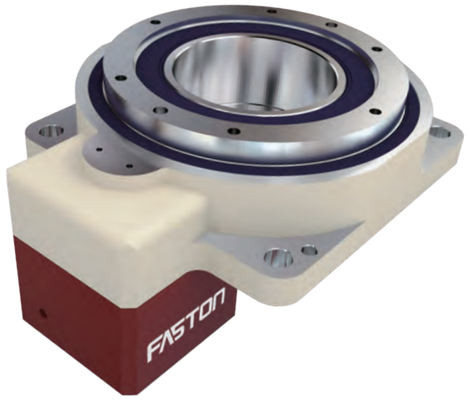
FKT系列–交叉滚子轴承
FKT SERIES–CROSSED ROLLER BEARING

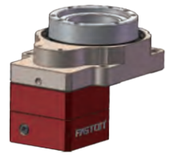
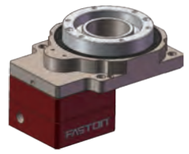
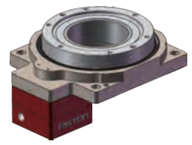
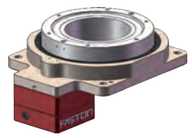


FKT系列减速机能满足一些非常特殊的需求，高刚度、高性能和结构紧凑，多变性是该系列产品最主要的特点，您始终可以找到您所需要的解决方案。

The FKT series of reducers can meet some very special requirements.
High rigidity, high performance and compact structure are the main characteristics of this series of products. You can always find the solutions you need.

回程间隙 Return clearance	arcmin	15
速比 Speed ratio	i	5~18
额定输出力矩 Rated output torque	Nm	5.3~120
工作寿命 The working life	h	20000

中空旋转平台汇总 SUMMARY OF HOLLOW ROTATING PLATFORM

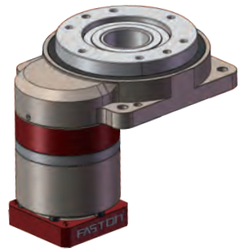
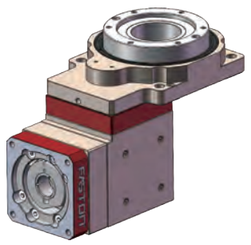
中空旋转平台/Hollow rotating table	型号/Model	规格 mm Specification	直径 mm Diameter	减速比 Reduction ratio
	FKT60–05k	60	28	5
	FKT85–05k	85	33	5
	FKT85–10k			10
	FKT85–18k	110	35	18
	FKT110–05k			5
	FKT110–10k			10
	FKT130–06k	130	62	6
	FKT130–10k			10
	FKT130–18k			18
	FKT170–10k	170	72	10
	FKT170–18k			18
	FKT200–10k	200	100	10
	FKT200–18k			18
	FKT280–10k	280	150	10

FKT系列 FKT SERIES

中空旋转平台汇总 SUMMARY OF HOLLOW ROTATING PLATFORM

法斯顿中空旋转平台是一种全新的旋转负载装置，它集高传动效率、高精度、高刚性、高性能比于一身，综合了伺服马达、凸轮分割器及直驱马达的优势。
使用高精度齿轮结构和径向轴承，提高了扭矩和刚性，承载更稳重，搭配伺服马达或步进马达可做任意角度分割，既满足分割器无法实现的位数控制，定位精度又可媲美直驱马达，可在短时间内实现惯性负载的定位。

Faston hollow rotary platform is a brand-new rotary load device, which combines high transmission efficiency, high precision, high rigidity, and high performance. It combines the advantages of servo motors, cam dividers and direct drive motors.
The use of high-precision gear structure and radial bearings improves the torque and rigidity, and the load is more stable. It can be divided at any angle with a servo motor or a stepping motor. The drive motor can realize the positioning of the inertial load in a short time.

一体机（中空+行星） All-in-one machine (hollow + planet)	一体机型号 All-in-one model	中空型号 Hollow model	行星型号 Planetary model	行星速比 Planetary speed ratio
	FKT85A	FKT85	FKS060	3,4,5,6,7,8,10
	FKT110A	FKT110	FKS065	3,4,5,6,7,8,10
	FKT130A	FKT130	FKS060	3,4,5,6,7,8,10
	FKT170A	FKT170	FKS090	3,4,5,6,7,8,10
	FKT200A	FKT200	FKS090	3,4,5,6,7,8,10
	FKT280A	FKT280	FKS115	3,4,5,6,7,8,10
一体机（中空+行星） All-in-one machine (hollow + planet)	一体机型号 All-in-one model	中空型号 Hollow model	直角型号 Right angle model	直角速比 Right angle ratio
	FKT60Z	FKT60	AR042	2,3
	FKT85Z	FKT85	AR060	2,3,5
	FKT130Z	FKT130	AR060	2,3,5
	FKT170Z	FKT170	AR090	2,3,5
	FKT200Z	FKT200	AR090	2,3,5
	FKT280Z	FKT280	AR120	2,3,5

订货代码 ORDER CODE

系列 series	规格 specification	减速比 Reduction ratio	马达类型 Motor type	马达型代码 Motor type code	选购配件代码 Optional accessory code
FKT	60	-05K	-SV	--	--
	85	-05K 10K 18K	-SV	--	--
	110	-05K10K	-SV	--	--
	130	-10K	-SV	--	--
		-18K	-OS	--	--
	170	-10K	-SV	--	--
		-10K	-SV	--	--
	200	-18K	-OS/-CS	--	--
	280	-10K	-SV	--	--

系列 series：FKT系列

规格 specification：
60:60mm
85:85mm
110:110mm
130:130mm
170:170mm
200:200mm
280:280mm

减速比 Reduction ratio：
05K: 1:5
10K: 1:10
18K: 1:18

马达类型 Motor type：

CS：闭环步进	CS标准配置 平台本体×1台 闭环步进马达×1台 驱动器端口接头×4个 航空插头×2个	
OS：开环步进	OS标准配置： 平台本体×1台 开环步进马达×1台	马达规格
SV：伺服马速	标准配置： 平台本体×1台	适配马达 请参考马达型号代码对应产品

马达型代码 Motor type code：

60规格可配马达型号
空白：按对应图纸标准。
F：富士GYS500/101
M：三菱HF-KFS-13
P：松下MSMD-5AZ/01G
S：三洋Q1AA04010D
Y：安川SGMAH-01
0：东方DX010
T：台达ECMA-C30401
Z：其它（用户提供品牌型号及法兰安装图纸）

85/110/130规格可配马达型号
空白：按对应图纸标准。
F：富士GYS201D5
M：三菱HF-KFS-23/43
P：松下MSMD-022/042
S：三洋Q1AA06020D
Y：安川SGMAH-02/04A
O：东方DX220/240
T：台达ECMA-C30602/04
Z：其它（用户提供品牌型号及法兰安装图纸）

170/200规格可配马达型号
空白：按对应图纸标准。
F：富士GYS751D5
M：三菱HF-KFS-73
P：松下MSMD082G1U
S：三洋Q1A07075D
Y：安川SGMAH-08A
O:东方DX475
T：台达ECMA-C30807
Z：其它（用户提供品牌型号及法兰安装图纸）

选购配件代码 Optional accessory code：

OS开环步进
空白：无
A：驱动器1台
B：感应片1件
C：原点传感器套件1套
D：传感器安装支架1套

CS闭环步进
空白：无
B：感应片1件
C：原点传感器套件1套
D：感应器安装支架1套
E：马达中继线1条（2.5M）
编码器中继线1条（2.5M）

SV伺服驱动
空白：无
B：感应片1件
C：原贴傅感器套件1套
D：感应器安装支架1套

订货代码范例1：FKT60-05K-SV-F/GYS500
订货代码范例2：FKT85-18K-OS-ABC
中空旋转平台可根据客户设备应用需求订制特殊规格。

Order code example 1: FKT60-05K-SV-F/GYS500
Order code example 2: FKT85-18K-OS-ABC
The hollow rotating platform can be customized to special specifications according to customer equipment application requirements.

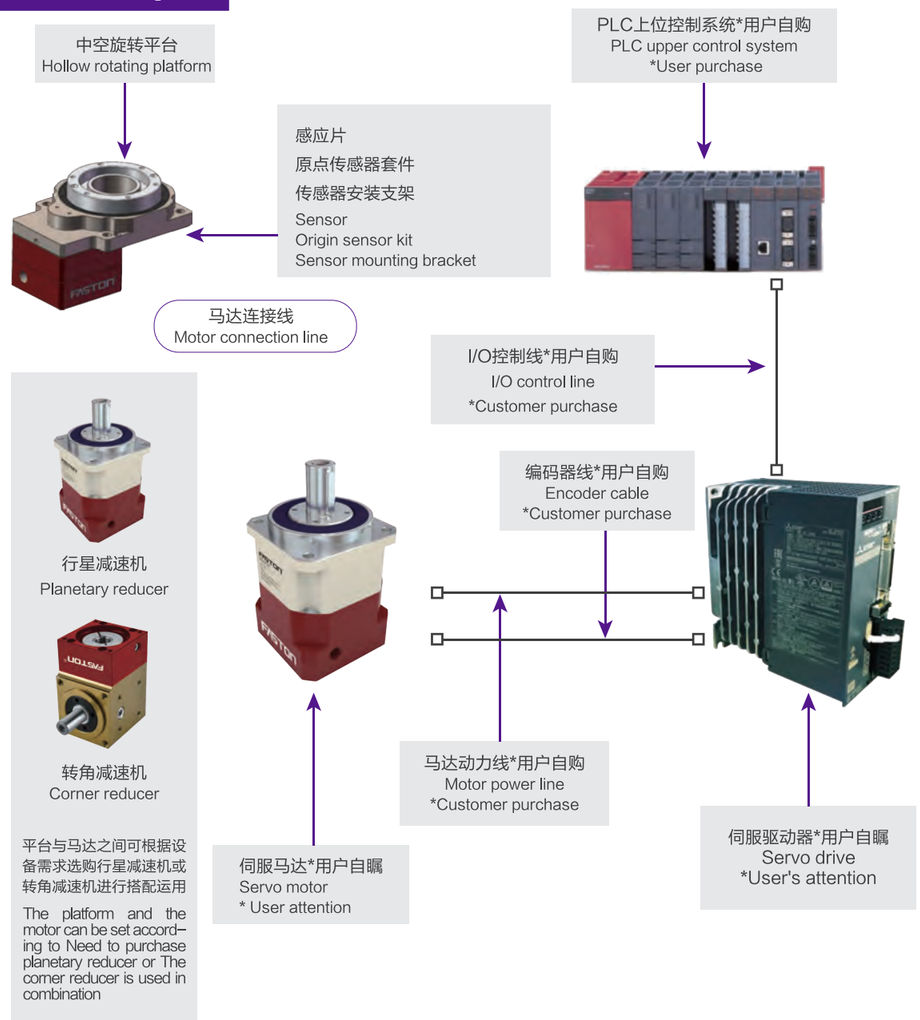
系统构成 SYSTEM COMPONENTS

SV伺服驱动
SV servo drive

标准配置 The standard configuration	平台本体 × 1台

选购配置 Optional configuration	感应片1件
	原点传感器套件1套
	传感器安装支架1套

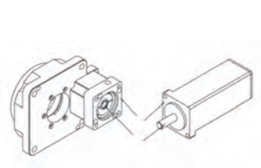
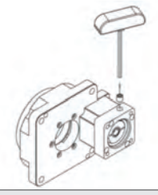
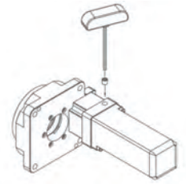
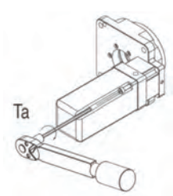
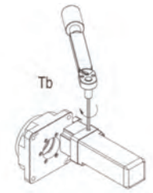
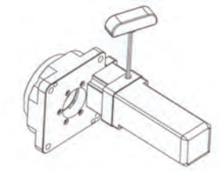
系统构成示意图 System structure diagram



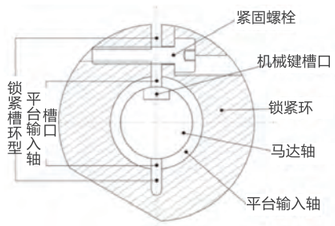
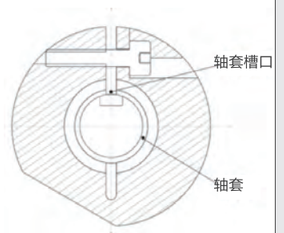
选购配件：以上选购配件仅供参考，用户可根据设计需求选择搭配购买
Optional accessories: The above optional accessories are for reference only, users can choose to purchase according to design requirements

系统构成 SYSTEM COMPONENTS

马达安装说明
Motor installation instructions

		
首先对马达和旋转平台的尺寸进行匹配，并清除表面所有异物。 First, match the size of the motor and the rotating platform, and remove all foreign objects on the surface.	拆下转接法兰上的螺旋塞，然后调整位置，直至能够看到紧固螺栓 Remove the screw plug on the adapter flange and adjust the position until the fastening bolt can be seen	将马达与转接法兰位置调整好并轻轻旋紧紧固螺栓，直至锁紧环不再空转 Adjust the position of the motor and the adapter flange and gently tighten the fastening bolts until the locking ring no longer runs idle
		
参照紧固扭矩标准Ta，对角旋紧紧固螺栓。 Refer to the tightening torque standard Ta, and tighten the tightening bolts diagonally.	参照紧固扭矩标准Tb，旋紧紧固螺栓。 Refer to the tightening torque standard Tb and tighten the tightening bolts.	紧固螺旋塞 Fastening screw plug.

如何安装马达
How to install the motor

	拔出机械键，调整锁紧环的位置，使其槽口与旋转平台输入轴的槽口对齐，再给平台输入轴轴孔和马达轴抹上润滑脂，插入马达轴，使机械键槽口与锁紧环槽口对齐，以便最大限度地紧固锁紧环的紧固螺栓，使其连接更牢固。		拔出机械键，调整锁紧环的位置，使其槽口与旋转平台输入轴的槽口对齐，再给平台输入轴轴孔和马达轴抹上润滑脂，插入马达轴，使机械键槽口与锁紧环槽口对齐，以便最大限度地紧固锁紧环的紧固螺栓，使其连接更牢固。

扳手螺栓紧固转矩
Wrench bolt tightening torque

扳手螺栓尺寸	马达安装Ta（8.8T）		锁紧环安装Tb（12.9T）	
	N.m	kgf.cm	N.m	kgf.cm
M3	1.28	13	2.15	22
M4	2.9	30	4.95	50
M5	5.75	59	9.7	99
M6	9.9	101	16.5	168
M8	24	245	40	408
M10	48	489	81	826
M12	83	846	140	1428
M14	132	1346	220	2243
M16	200	2039	340	3467

选购要点 SHOPPING POINTS

计算负载/搬运物转动惯量(Jw)
Calculate the moment of inertia of load/carrying object (Jw).

搬运物的转动惯量须以传动装置转动惯量的30倍以下为标准。

The moment of inertia of the transported object must be less than 30 times the moment of inertia of the transmission as the standard.

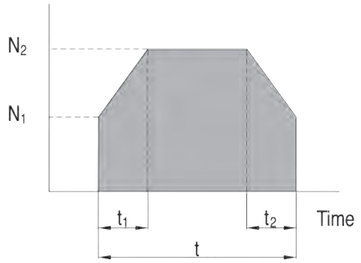
计算加速转矩(Ta)参考以下公式

加速转矩 $Ta[N\cdot m]=(J_M+J_A+J_W)*\frac{\pi}{30}*\frac{(N_2-N_1)}{t_1}$

J_M:马达转动惯量[kg·m²]　　N_2:工作转速[r/min]

J_A:机构转动惯量[kg·m²]　　N_1:启动转速[r/min]

J_w:负载转动惯量[kg·m²]　　t_1:加速(减速)时间[S]



计算所需转矩
Calculate the moment of inertia of load/carrying object (Jw).

所需的扭矩是通过摩擦阻抗引起的负载转矩与转动惯量引起的加速转短相加之和乘以安全系数计算得出的。

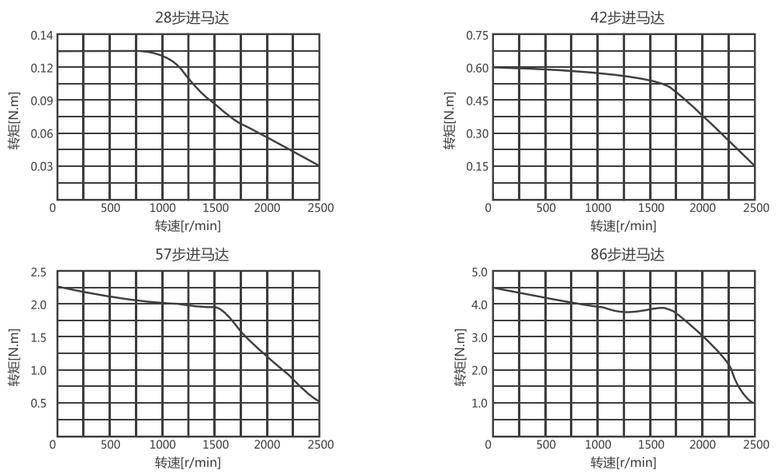
The required torque is calculated by multiplying the sum of the load torque caused by the frictional resistance and the acceleration and turning short caused by the moment of inertia by the safety factor.

所需转矩T=(负载转矩[N.m])+加速转矩[N.m])×安全系数=(TL+Ta)×S

安全系数S>1.5。 The safety factor S>1.5.

选定马达所需的转矩必须处于转速-转矩的规格范围之内
The torque required for the selected motor must be within the specification range of speed–torque

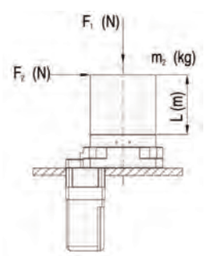
步进马达转速转矩特性曲线 Stepping motor speed torque characteristic curve



轴向负载,惯性力矩负荷的计算
Calculation of axial load and moment of inertia load

在中空旋转平台上按照如下所示施加负截时,请确保使用以下公式计算得出轴向负载和惯性力矩负荷处于规定范围内。

When applying a negative cut as shown below on the hollow rotating platform, please ensure that the axial load and the moment of inertia load calculated by the following formula are within the specified range

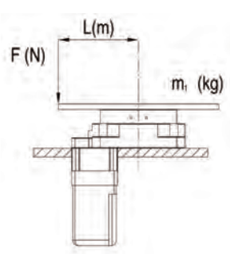


轴向负截[N]:$F_t=F_1+m_2xg$

惯性力矩负荷[N.m]:

M=F2x(L+A)

g:重力加速度9.807[m/s²]



轴向负截[N]:$F_t=F+m_1xg$

惯性力矩负荷[N.m]:

M=FxL

g:重力加速度9.807[m/s²]

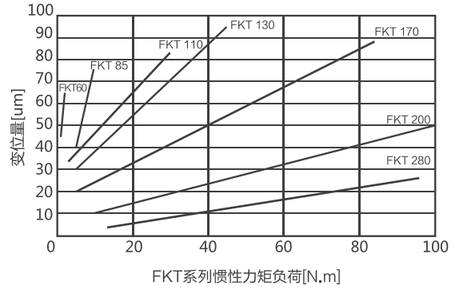
型号model	A
FKT60-05K	0.010
FKT85-05K	0.015
FKT130-10K	0.017
FKT130-18K	0.017
FKT200-10K	0.033
FKT200-18K	0.033
FKT280-10K	

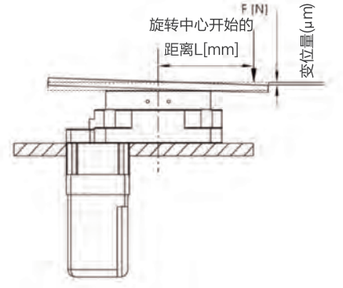
选购要点 SHOPPING POINTS

平台刚性参考
Platform rigidity reference

不同型的旋转平台使用了不同类型的支撑轴承,对旋转平台的容许惯性力矩负荷有一定影响,即型号越大,容许的惯性力矩负荷也越大但对于惯性力矩负荷的变位量则会越小,详情参考以下图表(L=200mm)

Different types of rotating platforms use different types of support bearings, which have a certain impact on the allowable moment of inertia load of the rotating platform, that is, the larger the model, the greater the allowable moment of inertia load, but the greater the displacement of the moment of inertia load. Small, please refer to the following chart for details (L=200mm)





注意事项 Precautions

请务必仔细阅读下文所述的注意事项,以免损坏设备或造成用户受伤。未能阅读并领会以下注意事项可能会损坏产品、相关设备和系统,或导致严重或潜在的致命伤害。

Please read the precautions described below carefully to avoid damage to the equipment or injury to the user. Failure to read and understand the following precautions may damage the product, related equipment and systems, or cause serious or potentially fatal injuries.

— 避免使用锤子敲击产品和跌落损坏产品。
— 将产品连接至负载侧时需小心。
— 搬运产品边缘和键侧时需小心。
— 使用产品时避免双手和其它异物接触转动轴。
— 组装滑轮、连结键、机械键时避免过度撞击产品。
— 请勿超出容许转矩,否则可能导致螺栓松动、振动或损坏。请勿拆卸并重新组装产品,以免造成损坏或对产品性能造成影响。
— 感觉产品异常时,应立即停止操作,否则可能对系统造成不良影响。

• Avoid using a hammer to hit the product and falling damage the product.
• Be careful when connecting the product to the load side.
• Be careful when handling the edges and key sides of the product.
• Avoid contact with the rotating shaft with hands and other foreign objects when using the product.
• Avoid excessive impact on the product when assembling pulleys, connecting keys, and mechanical keys.
• Do not exceed the allowable torque, otherwise the bolts may loosen, vibrate or be damaged. Do not disassemble and reassemble the product to avoid damage or impact on product performance.
• If the product is abnormal, stop the operation immediately, otherwise it may cause adverse effects on the system.

保修条款 Warranty

法斯顿承诺自产品出售之日起,为客户提供终身的产品维护服务,对于在保修期内但不符合保修条件的故障产品和超过保修期限的产品,法斯顿提供有偿的产品维修服务,具体的维修服务参见下列详细条文。

Faston promises to provide customers with lifetime product maintenance services from the day the product is sold. Faston provides paid product maintenance services for faulty products within the warranty period but that do not meet the warranty conditions and products that exceed the warranty period. For specific maintenance services, see the following detailed provisions.

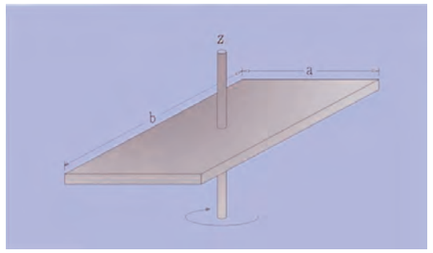
— 免费保修期自产品采购之日起生效,至采购之日起满12个月失效,保修期内产品出现故障,法斯顿会根据本保修条款为顾客提供修复或更换产品的服务。
— 因材料或工艺缺陷导致不能正常工作的产品法斯顿提供免费保修。
— 保修期内产品及其部件按正常运行条件或法斯顿规定的条件下使用出现的故障。
— 保修期内的产品出现下列情况法斯顿不提供免费保修服务。
— 搬运不当造成的产品损坏。
— 顾客未经许可擅自拆动过的故障产品。
— 客户未能正确使用产品造成的直接损坏或意外造成的间接损坏的产品。
— 自然灾害及其它事故导致的损坏。

• The free warranty period is effective from the date of product purchase and expires at the expiration of 12 months from the date of purchase. If the product fails during the warranty period, Faston will provide customers with repair or replacement services in accordance with this warranty clause.
• Faston provides free warranty for products that cannot work normally due to defects in materials or workmanship.
• During the warranty period, the product and its parts are used under normal operating conditions or under the conditions specified by Faston.
• Faston does not provide free warranty service in the following cases during the warranty period.
• Product damage caused by improper handling.
• The customer disassembled the malfunctioning product without permission.
• Products that are directly damaged by the customer's failure to
• use the product or indirectly damaged by accident.
• Damage caused by natural disasters and other accidents.

惯量计算范例 INERTIA CALCULATION EXAMPLE

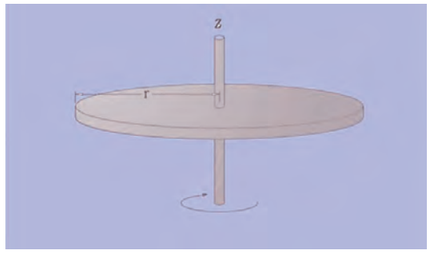
如图(一)所示:
假设a=400mm, b=600mm, 质量m为40kg, 今令其每秒转90°

先求转动惯量:
$L1=1/12m(a^2+b^2)-1/12*40"(0.4^2+0.6^2)=1.73kg-m^2$
求转动加速力矩:
M=L*a其中a=ω/T
ω=2πN(每秒转动360=2π, 180°=π, 90°=1/2π’
因要求每秒90°, 角速度设其0.5秒
得a=1/2π/0.5-3.14
故M=1.73*3.14-5.4N-m



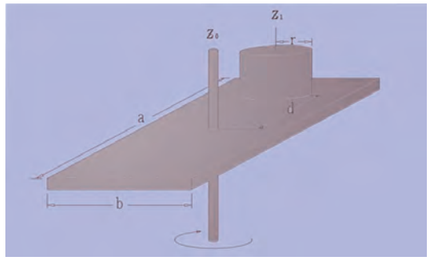
如图(二)所示:
假设圆盘半径r300mm, 质量m为40kg, 今令其每秒转180°

先求转动惯量:
$L1=1/12m(a^2+b^2)-1/12*40"(0.4^2+0.6^2)=1.73kg-m^2$
求转动加速力矩:
M=L*a其中a=ω/T
ω=2πN(每秒转动360=2π, 180°=π, 90°=1/2π’
因要求每秒90°, 角速度设其0.5秒
得a=1/2π/0.5-3.14
故M=1.73*3.14-5.4N-m



如图(三)所示:
假设圆柱半径r=100mm, Zo到Z1的d=300mm, a=1000mm, b=600mm,
方形盘质量m为50kg, 圆柱体的质量为10kg, 今令其每秒转90°

先求转动惯量:
$L1=1/12m(a^2+b^2)=5.67$
$L2=mr^2/2+md^2=1.4$
$L=L1+L2=7.07kg-m^2$,
求转动加速力矩:
M=L*a其中a=ω/T
ω=2πN(每秒转动360°-2π, 180°=π90°=1/2π)
因要求每秒90°, 角加速度设其0.5秒
得α=1.57/0.5-3.14
故M-7.07"3.14-22.2N-m

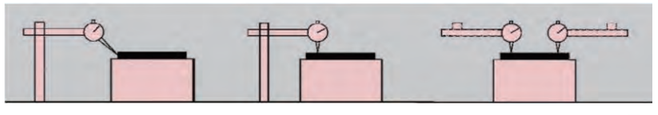


定位精度检测
Positioning accuracy detection

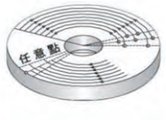
盘面同心检测
±0.006mm

盘面旋转振幅
±0.003mm

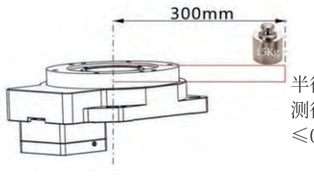
盘面与底座平行度
±0.0015mm



外径任意点定位精度
半径65mm
≤1min



反复定位精度
半径65mm
≤10sec

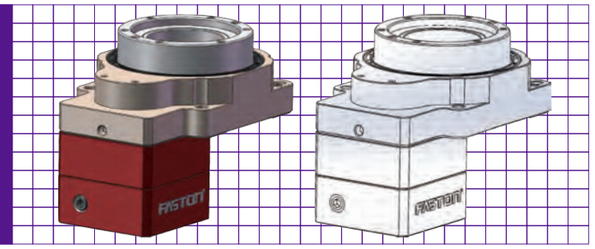


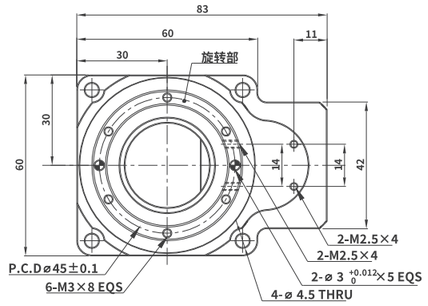
半径悬挂300mm施力重力15kg时,
测得MTH130外缘
≤0.01mm

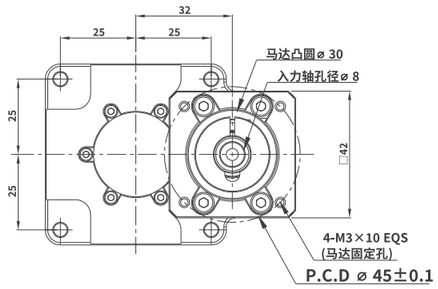
P.S:圆周单位:1rpm=360°1°=60'(arc-min)1'=60"(arc-sec)
圆周误差换算直线误差:盘面直径×3.1415926÷(360°x60'x60")×背隙值

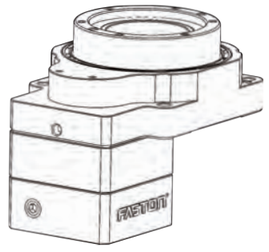
性能资料 PERFORMANCE DATA

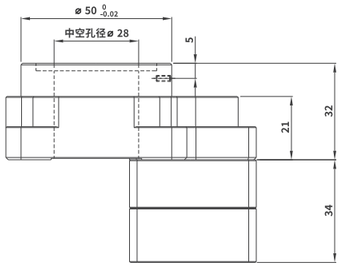
FKT60-05K 性能参数
THE PERFORMANCE PARAMETER OF FKT60-05K











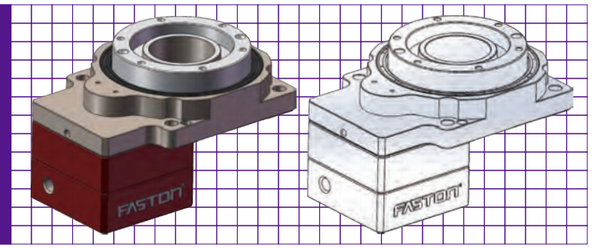
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	5
容许扭矩 Allowable torque	5.3Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	250Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

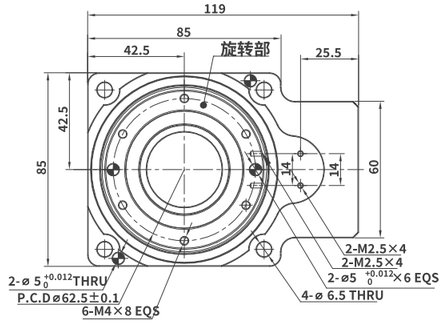
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS500/101
三菱	M	HF-KFS-13
松下	P	MSMD-5AZ/01G
三洋	S	Q1AA04010D
安川	Y	SGMAH-01
东方	O	DX010
台达	T	ECMA-C30401

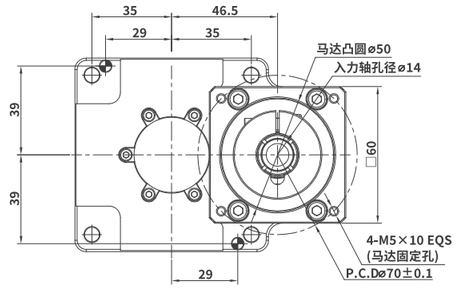
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

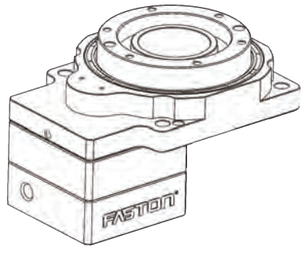
性能资料 PERFORMANCE DATA

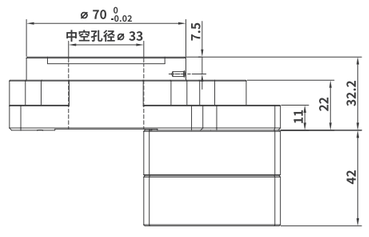
FKT85-05K性能参数
THE PERFORMANCE PARAMETER OF FKT85–05K











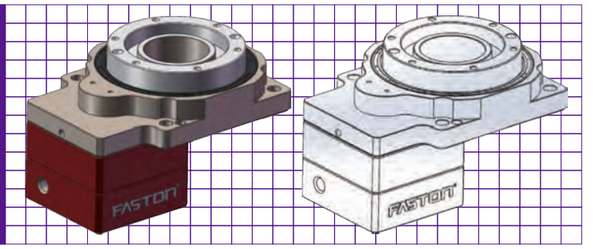
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	5
容许扭矩 Allowable torque	20Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	500Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

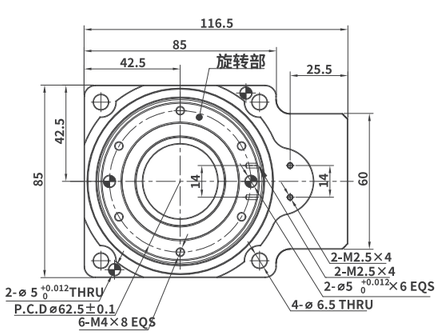
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

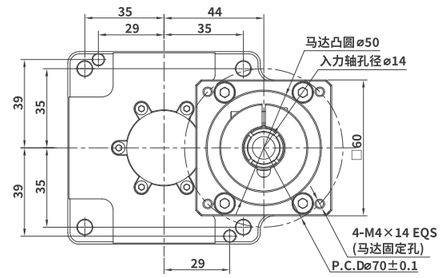
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

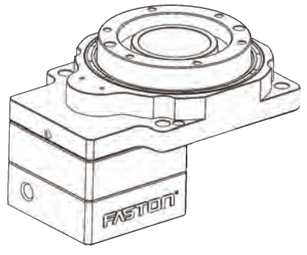
性能资料 PERFORMANCE DATA

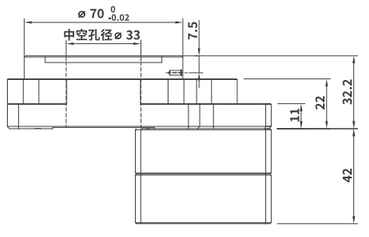
FKT85-10K 性能参数
THE PERFORMANCE PARAMETER OF FKT85–10K











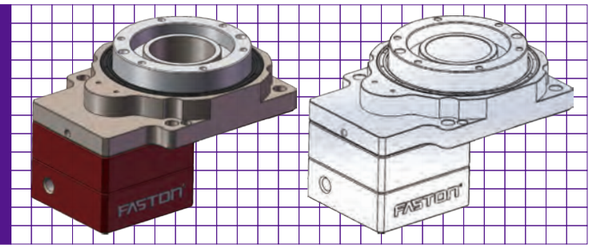
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	16Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	500Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

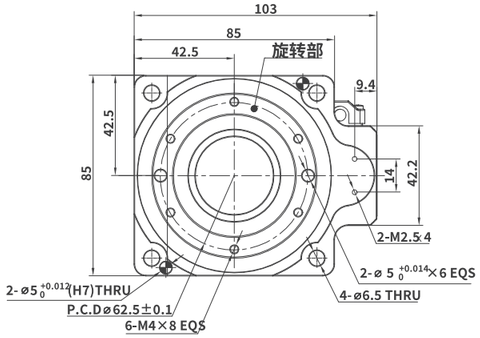
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

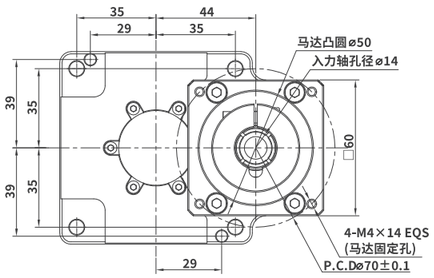
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

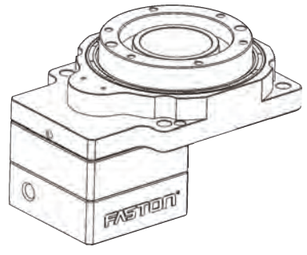
性能资料 PERFORMANCE DATA

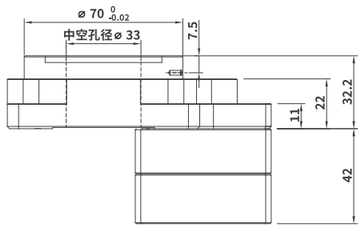
FKT85-18K性能参数
THE PERFORMANCE PARAMETER OF FKT85–18K











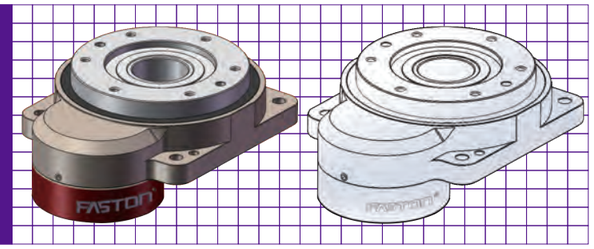
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	18
容许扭矩 Allowable torque	3.2Nm
额定输出转速 Rated output speed	160rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	±10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	500Nm
平均寿命 Average life span	20000h
背隙 Backlash	10arcsec
噪音 noise	≤65dB

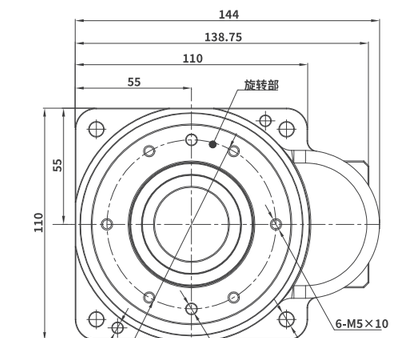
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

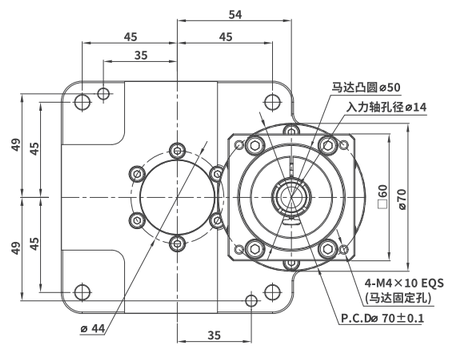
伺服马达由客户自行配置，以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

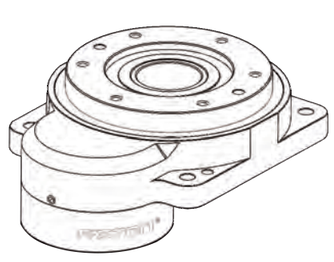
性能资料 PERFORMANCE DATA

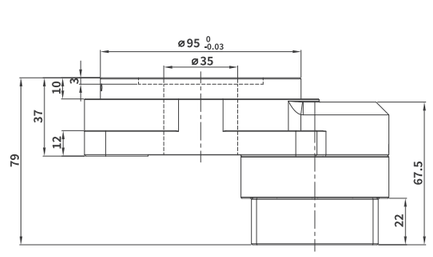
FKT110-05K 性能参数
THE PERFORMANCE PARAMETER OF FKT110–05K











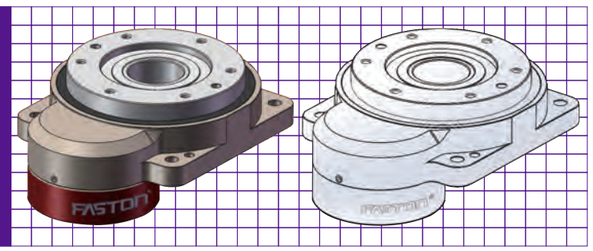
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	5
容许扭矩 Allowable torque	25Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	1000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

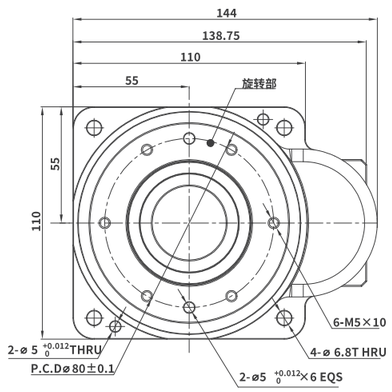
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 751D5
三菱	M	HF-KFS-73
松下	P	MSMD082G1U
三洋	S	Q1AA07075D
安川	Y	SGMAH-08A
东方	O	DX475
台达	T	ECMA-C30807

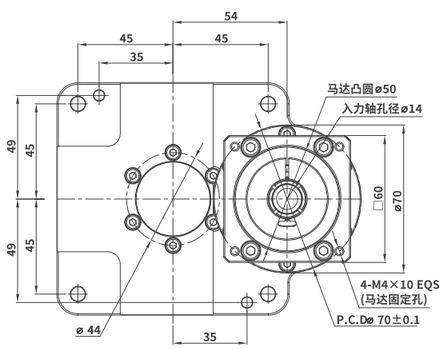
伺服马达由客户自行配置，以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

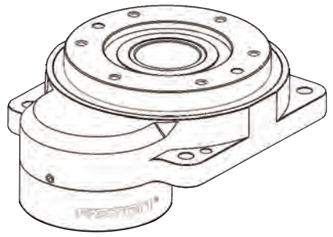
性能资料 PERFORMANCE DATA

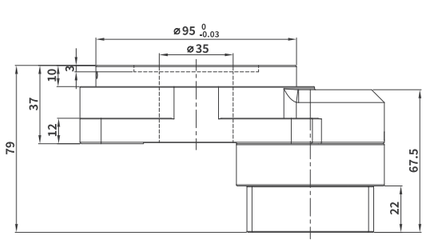
FKT110-10K性能参数
THE PERFORMANCE PARAMETER OF FKT110–10K











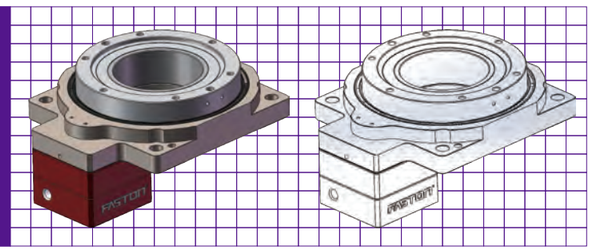
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	25Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	1000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

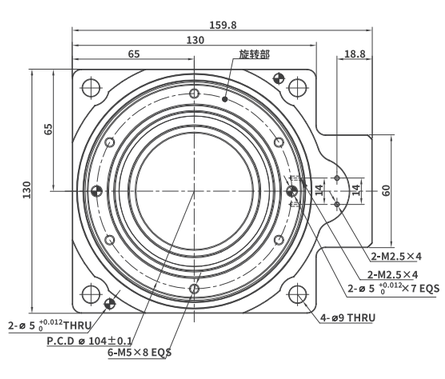
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 751D5
三菱	M	HF-KFS-73
松下	P	MSMD082G1U
三洋	S	Q1AA07075D
安川	Y	SGMAH-08A
东方	O	DX475
台达	T	ECMA-C30807

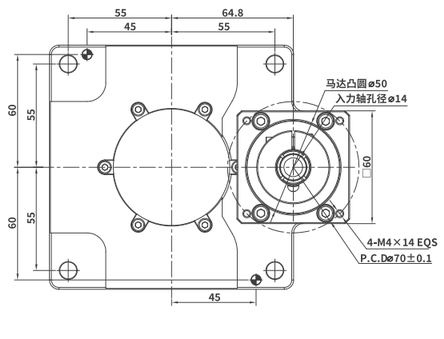
伺服马达由客户自行配置，以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

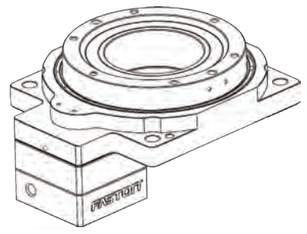
性能资料 PERFORMANCE DATA

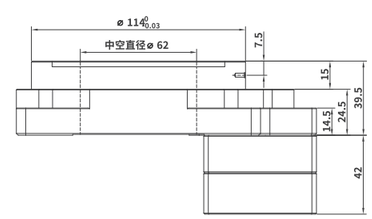
FKT130-06K 性能参数
THE PERFORMANCE PARAMETER OF FKT130–06K











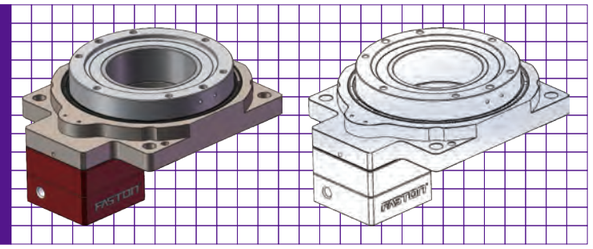
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	30Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	2000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

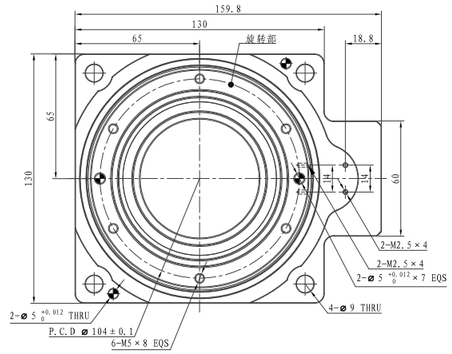
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

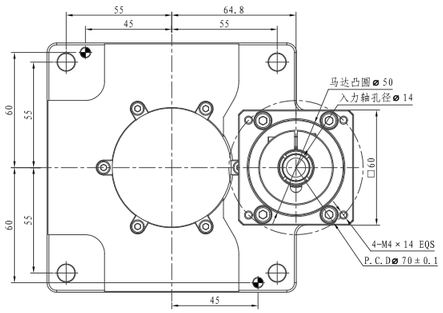
伺服马达由客户自行配置，以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

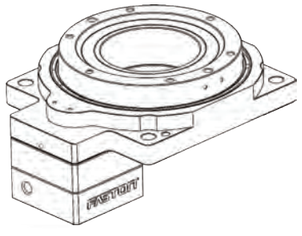
性能资料 PERFORMANCE DATA

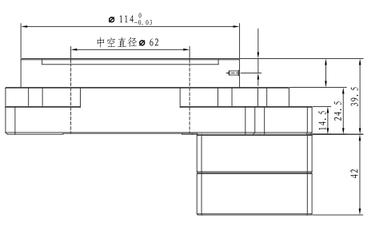
FKT130-10K性能参数
THE PERFORMANCE PARAMETER OF FKT130-10K











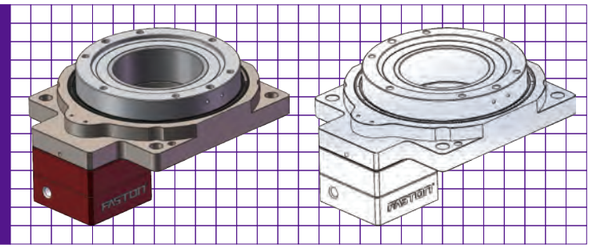
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	30Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	2000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

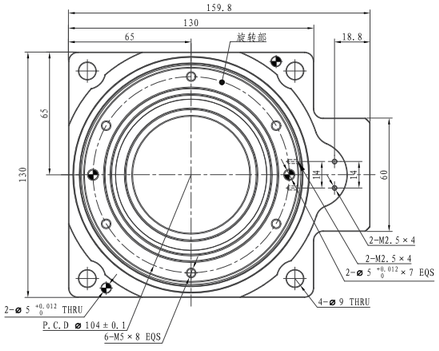
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

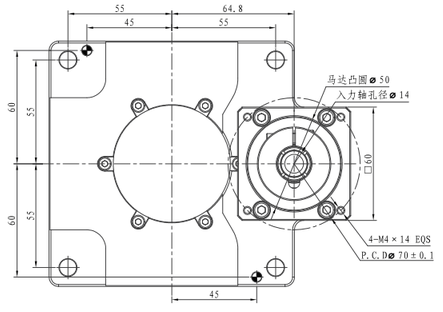
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

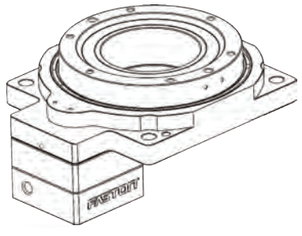
性能资料 PERFORMANCE DATA

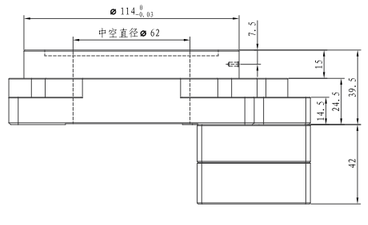
FKT130-18K 性能参数
THE PERFORMANCE PARAMETER OF FKT130-18K











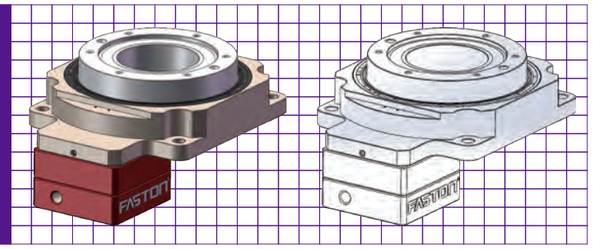
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	18
容许扭矩 Allowable torque	18Nm
额定输出转速 Rated output speed	150rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	2000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

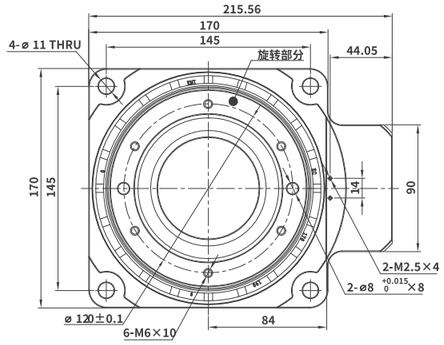
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

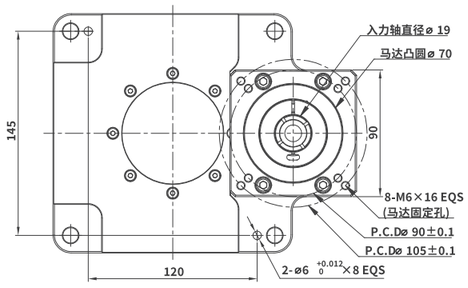
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

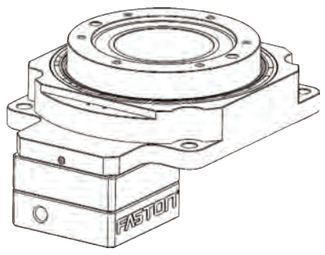
性能资料 PERFORMANCE DATA

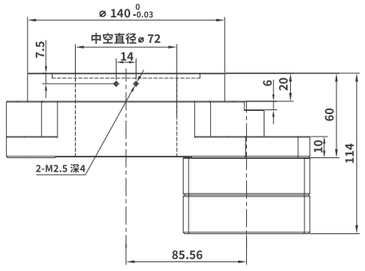
FKT170-10K性能参数
THE PERFORMANCE PARAMETER OF FKT170–10K











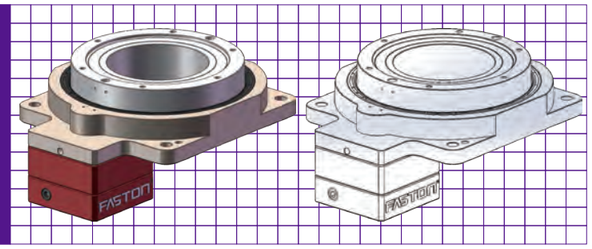
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	55Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	3000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

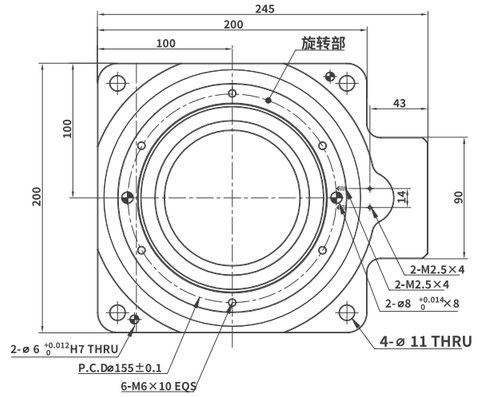
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

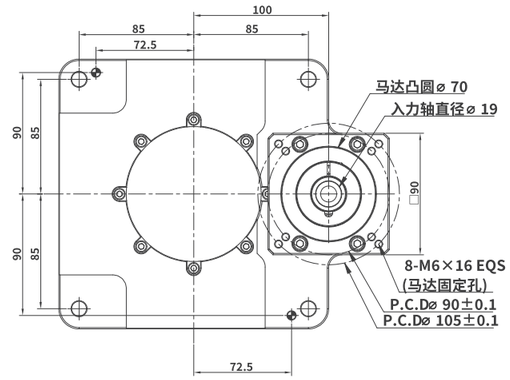
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

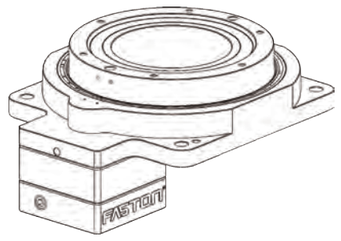
性能资料 PERFORMANCE DATA

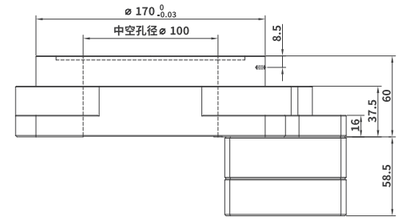
FKT200-10K 性能参数
THE PERFORMANCE PARAMETER OF FKT200–10K











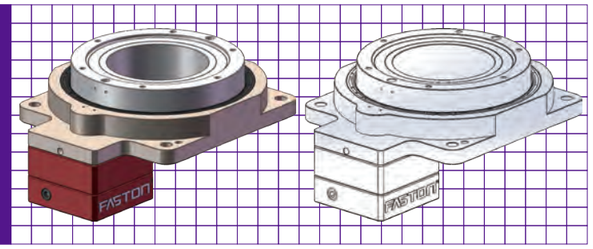
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	65Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	4000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

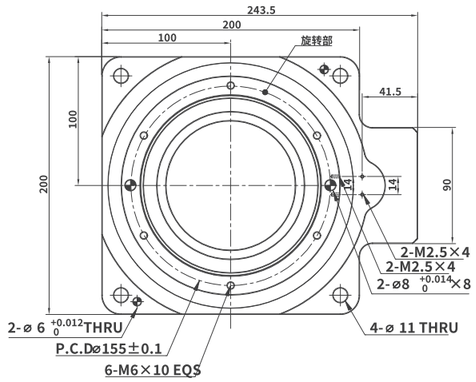
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 751D5
三菱	M	HF-KFS-73
松下	P	MSMD082GIU
三洋	S	Q1AA07075D
安川	Y	SGMAH-08A
东方	O	DX475
台达	T	ECMA-C30807

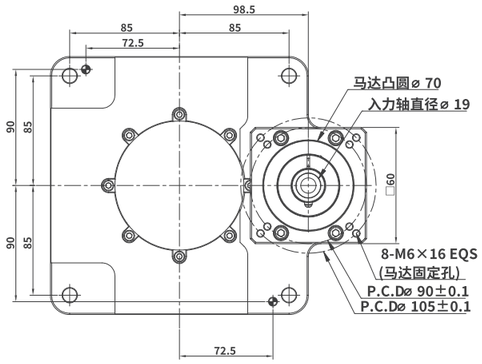
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

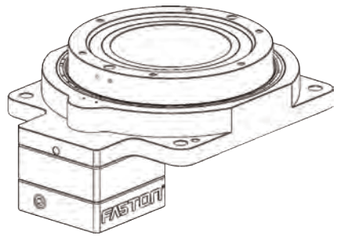
性能资料 PERFORMANCE DATA

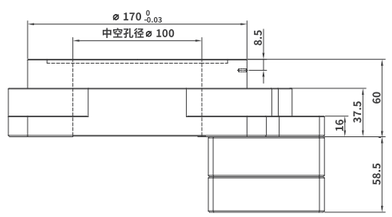
FKT200-18K性能参数
THE PERFORMANCE PARAMETER OF FKT200–18K











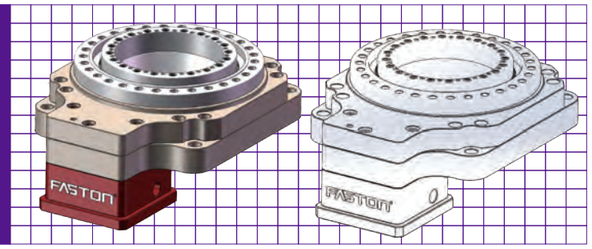
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	18
容许扭矩 Allowable torque	50Nm
额定输出转速 Rated output speed	150rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	4000Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

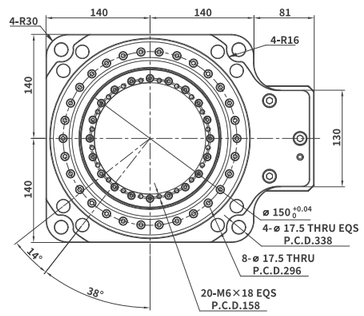
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS 751D5
三菱	M	HF-KFS-73
松下	P	MSMD082G1U
三洋	S	Q1AA07075D
安川	Y	SGMAH-08A
东方	O	DX475
台达	T	ECMA-C30807

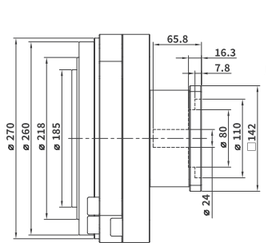
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

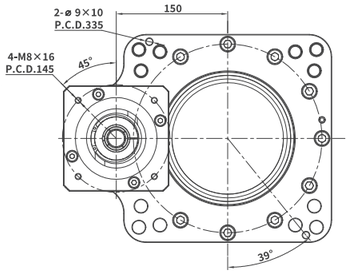
性能资料 PERFORMANCE DATA

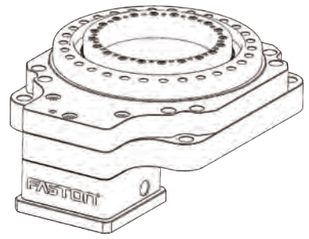
FKT280-10K 性能参数
THE PERFORMANCE PARAMETER OF FKT280–10K

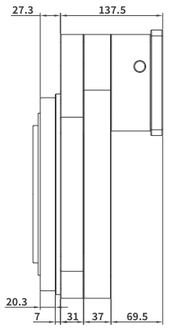












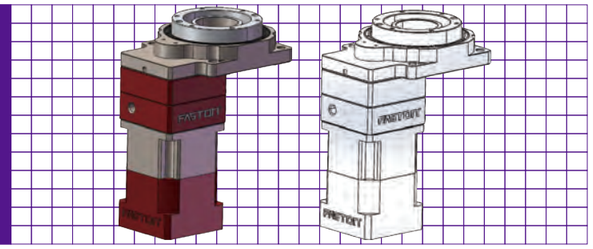
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	10
容许扭矩 Allowable torque	120Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	15arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	8000Nm
平均寿命 Average life span	20000h
背隙 Backlash	20arcsec
噪音 noise	≤65dB

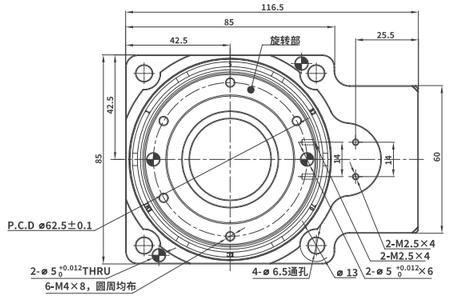
马达参数 Motor parameters		
品牌 Brand	代码 Code	规格 specification
富士	F	GYS201D5
三菱	M	HF-KFS-23/43
松下	P	MSMD-022/042
三洋	S	Q1AA06020D
安川	Y	SGMAH-02/04A
东方	O	DX220/240
台达	T	ECMA-C30602/04

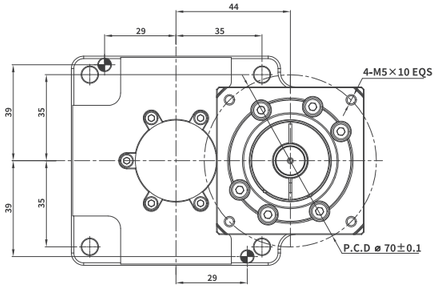
伺服马达由客户自行配置, 以上规格仅供参考。
The servo motor is configured by the customer. The above specifications are for reference only.

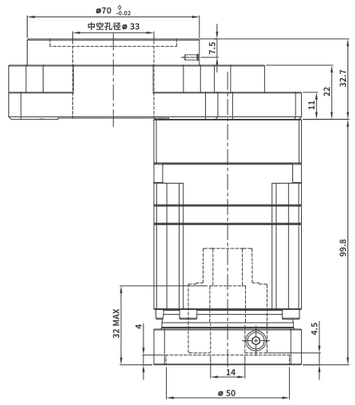
性能资料 PERFORMANCE DATA

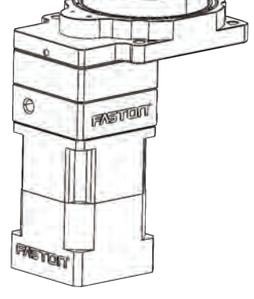
FKT85A性能参数
THE PERFORMANCE PARAMETER OF FKT85A









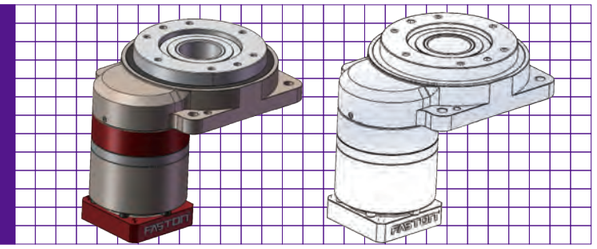


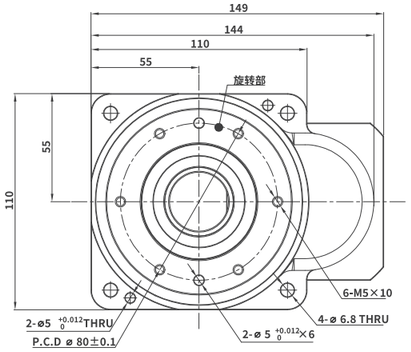
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	20Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	500Nm
平均寿命 Average life span	20000h
背隙 Backlash	15arcsec
噪音 noise	≤65dB

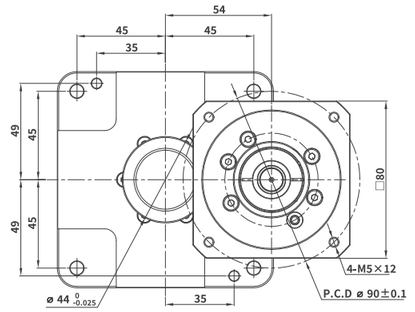
常用一体机 Commonly used all-in-one
FKT85A-25K
FKT85A-35K
FKT85A-50K
中空旋转平台 Hollow rotating platform
FKT85A-05
行星减速机 Planetary reducer
FKB060（3速比）
FKB060（4速比）
FKB060（5速比）
FKB060（6速比）
FKB060（7速比）
FKB060（8速比）
FKB060（10速比）

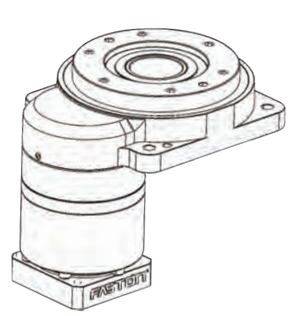
性能资料 PERFORMANCE DATA

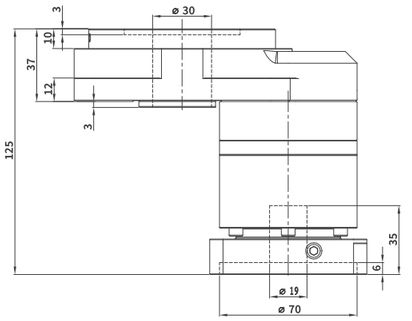
FKT110A 性能参数
THE PERFORMANCE PARAMETER OF FKT110A







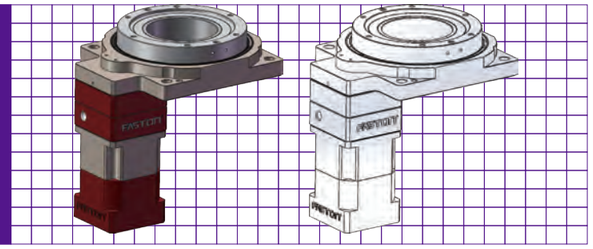


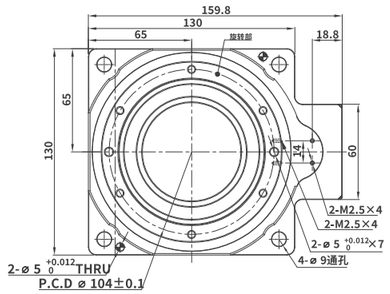


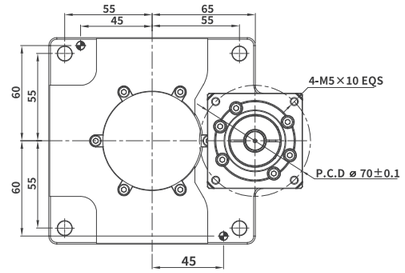
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	25Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	1000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

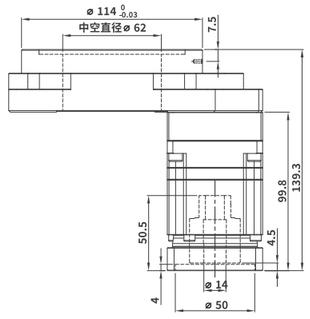
常用一体机 Commonly used all-in-one
FKT110A-25K
FKT110A-35K
FKT110A-50K
FKT110A-70K
FKT110A-100K
中空旋转平台 Hollow rotating platform
FKT110A-05（5速比）
FKT110-10（10速比）
行星减速机 Planetary reducer
FBE065（3速比）
FBE065（4速比）
FBE065（5速比）
FBE065（6速比）
FBE065（7速比）
FBE065（8速比）
FBE065（10速比）

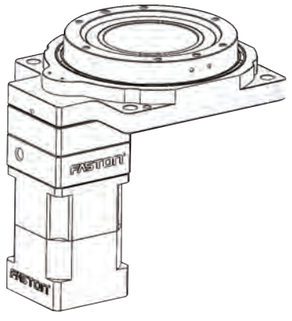
FKT130A 性能参数
THE PERFORMANCE PARAMETER OF FKT130A







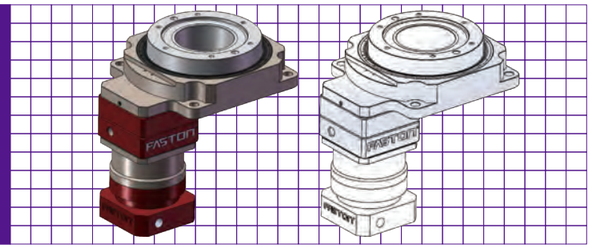


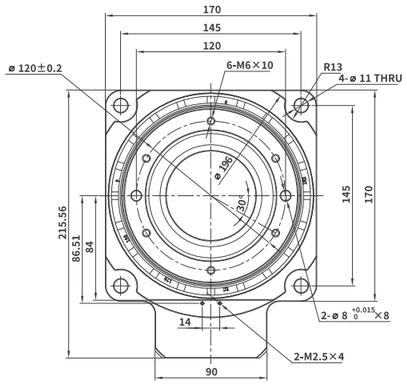


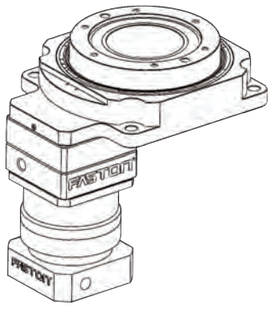
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	30Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	2000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

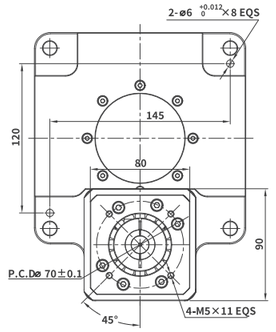
常用一体机 Commonly used all-in-one
FKT130A-30K
FKT130A-50K
FKT130A-70K
FKT130A-100K
中空旋转平台 Hollow rotating platform
HRG130-06（6速比）
HRG130-10（10速比）
行星减速机 Planetary reducer
FKB060（3速比）
FKB060（4速比）
FKB060（5速比）
FKB060（6速比）
FKB060（7速比）
FKB060（8速比）
FKB060（10速比）

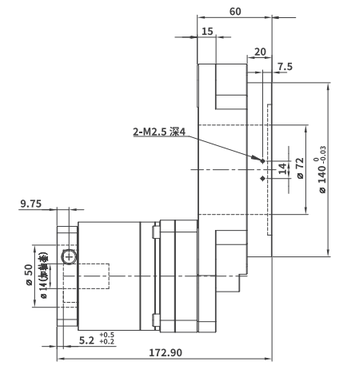
FKT170A 性能参数
THE PERFORMANCE PARAMETER OF FKT170A









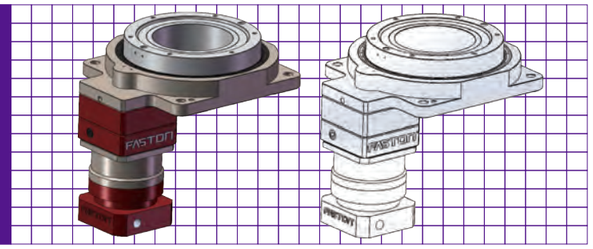


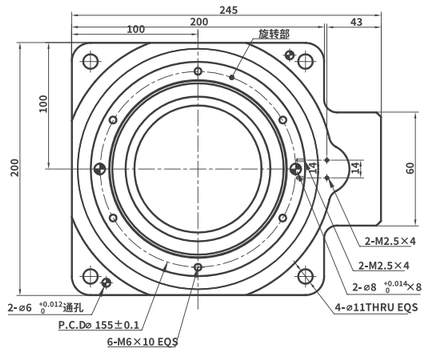
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	55Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	3000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

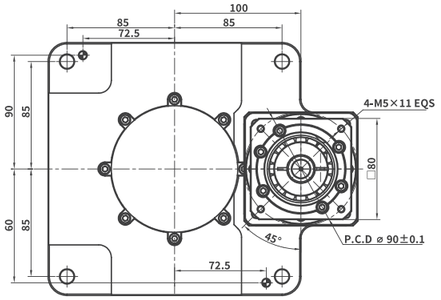
常用一体机 Commonly used all-in-one
FKT170A-30K
FKT170A-50K
FKT170A-70K
FKT170A-100K
中空旋转平台 Hollow rotating platform
FKT170-10（10速比）
行星减速机 Planetary reducer
FBS090（3速比）
FBS090（4速比）
FBS090（5速比）
FBS090（6速比）
FBS090（7速比）
FBS090（8速比）
FBS090（10速比）

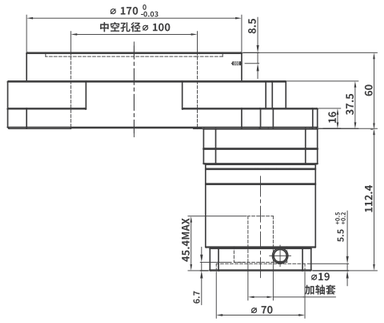
性能资料 PERFORMANCE DATA

FKT200A 性能参数
THE PERFORMANCE PARAMETER OF FKT200A







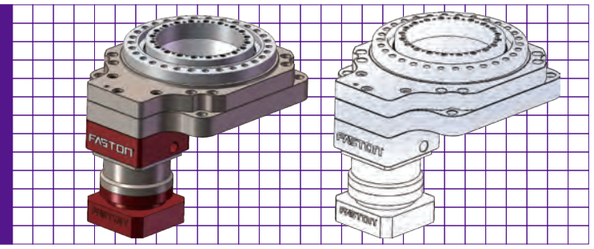


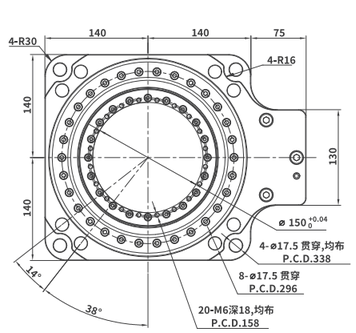
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	65Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	4000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

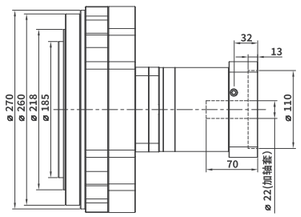
常用一体机 Commonly used all-in-one
FKT200A-30K
FKT200A-50K
FKT200A-70K
FKT200A-100K
中空旋转平台 Hollow rotating platform
FKT200-10（10速比）
行星减速机 Planetary reducer
FBS090（3速比）
FBS090（4速比）
FBS090（5速比）
FBS090（6速比）
FBS090（7速比）
FBS090（8速比）
FBS090（10速比）

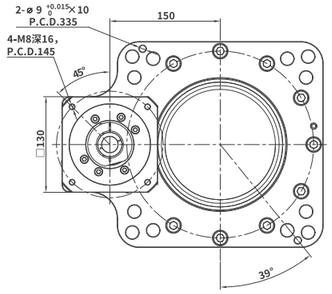
性能资料 PERFORMANCE DATA

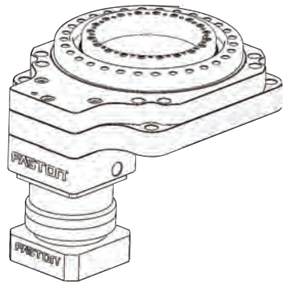
FKT280A 性能参数
THE PERFORMANCE PARAMETER OF FKT280A

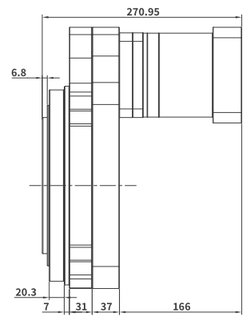










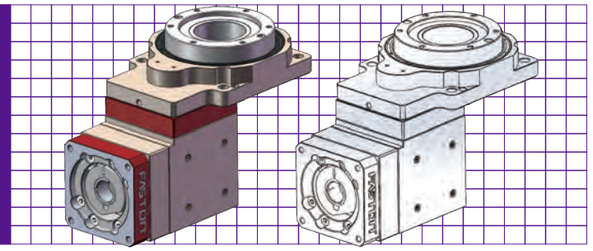


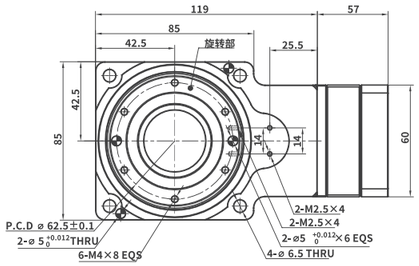
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	120Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	15arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	8000Nm
平均寿命 Average life span	20000h
背隙 Backlash	30arcsec
噪音 noise	≤65dB

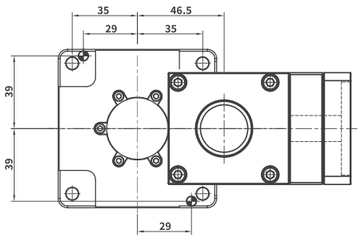
常用一体机 Commonly used all-in-one
FKT280A-30K
FKT280A-50K
FKT280A-70K
FKT280A-100K
中空旋转平台 Hollow rotating platform
FKT280-10
行星减速机 Planetary reducer
FBS090（3速比）
FBS090（4速比）
FBS090（5速比）
FBS090（6速比）
FBS090（7速比）
FBS090（8速比）
FBS090（10速比）

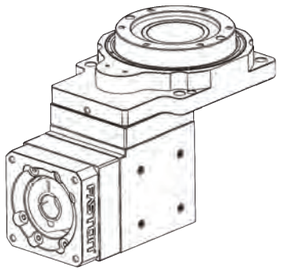
性能资料 PERFORMANCE DATA

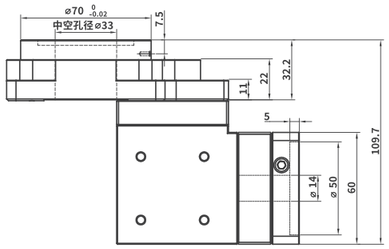
FKT85Z 性能参数
THE PERFORMANCE PARAMETER OF FKT85Z

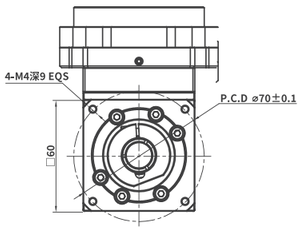










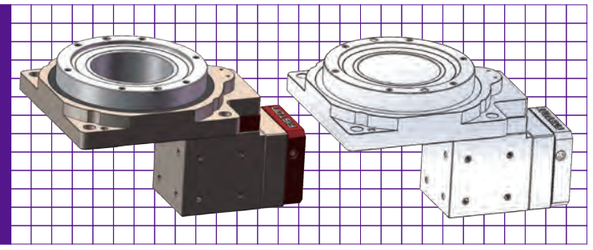


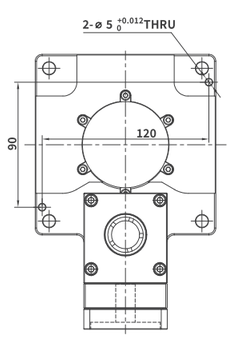
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	20Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	500Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

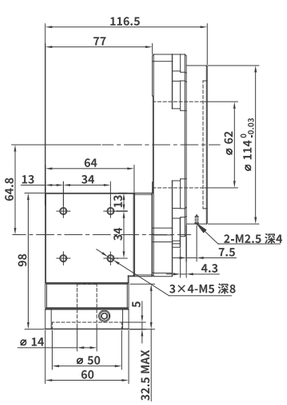
一体机 One machine
FKT85Z-10K
FKT85Z-15K
FKT85Z-25K
中空旋转平台 Hollow rotating platform
FKT85-05（5速比）
直角减速机 Right angle reducer
AR060（2速比）
AR060（3速比）
AR060（5速比）

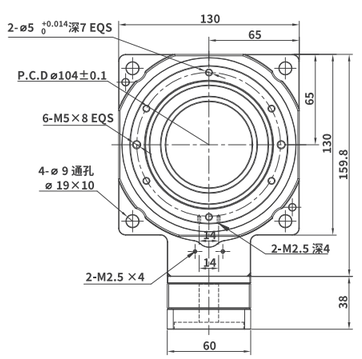
性能资料 PERFORMANCE DATA

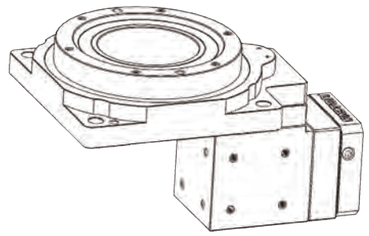
FKT130Z 性能参数
THE PERFORMANCE PARAMETER OF FKT130Z

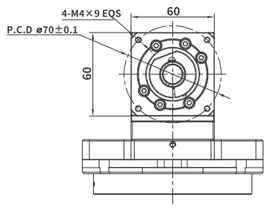










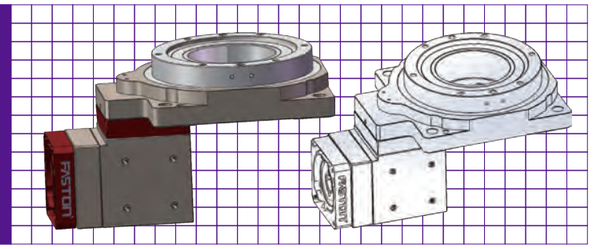


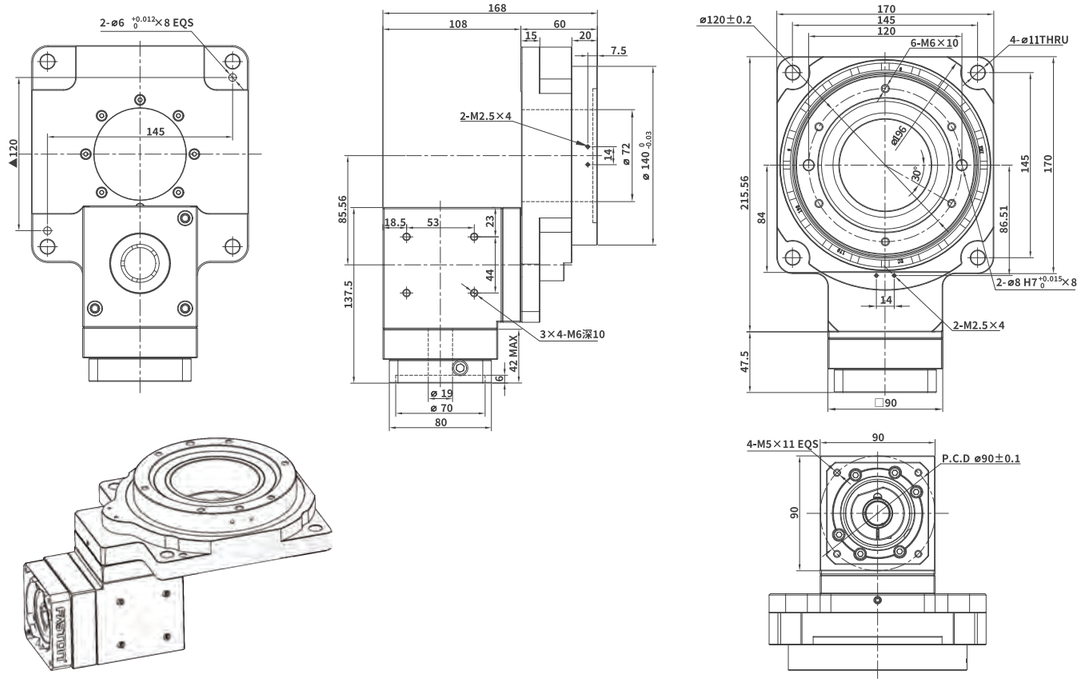
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	30Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	2000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

一体机 One machine
FKT130Z-20K
FKT130Z-30K
FKT130Z-50K
中空旋转平台 Hollow rotating platform
FKT130-10（10速比）
直角减速机 Right angle reducer
AR060（2速比）
AR060（3速比）
AR060（5速比）

性能资料 PERFORMANCE DATA

FKT170Z 性能参数
THE PERFORMANCE PARAMETER OF FKT170Z



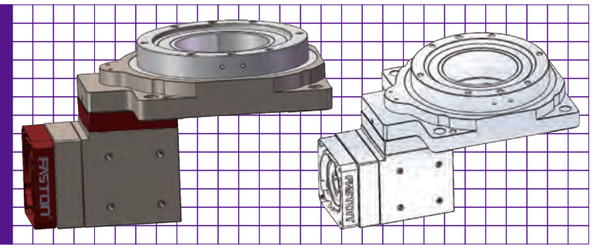


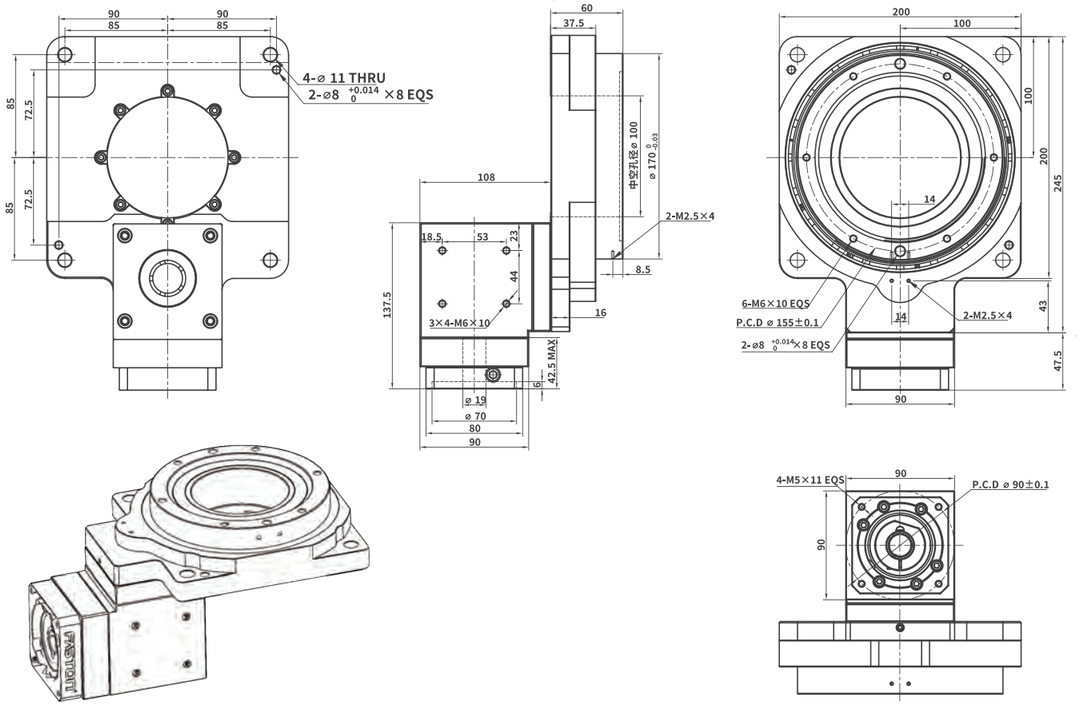
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	55Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	3000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

一体机 One machine
FKT170Z-20K
FKT170Z-30K
FKT170Z-50K
中空旋转平台 Hollow rotating platform
FKT170-10（10速比）
直角减速机 Right angle reducer
AR090（2速比）
AR090（3速比）
AR090（5速比）

性能资料 PERFORMANCE DATA

FKT200Z 性能参数
THE PERFORMANCE PARAMETER OF FKT200Z





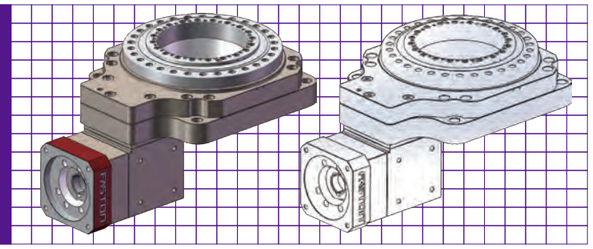
性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	65Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	10arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	4000Nm
平均寿命 Average life span	20000h
背隙 Backlash	25arcsec
噪音 noise	≤65dB

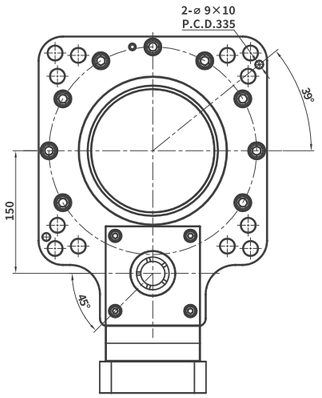
一体机 One machine
FKT200Z-20K
FKT200Z-30K
FKT200Z-50K
中空旋转平台 Hollow rotating platform
FKT200-10（10速比）
直角减速机 Right angle reducer
AR090（2速比）
AR090（3速比）
AR090（5速比）

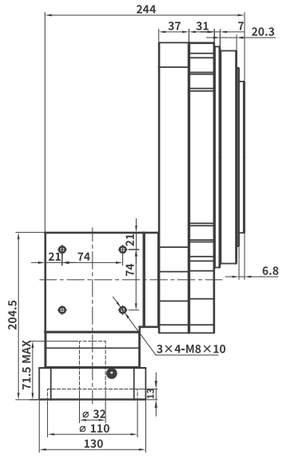
FKT系列 FKT SERIES

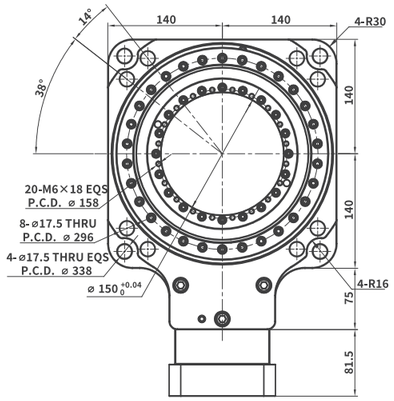
性能资料 PERFORMANCE DATA

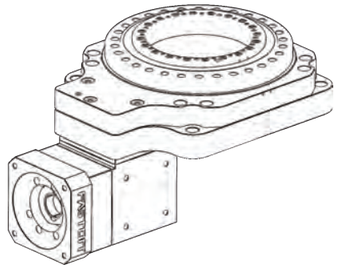
FKT280Z 性能参数
THE PERFORMANCE PARAMETER OF FKT280Z

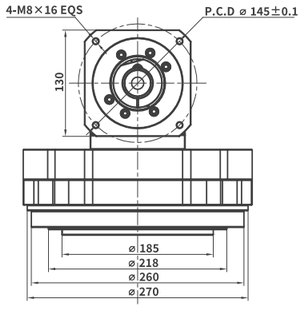












性能参数 Performance parameter	
旋转平台轴承 Rotating platform bearings	交叉滚子轴承
减速比 Reduction ratio	--
容许扭矩 Allowable torque	120Nm
额定输出转速 Rated output speed	200rpm
传达精度 Communication accuracy	3arcmin
重复定位精度 Repeatability	15arcsec
旋转平台平面度 Flatness of rotating platform	0.01mm
输出端外圆跳动 Outer circle beating at output	0.01mm
最大轴向负载 Maximum axial load	8000Nm
平均寿命 Average life span	20000h
背隙 Backlash	30arcsec
噪音 noise	≤65dB

一体机 One machine
FKT280Z-20K
FKT280Z-30K
FKT280Z-50K
中空旋转平台 Hollow rotating platform
FKT280-10（10速比）
直角减速机 Right angle reducer
AR120（2速比）
AR120（3速比）
AR120（5速比）