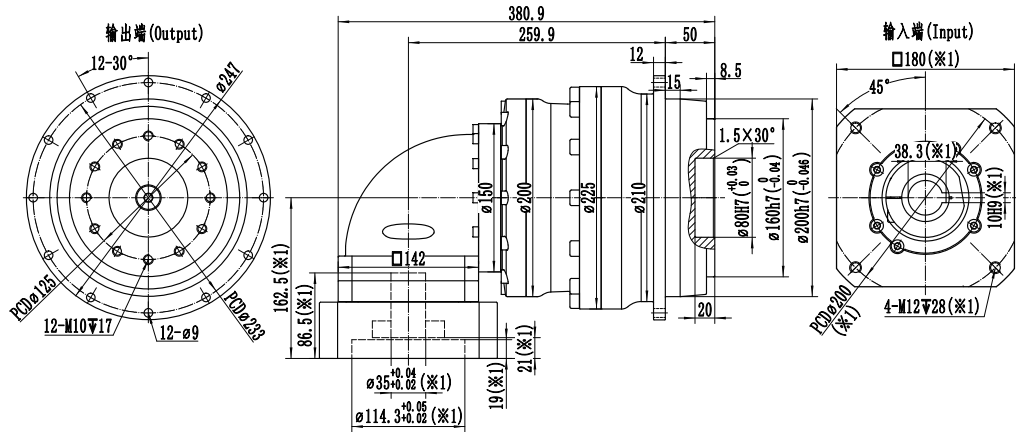
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系./If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter

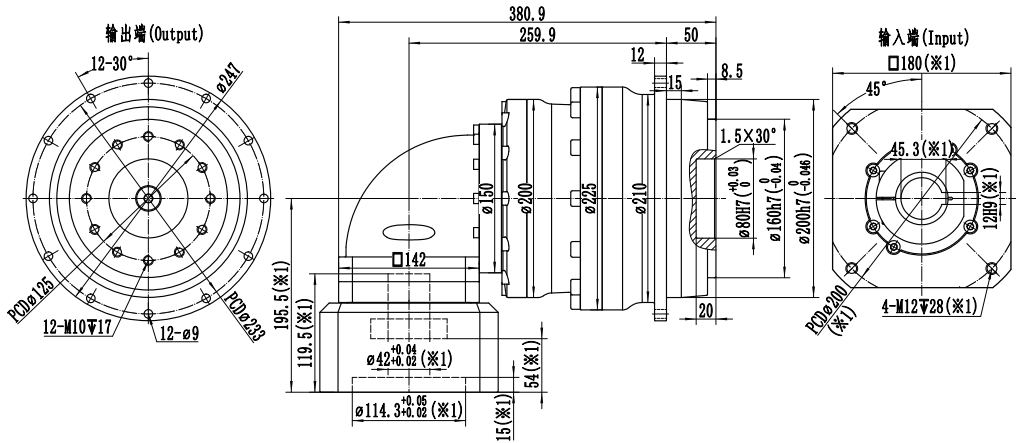
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;

※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;

※WTHR200减速机, 夹紧孔默认开键槽, 无开键槽时, 请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机

※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※WTHR200 gearbox: Default keyway on input shaft. Please notify if not needed.

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

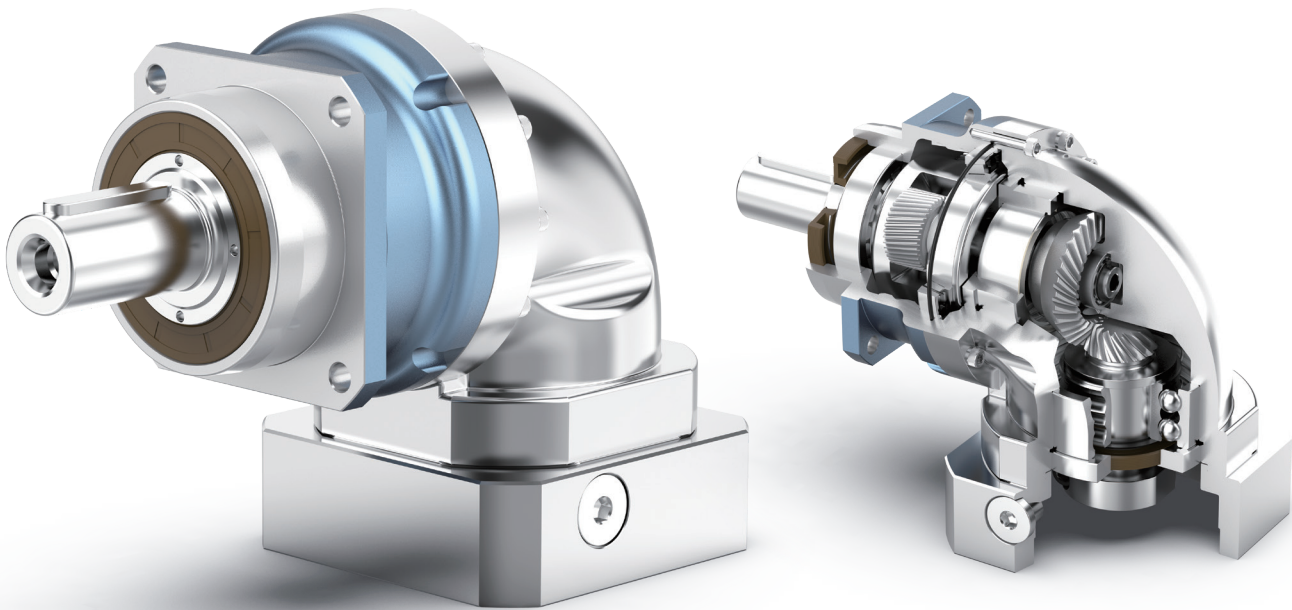
※Please install the motor as requested.

WSHR Series planetary gearbox 系列行星减速机

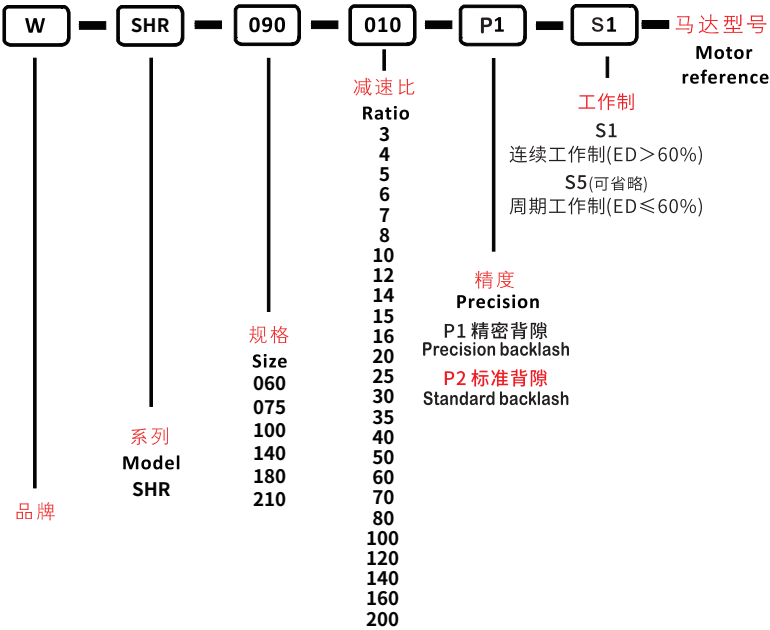
FEATURES

产品特点

- » 转速更高、更稳定、振动更小
- » 安装尺寸通用性高
- » 全新生产工艺, 精度保持更优
- » 显著提升整体刚性、耐振性、任意方向的承载能力
- » 输入级采用特殊工艺的螺旋锥齿轮, 工作噪音更低, 背隙更小
- » 相比市场同型号, 总长进一步缩短, 功率密度更高
- » Higher and more stable rotation speed, less vibration.
- » High universality in installation dimensions.
- » Brand-new manufacturing processes for superior accuracy retention.
- » Significantly enhances overall rigidity, vibration resistance, and load-bearing capacity in any direction.
- » Special manufacturing processes for input stages using spiral bevel gears, resulting in lower working noise and higher precision.
- » Compared to similar models in the market, its total length is further reduced, resulting in higher power density.



INDICATION FOR MODEL
SELECTION
机种型号表示



GENERAL NOTICES
订货须知

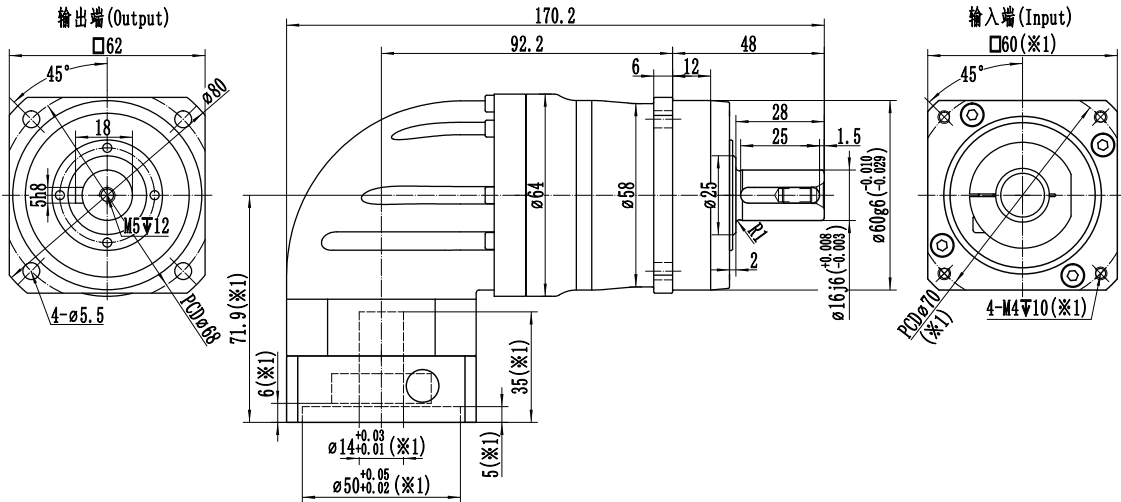
- 机种、型号、扭矩
- 减速比或出力轴转速
- 工况及连接方式
- 数量及安装的机械名称
- 入力方式和入力转速
- 马达厂牌型号或法兰及马达轴尺寸
- Type, model and torque
- Ratio or output speed
- Working conditions and connection methods
- Quantity and installed machine name
- Input mode and input speed
- Motor brand model or flange and motor shaft size

WSHR060-1级

规格/Specification		WSHR060-1级/1-Stage										
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	50	55	60	55	50	55	60	55	50	40	35
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩(允许1000次)/3 Times T _{2N}										
额定输入转速/ ^(a) Rated Input Speed n _{1N}	rpm	3300	3300	3300	3300	4000	4000	4000	4000	4000	4000	4000
最大输入转速/ Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/ No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.35	0.35
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6										
扭转刚性/Torsional rigidity	Nm/arcmin	7										
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	160										
容许径向力/ ^(b) Allowable Radial Force F _{2R}	N	3000										
容许轴向力/ ^(b) Allowable Axle Force F _{2A}	N	2400										
使用寿命/Service Life	h	20000										
效率/Efficient	%	≥95										
使用环境温度/ Use of temperature	°C	-20°C~+40°C										
重量/Weight	kg	2.2										
防护等级/Protection class		IP65										
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise	dB(A)	≤63										
转动惯量/ Rotational inertia J ₁	≤14	kg.cm ²	0.48	0.42	0.4	0.38	0.38	0.35	0.33	0.31	0.31	0.31
	≤19		0.81	0.75	0.7	0.65	0.65	0.68	0.63	0.58	0.58	0.58

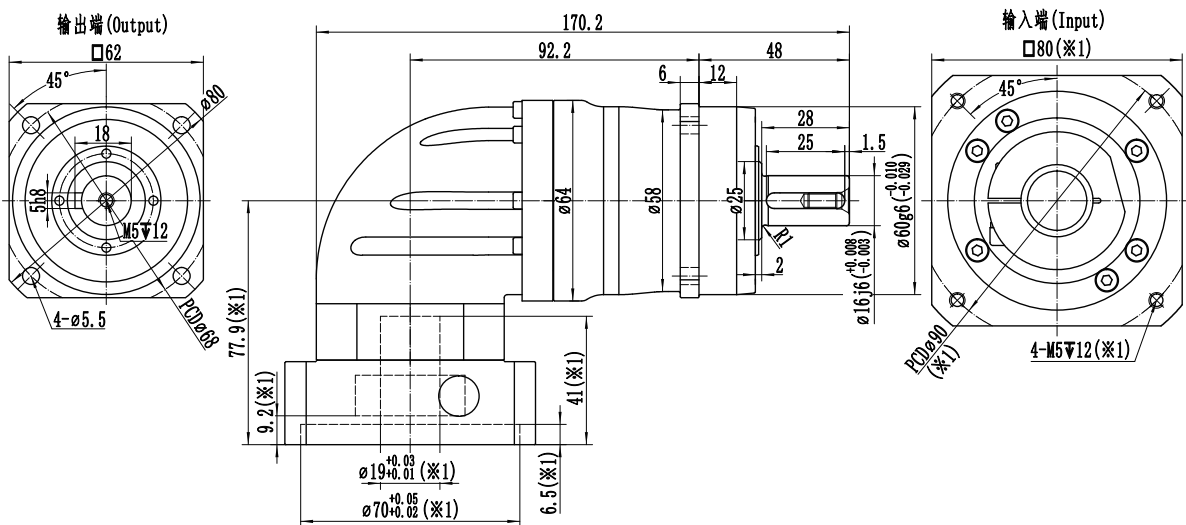
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请联系我们/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter



电机轴直径/motor shaft diameter (mm)

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

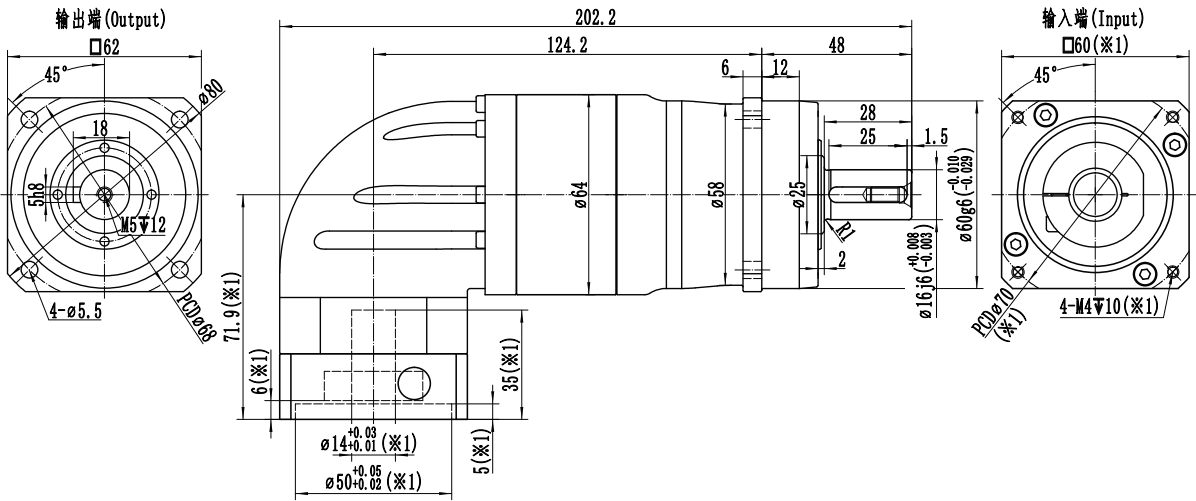
WSHR060-2级

规格/Specification			WSHR060-2级/2-Stage													
减速比/Ratio		单位/Unit	15	25	30	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/ Rated Output Torque T _{2N}		Nm	50	60	50	50	55	60	55	50	55	60	55	50	40	35
急停扭矩/ Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次)/3 Times T _{2N}													
额定输入转速/ ^(a) Rated Input Speed n _{1N}		rpm	3300	3300	3300	3300	4000	4000	4000	4000	4000	4000	4000	4000	4000	4000
最大输入转速/ Max Input Speed n _{1B}		rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
空载力矩/ No Load Running Torque (n1=3000rpm,20℃,运转2min内)		Nm	0.5	0.5	0.45	0.5	0.4	0.4	0.4	0.4	0.35	0.35	0.35	0.35	0.3	0.3
最大背隙/Max Backlash		arcmin	P1≤7 / P2≤9													
扭转刚性/Torsional rigidity		Nm/arcmin	7													
最大侧倾力矩/ Max Tilting Moment M _{2K}		Nm	160													
容许径向力/ ^(b) Allowable Radial Force F _{2R}		N	3000													
容许轴向力/ ^(b) Allowable Axle Force F _{2A}		N	2400													
使用寿命/Service Life		h	20000													
效率/Efficienct		%	≥92													
使用环境温度/ Use of temperature		℃	-20℃~+40℃													
重量/Weight		kg	2.8													
防护等级/Protection class			IP65													
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil													
噪音/Noise		dB(A)	≤63													
转动惯量/ Rotational inertia J1	≤8	kg.cm ²	0.32	0.3	0.23	0.3	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
	≤14		0.42	0.37	0.3	0.37	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



- ※1: 尺寸会随电机尺寸而变化;

※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;

※减速机夹紧孔需要开键槽时, 请提前备注;

※注意安装前检查电机轴径和减速机夹紧孔径;

※请按要求安装电机
- ※1: Dimension will vary with the motor size;

※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;

※ If Keyway is needed for the clamping bore, please notify in advance;

※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;

※Please install the motor as requested.

WSHR075-1级

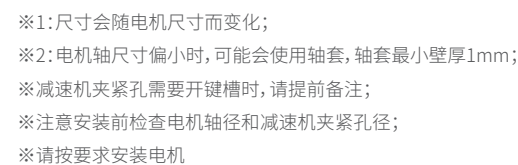
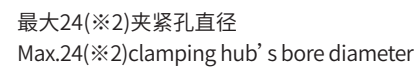
规格/Specification		WSHR075-1级/1-Stage											
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20	
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	130	150	160	150	140	150	160	150	140	100	90	
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/ ^(a) Rated Input Speed n _{1N}	rpm	3300	3300	3300	3300	4000	4000	4000	4000	4000	4000	4000	
最大输入转速/ Max Input Speed n _{1B}	rpm	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	
空载力矩/ No Load Running Torque (n ₁ =3000rpm,20°C,运转2min内)	Nm	1.35	1.15	0.9	0.9	0.9	0.8	0.8	0.8	0.8	0.7	0.7	
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6											
扭转刚性/Torsional rigidity	Nm/arcmin	14											
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	270											
容许径向力/ ^(b) Allowable Radial Force F _{2R}	N	4500											
容许轴向力/ ^(b) Allowable Axle Force F _{2A}	N	3350											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/ Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	6.7											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤65											
转动惯量/ Rotational inertia J ₁	≤19	kg.cm ²	2.7	2.5	2.4	2.3	2.3	2	1.9	1.8	1.8	1.8	1.8
	≤24		3.9	3.7	3.6	3.5	3.5	3.2	3.1	3	3	3	3

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

电机轴直径/motor shaft diameter (mm)



- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

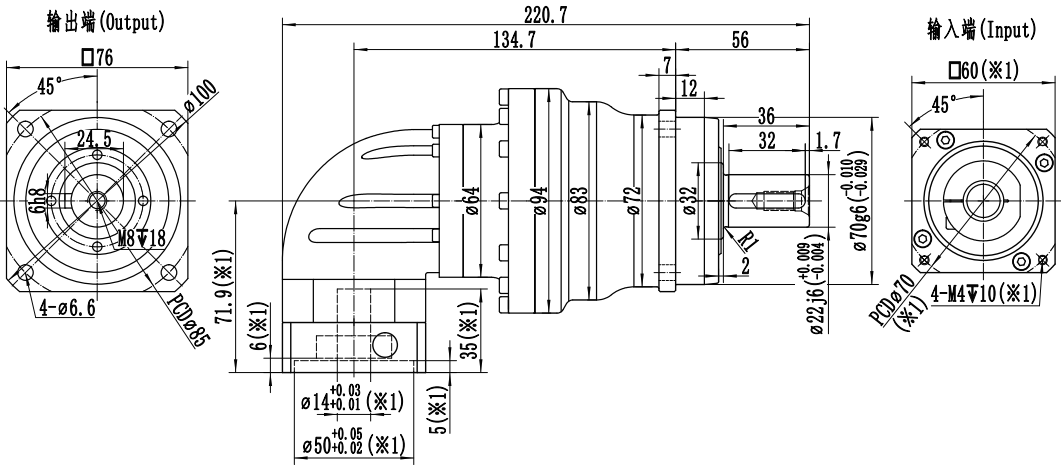
[illegible]

(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.

(b) 作用于输出轴中心点 / Applied to the center point of the output shaft.

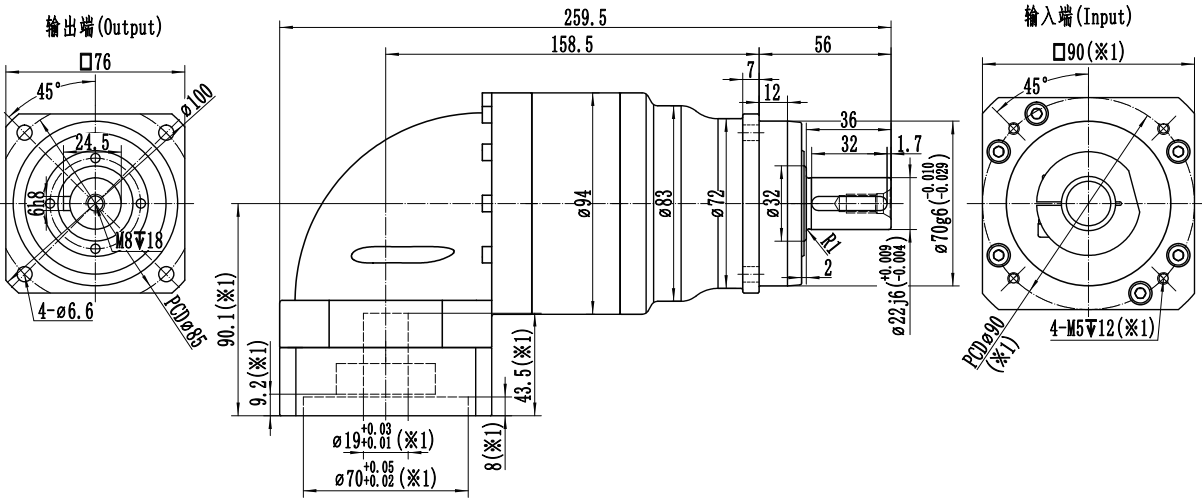
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大14(※2)夹紧孔直径
Max.14(※2)clamping hub's bore diameter



电机轴直径/motor shaft diameter (mm)

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSHR100-1级

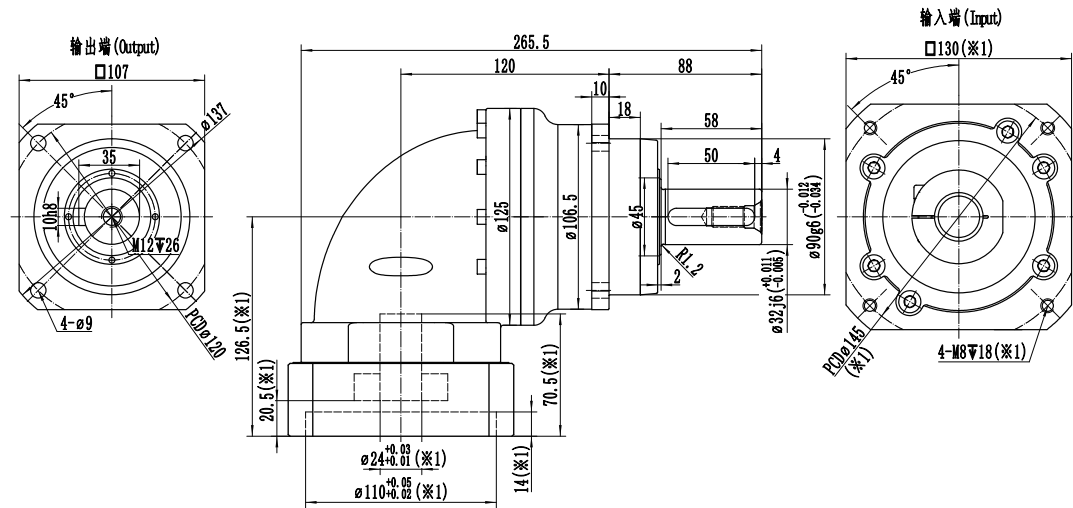
规格/Specification		WSHR100-1级/1-Stage											
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20	
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	230	330	330	310	300	330	330	310	300	230	200	
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}											
额定输入转速/ ^(a) Rated Input Speed n _{1N}	rpm	2800	2800	2800	2800	4000	4000	4000	4000	4000	4000	4000	
最大输入转速/ Max Input Speed n _{1B}	rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	
空载力矩/ No Load Running Torque (n ₁ =3000rpm, 20°C, 运转2min内)	Nm	2.6	2.2	1.8	1.8	1.8	1.5	1.5	1.5	1.5	1.4	1.4	
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6											
扭转刚性/Torsional rigidity	Nm/arcmin	32											
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	670											
容许径向力/ ^(b) Allowable Radial Force F _{2R}	N	8500											
容许轴向力/ ^(b) Allowable Axle Force F _{2A}	N	7000											
使用寿命/Service Life	h	20000											
效率/Efficient	%	≥95											
使用环境温度/ Use of temperature	°C	-20°C~+40°C											
重量/Weight	kg	11.6											
防护等级/Protection class		IP65											
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil											
噪音/Noise	dB(A)	≤68											
转动惯量/ Rotational inertia J ₁	≤19	kg.cm ²	6.9	5.9	5.4	4.9	4.9	4.4	4.3	4.2	4.2	4.2	4.2
	≤24		7.4	6.4	5.9	5.4	5.4	4.9	4.8	4.7	4.7	4.7	4.7
	≤28		7.9	6.9	6.4	5.9	5.9	5.4	5.3	5.2	5.2	5.2	5.2
	≤35		14.9	13.4	12.9	12.4	12.4	11.5	11.2	11	11	11	11

(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

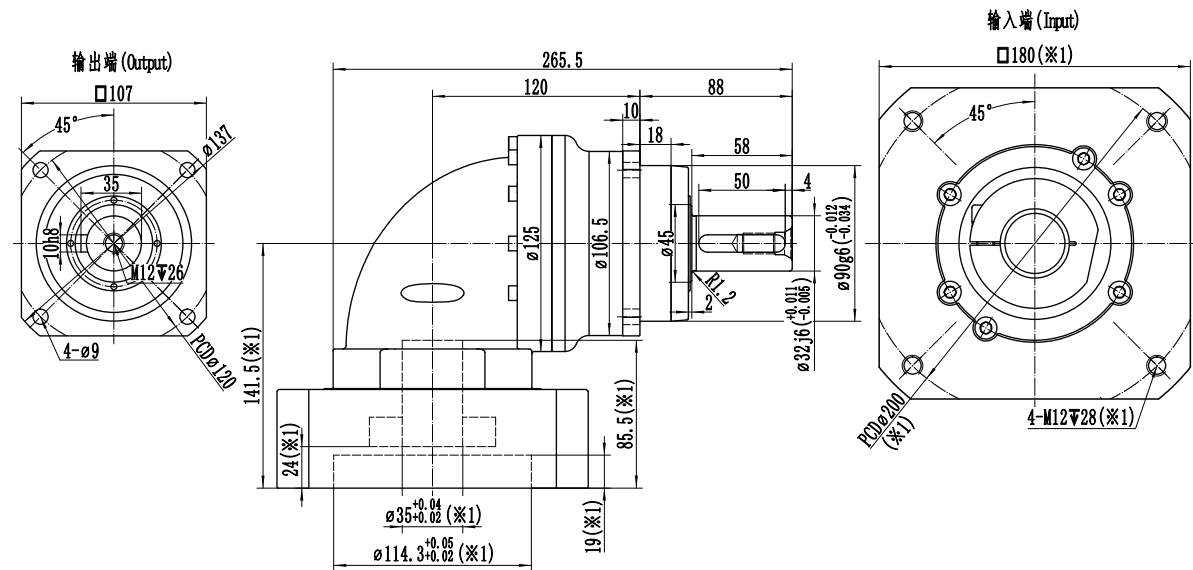
(b) 作用于输出轴中心点/Applied to the center point of the output shaft.

(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※减速机夹紧孔需要开槽键时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要求安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ If Keyway is needed for the clamping bore, please notify in advance;
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WSHR100-2级

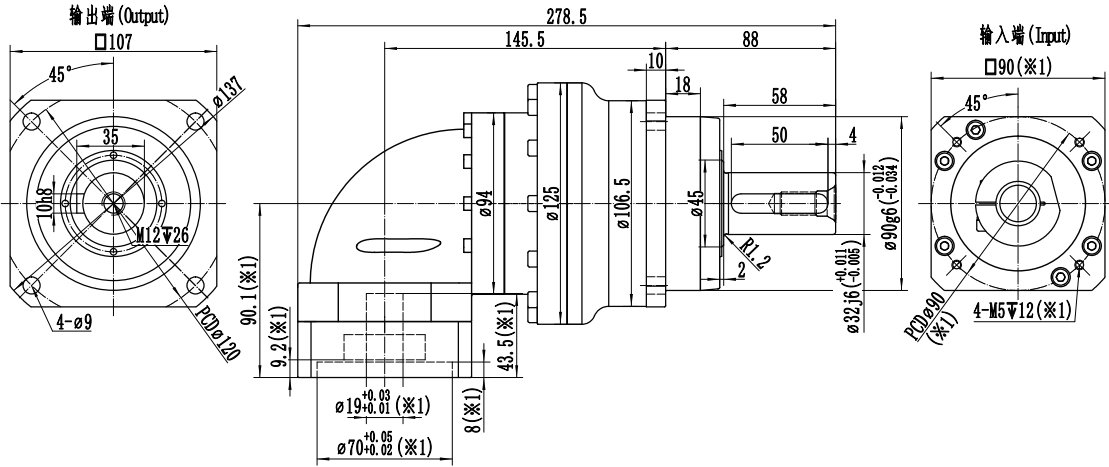
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(a)环境温度超过20°C时,建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

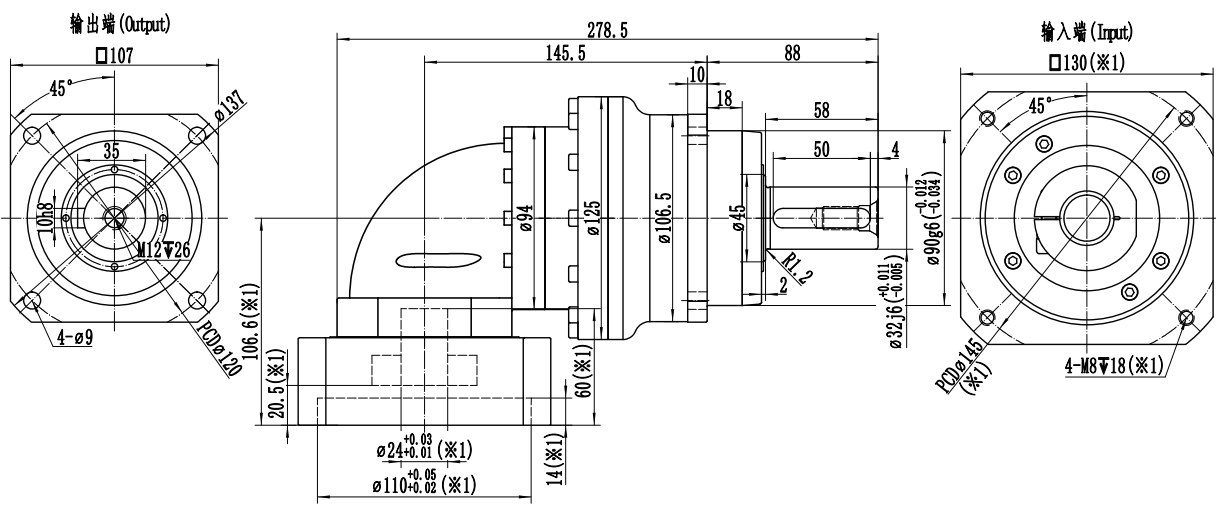
(b)作用于输出轴中心点/Applied to the center point of the output shaft.

(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大19(※2)夹紧孔直径
Max.19(※2)clamping hub's bore diameter



最大24(※2)夹紧孔直径
Max.24(※2)clamping hub's bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

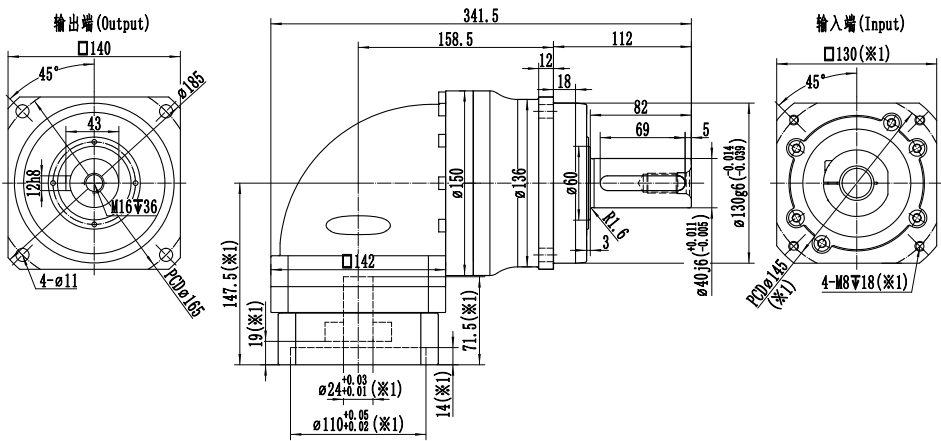
※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※ Please install the motor as requested.

WSHR140-1级

规格/Specification		WSHR140-1级/1-Stage										
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	400	650	650	600	550	650	650	600	550	450	400
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}										
额定输入转速/ ^(a) Rated Input Speed n _{1N}	rpm	2300	2300	2300	2300	2300	2800	2800	2800	2800	2800	2800
最大输入转速/ Max Input Speed n _{1B}	rpm	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500
空载力矩/ No Load Running Torque (n ₁ =3000rpm,20℃,运转2min内)	Nm	5.2	4.3	3.5	3.5	3.5	3	3	3	3	2.9	2.9
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6										
扭转刚性/Torsional rigidity	Nm/arcmin	60										
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	1630										
容许径向力/ ^(b) Allowable Radial Force F _{2R}	N	16000										
容许轴向力/ ^(b) Allowable Axle Force F _{2A}	N	12000										
使用寿命/Service Life	h	20000										
效率/Efficient	%	≥95										
使用环境温度/ Use of temperature	℃	-20℃~+40℃										
重量/Weight	kg	23.6										
防护等级/Protection class		IP65										
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise	dB(A)	≤70										
转动惯量/ Rotational inertia J1	≤24	kg.cm ²	21.5	19	17.5	16.5	16.5	15.3	15	14.8	14.8	14.8
	≤28		22.5	20	18.5	17.5	17.5	16.3	16	15.8	15.8	15.8
	≤35		26.5	23.5	22	21	21	19.8	19.5	19.3	19.3	19.3
	≤42		38	36	35	34	34	32.8	32.5	32.3	32.3	32.3

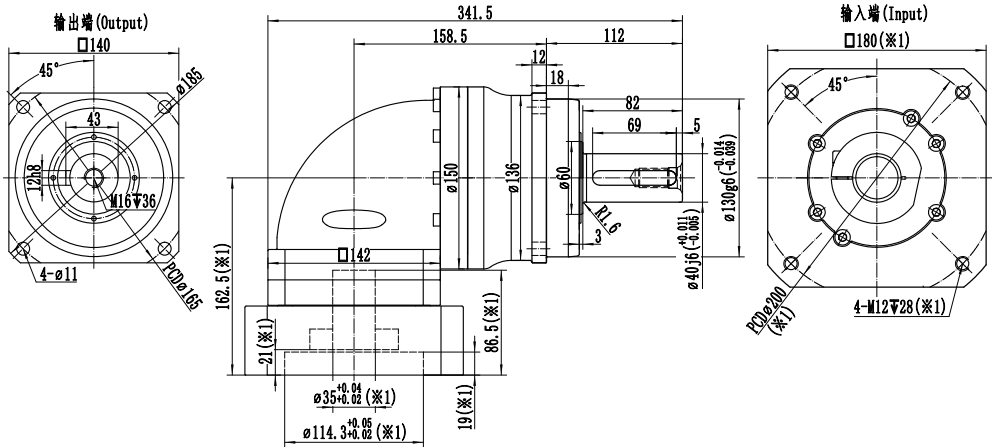
(a)环境温度超过20℃时, 建议适当降低转速使用/When the ambient temperature exceeds 20℃, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制,请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

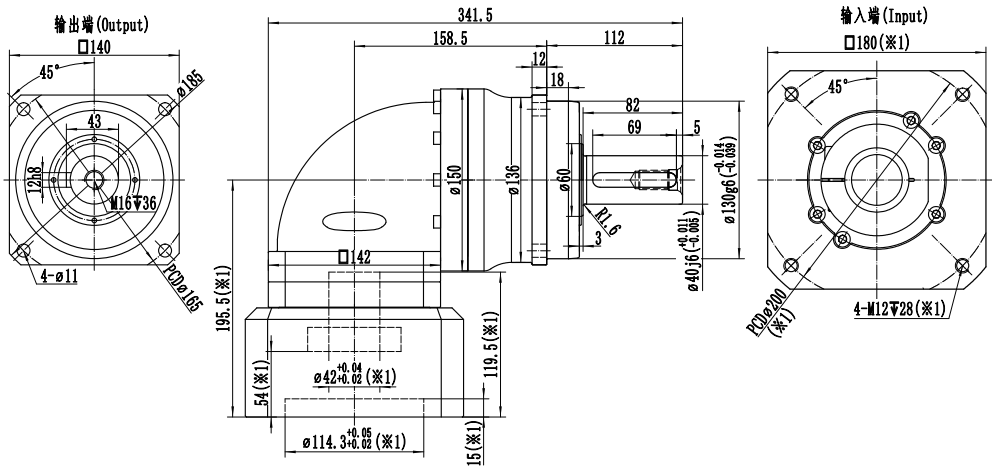


电机轴直径/motor shaft diameter (mm)

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub' s bore diameter



- ※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机
- ※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

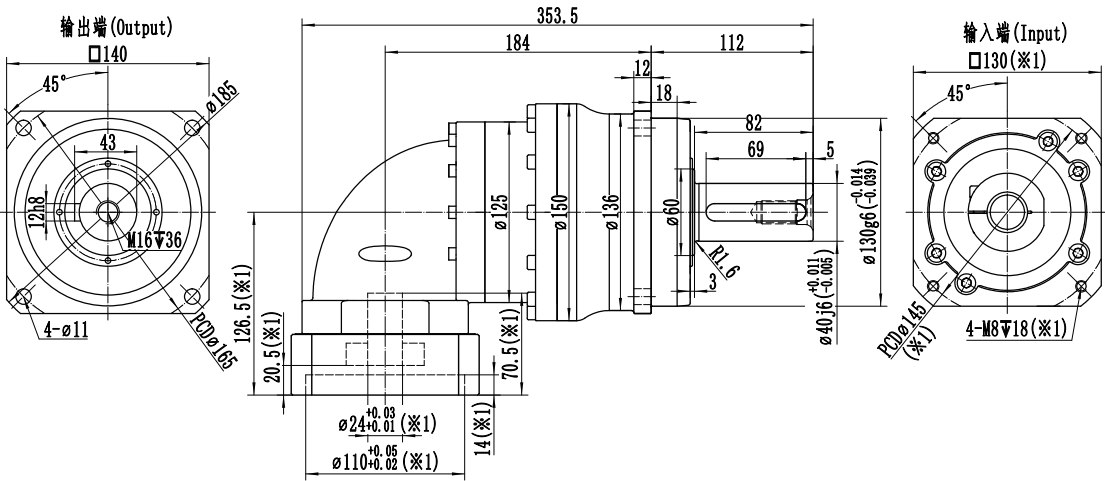
WSHR140-2级

规格/Specification			WSHR140-2级/2-Stage													
减速比/Ratio		单位/Unit	15	25	30	35	40	50	60	70	80	100	120	140	160	200
额定输出扭矩/ Rated Output Torque T _{2N}		Nm	400	650	400	550	650	650	600	550	650	650	600	550	450	400
急停扭矩/ Emergency stop Torque T _{2NOT}		Nm	3倍额定输出力矩 (允许1000次)/3 Times T _{2N}													
额定输入转速/ ^(a) Rated Input Speed n _{1N}		rpm	2800	2800	2800	2800	3300	3300	3300	3300	3300	3300	3300	3300	3300	3300
最大输入转速/ Max Input Speed n _{1B}		rpm	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000	5000
空载力矩/ No Load Running Torque (n1=3000rpm,20℃,运转2min内)		Nm	2	2	1.8	2	1.8	1.8	1.8	1.8	1.7	1.7	1.7	1.7	1.6	1.6
最大背隙/Max Backlash		arcmin	P1≤7 / P2≤9													
扭转刚性/Torsional rigidity		Nm/arcmin	60													
最大侧倾力矩/ Max Tilting Moment M _{2K}		Nm	1630													
容许径向力/ ^(b) Allowable Radial Force F _{2R}		N	16000													
容许轴向力/ ^(b) Allowable Axle Force F _{2A}		N	12000													
使用寿命/Service Life		h	20000													
效率/Efficient		%	≥92													
使用环境温度/ Use of temperature		℃	-20℃~+40℃													
重量/Weight		kg	22.3													
防护等级/Protection class			IP65													
润滑/Lubrication ^(c)			全合成润滑油/Synthetic Lubricating Oil													
噪音/Noise		dB(A)	≤68													
转动惯量/ Rotational inertia J ₁	≤19	kg.cm ²	5.8	5.5	4.7	5.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
	≤24		6.3	6	5	6	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8	4.8
	≤28		6.8	6.5	5.6	6.5	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4	5.4
	≤35		13.3	13	11.5	13	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3	11.3

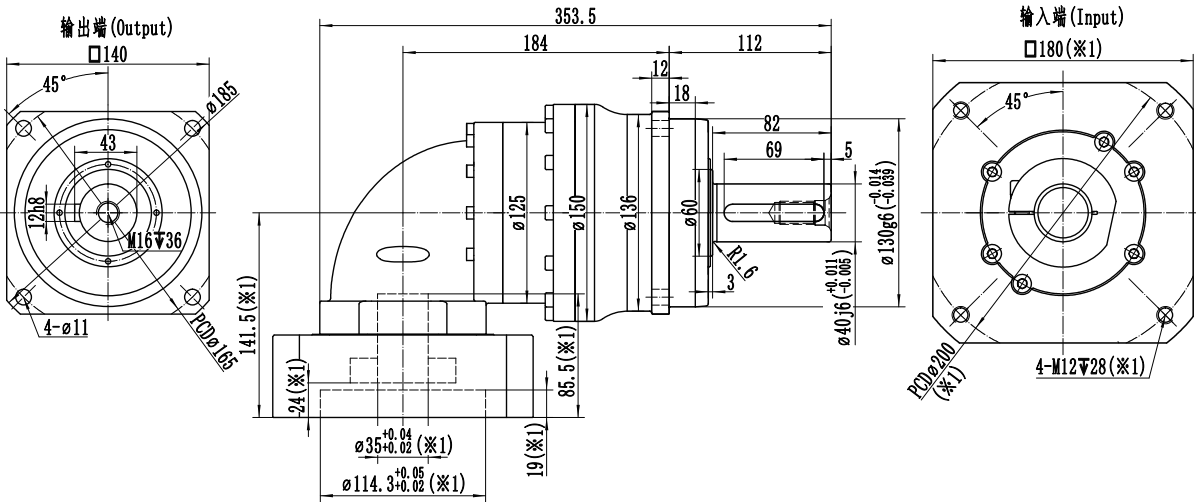
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※减速机夹紧孔需要开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机

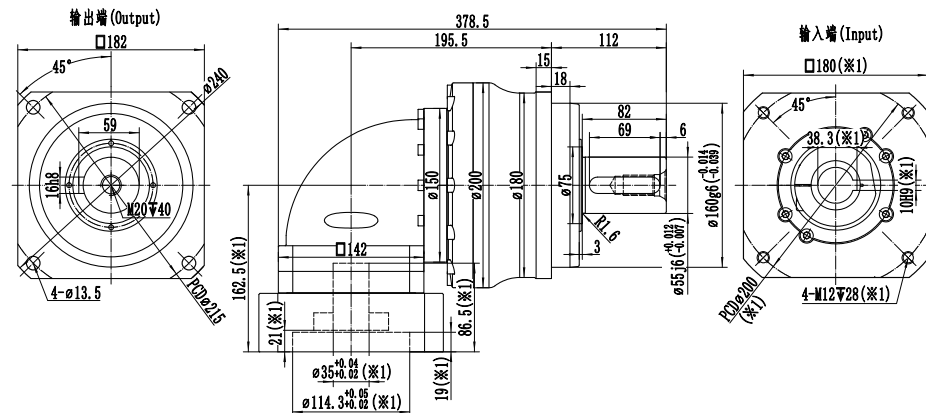
※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※ If Keyway is needed for the clamping bore, please notify in advance;
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSHR180-1级

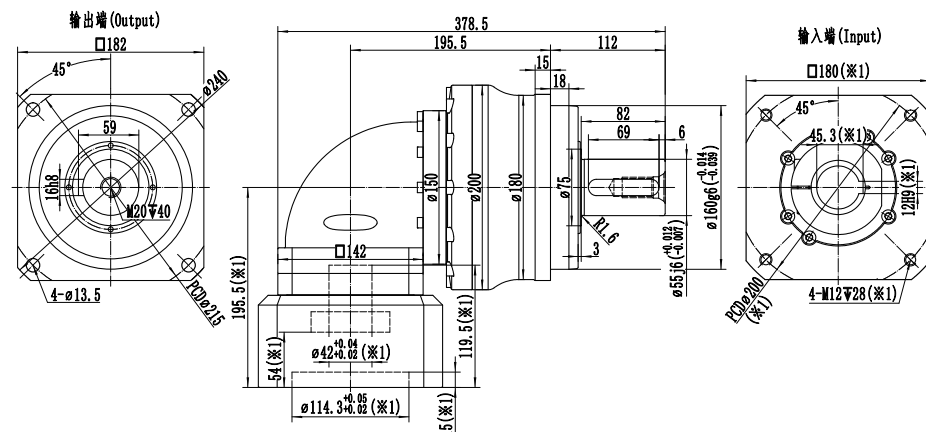
规格/Specification		WSHR180-1级/1-Stage										
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	1000	1400	1400	1100	1000	1400	1400	1100	1000	850	760
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}										
额定输入转速/ ^(a) Rated Input Speed n _{1N}	rpm	2000	2000	2000	2000	2000	2200	2200	2200	2200	2200	2200
最大输入转速/ Max Input Speed n _{1B}	rpm	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500
空载力矩/ No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)	Nm	8.6	7.1	5.7	5.7	4.6	4	4	4	4	3.9	3.9
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6										
扭转刚性/Torsional rigidity	Nm/arcmin	175										
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	3200										
容许径向力/ ^(b) Allowable Radial Force F _{2R}	N	23000										
容许轴向力/ ^(b) Allowable Axle Force F _{2A}	N	19000										
使用寿命/Service Life	h	20000										
效率/Efficienct	%	≥95										
使用环境温度/ Use of temperature	°C	-20°C~+40°C										
重量/Weight	kg	40.5										
防护等级/Protection class		IP65										
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise	dB(A)	≤72										
转动惯量/ Rotational inertia J1	≤28	kg.cm ²	-	-	-	-	-	-	-	-	-	-
	≤35		58	42	37	33	31	29	28.5	28.5	28.5	28.5
	≤42		69	53	48	44	42	40	39.5	39.5	39.5	39.5
	≤55		-	-	-	-	-	-	-	-	-	-

(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b)作用于输出轴中心点/Applied to the center point of the output shaft.
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

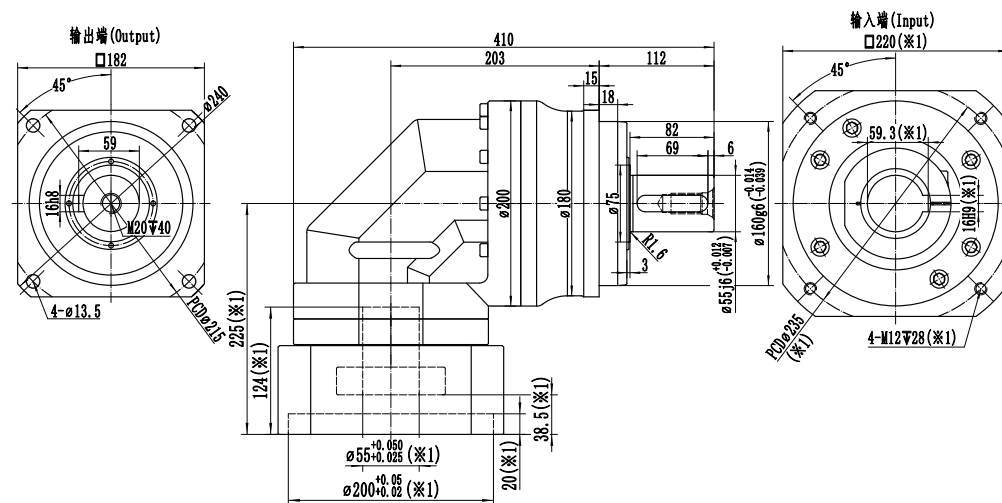
最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※WSHR180减速机,夹紧孔默认开键槽,无需开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要安装电机

- ※1: Dimension will vary with the motor size ;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ WSHR180 gearbox: Default keyway on input shaft. Please notify if not needed.
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

电机轴直径/motor shaft diameter (mm)

WSHR180-2级

[illegible]

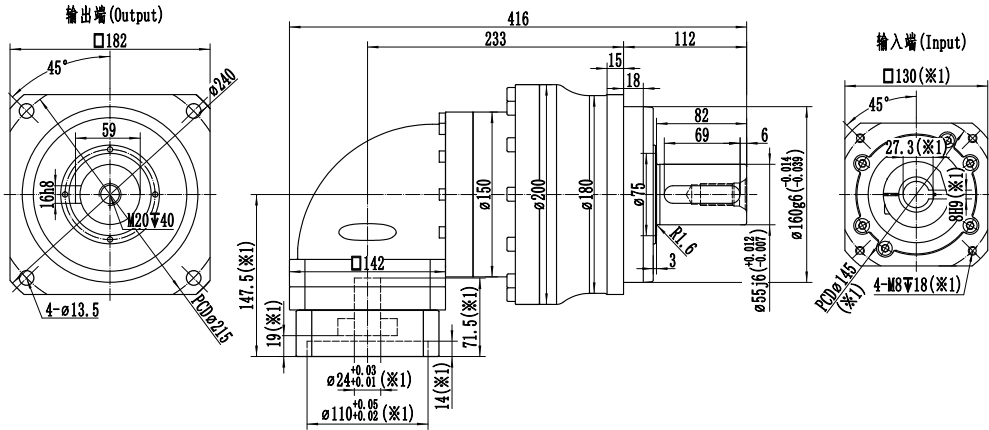
(a)环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b) 作用于输出轴中心点 / Applied to the center point of the output shaft.

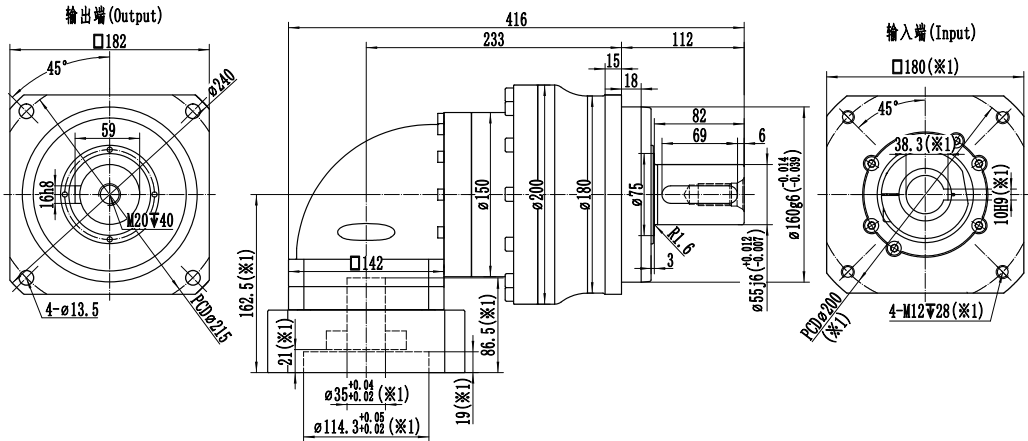
(c)要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大24(※2)夹紧孔直径
Max.24(※2)clamping hub' s bore diameter

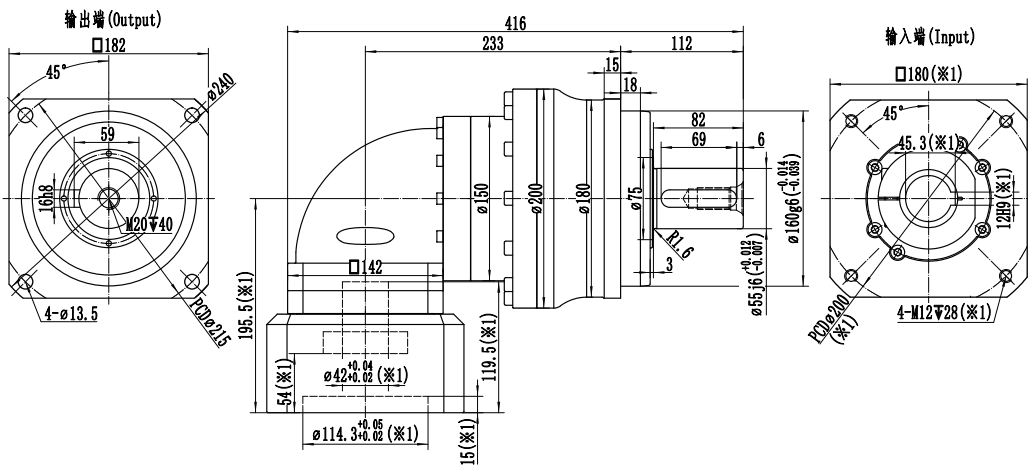
电机轴直径/motor shaft diameter (mm)



最大35(※2)夹紧孔直径
Max.35(※2)clamping hub' s bore diameter



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub' s bore diameter



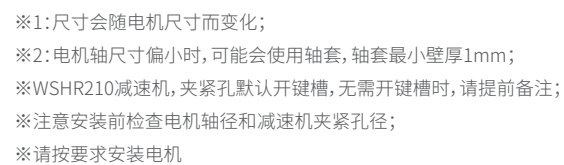
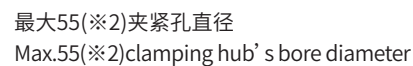
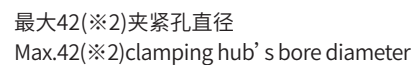
- ※1: 尺寸会随电机尺寸而变化;
※2: 电机轴尺寸偏小时, 可能会使用轴套, 轴套最小壁厚1mm;
※WSHR180减速机, 夹紧孔默认开键槽, 无需开键槽时, 请提前备注;
※注意安装前检查电机轴径和减速机夹紧孔径;
※请按要求安装电机
- ※1: Dimension will vary with the motor size;
※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
※WSHR180 gearbox: Default keyway on input shaft. Please notify if not needed.
※Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
※Please install the motor as requested.

WSHR210-1级

规格/Specification		WSHR210-1级/1-Stage										
减速比/Ratio	单位/Unit	3	4	5	6	7	8	10	12	14	16	20
额定输出扭矩/ Rated Output Torque T _{2N}	Nm	1800	2400	2400	1950	1700	2400	2400	1950	1700	1450	1350
急停扭矩/ Emergency stop Torque T _{2NOT}	Nm	3倍额定输出力矩 (允许1000次) /3 Times T _{2N}										
额定输入转速/ Rated Input Speed n _{1N}	rpm	1500	1500	1500	1500	1500	1500	1800	1800	1800	1800	1800
最大输入转速/ Max Input Speed n _{1B}	rpm	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
空载力矩/ No Load Running Torque (n ₁ =2000rpm,20°C,运转2min内)	Nm	13.5	13.5	11	11	11	9	9	9	9	7.5	7.5
最大背隙/Max Backlash	arcmin	P1≤4 / P2≤6										
扭转刚性/Torsional rigidity	Nm/arcmin	410										
最大侧倾力矩/ Max Tilting Moment M _{2K}	Nm	5300										
容许径向力/ Allowable Radial Force F _{2R}	N	30000										
容许轴向力/ Allowable Axle Force F _{2A}	N	24000										
使用寿命/Service Life	h	20000										
效率/Efficient	%	≥95										
使用环境温度/ Use of temperature	°C	-20°C~+40°C										
重量/Weight	kg	70.5										
防护等级/Protection class		IP65										
润滑/Lubrication ^(c)		全合成润滑油/Synthetic Lubricating Oil										
噪音/Noise	dB(A)	≤74										
转动惯量/ Rotational inertia J1	≤28	kg.cm ²	-	-	-	-	-	-	-	-	-	-
	≤35		87	72	67	62	62	57	52	52	52	52
	≤42		107	92	87	82	82	77	72	72	72	72
	≤55		135	120	115	110	110	105	100	100	100	100

(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.
(b) 作用于输出轴中心点 /Applied to the center point of the output shaft.
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系 /If it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

电机轴直径/motor shaft diameter (mm)



- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ WSHR210 gearbox: Default keyway on input shaft. Please notify if not needed.
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

[illegible]

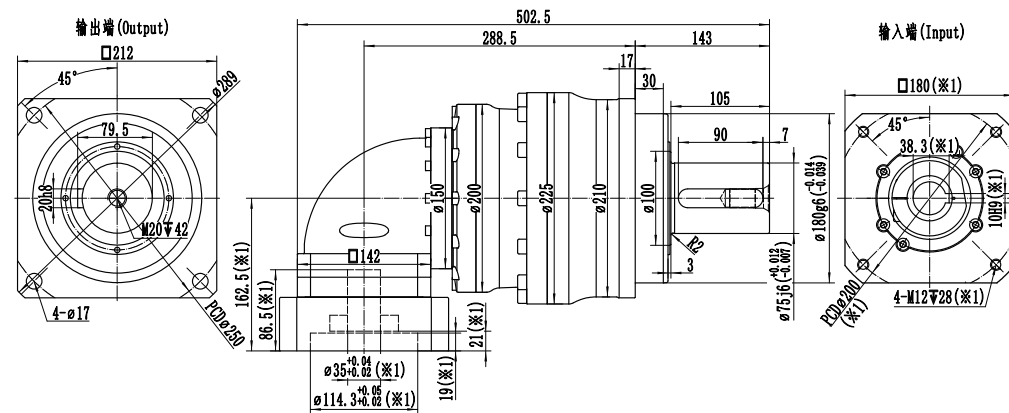
(a) 环境温度超过20°C时, 建议适当降低转速使用/When the ambient temperature exceeds 20°C, it is recommended to reduce the rotational speed appropriately for use.

(b) 作用于输出轴中心点/Applied to the center point of the output shaft.

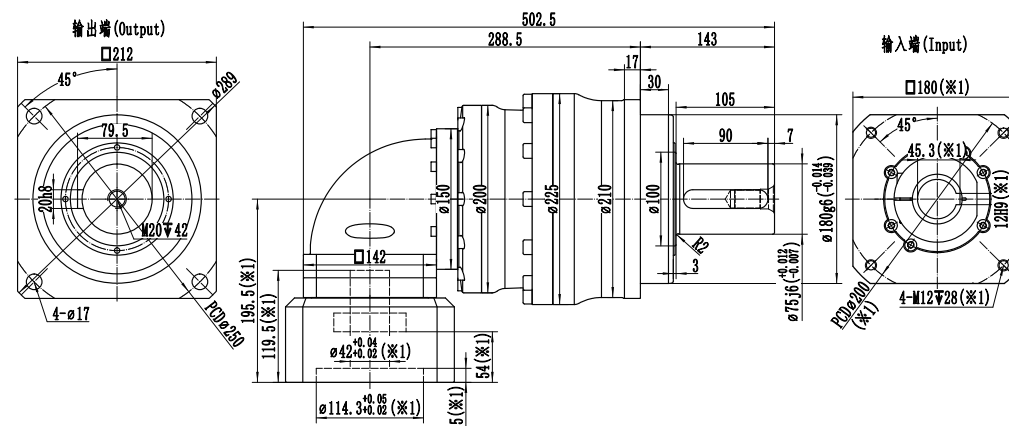
(c) 要求改为润滑脂时, 不适合S1连续工作制, 请与我们联系/if it is not suitable for continuous S1 operation mode and need change grease lubrication, Please contact us for further information.

最大35(※2)夹紧孔直径
Max.35(※2)clamping hub's bore diameter

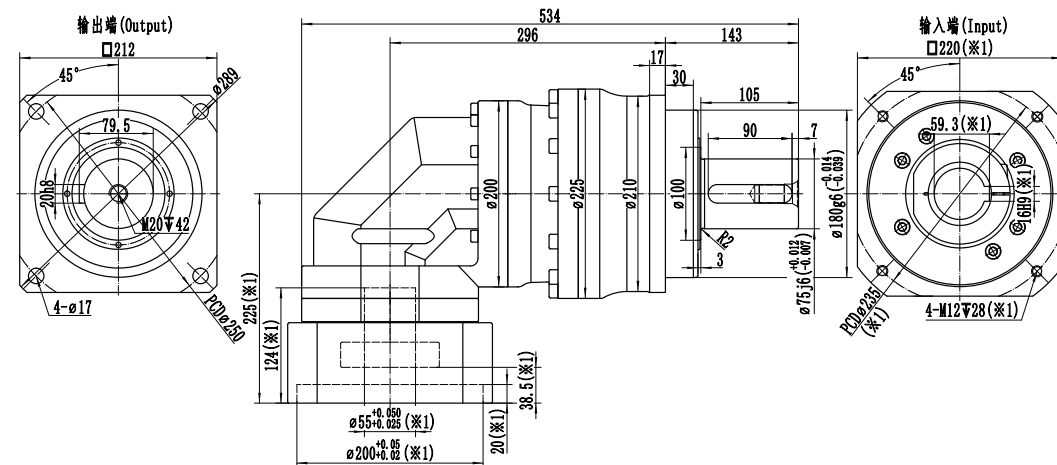
电机轴直径/motor shaft diameter (mm)



最大42(※2)夹紧孔直径
Max.42(※2)clamping hub's bore diameter



最大55(※2)夹紧孔直径
Max.55(※2)clamping hub's bore diameter



- ※1:尺寸会随电机尺寸而变化;
- ※2:电机轴尺寸偏小时,可能会使用轴套,轴套最小壁厚1mm;
- ※WSHR210减速机,夹紧孔默认开键槽,无需开键槽时,请提前备注;
- ※注意安装前检查电机轴径和减速机夹紧孔径;
- ※请按要安装电机

- ※1: Dimension will vary with the motor size;
- ※2: If the motor shaft diameter is undersized, a bushing with a minimum thickness of 1 mm may be used;
- ※ WSHR210 gearbox: Default keyway on input shaft. Please notify if not needed.
- ※ Pay attention to the motor shaft diameter and reducer input clamping diameter before installation;
- ※ Please install the motor as requested.

输出齿轮 Output Pinion

FEATURES

产品特点

与WTH高刚性减速机配套使用
Apply with the high rigidity WTH series planetary gearboxes

- » 高精度设计, 可在应用中提供最佳动力传输、出色的运行和精度
 - » 较大的分度圆直径, 确保在较低的输入转速下, 获得较高的运动速度
 - » 适合于轴向尺寸极紧凑型的环境
 - » 可拆解结构、适合后期更换维护
-
- » High-precision design provides optimal power transfer, excellent operation and accuracy in applications.
 - » Large pitch circle diameter ensures high movement velocity even at low input speeds.
 - » Suitable for conditions require extremely compact axial dimensions.
 - » Detachable structure, suitable for replacement and maintenance.

与WSH高刚性减速机配套使用
Apply with the high rigidity WSH series planetary gearboxes

- » 经过优化设计的啮合几何形状, 实现精准传动
 - » 较小的分度圆直径, 确保较低的扭矩下, 获得较高的推力, 实现最高线性刚度
 - » 与输出轴过盈热压配合, 辅助键槽的加固连接, 可提供过载保护
 - » 可靠的配合工艺, 确保整个工作寿命内齿轮无松动
-
- » Optimized tooth profile for precise transmission;
 - » Small pitch circle diameter ensures higher thrust and maximum linear stiffness at low torque;
 - » By thermal pressing and interference fitting with the output shaft, along with reinforced connection through an auxiliary keyway, it can provide overload protection;
 - » Reliable matching process ensures that the pinion will not loosen throughout its lifespan.

工厂装配/Factory assembly

我们提供的所有齿轮,均为工厂加工、装配。

这可以为您带来以下益处：

※通过 100% 的最终检查,确保经过测试的质量

※最高的装配质量和工作可靠性,可避免潜在的风险

※齿轮预先安装在减速机上,可快速地组装在设备里,由此节省了额外的安装工作

All pinions we provide are processed and assembled by our own factory.

This can bring you the following benefits:

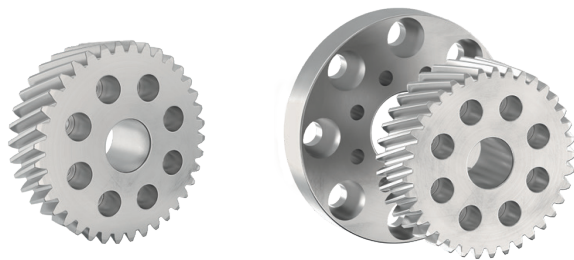
※100% full inspection ensure their quality;

※Highest assembly quality and working reliability to avoid potential risks;

※The pinions are pre-installed on the reducer and can be quickly assembled thus saving additional installation work.

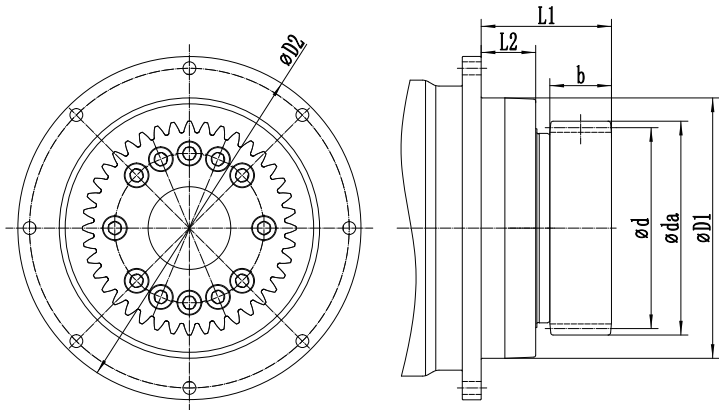
WTH系列输出斜齿轮
WTH series output helical pinion

斜齿齿轮/Helical Pinion
螺旋角/Spiral angle β =-19.5283°(左旋/Left-handed)
压力角/Pressure angle α =20°
精度等级/Precision level: GB/T 10095-2008 5级
齿厚公差/The gear thickness tolerance: e24
渗碳淬火、齿面磨削/carburizing and quenching, gear grinding



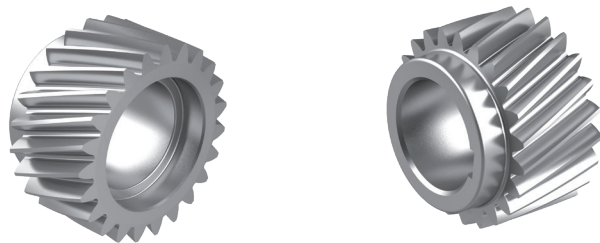
减速机规格 Specification	模数 Modulus m mm	齿数 No. of gear z	齿宽 Gear width b mm	齿顶圆 直径 Addendum circle diameter da mm	分度圆 直径 Pitch circle diameter d mm	变位 系数 Modification coefficient x mm	定心 直径 Centering diameter D1g6 mm	输出轴 总长 Output shaft length L1 mm	定心凸 台高度 Centering boss height L2 mm	法兰 直径 Flange diameter D2 mm	进给 常量 Feed constant d*π mm	最大 扭矩 Max. torque T2B Nm	最大 驱动力 Max. force F2T N
WTH/WTHR064	2	26	26	61	55.174	0.4	64	45.5	16.5	86	173.334	36	1287
WTH/WTHR090	2	29	26	66.9	61.54	0.3	90	66	24	118	193.334	67	2174
	2	33	26	75.4	70.028	0.3	90	56	24	118	220	82	2348
	2	37	26	83.9	78.517	0.3	90	56	24	118	246.667	91	2317
WTH/WTHR110	2	35	26	79.7	74.272	0.3	110	65	23	145	233.334	140	3770
	2	40	26	90.3	84.883	0.3	110	55	23	145	266.667	170	4000
	2	45	26	100.6	95.493	0.22	110	55	23	145	300	191	4000
WTH/WTHR140	3	31	31	106.7	98.676	0.3	140	82	32	179	310	488	9882
	3	35	31	119.4	111.409	0.3	140	69	32	179	350	603	10817
	3	40	31	135.3	127.324	0.3	140	69	32	179	400	673	10575
WTH/WTHR200	4	38	41	171.4	161.277	0.25	200	91	41.5	247	506.667	1600	19842

※技术数据基于负载每小时最多循环 1000 次
※不建议超出最大扭矩使用
※Technical data based on load up to max 1000 cycles per hour
※It's not recommended to exceed the maximum torque.



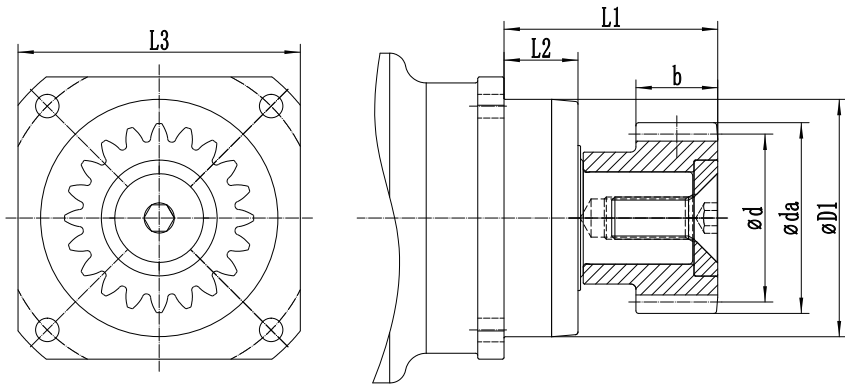
WSH系列输出斜齿轮
WSH series output helical pinion

斜齿齿轮/Helical Pinion
螺旋角/Spiral angle β =-19.5283°(左旋/Left-handed)
压力角/Pressure angle α =20°
精度等级/Precision level: GB/T 10095-2008 5级
齿厚公差/The gear thickness tolerance: e25
渗碳淬火、齿面磨削/carburizing and quenching, gear grinding



减速机规格 Specification	模数 Modulus m mm	齿数 No. of gear z	齿宽 Gear width b mm	齿顶圆 直径 Addendum circle diameter da mm	分度圆 直径 Pitch circle diameter d mm	变位 系数 Modification coefficient x mm	定心 直径 Centering diameter D1g6 mm	输出轴 总长 Output shaft length L1 mm	定心凸 台高度 Centering boss height L2 mm	法兰 直径 Flange diameter D2 mm	进给 常量 Feed constant d*π mm	最大 扭矩 Max. torque T2B Nm	最大 驱动力 Max. force F2T N
WSH/WSHR060	2	15	26	38	31.831	0.5	60	48	18	62	100	35	2183
	2	16	26	40.2	33.953	0.5	60	48	18	62	106.667	36	2122
	2	18	26	44	38.197	0.4	60	48	18	62	120	40	2100
WSH/WSHR075	2	18	26	44	38.197	0.4	70	56	18	76	120	59	3096
	2	20	26	48.3	42.441	0.4	70	56	18	76	133.334	65	3065
	2	22	26	52.5	46.686	0.4	70	56	18	76	146.667	71	3036
WSH/WSHR100	2	23	26	54.6	48.808	0.4	90	64	28	107	153.334	130	5300
	2	25	26	58.8	53.052	0.4	90	64	28	107	166.667	141	5300
	2	27	26	62.7	57.296	0.3	90	64	28	107	180	151	5300
WSH/WSHR140	3	20	31	72.3	63.662	0.4	130	81	27	140	200	303	9500
	3	22	31	78.6	70.028	0.4	130	81	27	140	220	333	9500
	3	24	31	85	76.394	0.4	130	81	27	140	240	363	9500
WSH/WSHR180	4	20	41	96.3	84.883	0.4	160	84	27	182	266.667	573	13500
WSH/WSHR210	4	25	41	117	106.103	0.34	180	103	35	212	333.334	902	17000

※技术数据基于负载每小时最多循环 1000 次
※不建议超出最大扭矩使用
※Technical data based on load up to max 1000 cycles per hour
※It's not recommended to exceed the maximum torque.



减速机的安装与使用

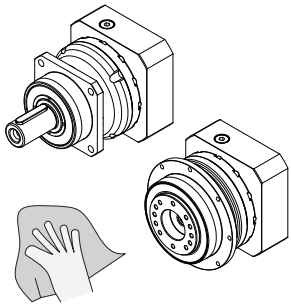
Installation

减速机如由贵司安装, 请遵守以下要求
Please comply with the following requirements when installation

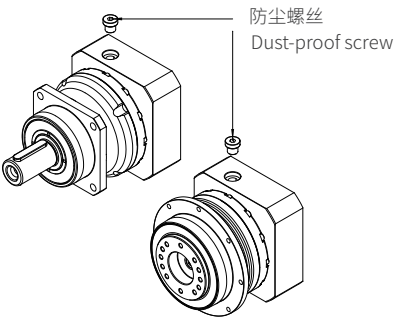
行星减速机马达安装法兰部的尺寸因伺服马达而异, 有可能无法安装指定的伺服马达。(请务必安装订购时所指定的伺服马达。) 伺服马达的输出轴可能涂有防锈剂等。

The dimension of the adapter on the planetary gearbox differs depending on the servo motor, so please make sure to install the servo motor specified at the time of purchase. The output shaft of the servo motor may be coated with rust inhibitor, etc.

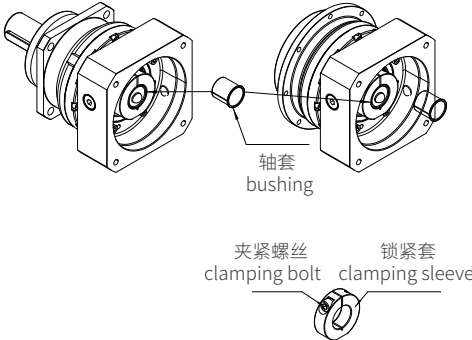
1 将马达轴安装面的防锈剂、油等擦拭干净。
Wipe the rust inhibitor, oil, and other substances off the motor shaft mounting surface.



2 取下塞子。
Remove the plug

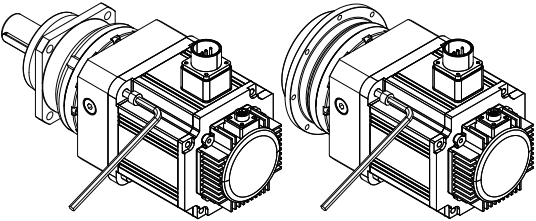


3 转动输入轴, 使加紧螺栓等头部对准塞孔。此时请确认加紧螺栓处于松弛状态。将减速机垂直放置于平整场所, 使减速机的马达安装面朝上。(如有轴套, 请按图示进行安装。)
Rotate the input shaft to align the head of the clamping bolt with the plug hole, and please confirm that the clamping bolt is in a relaxed state. Place the reducer vertically in a flat place, with the motor installation surface of the reducer facing upwards. (If there is a bushing, please install it according to the diagram)



4 请将马达轴缓缓地插入输入轴中以免造成撞击, 确认马达法兰面与减速机法兰面紧贴。按规定的紧固扭矩紧固马达安装螺栓。(参见表3)

Please slowly insert the motor shaft into the input shaft to avoid impact, and confirm that the motor flange surface is tightly attached to the reducer flange surface. Tighten the motor mounting bolts according to the specified tightening torque. (Refer to Table 3)



5 使用扭矩扳手等工具, 按规定的紧固扭矩紧固输入轴的夹紧螺栓。(参见表3)
Use tools such as torque wrench to tighten the clamping bolt of the input shaft according to the specified tightening torque (Refer to Table 3)

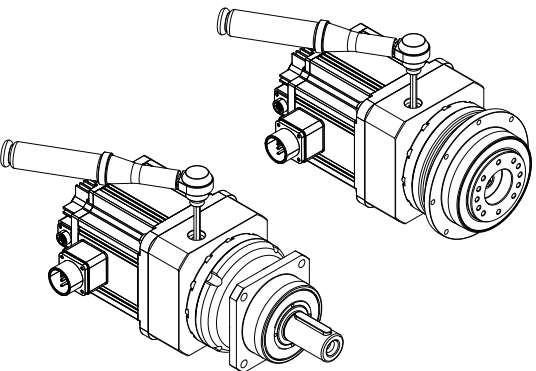
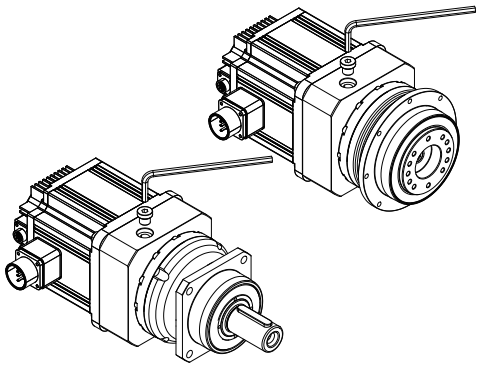


表3 螺栓紧固扭矩
Table 3 Bolt tightening torque

螺栓大小 / Bolt size		M3	M4	M5	M6	M8	M10	M12	M16
马达安装螺栓 Motor mounting bolts	N·m	1.0	2.5	5.1	8.7	21	42	72	134
	kgf·m	0.11	0.26	0.52	0.89	2.1	4.3	7.3	14
夹紧螺栓 Clamping bolt	N·m	1.9	4.3	8.7	15	36	71	125	-
	kgf·m	0.18	0.44	0.89	1.5	3.7	7.2	13	-

6 安装塞子, 至此作业完成。
Install the plug and complete the task



安装与设置

Installation and Setup

- 避免在直接接触雨水的场所使用。(如需在户外或接触粉尘、水滴的场所使用, 请事先向我公司咨询。)
 - 请设置在0~40℃的环境中。
 - 请安装在牢固无振动的台面, 用螺栓等切实固定。安装时, 应保证便于保养和检查。
-
- Avoid using in places that come into direct contact with rainwater. (If you need to use it outdoors or in places that come into contact with dust or water droplets, please consult with Wanshsin in advance.)
 - Please set it in an environment of 0-40 °C.
 - Please install it on a sturdy and vibration free surface, and firmly secure it with bolts, etc.
 - During installation, it should be ensured that it is easy to maintain and inspect.

安装到输出法兰部(限法兰型)

Install to the output flange (flange type only)

- 将装置部件等安装到输出法兰部时, 请使用扭矩扳手等工具按规定的紧固扭矩进行紧固。
- When installing device components, etc. onto the output flange, please use tools such as torque wrenches Tighten according to the specified tightening torque.

螺栓大小\ Bolt size	M3	M4	M5	M6	M8	M10	M12	M16	M20
夹紧螺栓	N·m	1.9	4.3	8.7	15	36	71	125	310
Clamping bolt	kgf·m	0.18	0.44	0.89	1.5	3.7	7.2	13	62

※ 推荐螺栓强度分类12.9级以上

※ Recommended bolt strength classification above grade 12.9

输出轴侧连接

Output shaft side connection

- 在输出法兰型上安装齿轮、皮带轮、链轮等时, 请采用带凸缘的安装设计, 嵌入输出法兰凸缘部。安装时请注意避免施加过大推力载荷。
 - 在输出轴型上安装联轴器、链轮等时, 请注意避免向输出轴施加过大推力载荷。嵌入时不得大力敲击输出轴, 否则会导致轴承与减速机内部受损。
 - 联轴器等部位的轴与键间隙过大会导致烧结, 因此安装时请注意。
 - 连接时请准确定心。
-
- When installing a gear, pulley, sprocket, etc. on the output flange type, please use a flanged installation design, embed it into the output flange's protruding part. Please be careful not to apply excessive thrust load during installation.
 - When installing a coupling, sprocket, etc. on the output shaft type, please be careful not to apply excessive thrust load during installation. Do not forcefully strike the output shaft during embedding, otherwise it cause damage to the bearings and the interior of the gearbox.
 - Pls. be noted that excessive clearance between shafts and keys in coupling and other parts can lead to sintering.
 - Please accurately center when connecting.

开机前的注意事项

Precautions before starting the machine

- 出厂时已按规定量加入润滑油, 因此到货后可直接使用。
 - 首次运转时, 请先确认输出轴的转向, 然后逐渐增加负荷。
-
- It can be used directly after arrival as lubricating oil has been added according to the specified amount.
 - When running for the first time, please confirm the steering of the output shaft first, and then gradually increase the load.

运转中的注意事项

Precautions during operation

- 请注意不得过载。
 - 输出轴的转速不得大于规定转速。
 - 出现以下情况时, 请停机检查。
 - 1、温度突然开始升高。
 - 2、突然发出很大异响。
 - 3、转速突然开始不稳定。
 - 可能的原因如下, 请及时处理。
 - 1、是否处于过载状态?
 - 2、轴承、齿轮、传动面有无损伤?
 - 3、机器连接条件有无异常?
-
- Please be careful not to overload.
 - The speed of the output shaft must not exceed the specified speed.
 - When the following situations occur, please stop the machine for inspection.
 - 1、The temperature suddenly began to rise.
 - 2、Suddenly, there was a loud noise.
 - 3、The speed suddenly began to become unstable.
 - The possible reasons are as follows, please handle them promptly.
 - 1、Is it in an overload state?
 - 2、Are there any damages to the bearings, gears, and transmission surfaces?
 - 3、Are there any abnormalities in the machine connection conditions?

润滑油管理

Lubricant

- 油脂不能更换。
- The lubricating oil cannot be replaced

每日检查

Daily Inspection

- 运作中减速机外壳温度有无异常上升?(最高不大于90℃)
 - 轴承、齿轮等部位有无异响?
 - 减速机有无异常振动?(出现此类异常时, 请立即停机并联系我公司。)
 - 有无润滑油漏油?(出现油脂泄露时, 请联系我公司。)
-
- Is there any abnormal increase in the temperature of the gearbox casing during operation? (Maximum not greater than 90 °C)
 - Are there any abnormal noises in bearings, gears, and other parts?
 - Is there any abnormal vibration in the gearbox? (When such abnormalities occur, please stop the machine immediately and contact our company.)
 - Is there any lubricating oil leakage?(When there is a grease leak, please contact with Wanshsin)

定期检查

Regular Inspection

- 有无过载状态, 有无异常旋转?
 - 皮带轮、链轮、减速机安装螺栓等有无松动?
 - 主要部件的检查与维护。(出现异常现象时, 请立即停机并联系我公司。)
-
- Is there an overload state and abnormal rotation?
 - Is there any looseness in the installation bolts of the pulley, sprocket, and reducer?
 - Inspection and maintenance of main components. (When abnormal phenomena occur, please stop the machine immediately, and contact with Wanshsin)