

# 滑台模组规格索引

Spec index of electric actuator

## GCR内嵌式铝基模组

GCR Series Built-in Rail Aluminium-Based Linear Actuator

使用环境 Environment	传动方式 Driven mode	规格 Specifications	马达容量 Motor output	本体宽度 Body Width(mm)	重复定位精度 Repeated positioning accuracy	螺杆规格(C7级) Ball screw specification		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)	标准行程及最高使用速度*2 Stroke(mm) & Maximum speed (mm/s)																			
						外径 Outer diameter(mm)	导程 Lead(mm)	水平使用 Horizontal(kg)	垂直使用 Vertical(kg)		行程 Stroke																			
											50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
无尘环境 Clean room	滚珠螺杆 Ball screw	TPA-GCR-40	50W	44	±0.005	12	5	25	10	250	250																			
							10	20	5	500	500																			
							20	12	2	1000	1000																			
			5				25	10	250	250																				
			10				20	8	500	500																				
			20				12	3.5	1000	1000																				
		100W	54	±0.005	12	5	30	10	250	250																				
						10	15	5	500	500																				
						20	10	2.5	1000	1000																				
		TPA-GCR-80	200W	82	±0.005	16	5	50	15	250	250																			
							10	30	8	500	500																			
							20	18	3	1000	1000																			
		400W	120	±0.005	16	5	110	33	250	250																				
						10	88	22	500	500																				
						20	40	10	1000	1000																				
		TPA-GCR-120	400W	120	±0.005	16	32	30	8	1600	1600																			
							5	120	50	250	250																			
							10	120	40	500	500																			
TPA-GCR-150	750W	150	±0.005	20	20	83	25	1000	1000																					
					40	43	12	2000	2000																					
					20	83	25	1000	1000																					

## 内嵌式皮带模组

Built-in Rail Belt Driven Type Linear Actuator

使用环境 Environment	传动方式 Drive method	规格 Specifications	马达容量 Motor output	本体宽度 Body Width(mm)	重复定位精度 Repeated positioning accuracy	皮带规格(C7级) Belt specifications		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)	标准行程及最高使用速度*2 Stroke(mm) & Maximum speed (mm/s)																			
						皮带宽度 Belt width(mm)	导程 Lead(mm)	水平使用 Horizontal(kg)	垂直使用 Vertical(kg)		行程 Stroke																			
											500	550	600	650	700	750	800	850	900	950	1000	1050	1100	1150	1200	1250	1300	1350	1400	1450
无尘环境 Clean room	同步带 Synchronous belt	TPA-GCB-50	100W	54	±0.04	9	21	5	-	1050	1050																			
							42	5	-	2100	2100																			
		TPA-GCB-80	400W	82	±0.04	15	24	15	-	1200	1200																			
							48	15	-	2400	2400																			
		TPA-GCB-120	200W	120	±0.04	25	35	25	-	1750	1750																			
							70	25	-	3500	3500																			
		TPA-GCBS-50	100W	54	±0.04	9	42	5(双滑座)	-	2100	2100																			
							42	5(双滑座)	-	2100	2100																			
		TPA-GCBS-80	200W	82	±0.04	15	48	15(双滑座)	-	2400	2400																			
							48	15(双滑座)	-	2400	2400																			

## GCRS内嵌式对开模组

GCRS Series Built-in Rail Right/Left Sliders Ball Screw Linear Actuator

使用环境 Environment	传动方式 Drive method	规格 Specifications	马达容量 Motor output	本体宽度 Body Width(mm)	重复定位精度 Repeated positioning accuracy	螺杆规格(C7级) Ball screw specification		最大可搬重量 Maximum Payload(kg)		最高速度*1 Maximum speed (mm/s)	标准行程及最高使用速度*2 Stroke(mm) & Maximum speed (mm/s)																			
						外径 Outer diameter(mm)	导程 Lead(mm)	水平使用 Horizontal(kg)	垂直使用 Vertical(kg)		行程 Stroke																			
											50	100	150	200	250	300	350	400	450	500	550	600	650	700	750	800	850	900	950	1000
无尘环境 Clean room	滚珠螺杆 Ball screw	TPA-GCRS-50	100W	52	±0.005	12	05	30	10	250	250																			
											100	80	50																	
		TPA-GCRS-80	200W	82	±0.005	16	10	30	10	500	500																			
300	200										160	100																		

\*1:最高速度是以伺服马达最高转速3000RPM为基准。  
The highest speed is based on the maximum servo motor's rpm(3000).

\*2:标准行程内的黑色数字,代表该行程内可使用的最高安全速度。若超过此速度,滑台可能会有严重共振产生。  
The black number in the standard trip represents the highest safe speed that can be used in the trip. If this speed is exceeded, the sliding table may have serious resonance.



## 内嵌式铝基模组内部结构图说明

Description of internal structure diagram of embedded aluminum-based linear actuator

### 滑座刚性强化 Carriage rigidity strengthening

本体与滑座一体成型,改善原始刚性较差问题。  
It is integrally formed with the slide base to solve the problem of poor original rigidity.

滑座最优设计,无需塞装螺母,使得滚珠螺杆副机构和U型轨道副结构整合在一个滑座基体上:

- ①减少了配合间隙带来的精度误差;
- ②自主发明结构;
- ③高刚性的整体化结构设计;
- ④整体滑座重量更轻;

Optimal design of the slide base, no need to plug nuts, makes the ball screw pair mechanism and U-shaped rail The track pair structure is integrated on a slide base:

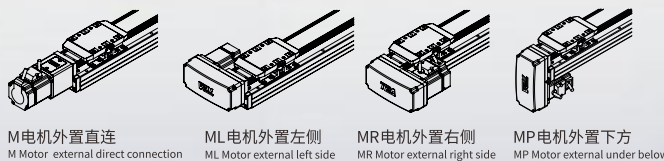
- ① reducing the precision error caused by fit clearance;
- ② Self-invented structure;
- ③ Integrated structural design with high rigidity;
- ④ The overall slider is lighter in weight;

### 体积更小 Smaller size

宽度缩小,让设备安装所需空间更小。  
The width is reduced, so that the space required for equipment installation is smaller.

### 马达安装位置 Motor installation position

多方向马达安装位置可供选择,让机台设计更加方便。  
Multiple motor installation position provides the flexibility for machine design.



### 马达品牌 Motor brand

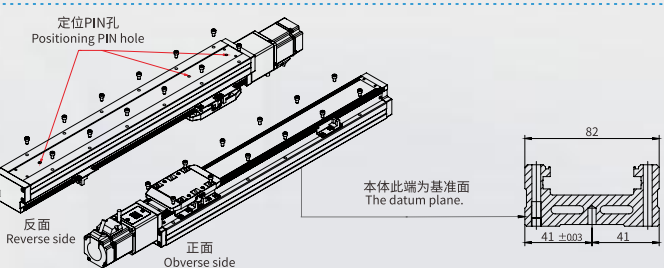
可搭配各品牌的伺服马达。 Can be matched with servo motors of various brands.

马达品牌 Motor brand		
三菱 Mitsubishi	松下 Panasonic	台达 Delta

其它马达品牌规格,请联系TPA业务人员。  
For other motor brand specifications, please contact TPA business personnel.

### 组装,省时、方便 Easy assemble

- ①不需拆卸钢带,即可由上往下固定或由下往上固定。
  - ②本体侧面增加安装基准面承靠。
  - ③本体底部有定位PIN孔。
- ① It can be fixed from top to bottom or from bottom to top without removing the steel belt.  
② Install datum bearing on the side of the body.  
③ The bottom of the body is provided with a positioning PIN hole.



### 特性 Characteristics

- ①可定制行程。
  - ②高刚性。
  - ③安装维护方便。
  - ④体积小、重量轻。
  - ⑤高精度。
  - ⑥密封防尘性能佳。
- ① Can customize the trip.      ② High rigidity.      ③ Easy installation and maintenance.  
④ Small size and light weight.      ⑤ High precision.      ⑥ Good sealing and dustproof performance.

### 应用领域 Application field

- ① FPD产业。
  - ② 医疗自动化产业。
  - ③ 半导体。
  - ④ 精密测量仪器。
- ① FPD industry.      ② Medical automation industry.  
③ semiconductor.      ④ Precision measuring instruments.

### 不易发尘 Reduce dust

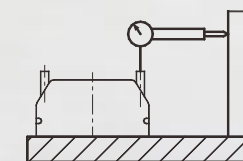
特殊钢带结构设计,可减少发尘;可用于洁净室环境。  
Special steel strip cover sealing design can prevent dirt and foreign objects from penetrating inside. Can be used in Clean Room environment.

### 保养简单 Easy to maintain

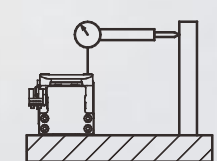
全系列两侧皆可外部注油,不需拆盖。  
External greasing design, easy maintenance without removing the cover.

### 精度提升 Improve accuracy

因为采用铝本体结构,本体强度大幅增加,顺畅度更好。且钢材轨道嵌入铝本体后再研磨处理,因此行走的等高度及直线精度也提升到 $\pm 0.02\text{mm}$ 以下。  
Because of the aluminum body structure, the body strength is greatly increased and the smoothness is better. And the steel track is embedded in the aluminum body, after grinding treatment, so the walking height and linear accuracy is also improved to  $\pm 0.02\text{mm}$  or less.



普通开放式滑台直线度 $\pm 0.05\text{mm}$   
\*行走1000mm时。  
The straightness of the common is  $\pm 0.05\text{mm}$ .  
\*Measure length is 1000mm.



GCR50直线度 $\pm 0.02\text{mm}$   
\*行走800mm时。  
Straightness of GCR50 is  $\pm 0.02\text{mm}$ .  
\*Measure length is 800mm.