

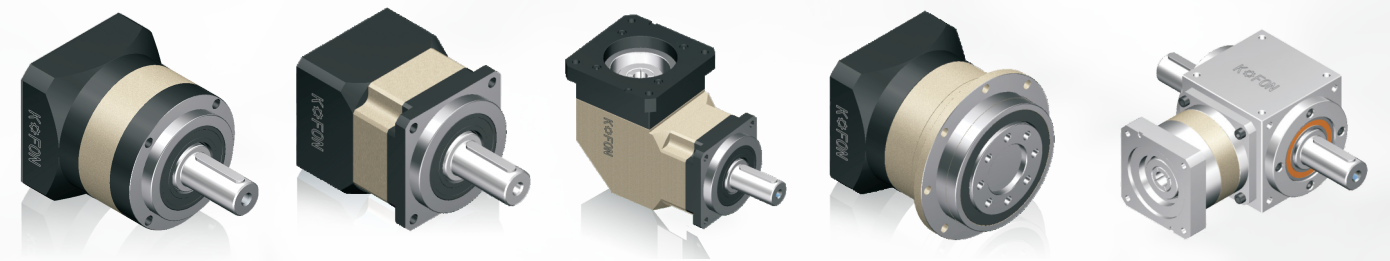
KOFON | 湖北科峰智能传动股份有限公司
科峰智能 | Hubei Kofon Transmission Equipment Co., Ltd

地址: 湖北省黄冈市黄州区中粮大道9号

Add: No. 9 Zhongliang Avenue, Huanggang City, Hubei Province

电话(Tel): 0713 8585866 / 8585868 邮箱(E-mail): info@kofon.com.cn

传真(Fax): 0713 8585911 网址(Web): www.kofon.com.cn



K系列高精度行星减速机

K SERIES HIGH PRECISION PLANETARY GEARBOX



世界领先的精密减速机民族领导品牌

The National Leadership Brand of World's Leading Precision Reducer

The KOFON logo is centered in the upper right quadrant. The letter 'O' is replaced by a gear icon. The logo is surrounded by a complex network of blue lines and circles, resembling a circuit board or a mechanical assembly. Several gear icons of varying sizes are scattered throughout the design, particularly around the central text and along the lines. The overall aesthetic is clean, technical, and modern, using a monochromatic blue color scheme.

KOFON



湖北科峰智能传动股份有限公司坐落于湖北省黄冈市黄冈产业园区内，公司一直专注于机械传动与控制应用领域关键零部件的研发、生产、销售，形成了精密行星减速机、工程机械用行星减速机、谐波减速机、精密零部件、机电一体化产品、及行星滚柱丝杠等其他的系列化产品。

公司装备有国内外的数控车床、加工中心、数控插齿机、数控磨齿机、拉齿机、全自动热处理线等生产加工设备600余台（套），拥有格里森齿轮测量中心、克林贝格齿轮测量中心、蔡司三坐标等先进检测设备。

公司是国家专精特新“小巨人”企业，湖北省智能制造示范单位、湖北省制造业单项冠军企业、湖北省技术创新示范企业、全国和谐劳动关系创建示范企业。

公司产品定位国内外中高端市场，广泛应用于工业机器人、激光切割、智能物流、智能交通、新能源、高端机床、半导体及其他自动化等几十个行业领域，客户遍布四大洲二十多个国家。建立了覆盖全国的营销网络，积极拓展市场渠道，快速有效提高服务水平，提升产品市场占有率，实现产品全生命周期管理。

公司先后成立了传动技术研究院、湖北省工业设计中心、湖北省企业技术中心、湖北省企校联合创新中心等研发平台，从分析计算、结构设计、材料选配、加工工艺、装配到质量检测、品质控制等不断进行改进和完善，使精密行星减速机在输出扭矩、振动噪音、效率、径向和轴向受力、寿命和回程间隙等许多关键指标都处于业内先进水平。公司精密传动检测中心获得全球领先的第三方检测认证机构TüV NORD授予的“CTF客户检测资源实验室”资质。公司拥有授权专利一百余项。

公司高度重视质量管理体系建设，已通过ISO9001质量管理体系认证、ISO14001环境管理体系认证、ISO45001职业健康安全管理体系认证。

制造体系



MANUFACTURING SYSTEM



国际尖端的设备力

The Power of Global Top Equipment

科峰传动已与全球顶尖加工设备供应商达成战略合作关系，生产车间全线引入高端进口精密齿加工及机加工设备，恒温无尘装配车间和恒温精密加工车间设备水平达行业一流水准。

Kofon Motion has reach a strategic cooperation relationship with the global top processing equipment suppliers. Equipped with high-end imported precision machining equipment and constant temperature dust-free machining assembly workshop, Kofon Motion reach the industry-leading level for high precision reducer manufacturing.



系统规范的管控力

The power of Manufacturing System Control

科峰传动已建立从客户需求确认到最终发货确认的全过程的管控流程体系，严格按ISO9001:2008质量体系管控生产，建立ERP数据系统的信息管理体系，所有生产车间现场都严格按照6S标准进行生产管理。

Kofon Motion strictly comply with ISO9001:2008 quality system to control production, set up information management system of ERP data system, all production workshop site in strict accordance with the 6S standards for production management.



追求完美的品质力

The power of Perfect Quality Pursue

科峰传动针对管理层和所有生产工作人员都制定了具体的质量目标，不断优化每个产品工作流程，注重打造产品每个细节。出产的所有部件及产品的生产均可有效追溯。

Kofon Motion set specific quality objectives for management and all production staff, continuously optimize each product work process and focus on creating every detail of the product. Production of all parts and products can be traced effectively.



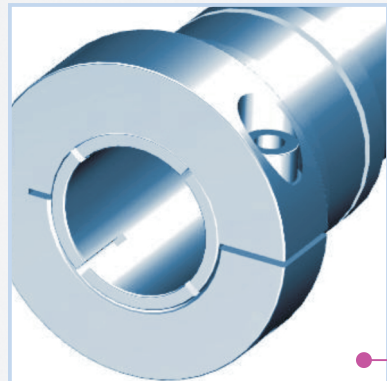
工匠精神的加工力

The Power of Processing Craftsman Spirit

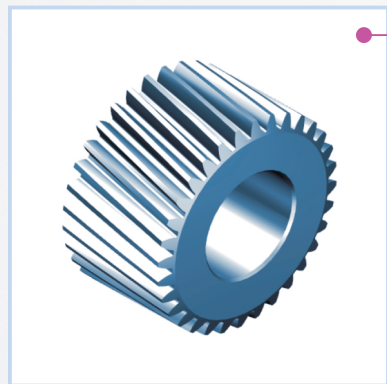
公司引入动力传动领域顶级制造系统专业培训，打造制造团队的匠心和匠手，确保在国际领先设备的硬件前提下，打造软性制造力，实现设备、工艺和制造的完美结合。

Kofon Motion bring in professional training of top manufacturing system in the field of power transmission, constantly create craftsman spirit for manufacturing team to create manufacturing power and achieve the perfect combination of equipment, process and manufacturing.

产品特点 PRODUCT FEATURES



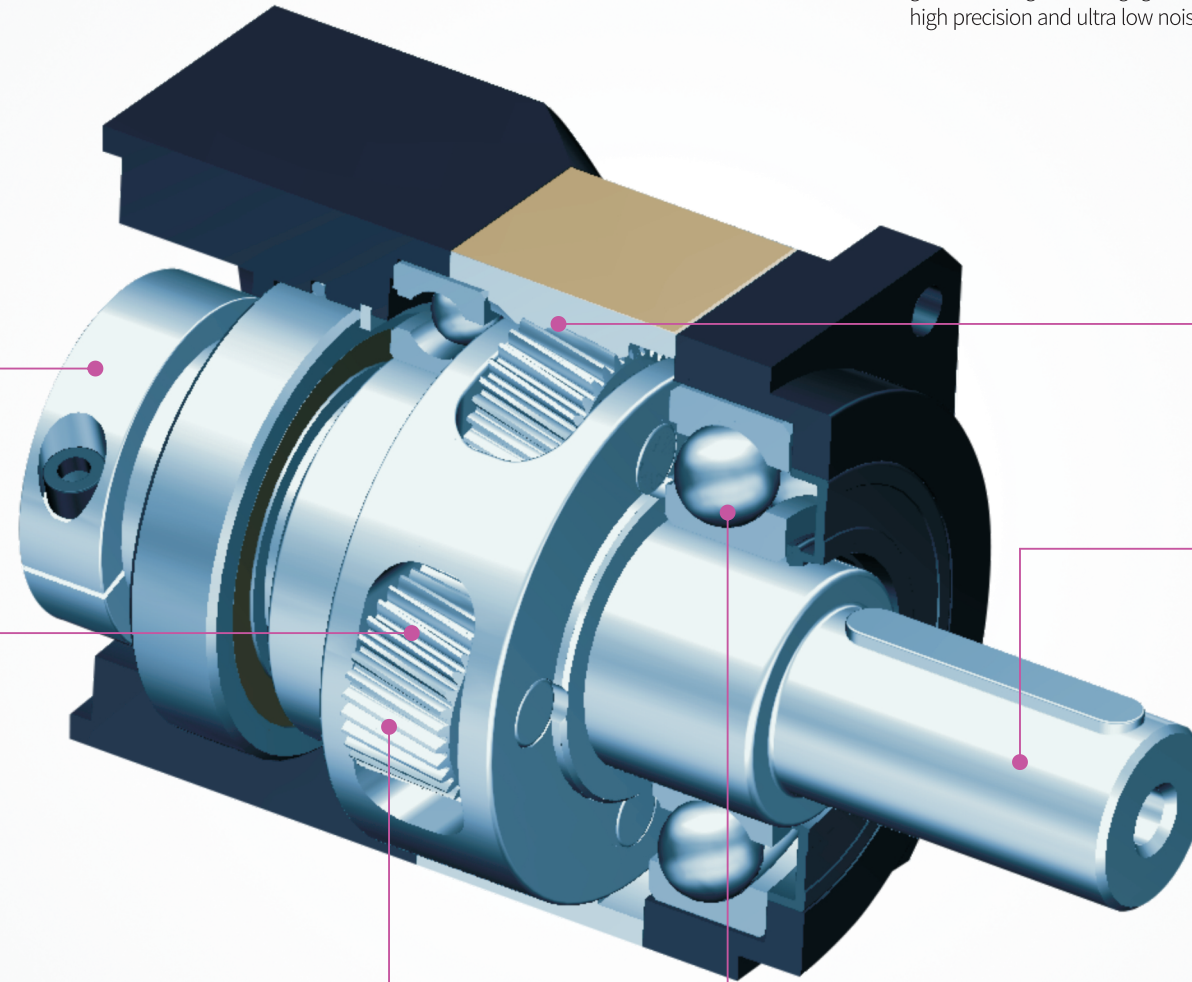
筒式锁紧机构设计, 确保在高输入转速下保证同心度和零侧隙动力传动。
Drum locking mechanism design to ensure the stability of concentricity and power transmission of zero clearance under the high input speed.



齿轮材料选用高级低碳合金锻钢, 经过渗碳淬火之深度硬化处理, 硬度可达到HRC60, 保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

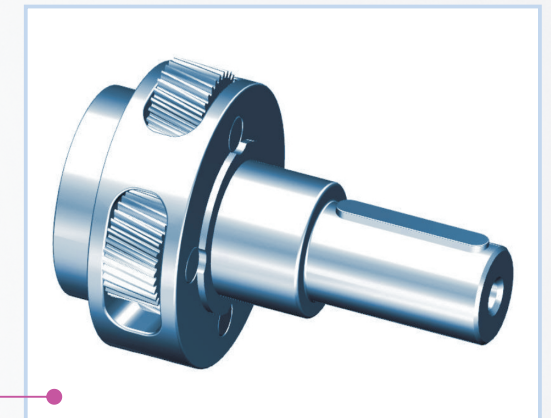
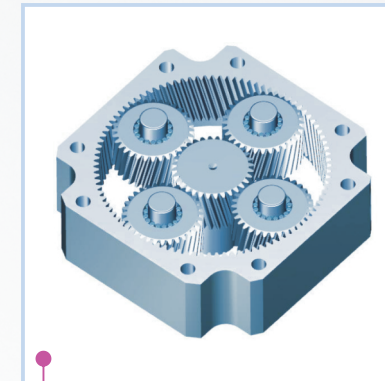
使用顶级超精密机床加工并结合全球领先的磨齿工艺, 齿轮精度可控制在ISO4级以下, 确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

使用合成润滑脂, 并采用IP65防护等级的密封设计, 不泄露免维护。
Using synthetic lubricating grease and the IP65 protection grade seal design, it can not leak and no need to maintain.



采用全新斜齿轮设计及顶级高精磨齿工艺, 大幅提高齿轮啮合度, 保证减速机运行高精度和超低噪音。
Adopts helical gear design and top class high precision gear grinding craft to increase high gear meshing, ensuring gearbox high precision and ultra low noise.

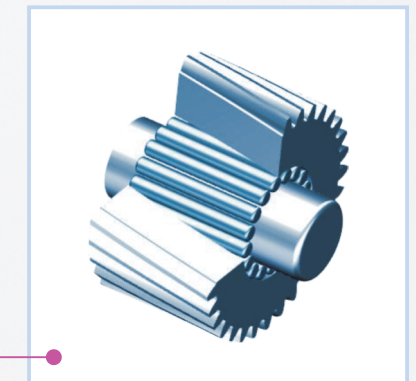
Adopts helical gear design and top class high precision gear grinding craft to increase high gear meshing, ensuring gearbox high precision and ultra low noise.

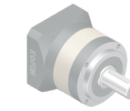


采用笼式行星支架结构, 与输出轴一体式设计, 实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

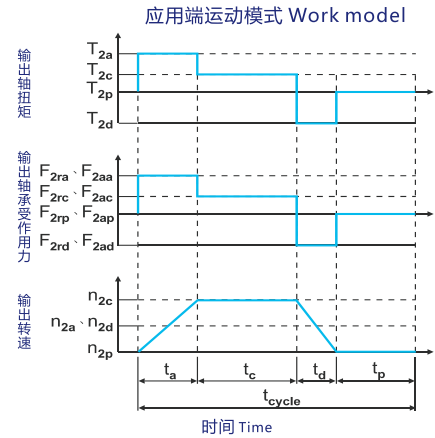
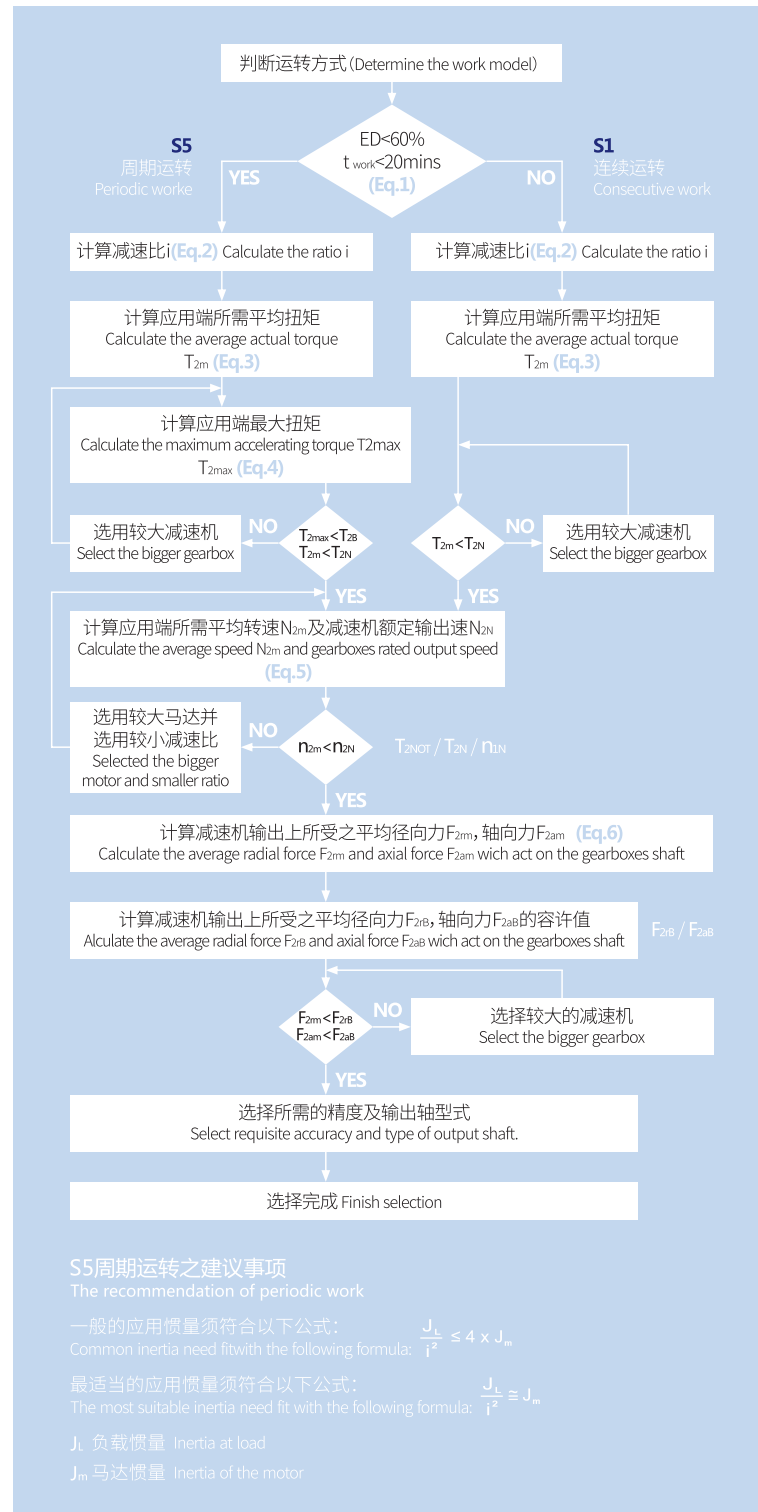
行星轮轴承采用不含保持架之满滚针轴承, 增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

采用重系列轴承设计, 能承受大径向力与轴向力。
With the design of heavy series bearings to withstand the huge radial and axial force.





减速机选型 GEARBOX SELECTION



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

下标说明: a. 加速, c. 等速, explanation: a: accelerated c: constant
d. 减速, p. 停止 d: deceleration p: stop

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

n_m 马达输出速度 Output speed of motor
n_{work} 实际应用速度 Actual speed on work (Eq.2)

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

(Eq.3)

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

K_A 负载系数 Coefficient at load

K _A	周期次数/小时 Periodic times/hour
1.0	0-1,000
1.1	1,000-1,500
1.3	1,500-2,000
1.6	2,000-3,000
1.8	3,000-5,000

T_{mB} 马达最大输出扭矩
The maximum output torque of motor
减速机运转效率
gearbox efficiency on work (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)

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

$$F_{2am} = \sqrt[3]{\frac{n_{2a} \times t_a \times F_{2aa}^3 + n_{2c} \times t_c \times F_{2ac}^3 + n_{2d} \times t_d \times F_{2ad}^3}{n_{2a} \times t_a + n_{2c} \times t_c + n_{2d} \times t_d}}$$

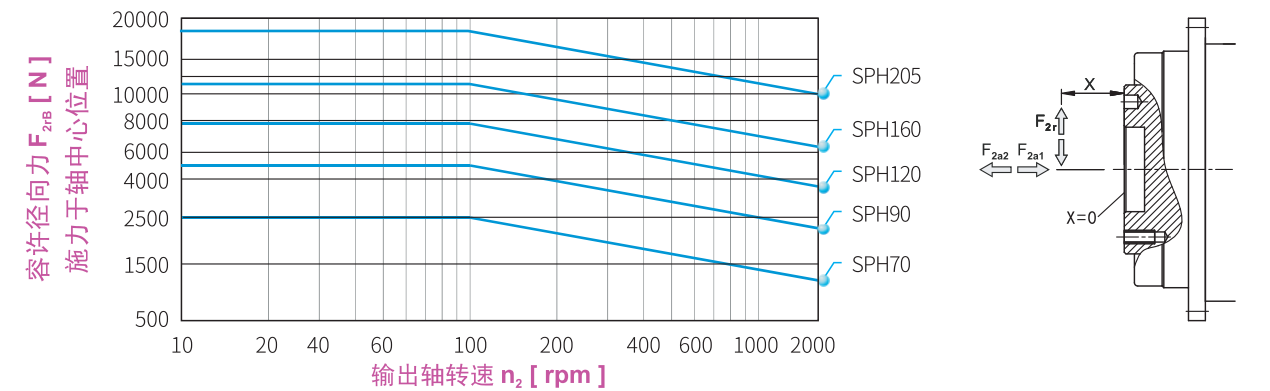
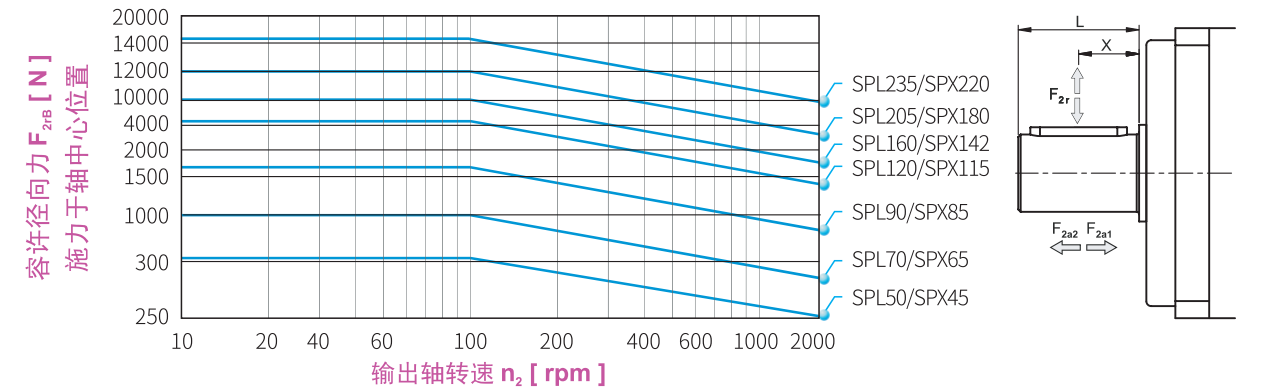
(Eq.6)

减速机输出轴容许的径向力和轴向力

Permissible Radial Force and Axial Force of Gearbox Output Shaft

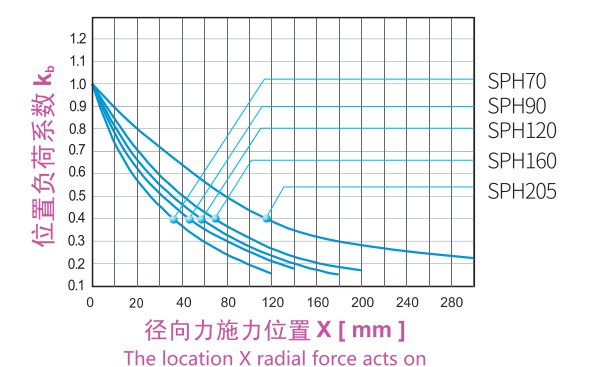
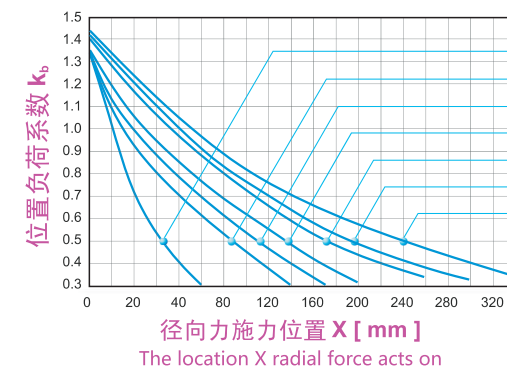
当径向力F_{2r}施力在输出轴中心位置时即X=1/2L(SPH系列X=0), 不同规格的减速机在不同的输出转速使用下, 使用寿命为20000hr时所能承受的径向力F_{2rB}, 请参照下图。

Please consult the left picture to find the right permissible radial force F_{2rB}, when gearbox with 20000hr, using life works at different output speed on the condition that radial force F_{2r} acts on the middle of the output shaft, X=1/2L(SPH series X=0).



当径向力F_{2r}施力不在输出轴中心位置时, 越靠近减速机即X<1/2L, 所容许的径向力变大, 远离则相反。如下图, 依减速机规格及径向施力位置X, 查出位置负荷系数K_b。

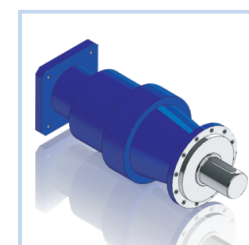
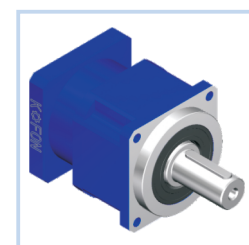
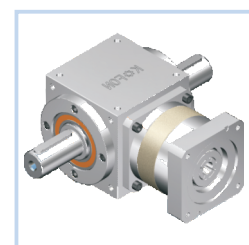
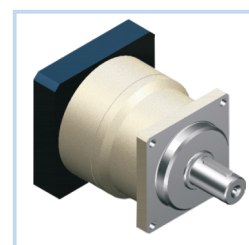
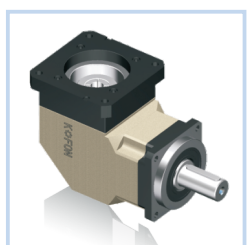
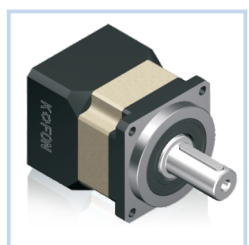
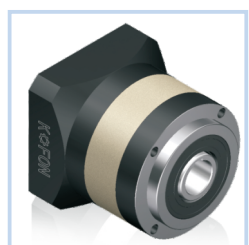
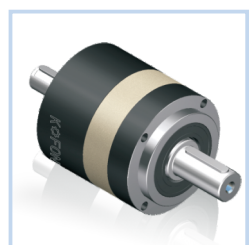
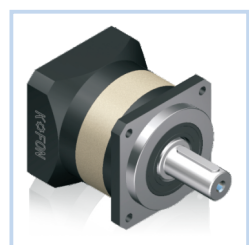
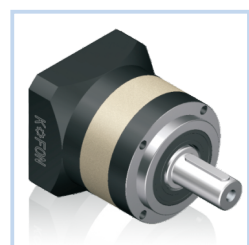
The gearbox permissible radial force is bigger when radial force is closer to gearbox (X<1/2L) on the condition that radial force F_{2r} is not at the middle of the shaft. Under the same condition you can consult the left picture to find the locational coefficient at load K_b by the specification of gearbox and the location X radial force acts on.



说明 / Description:
SPL、SPLH、SPLS、SPLF、SVX 径向力和轴向力速度和位置系数同 SPL、SPX。
The SPL、SPLH、SPLS、SPLF、SVX radial force and axial force coefficient of speed and position with the SPL、SPX.

目录

CONTENTS



KPL

KPLF

KPLS

KPLN

KPX

KVX

KPH

KPG

KT

PX

PW

KPL
系列行星减速机
KPL SERIES SERVO
PLANETARY GEARBOX

KPLF
系列行星减速机
KPLF SERIES SERVO
PLANETARY GEARBOX

KPLS
系列行星减速机
KPLS SERIES SERVO
PLANETARY GEARBOX

KPLN
系列行星减速机
KPLN SERIES SERVO
PLANETARY GEARBOX

KPX
系列行星减速机
KPX SERIES SERVO
PLANETARY GEARBOX

KVX
系列行星减速机
KVX SERIES SERVO
PLANETARY GEARBOX

KPH
系列行星减速机
KPH SERIES SERVO
PLANETARY GEARBOX

KPG
系列行星减速机
KPG SERIES SERVO
PLANETARY GEARBOX

KT
系列行星减速机
KT SERIES SERVO
PLANETARY GEARBOX

PX
系列行星减速机
PX SERIES SERVO
PLANETARY GEARBOX

PW
系列行星减速机
PW SERIES SERVO
PLANETARY GEARBOX

15

19

23

27

31

36

40

44

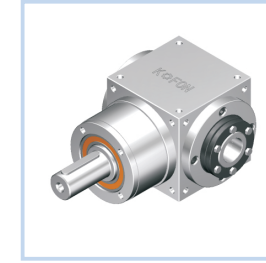
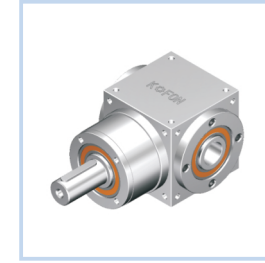
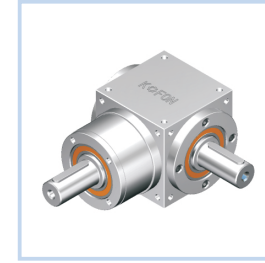
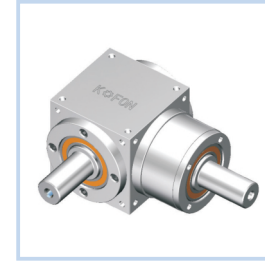
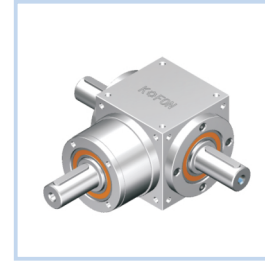
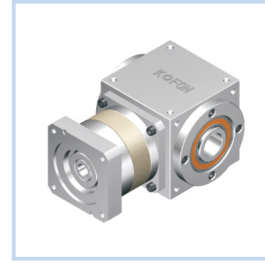
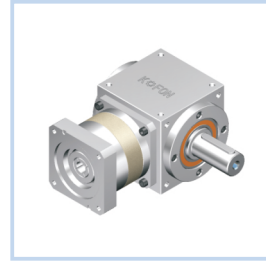
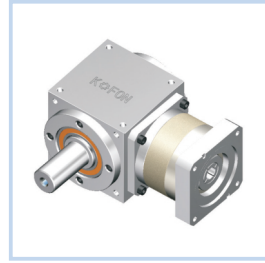
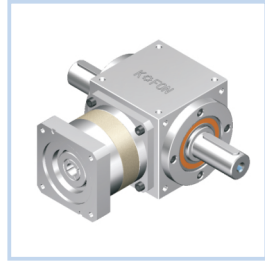
48

69

72

目录

CONTENTS



KTFL

KTFL1

KTFR1

KTFH

KTFC

KTL

KTL1

KTR1

KTH

KTC

KTFL
系列行星减速机

KTFL SERIES SERVO
PLANETARY GEARBOX

54

KTFL1
系列行星减速机

KTFL1 SERIES SERVO
PLANETARY GEARBOX

56

KTFR1
系列行星减速机

KTFR1 SERIES SERVO
PLANETARY GEARBOX

58

KTFH
系列行星减速机

KTFH SERIES SERVO
PLANETARY GEARBOX

60

KTFC
系列行星减速机

KTFC SERIES SERVO
PLANETARY GEARBOX

62

KTL
系列减速机

KTL SERIES SERVO
GEARBOX

63

KTL1
系列减速机

KTL1 SERIES SERVO
GEARBOX

65

KTR1
系列减速机

KTR1 SERIES SERVO
GEARBOX

66

KTH
系列减速机

KTH SERIES SERVO
GEARBOX

67

KTC
系列减速机

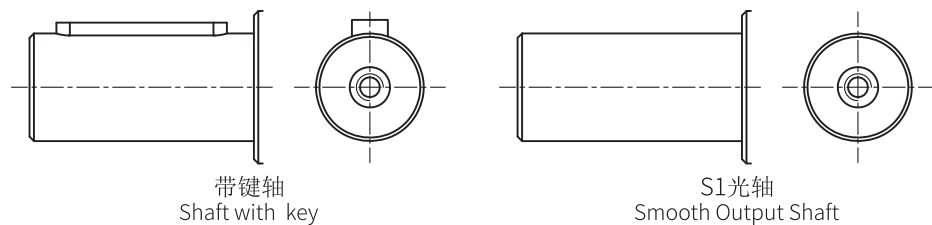
KTC SERIES SERVO
GEARBOX

68

订货说明 ORDERING INSTRUCTIONS

KPX	S	D	115	100	S1	LB	Motor Model
							电机型号, 未注明为标准尺寸 Motor model, not specified for the standard size
							低侧隙, 未注明为标准侧隙 Low backlash, not specified for the standard side gap
							轴输出形式S1:光轴, 未注明为带键轴 Shaft output form of the S1: Smooth Output Shaft, not specified for the keyed shaft
							速比:单级(Single stage)3/4/5/7/8/9/10 Ratio 双级(Double stage)12/16/20/25/32(35)/40(45)/50(49)/64(63) 三级(Three stage)60/80/100/125/160(140)/200(180)/256(252)/320(315)/512(504)
							规格(Model):40/65/85/115/142/180/220
							带底座形式,未注明不带 With the base form, not specified for the form without the base
							'S' 轴输入, 'N' 为孔输出,未注明为孔输入,轴输出 'S' for shaft input, 'N' for hole output, not specified for the hole input, shaft output
产品系列(Product series): KPX、KVX							

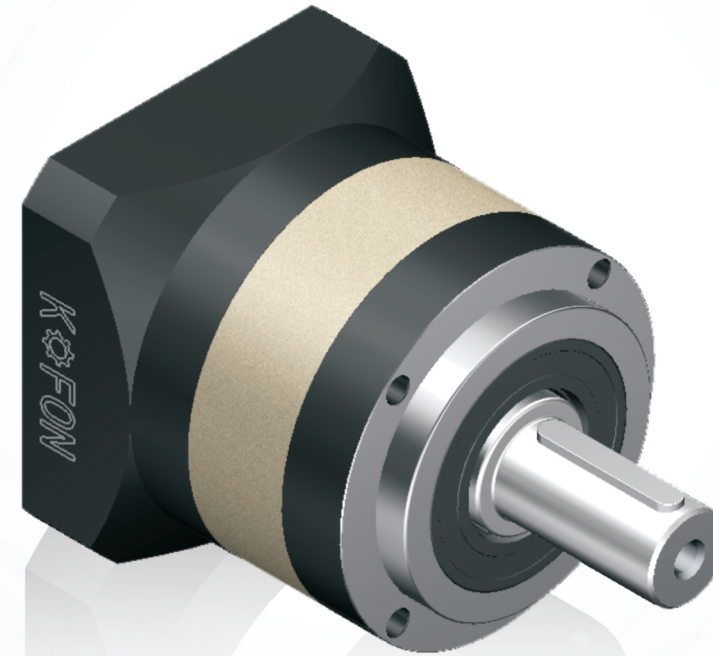
KPL	S	120	100	S1	LB	Motor Model	
							电机型号, 未注明为标准尺寸 Motor model, not specified for the standard size
							低侧隙, 未注明为标准侧隙 Low backlash, not specified for the standard side gap
							轴输出形式S1:光轴, 未注明为带键轴 Shaft output form of the S1: Smooth Output Shaft, not specified for the keyed shaft
							速比:单级(Single stage)3/4/5/7/8/9/10 Ratio 双级(Double stage)12/16/20/25/32(35)/40(45)/50(49)/64(63) 三级(Three stage)60/80/100/125/160(140)/200(180)/256(252)/320(315)/512(504)
							规格(Model):40/70/90/120/160/205/235
							'S' 轴输入, 'N' 为孔输出,未注明为孔输入,轴输出 'S' for shaft input, 'N' for hole output, not specified for the hole input, shaft output
产品系列(Product series): KPL、KPLF、KPH							



选用范例: SPXN-115-16-S1-LB-ABB-8M1230
如果找不到适合的适配器, 请提供电机厂商及规格。
如果有疑问请咨询客服人员。

The selection of examples: SPXN-115-16-S1-LB-ABB-8M1230
If you can't find a suitable adapter, please provide the motor manufacturers and specifications.
If in doubt, please contact customer service.

KPL 系列行星减速机 SERIES SERVO PLANETARY GEARBOX



KPL系列行星减速机产品特点

KPL Series Servo Planetary Gearbox Product Highlight

高精度: 齿隙低于3弧分。

High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺, 齿轮精度可控制在ISO4级以下, 确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

齿轮材料选用高级低碳合金锻钢, 经过渗碳淬火之深度硬化处理, 硬度可达到HRC60, 保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构, 与输出轴一体式设计, 实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承, 增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。

Can be connected with any servo motor around the world.

使用合成润滑脂, 并采用IP65密封设计, 不泄漏免维护。

No grease leakage and maintenance free by using synthetic lubricating grease and IP65 protection design.

KPL系列行星减速机技术参数

KPL Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPL050	KPL070	KPL090	KPL120	KPL160	KPL205	KPL235	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	20	46	125	210	450	650	1200	3	1
		21	52	145	300	550	1250	1800	4	
		21	55	155	320	650	1200	2050	5	
		20*	50*	145*	300*	610*	1000*	1850*	6	
		19	50*	135	290*	540	1000	1750*	7	
		18*	45	115	255	510*	1000*	1550	8	
		14	42	105*	220*	440	910	1500*	9	
		14	42	105	220	440	910	1500	10	
		20	56	125	310	500	650	1200	12	
		21	52	145	300	550	1250	1800	16	
		21	55	145	300	650	1200	2050	20	
		21	55	155	320	650	1200	2050	25	
		-	52	145	305	550*	1250*	1800*	32	
		21	55*	155	320*	650	1200	2050	35	
		-	55	155	320	550*	1200*	2050*	40	
		21	55*	155	320*	650	1200	2050	45	
		21	55	155	320	650	1200	2050	50	
		18/63	45	115	255	510/63	1000/63	1550	64	
		21	52	155	320	650	1200	2050	80	
		21	52	155	320	650	1200	2050	100	
21	52	155	320	650	1200	2050	125			
21/140	52	155	320	650	1200/140	2050/140	160			
21/180	52	155	320	650	1200/180	2050/180	200			
21/252	52	155	320	650/224	1200/252	2050/252	256			
21/315	52	155	320	650/280	1200/315	2050/315	320			
18/441	45	115	255	510/504	1000/441	1550/504	512			
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque								
最大径向力 ¹ Max Radial Force	N	770	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	380	760	1600	3300	4800	7000	8000		
倾斜力矩 ²	Nm	25	40	90	150	480	1300	1800		
满载效率 Full Loading Efficiency	%	97								1
		95								2
		93								3
平均寿命 Average lifetime	h	20000								
重量 Weight	kg	0.6	1.4	3.3	5.5	20	31	53		1
		0.9	1.6	4.5	8	25	39	66		2
		1.1	1.8	5.5	10	30	48	75		3

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

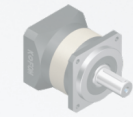
产品型号 Model		KPL050	KPL070	KPL090	KPL120	KPL160	KPL205	KPL235	Ratio	Stage
转动惯量 Rotational Inertia	kgcm ²	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4	
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7	
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8	
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9	
		0.017	0.13	0.44	2.57	7.14	22.55	50.56	10	
		0.029	0.127	0.44	2.56	12.35	12.35	28.98	12	
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16	
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20	
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25	
		--	0.064	0.39	1.3	6.34	7.14	22.59	32	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35	
		--	0.064	0.39	1.3	4.08	7.14	22.59	40	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45	
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50	
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64	
		0.019	0.075	0.44	1.49	7.4	7.54	22.75	80	
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100	
0.019	0.064	0.44	1.3	7.3	7.42	22.75	125			
0.016	0.064	0.39	1.3	6.5	7.14	22.75	160			
0.016	0.064	0.39	1.3	6.2	7.14	22.75	200			
0.016	0.064	0.39	1.3	5.7	7.14	22.75	256			
0.016	0.064	0.39	1.3	5.4	7.14	22.75	320			
0.016	0.064	0.39	1.3	5.4	7.14	22.59	512			
回程间隙 Backlash	arcmin	≤3	≤1	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1
		≤5	≤3	≤3	≤3	≤3	≤3	≤3	High Precision	
		≤8	≤6	≤6	≤6	≤6	≤6	≤6	Standard Precision	
		≤8	≤5	≤5	≤5	≤5	≤5	≤5	High Precision	2
		≤11	≤8	≤8	≤8	≤8	≤8	≤8	Standard Precision	
		≤10	≤7	≤7	≤7	≤7	≤7	≤7	High Precision	
≤15	≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision	3		
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220		
噪音 ¹ Noise	dB(A)	56	58	60	63	65	67	70		
最大输入速度 ² Max Input Speed	min ⁻¹	8000	6000	6000	6000	6000	4000	4000		
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	3000	3000	2000		

角标“1”环境温度为20℃。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

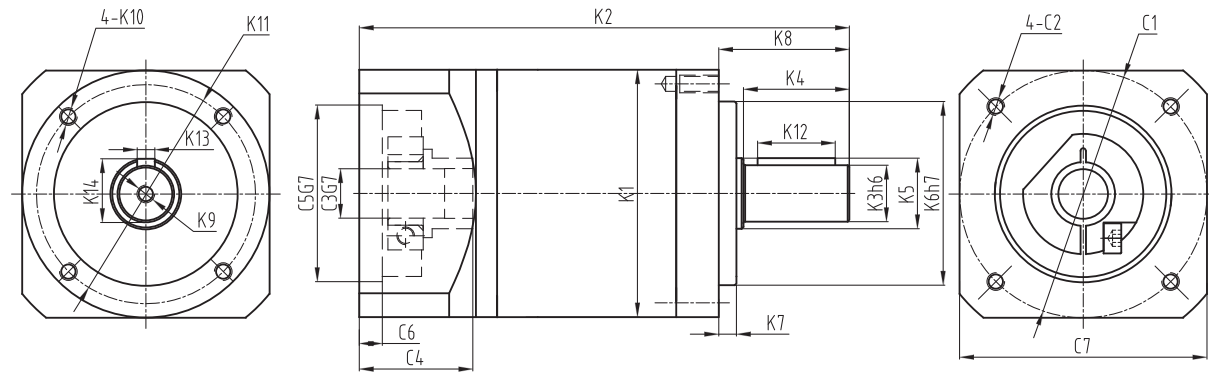
The subscript "1" the environment temperature is 20℃.

The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



KPL系列行星减速机标准尺寸

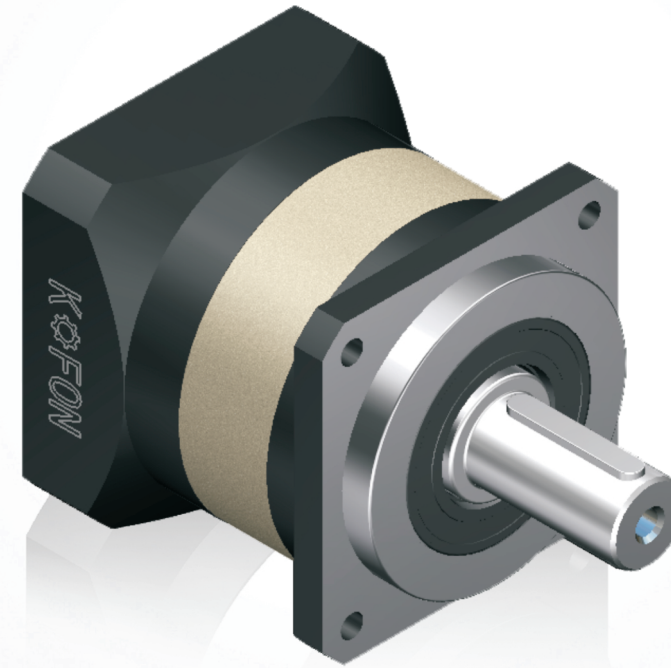
KPL Series Servo Planetary Gearbox Standard Size



型号 Model	KPL050			KPL070			KPL090			KPL120			KPL160			KPL205			KPL235		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	φ50			φ70			φ89			φ120			φ160			φ205			φ235		
K2	88.5	103.5	118.8	115	138.7	162.4	138	169.3	200.6	198	239.8	248	275.5	336.5	356	288	348	409	358	402	462
K3	φ12			φ16			φ22			φ32			φ40			φ55			φ75		
K4	23			30			36			50			80			82			105		
K5	φ15			φ20			φ30			φ40			φ50			φ60			φ85		
K6	φ35			φ52			φ68			φ90			φ130			φ160			φ180		
K7	4			5			10			12			15			20			30		
K8	28			37			48			65			97			105			138		
K9	M3X9			M5X12			M6X16			M10X22			M12X25			M20X40			M20X40		
K10	M4X10			M5X11			M6X15			M8X19			M12X20			M12X20			M16X25		
K11	φ44			φ62			φ80			φ108			φ145			φ184			φ210		
K12	16			22			28			40			70			70			90		
K13	4			5			6			10			12			16			20		
K14	13.5			18			24.5			35			43			59			79.5		
C1	φ46			φ70			φ90			φ145	φ90	φ200	φ145	φ215	φ200	φ235	φ215	φ200	φ235	φ215	φ200
C2	M4X10			M5X12			M6X15			M8X20	M6X15	M12X25	M8X20	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25
C3	φ8			φ14			φ19			φ24	φ19	φ35	φ24	φ42	φ35	φ55	φ42	φ35	φ55	φ42	φ35
C4	26.1			32.1			41.6			61.3	41.6	82	61.3	82.5	82	116	82.5	82	116	82.5	82
C5	φ30			φ50			φ70			φ110	φ70	φ114.3	φ110	φ180	φ114.3	φ200	φ180	φ114.3	φ200	φ180	φ114.3
C6	5			6.5			6.5			8	6.5	8	8	8	8	8	8	8	8	8	8
C7	50			70			89			120	89	175	120	190	175	220	190	175	220	190	175

KPLF 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPLF系列行星减速机产品特点

KPLF Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于3弧分。

High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

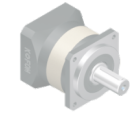
齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.



KPLF系列行星减速机技术参数

KPLF Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPLF050	KPLF070	KPLF090	KPLF120	KPLF160	KPLF205	KPLF235	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	20	46	125	210	450	650	1200	3	1
		21	52	145	300	550	1250	1800	4	
		21	55	155	320	650	1200	2050	5	
		20*	50*	145*	300*	610*	1000*	1850*	6	
		19	50*	135	290*	540	1000	1750*	7	
		18*	45	115	255	510*	1000*	1550	8	
		14	42	105*	220*	440	910	1500*	9	
		14	42	105	220	440	910	1500	10	
		20	56	125	310	500	650	1200	12	
		21	52	145	300	550	1250	1800	16	
		21	55	145	300	650	1200	2050	20	
		21	55	155	320	650	1200	2050	25	
		--	52	145	305	550*	1250*	1800*	32	
		21	55*	155	320*	650	1200	2050	35	
		--	55	155	320	550*	1200*	2050*	40	
		21	55*	155	320*	650	1200	2050	45	
		21	55	155	320	650	1200	2050	50	
		18/63	45	115	255	510/63	1000/63	1550	64	
		21	52	155	320	650	1200	2050	80	
		21	52	155	320	650	1200	2050	100	
21	52	155	320	650	1200	2050	125			
21/140	52	155	320	650	1200/140	2050/140	160			
21/180	52	155	320	650	1200/180	2050/180	200			
21/252	52	155	320	650/224	1200/252	2050/252	256			
21/315	52	155	320	650/280	1200/315	2050/315	320			
18/441	45	115	255	510/504	1000/441	1550/504	512			
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque								
最大径向力 ¹ Max Radial Force	N	770	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	380	760	1600	3300	4800	7000	8000		
倾斜力矩 ²	Nm	25	40	90	150	480	1300	1800		
满载效率 Full Loading Efficiency	%	97								1
		95								2
		93								3
平均寿命 Average lifetime	h	20000								
重量 Weight	kg	0.6	1.4	3.3	5.5	20	31	53		1
		0.9	1.6	4.5	8	25	39	66		2
		1.1	1.8	5.5	10	30	48	75		3

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

产品型号 Model		KPLF050	KPLF070	KPLF090	KPLF120	KPLF160	KPLF205	KPLF235	Ratio	Stage
转动惯量 Rotational Inertia	kgcm ²	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4	
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6	
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7	
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8	
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9	
		0.017	0.13	0.44	2.57	7.14	22.55	50.56	10	
		0.029	0.127	0.44	2.56	12.35	12.35	28.98	12	
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16	
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20	
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25	
		--	0.064	0.39	1.3	6.34	7.14	22.59	32	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35	
		--	0.064	0.39	1.3	4.08	7.14	22.59	40	
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45	
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50	
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64	
		0.019	0.075	0.44	1.49	7.4	7.54	22.75	80	
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100	
0.019	0.064	0.44	1.3	7.3	7.42	22.75	125			
0.016	0.064	0.39	1.3	6.5	7.14	22.75	160			
0.016	0.064	0.39	1.3	6.2	7.14	22.75	200			
0.016	0.064	0.39	1.3	5.7	7.14	22.75	256			
0.016	0.064	0.39	1.3	5.4	7.14	22.75	320			
0.016	0.064	0.39	1.3	5.4	7.14	22.59	512			
回程间隙 Backlash	arcmin	≤3	≤1	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1
		≤5	≤3	≤3	≤3	≤3	≤3	≤3	High Precision	
		≤8	≤6	≤6	≤6	≤6	≤6	≤6	Standard Precision	
		≤8	≤5	≤5	≤5	≤5	≤5	≤5	High Precision	2
		≤11	≤8	≤8	≤8	≤8	≤8	≤8	Standard Precision	
		≤10	≤7	≤7	≤7	≤7	≤7	≤7	High Precision	
≤15	≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision	3		
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220		
噪音 ¹ Noise	dB(A)	56	58	60	63	65	67	70		
最大输入速度 ² Max Input Speed	min ⁻¹	8000	6000	6000	6000	6000	4000	4000		
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	3000	3000	2000		

角标“1”环境温度为20℃。

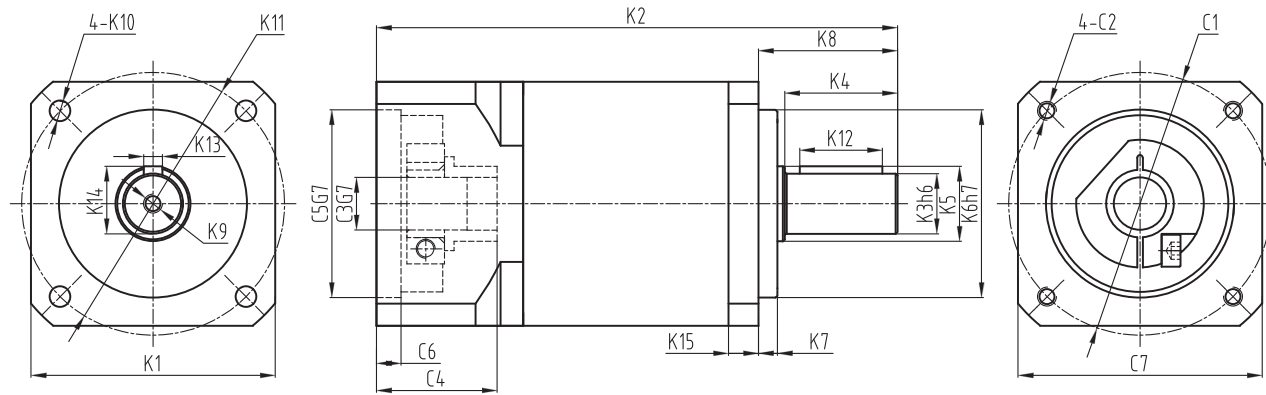
角标“2”噪音在n1<3000min⁻¹、1米处测得。

The subscript "1" the environment temperature is 20℃.

The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.

KPLF系列行星减速机标准尺寸

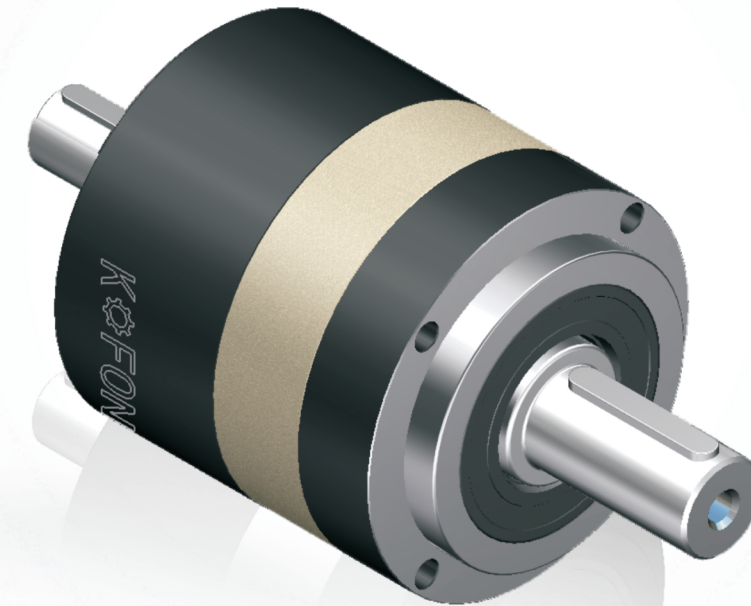
KPLF Series Servo Planetary Gearbox Standard Size



型号 Model	KPLF050			KPLF070			KPLF090			KPLF120			KPLF160			KPLF205			KPLF235		
Stage	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	52			70			89			120			175			210			240		
K2	88.5	103.5	118.8	115	138.7	162.4	138	169.3	200.6	198	239.8	248	275.5	336.5	356	288	348	409	358	402	462
K3	φ12			φ16			φ22			φ32			φ40			φ55			φ75		
K4	23			30			36			50			80			82			105		
K5	φ15			φ20			φ30			φ40			φ50			φ60			φ85		
K6	φ40			φ50			φ80			φ110			φ130			φ180			φ235		
K7	4			5			10			12			15			20			30		
K8	28			37			48			65			97			105			138		
K9	M3X9			M5X12			M6X16			M10X22			M12X25			M20X40			M20X40		
K10	φ4.5			φ5.5			φ6.5			φ9			φ11			φ13			φ17		
K11	φ60			φ85			φ100			φ130			φ185			φ230			φ275		
K12	16			22			28			40			70			70			90		
K13	4			5			6			10			12			16			20		
K14	13.5			18			24.5			35			43			59			79.5		
K15	5			8			10			14			15			18			18		
C1	φ46			φ70			φ90			φ145	φ90	φ200	φ145	φ215	φ200	φ235	φ215	φ200			
C2	M4X10			M5X12			M6X15			M8X20	M6X15	M12X25	M8X20	M12X25	M12X25	M12X25	M12X25	M12X25			
C3	φ8			φ14			φ19			φ24	φ19	φ35	φ24	φ42	φ35	φ55	φ42	φ35			
C4	26.1			32.1			41.6			61.3	41.6	82	61.3	82.5	82	116	82.5	82			
C5	φ30			φ50			φ70			φ110	φ70	φ114.3	φ110	φ180	φ114.3	φ200	φ180	φ114.3			
C6	5			6.5			6.5			8	6.5	8	8	8	8	8	8	8			
C7	50			70			89			120	89	175	120	190	175	220	190	175			

KPLS 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPLS系列行星减速机产品特点

KPLS Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于3弧分。
High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

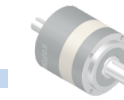
齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.



KPLS系列行星减速机技术参数

KPLS Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPLS050	KPLS070	KPLS090	KPLS120	KPLS160	KPLS205	KPLS235	Ratio	Stage		
额定输出扭矩 Rated Output Torque	Nm	20	46	125	210	450	650	1200	3	1		
		21	52	145	300	550	1250	1800	4			
		21	55	155	320	650	1200	2050	5			
		20*	50*	145*	300*	610*	1000*	1850*	6			
		19	50*	135	290*	540	1000	1750*	7			
		18*	45	115	255	510*	1000*	1550	8			
		14	42	105*	220*	440	910	1500*	9			
		14	42	105	220	440	910	1500	10			
		20	56	125	310	500	650	1200	12			
		21	52	145	300	550	1250	1800	16			
		21	55	145	300	650	1200	2050	20			
		21	55	155	320	650	1200	2050	25			
		--	52	145	305	550*	1250*	1800*	32			
		21	55*	155	320*	650	1200	2050	35			
		--	55	155	320	550*	1200*	2050*	40			
		21	55*	155	320*	650	1200	2050	45			
		21	55	155	320	650	1200	2050	50			
		18/63	45	115	255	510/63	1000/63	1550	64			
		21	52	155	320	650	1200	2050	80			
		21	52	155	320	650	1200	2050	100			
		21	52	155	320	650	1200	2050	125			
		21/140	52	155	320	650	1200/140	2050/140	160			
		21/180	52	155	320	650	1200/180	2050/180	200			
		21/252	52	155	320	650/224	1200/252	2050/252	256			
		21/315	52	155	320	650/280	1200/315	2050/315	320			
		18/441	45	115	255	510/504	1000/441	1550/504	512			
		故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque								
		最大径向力 ¹ Max Radial Force	N	770	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	380	760	1600	3300	4800	7000	8000				
倾斜力矩 ²	Nm	25	40	90	150	480	1300	1800				
满载效率 Full Loading Efficiency	%	97								1		
		95								2		
		93								3		
平均寿命 Average lifetime	h	20000										
重量 Weight	kg	0.7	1.6	3.6	6	21	33	52		1		
		1	1.8	4.8	8.5	26	41	68		2		
		1.2	2	5.8	10.5	31	51	77		3		

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

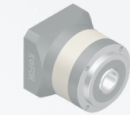
产品型号 Model		KPLS050	KPLS070	KPLS090	KPLS120	KPLS160	KPLS205	KPLS235	Ratio	Stage		
转动惯量 Rotational Inertia	kgcm ²	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1		
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4			
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5			
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6			
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7			
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8			
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9			
		0.017	0.13	0.44	2.57	7.14	22.55	50.56	10			
		0.029	0.127	0.44	2.56	12.35	12.35	28.98	12			
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16			
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20			
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25			
		--	0.064	0.39	1.3	6.34	7.14	22.59	32			
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35			
		--	0.064	0.39	1.3	4.08	7.14	22.59	40			
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45			
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50			
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64			
		0.	0.075	0.44	1.49	7.4	7.54	22.75	80			
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100			
		0.019	0.064	0.44	1.3	7.3	7.42	22.75	125			
		0.019	0.064	0.39	1.3	6.5	7.14	22.75	160			
		0.016	0.064	0.39	1.3	6.2	7.14	22.75	200			
		0.016	0.064	0.39	1.3	5.7	7.14	22.75	256			
		0.016	0.064	0.39	1.3	5.4	7.14	22.75	320			
		0.016	0.064	0.39	1.3	5.4	7.14	22.59	512			
		回程间隙 Backlash	arcmin	≤1	≤1	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1
				≤5	≤3	≤3	≤3	≤3	≤3	≤3	High Precision	
≤8	≤6			≤6	≤6	≤6	≤6	≤6	Standard Precision			
≤8	≤5			≤5	≤5	≤5	≤5	≤5	High Precision	2		
≤11	≤8			≤8	≤8	≤8	≤8	≤8	Standard Precision			
≤10	≤7			≤7	≤7	≤7	≤7	≤7	High Precision			
≤15	≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision	3				
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220				
噪音 ¹ Noise	dB(A)	56	58	60	63	65	67	70				
最大输入速度 ² Max Input Speed	min ⁻¹	8000	6000	6000	6000	6000	4000	4000				
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	3000	3000	2000				

角标“1”环境温度为20℃。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

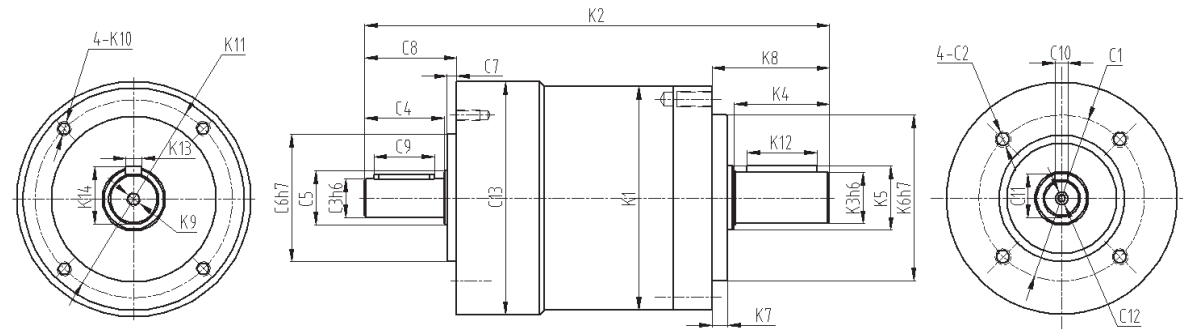
The subscript "1" the environment temperature is 20℃.

The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



KPLS系列行星减速机标准尺寸

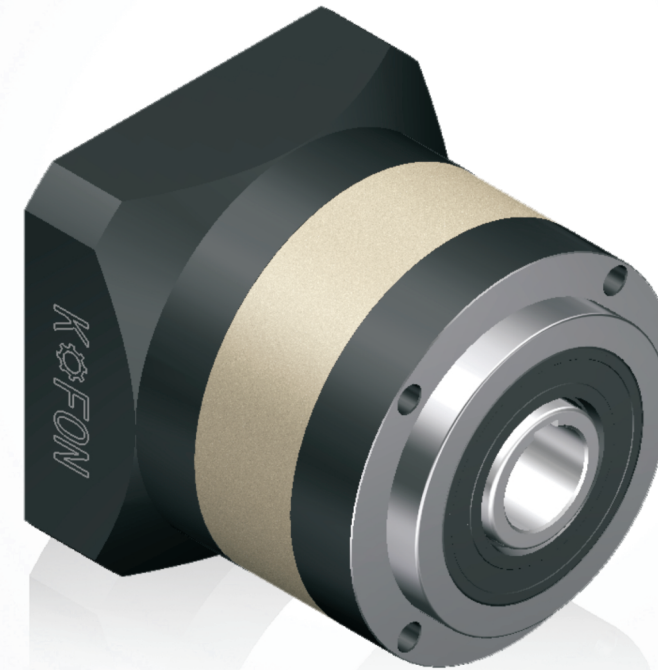
KPLS Series Servo Planetary Gearbox Standard Size



型号 Model	KPLS70			KPLS90			KPLS120			KPLS160			KPLS205		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	φ70			φ89			φ120			φ160			φ205		
K2	132.5	156.2	180	152.7	184	215.3	217	258.8	262.7	294	355	375	335	366.5	427.5
K3	φ16			φ22			φ32			φ40			φ55		
K4	30			36			50			80			82		
K5	φ20			φ30			φ40			φ50			φ60		
K6	φ52			φ68			φ90			φ130			φ160		
K7	5			10			12			15			20		
K8	37			48			65			97			105		
K9	M5X12			M6X16			M10X22			M12X25			M20X40		
K10	M5X11			M6X15			M8X19			M12X20			M15X20		
K11	φ62			φ80			φ108			φ145			φ184		
K12	22			28			40			70			70		
K13	5			6			10			12			16		
K14	18			24.5			35			43			59		
C1	φ52			φ70			φ100		φ70	φ145		φ100	φ135		φ145
C2	M5X11			M6X15			M10X20		M6X15	M12X20		M10X20	M8X14		M12X20
C3	φ12			φ16			φ22		φ16	φ35		φ22	φ40		φ35
C4	25			26			40		26	57		40	70		57
C5	φ17			φ25			φ35		φ25	φ50		φ35	φ50		φ50
C6	φ40			φ60			φ80		φ60	φ130		φ80	φ120		φ130
C7	3			3			4		3	5		4	8		5
C8	29			30			45		30	65		45	80		65
C9	18			20			32		20	45		32	60		45
C10	4			5			6		5	10		6	12		10
C11	13.5			18			24.5		18	38		24.5	43		38
C12	M4X8			M5X10			M10X22		M5X10	M12X25		M6X16	M12X25		M12X25
C13	φ73			φ92			φ123		φ92	φ162		φ123	φ150		φ162

KPLN 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPLN系列行星减速机产品特点

KPLN Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于3弧分。
High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

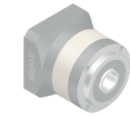
齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.



KPLN系列行星减速机技术参数

KPLN Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPLN050	KPLN070	KPLN090	KPLN120	KPLN160	KPLN205	KPLN235	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	20	46	125	210	450	650	1200	3	1
		21	52	145	300	550	1250	1800	4	
		21	55	155	320	650	1200	2050	5	
		20*	50*	145*	300*	610*	1000*	1850*	6	
		19	50*	135	290*	540	1000	1750*	7	
		18*	45	115	255	510*	1000*	1550	8	
		14	42	105*	220*	440	910	1500*	9	
		14	42	105	220	440	910	1500	10	
		20	56	125	310	500	650	1200	12	
		21	52	145	300	550	1250	1800	16	
		21	55	145	300	650	1200	2050	20	
		21	55	155	320	650	1200	2050	25	
		--	52	145	305	550*	1250*	1800*	32	
		21	55*	155	320*	650	1200	2050	35	
		--	55	155	320	550*	1200*	2050*	40	
		21	55*	155	320*	650	1200	2050	45	
		21	55	155	320	650	1200	2050	50	
		18/63	45	115	255	510/63	1000/63	1550	64	
		21	52	155	320	650	1200	2050	80	
		21	52	155	320	650	1200	2050	100	
21	52	155	320	650	1200	2050	125			
21/140	52	155	320	650	1200/140	2050/140	160			
21/180	52	155	320	650	1200/180	2050/180	200			
21/252	52	155	320	650/224	1200/252	2050/252	256			
21/315	52	155	320	650/280	1200/315	2050/315	320			
18/441	45	115	255	510/504	1000/441	1550/504	512			
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque								
最大径向力 ¹ Max Radial Force	N	770	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	380	760	1600	3300	4800	7000	8000		
满载效率 Full Loading Efficiency	%	97								1
		95								2
		93								3
平均寿命 Average lifetime	h	20000								
重量 Weight	kg	0.5	1.3	3.1	5.1	19	30	51		1
		0.8	1.5	4.2	7.5	24	38	64		2
		1	1.7	5.3	9.5	29	47	72		3

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

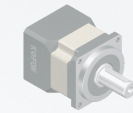
产品型号 Model		KPLN050	KPLN070	KPLN090	KPLN120	KPLN160	KPLN205	KPLN235	Ratio	Stage	
转动惯量 Rotational Inertia	kgcm ²	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1	
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4		
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5		
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6		
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7		
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8		
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9		
		0.017	0.13	0.44	2.57	7.14	22.55	50.56	10		
		0.029	0.127	0.44	2.56	12.35	12.35	28.98	12		
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16		
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20		
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25		
		--	0.064	0.39	1.3	6.34	7.14	22.59	32		
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35		
		--	0.064	0.39	1.3	4.08	7.14	22.59	40		
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45		
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50		
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64		
		0.019	0.075	0.44	1.49	7.4	7.54	22.75	80		
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100		
0.019	0.064	0.44	1.3	7.3	7.42	22.75	125				
0.016	0.064	0.39	1.3	6.5	7.14	22.75	160				
0.016	0.064	0.39	1.3	6.2	7.14	22.75	200				
0.016	0.064	0.39	1.3	5.7	7.14	22.75	256				
0.016	0.064	0.39	1.3	5.4	7.14	22.75	320				
0.016	0.064	0.39	1.3	5.4	7.14	22.59	512				
回程间隙 Backlash	arcmin	≤3	≤1	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1	
		≤5	≤3	≤3	≤3	≤3	≤3	≤3	High Precision		
		≤8	≤6	≤6	≤6	≤6	≤6	≤6	Standard Precision		
		≤8	≤5	≤5	≤5	≤5	≤5	≤5	≤5	High Precision	2
		≤11	≤8	≤8	≤8	≤8	≤8	≤8	≤8	Standard Precision	
		≤10	≤7	≤7	≤7	≤7	≤7	≤7	≤7	High Precision	
≤15	≤10	≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision	3		
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220			
噪音 ¹ Noise	dB(A)	56	58	60	63	65	67	70			
最大输入速度 ² Max Input Speed	min ⁻¹	8000	6000	6000	6000	6000	4000	4000			
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	3000	3000	2000			

角标“1”环境温度为20℃。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

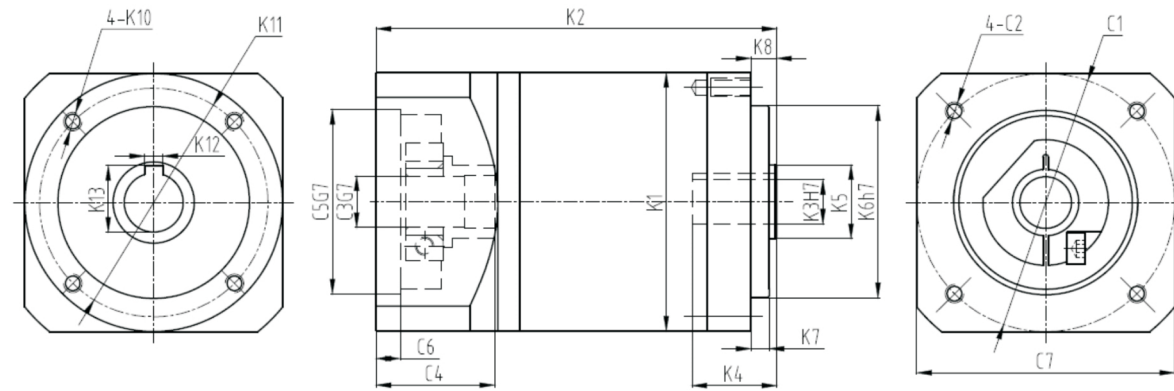
The subscript "1" the environment temperature is 20°C.

The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



KPLN系列行星减速机标准尺寸

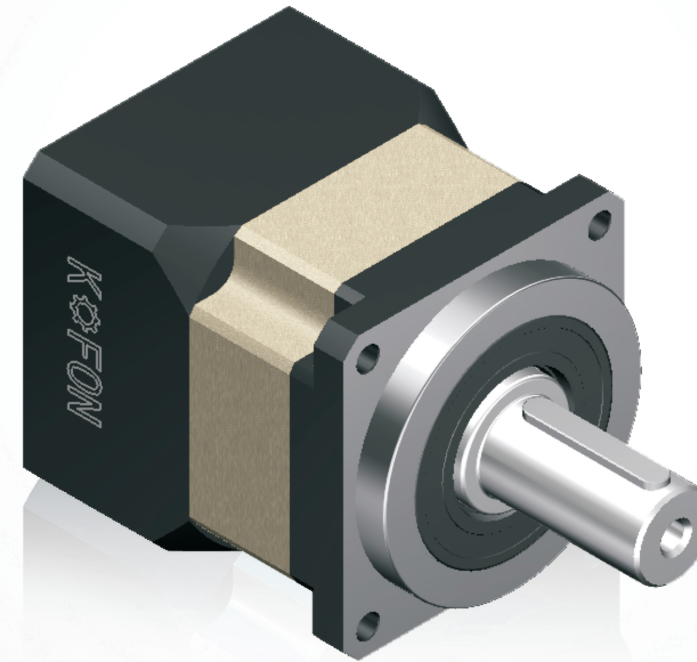
KPLN Series Servo Planetary Gearbox Standard Size



型号 Model	KPLN70			KPLN90			KPLN120			KPLN160			KPLN205		
Stage	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	φ70			φ89			φ120			φ160			φ205		
K2	85	108.7	132.4	102	133.3	164.6	148	189.8	198	195.5	256.5	276	208	268	327
K3	φ12			φ18			φ25			φ38			M2XZ24XP30XH6		
K4	23			25			36			45			48		
K5	φ20			φ30			φ40			φ60			φ60		
K6	φ52			φ68			φ90			φ130			φ160		
K7	5			10			12			15			20		
K8	7			12			15			17			23		
K10	M5X11			M6X15			M8X19			M12X20			M12X22		
K11	φ62			φ80			φ108			φ145			φ184		
K12	4			6			8			10			GB/T3478.1		
K13	13.8			20.8			28.3			41.3			GB/T3478.1		
C1	φ70			φ90			φ145		φ90	φ200		φ145	φ215	φ200	
C2	M5X12			M6X15			M8X20		M6X15	M12X25		M8X20	M12X25	M12X25	
C3	φ14			φ19			φ24		φ19	φ35		φ24	φ42	φ35	
C4	32.1			41.6			61.3		41.6	82		56.3	82.5	82	
C5	φ50			φ70			φ110		φ70	φ114.3		φ110	φ180	φ114.3	
C6	6.5			6.5			8		6.5	8		8	8	8	
C7	70			89			120		89	175		120	190	175	

KPX 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPX系列行星减速机产品特点

KPX Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于3弧分。
High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

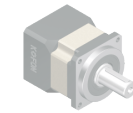
齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.



KPX系列行星减速机技术参数

KPX Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPX045	KPX065	KPX085	KPX115	KPX142	KPX180	KPX220	Ratio	Stage		
额定输出扭矩 Rated Output Torque	Nm	20	46	125	210	450	650	1200	3	1		
		21	52	145	300	550	1250	1800	4			
		21	55	155	320	650	1200	2050	5			
		20*	50*	145*	300*	610*	1000*	1850*	6			
		19	50*	135	290*	540	1000	1750*	7			
		18*	45	115	255	510*	1000*	1550	8			
		14	42	105*	220*	440	910	1500*	9			
		14	42	105	220	440	910	1500	10			
		20	56	125	310	500	650	1200	12			
		21	52	145	300	550	1250	1800	16			
		21	55	145	300	650	1200	2050	20			
		21	55	155	320	650	1200	2050	25			
		-	52	145	305	550*	1250*	1800*	32			
		21	55*	155	320*	650	1200	2050	35			
		-	55	155	320	550*	1200*	2050*	40			
		21	55*	155	320*	650	1200	2050	45			
		21	55	155	320	650	1200	2050	50			
		18/63	45	115	255	510/63	1000/63	1550	64			
		21	52	155	320	650	1200	2050	80			
		21	52	155	320	650	1200	2050	100			
		21	52	155	320	650	1200	2050	125			
		21/140	52	155	320	650	1200/140	2050/140	160			
		21/180	52	155	320	650	1200/180	2050/180	200			
		21/252	52	155	320	650/224	1200/252	2050/252	256			
		21/315	52	155	320	650/280	1200/315	2050/315	320			
		18/441	45	115	255	510/504	1000/441	1550/504	512			
		故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque								
		最大径向力 ¹ Max Radial Force	N	770	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	380	760	1600	3300	4800	7000	8000				
倾斜力矩 ²	Nm	25	40	90	150	480	1300	1800				
满载效率 Full Loading Efficiency	%	97								1		
		95								2		
		93								3		
平均寿命 Average lifetime	h	20000										
重量 Weight	kg	0.6	1.4	3.3	5.5	20	31	53		1		
		0.9	1.6	4.5	8	25	39	66		2		
		1.1	1.8	5.5	10	30	48	75		3		

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

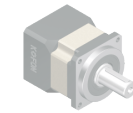
产品型号 Model		KPX045	KPX065	KPX085	KPX115	KPX142	KPX180	KPX220	Ratio	Stage		
转动惯量 Rotational Inertia	kgcm ²	0.031	0.16	0.61	3.25	12.31	28.98	69.61	3	1		
		0.022	0.14	0.48	2.74	7.54	23.67	54.37	4			
		0.019	0.13	0.47	2.71	7.42	22.75	53.27	5			
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	6			
		0.017	0.13	0.47	2.62	7.25	22.48	50.84	7			
		0.017	0.13	0.45	2.62	7.14	22.59	50.84	8			
		0.017	0.13	0.44	2.62	7.14	22.59	50.84	9			
		0.017	0.13	0.44	2.57	7.141	22.55	50.56	10			
		0.029	0.127	0.44	2.56	2.35	12.35	28.98	12			
		0.022	0.12	0.43	1.75	7.47	7.54	23.67	16			
		0.019	0.075	0.44	1.5	6.65	7.42	22.75	20			
		0.017	0.075	0.44	1.49	5.81	7.54	22.75	25			
		-	0.064	0.39	1.3	6.34	7.14	22.59	32			
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	35			
		-	0.064	0.39	1.3	4.08	7.14	22.59	40			
		0.016	0.064	0.39	1.3	5.36	7.14	22.59	45			
		0.016	0.064	0.39	1.3	4.08	7.14	22.59	50			
		0.016	0.075	0.39	1.5	7.5	7.54	22.59	64			
		0.019	0.075	0.44	1.49	7.4	7.54	22.75	80			
		0.019	0.064	0.44	1.45	7.3	7.42	22.59	100			
		0.019	0.064	0.44	1.3	7.3	7.42	22.75	125			
		0.016	0.064	0.39	1.3	6.5	7.14	22.75	160			
		0.016	0.064	0.39	1.3	6.2	7.14	22.75	200			
		0.016	0.064	0.39	1.3	5.7	7.14	22.75	256			
		0.016	0.064	0.39	1.3	5.4	7.14	22.75	320			
		0.016	0.064	0.39	1.3	5.4	7.14	22.59	512			
		回程间隙 Backlash	arcmin	≤3	≤1	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1
				≤5	≤3	≤3	≤3	≤3	≤3	≤3	High Precision	
≤8	≤6			≤6	≤6	≤6	≤6	≤6	Standard Precision			
≤8	≤5			≤5	≤5	≤5	≤5	≤5	High Precision	2		
≤11	≤8			≤8	≤8	≤8	≤8	≤8	Standard Precision			
≤10	≤7			≤7	≤7	≤7	≤7	≤7	High Precision			
≤15	≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision	3				
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	7	14	25	50	140	220				
噪音 ¹ Noise	dB(A)	56	58	60	63	65	67	70				
最大输入速度 ² Max Input Speed	min ⁻¹	8000	6000	6000	6000	6000	4000	4000				
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	3000	3000	2000				

角标“1”环境温度为20℃。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

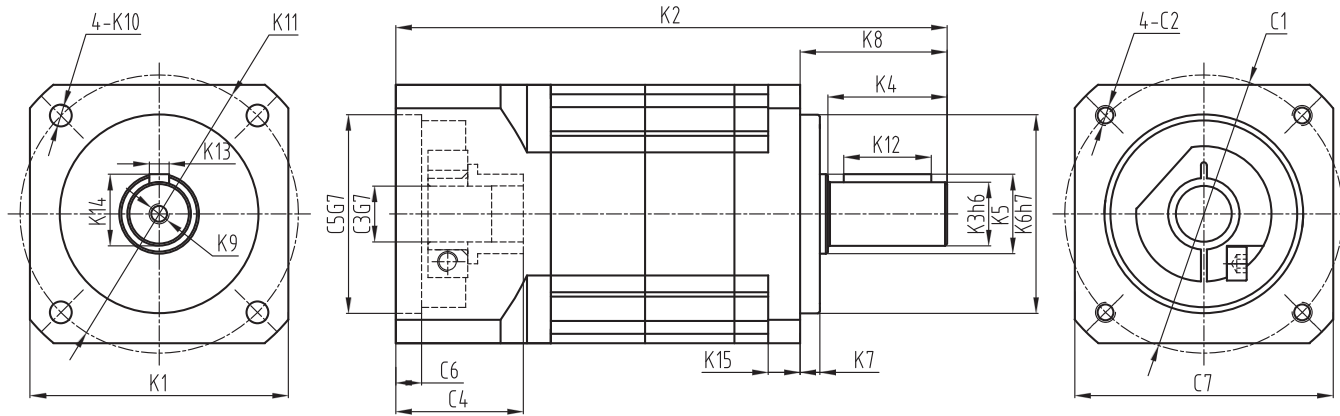
The subscript "1" the environment temperature is 20℃.

The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



KPX系列行星减速机标准尺寸

KPX Series Servo Planetary Gearbox Standard Size

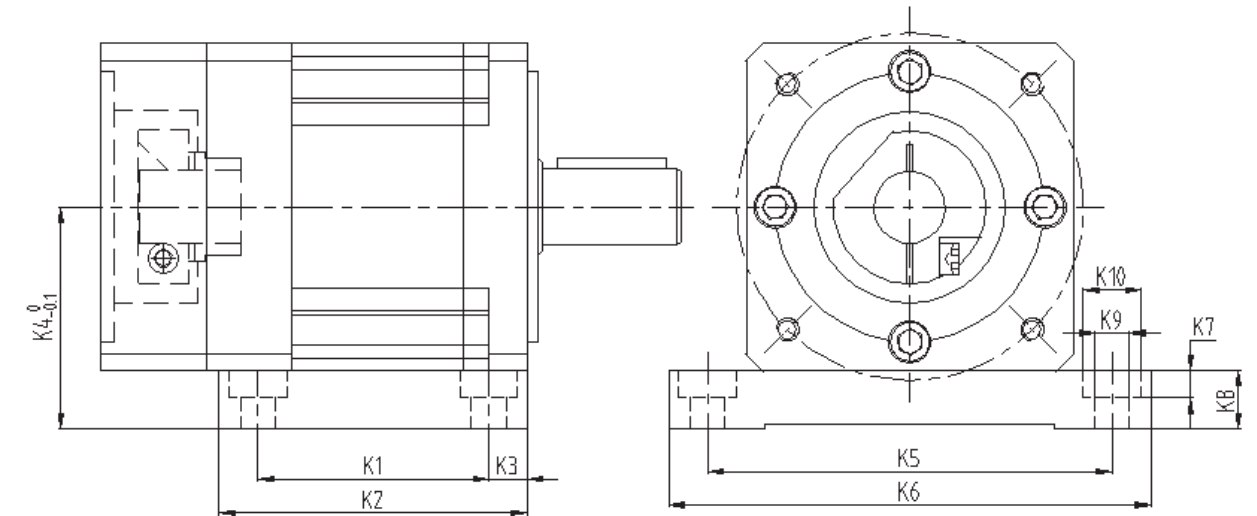


型号 Model	KPX45			KPX65			KPX85			KPX115			KPX142			KPX180			KPX220		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	45			65			85			110			142			180			220		
K2	88.5	103.5	118.8	115	138.7	162.4	138	169.3	200.6	198	239.8	248	275.5	336.5	356	288	348	409	358	402	462
K3	φ12			φ16			φ22			φ32			φ40			φ55			φ75		
K4	23			30			36			50			80			82			105		
K5	φ15			φ20			φ30			φ40			φ50			φ60			φ85		
K6	φ35			φ50			φ80			φ110			φ130			φ160			φ180		
K7	4			5			10			12			15			20			30		
K8	28			37			48			65			97			105			138		
K9	M3X9			M5X12			M6X16			M10X22			M12X25			M20X40			M20X40		
K10	M4X10			φ5.5			φ6.5			φ9			φ11			φ13			φ17		
K11	50			70			100			130			165			215			250		
K12	16			22			28			40			70			70			90		
K13	4			5			6			10			12			16			20		
K14	13.5			18			24.5			35			43			59			79.5		
K15	-			8			10			14			15			20			25		
C1	46			70			90			φ145	φ90	φ200	φ145	φ215	φ200	φ235	φ215	φ200	φ235	φ215	φ200
C2	M4X10			M5X12			M6X15			M8X20	M6X15	M12X25	M8X20	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25	M12X25
C3	φ8			φ14			φ19			φ24	φ19	φ35	φ24	φ42	φ35	φ55	φ42	φ35	φ55	φ42	φ35
C4	26.1			32.1			41.6			61.3	41.6	82	61.3	82.5	82	116	82.5	82	116	82.5	82
C5	φ30			φ50			φ70			φ110	φ70	φ114.3	φ110	φ180	φ114.3	φ200	φ180	φ114.3	φ200	φ180	φ114.3
C6	5			6.5			6.5			8	6.5	8	8	8	8	8	8	8	8	8	8
C7	45			65			85			120	85	175	120	190	175	220	190	175	220	190	175

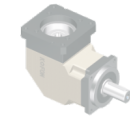
角标“1” KPX45安装不同于其它机型，螺钉反向连接。
KPX45 installation Angle of the "1" is different from other models, reverse screw connection.

KPXD系列行星减速机标准尺寸

KPXD Series Servo Planetary Gearbox Standard Size

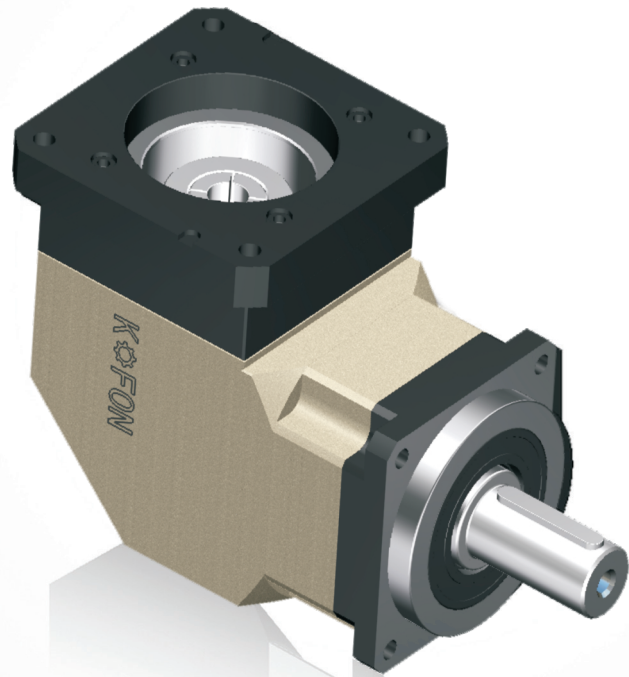


型号 Model	KPX45	KPX85	KPX115	KPX142	KPX180	KPX220	级数
K1	40	42	55	100	88	110	1
	64	75	95	160	80	98	2
	88	105	95	135	80	98	3
K2	60	65	85	130	112	140	1
	80	100	125	190	105	128	2
	110	130	125	160	105	128	3
K3	10	10	12.5	10	12	15	
K4	45	55	70	90	108	132	
K5	80	105	130	165	200	250	
K6	100	125	150	190	225	280	
K7	7	9	9	-	-	-	
K8	12.5	12.5	15	19	18	22	
K9	φ6.5	φ9	φ9	φ11	φ13	φ17	
K10	φ13	φ15	φ15	-	-	-	



KVX 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KVX系列行星减速机产品特点

KVX Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于5弧分。

High precision: backlash <5 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and maintenance free by using synthetic lubricating grease and IP65 protection design.

KVX系列行星减速机技术参数

KVX Series Servo Planetary Gearbox Technical Data

产品型号 Model		KVX065	KVX085	KVX115	KVX142	KVX180	KVX220	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	28	78	150	360	585	1300	1	1
		22	68	150	332	585	1220	2	
		17	60	137	316	512	1020	2.5	
		15	54	120	270	450	800	3	
		52	145	300	550	1250	1800	4	2
		55	155	320	650	1200	2050	5	
		50*	145*	300*	610*	1000*	1850*	6	
		50*	135	290*	540	1000	1750*	7	
		45	115	255	510*	1000*	1550	8	
		42	105*	220*	440	910	1500*	9	
		42	105	220	440	910	1500	10	
		56	125	310	500	650	1200	12	
		52	145	300	550	1250	1800	16	3
		55	145	300	650	1200	2050	20	
		55	155	320	650	1200	2050	25	
		52	145	305	550*	1250*	1800*	32	
		55	155	320	550*	1200*	2050*	40	
		45	115	255	510/63	1000/63	1550	64	
		52	155	320	650	1200	2050	80	
		52	155	320	650	1200	2050	100	
		52	155	320	650	1200	2050	125	4
		52	155	320	650	1200/140	2050/140	160	
		52	155	320	650	1200/180	2050/180	200	
		52	155	320	650/224	1200/252	2050/252	256	
52	155	320	650/280	1200/315	2050/315	320			
45	115	255	510/504	1000/441	1550/504	512			
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque							
最大径向力 ¹ Max Radial Force	N	1500	3200	6700	9600	14000	16000		
最大轴向力 ¹ Max Axial Force	N	760	1600	3300	4800	7000	8000		
倾斜力矩 ²	Nm	40	90	150	480	1300	1800		
满载效率 Full Loading Efficiency	%	98							1
		96							2
		94							3
		92							4
平均寿命 Average lifetime	h	20000							
重量 Weight	kg	2	4.4	10	16	38	55	1	
		2.3	5.4	12	23	45	68	2	
		2.8	6.8	15	31	50	78	3	
		3.4	8	18	40	56	85	4	

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

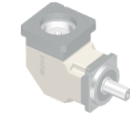
最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

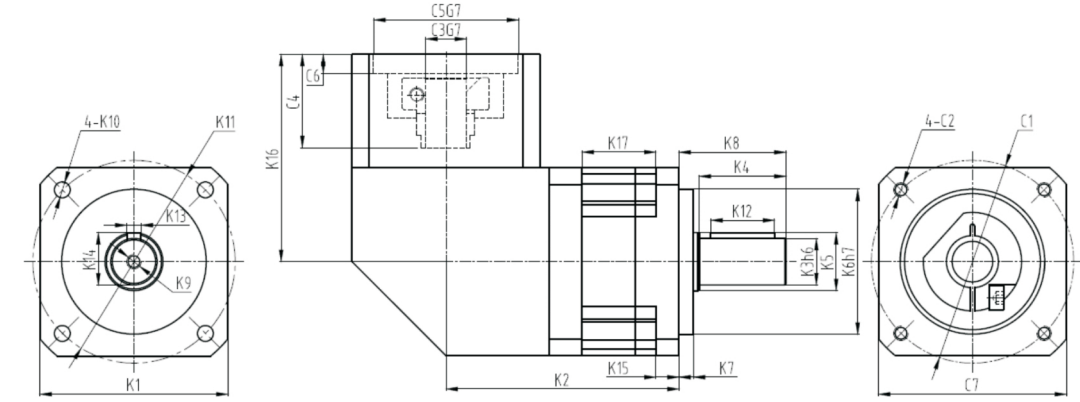
The maximum acceleration torque is equal to 180% of the rated torque.



KVX系列行星减速机标准尺寸

KVX Series Servo Planetary Gearbox Standard Size

产品型号 Model		KVX065	KVX085	KVX115	KVX142	KVX180	KVX220	Ratio	Stage	
转动惯量 Rotational Inertia	kgcm ²	1.3	3.16	7.7	23.57	58.99	195.4	1	1	
		1.11	2.7	6.31	17.75	45.35	140.24	2		
		1.09	2.68	6.26	17.54	44.86	135.7	2.5		
		1.09	2.66	6.17	17.18	44.01	134.95	3		
		0.093	0.52	1.79	7.75	23.67	54.37	4	2	
		0.078	0.45	1.53	6	22.75	53.27	5		
		0.07	0.42	1.5	5.52	22.48	50.84	6		
		0.069	0.4	1.4	5.1	22.48	50.84	7		
		0.065	0.39	1.32	3.74	22.59	50.84	8		
		0.065	0.39	1.32	3.62	22.59	50.84	9		
		0.065	0.39	1.32	3.62	22.55	50.56	10		
		0.105	0.67	1.63	10.1	18.98	59.61	12		
		0.088	0.5	1.75	7.47	7.54	23.67	16	3	
		0.075	0.44	1.53	6.65	7.42	22.75	20		
		0.075	0.44	1.49	5.81	7.54	22.75	25		
		0.064	0.39	1.32	6.34	7.14	22.59	32		
		0.064	0.39	1.32	5.36	7.14	22.59	40		
		0.064	0.39	1.32	4.08	7.54	22.59	64		
		0.075	0.5	1.53	7.4	7.54	22.75	80		
		0.064	0.44	1.49	7.3	7.42	22.59	100		
回程间隙 Backlash	arcmin	≤3	≤3	≤3	≤3	≤3	≤3	精密	1	
		≤6	≤6	≤6	≤6	≤6	≤6	标准		
		≤5	≤5	≤5	≤5	≤5	≤5	精密		2
		≤8	≤8	≤8	≤8	≤8	≤8	标准		
		≤7	≤7	≤7	≤7	≤7	≤7	精密	3	
		≤10	≤10	≤10	≤10	≤10	≤10	标准		
		≤9	≤9	≤9	≤9	≤9	≤9	精密		4
		≤12	≤12	≤12	≤12	≤12	≤12	标准		
抗扭刚性 Torsional Rigidity	Nm/arcmin	3	4.8	10	28.7	120	200			
噪音 ¹ Noise	dB(A)	63	65	68	70	72	75			
最大输入速度 ² Max Input Speed	min ⁻¹	6000	6000	6000	6000	4000	3000			
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	2000	1500			



型号 Model	KVX65				KVX85				KVX115				KVX142				KVX180				KVX220																			
Stage	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4																
K1	65				85				110				142				180				220																			
K2	75.5	93	116.7	140.4	95	105.2	136.5	167.8	119.5	154	195.8	198.2	141	187	248	309	204.5	251.5	312.5		220	285.5	332.5																	
K3	φ16				φ22				φ32				φ40				φ55				φ75																			
K4	30				36				50				80				82				105																			
K5	φ20				φ25				φ40				φ50				φ60				φ85																			
K6	φ50				φ80				φ110				φ130				φ160				φ180																			
K7	5				10				12				15				20				30																			
K8	37				48				65				97				105				138																			
K9	M5X12				M6X16				M10X22				M12X26				M20X40				M20X40																			
K10	φ5.5				φ6.5				φ9				φ11				φ13				φ17																			
K11	φ70				φ100				φ130				φ165				φ215				φ250																			
K12	22				28				40				70				70				90																			
K13	5				6				10				12				16				20																			
K14	18				24.5				35				43				59				79.5																			
K15	8				10				14				15				20				25																			
K16	82.5				94				140				114				169				204				169				210				204				169			
K17	30	37.6	61.3	85	30	39.7	66	97.3	35	60	101.8	86.8	55	80	141	202	69				81																			
C1	φ70				φ90				φ145				φ200				φ215				φ200				φ235				φ215				φ200							
C2	M5X12				M6X15				M8X20				M12X12				M12X25				M12X25				M12X25				M12X25				M12X25							
C3	φ14				φ19				φ24				φ35				φ42				φ35				φ55				φ42				φ35							
C4	32.1				41.3				61.3				81.3				82.5				81.3				116				82.5				81.3							
C5	φ50				φ70				φ110				φ114.3				φ180				φ114.3				φ200				φ180				φ114.3							
C6	6.5				6.5				8				6.5				8				8				8				8				8							
C7	65				85				120				175				190				175				220				190				175							

角标“1”环境温度为20°C。
角标“2”噪音在n1<3000min⁻¹、1米处测得。
The subscript "1" the environment temperature is 20°C.
The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



KPH 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPH系列行星减速机产品特点

KPH Series Servo Planetary Gearbox Product Highlight

高精度：齿隙低于3弧分。

High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺，齿轮精度可控制在ISO4级以下，确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构，与输出轴一体式设计，实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承，增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。
No grease leakage and maintenance free by using synthetic lubricating grease and IP65 protection design.

KPH系列行星减速机技术参数

KPH Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPH070	KPH090	KPH120	KPH160	KPH205	KPH255	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	52	145	300	550	1250	1800	4	1
		55	155	320	650	1200	2050	5	
		50*	145*	300*	610*	1000*	1850*	6	
		50*	135	290*	540	1000	1750*	7	
		45	115	255	510*	1000*	1550	8	
		42	105*	220*	440	910	1500*	9	
		42	105	220	440	910	1500	10	2
		56	125	310	500	650	1800*	12	
		52	145	300	550	1250	2800	16	
		55	145	300	650	1200	3000	20	
		55	155	320	650	1200	3000	25	
		52	145	305	550*	1250*	2800*	32	
		55*	155	320*	650	1200	2850	35	3
		55	155	320	550*	1200*	3050*	40	
		55*	155	320*	650	1200	2050	45	
		55	155	320	650	1200	2850	50	
		45	115	255	510/63	1000/63	1850	64	
		52	155	320	650	1200	3050	80	
		52	155	320	650	1200	3050	100	3
		52	155	320	650	1200	3050	125	
		52	155	320	650	1200/140	3050/140	160	
		52	155	320	650	1200/180	3050/180	200	
		52	155	320	650/224	1200/252	3050/252	256	
		52	155	320	650/280	1200/315	3050/315	320	
45	115	255	510/504	1000/441	2050/504	512			
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque							
最大径向力 ¹ Max Radial Force	N	2500	4500	7800	12000	18000	45000		
最大轴向力 ¹ Max Axial Force	N	2000	3500	6000	10000	15000	225000		
倾斜力矩 ²	Nm	40	90	150	480	1300	1800		
满载效率 Full Loading Efficiency	%	97							1
		95							2
		93							3
平均寿命 Average lifetime	h	20000							
重量 Weight	kg	1.4	3.3	5.5	20	31	70	1	
		1.6	4.5	8	25	39	80	2	
		1.8	5.5	10	30	48	90	3	

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据，更改使用工况时数据存在偏差。

注：带“*”的为不常用速比，表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.



KPH系列行星减速机标准尺寸

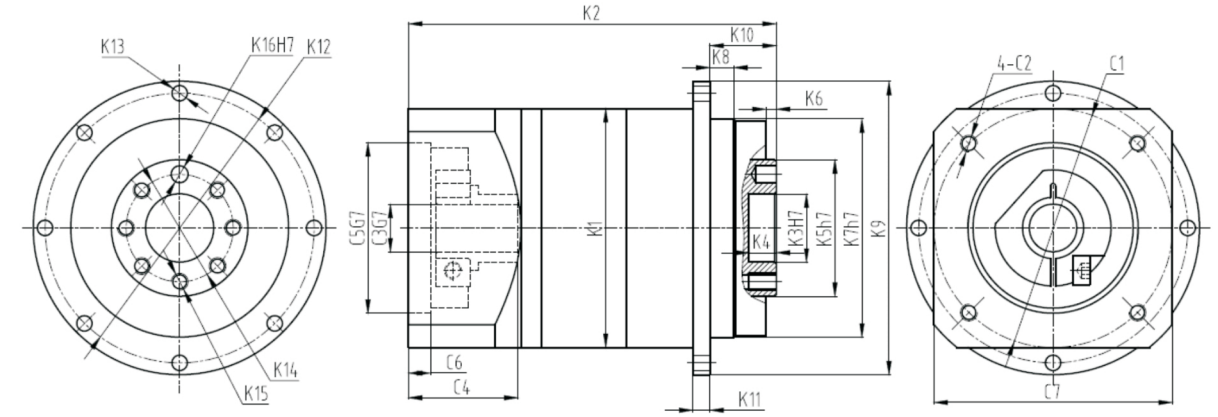
KPH Series Servo Planetary Gearbox Standard Size

产品型号 Model		KPH070	KPH090	KPH120	KPH160	KPH205	KPH255	Ratio	Stage	
转动惯量 Rotational Inertia	kgcm ²	0.14	0.48	2.74	7.54	23.67	37.37	4	1	
		0.13	0.47	2.71	7.42	22.75	33.27	5		
		0.13	0.47	2.71	7.42	22.75	30.27	6		
		0.13	0.47	2.62	7.25	22.48	27.84	7		
		0.13	0.45	2.62	7.14	22.59	25.84	8		
		0.13	0.44	2.62	7.14	22.59	24.84	9		
		0.13	0.44	2.57	7.14	22.55	23.56	10		
		0.127	0.44	2.56	12.35	12.35	15.98	12		
		0.12	0.43	1.75	7.47	7.54	14.67	16		
		0.075	0.44	1.5	6.65	7.42	13.75	20		
		0.075	0.44	1.49	5.81	7.54	7.54	25		
		0.064	0.39	1.3	6.34	7.14	6.59	32		
		0.064	0.39	1.3	5.36	7.14	6.59	35		
		0.064	0.39	1.3	4.08	7.14	6.59	40		
		0.064	0.39	1.3	5.36	7.14	6.59	45		
		0.064	0.39	1.3	4.08	7.14	6.59	50		
		0.075	0.39	1.5	7.5	7.54	6.59	64		
		0.075	0.44	1.49	7.4	7.54	6.59	80		
		0.064	0.44	1.45	7.3	7.42	6.59	100		
		0.064	0.44	1.3	7.3	7.42	6.59	125		
0.064	0.39	1.3	6.5	7.14	6.59	160				
0.064	0.39	1.3	6.2	7.14	6.59	200				
0.064	0.39	1.3	5.7	7.14	6.59	256				
0.064	0.39	1.3	5.4	7.14	6.59	320				
0.064	0.39	1.3	5.4	7.14	6.59	512				
回程间隙 Backlash	arcmin	≤3	≤1	≤1	≤1	≤1	≤1	Ultra High Precision	1	
		≤3	≤3	≤3	≤3	≤3	≤3	High Precision		
		≤6	≤6	≤6	≤6	≤6	≤6	Standard Precision		
		≤5	≤5	≤5	≤5	≤5	≤6	High Precision	2	
		≤8	≤8	≤8	≤8	≤8	≤8	Standard Precision		
		≤7	≤7	≤7	≤7	≤7	≤7	High Precision	3	
		≤10	≤10	≤10	≤10	≤10	≤10	Standard Precision		
		抗扭刚性 Torsional Rigidity	Nm/arcmin	7	14	25	50	140	200	
		噪音 ¹ Noise	dB(A)	58	60	63	65	67	70	
最大输入速度 ² Max Input Speed	min ⁻¹	6000	6000	6000	6000	4000	4000			
额定输入速度 ² Rated Input Speed	min ⁻¹	3000	3000	3000	3000	2000	2000			

角标“1”环境温度为20℃。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

The subscript "1" the environment temperature is 20℃.
The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



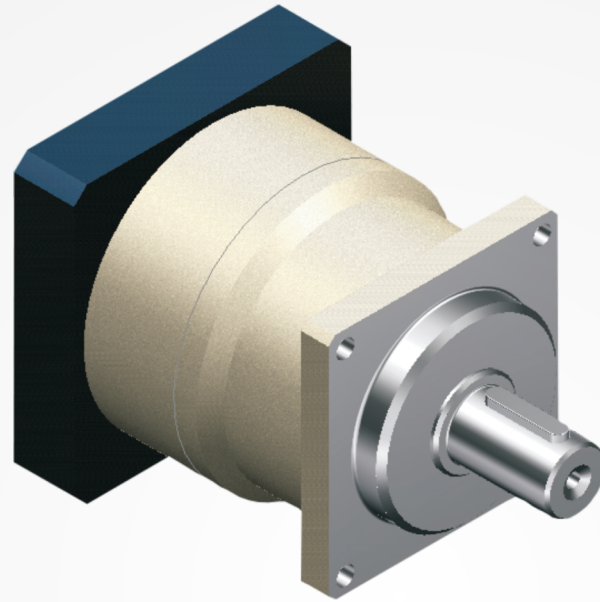
型号 Model	KPH070			KPH090			KPH120			KPH160			KPH205			KPH255		
Stage	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	φ70			φ97			φ120			φ160			φ210			φ255		
K2	108	131.7	155.4	137.2	168.5	199.8	177	218.8	227	232.7	293.7	380.2	235	297	358	305	367.5	427.5
K3	φ20			31.5			40			50			80			φ100		
K4	8			12			12			12			22.5			20		
K5	φ40			φ63			φ80			φ100			φ160			φ180		
K6	3			6			6			6			6			12		
K7	φ64			φ90			φ110			φ140			φ200			φ255		
K8	7			10			10			14.6			15			20		
K9	φ86			φ118			φ145			φ179			φ247			φ300		
K10	19.5			30			29			38			56			66		
K11	5			8			10			10			12			18		
K12	φ79			φ109			φ135			φ168			φ233			φ280		
K13	8-φ4.5			8-φ5.5			8-φ5.5			12-φ6.6			12-φ9			16-φ13.5		
K14	φ31.5			φ50			φ63			φ80			φ125			φ140		
K15 ¹	7-M5X8			7-M6X12			11-M6X15			11-M8X18			11-M10X17			12-M16X25		
K16	φ5X6			φ6X7			φ6X7			φ8X8			φ10X10			φ16X10		
C1	φ70			φ90			φ145		φ90	φ200		φ145	φ215	φ200	φ235	φ215	φ200	
C2	M5X12			M6X15			M8X20		M6X15	M12X25		M8X20	M12X25	M12X25	M12X25	M12X25	M12X25	
C3	φ14			φ19			φ24		φ19	φ35		φ24	φ42	φ35	φ55	φ42	φ35	
C4	32.1			41.6			61.3		41.6	82		61.3	82.5	82	115	82.5	82	
C5	φ50			φ70			φ110		φ70	φ114.3		φ110	φ180	φ114.3	φ200	φ180	φ114.3	
C6	6.5			6.5			8		6.5	8		8	8	8	8	8	8	
C7	70			97			120		89	175		120	190	175	220	190	175	

角标“1”不同规格的机型螺纹孔布局有差异，以实际提供图纸为准。

The Angle of the "1" version there are differences between the threaded hole layout of different specification, the actual provide drawings shall prevail.

KPG系列行星减速机

SERIES SERVO PLANETARY GEARBOX



KPG系列行星减速机产品特点

KPG Series Servo Planetary Gearbox Product Highlight

高精度: 齿隙低于3弧分。

High precision: backlash <3 arc-min.

使用顶级超精密机床加工并结合全球领先的磨齿工艺, 齿轮精度可控制在ISO4级以下, 确保减速机高效、长寿命。
Processing by ultra precision machine and advanced gear grinding craft, the gear precision can be controlled under ISO4 to ensure the gearboxes high precision and efficiency.

齿轮材料选用高级低碳合金锻钢, 经过渗碳淬火之深度硬化处理, 硬度可达到HRC60, 保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

采用笼式行星支架结构, 与输出轴一体式设计, 实现高刚度与高精度。
With integrated design of caged planet carrier and output shaft to realize high rigidity and high precision.

行星轮轴承采用不含保持架之满滚针轴承, 增大减速机输出扭矩和刚性。
Planet-gear bearings use full needle roller bearing cage to increase gearboxes output torque and rigidity.

可适配全球任何一台伺服电动机。
Can be connected with any servo motor around the world.

使用合成润滑脂, 并采用IP65密封设计, 不泄漏免维护。
No grease leakage and maintenance free by using synthetic lubricating grease and IP65 protection design.

KPG系列行星减速机技术参数

KPG Series Servo Planetary Gearbox Technical Data

产品型号 Model		KPG070	KPG090	KPG120	KPG160	KPG205	KPG235	Ratio	Stage
额定输出扭矩 Rated Output Torque	Nm	46	125	210	350	650	1200	3	1
		52	145	300	550	1250	1800	4	
		55	155	320	650	1200	2050	5	
		50	135	290	540	1000	1750	7	
		45	115	255	510	1000	1550	8	
		42	105	220	440	910	1500	9	
		42	105	220	440	910	1500	10	
		56	125	310	500	650	1200	12	
		56	125	310	500	650	1200	15	
		52	145	300	550	1250	1800	16	
	Nm	55	145	300	650	1200	2050	20	2
		55	155	320	650	1200	2050	25	
		52	145	305	550	1250	1800	32	
		55	155	320	650	1200	2050	35	
		55	155	320	550	1200	2050	40	
		55	155	320	650	1200	2050	45	
		55	155	320	650	1200	2050	50	
		45	115	255	510/63	1000/63	1550	64	
		45	115	255	520	1000	2050	80	
		42	110	220	440	910	1500	100	
故障停止扭矩 Emergency Stop Torque	Nm	3倍额定输出扭矩 Triple rated output torque							
最大径向力 ¹ Max Radial Force	N	4300	7000	10000	19000	24000	27000		
最大轴向力 ¹ Max Axial Force	N	3900	6300	9000	17000	22000	30000		
满载效率 Full Loading Efficiency	%	95							1
		93							2
平均寿命 Average lifetime	h	20000							
重量 Weight	kg	1.6	3.4	8.1	15.5	39	85		1
		1.9	3.8	9	28	40	89		2

角标“1”在输出转速100rpm时, 作用于输出轴中心位置(L/2处)之容许径向力及轴向力。

角标“2”输出转速100rpm时的数据, 更改使用工况时数据存在偏差。

注: 带“*”的为不常用速比, 表格内有2组数字的表示扭矩/对应的实际速比。

最大加速扭矩等于额定扭矩180%。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.

The angle label "2" outputs the data when the speed is 100 rpm, and there is a deviation when the working condition is changed.

Note: with "*" is not commonly used speed ratio, in the table there are 2 groups of digital representation of the torque corresponding to the actual speed ratio.

The maximum acceleration torque is equal to 180% of the rated torque.

KPG系列行星减速机标准尺寸

KPG Series Servo Planetary Gearbox Standard Size

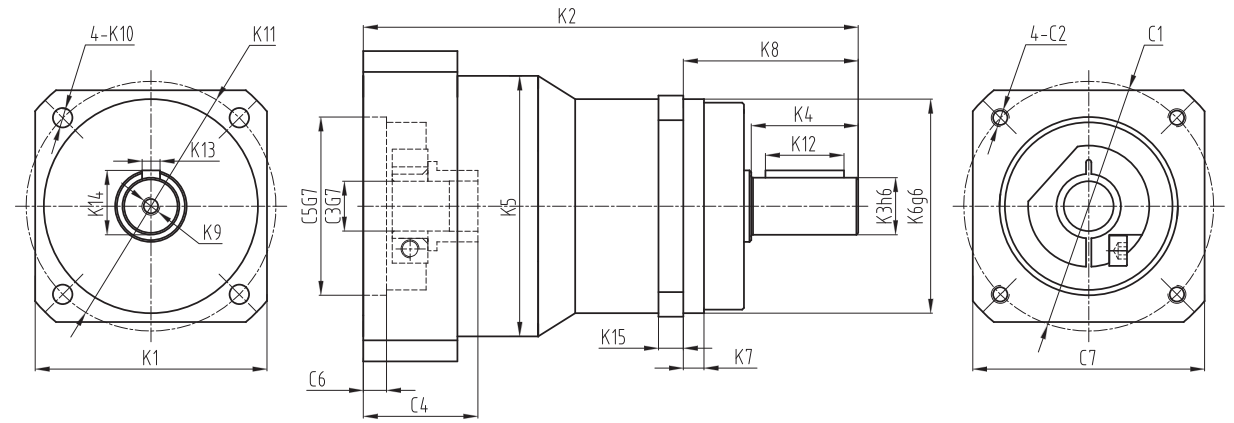
产品型号 Model		KPG070	KPG090	KPG120	KPG160	KPG205	Ratio	Stage
转动惯量 Rotational Inertia	kgcm ²	0.16	0.61	3.25	12.31	28.98	3	1
		0.14	0.48	2.74	7.54	23.67	4	
		0.13	0.47	2.71	7.42	22.75	5	
		0.13	0.47	2.62	7.25	22.48	7	
		0.13	0.45	2.62	7.14	22.59	8	
		0.13	0.44	2.62	7.14	22.59	9	
		0.13	0.44	2.57	7.14	22.55	10	
		0.127	0.44	2.56	12.35	12.35	12	
		0.127	0.44	2.56	12.35	12.35	15	
		2	0.12	0.43	1.75	7.47	7.54	16
			0.075	0.44	1.5	6.65	7.42	20
			0.075	0.44	1.49	5.81	7.54	25
			0.064	0.39	1.3	6.34	7.14	32
			0.064	0.39	1.3	5.36	7.14	35
			0.064	0.39	1.3	4.08	7.14	40
			0.064	0.39	1.3	5.36	7.14	45
			0.064	0.39	1.3	4.08	7.14	50
			0.075	0.39	1.5	7.5	7.54	64
0.075	0.44	1.49	7.4	7.54	80			
0.064	0.44	1.45	7.3	7.42	100			
回程间隙 Backlash	arcmin	≤3	≤3	≤3	≤3	≤3	High Precision	1
		≤6	≤6	≤6	≤6	≤6	Standard Precision	
		≤4	≤4	≤4	≤4	≤4	High Precision	2
		≤6	≤6	≤6	≤6	≤6	Standard Precision	
抗扭刚性 Torsional Rigidity	Nm/arcmin	7	14	25	50	140		
噪音 ¹ Noise	dB(A)	58	60	63	65	67		
最大输入速度 ² Max Input Speed	min ⁻¹	6000	6000	6000	6000	4000		
额定输入速度 ² Rated Input Speed	min ⁻¹	4000	3000	3000	3000	2500		

角标“1”环境温度为20°C。

角标“2”噪音在n1<3000min⁻¹、1米处测得。

The subscript "1" the environment temperature is 20°C.

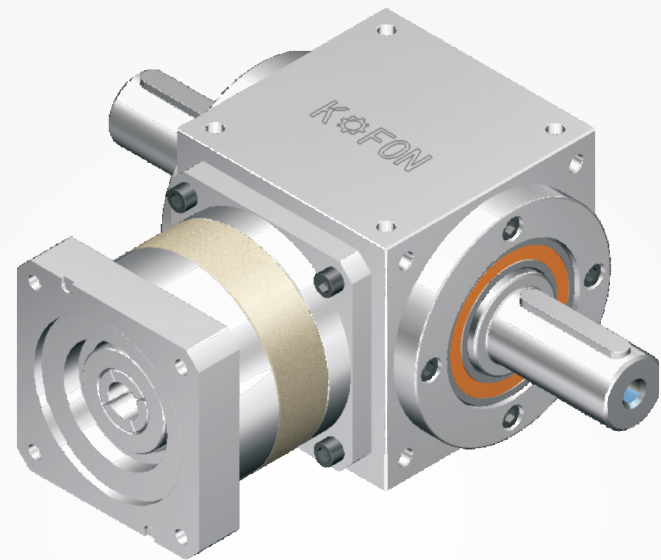
The subscript "2" sound in n1<3000min⁻¹, measured at 1 m.



型号 Model	KPG070		KPG090		KPG120		KPG160		KPG205	
Stage	1	2	1	2	1	2	1	2	1	2
K1	62		75		100		140		180	
K2	155	161	195	229	240	261	295	310	315.5	360
K3	φ16		φ22		φ32		φ40		φ55	
K4	28		36		58		82		82	
K5	φ70		φ90		φ120		φ160		φ205	
K6	60		φ70		φ90		φ130		φ160	
K7	5		6		8		10		12	
K8	48		56		88		112		112	
K9	M5X12		M6X16		M10X22		M12X25		M20X40	
K10	φ5.5		φ6.5		φ9		φ11		φ13	
K11	68		φ85		φ120		φ165		φ215	
K12	25		32		50		65		65	
K13	5		6		10		12		16	
K14	18		24.5		35		43		59	
K15 ¹	6		7		10		12		15	
C1	φ90	φ70	φ145	φ90	φ145	φ90	φ200	φ145	φ215	φ200
C2	M6X15	M5X12	M8X20	M6X15	M8X20	M6X15	M12X25	M8X20	M12X25	M12X25
C3	φ19	φ14	φ24	φ19	φ24	φ19	φ35	φ24	φ42	φ35
C4	41.6	32.1	61.3	41.6	61.3	41.6	82	61.3	82	82
C5	φ70	φ50	φ110	φ70	φ110	φ70	φ114.3	φ110	φ180	φ114.3
C6	6.5	6.5	8	6.5	8	6.5	8	8	8	8
C7	80	70	120	89	120	89	175	120	190	175

KT 法兰系列行星减速机

KT FLANGE SERIES PLANETARY GEARBOX



KT 法兰型系列产品特点

KT flange series product features:

一体化铝合金本体确保最大刚性与耐蚀性，多重精密加工表面易于组装。
Integration of alloy aluminum body to ensure the maximum rigidity and corrosion resistance, and easy to assemble with multiple precision machined surface.

采用顶级蜗线伞齿轮，经最佳化设计，接触齿面负载均一、容许高扭矩输出。
The use of top-level spiral bevel gear, with optimization design, the contact tooth surface of uniform load, allowable high torque output.

齿轮采用高强度渗碳合金钢，研磨精度符合ISO 6级标准。
Gear is made of high strength alloy steel carburizing, grinding precision accorded with the standard of ISO 6.

多重合金钢输出输入轴的设计适用于各种工业上的需求。
The design of multiple alloy steel output and input shaft applies to various industrial requirements.

高精度研磨的蜗线伞齿轮组可以达到400:1的减速比。
Spiral bevel gear set of high precision grinding can achieve 400:1 ratio.

高扭矩低侧隙的精简结构设计适用于精密伺服的应用。
The simplified structure design with high torque and low backlash applies to applications of precision servo.

免保养无需更换润滑油，运转寿命长。
With maintenance-free, no need to replace the grease and long service life.

订货说明

ORDERING INSTRUCTIONS

KT070 FL - 4 - S1 - MOTOR

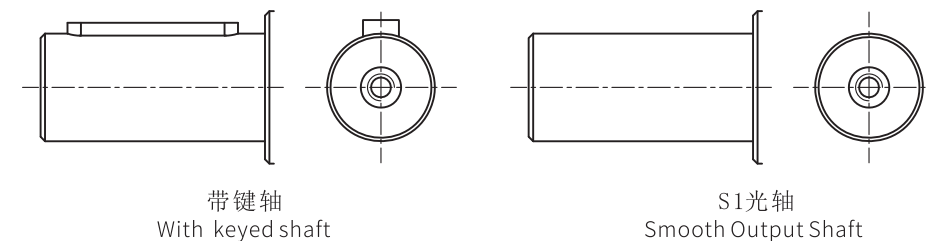
电机适配器，未注明为标准尺寸
Motor adapter, not specified for the standard size

轴形式S1: 光轴，未注明为带键轴
Shaft output form of the S1: Smooth Output Shaft, not specified for the keyed shaft

速比: 单级(Single stage)1/2/3/4/5/6
Ratio 双级(Double stage)8/10/16/20/24/30
三级(Three stage)32/40/50/60/80/100
四级(Four stage)120/160/200/250/320/400

减速机型式(Deceleration type): FL、FL1、FR1、FH、FC、L、L1、R1、H、C

产品系列(Product series): KT070、KT090、KT110、KT140、KT170、KT210、KT240



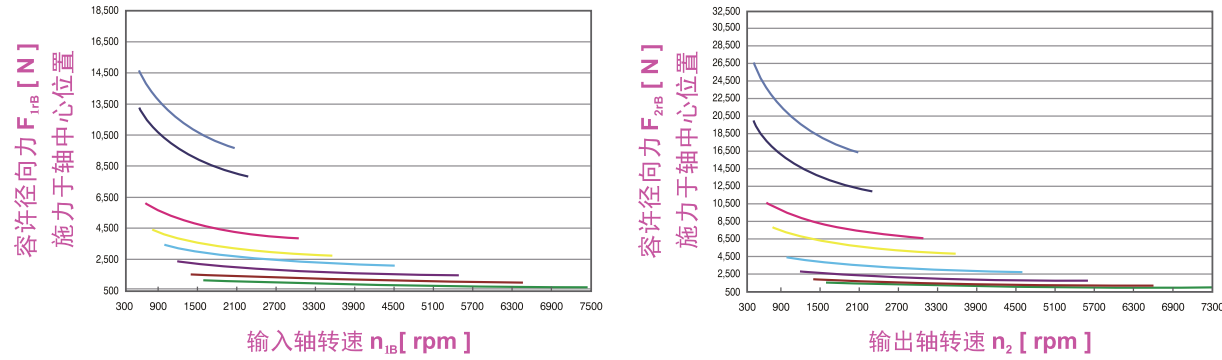
选用范例: KT090-FL-20-S1/SIEMENS 1FT6 041-4AF71
如果有疑问或非标定做请咨询客服人员。
The selection of examples: KT090-FL-20-S1/SIEMENS 1FT6 041-4AF71
If in doubt, please contact customer service.

减速机轴容许的径向力和轴向力

Permissible Radial Force and Axial Force of Gearbox Shaft

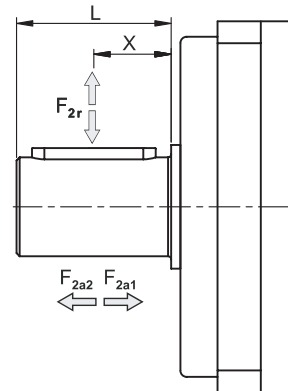
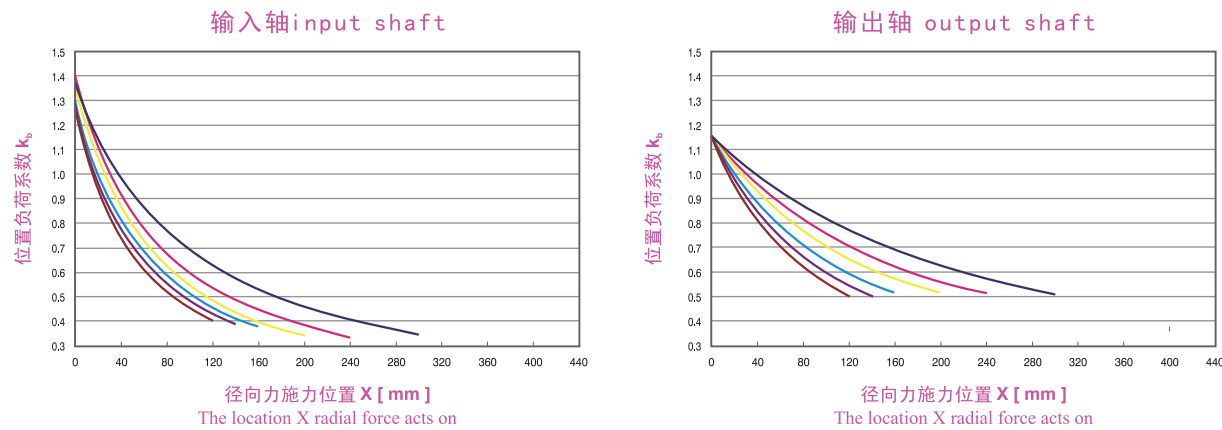
当径向力 F_{2r} 施力在轴中心位置时即 $X=1/2L$ ，不同规格的减速机在不同的输出转速使用下，使用寿命为20000hr时所能承受的径向力 F_{1rB} 、 F_{2rB} ，请参照下图。

Please consult the left picture to find the right permissible radial force F_{1rB} 、 F_{2rB} , when gearbox with 20000hr, using life works at different output speed on the condition that radial force F_{2r} acts on the middle of the shaft, $X=1/2L$.



当径向力 F_{2r} 施力不在轴中心位置时，越靠近减速机即 $X<1/2L$ ，所容许的径向力变大，远离则相反。如下图，依减速机规格及径向施力位置 X ，查出位置负荷系数 K_b 。

The gearbox permissible radial force is bigger when radial force is closer to gearbox ($X<1/2L$) on the condition that radial force F_{2r} is not at the shaft. Under the same condition you can consult the left picture to find the locational coefficient at load K_b by the specification of gearbox and the location X radial force acts on.



KT法兰系列行星减速机技术参数

KT Flange Series Servo Planetary Gearbox Technical Data

产品型号 Model		KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL	Ratio	Stage		
		KT070FL1	KT090FL1	KT110FL1	KT140FL1	KT170FL1	KT210FL1	KT240FL1				
		KT070FR1	KT090FR1	KT110FR1	KT140FR1	KT170FR1	KT210FR1	KT240FR1				
		KT070FH	KT090FH	KT110FH	KT140FH	KT170FH	KT210FH	KT240FH				
		KT070FC	KT090FC	KT110FC	KT140FC	KT170FC	KT210FC	KT240FC				
额定输出扭矩 Rated Output Torque	Nm	45	78	150	360	585	1300	2150	1	1		
		42	68	150	330	585	1220	2010	2			
		33	54	120	270	450	1020	1650	2.5		2	
		42	68	150	330	544	1220	2010	4			
		42	68	150	330	544	1220	2010	5			
		42	68	150	290	480	1000	--	7			
		42	68	65	210	450	800	1550	8			
		36	68	90	200	415	910	--	9			
		32	68	150	330	544	910	1500	10			
		42	68	150	330	544	1220	2010	16	3		
		42	68	150	330	544	1220	2010	20			
		42	68	150	330	544	1220	2010	25			
		42	68	150	330	544	1220	2010	32			
		42	68	150	330	544	1220	2010	40			
		42	68	150	330	544	1220	2010	50			
		42	68	150	330	544	1220	2010	80			
		42	68	150	330	544	1220	2010	100			
		故障停止扭矩 ¹ Fault stop torque ¹	Nm	2倍额定输出扭矩							1~100	1~3
		回程间隙 Backlash	arcmin	≤6	≤6	≤6	≤6	≤8	≤10	≤12	1~3	1
				≤8	≤8	≤8	≤8	≤10	≤12	≤15	4~20	2
≤10	≤10			≤10	≤10	≤15	≤15	≤20	25~100	3		
输出最大径向力 ² Output maximum radial force ²	N	1100	1700	2700	4800	6600	11500	16000	1~100	1~3		
输出最大轴向力 ² Output maximum axial force ²	N	550	850	1350	2400	3300	5750	8500	1~100	1~3		
平均寿命 Average life span	hr	20000							1~100	1		
满载效率 Full loading efficiency η	%	≥96%							1~3	1~3		
		≥94%							4~20	1		
		≥92%							25~100	2		
噪音 ³ Noise ³	dB(A)	≤72	≤76	≤77	≤78	≤79	≤81	≤83	1~100	1		

最大输入速度 ¹ Max input speed	rpm	3500	3500	3000	3000	2500	2000	1800	1~3	1
		6000	6000	6000	6000	6000	6000	4000	4~100	2~3
额定输入速度 ² Rated input speed	rpm	2500	2500	2000	2000	1500	1500	1200	1~3	1
		3000	3000	3000	3000	3000	3000	2000	4~100	2~3
转动惯量 Rotational Inertia	kgcm ²	1.3	3.16	7.7	23.57	58.99	195.4	369.34	1	1
		1.11	2.7	6.31	17.75	45.35	140.24	249.74	2	1
		1.09	2.68	6.26	17.54	44.86	135.7	240.53	2.5	1
		1.09	2.66	6.17	17.18	44.01	134.95	237.71	3	1
		0.15	0.5	2.79	5.4	7.5	11.91	29.26	4~20	2
		0.14	0.48	2	3.6	5.8	9.46	25.43	25~100	3
重量 Weight	kg	4.4	7.1	12.1	20.9	36.1	69.4	95.2	1~3	1
		4.8	8.1	14.3	24.2	38.5	74.1	102.4	4~20	2
		5.5	9.8	16.9	27.7	40.8	80.4	115.2	25~100	3

- 角标“1”在输出转速100rpm时，作用于输出轴中心位置（L/2处）之容许径向力及轴向力。
- 角标“2”环境温度为20℃。
- 角标“3”音在n1=3000min⁻¹、1米处测得。
- 样本重量作为参考以实物为准。

1 The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.
Note: with "*" is not commonly used speed ratio, in the form of 2 groups of digital representation of the torque corresponding to the actual ratio.
2 The subscript "2" the environment temperature is 20℃.
3 The subscript "3" sound in n1<3000min⁻¹, measured at 1 m.
4 The Weight of the Sample book shall be taken as a reference, subject to physical object.

KT轴系列减速机技术参数

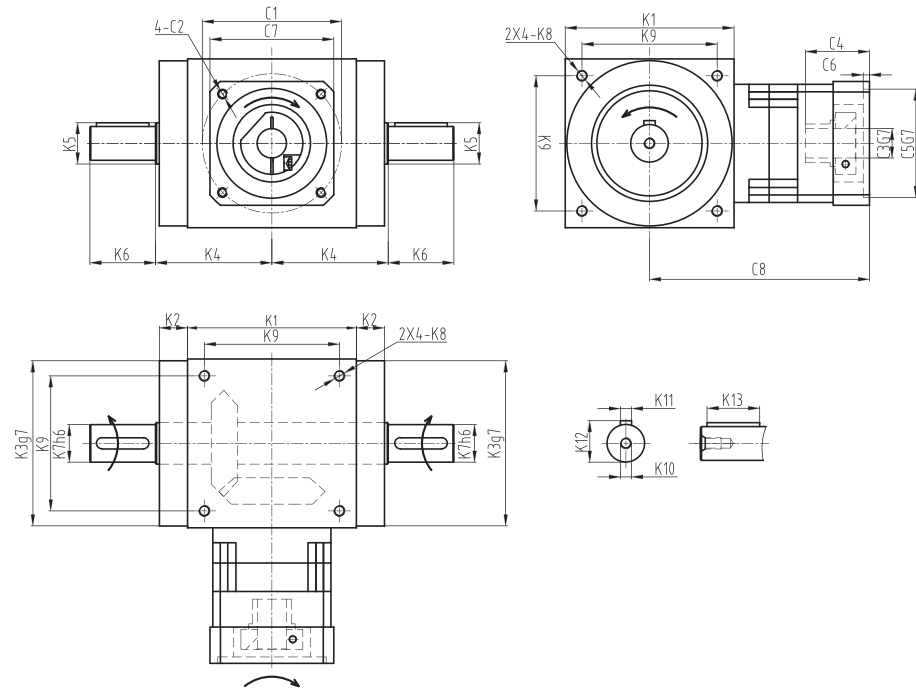
KT Axis Series Servo Gearbox Technical Data

产品型号 Model		KT070L	KT090L	KT110L	KT140L	KT170L	KT210L	KT240L	Ratio	Stage
		KT070L1	KT090L1	KT110L1	KT140L1	KT170L1	KT210L1	KT240L1		
		KT070R	KT090R	KT110R	KT140R	KT170R	KT210R	KT240R		
		KT070H	KT090H	KT110H	KT140H	KT170H	KT210H	KT240H		
		KT070C	KT090C	KT110C	KT140C	KT170C	KT210C	KT240C		
额定输出扭矩 Rated Output Torque	Nm	45	78	150	360	585	1300	2150	1	1
		42	68	150	330	544	1220	2010	2	
		37	60	130	280	450	1020	1800	2.5	
		33	54	120	270	450	1020	1650	3	
故障停止扭矩 ¹ Fault stop torque ¹	Nm	2倍额定输出扭矩						1~3	1~3	
回程间隙 Backlash	arcmin	≤6	≤6	≤6	≤6	≤6	≤8	≤10	1~3	1
输出最大径向力 ¹ Output maximum radial force ¹	N	1100	1700	2700	4800	6600	11500	16000	1~3	1~3
输出最大轴向力 ² Output maximum axial force ²	N	550	850	1350	2400	3300	5750	8500	1~3	1~3
平均寿命 Average life span	h	20000						1~3	1	
效率η Efficiency	%	≥96%						1~3	1~3	
噪音 ³ Noise ³	dB(A)	≤72	≤76	≤77	≤78	≤79	≤81	≤83	1~100	1
最大输入速度 ⁴ Max input speed ⁴	min ⁻¹	3500	3500	3000	3000	2500	2000	1800	1~3	1
额定输入速度 ⁴ Rated input speed ⁴	min ⁻¹	2500	2500	2000	2000	1500	1500	1500	1~3	1
转动惯量 Moment of inertia	kgcm ²	1.3	3.16	7.7	23.57	58.99	195.4	369.34	1	1
		1.11	2.7	6.31	17.75	45.35	140.24	249.74	2	1
		1.09	2.68	6.26	17.54	44.86	135.7	240.53	2.5	1
		1.09	2.66	6.17	17.18	44.01	134.95	237.71	3	1
重量 Weight	kg	4.2	6.8	11.6	19.8	34.8	66.2	98.1	L系列	
		4.1	6.7	11.5	19.5	34.2	65.1	96.6	L1系列	
		3.9	6.4	11	18.1	31.6	60	89.4	H系列	
		4.2	6.9	11.4	19.6	33.7	63.3	97.9	C系列	

- 角标“1”在输出转速100rpm时，作用于输出轴中心位置（L/2处）之容许径向力及轴向力。
- 角标“2”环境温度为20℃。
- 角标“3”音在n1=3000min⁻¹、1米处测得。
- 样本重量作为参考以实物为准。

The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force.
Note: with "*" is not commonly used speed ratio, in the form of 2 groups of digital representation of the torque corresponding to the actual ratio.
The subscript "2" the environment temperature is 20℃.
The subscript "3" sound in n1<3000min⁻¹, measured at 1 m.
The Weight of the Sample book shall be taken as a reference, subject to physical object.

KTFL系列行星减速机标准尺寸
KTFL Series Servo Planetary Gearbox Standard Size

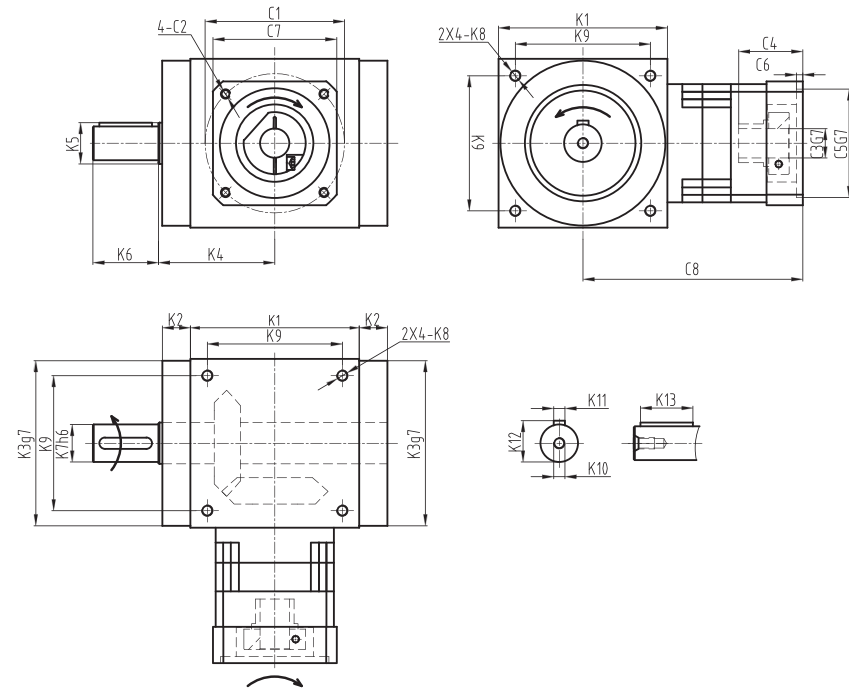


尺寸 Size	KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
单级减速机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25

尺寸 Size	KT070FL	KT090FL	KT110FL	KT140FL	KT170FL	KT210FL	KT240FL
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
双级减速机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	116
C4	32.1	41.6	41.6	61.3	61.3	82	82.5
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	114.5	137	147	208	248.5	318	355
三级减速机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

KTFL1 系列行星减速机标准尺寸

KTFL1 Series Servo Planetary Gearbox Standard Size

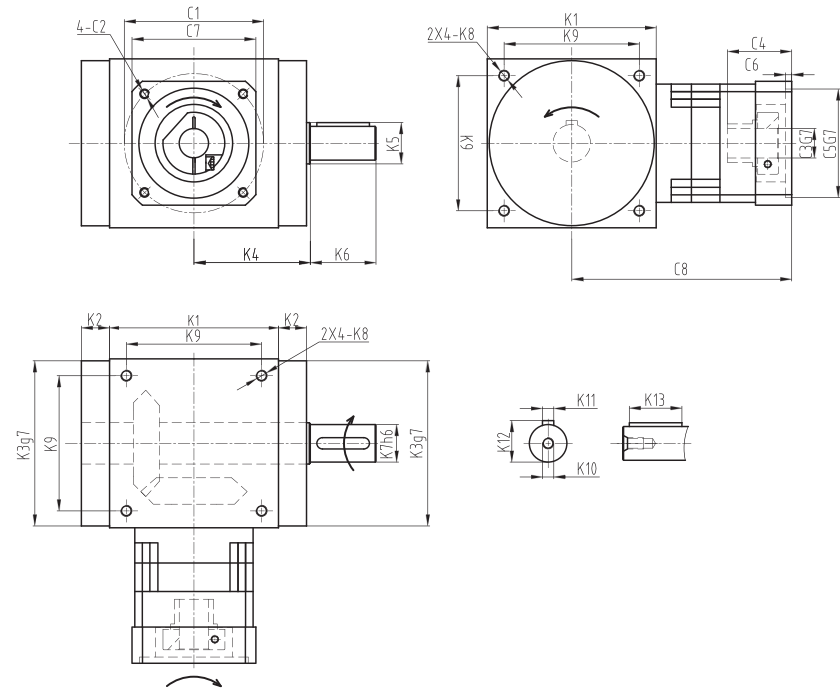


尺寸 Size	KT070FL1	KT090FL1	KT110FL1	KT140FL1	KT170FL1	KT210FL1	KT240FL1
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
单级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25

尺寸 Size	KT070FL1	KT090FL1	KT110FL1	KT140FL1	KT170FL1	KT210FL1	KT240FL1
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
双级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	114.5	137	147	208	248.5	318	355
三级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

KTFR1系列行星减速机标准尺寸

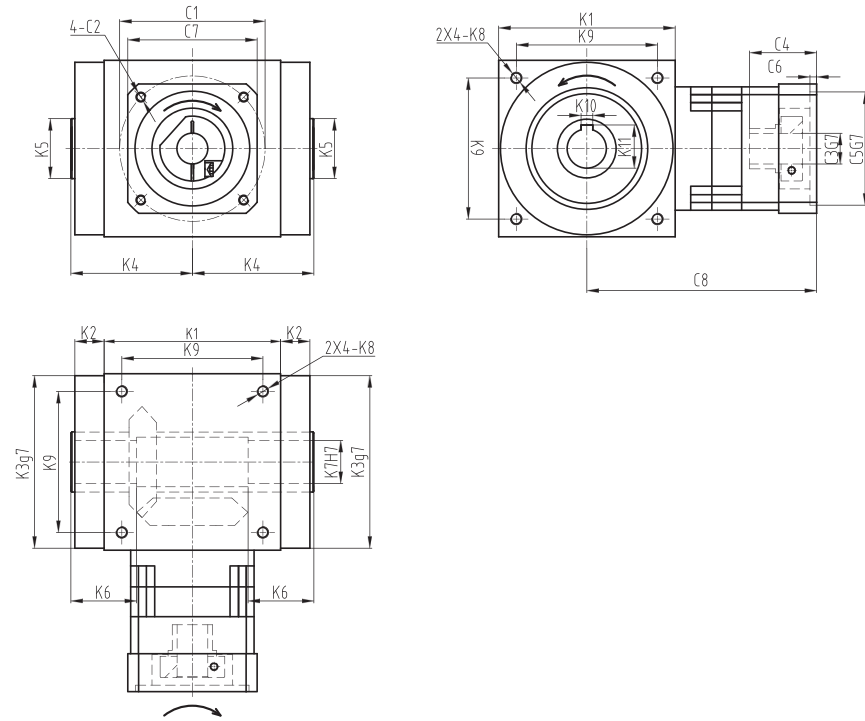
KTFR1 Series Servo Planetary Gearbox Standard Size



尺寸 Size	KT070FR1	KT090FR1	KT110FR1	KT140FR1	KT170FR1	KT210FR1	KT240FR1
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
单级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25

尺寸 Size	KT070FR1	KT090FR1	KT110FR1	KT140FR1	KT170FR1	KT210FR1	KT240FR1
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
双级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	114.5	137	147	208	248.5	318	355
三级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

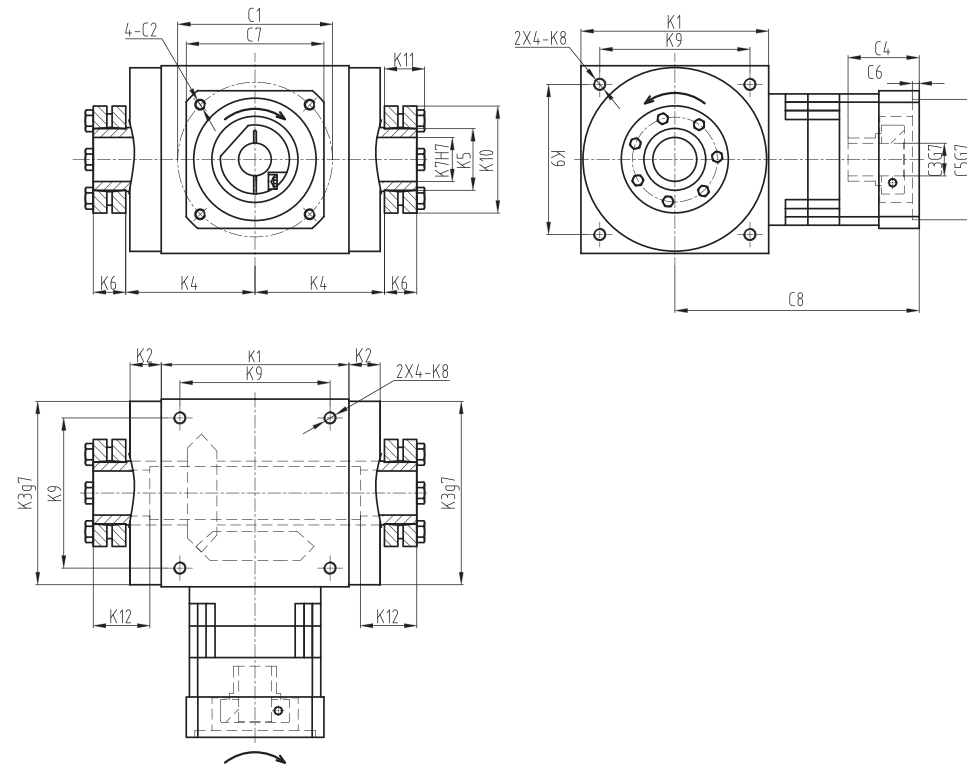
KTFH 系列行星减速机标准尺寸
KTFH Series Servo Planetary Gearbox Standard Size



尺寸 Size	KT070FH	KT090FH	KT110FH	KT140FH	KT170FH	KT210FH	KT240FH
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ28	φ33	φ47	φ55	φ75	φ85
K6	32	35	40	50	55	65	80
K7	φ12	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	4	6	6	10	12	14	16
K11	13.8	20.8	24.8	35.3	43.3	53.8	59.3
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
单级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25

尺寸 Size	KT070FH	KT090FH	KT110FH	KT140FH	KT170FH	KT210FH	KT240FH
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
双级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	114.5	137	147	208	248.5	318	355
三级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

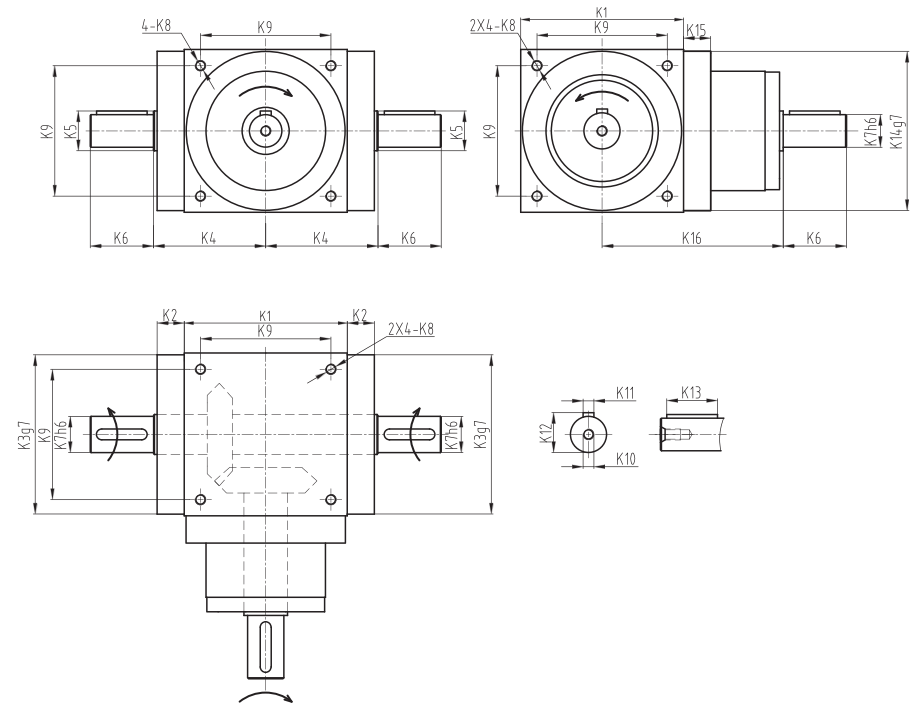
KTFC系列行星减速机标准尺寸
KTFC Series Servo Planetary Gearbox Standard Size



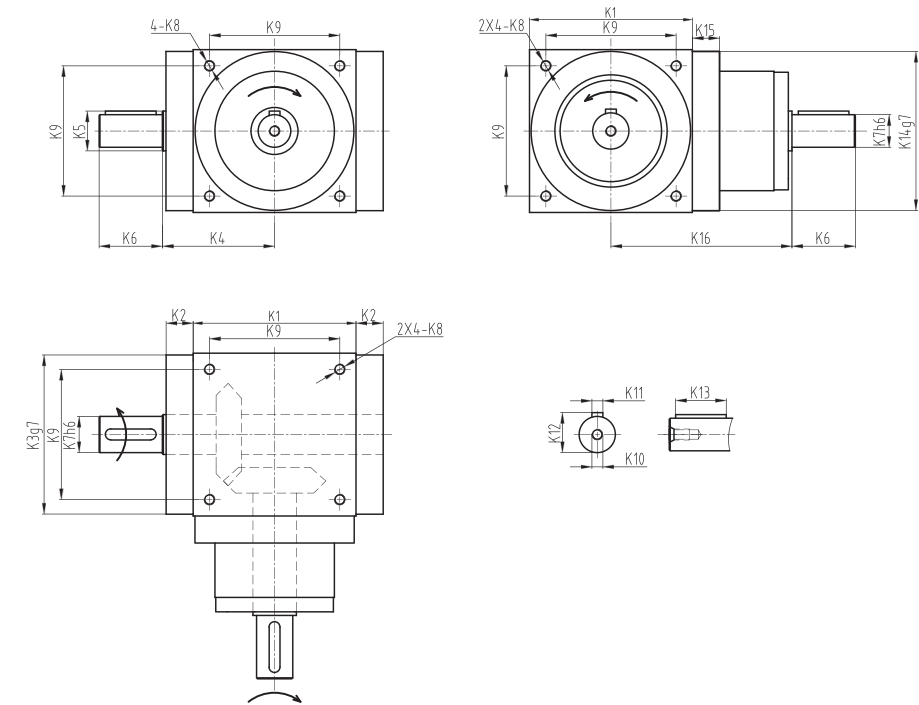
尺寸 Size	KT070FC	KT090FC	KT110FC	KT140FC	KT170FC	KT210FC	KT240FC
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ16	φ22	φ25	φ44	φ50	φ62	φ68
K6	14	18	18	24	26	29	29
K7	φ14	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	41	50	50	80	90	110	115
K11	18.5	23	23	29.5	31.5	34.5	34.5
K12	32	35	40	50	55	65	80
单级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25

尺寸 Size	KT070FC	KT090FC	KT110FC	KT140FC	KT170FC	KT210FC	KT240FC
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	93	103	143	172.2	248.5	318	355
双级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ215
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ42
C4	32.1	41.6	41.6	61.3	61.3	82	116
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ180
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	190
C8	114.5	137	147	208	248.5	318	355
三级减速电机连接尺寸							
C1	φ70	φ90	φ90	φ145	φ145	φ200	φ200
C2	M5X12	M6X15	M6X15	M8X20	M8X20	M12X25	M12X25
C3	φ14	φ19	φ19	φ24	φ24	φ35	φ35
C4	32.1	41.6	41.6	61.3	61.3	82	82
C5	φ50	φ70	φ70	φ110	φ110	φ114.3	φ114.3
C6	6.5	6.5	6.5	8	8	8	8
C7	65	85	85	120	120	175	175
C8	138.2	168	178.3	249.8	309.5	358	399

KTL系列减速机标准尺寸
KTL Series Servo Gearbox Standard Size



KTL1系列减速机标准尺寸
KTL1 Series Servo Gearbox Standard Size

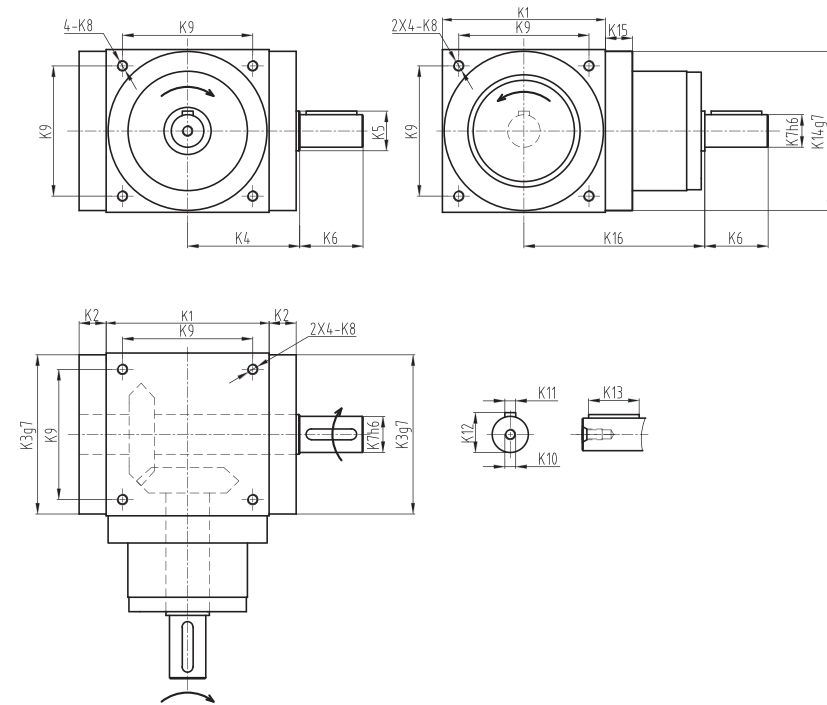


尺寸 Size	KT070L	KT090L	KT110L	KT140L	KT170L	KT210L	KT240L
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
K14	73	88	108	135	165	205	235
K15	15	15	15	15	15	20	25
K16	90	100	115	130	155	195	225

尺寸 Size	KT070L1	KT090L1	KT110L1	KT140L1	KT170L1	KT210L1	KT240L1
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
K14	73	88	108	135	165	205	235
K15	15	15	15	15	15	20	25
K16	90	100	115	130	155	195	225

KTR1 系列减速机标准尺寸

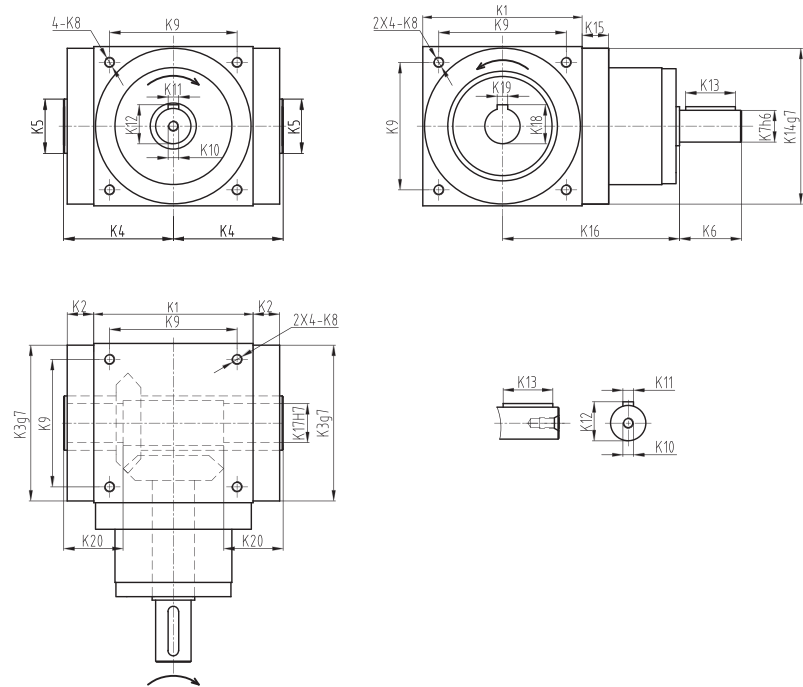
KTR1 Series Servo Gearbox Standard Size



尺寸 Size	KT070L1	KT090L1	KT110L1	KT140L1	KT170L1	KT210L1	KT240L1
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ25	φ30	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
K14	73	88	108	135	165	205	235
K15	15	15	15	15	15	20	25
K16	90	100	115	130	155	195	225

KTH 系列减速机标准尺寸

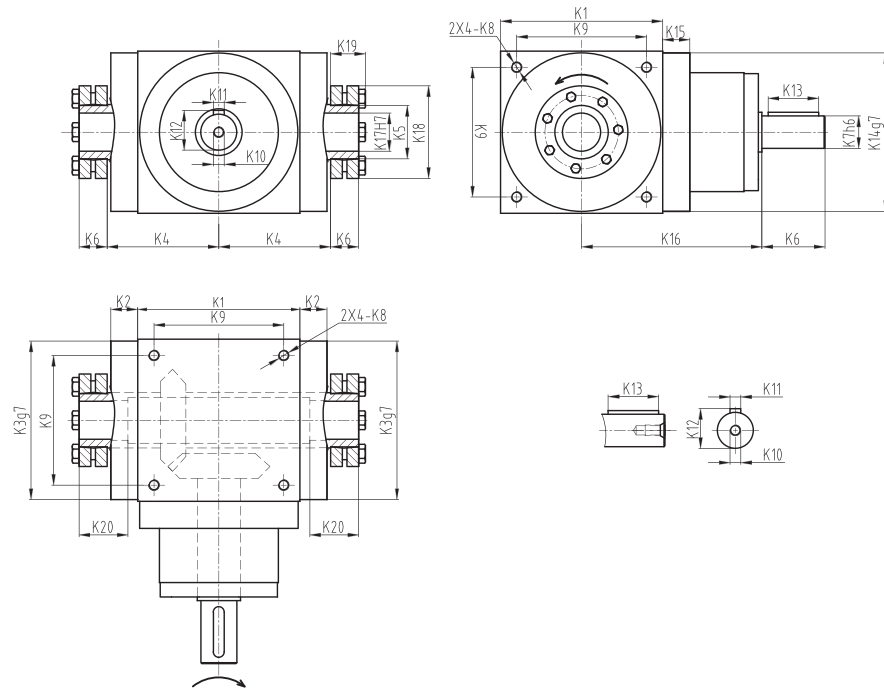
KTH Series Servo Gearbox Standard Size



尺寸 Size	KT070H	KT090H	KT110H	KT140H	KT170H	KT210H	KT240H
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ22	φ28	φ33	φ47	φ55	φ75	φ85
K6	30	35	40	50	60	75	85
K7	φ10	φ16	φ18	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
K14	73	88	108	135	165	205	235
K15	15	15	15	15	15	20	25
K16	90	100	115	130	155	195	225
K17	φ12	φ18	φ22	φ32	φ40	φ50	φ55
K18	13.8	20.8	24.8	35.3	43.3	53.8	59.3
K19	4	6	6	10	12	14	16
K20	32	35	40	50	55	65	80

KTC 系列减速机标准尺寸

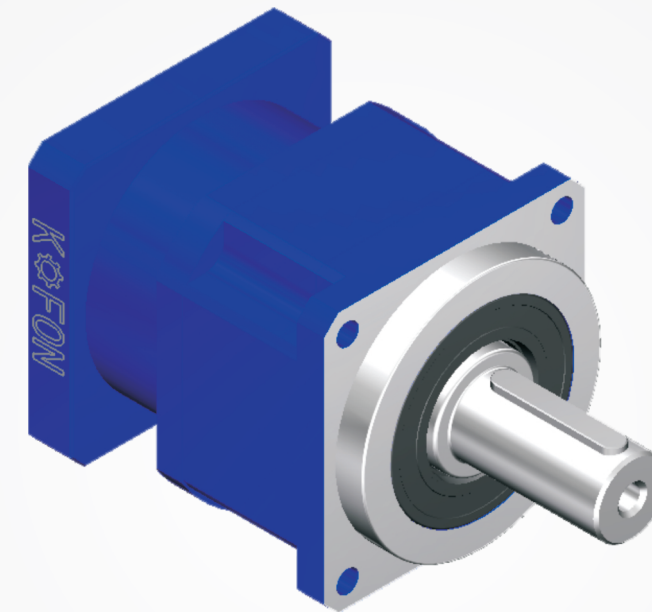
KTC Series Servo Gearbox Standard Size



尺寸 Size	KT070C	KT090C	KT110C	KT140C	KT170C	KT210C	KT240C
K1	75	90	110	140	170	210	240
K2	14.5	15	15	15	15	20	25
K3	φ73	φ88	φ108	φ135	φ165	φ205	φ235
K4	54	62	72	87	102	127	147
K5	φ16	φ22	φ25	φ44	φ50	φ62	φ68
K6	14	18	18	24	26	29	29
K7	φ16	φ18	φ22	φ32	φ40	φ50	φ55
K8	M6X8	M6X15	M8X10	M10X13	M12X20	M16X25	M16X35
K9	60	72	88	110	134	170	190
K10	M5X12.5	M5X12.5	M8X19	M12X28	M16X36	M16X36	M16X36
K11	5	6	6	10	12	14	16
K12	18	20.5	24.5	35	43	53.5	59
K13	25	28	32	45	50	70	80
K14	73	88	108	135	165	205	235
K15	15	15	15	15	15	20	25
K16	90	100	115	130	155	195	225
K17	φ14	φ18	φ22	φ32	φ40	φ50	φ55
K18	41	50	50	80	90	110	115
K19	18.5	23	23	29.5	31.5	34.5	34.5
K20	32	35	40	50	55	65	80

PX 系列行星减速机

SERIES SERVO PLANETARY GEARBOX



PX 系列行星减速机产品特点

PX Series Servo Planetary Gearbox Product Highlight

经济型:高性价比

Economic Type: High Quality with competitive price.

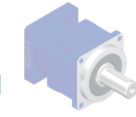
齿轮材料选用高级低碳合金锻钢, 经过渗碳淬火之深度硬化处理, 硬度可达到HRC60, 保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

可适配全球任何一台伺服电动机。

Can be connected with any servo motor around the world.

使用合成润滑脂, 并采用IP65密封设计, 不泄漏免维护。

No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.



PX系列行星减速机技术参数

PX Series Servo Planetary Gearbox Technical Data

产品型号 Model		PX190	PX240	PX285	PX330	PX400	减速比	级数
额定输出扭矩 Rated Output Torque	Nm	800	-	-	-	-	3	1
		1780	3500	5800	10190	15565	4	
		1345	2640	4400	7180	11120	5	
		745	1485	2595	4080	6150	8	
		2035	--	--	--	--	12	2
		2035	3710	6400	10800	16660	16	
		2035	3710	6400	10800	16660	20	
		1485	2805	4710	7550	12140	25	
		2035	3710	6400	10800	16660	32	
		1485	2805	4710	7550	12140	40	
		840	1580	2790	4430	6635	64	
		2590	4820	8130	13700	20760	80	
		2590	4820	8130	13700	20760	100	3
		1855	3610	6030	9800	15200	125	
		2590	4820	8130	13700	20760	160	
		1855	3610	6030	9800	15200	200	
		2596	4820	8130	13700	20760	256	
		1855	3610	6030	9800	15200	320	
1070	2000	3560	5630	8450	512			
故障停止扭矩 Fault stop torque	Nm	2倍额定输出扭矩						
最大径向力 ¹ Maximum radial force ¹	N	6500	10500	15000	17000	26500		
最大轴向力 ¹ Maximum axial force ¹	N	5000	8000	12000	15000	20000		
满载效率 Full load efficiency	%	96						1
		94						2
		90						3
平均寿命 Average life span	h	10000						
重量 Weight	kg	39	71	113	145	250		1
		42	87.5	136	190	340		2
		46.5	89	140	216	360		3

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力，最大加速扭矩等于额定扭矩150%
The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force, the maximum acceleration torque is equal to the rated torque of 150%

产品型号 Model		PX190	PX240	PX285	PX330	PX400	配电机孔径
转动惯量 Rotational Inertia	kgcm ²	15.6	-	-	-	-	28 (弹性连接)
		16.3	15.0	40.2	--	--	28 (键连接)
		15.4	--	--	--	--	32 (弹性连接)
		16.1	14.8	39.9	75.1	--	32 (键连接)
		15.2	--	--	--	--	35 (弹性连接)
		15.9	14.5	39.6	74.8	--	35 (键连接)
		15	--	--	--	--	38 (弹性连接)
		15.7	14.3	39.2	74.3	--	38 (键连接)
		15.3	13.7	38.5	73.4	--	42 (键连接)
		--	--	37.8	72.6	251.6	45 (键连接)
		--	--	36.5	70.9	249.6	50 (键连接)
		--	--	34.5	68.5	246.7	55 (键连接)
		--	--	--	65.4	243	60 (键连接)
		--	--	--	62.5	239.5	64 (键连接)
		--	--	--	--	238.5	65 (键连接)
		--	--	--	--	232.4	70 (键连接)
		--	--	--	--	216.2	80 (键连接)
		--	--	--	--	205.8	85 (键连接)
回程间隙 Backlash	arcmin	≤10	≤10	≤10	≤10	≤10	1
		≤18	≤18	≤18	≤18	≤18	2
		≤22	≤22	≤22	≤22	≤22	3
抗扭刚性 Torsional Rigidity	Nm/arcmin	66.7	123.3	213.3	339	536.4	
噪音 ¹ Noise ¹	dB(A)	70	72	75	75	75	
最大输入速度 ² Max Input Speed ²	min ⁻¹	3000	3000	2500	2000	2000	
额定输入速度 ² Rated Input Speed ²	min ⁻¹	2000	2000	1500	1500	1500	

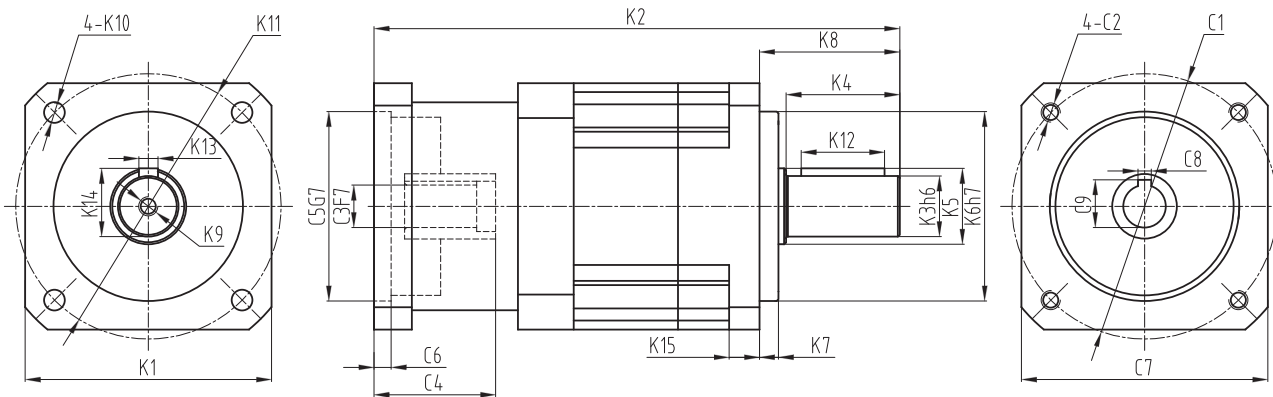
角标“1”环境温度为20℃

角标“2”噪音在n1=2000min-1、1米处测得

The subscript "1" the environment temperature is 20 DEG C
The subscript "2" noise in n1=2000min-1, measured at 1 m

PX系列行星减速机标准尺寸

PX Series Servo Planetary Gearbox Standard Size



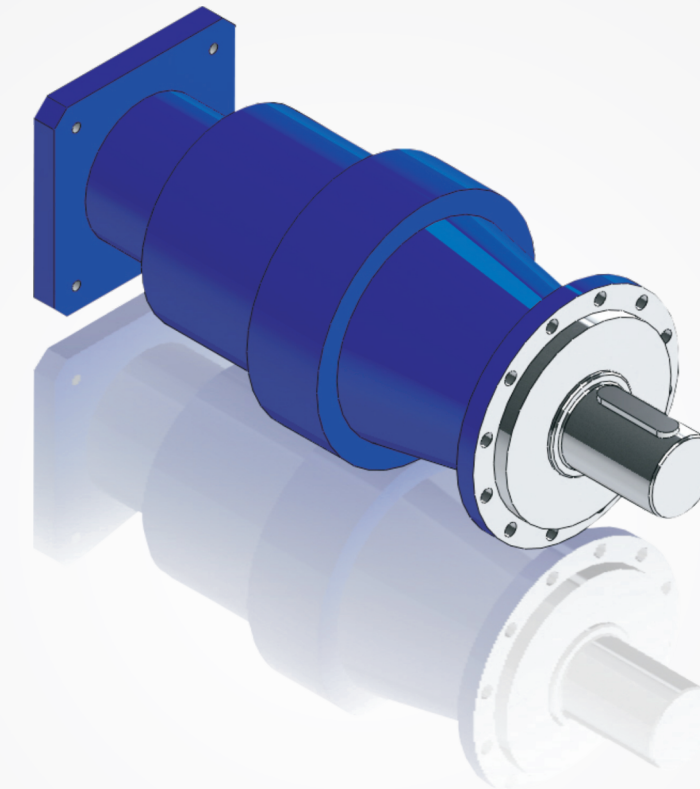
型号 Model	PX190			PX240			PX285			PX330			PX400		
级数	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	190			240			285			330			400		
K2	339	400	448	362	425.5	486.5	412	502	587	461	561	656	536	642	750
K3	φ50			φ65			φ70			φ80			φ90		
K4	80			100			110			120			135		
K5	φ60			φ75			φ85			φ90			φ100		
K6	φ160			φ225			φ250			φ290			φ350		
K7	20			20			20			25			25		
K8	102			125			135			150			165		
K9	M12X26			M12X26			M16X35			M16X35			M16X35		
K10	φ13.5			φ18			φ18			φ22			φ22		
K11	φ215			φ265			φ315			φ370			φ425		
K12	70			90			100			110			125		
K13	14			18			20			22			25		
K14	53.5			69			74.5			85			95		
K15	25			25			25			30			35		
C1	φ200			φ215	φ200		φ265	φ215		φ300	φ265		φ350	φ300	
C2	M12X25			M12X25			M12X25			M16X35	M12X25		M16X35		
C31	φ35			φ42	φ35		φ55	φ42		φ60	φ55		φ80	φ60	
C4	81.5			85	81.5		110	85		130	110		175	130	
C5	φ114.3			φ180	φ114.3		φ230	φ180		φ250	φ230		φ300	φ250	
C6	8			8	8		8	8		8	8		10	8	
C7	176			240	176		285	240		330	285		400	330	
C8	0			12	0		16	12		18	16		22	18	
C9	--			45.3	--		59.3	45.3		64.4	59.3		85.4	64.4	

角标“1”减速机输入孔35以内为光轴弹性锁紧，不带键槽。

The subscript "1" less than 35 for the reducer input hole axis elastic lock, without keyway.

PW系列行星减速机

SERIES SERVO PLANETARY GEARBOX



PW系列行星减速机产品特点

PW Series Servo Planetary Gearbox Product Highlight

经济型：高性价比

Economic Type: High Quality with competitive price.

齿轮材料选用高级低碳合金锻钢，经过渗碳淬火之深度硬化处理，硬度可达到HRC60，保证齿轮强度和寿命。
Choosing low-carbon alloy forged steel as the raw material of the gear, the hardness can reach HRC60 by deepen harden of carburizing heat treatment to ensure gear strength and lifetime.

可适配全球任何一台伺服电动机。

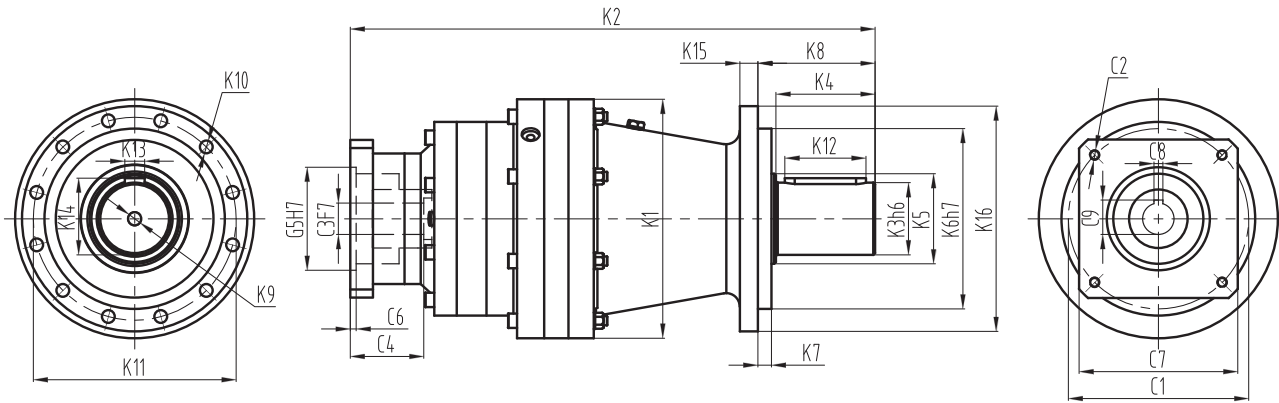
Can be connected with any servo motor around the world.

使用合成润滑脂，并采用IP65密封设计，不泄漏免维护。

No grease leakage and miantenance free by using synthetic lubricating grease and IP65 protection design.

PW系列行星减速机标准尺寸

PW Series Servo Planetary Gearbox Standard Size



型号 Model	PW215			PW265			PW315			PW360			PW420		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
K1	Φ215			Φ265			Φ315			Φ360			Φ420		
K2	394.5	455.5	493.5	532	582	643	623	701	751	725	816	894	808	940	1031
K3	Φ50			Φ80			Φ90			Φ110			Φ120		
K4	80			110			140			170			210		
K5	Φ60			Φ100			Φ110			Φ125			Φ140		
K6	Φ160			Φ200			Φ230			Φ250			Φ300		
K7	10			15			15			20			20		
K8	95			130			160			195			235		
K9	M12x26			M16x35			M16x35			M16x35			M20x50		
K10	12-Φ12			12-Φ14			12-Φ14			12-Φ18			12-Φ18		
K11	Φ190			Φ225			Φ265			Φ300			Φ350		
K12	70			90			120			150			180		
K13	14			22			25			28			32		
K14	53.5			85			95			116			127		
K15	17			20			25			30			30		
K16	Φ215			Φ250			Φ300			Φ350			Φ400		
C1	Φ200			Φ215	Φ200		Φ265	Φ215	Φ200	Φ300	Φ265	Φ215	Φ350	Φ300	Φ265
C2	4-M12			4-M12			4-M12			8-M16	4-M12		8-M16		4-M12
C3	35			42	35		55	42	535	60	55	42	55	55	55
C4	81.5			93.5	81.5		116.5	93.5	81.5	145	116.5	93.5	116.5	116.5	116.5
C5	114.3			180	114.3		230	180	114.3	250	230	180	230	230	230
C6	8			8			8			8			8		
C7	□176			Φ250	□176		Φ300	Φ250	□176	Φ350	Φ300	Φ250	Φ300	Φ300	Φ300
C8	—			12	—		16	12	—	18	16	12	16	16	16
C9	—			45.3	—		59.3	45.3	—	64.4	59.3	45.3	59.3	59.3	59.3

PW系列行星减速机技术参数

PW Series Servo Planetary Gearbox Technical Data

产品型号 Model		PW215	PW265	PW315	PW360	PW420	减速比	级数
额定输出扭矩 Rated Output Torque	Nm	2370	4690	7760	13500	20000	4	1
		1790	3520	5860	9550	14500	5	
		1000	1980	3460	5400	8000	8	
		2710	4940	8530	14000	22000	16	2
		2710	4940	8530	14000	22000	20	
		1980	3740	6250	10000	16000	25	
		2710	4940	8530	14000	22000	32	
		1980	3740	6250	10000	16000	40	
		1120	2100	3700	5900	8800	64	
		3450	6420	10500	18200	27500	80	3
		3450	6420	10500	18200	27500	100	
		2470	4810	8000	13000	20000	125	
		3450	6420	10500	18200	27500	160	
		2470	4810	8000	13000	20000	200	
		3450	6420	10500	18200	27500	256	
		2470	4810	8000	13000	20000	320	
		1425	2660	4700	7500	11200	512	
		故障停止扭矩 Fault stop torque	Nm	1.5倍额定输出扭矩				
最大径向力 ¹ Maximum radial force ¹	N	10400	20500	24500	30000	38000		
最大轴向力 ¹ Maximum axial force ¹	N	7500	14000	16000	22000	28000		
满载效率 Full load efficiency	%	96						1
		94						2
		90						3
平均寿命 Average life span	h	10000						
重量 Weight	kg	46	88	135	215	300		1
		55	95	150	230	350		2
		60	105	155	245	365		3

角标“1”在输出转速100rpm时，作用于输出轴中心位置(L/2处)之容许径向力及轴向力，最大加速扭矩等于额定扭矩150%
The subscript "1" in the output speed of 100RPM, in the center of the output shaft position (L/2) permissible radial force and axial force, the maximum acceleration torque is equal to the rated torque of 150%

KPL
KPLF
KPLS
KPLN
KPX
KVX
KPH
KPG
KT
PX
PW
K系列行星减速机

产品型号 Model		PW215	PW265	PW315	PW360	PW420	减速比	级数
回程间隙 Backlash	arcmin	≤8	≤8	≤8	≤8	≤8	精密	1
		≤10	≤10	≤10	≤10	≤10	标准	
	2	≤15	≤15	≤15	≤15	≤15	精密	
		≤18	≤18	≤18	≤18	≤18	标准	
		3	≤17	≤17	≤17	≤17	≤17	精密
			≤22	≤22	≤22	≤22	≤22	标准
抗扭刚性 Torsional Rigidity	Nm/arcmin	70.3	135.7	240.6	383.4	592.4		
噪音 ¹ Noise ¹	dB(A)	70	72	75	75	75		
最大输入速度 ² Max Input Speed ²	min ⁻¹	3000	3000	2500	2000	2000		
额定输入速度 ² Rated Input Speed ²	min ⁻¹	2000	2000	1500	1500	1500		

角标“1”环境温度为20℃

角标“2”噪音在n1=2000min-1、1米处测得

The subscript "1" the environment temperature is 20 DEG C
The subscript "2" noise in n1=2000min-1, measured at 1 m

安装说明 INSTALLATION INSTRUCTION

正确的安装、使用和维护减速机是保证机械设备正常运行的总环节。因此，在您安装科峰行星减速机时，请务必严格按照下面的安装使用相关事项，认真的装配和使用。

The correct installation, use and maintenance of the gearboxes, are important parts to ensure the normal operation of mechanical equipment, therefore, when you install a KOFON gearboxes, besure to strictly follow the install related matters to assembly and use seriously.

原动机的连接

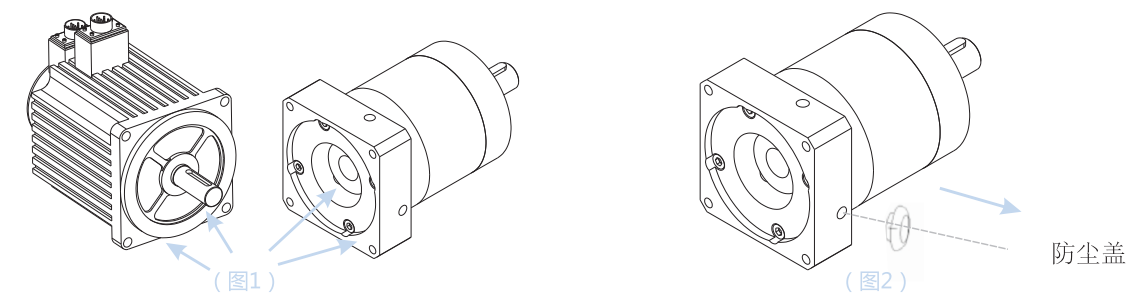
The Connection to the Prime Engine

第一步 安装前确认电机和减速机是否完好无损，并且严格检查电机与减速机相连接的各部位尺寸是否匹配，主要指电机的凸台尺寸与减速机凹槽尺寸及配合公差。

Step1. Before installation confirm the motor and gearboxes are intact, and strictly check whether the size of the various parts of the motor and gearboxes connected match, mainly refers to the size of the spigot of the motor and gearboxes norch size and fit tolerance.

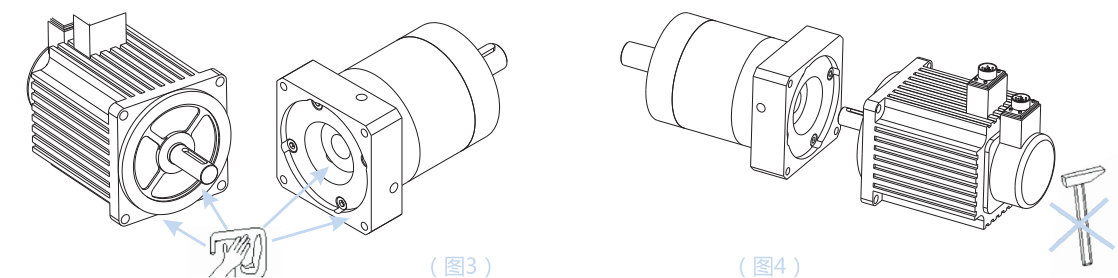
第二步 取下减速机法兰外侧工艺孔上的防尘盖，调整减速机输入轴弹性夹紧装置使其紧固螺栓与工艺孔对其，插入内六角扳手松开紧固螺栓，此步骤适合筒夹式锁紧机构联。

Step 2. Remove the dust cover on the technological bores of the gearboxes flange outer. Adjust input shaft elastic clamping device so that the fastening bolt is aligned with the technological bore. Insert hex wrench to loosen the fastening bolts. This step is suitable for tube clip-locking mechanism coupling.



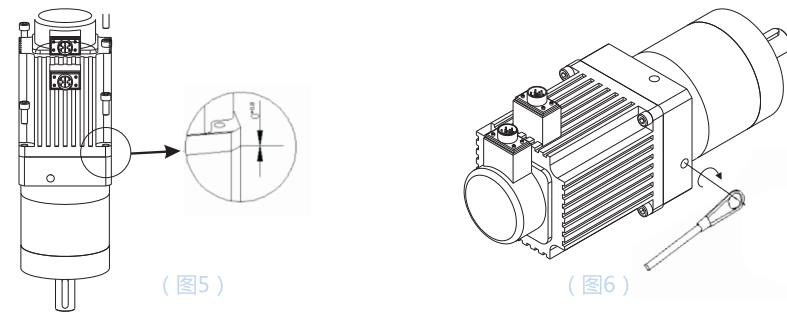
第三步 将电机输出轴、定位凸台及减速机连接部位的防锈油用汽油或锌钠水擦试净，其目的是保证连接的紧密性及运转的灵活性，并且防止不必要的磨损。将电机与减速机自然连接，连接时必须保证电机输出轴与减速机输入轴同轴度一致，且二者外侧法兰平行。同轴度不一致，会导致电机轴断或减速机齿轮磨损。另外，在安装时，严禁用铁锤等击打，防止轴向力或径向力过大损坏轴承或齿轮。

Step 3. Then wipe the anti-rust oil on the motor output shaft, the positioning spigot and gearboxes coupling parts with gasoline or zinc sodium water. Its purpose is to ensure that the coupling tightness and operation flexibility, and to prevent unnecessary wear. Naturally connect the motor and gearboxes, ensure that the concentricity of the gear output shaft and the motor of the input shaft is the same, and both the outside of the flange parallel. If the concentricity is inconsistency, will cause broken motor shaft and gearboxes gear wear, further, when installed, do not hit with a hammer and other objects, to prevent axial force is so large that damage the bearing of gear.



第四步 在电机与减速机连接前,请先将电机方位与减速机方位尽量对齐,为保证受力均匀,请先将任意对角位置的安装螺栓旋上,但不要旋紧,再旋上另外两个对角位置的安装螺栓最后逐个旋紧四个安装螺栓,最后,旋紧紧固螺栓。所有紧固螺栓均需用力矩扳手按标明的固定扭力矩数据进行固定和检查。

Step 4. Before connecting the motor and gearboxes, please machine of decelerate of motor bearing and azimuth alignment as far as possible, in order to ensure uniform force, please spin on mounting bolts in the any angular position, but do , spin on the other two on the angular position of the mounting bolts and then tighten the four mounting bolts one by one. Finally, tighten the bolts, all fastening bolts are required to use torque wrench fixed torsional moment data indicated to fix and check.



(表1)

	代表型号 Product Model	KPL50/KPX45	KPL70/KPX65	KPL90/KPX85	KPL120/KPX115	KPL160/KPX142	KPX180/KPX220
预紧力矩 Tightening Torque	TA (Nm)	4.5	9	15	36	36	81
螺栓大小 Bolt Size	Sw (mm)	M4	M5	M6	M8	M8	M10

工作机的连接

The Connection of the Work Machine

与工作机安装时,应重视传动中心轴线对中,其误差不得大于所用联轴器的使用补偿。对中良好能延长使用寿命,并获得理想的传动效率,在输出轴上安装传动件时,不允许使用锤子敲击,通常利用装配夹具和轴端的内螺纹,用柱塞将传动件压入,否则有可能造成减速机内部零件的损坏。最好不采用刚性固定式联轴器,因该类联轴器安装不当,会引起不必要的外加载荷,以造成轴承的早起损坏,严重时甚至造成输出轴的断裂。

When the installation of the working machine, we should attach importance to the transmission center axis aligned, and the error should not be greater than the amount of coupling the use of compensation. Aligning well can extend the service life and to obtain the desired transmission efficiency, when install transmission parts on the output shaft, not allowed to tap with a hammer, usually use the internal threads of the assembly fixture and shaft end, using bolts pressed into the drive member. Failure to do so may cause damage of the internal parts of the reducer, best not to use steel fixed coupling, because class coupling improper installation will cause unnecessary applied load, and resulting in early bearing damage, serve or even cause the output shaft fracture.

减速机的固定

The Gearboxes Fixing

减速机应牢固地安装在稳定的基础或支座上,且冷却空气循环流畅。基础不可靠,运转时会引起震动及噪声,并促使轴承及齿轮受损。当传动联结件有突出物或采用齿轮、链轮传动时,应考虑加装防护装置。安装就位后,应按次序全面检查安装位置的准确性,各紧固件压紧的可靠性,安装后应能灵活转动,减速机采用脂润滑,方可进行空载试运转,时间不得少于2小时。运转应平稳,无冲击、振动、杂音及渗漏油现象,发现异常应及时排除。如环境温度过高或过低时,需改变润滑脂的牌号。

Gearboxes should be securely mounted on a stable foundation or bearing, and the cooling air circulation flowing. unstable foundation will cause vibration and noise during operation, and promote the bearing and gear damage. When the drive couplings with protrusion or gear and sprocket, you should consider the installation of protective devices, after installation, you should have a in-order comprehensive check of the accuracy of the installation location and the reliability of fasteners clamping. The machine should be flexible rotation after installation. The operation should be smooth without shock, vibration. Noise and oil leakage phenomenon. Abnormor should be immediately removed. If the ambient temperature is too high or too low, the gradess of grease need to be changed.

维护说明

MAINTAINANCE INSTRUCTIONS

减速机在使用过程中应定期检查油脂的质量,对于混入杂质或变质的油脂需及时更换。

一般情况下,对于长期连续工作的减速机,按运行20000小时或隔年更换新油脂,间断用的减速机,在重新运转之前亦应检查润滑脂情况,再润滑可由专业厂家完成,根据运转情况决定再润滑的间隔和数量。如果旧的润滑脂不能完全被清除,则应该相应限制所注入润滑脂数量,以避免过润滑。如再润滑周期间隔较长,推荐对全部润滑脂进行彻底的更换。油脂添加量为内部空间1/3为宜,如输入转速较低可适当增加,但最多不能超过内部空间的1/2。

输出端回转部分采用唇形密封圈(TC型)密封,密封圈的更换一般以是否有油脂泄漏作为更换的依据。对于间断使用的减速机,在重新运转之前亦应检查密封情况,判断有无必要更换密封圈。更换密封圈时只需拆下相应密封圈座即可更换。

工作中,当发现油温温升超过90°C 或产生不正常的噪声现象时应停止使用,检查原因,必须排除故障后,方可继续运转。

用户应有合理的使用维护规章制度,对减速机的运转情况和检验中发现的问题应做认真记录,上述规定严格执行。

Gearboxes oil quality should be checked regularly during use, timely replacement of for impurities or deterioration grease required.

Under normal circumstances, gearboxes for long-term continuous work, should be replaced with new grease in accordance with the running 20000 hours or every other year. Intermittent gearboxes should be checked the grease before re-operation. Relubrication can be completely by professional manufacturers. Teh re-lubrication intervals and quantities should be decided according to the functioning. If the old grease can not be completely removed, accordingly limit the number of grease to avoid lubrication, if re-lubrication cycle interval is longer, recommended to completely replace ann the grease. grease dosage is preferably 1/3 of the internal space, if the input speed is low may be appropriate to increase. But can not exceed a maximum of 1/2 of the internal space.

The output of the rotary part(tc) use skeleton oil seal, the seals replacement generally based on whether the grease leaks. Gearboxes for intermittent use, also should be check the seal before re-operation, determine whether there is necessary for replacement of seals, the seals can be replaced only need to remove the seal seat.

At work when the temperature rise of the oil temperature exceeds90°C or produce abnormal phenomena such as noise, stop using it and check the cause. The fault must be removed before they are allowed to continue operation.

Operation and inspection should be carefully recorded. The above provisions should be strictly enforced.

备忘录 MEMO