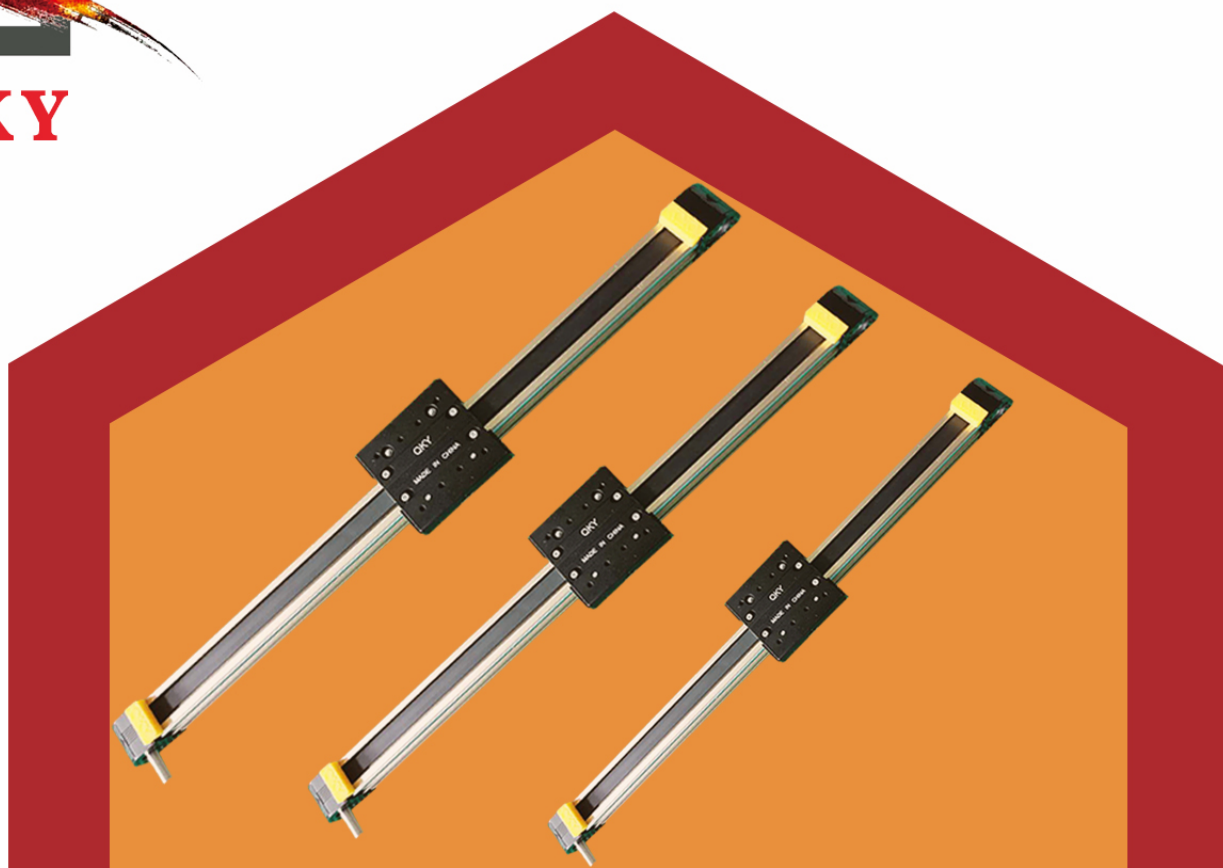




直线模组选型手册

启英机械

发展 · 合作 · 共赢

公司简介

COMPANY PROFILE

东莞市启英机械设备有限公司是一家专业从事直线传动元件的研发、制造、销售、贸易于一体的企业。主营产品有直线模组、线性导轨、滚珠螺杆等产品，广泛应用于各类自动化生产线、自动化设备（锁螺丝、点胶、焊锡）等需求精密直线传动及定位的领域。

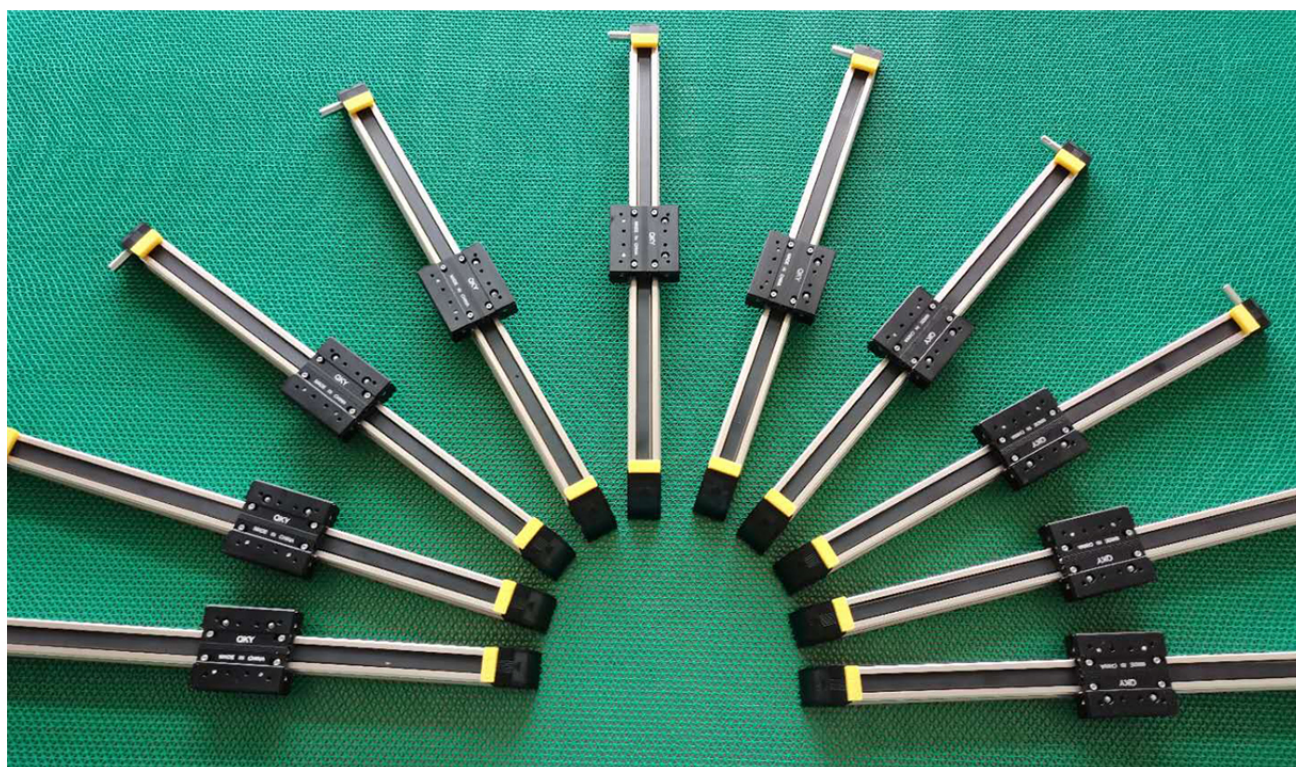
公司以“生产专业化、产品品牌化、市场国际化”为经营理念。以客户需求、行业标杆为向导，以直线传动产品为主导，以自有品牌“QKY”为聚点，形成了品牌效应、技术领先的企业。

公司以“质量是市场赋予的使命”为质量理念，为了控制产品质量，我们拥有一支经验丰富的技术团队，先进的检测技术和检测手段，为保证产品的质量稳定可靠。把“客户满意”真真切切的落实到日常工作中。

启英追逐卓越的品质及承担起支撑国内自动化行业的技术发展方向为前提，并恪守“质量第一，客户至上”原则，为客户服务！



我们的荣誉



同步带模组 Linear Modeles



型 号 Specification	参 考 负 载 Max Load	梁 宽 Guide Width	导 程 Pitch
W40-03	3KG	40MM	75MM
W40-10	10KG	40MM	75MM
W45-15	15KG	45MM	80MM
W50-25	25KG	50MM	95MM
W60-35	35KG	60MM	95MM
W45A-05	5KG	45MM	75MM

型 号 Specification	适 合 扭 矩 Torque	重 复 定 位 精 度 Positional Repeatability
W40-03	$\leq 3 \text{ N.M}$	$\leq 0.05 \text{ MM}$
W40-10	$\leq 3 \text{ N.M}$	$\leq 0.05 \text{ MM}$
W45-15	$\leq 4.5 \text{ N.M}$	$\leq 0.05 \text{ MM}$
W50-25	$\leq 6.5 \text{ N.M}$	$\leq 0.05 \text{ MM}$
W60-35	$\leq 8.5 \text{ N.M}$	$\leq 0.05 \text{ MM}$
W45A-05	$\leq 3 \text{ N.M}$	$\leq 0.05 \text{ MM}$

QKY - W40-10 - S900 - DC -1A - 400W(D14)

1

2

3

4

5

6

1 品牌.型号: QKY-W40-10/W45-15/60-30等

2 模组有效行程: S900 (行程900mm)

3 电机连接方式: DC (直接), DG(大小轮减速)

4 出轴方式: 1-8 (出轴形式), A-D (电机区位)

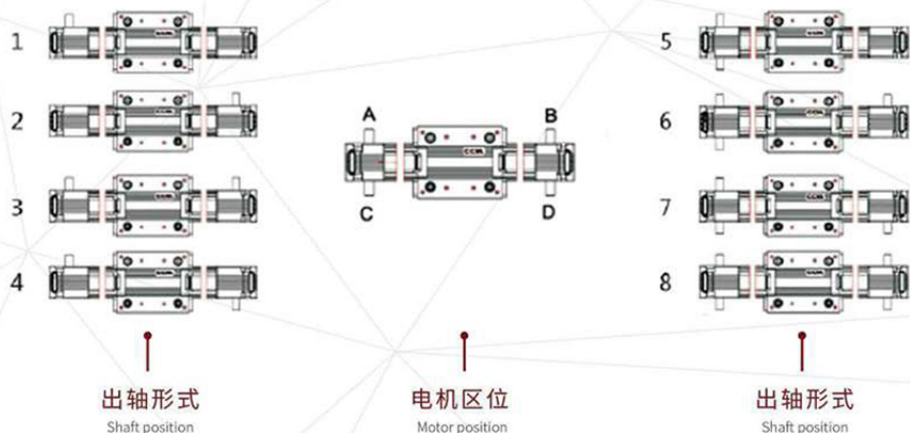
5 电机型号: (57与400)

6 电机轴径

A

电机出轴形式 >>

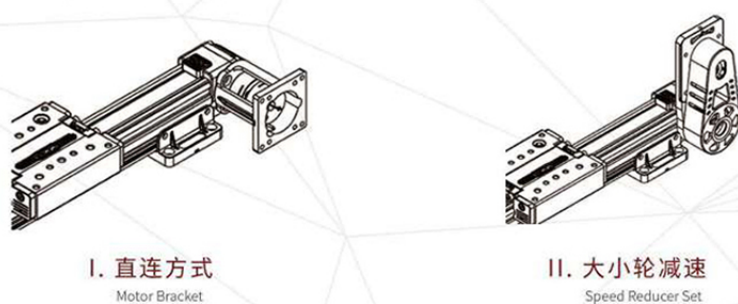
Motor Shaft position



B

电机连接方式 >>

Motor Connections



C

模组长度标示 >>

Part Length Indication

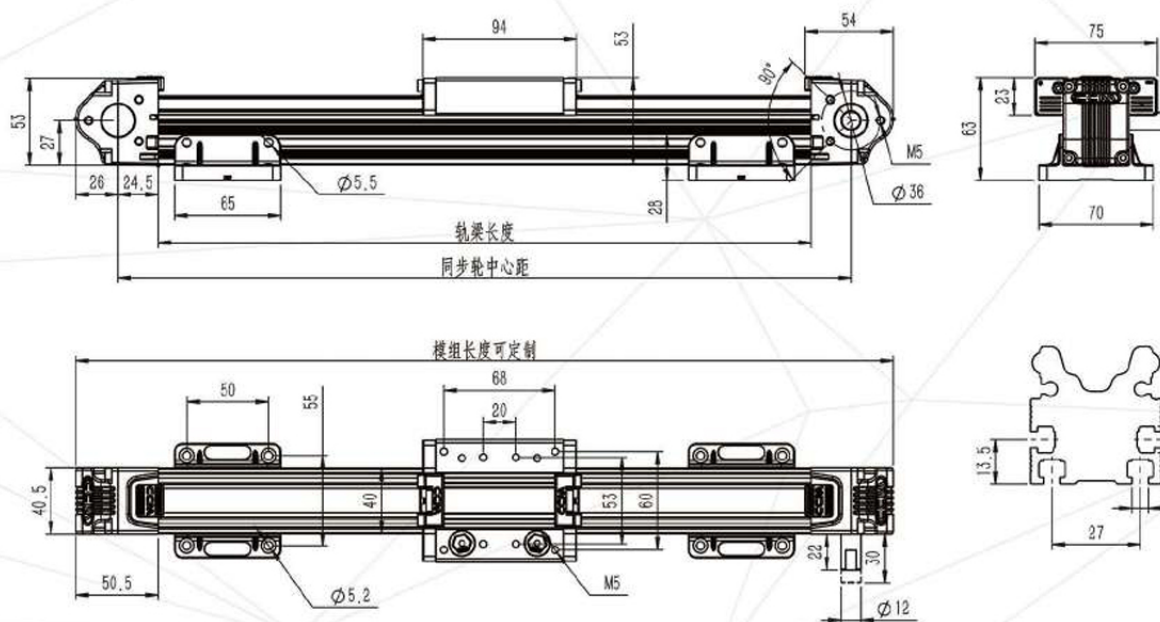
*长度为50MM增减量, 如1000MM, 1050MM, 1100MM.....



W40-03

W Series

■ 尺寸图 / Dimensions (单位 / Unit: mm)



*建议总长(L)=有效行程+250MM (Suggested length=Effective stroke+250MM)

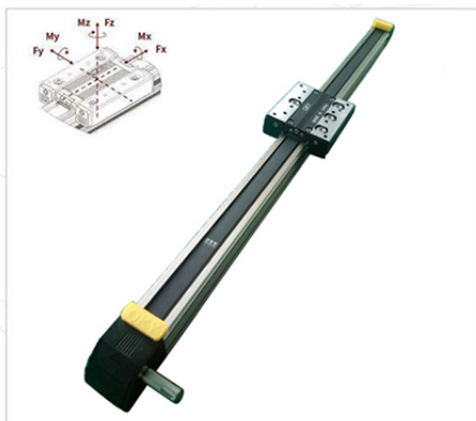
- 型号 / Model : W40-03
- 轨梁宽度 / Guide Width : 40 MM
- 参考负载 / Max Load : 3 KG
- 导程 / Pitch : 75 MM
- 直线度 / Straightness : 0.05 / 300 MM
- 建议速度 / Recommended speed : ≤ 1.5 M/s
- 适用输入扭矩 / Input Torque : ≤ 3 N.M

- 可配长度 / Customized Length : 4米内定制 / Up to 4 meters

*长度为50MM增减量, 如1000MM、1050MM、1100MM...

Length of 50mm increase and decrease, such as 1000mm, 1050mm, 1100mm...

- 皮带规格 / Belt Spec. : PU-3M-15(钢丝/STD)
- 同步轮规格 / Synchronous Wheel Spec. : HTD3M-25Z
- 可配电机及连接方式 / Applicable Motor and Mounting Way
 - 步进电机 : 42 步进 (直连); 57 步进 (直连/大小轮减速)
Stepper Motor : Nema 17 (Direct Connection) ; Nema 23 (DC/Speed Reducer Set)
 - 伺服电机 : 100W (直连); 200W/400W (直连/大小轮减速)
Servo Motor : 100W (Direct Connection) ; 200W/400W (DC/Speed Reducer Set)

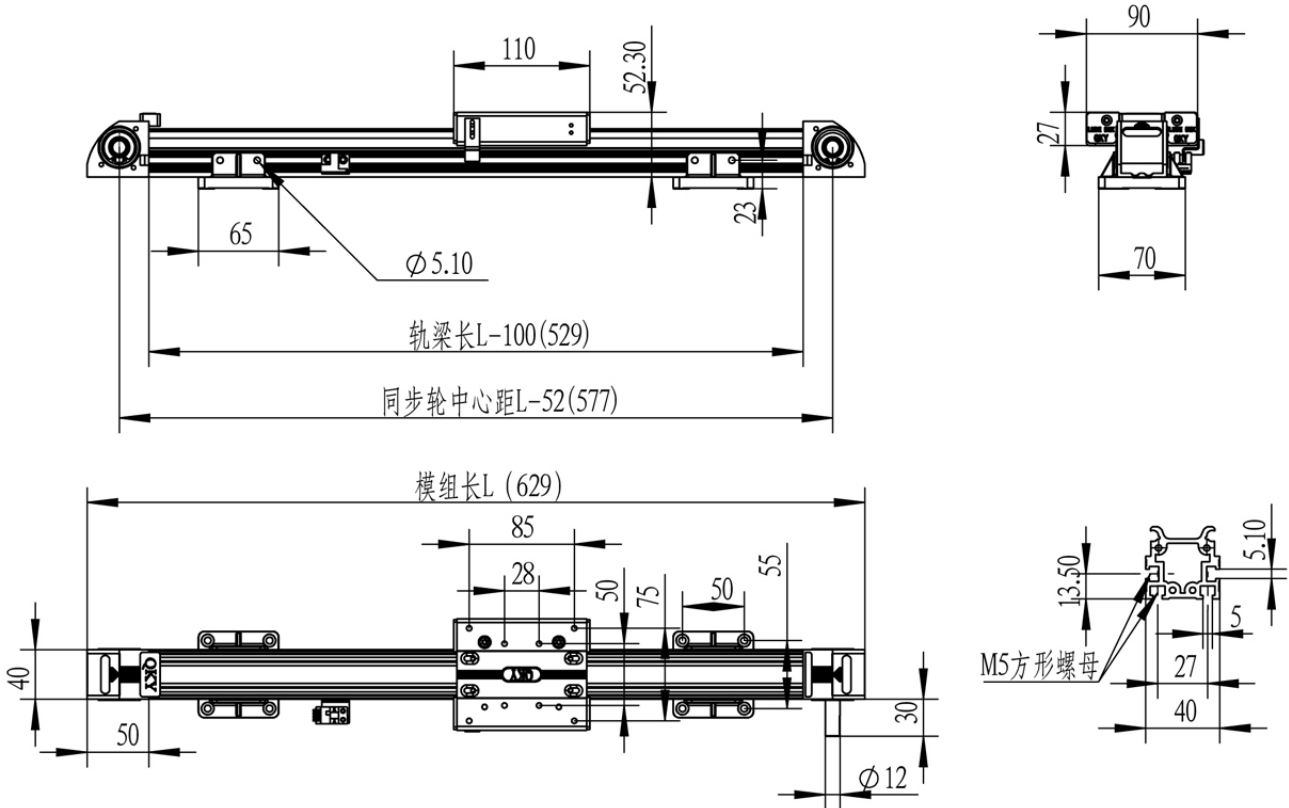


型号 / Model		W40-03
滑块标定载荷 Carriage Parameter	Fx max (N)	100
	Fy max (N)	370
	Fz max (N)	429
	Mx max (N.M)	8.1
	My max (N.M)	9.6
	Mz max (N.M)	4.2
最大负载系数 (Max. Load) = $\frac{F_y}{F_{y\max}} + \frac{F_z}{F_{z\max}} + \frac{M_x}{M_{x\max}} + \frac{M_y}{M_{y\max}} + \frac{M_z}{M_{z\max}} \leq 1$		
* 最大负载系数是模组 10000KM 运行寿命的系数, 为模组选型最终依据。(需考虑单轴或多种运动时因加速度产生的力与力矩) The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection. (It needs to consider the force and torque generated by acceleration in single or multiple-axis)		

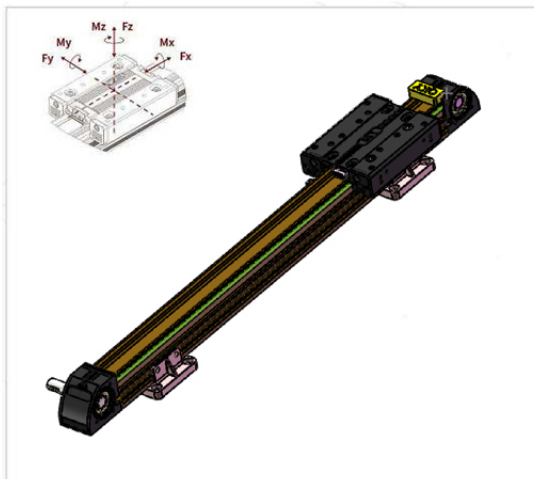
W40-10

W Series

尺寸图 / Dimensions (单位 / Unit: mm)



- ◆ 型号: W40-10
- ◆ 轨梁宽: 40MM
- ◆ 参考负载: 10KG
- ◆ 导程: 72.6MM
- ◆ 直线度: 0.05/300MM
- ◆ 建议速度: $\leq 1.5\text{M/s}$
- ◆ 适用输入扭矩: $\leq 3\text{N.M}$
- ◆ 可配长度: 4米内定制
- ◆ 皮带规格: PU-3M-15(钢丝)
- ◆ 同步轮规格: HTD3M-25Z
- ◆ 可配电机: I.步进电机: 57步进电机直连
II.伺服电机: 400W伺服电机直连

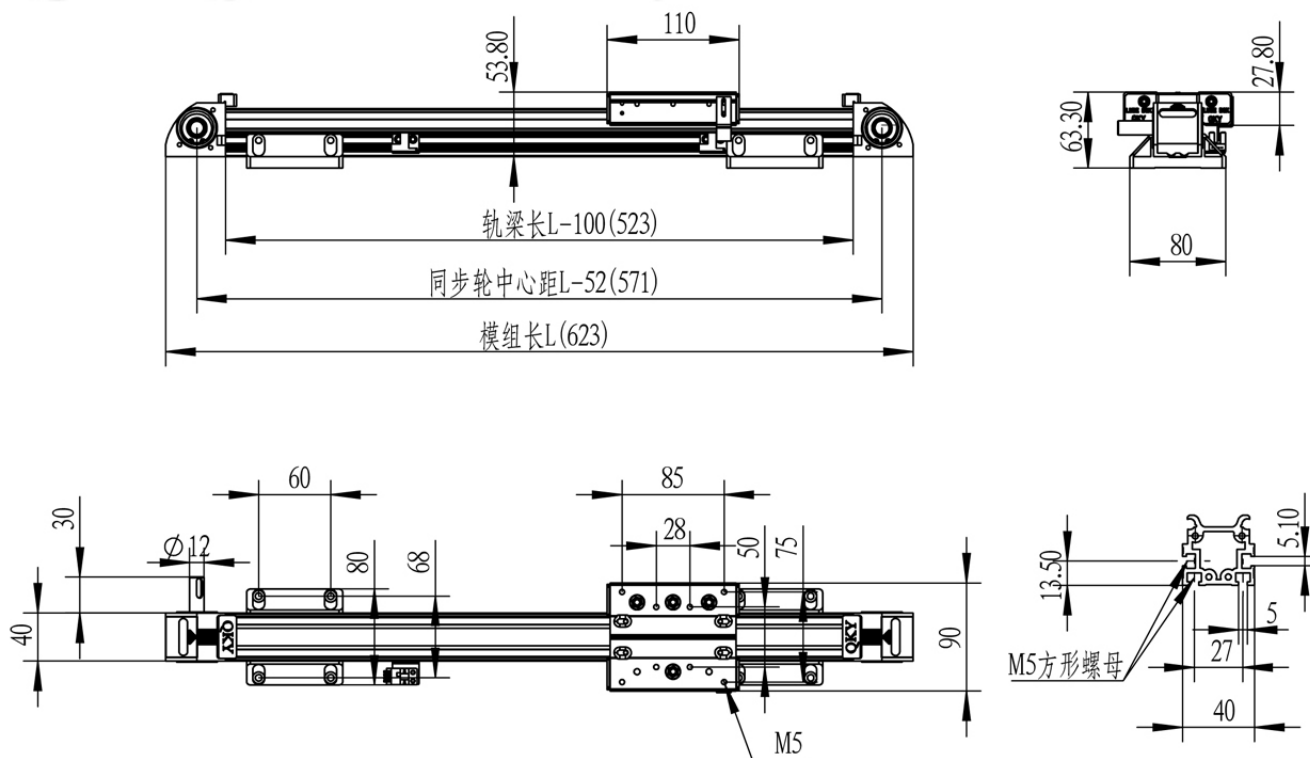


型号 / Model		W40-10
滑块标定载荷 Carriage Parameter	Fx max (N)	100
	Fy max (N)	655
	Fz max (N)	762
	Mx max (N.M)	14.5
	My max (N.M)	22.8
	Mz max (N.M)	9.8
最大负载系数 (Max. Load) = $\frac{F_y}{F_{y\max}} + \frac{F_z}{F_{z\max}} + \frac{M_x}{M_{x\max}} + \frac{M_y}{M_{y\max}} + \frac{M_z}{M_{z\max}} \leq 1$		
• 最大负载系数是模组10000KM运行寿命的系数,为模组选型的最终依据。(需考虑单轴或多种运动时因加速度产生的力与力矩) The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)		

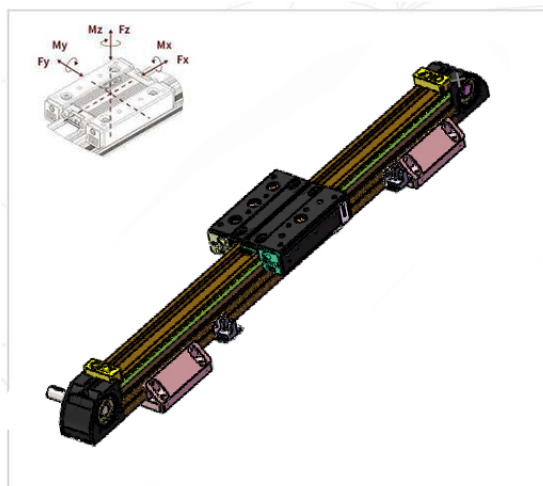
W45-15

W Series

尺寸图 / Dimensions (单位 / Unit: mm)



- ◆ 型号: W45-15
- ◆ 轨梁宽: 40MM
- ◆ 参考负载: 15KG
- ◆ 导程: 72.6MM
- ◆ 直线度: 0.05/300MM
- ◆ 建议速度: $\leq 1.5\text{M/s}$
- ◆ 适用输入扭矩: $\leq 3\text{N.M}$
- ◆ 可配长度: 6米内定制
- ◆ 皮带规格: PU-3M-15(钢丝)
- ◆ 同步轮规格: HTD3M-25Z
- ◆ 可配电机: I.步进电机: 57步进电机直连
II.伺服电机: 400W伺服电机直连

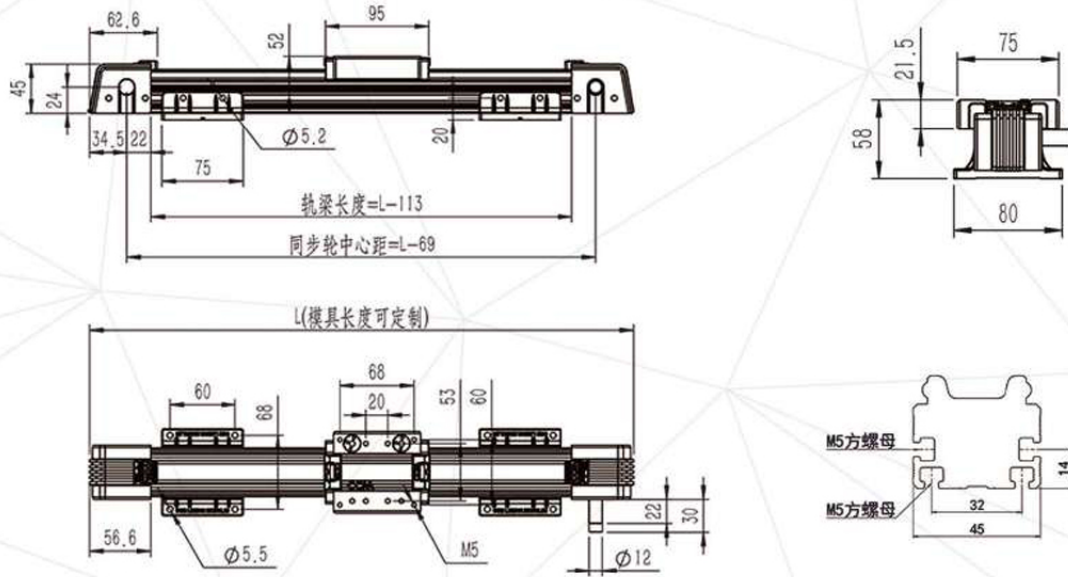


型号 / Model		W45-15
滑块标定载荷 Carriage Parameter	Fx max (N)	200
	Fy max (N)	655
	Fz max (N)	762
	Mx max (N.M)	14.5
	My max (N.M)	22.8
	Mz max (N.M)	9.8
最大负载系数 (Max.Load) $= \frac{Fy}{Fy_{max}} + \frac{Fz}{Fz_{max}} + \frac{Mx}{Mx_{max}} + \frac{My}{My_{max}} + \frac{Mz}{Mz_{max}} \leq 1$		
* 最大负载系数是模组 10000KM 运行寿命的系数, 为模组选型的最终依据。(需考虑单轴或多种运动时因加速度产生的力与力矩) The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)		

W45A - 05

W Series

■ 尺寸图 / Dimensions (单位 / Unit: mm)



*建议总长(L)=有效行程+250MM (Suggested length=Effective stroke+250MM)

■ 型号 / Model: W45A-05

■ 轨梁宽度 / Guide Width: 45 MM

■ 参考负载 / Max Load: 5 KG

■ 导程 / Pitch: 75 MM

■ 直线度 / Straightness: 0.05 / 300 MM

■ 建议速度 / Recommended speed: ≤ 1 M/s

■ 适用输入扭矩 / Input Torque: ≤ 3 N.M

■ 可配长度 / Customized Length: 4米内定制 / Up to 4 meters

*长度为50MM增减量,如1000MM、1050MM、1100MM...

Length of 50mm increase and decrease, such as 1000mm, 1050mm, 1100mm...

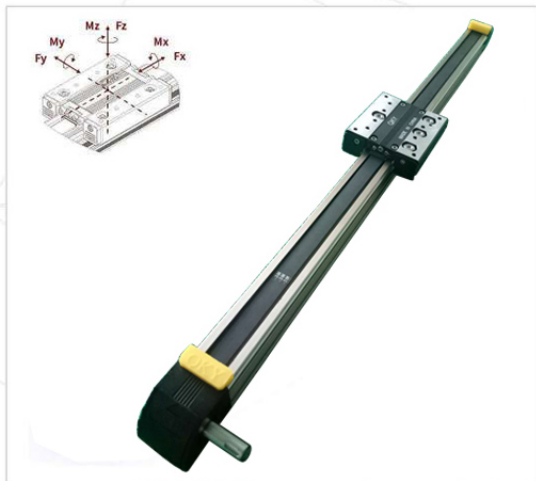
■ 皮带规格 / Belt Spec.: PU-3M-15(钢丝/STD)

■ 同步轮规格 / Synchronous Wheel Spec.: HTD3M-25Z

■ 可配电机及连接方式 / Applicable Motor and Mounting Way

I. 步进电机: 42 步进 (直连); 57步进 (直连/大小轮减速)
Stepper Motor: Nema 17 (Direct Connection); Nema 23 (DC/Speed Reducer Set)

II. 伺服电机: 100W (直连); 200W/400W (直连/大小轮减速)
Servo Motor: 100W (Direct Connection); 200W/400W (DC/Speed Reducer Set)



型号 / Model		W45A-05
滑块标定载荷 Carriage Parameter	Fx max (N)	100
	Fy max (N)	370
	Fz max (N)	429
	Mx max (N.M)	8.1
	My max (N.M)	9.6
	Mz max (N.M)	4.2
最大负载系数 (Max. Load) = $\frac{F_y}{F_{y\max}} + \frac{F_z}{F_{z\max}} + \frac{M_x}{M_{x\max}} + \frac{M_y}{M_{y\max}} + \frac{M_z}{M_{z\max}} \leq 1$		
◆ 最大负载系数是模组 10000KM 运行寿命的系数,为模组选型的最终依据。(需考虑单轴或多种运动时因加速度产生的力与力矩) The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection.(It needs to consider the force and torque generated by acceleration in single or multiple-axis)		

W Series

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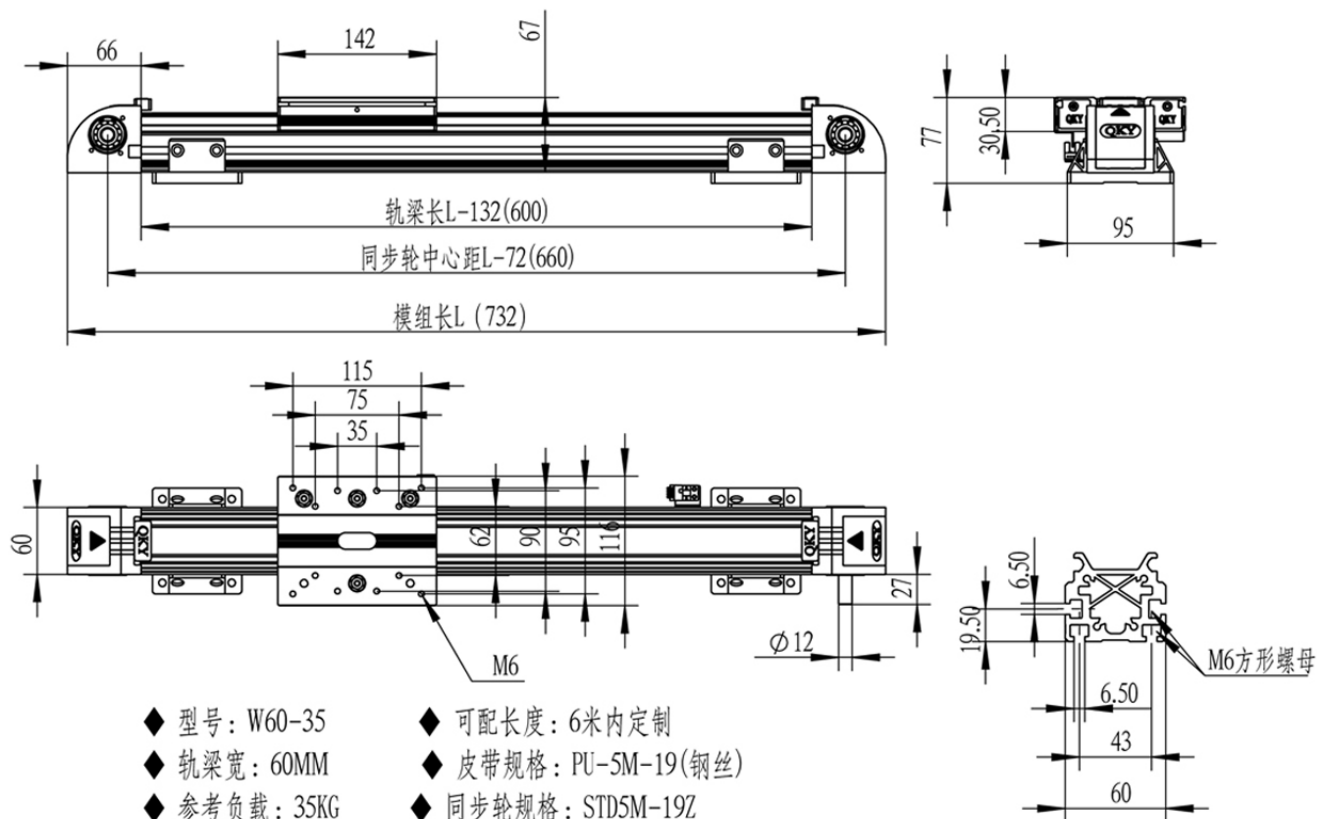
Servo Motor: 750W (Direct Connection) ; 200W/400W (DC/Speed Reducer Set)



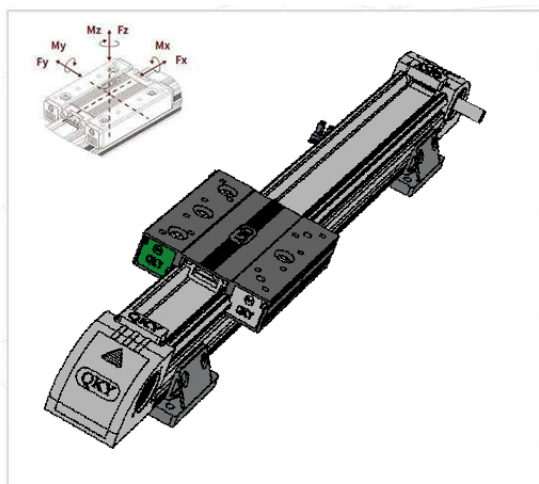
W60-35

W Series

尺寸图 / Dimensions (单位 / Unit: mm)



- ◆ 型号: W60-35
- ◆ 轨梁宽: 60MM
- ◆ 参考负载: 35KG
- ◆ 导程: 92MM
- ◆ 直线度: 0.05/300MM
- ◆ 建议速度: $\leq 2\text{M/s}$
- ◆ 适用输入扭矩: $\leq 8.5\text{N.M}$
- ◆ 可配长度: 6米内定制
- ◆ 皮带规格: PU-5M-19(钢丝)
- ◆ 同步轮规格: STD5M-19Z
- ◆ 可配电机: I. 步进电机: 57步进电机直连
II. 伺服电机: 400W伺服电机直连



型号 / Model		W60-35
滑块标定载荷 Carriage Parameter	Fx max (N)	515
	Fy max (N)	1001
	Fz max (N)	1164
	Mx max (N.M)	32.6
	My max (N.M)	55.3
	Mz max (N.M)	23.8
最大负载系数 (Max. Load) = $\frac{Fy}{Fy_{max}} + \frac{Fz}{Fz_{max}} + \frac{Mx}{Mx_{max}} + \frac{My}{My_{max}} + \frac{Mz}{Mz_{max}} \leq 1$		
• 最大负载系数是模组 10000KM 运行寿命的系数,为模组选型的最终依据。(需考虑单轴或多种运动时因加速度产生的力与力矩) The maximum load coefficient is the coefficient of the linear module's operating life of 10000KM, which is the final basis for linear module selection. (It needs to consider the force and torque generated by acceleration in single or multiple-axis)		

配件介绍 / Auxiliary Parts

A 电机直连件

— Motor Brackets —



◆ 40-W40 45

◆ 42-W40 45



◆ 57-W4045

◆ 60-W4045



◆ 57-W5060

◆ 60-W5060



◆ 86-W5060



◆ 42-H35



◆ 80-W5060

◆ 90-W5060



◆ H80专用

H80 Motor Mount

B 电机变速件

— Speed Reducers —



◆ 57-W4050

◆ 60-W4050



◆ 57-W50

◆ 57-W60



◆ 60-W50

◆ 60-W60

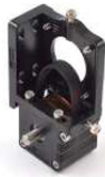


◆ 86-W50

◆ 86-W60



◆ 57-W45A



◆ 57步进中置套装
(Nema 23 Central Speed Reducer Set)

◆ 86步进中置套装
(Nema 34 Central Speed Reducer Set)



◆ 60伺服中置套装
(400W Servo Central Speed Reducer Set)

C 结构连接件

— Structural Attachments —



◆ 地脚
(Rail Mount)



◆ T型连接板
(T shape connector)



◆ L型连接板
(L shape connector)



◆ H80 压脚组合
(H80 Rail Mount)
◆ 压脚套装
(Rail Mount)



◆ 联轴器
(Coupler)



◆ 双滑块连接板
(Double Slider Connecting Plate)



◆ 三角架
(Tripod)

D 其他配件

— Other Parts —



◆ 光电开关
(Optical Sensor)



◆ 接近开关
(Proximity Sensor)



◆ 同步带
(Synchronous belt)



◆ 步进电机
(Stepper Motor)



◆ 伺服电机
(Servo Motor)



◆ 行星减速机
(Planetary Reducer)



◆ PLC单片机
(PLC Singlechip)

模组搭建 / Common Structures



1 01 单轨双滑块
— NO.1 01 —



1 02 双轨并立结构
— NO.1 02 —



1 03 双轨同步结构
— NO.1 03 —



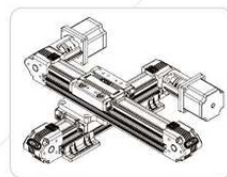
1 04 双滑块同步结构
— NO.1 04 —



1 05 双轨多驱结构
— NO.1 05 —



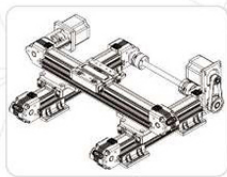
2 01 二维悬臂结构
— NO.2 01 —



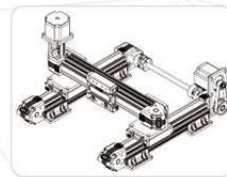
2 02 二维十字卧式结构
— NO.2 02 —



2 03 二维十字侧立结构
— NO.2 03 —



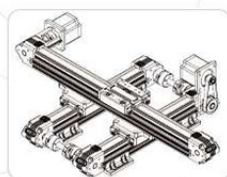
2 04 二维工字结构
— NO.2 04 —



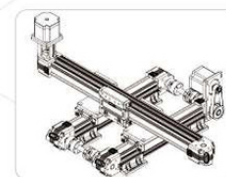
2 05 二维工字侧立结构
— NO.2 05 —



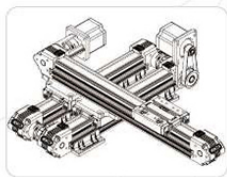
2 06 二维工字双滑块结构
— NO.2 06 —



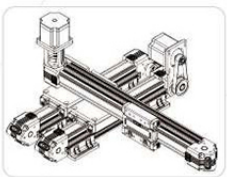
2 07 二维XYZ中式结构
— NO.2 07 —



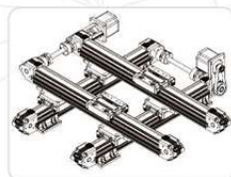
2 08 二维XYZ中字侧立结构
— NO.2 08 —



2 09 二维干字结构
— NO.2 09 —



2 10 二维干字侧立结构
— NO.2 10 —



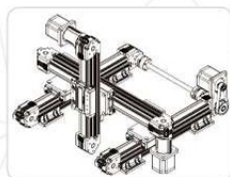
2 11 二维井字结构

— NO.2 11 —



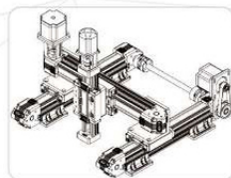
2 12 二维井字双滑块结构

— NO.2 12 —



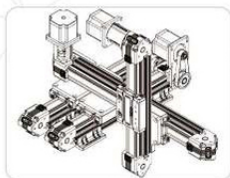
3 01 三维XYZ侧立结构

— NO.3 01 —



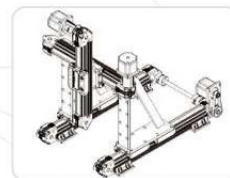
3 02 三维XYZ丝杆结构

— NO.3 02 —



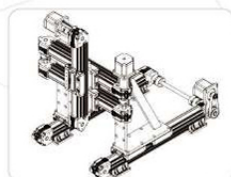
3 03 三维干字悬臂结构

— NO.3 03 —



3 04 三维龙门结构

— NO.3 04 —



3 05 三维双轴龙门结构

— NO.3 05 —



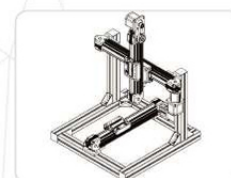
3 06 三维双Z轴龙门结构

— NO.3 06 —



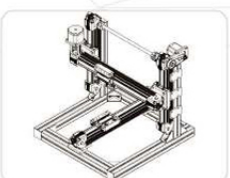
3 07 三维单XZ轴双Y轴结构

— NO.3 07 —



3 08 三维铝材支架结构

— NO.3 08 —



3 09 XY双Z轴铝材支架结构

— NO.3 09 —

- 模块化设计方便您快速搭建多轴作业结构，滑台模组的行程可按需要定制，轨梁集成合一。

Versatile design for various configuration,the length of linear rail can be customized as per your requests.

- 高强、精巧，可现实多滑块随意灵活串接，超长寿命零件，免维护省心省力。

We provide high quality,protable and long service life linear rail,which can achieve mounting multi-carriages flexibly and maintenance-free.

- 轨梁沿梁身周围设有螺母槽，用于自身和搭载部件的安装固定。

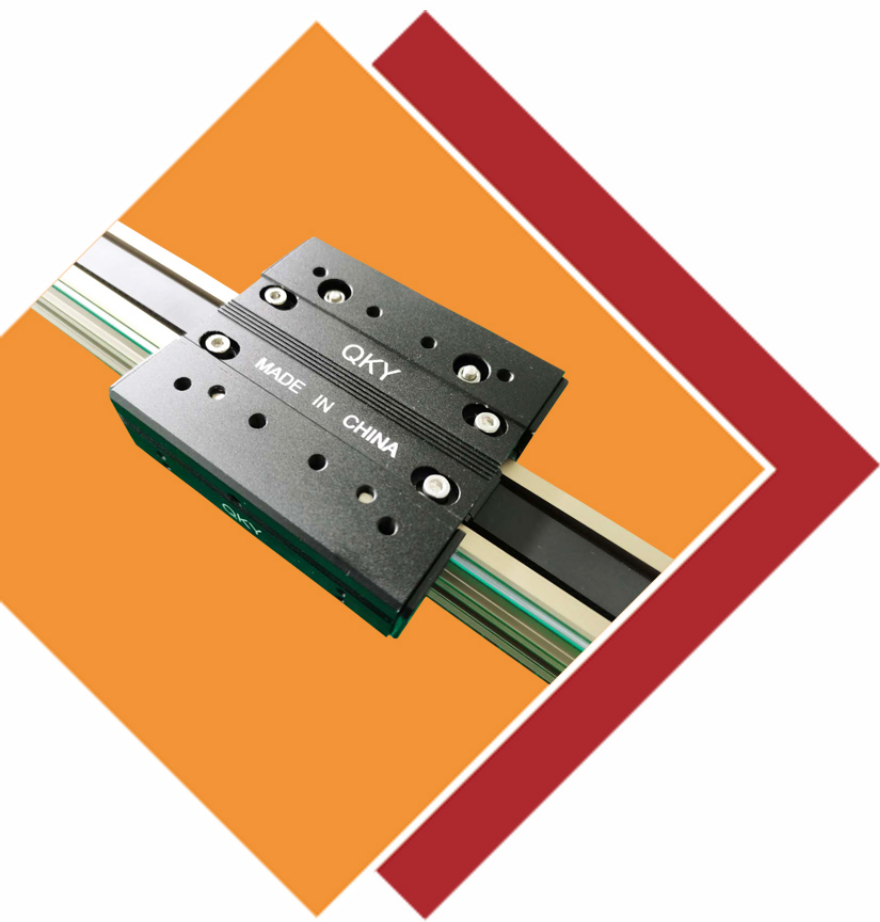
There are nut grooves on the aluminium profile to fix the linear rail and others.

- 多用途地脚，方便模组与模组、模组与平台间快速搭建。

Multi-applications rail mount can be conveniently used to connect the linear rail and finish mounting the linear modules in the short time.

- 专属的滑块预紧力快捷调整机构、专属的同步带张力调校机构。

Special design of the carriage to achieve to adjusting the tension of carriage and belt easily and quickly.



东莞市启英机械设备有限公司

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