TA SUN GOOD ENTERPRISE CO., LTD
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Derler /

Company Profile

XYθ Mechanical Stage / Motor Mini Stage / Mini Line Stage

MINI MECHANICAL SYSTEM

Since 1994

www.tsd.com.tw

XYθ Mechanical Stage / Motor Mini Stage / Mini Line Stage

關於大山惇 / About TSD

TSD (大山惇) 成立於1994年，以精密機械元件加工為發展基礎。進而自創品牌，成為專業機械傳動組(Flexible Couplings)及精密滑台(mini stage、servo table)製造商，提供各式自動化機械設備精密定位與準確傳動的需求。以誠信、迅速、負責，踏實經營理念和海內外客戶一同成長茁壯。

TSD was established in 1994, which has been developed on precision mechanical components machining to give his own brand a good name and aimed to become professional mechanical components, Flexible Coupling and Precision Stage Table, manufacturer, who can meet need for automation equipment with precision positioning and transmission, at last. With business concepts which are honest, speed, responsible and integrity, TSD likes to grow with customers all over the world.

品牌意義 / Meaning of the brand

源自於公司名稱TA SUN GOOD的縮寫。涵意於，每天清晨「大地都被溫暖太陽光所擁抱甦醒、包圍著幸福一天的開始」的願望。意期客戶使用TSD系列產品而創造，新價值、新競爭力，成為市場贏家；也期許TSD成為創新科技、創造共贏的市場贏家。

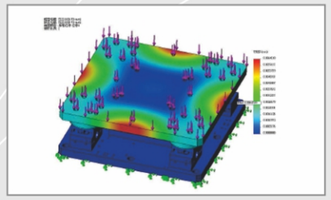
The name, TSD, is derived from abbreviation of TA SUN GOOD. The implicit meaning in Chinese is that in every morning, the wide earth is warmed and embraced by early sun to wake up to begin a happy day. TSD also hopes all customers, who use products from TSD to create new value to have more competition and become winners in market, and admits himself to become an innovative and win-win winner in market.

品質政策 / Quality Policy

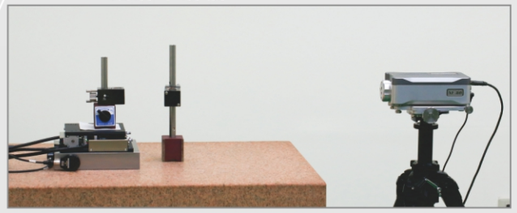
ISO 9001:2008

ISO 9001:2008 大山惇

有限元素分析 / FEA Simulation



Renishaw鐳射干射儀XL/ Renishaw Laser XL

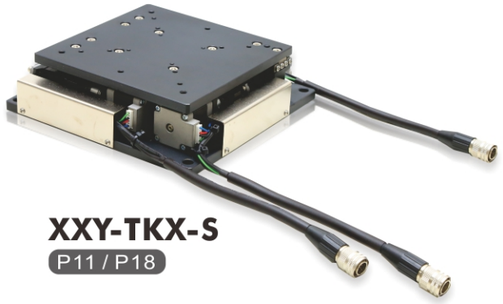


大山惇系列產品 / Products

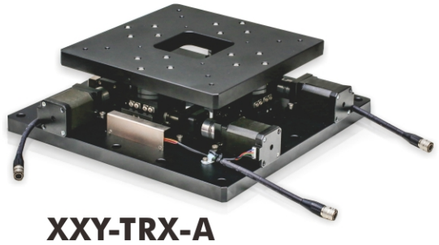
Flexible Couplings
聯軸器系列

Clamping Power Locks
免鍵式軸環系列

XYθ MECHANICAL STAGE



XXY-TKX-S
P11 / P18

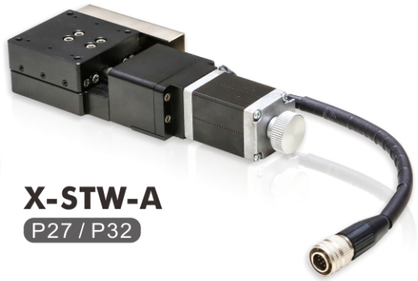


XXY-TRX-A
P19 / P26

CONTENTS

MOTOR MINI STAGE

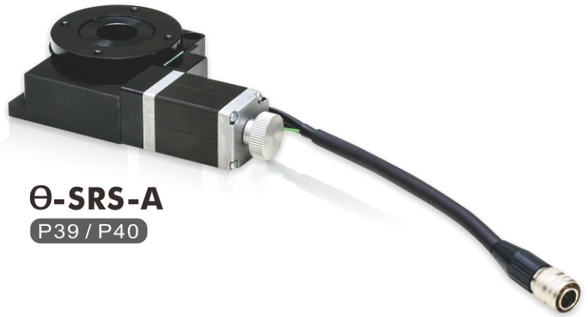
X-STWS-A
P27 / P32



X-STW-A
P27 / P32

X-STV-A
P33 / P36

Z-SHV-A
P37 / P38

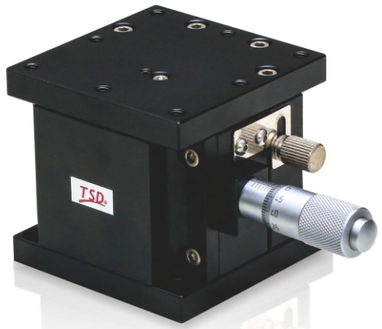


θ-SRS-A
P39 / P40

MINI LINE STAGE

TS/TW-AR type
P43 / P64

TS/TW-AC type
P65 / P84



Z-TH-BA
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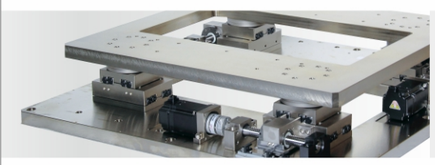
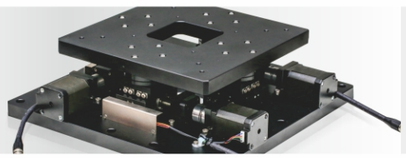
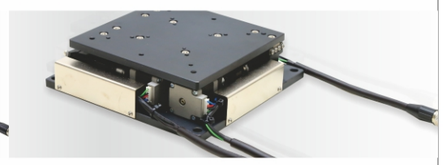
θ-TRS-A
P89 / P90

XYθ accurate auto-positioning Stages

XYθ 精密自動對位平台







特 長 / Features

採用了高剛性結構的薄型平台，一體式的馬達電控連結；在基座、工作台之間的四角平面裝上組合了交叉直線導軌、滾柱軸承和滾珠導螺桿的模組結構，中央部用載重單元承受力量，實現了超薄型結構。其特點如下：

Slim platform with rigid structure is adopted. One piece unit with motor control connection; Module structures, which are right angle linear bearing, roller linear bearing and ball screw, are installed between base plate and platform corners. Features listed below :

對應大型工件 / Fit to large workpiece

藉由安裝所需數量的模組，也可以對應更大的尺寸。

By combination of many sets, large size of workpiece is also available.

超薄型、輕量、穩度 / Super slim, light weight and stable

因為採用XYθ模組，所以實現了無中座的薄而輕而穩的機構。

XYθ mechanism adopted, mechanism can be light and stable.

中空結構 / Hollow structure

工作台、基座中央部分獲得較大的空間，可以作為光學式檢查裝置使用。

There is more space at center of platform and base where optical device can be installed.

載重單元 / Load unit

中央部用採用專利載重單元承受力量，達到小型高荷重的實現。

Patented Load unit is adopted at center to take load, which realizes heavy load with tiny mechanism.

高剛性、高精度 / High rigidity、High precision

對構成模組的交叉直線導軌和滾柱軸承施加了預壓，搭配精密級滾珠導螺桿，是高精度、高剛性的結構。

Preloaded Crossed type roller Bearing and high precise ball screw sustain high precision and high rigidity of mechanism.

型號構成 / Product No Structure

XXY	-	TKX	-	140S	-	C1 / C5
Axis		Product No				Accuracy

數據計算 / Date Calculate

作旋轉角度計算時，將各軸所須位移經由以下公式計算，可得正確數值。

According to the mathematical equations listed below, rotation angle can be calculated precisely.

TKX-S 計算公式 / TKX-S Formula

X1 Axis: $\delta X1 = \tan\theta * (Y - X1y) + X1x * (-1 + 1/\cos\theta) + X$

X2 Axis: $\delta X2 = \tan\theta * (Y - X2y) + X2x * (-1 + 1/\cos\theta) + X$

Y Axis: $\delta Y = \tan\theta * (Yx + Yy * \sin\theta - X) + Yy * (\cos\theta - 1) + Y$

δX1 : X1軸的相對送進量 (mm) }

δX1 : X1 Axis relative movement (mm) }

δX2 : X2軸的相對送進量 (mm) } (滾珠螺桿的送進量)

δX2 : X2 Axis relative movement (mm) } (movement driven by ball screw)

δY : Y軸的相對送進量 (mm) }

δY : Y Axis relative movement (mm) }

X1x、X1y : 連接在X1軸上旋轉中心的座標位置

X1x、X1y : Coordinate position of pivot on X1 Axis

X2x、X2y : 連接在X2軸上旋轉中心的座標位置

X2x、X2y : Coordinate position of pivot on X2 Axis

Yx、Yy : 連接在Y軸上旋轉中心的座標位置

Yx、Yy : Coordinate position of pivot on Y Axis

X : X軸移動量

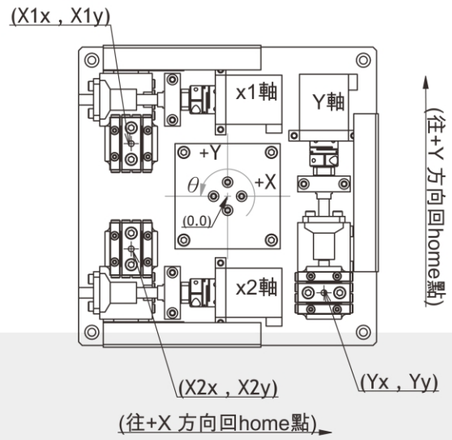
X : X Axis movement

Y : Y軸移動量

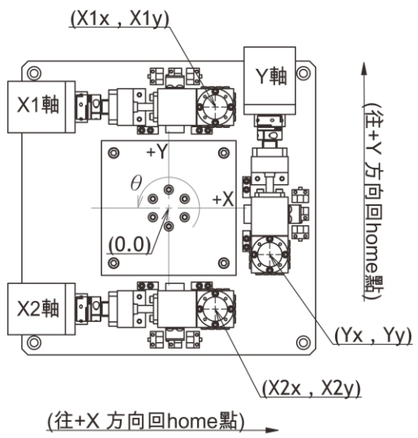
Y : Y Axis movement

θ : θ軸移動量

θ : θ Axis rotation angle



TKX-S 計算數據						
型 號	X1x	X1y	X2x	X2y	Yx	Yy
TKX-100S	-46	15.5	-46	-15.5	41	-37.5
TKX-140S	-55	30	-55	-30	55	-55



TKX-S 計算數據						
型 號	X1x	X1y	X2x	X2y	Yx	Yy
TKX-170S	29.5	67.5	29.5	-67.5	67.5	-29.5
TKX-200S	38	82.5	38	-82.5	82.5	-38

數據計算 / **Date Calculate**

作旋轉角度計算時，將各軸所須位移經由以下公式計算，可得正確數值。

According to the mathematical equations listed below, rotation angle can be calculated precisely.

TRX-A 計算公式/ TRX-A Formula

X1 Axis: $\delta X1 = R\cos(\delta\theta + \theta X1 + \theta 0) - R\cos(\theta X1 + \theta 0)$

X2 Axis: $\delta X2 = R\cos(\delta\theta + \theta X2 + \theta 0) - R\cos(\theta X2 + \theta 0)$

Y Axis: $\delta Y = R\sin(\delta\theta + \theta Y + \theta 0) - R\sin(\theta Y + \theta 0)$

δX1 : X1軸的相對送進量 (mm) }

δX1 : X1 Axis relative movement (mm) }

δX2 : X2軸的相對送進量 (mm) } (滾珠螺桿的送進量)

δX2 : X2 Axis relative movement (mm) } (movement driven by ball screw)

δ Y : Y軸的相對送進量 (mm) }

δ Y : Y Axis relative movement (mm) }

θX1 : 連接在X1軸上旋轉中心的角度位置(°)

θX1 : Angle position of pivot on X1 Axis (°)

θX2 : 連接在X2軸上旋轉中心的角度位置(°)

θX2 : Angle position of pivot on X2 Axis (°)

θY : 連接在Y軸上旋轉中心的角度位置(°)

θY : Angle position of pivot on Y Axis (°)

θ0 : 計算動作前的工作台角度(°)

θ0 : platform angle before movement(°)

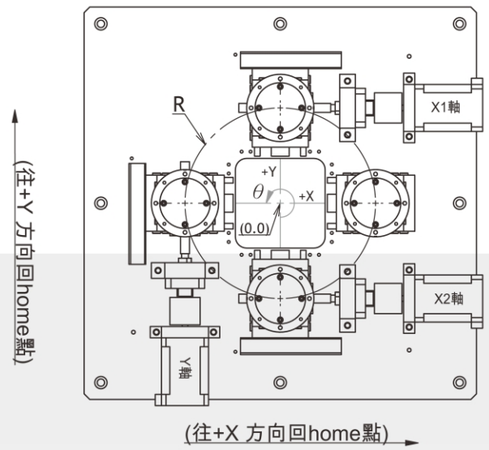
δθ: 工作台旋轉角(°)

δθ: rotation angle of platform(°)

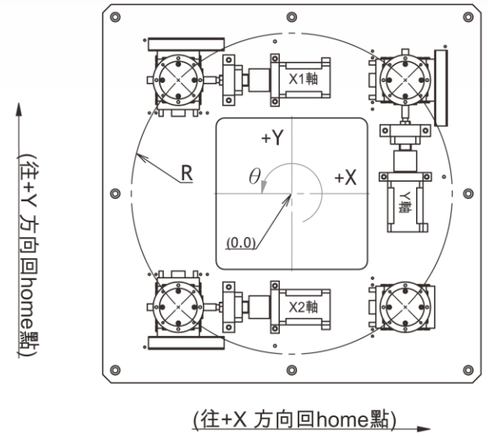
R : 平台中心點到通過連接在各軸上的軸承中心的半徑距離。

R : radius distance from platform center to center of rotation bearings。

TRX-250A

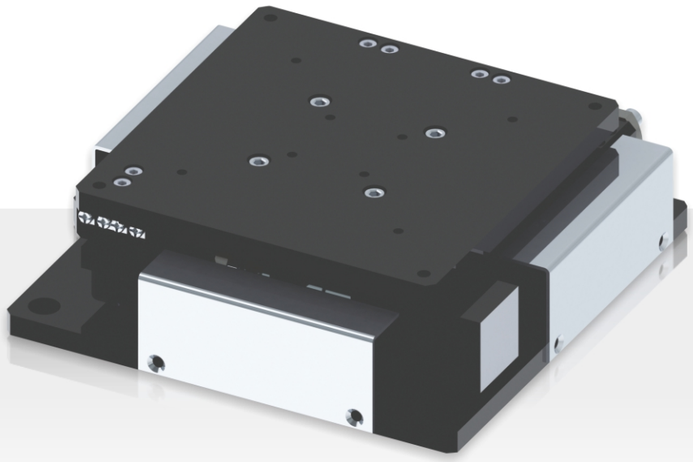


TRX-350A ~ 500A

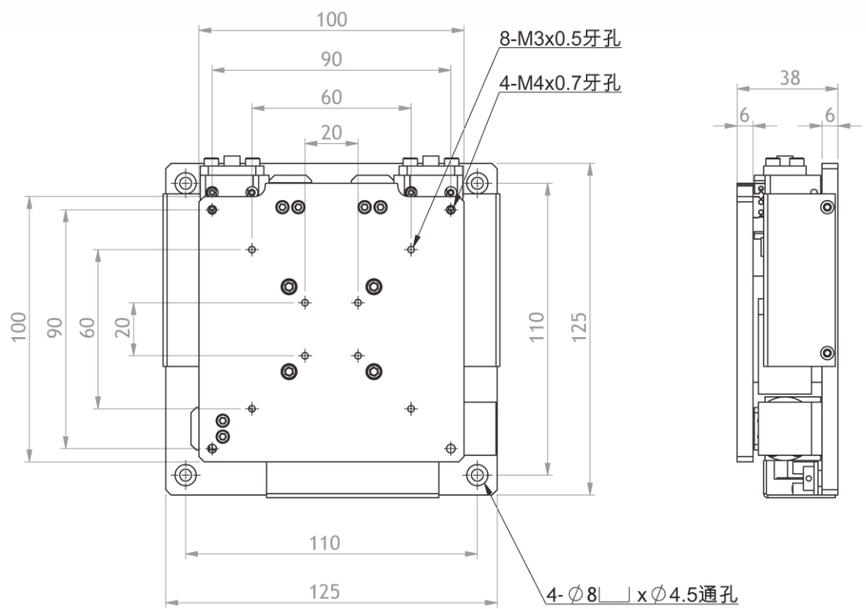


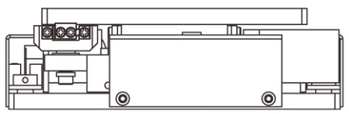
TRX-A 計算數據				
型 號	R	θY	θX1	θX2
TRX-250A	85	180°	90°	270°
TRX-350A	135√2	45°	135°	225°
TRX-400A	155√2	45°	135°	225°
TRX-500A	195√2	45°	135°	225°

TKX-100S



外型尺寸 / Dimension





規格型號 / Specifications

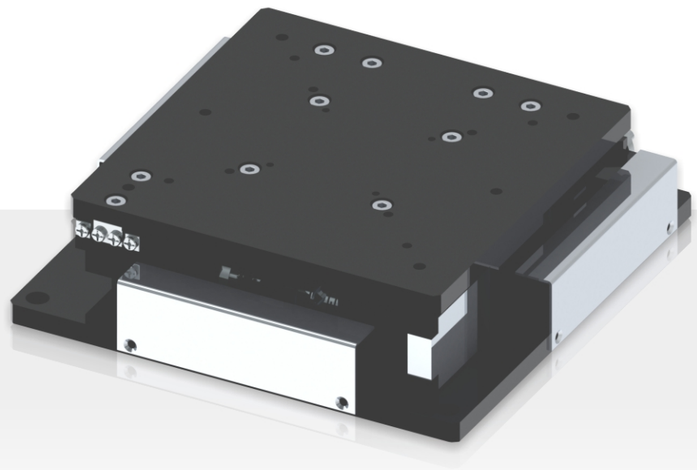
產品名稱 / Product No	TKX-100S-C1	TKX-100S-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	100 × 100	
移動行程 / Stroke (mm)	±2 × ±2 × ±2°	
動 荷 重 / Dynamic load (kgf)	1.5	
靜 荷 重 / Static load (kgf)	5	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	30	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	2.5	
本體材質 / Material	AISI 1045	
表面處理 / Surface treatment	黑色鉻/ Black Cr plating	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	20H30L-0.5	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	5	
額定電流 / Rated Current(A)	0.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.18	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

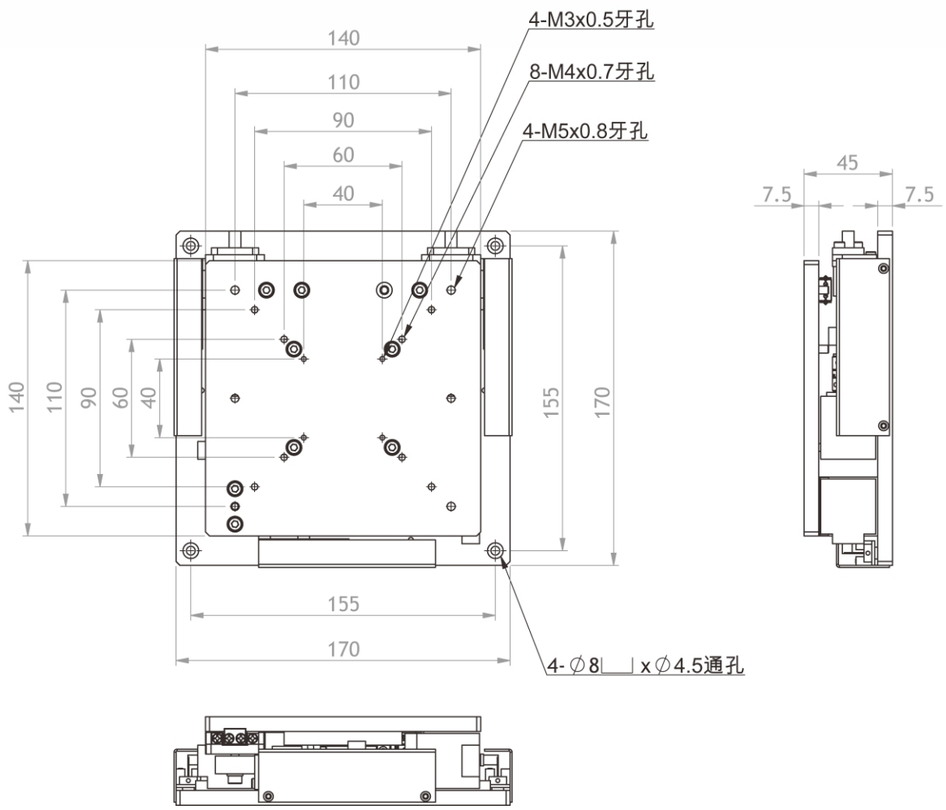
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TKX-140S



外型尺寸 / Dimension



規格型號 / Specifications

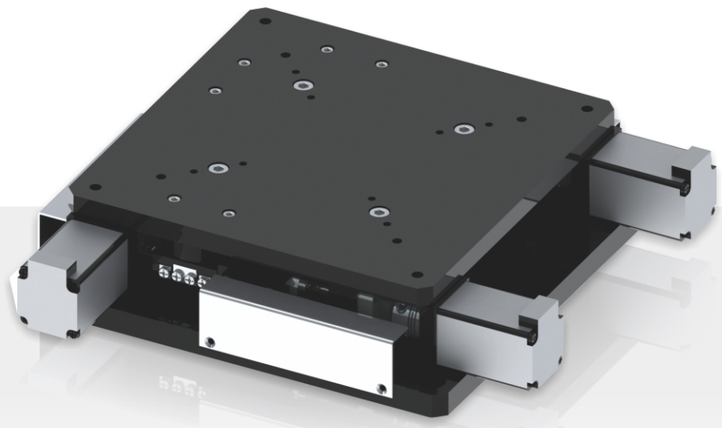
產品名稱 / Product No	TKX-140S-C1	TKX-140S-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	140 × 140	
移動行程 / Stroke (mm)	±3 × ±3 × ±3°	
動 荷 重 / Dynamic load (kgf)	10	
靜 荷 重 / Static load (kgf)	30	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	30	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	5.5	
本體材質 / Material	AISI 1045	
表面處理 / Surface treatment	黑色鉻/ Black Cr plating	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H400A-01	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	2.66	
額定電流 / Rated Current(A)	0.95	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.4	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

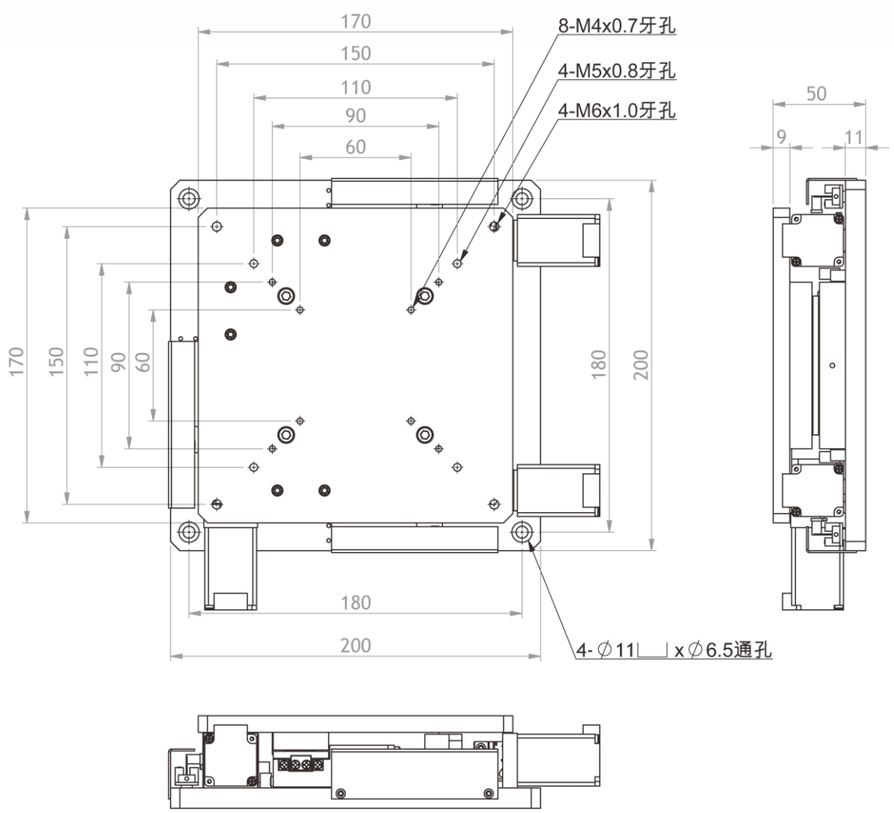
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TKX-170S



外型尺寸 / Dimension



規格型號 / Specifications

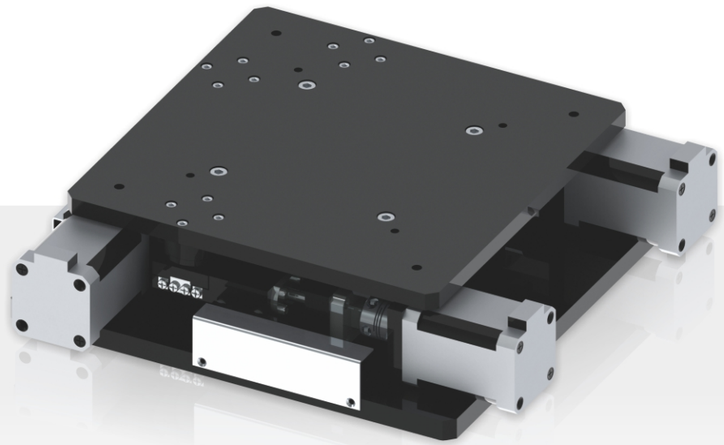
產品名稱 / Product No	TKX-170S-C1	TKX-170S-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	170 × 170	
移動行程 / Stroke (mm)	±5 × ±5 × ±4°	
動 荷 重 / Dynamic load (kgf)	12	
靜 荷 重 / Static load (kgf)	35	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	30	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	7.5	
本體材質 / Material	AISI 1045	
表面處理 / Surface treatment	黑色鉻/ Black Cr plating	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	1.8	
額定電流 / Rated Current(A)	1.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

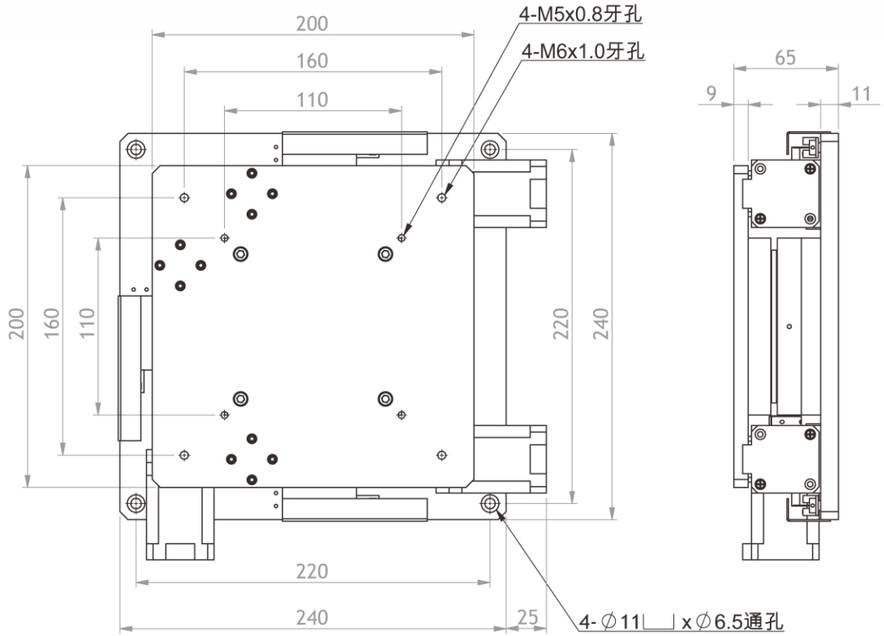
註解 / Comment

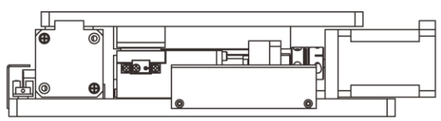
- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TKX-200S



外型尺寸 / Dimension





規格型號 / Specifications

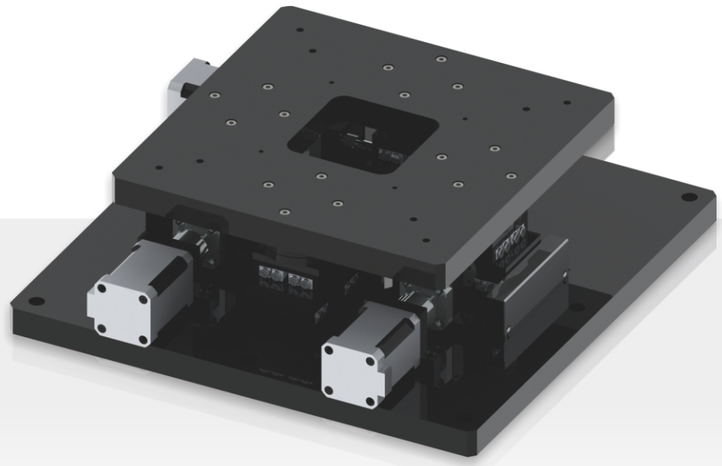
產品名稱 / Product No	TKX-200S-C1	TKX-200S-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	200 × 200	
移動行程 / Stroke (mm)	±5 × ±5 × ±3°	
動 荷 重 / Dynamic load (kgf)	30	
靜 荷 重 / Static load (kgf)	50	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	30	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	12	
本體材質 / Material	AISI 1045	
表面處理 / Surface treatment	黑色鉻/ Black Cr plating	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	42H5K-2A	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	4.0	
額定電流 / Rated Current(A)	2.0	
激磁最大靜力矩 / Holding Torque (kgf.cm)	7.0	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

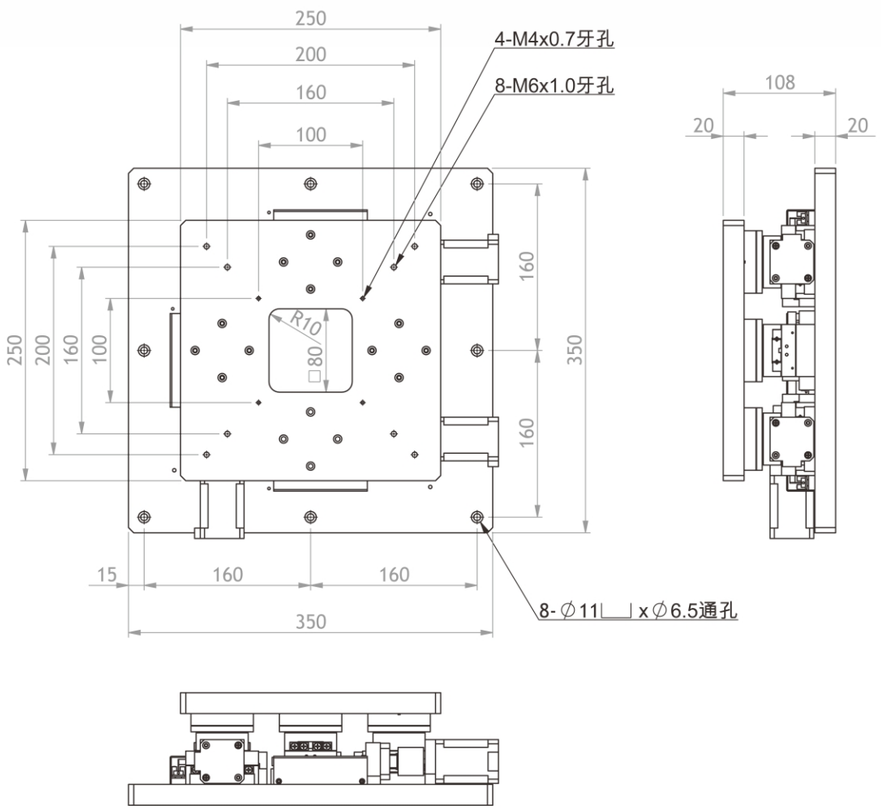
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TRX-250A



外型尺寸 / Dimension



規格型號 / Specifications

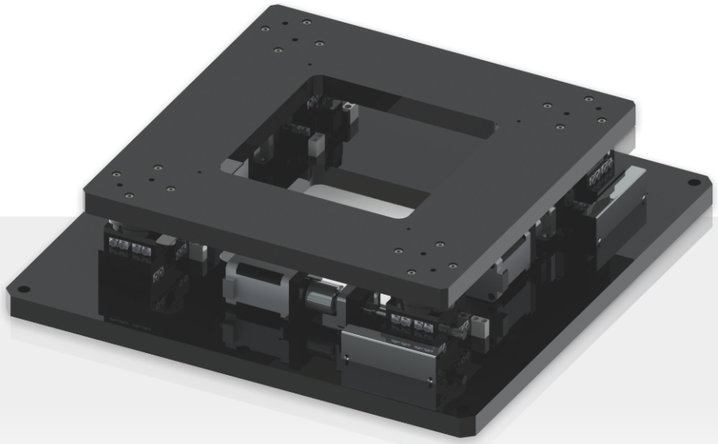
產品名稱 / Product No	TRX-250A-C1	TRX-250A-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	250 × 250	
移動行程 / Stroke (mm)	±8 × ±8 × ±5°	
動 荷 重 / Dynamic load (kgf)	50	
靜 荷 重 / Static load (kgf)	50	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	30	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	18	
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	42H5K-2A	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	4.0	
額定電流 / Rated Current(A)	2.0	
激磁最大靜力矩 / Holding Torque (kgf.cm)	7.0	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

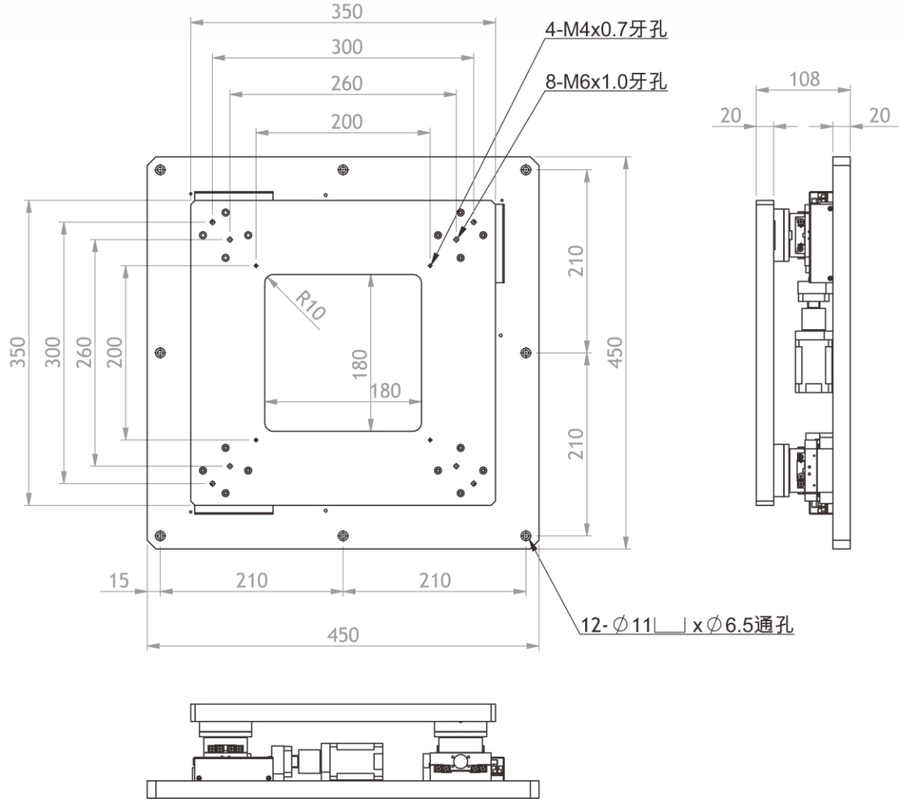
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TRX-350A



外型尺寸 / Dimension



規格型號 / Specifications

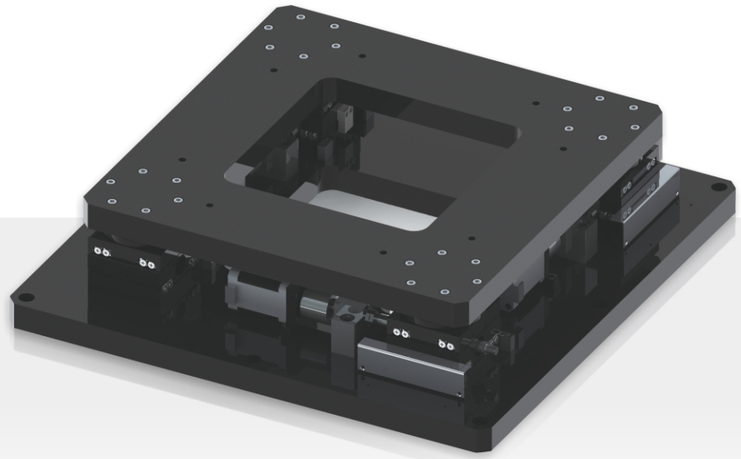
產品名稱 / Product No	TRX-350A-C1	TRX-350A-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	350 × 350	
移動行程 / Stroke (mm)	±10 × ±10 × ±3°	
動 荷 重 / Dynamic load (kgf)	50	
靜 荷 重 / Static load (kgf)	70	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	40	
螺桿導程 / Ball screw pitch (mm)	1	
本體重量 / Mass (kg)	26	
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	42H5K-2A	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	4.0	
額定電流 / Rated Current(A)	2.0	
激磁最大靜力矩 / Holding Torque (kgf.cm)	7.0	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

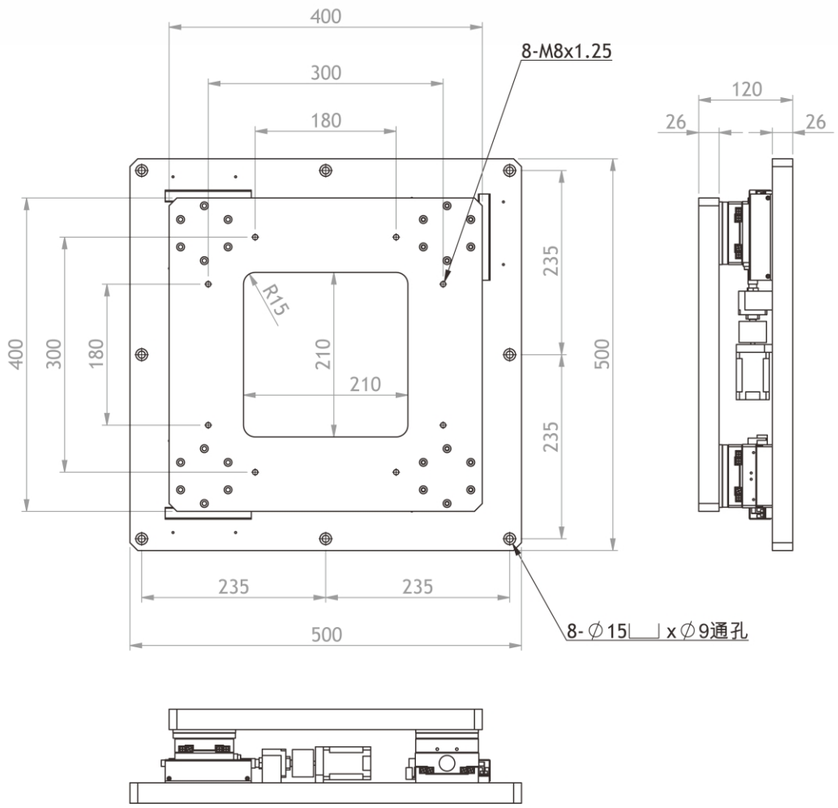
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TRX-400A



外型尺寸 / Dimension



規格型號 / Specifications

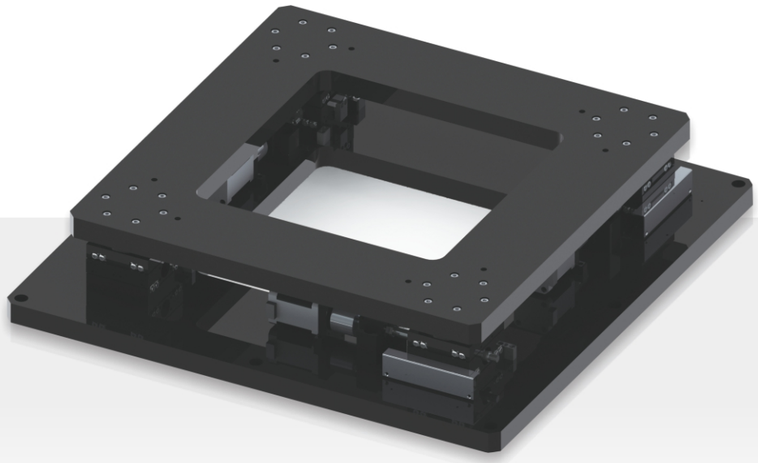
產品名稱 / Product No	TRX-400A-C1	TRX-400A-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	400 × 400	
移動行程 / Stroke (mm)	±10 × ±10 × ±2.5°	
動 荷 重 / Dynamic load (kgf)	50	
靜 荷 重 / Static load (kgf)	100	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	50	
螺桿導程 / Ball screw pitch (mm)	2	
本體重量 / Mass (kg)	39	
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	42H5K-2A	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	4.0	
額定電流 / Rated Current(A)	2.0	
激磁最大靜力矩 / Holding Torque (kgf.cm)	7.0	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

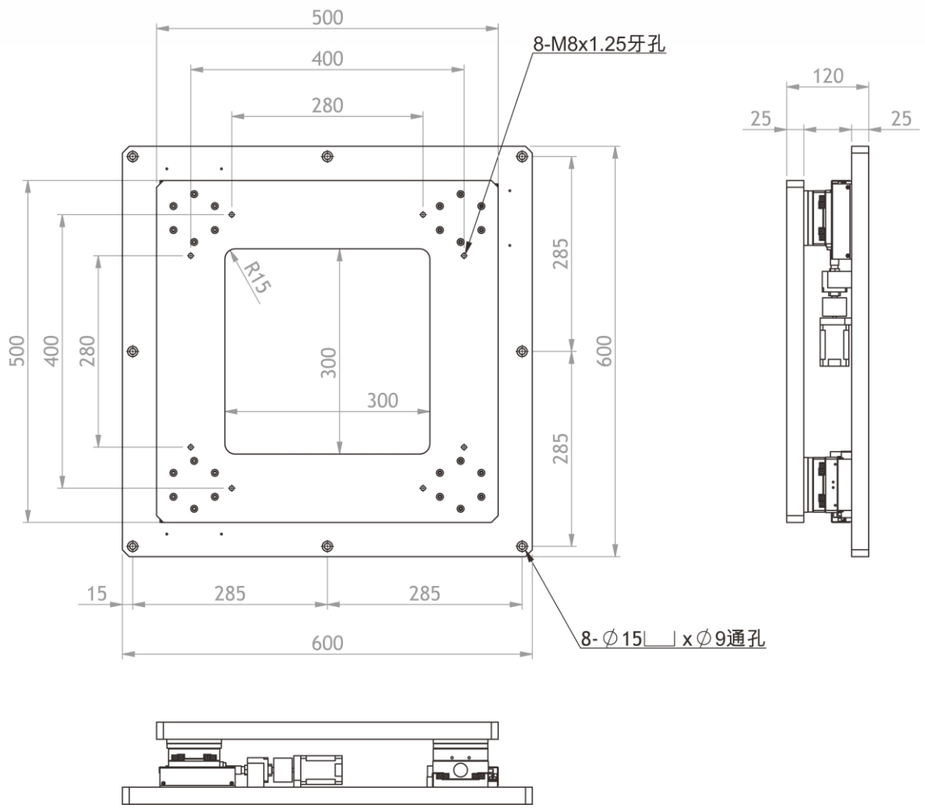
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

TRX-500A



外型尺寸 / Dimension



規格型號 / Specifications

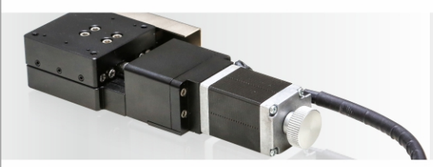
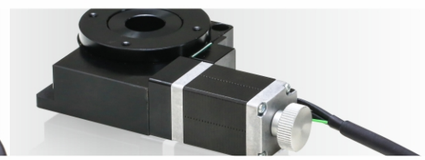
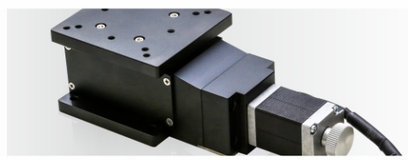
產品名稱 / Product No	TRX-500A-C1	TRX-500A-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	500 × 500	
移動行程 / Stroke (mm)	±10 × ±10 × ±2°	
動 荷 重 / Dynamic load (kgf)	50	
靜 荷 重 / Static load (kgf)	120	
反覆定位精度 / Repeated stability (μm)	±1	±5
平行精度 / Parallel precision (μm)	60	
螺桿導程 / Ball screw pitch (mm)	2	
本體重量 / Mass (kg)	48	
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	42H5K-2A	
基本步級角 / Angle / step (°)	1.8	
額定電壓 / Rated Voltage(V)	4.0	
額定電流 / Rated Current(A)	2.0	
激磁最大靜力矩 / Holding Torque (kgf.cm)	7.0	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

Motor Linear Stages
電動線性滑台

特 長 / Features

採用了高剛性交叉直線導軌結構的薄型平台，一體式的馬達電控連結；模組化結構設計，多軸向自由搭配組合，實現高剛性、高精度的模組結構單元。其特點如下：

Slim platform adopts cross roller bearing, which is integrated motor connection. Module structure design and multi-axes combination realize module structure unit with high rigidity and high precision. Features listed below:

對應多軸向工作需求 / Meet requirement for multi motion axes
藉由安裝所需軸數的模組，可以自由對應各種工作應用。
With combination of many sets, many applications can be resolved freely.

機電一體式設計 / Integrated design of mechanism and electricity
馬達、感測元件、連結線組、一體化設計，抗干擾，後續維護簡易便利。
Motor、sensor components、wire connection、integrated design、noise resist, easy maintenance.

超薄型、輕量、穩度 / Ultra slim、light weight、stability
因為採用VR滾柱模組，搭配航太鋁材本體，依此實現了薄而輕而穩的機構。
With adoption of VR roller module and aero aluminum body, slim, light and stable mechanism can be realized.

高剛性、高精度 / High rigidity、High precision
對構成模組的交叉直線導軌和滾柱軸承施加了預壓，搭配精密級滾珠導螺桿，是高精度、高剛性的結構。
Preloaded Crossed type roller Bearing and high precise ball screw sustain high precision and high rigidity of mechanism.

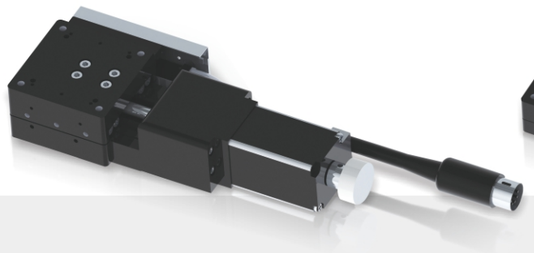
高穩定度、低震動、低噪音 / High Stability、Low vibration、Low noise
旋轉台設計輕巧，一體化結構，搭置精密級蝸輪、蝸桿組件，進行旋轉位移時，展現高精度、高穩定度、低震動、低噪音的運轉特性。
The rotary stage is designed to be light and compact, which is equipped with precise worm gear set. The stage can rotate degrees and also can demonstrage operation properties of high accuracy, stability, iow vibration and iow noise.

型號構成 / Product No Structure

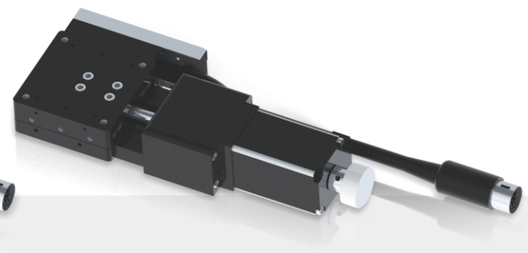
X - STV - 075A - C1 / C5

Axis　Product No　Accuracy

X-STW-050A

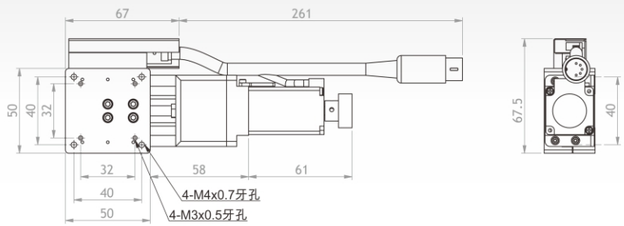


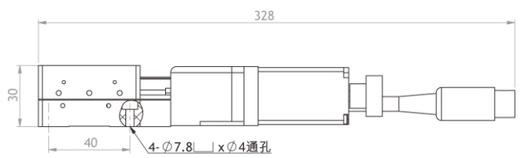
X-STWS-050A



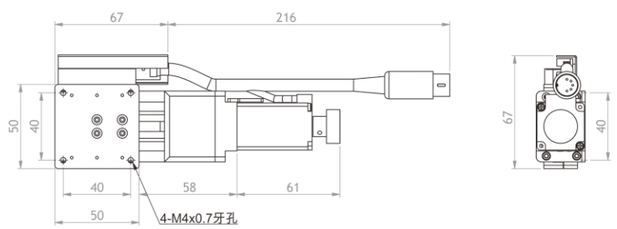
外型尺寸 / Dimension

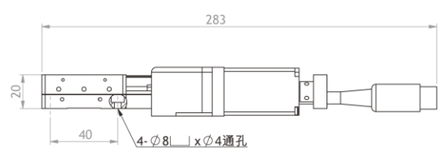
X-STW-050A





X-STWS-050A





規格型號 / Specifications

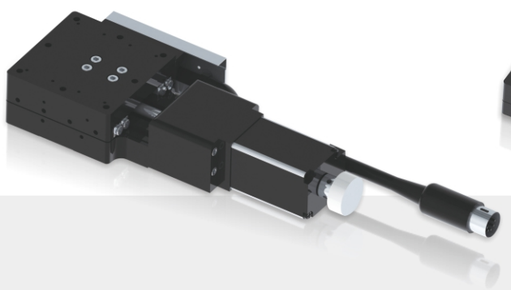
產品名稱 / ProductNo	X-STW050A-C1/C5	X-STWS-050A-C1/C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	50 × 50	
移動行程 / Stroke (mm)	±7.5	
動荷重 / Dynamic load (kgf)	5(49N)	3(29.4N)
平行精度 / Parallel precision (μm)	20	
反覆定位精度 / Repeated stability (μm)	±1 / ±5	±1 / ±5
運動直線精度 / Linear motion (μm)	3	
運動平行精度 / Parallel motion (μm)	10	
Max 最高速度 / Max speed (mm/sec)	10	
螺桿導程 / ball screw pitch (mm)	1	
本體重量 / Mass (kg)	0.7	0.6
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle/step (°)	1.8	
額定電壓 / Rated Voltage (V)	1.8	
額定電流 / Rated Current (A)	1.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號/ Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸 入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

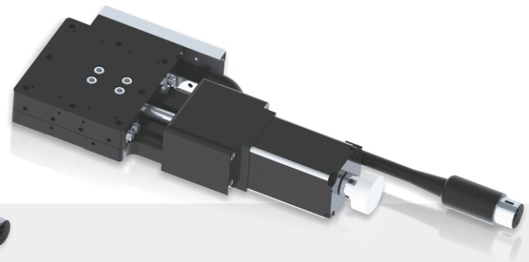
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

X-STW-060A

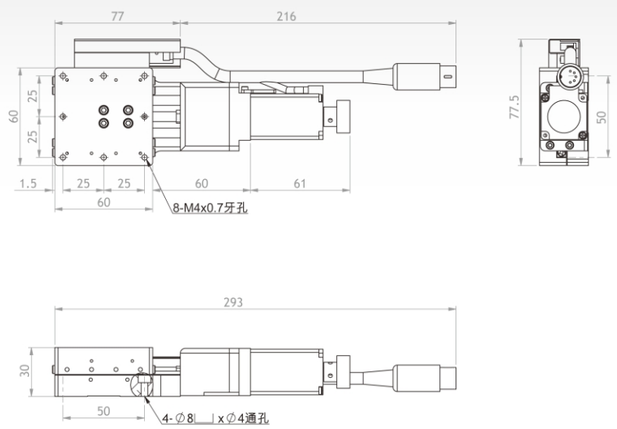


X-STWS-060A

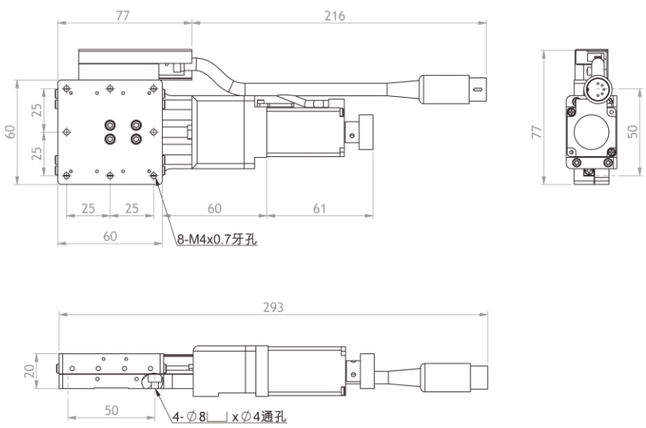


外型尺寸 / Dimension

X-STW-060A



X-STWS-060A



規格型號 / Specifications

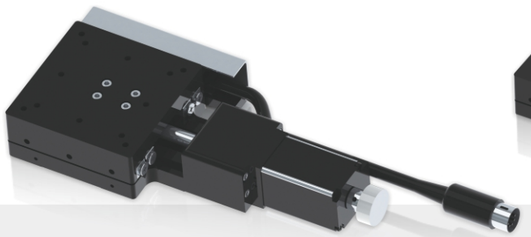
產品名稱 / ProductNo	X-STW060A-C1/C5	X-STWS-060A-C1/C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	60 × 60	
移動行程 / Stroke (mm)	±7.5	
動荷重 / Dynamic load (kgf)	6(58.8N)	4(39.2N)
平行精度 / Parallel precision (μm)	20	
反覆定位精度 / Repeated stability (μm)	±1 / ±5	±1 / ±5
運動直線精度 / Linear motion (μm)	3	
運動平行精度 / Parallel motion (μm)	10	
Max 最高速度 / Max speed (mm/sec)	10	
螺桿導程 / ball screw pitch (mm)	1	
本體重量 / Mass (kg)	0.8	0.7
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle/step (°)	1.8	
額定電壓 / Rated Voltage (V)	1.8	
額定電流 / Rated Current (A)	1.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號/ Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸 入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

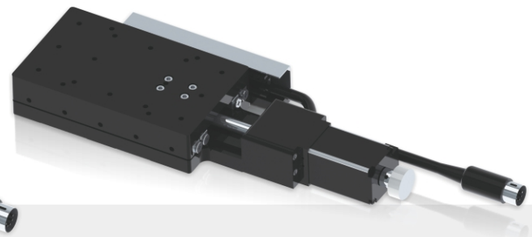
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

X-STV-075A

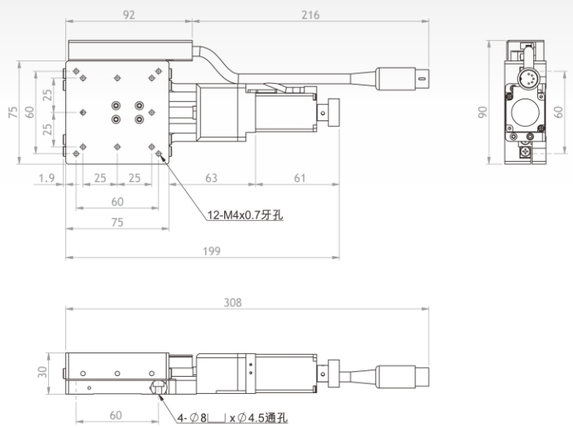


X-STV-075-125A

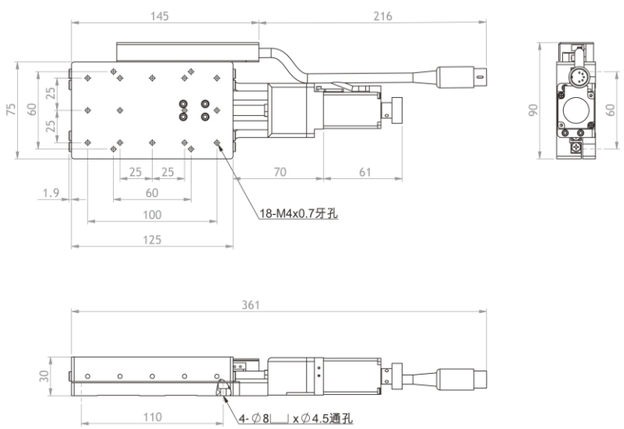


外型尺寸 / Dimension

X-STV-075A



X-STV-075-125A



規格型號 / Specifications

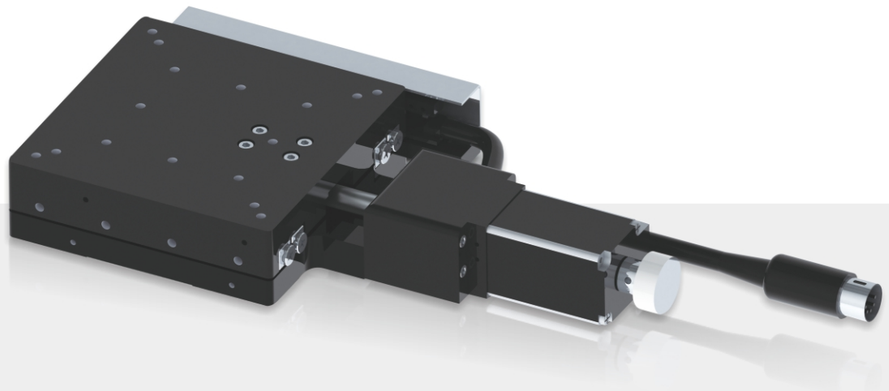
產品名稱 / ProductNo	X-STV-075A-C1/C5	X-STV-075-125A-C1/C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	75 × 75	75 × 125
移動行程 / Stroke (mm)	±12.5	±20
動荷重 / Dynamic load (kgf)	8(78.4N)	8(78.4N)
平行精度 / Parallel precision (μm)	25	30
反覆定位精度 / Repeated stability (μm)	±1 / ±5	±1 / ±5
運動直線精度 / Linear motion (μm)	3	5
運動平行精度 / Parallel motion (μm)	10	20
Max 最高速度 / Max speed (mm/sec)	10	
螺桿導程 / ball screw pitch (mm)	1	
本體重量 / Mass (kg)	1.1	1.3
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle/step (°)	1.8	
額定電壓 / Rated Voltage (V)	1.8	
額定電流 / Rated Current (A)	1.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號/ Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸 入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

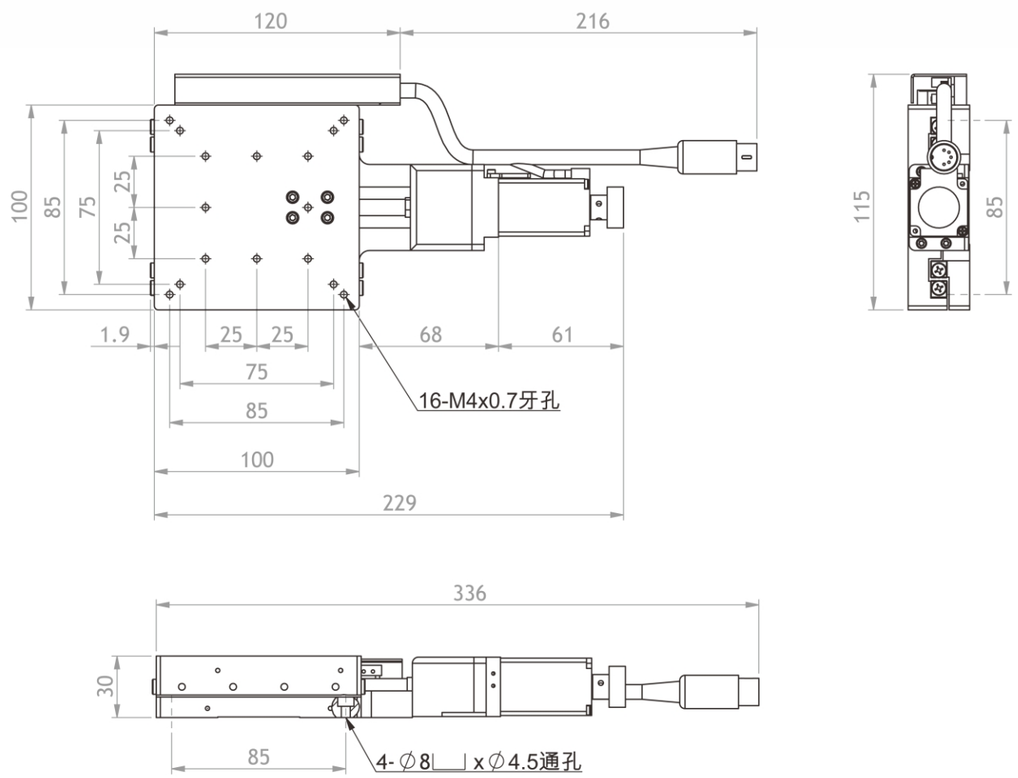
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

X-STV-100A



外型尺寸 / Dimension



規格型號 / Specifications

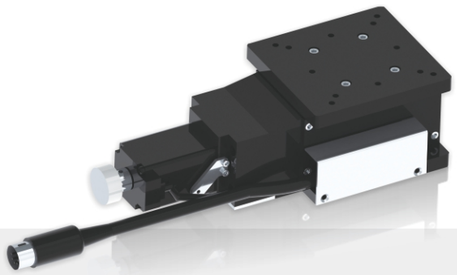
產品名稱 / ProductNo	X-STV-100A-C1	X-STV-100A-C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	100 × 100	
移動行程 / Stroke (mm)	±20	
動荷重 / Dynamic load (kgf)	10 (98N)	
平行精度 / Parallel precision (μm)	25	
反覆定位精度 / Repeated stability (μm)	±1	±5
運動直線精度 / Linear motion (μm)	3	
運動平行精度 / Parallel motion (μm)	10	
Max 最高速度 / Max speed (mm/sec)	10	
螺桿導程 / ball screw pitch (mm)	1	
本體重量 / Mass (kg)	1.8	
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle/step (°)	1.8	
額定電壓 / Rated Voltage (V)	1.8	
額定電流 / Rated Current (A)	1.5	
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號/ Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸 入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

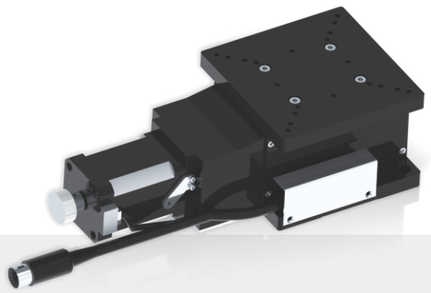
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

Z-SHV-075A

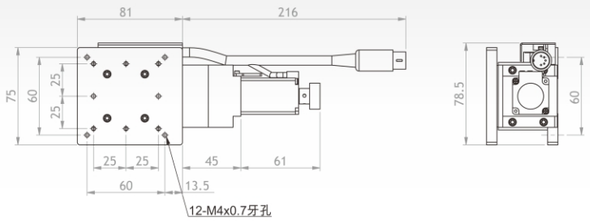


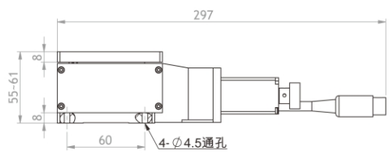
Z-SHV-100A



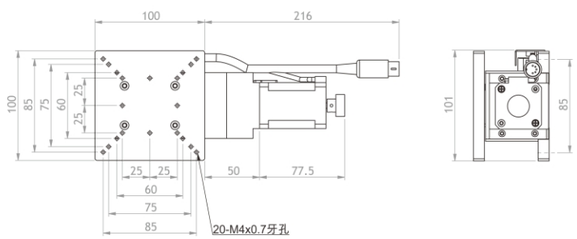
外型尺寸 / Dimension

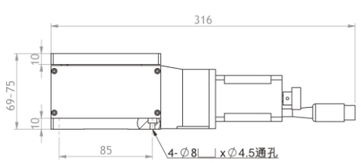
Z-SHV-075A





Z-SHV-100A





規格型號 / Specifications

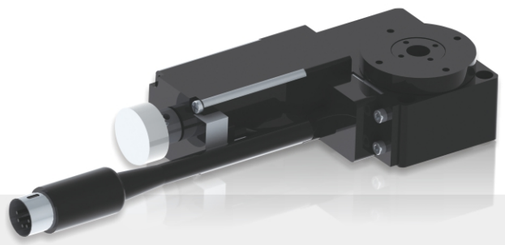
產品名稱 / ProductNo	Z-SHV-075A-C1/C5	Z-SHV-100A-C1/C5
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	75 × 81	100 × 100
移動行程 / Stroke (mm)	0~6	0~6
動荷重 / Dynamic load (kgf)	5 (49N)	7.5 (73.5N)
平行精度 / Parallel precision (μm)	30	30
反覆定位精度 / Repeated stability (μm)	±1 / ±5	±1 / ±5
運動直線精度 / Linear motion (μm)	3	3
Max 最高速度 / Max speed (mm/sec)	10	
螺桿導程 / ball screw pitch (mm)	1	
本體重量 / Mass (kg)	1.1	1.5
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano 二相微步進馬達型號 / Motor type	28H700-001	42H5K-2A
基本步級角 / Angle/step (°)	1.8	1.8
額定電壓 / Rated Voltage (V)	1.8	4.0
額定電流 / Rated Current (A)	1.5	2.0
激磁最大靜力矩 / Holding Torque (kgf.cm)	0.7	0.7
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號/ Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸 入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

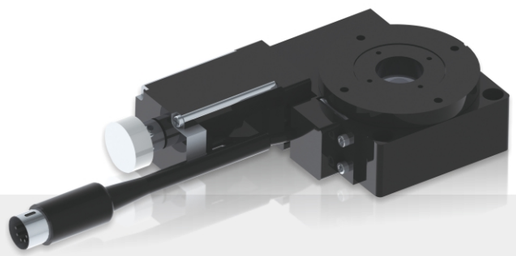
◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

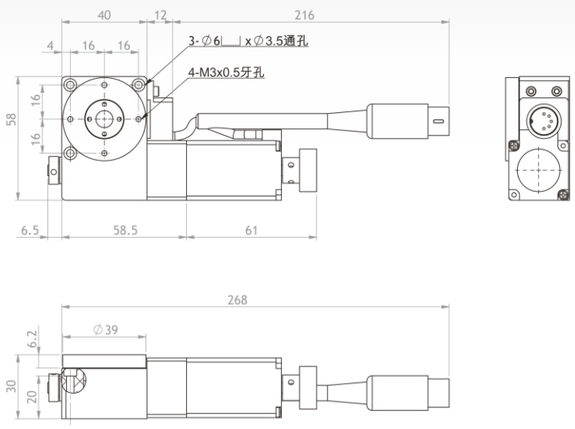
θ-SRS-040A θ-SRS-060A



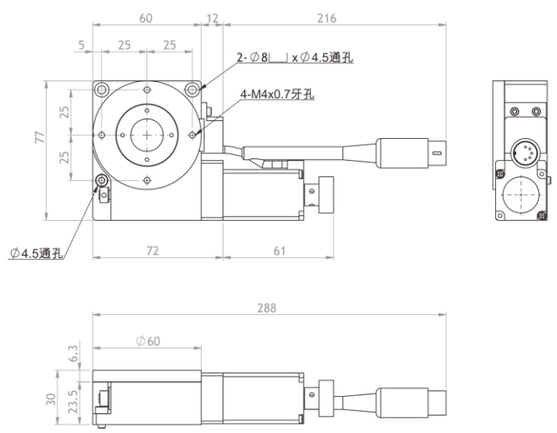


外型尺寸 / Dimension

θ-SRS-040A



θ-SRS-060A



規格型號 / Specifications

產品名稱/Product No	θ-SRS-040A	θ-SRS-060A
機械規格 / Mechanical type		
台面尺寸 / Table size (mm)	ϕ39	ϕ60
移動行程 / Stroke (°)	360	360
動荷重 / Dynamic load(kgf)	3 (29.4N)	3 (29.4N)
平行精度 / Parallel precision(μm)	30	30
反覆定位精度 / Repeated stability(°)	±0.05	±0.05
減速比 / Reduction ratio	1 / 90	1 / 120
Max 最高速度 / Max speed (mm/sec)	10	
本體重量 / Mass(kg)	0.5	0.7
本體材質 / Material	鋁合金 / Aluminum alloy	
表面處理 / Surface treatment	黑色鋁處理 / Black anodized	
電器規格 / Device type		
Shinano二相微步進馬達型號 / Motor type	28H700-001	
基本步級角 / Angle/step (°)	1.8	
額定電壓 / Rated Voltage (V)	1.8	
額定電流 / Rated Current (A)	1.5	
激磁最大靜力矩 / Holding Torque(kgf.cm)	0.7	
感測器型號 / Sensor type	EE-SX4134	
感測器電壓 / Sensor Voltage (V)	24	
驅動器型號 / Driver type	DA-2D33B	
最高解析度 / Resolution (PPS/REV)	51200	
驅動電流 / Current (A)	0.4~3.2	
電源輸入電壓 / Input Voltage (DC V)	24~36	
最高反應率 / Response Frequency (KPPS)	1000	
連接器接頭 / Connector	12 pin metal male connector	

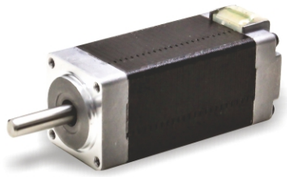
◉ 馬達和驅動器詳細資料請參閱 P41、42 ◉ Detailed data about motors and drivers, please refer to P.41、42

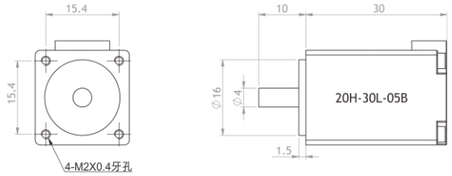
註解 / Comment

- 馬達、光柵微型感測器的標準連接線長3m。
  Length of standard connection cables for motors and sensors is 3 meters.
- 重覆定位精度1μm機型，出廠標附Renishaw雷射干涉儀數據報告。
  Model with 1μm in precision for repeat positioning, check report, data examined by Renishaw laser interference instrument, is attached in delivery .
- 重覆定位精度5μm機型，出廠附TSD原廠檢測報告。
  Model with 5μm in precision for repeat positioning, TSD check report is attached in delivery.

馬達規格 / Motor Type

20H30L-0.5

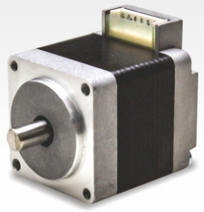




二相微步進馬達

品 名	基本步級角	額定電壓	額定電流	線圈阻抗	激磁最大靜 力 矩	轉子慣量
20H-30L-0.5B	1.8˚	5.0V	0.5 A	5.8 ohms	0.18 kgf.cm	2.5 g.cm2

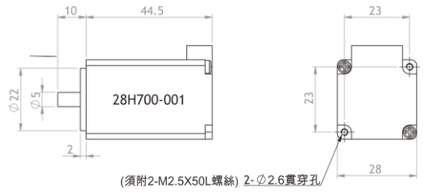
28H400-001A



二相微步進馬達

品 名	基本步級角	額定電壓	額定電流	線圈阻抗	線圈感抗	激磁最大靜 力 矩	轉子慣量
28H400-001A	1.8˚	2.66 V	0.95 A	4.2 ohms	2.8 mH	0.4 kgf.cm	9 g.cm2

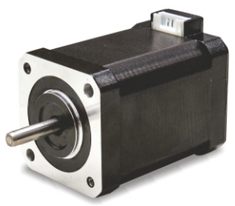
28H700-001

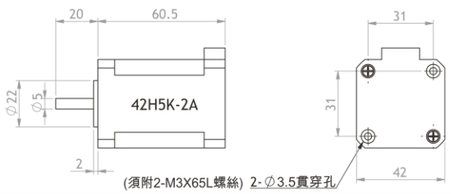


二相微步進馬達

品 名	基本步級角	額定電壓	額定電流	線圈阻抗	線圈感抗	激磁最大靜 力 矩	轉子慣量
28H700-001	1.8˚	1.8 V	1.5 A	1.2 ohms	0.54 mH	0.7 kgf.cm	15 g.cm2

42H5K-2A





二相微步進馬達

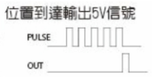
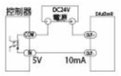
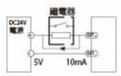
品 名	基本步級角	額定電壓	額定電流	線圈阻抗	線圈感抗	激磁最大靜 力 矩	轉子慣量
42H5K-2A	1.8˚	4.0 V	2.0 A	2.0 ohms	3.3 mH	7.0 kgf.cm	110 g.cm2

驅動器規格 / Driver Type

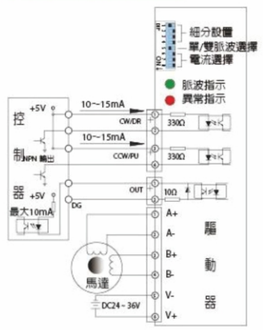
輸出入信號說明

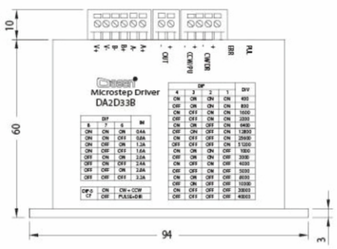
DA2D33B

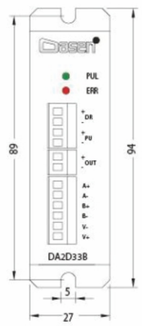
- PWM 雙極性高微分驅動，分割精準
- 馬達超低振動，低溫昇，低激磁聲
- 最高解析度51200 分割
- 最高反應頻率1000 kpps
- 體積小，質量輕
- 驅動電流從0.4A ~ 3.2A
- 電源輸入電壓範圍DC24V ~ DC36V
- 具位置到達時，輸出一脈波信號

接頭 PIN NO	名 稱	功 能 說 明
控制端子	＋ CW/DR	單脈波：旋轉方向輸入光耦合器〝OFF〞時正轉，〝ON〞時逆轉 雙脈波：逆轉方向 (CCW) 脈波輸入端
	－ CW/DR	
	＋ CCW/PU	單脈波：脈波輸入端 雙脈波：正轉方向 (CW) 脈波輸入端
	－ CCW/PU	
	＋ OUT	位置到達輸出5V信號   
	－ OUT	
馬達端子	A ＋	適合搭配28, 42, 56, 60型二相步進馬達
	A －	
	B ＋	
	B －	
電源	V －	電源輸入端 DC24~DC36V
	V ＋	

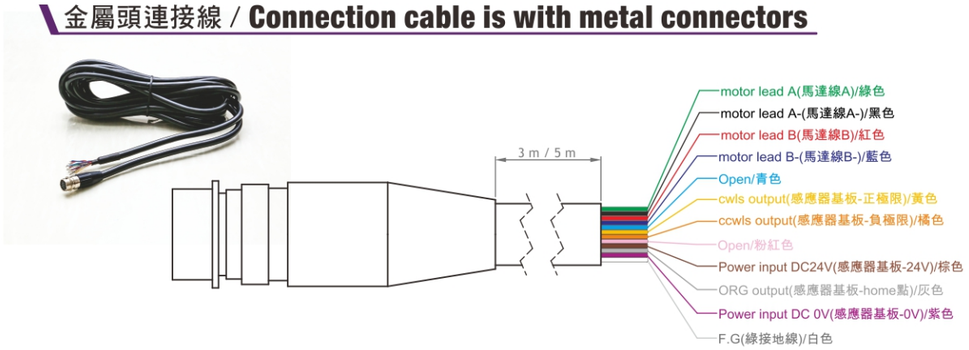
輸出入信號說明



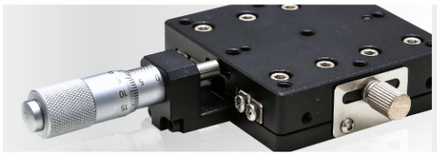




金屬頭連接線 / Connection cable is with metal connectors



Mini mirco linear Stages
手動微調線性滑台



特 長 / Features

採用了高剛性交叉直線導軌結構的薄型平台，模組化結構設計，多軸向自由搭配組合，實現高剛性、高精度的模組結構單元。其特點如下：

Slim platform adopts cross roller bearing, Module structure design and multi-axes combination realize module structure unit with high rigidity and high precision. Features listed below:

對應多軸向工作需求 / Meet requirement for multi motion axes
藉由安裝所需軸數的模組，可以自由對應各種工作應用。
With combination of many sets, many application scan be resolved freely.

超薄型、輕量、穩度 / Ultra slim、light weight、stability
因為採用VR滾柱模組，搭配航太鋁材本體，依此實現了薄而輕而穩的機構。
With adoption of VR roller module and aero aluminum body, slim, light and stable mechanism can be realized.

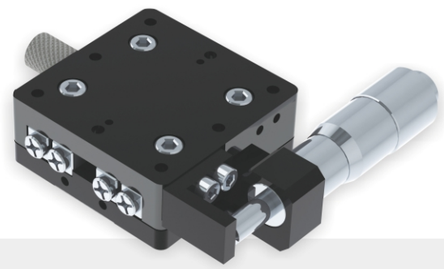
高剛性、高精度 / High rigidity、High precision
對構成模組的交叉直線導軌施加了預壓，搭配精密測微頭，是高精度、高剛性的結構。
Preloaded Crossed type roller Bearing and high, precise micrometer head sustain, high precision and high rigidity of mechanism.

型號構成 / Product No Structure

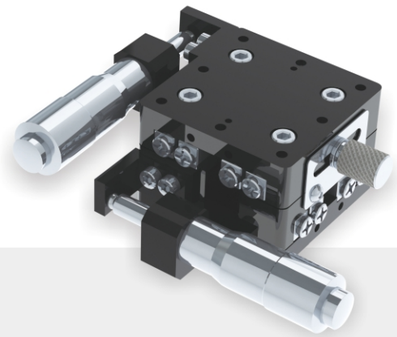
XY - TS - 075AR

Axis	Product No	Accuracy

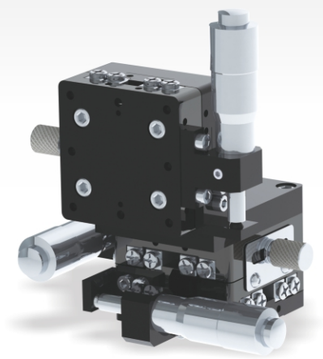
X-TW040AR



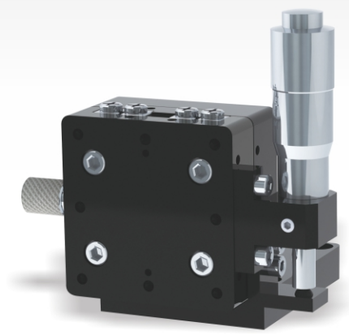
XY-TW040AR



XYZ-TW040AR



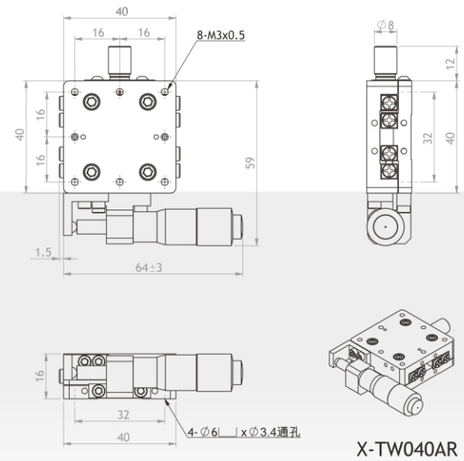
Z-TW040AR

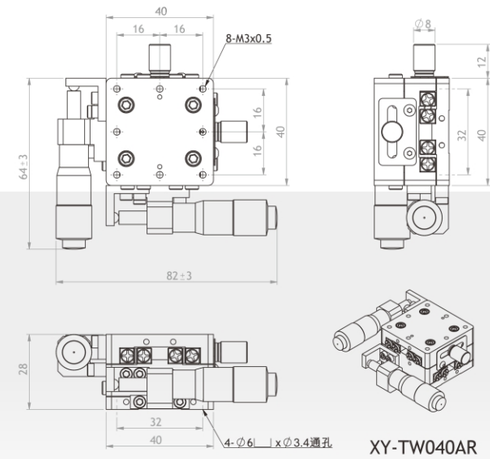


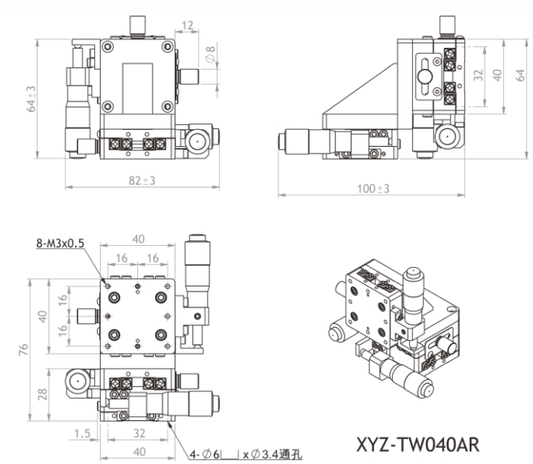
規格型號 / Specifications

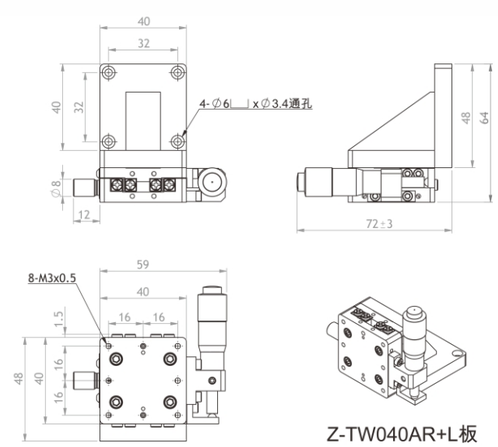
產品編號 / Product No	X-TW040AR	XY-TW040AR	XYZ-TW040AR	Z-TW040AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	40 X 40			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	2.5 (24.5N)	3 (29.4N)	1.5 (14.7N)	1.5 (14.7N)
質量 / Mass** (kg)	0.14	0.26	0.5	0.24

外型尺寸 / Dimension

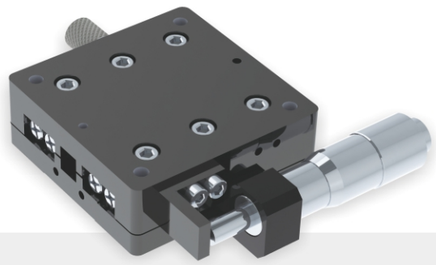




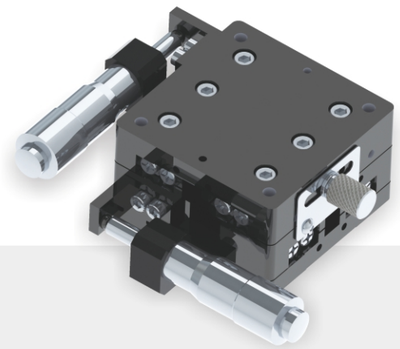




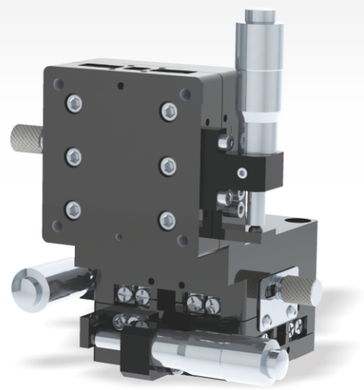
X-TW050AR



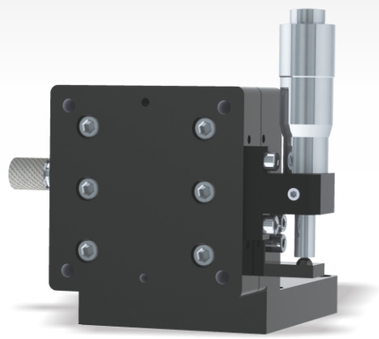
XY-TW050AR



XYZ-TW050AR



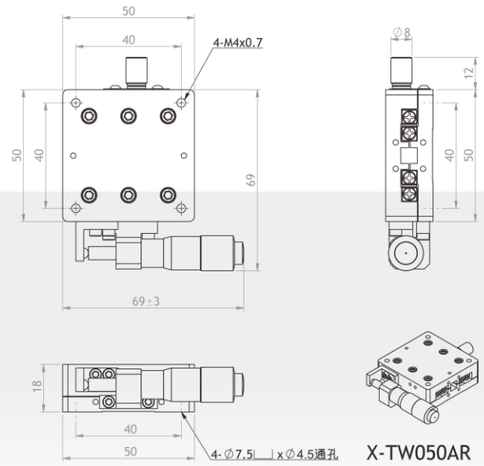
Z-TW050AR



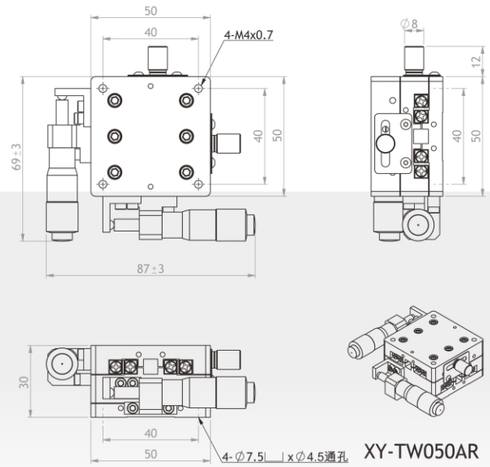
規格型號 / Specifications

產品編號 / Product No	X-TW050AR	XY-TW050AR	XYZ-TW050AR	Z-TW050AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	50 X 50			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	3.5 (34.3N)	4 (39.2N)	2.5 (24.5N)	2.5 (24.5N)
質量 / Mass** (kg)	0.19	0.34	0.7	0.35

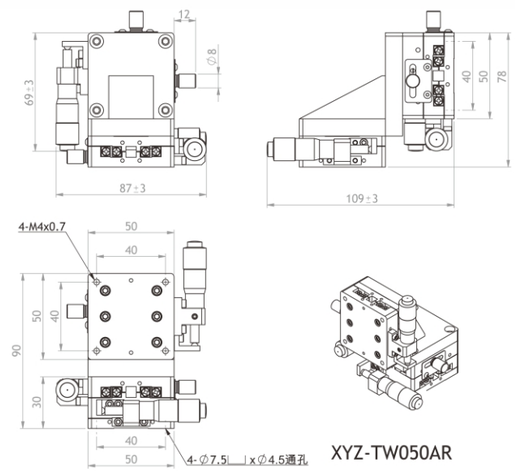
外型尺寸 / Dimension



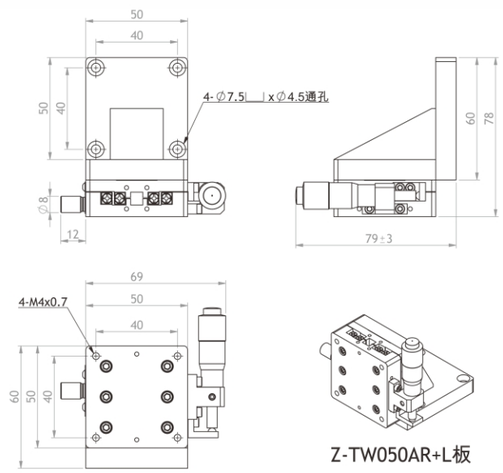
X-TW050AR



XY-TW050AR

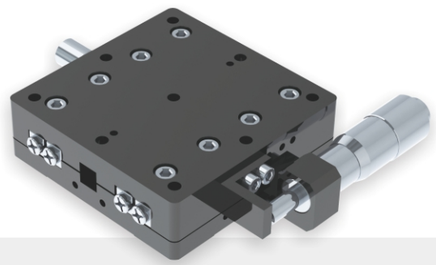


XYZ-TW050AR

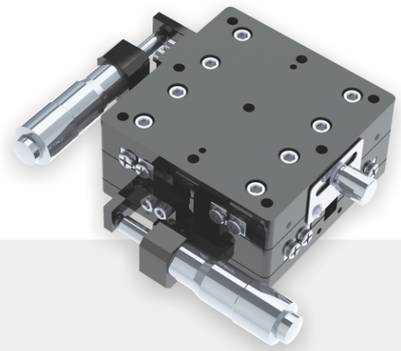


Z-TW050AR+L板

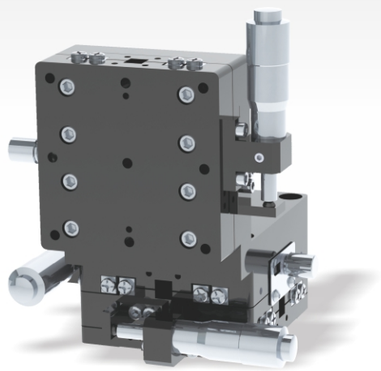
X-TW060AR



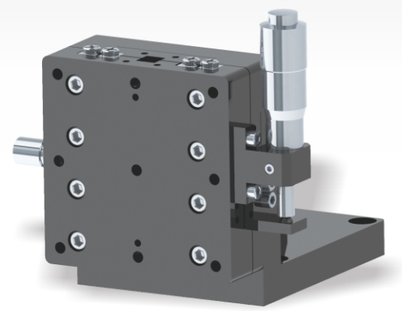
XY-TW060AR



XYZ-TW060AR



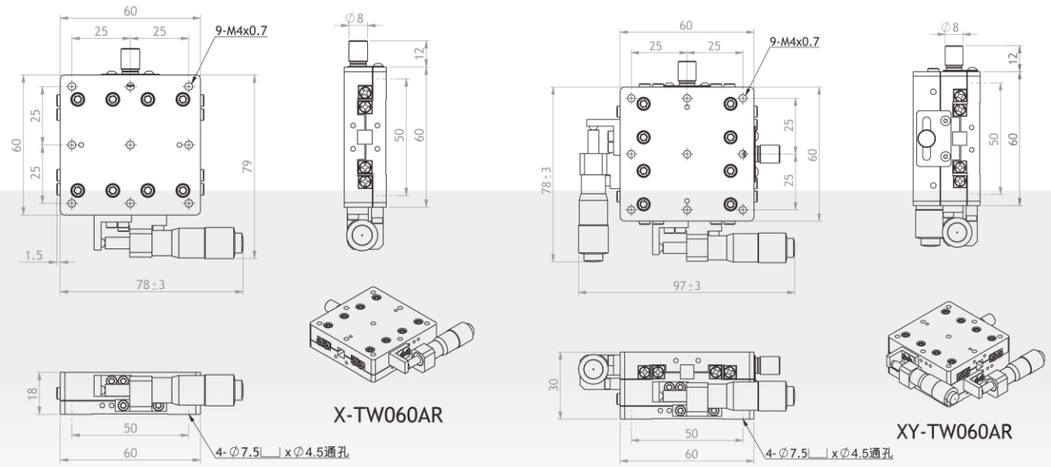
Z-TW060AR

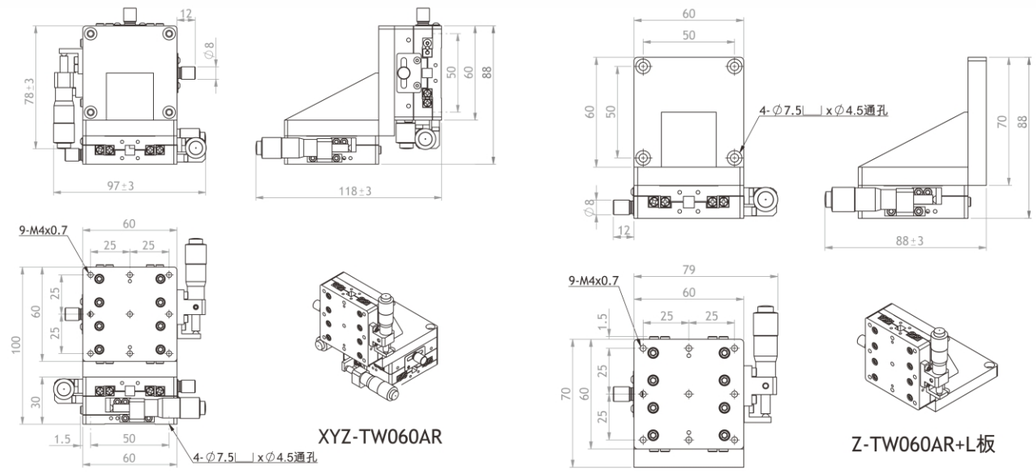


規格型號 / Specifications

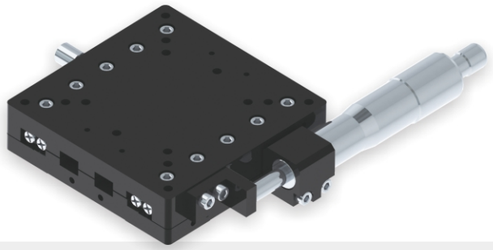
產品編號 / Product No	X-TW060AR	XY-TW060AR	XYZ-TW060AR	Z-TW060AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	60 X 60			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	4.5 (44.1N)	5.5 (53.9N)	3.5 (34.3N)	3.5 (34.3N)
質量 / Mass** (kg)	0.25	0.43	0.96	0.52

外型尺寸 / Dimension

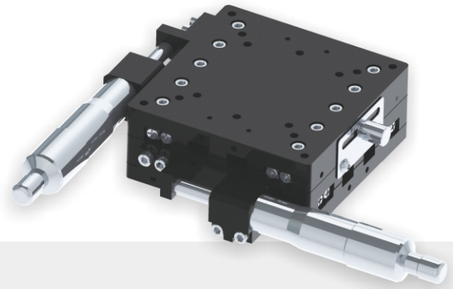




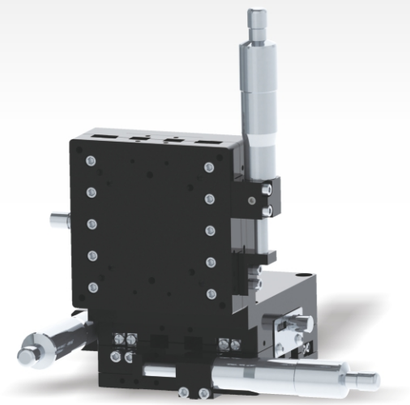
X-TW080AR



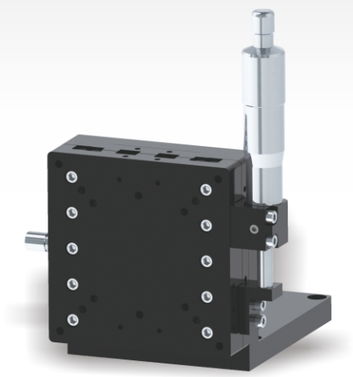
XY-TW080AR



XYZ-TW080AR



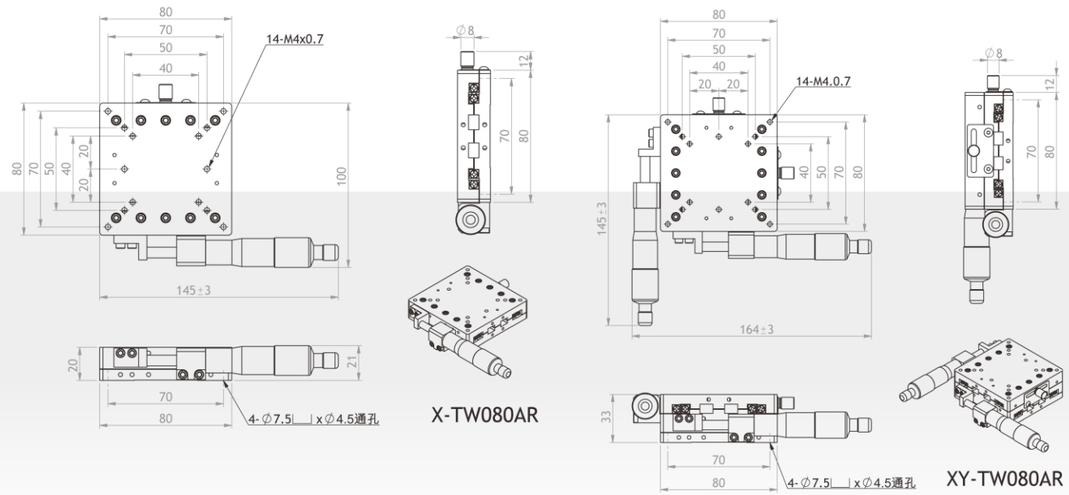
Z-TW080AR

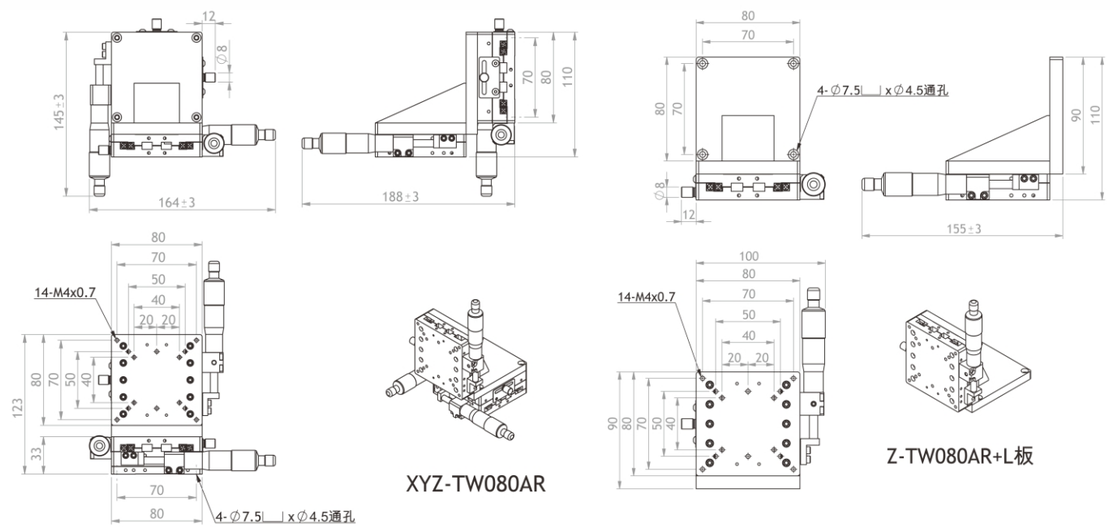


規格型號 / Specifications

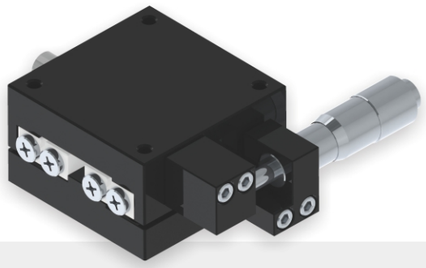
產品編號 / Product No	X-TW080AR	XY-TW080AR	XYZ-TW080AR	Z-TW080AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	80 X 80			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	6.5 (63.7N)	8 (78.4N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.5	0.9	1.9	1.0

外型尺寸 / Dimension

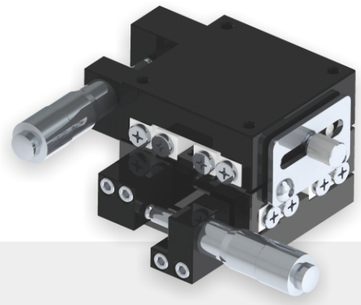




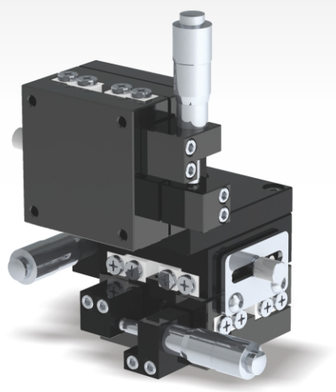
X-TS050AR



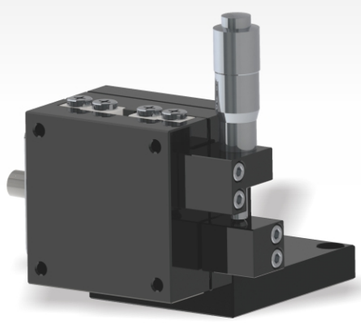
XY-TS050AR



XYZ-TS050AR



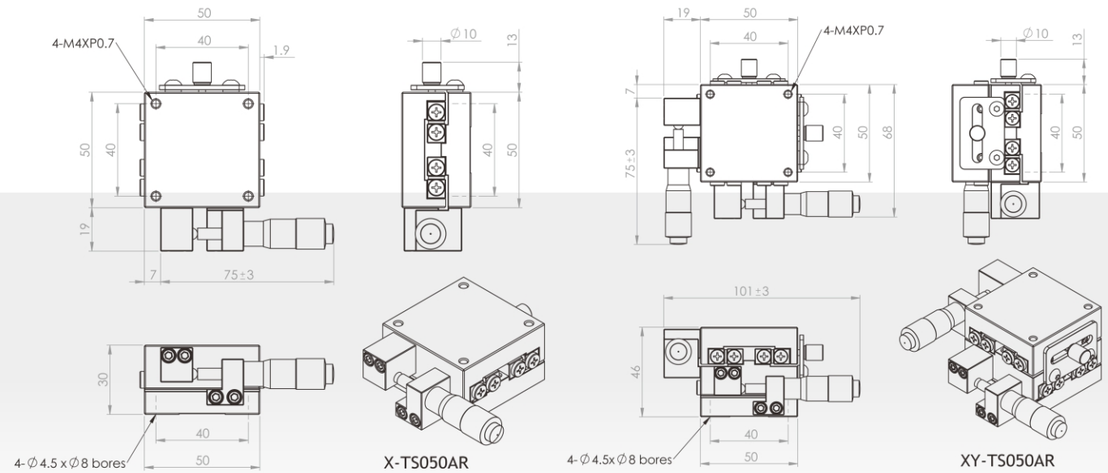
Z-TS050AR

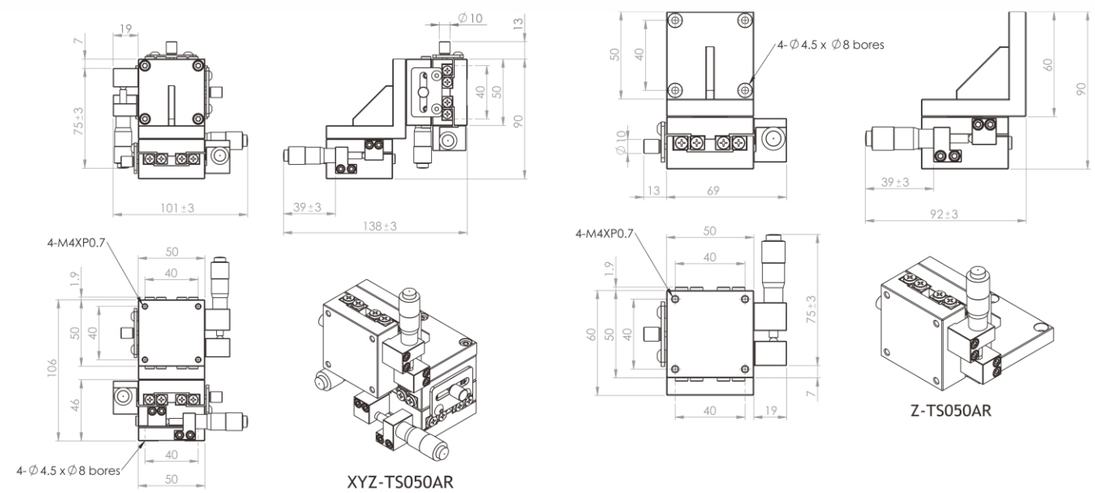


規格型號 / Specifications

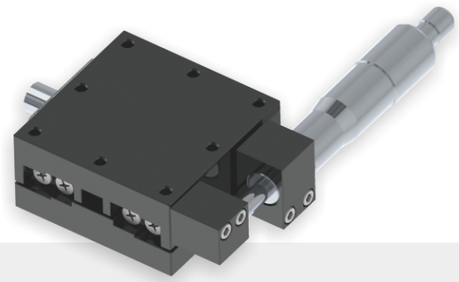
產品編號 / Product No	X-TS050AR	XY-TS050AR	XYZ-TS050AR	Z-TS050AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	50 X 50			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	5 (49N)	6 (58.8N)	3.5 (34.3N)	3.5 (34.3N)
質量 / Mass** (kg)	0.4	0.65	1.2	0.55

外型尺寸 / Dimension

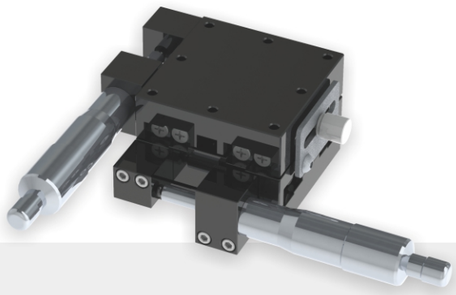




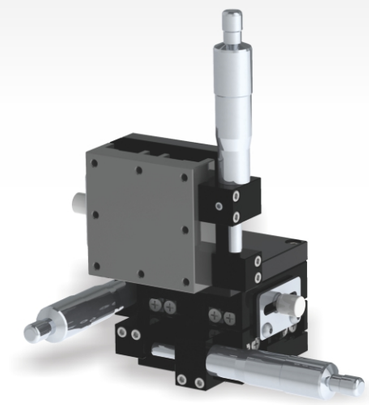
X-TS060AR



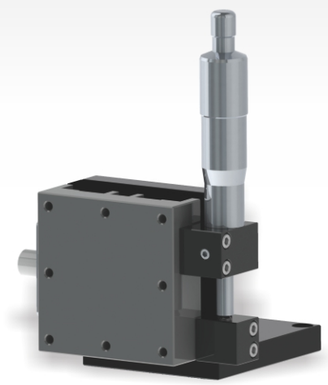
XY-TS060AR



XYZ-TS060AR



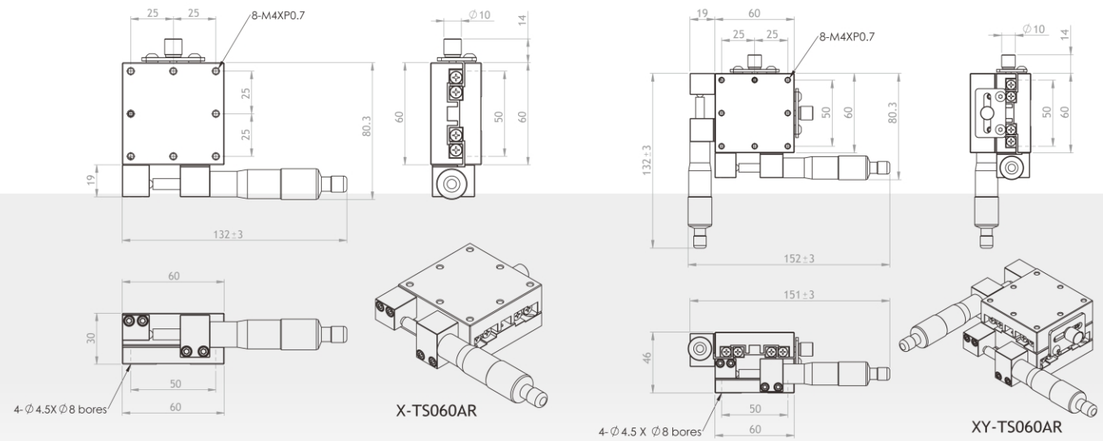
Z-TS060AR

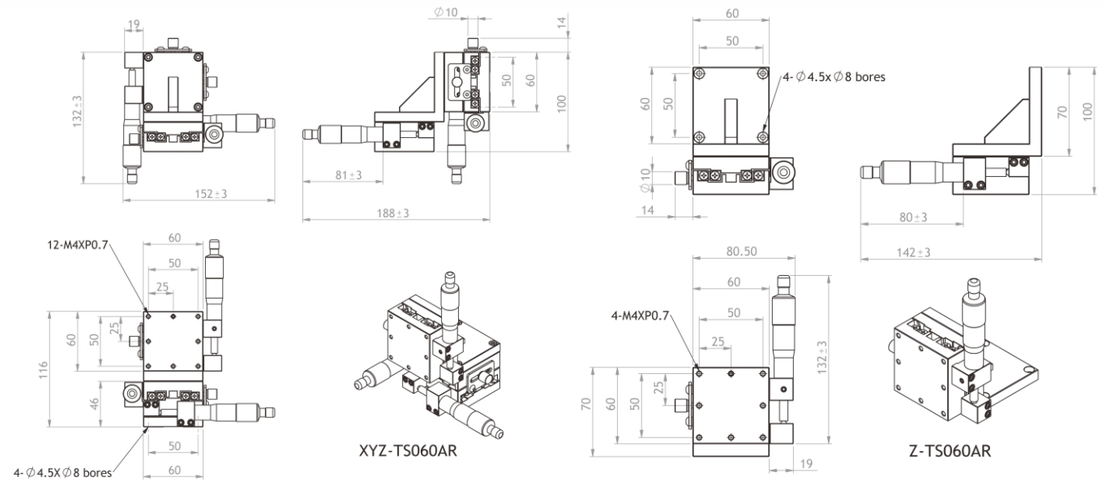


規格型號 / Specifications

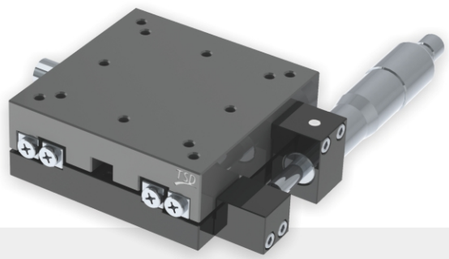
產品編號 / Product No	X-TS060AR	XY-TS060AR	XYZ-TS060AR	Z-TS060AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	60 X 60			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	5 (49N)	6 (58.8N)	4 (39.2N)	4 (39.2N)
質量 / Mass** (kg)	0.5	0.85	1.6	0.75

外型尺寸 / Dimension

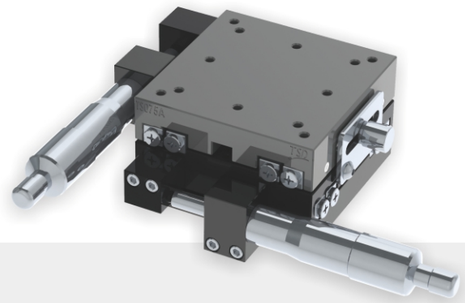




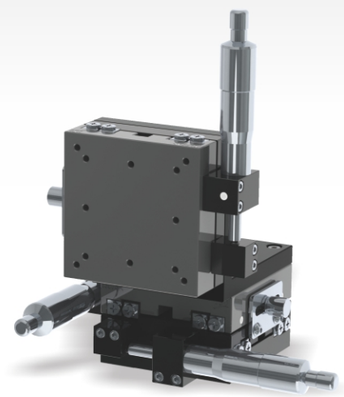
X-TS075AR



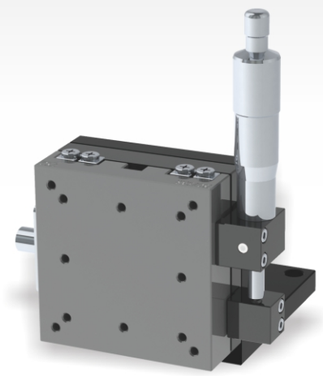
XY-TS075AR



XYZ-TS075AR



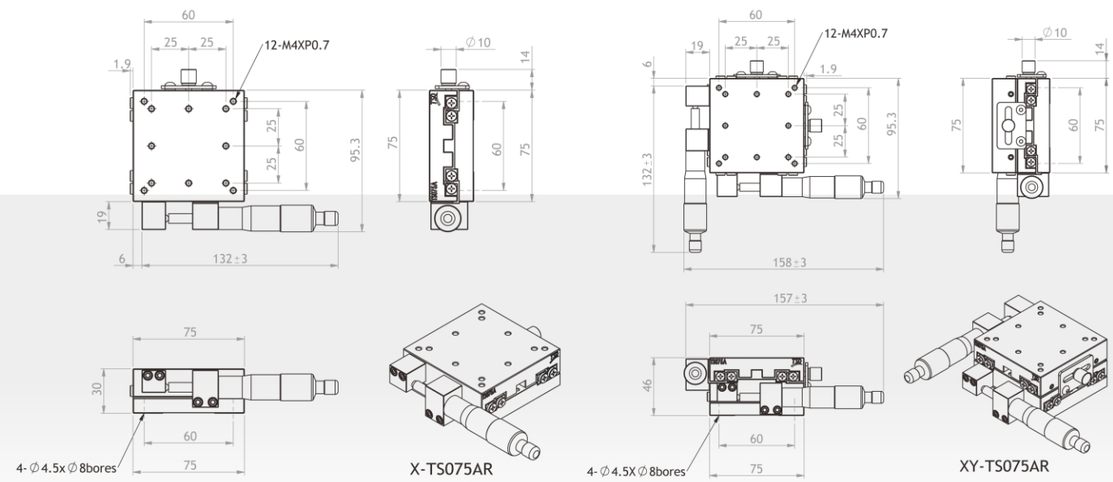
Z-TS075AR

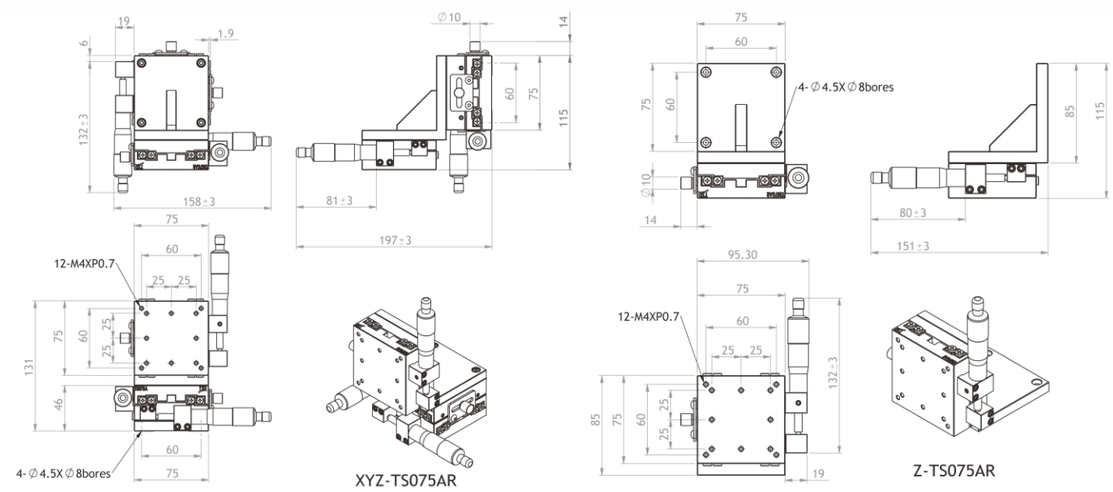


規格型號 / Specifications

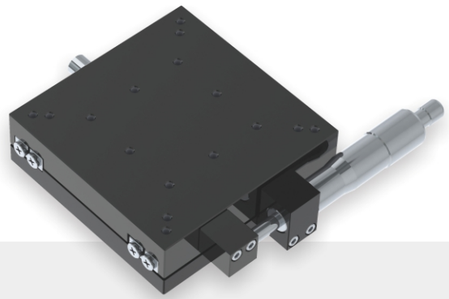
產品編號 / Product No	X-TS075AR	XY-TS075AR	XYZ-TS075AR	Z-TS075AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	75 X 75			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.65	1.2	2.2	1.0

外型尺寸 / Dimension

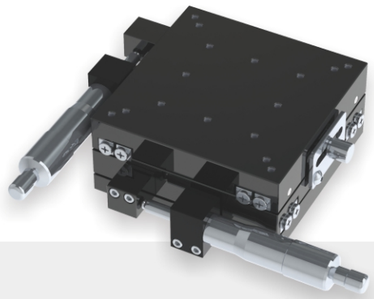




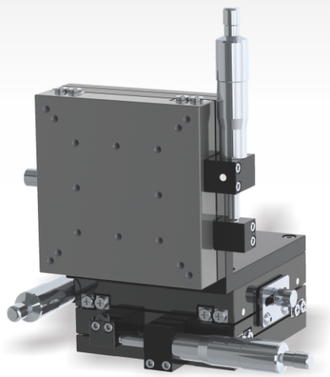
X-TS100AR



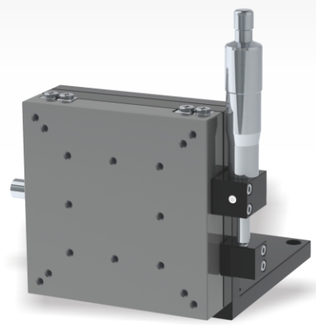
XY-TS100AR



XYZ-TS100AR



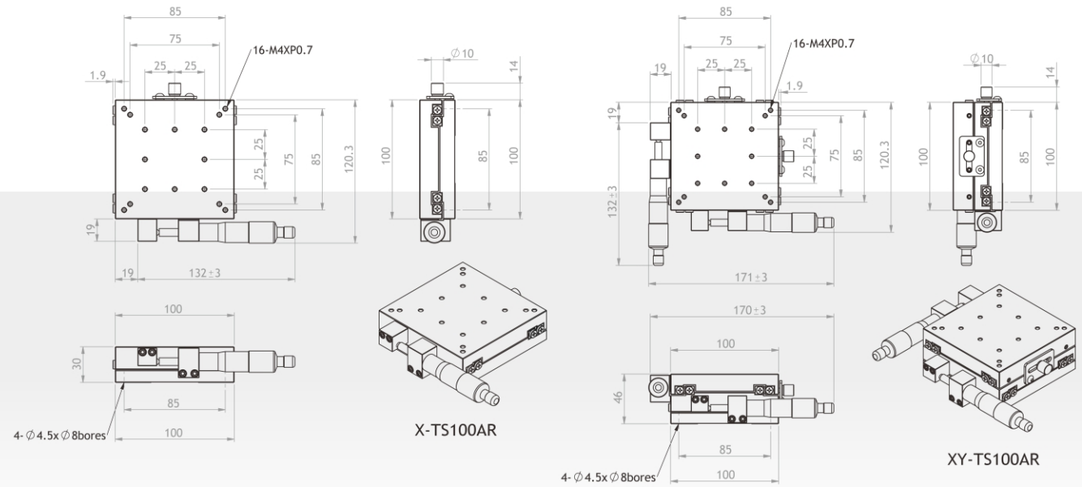
Z-TS100AR

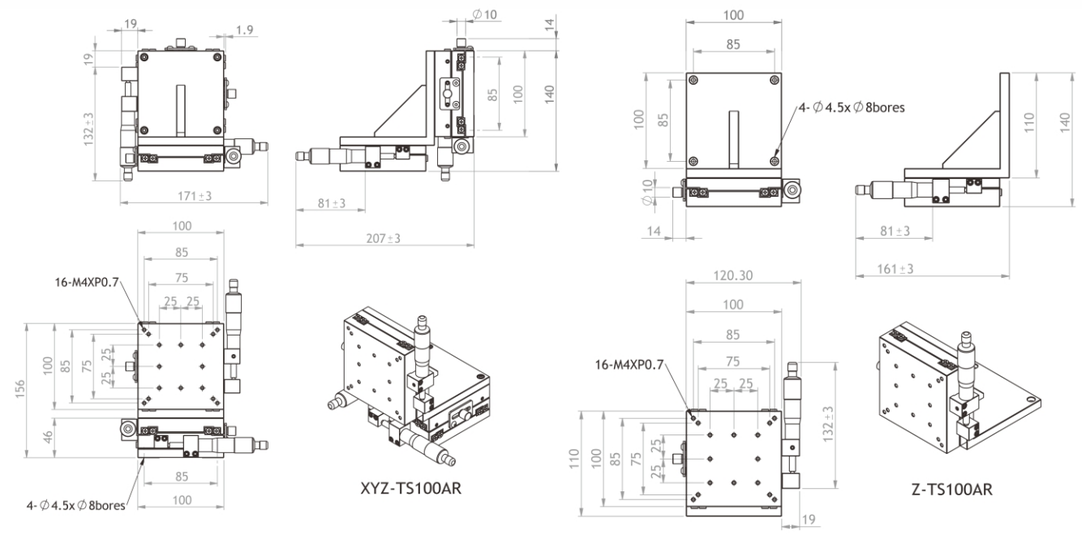


規格型號 / Specifications

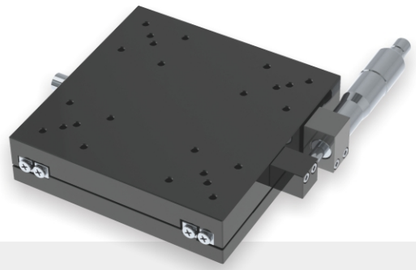
產品編號 / Product No	X-TS100AR	XY-TS100AR	XYZ-TS100AR	Z-TS100AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	100 X 100			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.95	1.6	3.0	1.5

外型尺寸 / Dimension

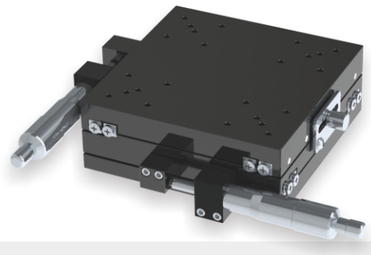




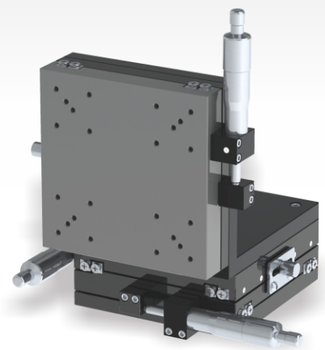
X-TS125AR



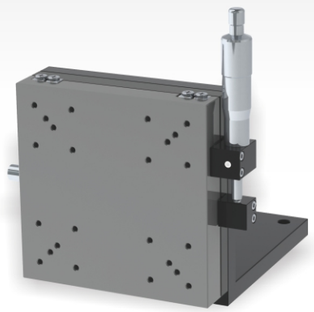
XY-TS125AR



XYZ-TS125AR



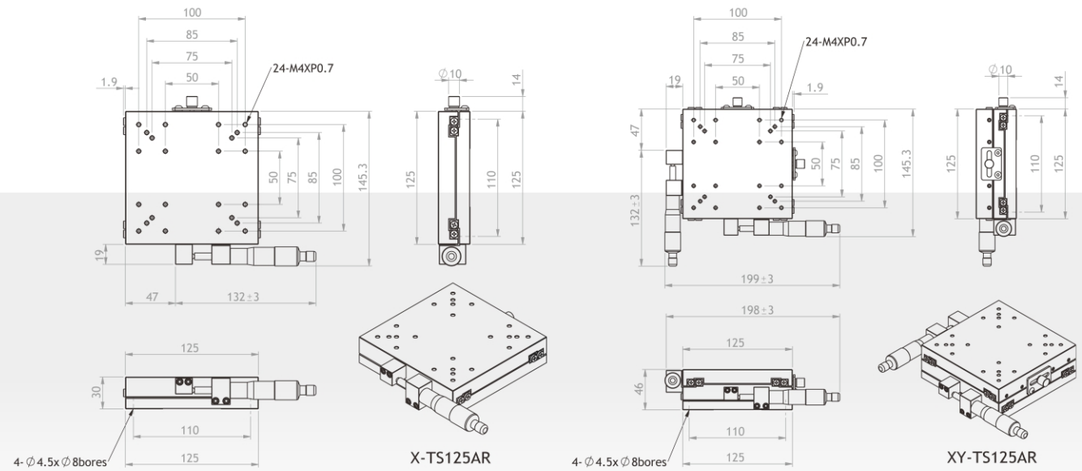
Z-TS125AR

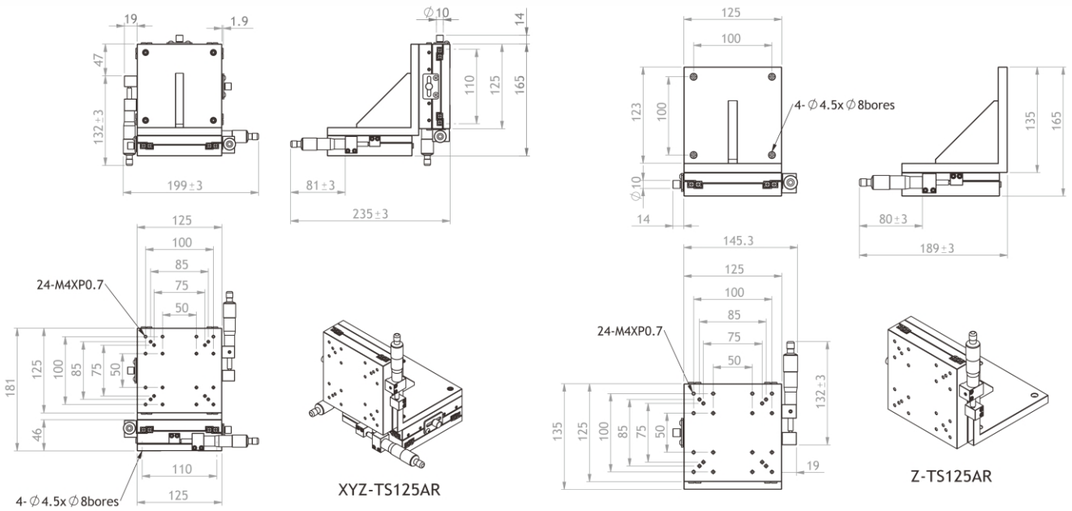


規格型號 / Specifications

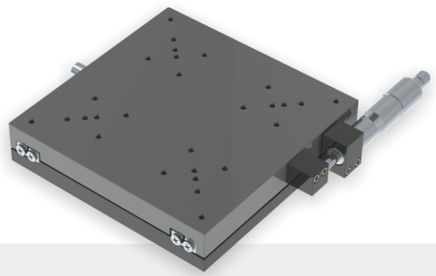
產品編號 / Product No	X-TS125AR	XY-TS125AR	XYZ-TS125AR	Z-TS125AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	125 X 125			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	40			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	1.4	2.2	4.6	2.5

外型尺寸 / Dimension

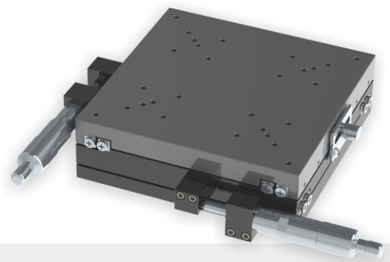




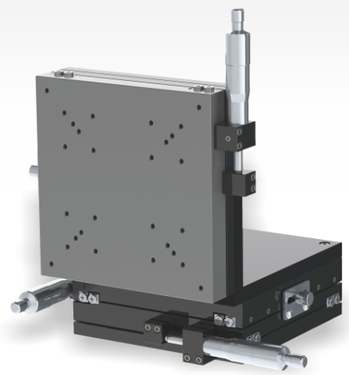
X-TS150AR



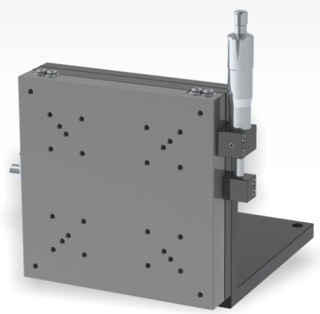
XY-TS150AR



XYZ-TS150AR



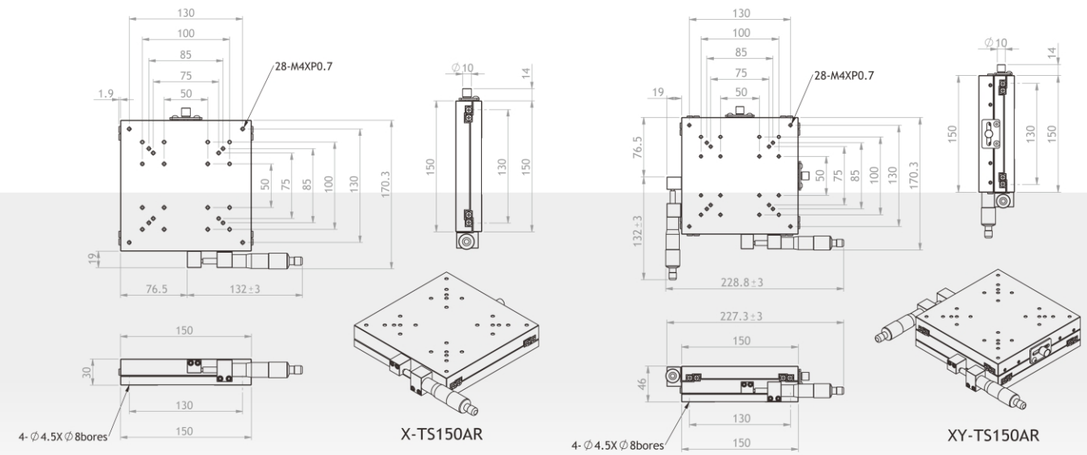
Z-TS150AR

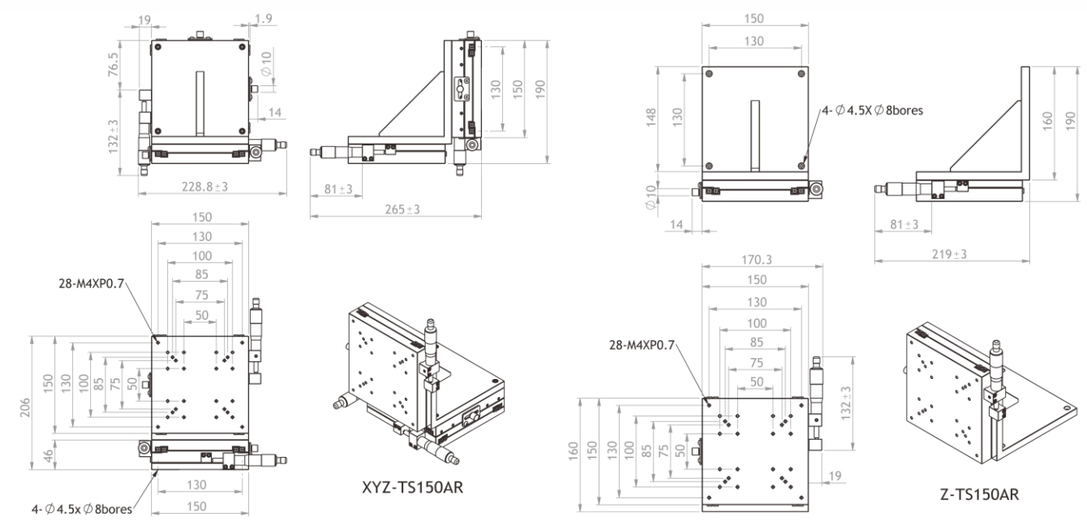


規格型號 / Specifications

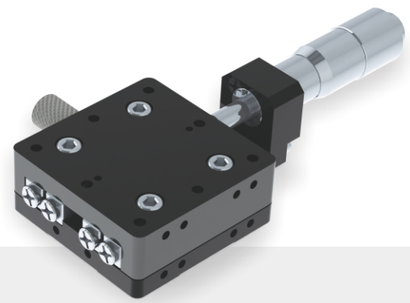
產品編號 / Product No	X-TS150AR	XY-TS150R	XYZ-TS150AR	Z-TS150AR
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	150 X 150			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	40			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	1.95	2.9	6.5	3.6

外型尺寸 / Dimension

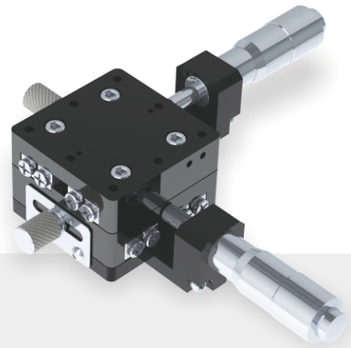




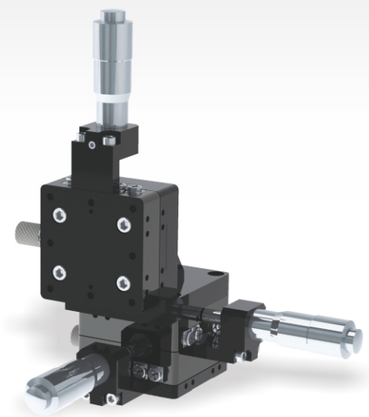
X-TW040AC



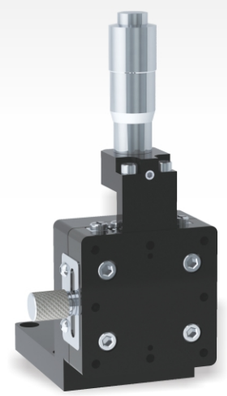
XY-TW040AC



XYZ-TW040AC



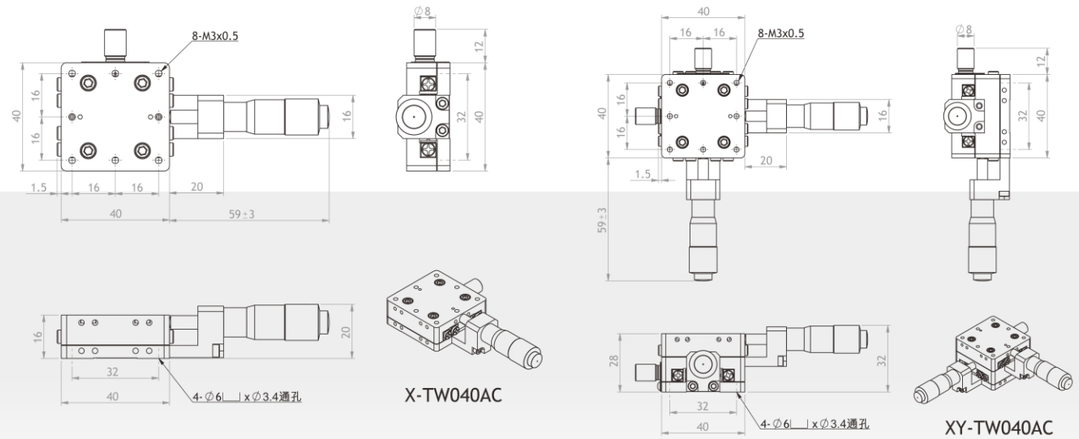
Z-TW040AC

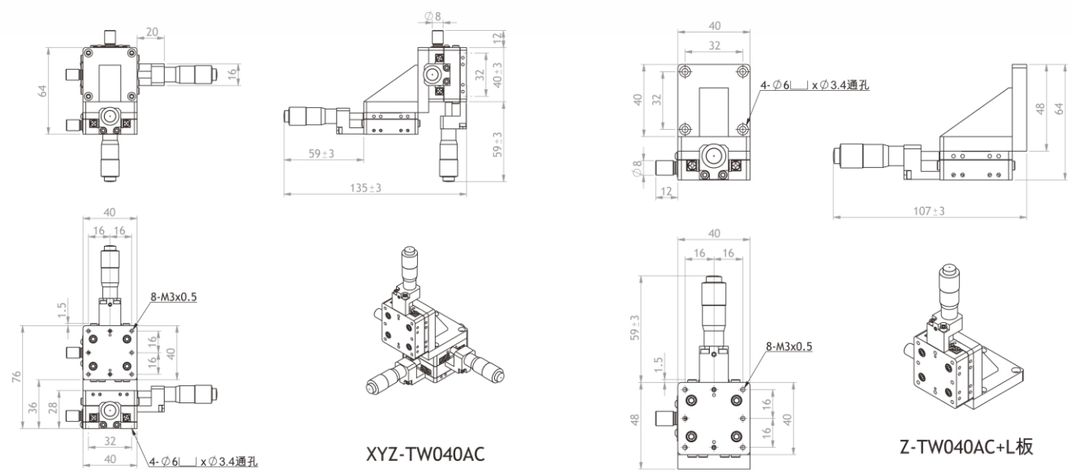


規格型號 / Specifications

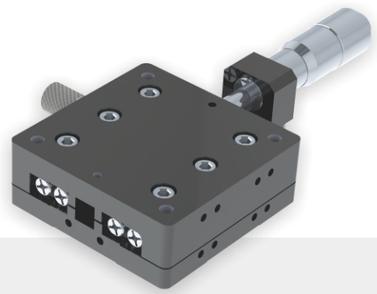
產品編號 / Product No	X-TW040AC	XY-TW040AC	XYZ-TW040AC	Z-TW040AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	40 X 40			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	2.5 (24.5N)	3 (29.4N)	1.5 (14.7N)	1.5 (14.7N)
質量 / Mass** (kg)	0.14	0.26	0.5	0.24

外型尺寸 / Dimension

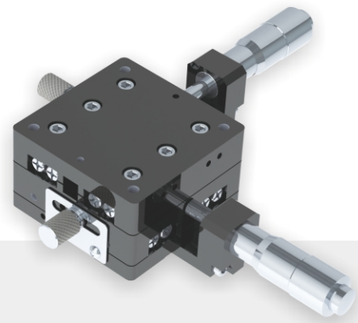




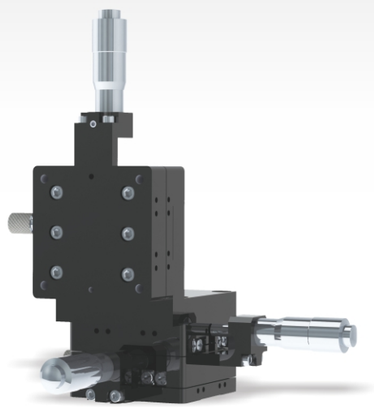
X-TW050AC



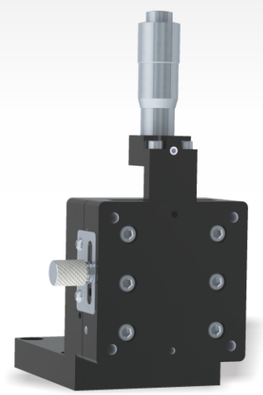
XY-TW050AC



XYZ-TW050AC



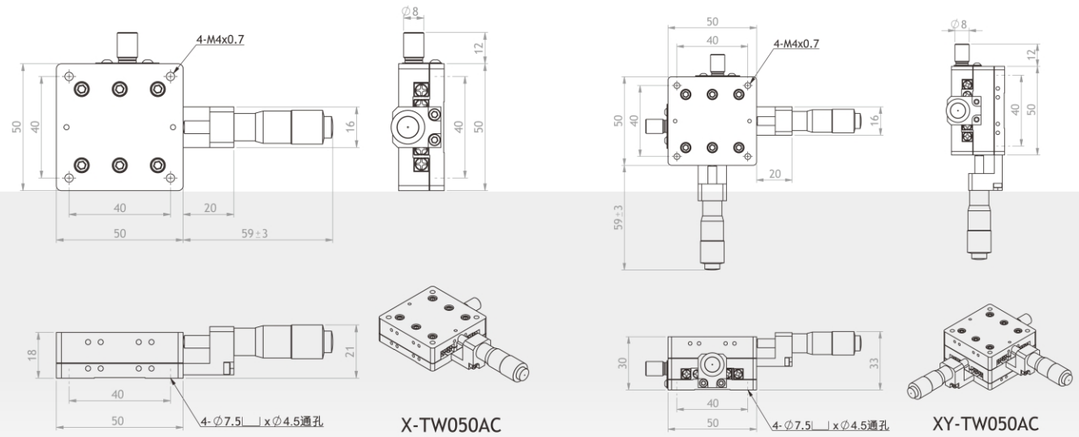
Z-TW050AC

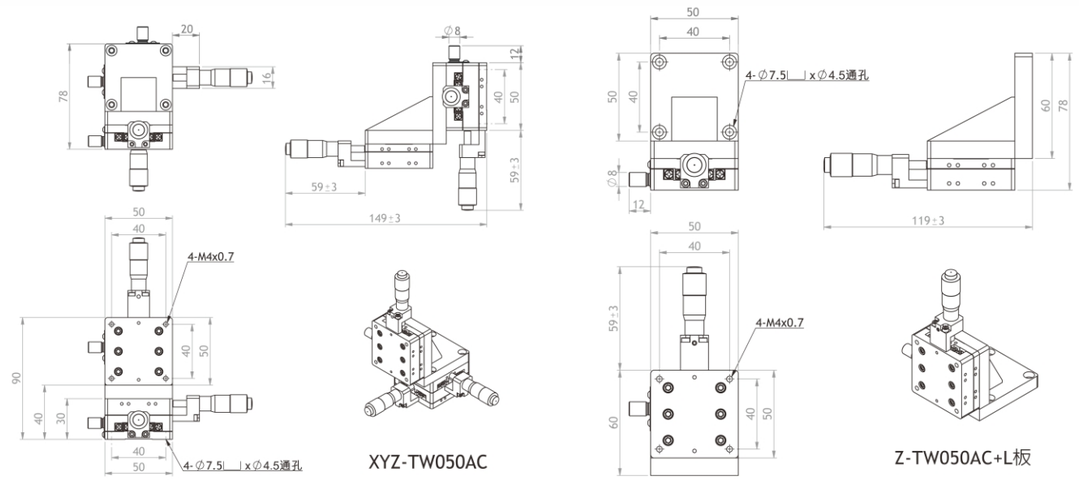


規格型號 / Specifications

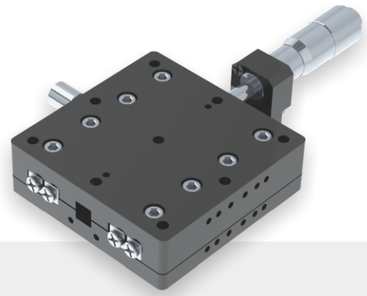
產品編號 / Product No	X-TW050AC	XY-TW050AC	XYZ-TW050AC	Z-TW050AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	50 X 50			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	3.5 (34.3N)	4 (39.2N)	2.5 (24.5N)	2.5 (24.5N)
質量 / Mass** (kg)	0.19	0.34	0.7	0.35

外型尺寸 / Dimension

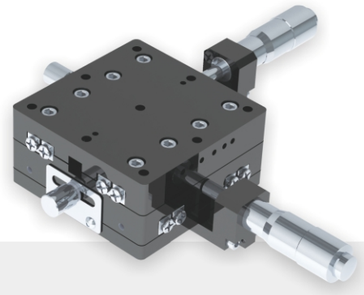




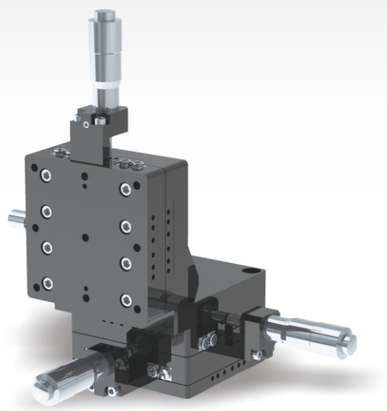
X-TW060AC



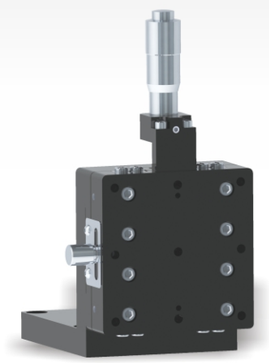
XY-TW060AC



XYZ-TW060AC



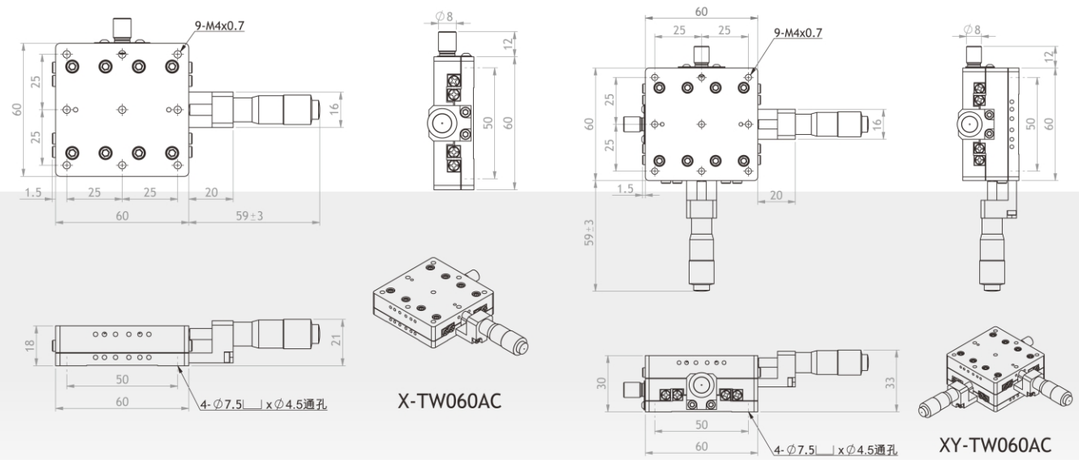
Z-TW060AC

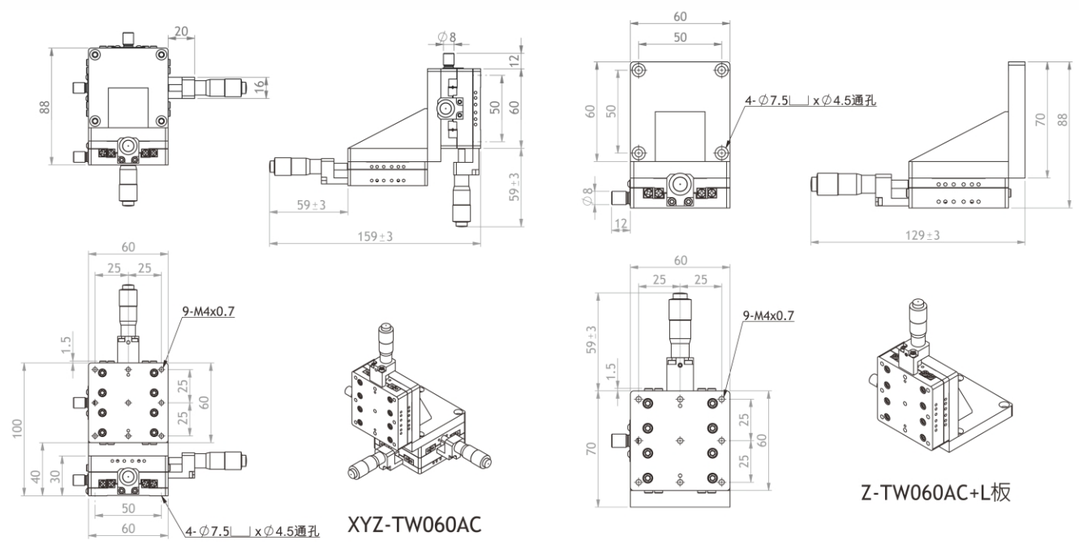


規格型號 / Specifications

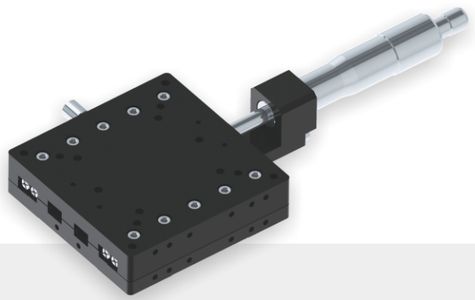
產品編號 / Product No	X-TW060AC	XY-TW060AC	XYZ-TW060AC	Z-TW060AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	60 X 60			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	4.5 (44.1N)	5.5 (53.9N)	3.5 (34.3N)	3.5 (34.3N)
質量 / Mass** (kg)	0.25	0.43	0.96	0.52

外型尺寸 / Dimension

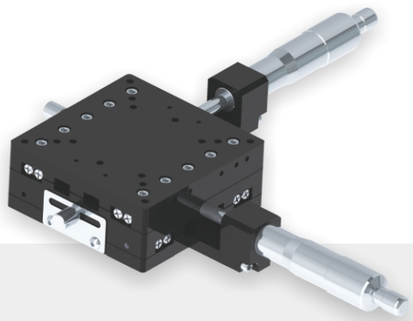




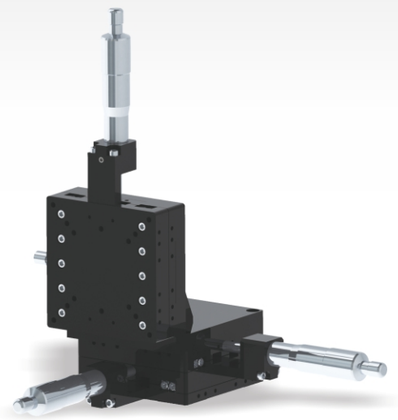
X-TW080AC



XY-TW080AC



XYZ-TW080AC

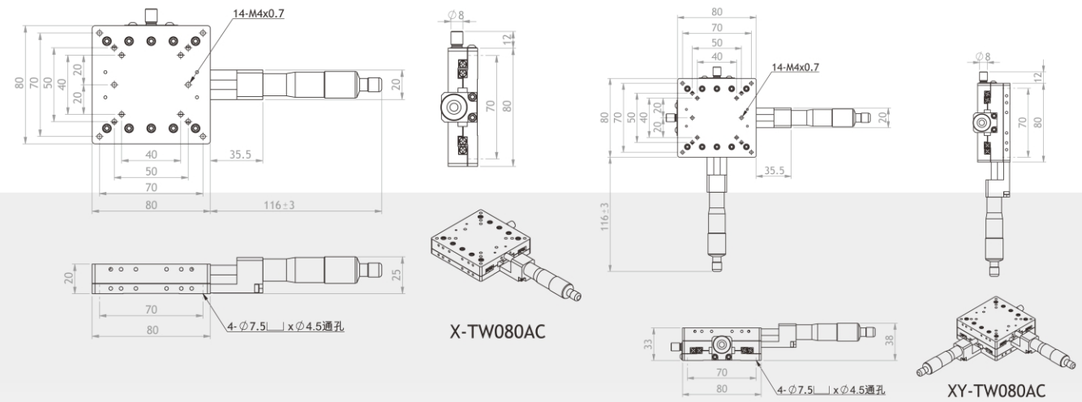


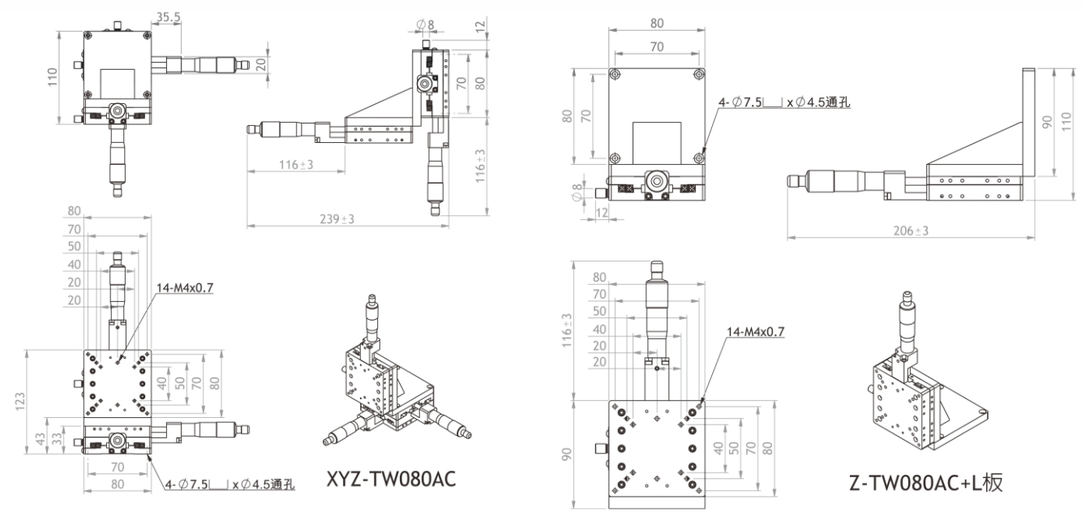
Z-TW080AC

規格型號 / Specifications

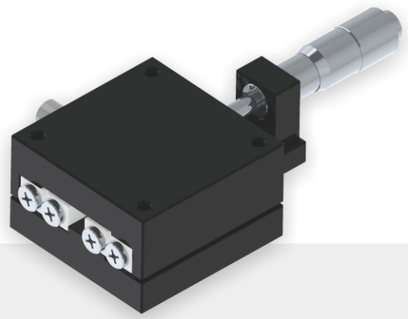
產品編號 / Product No	X-TW080AC	XY-TW080AC	XYZ-TW080AC	Z-TW080AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	80 X 80			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	6.5 (63.7N)	8 (78.4N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.5	0.9	1.9	1.0

外型尺寸 / Dimension

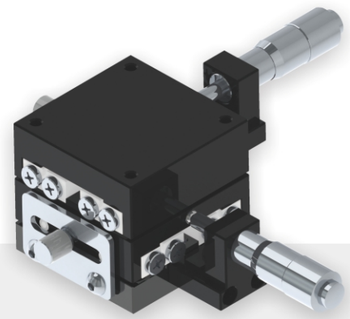




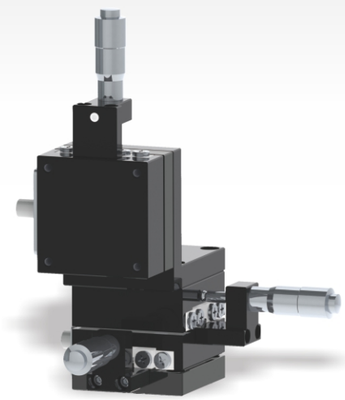
X-TS050AC



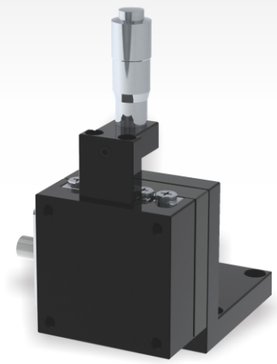
XY-TS050AC



XYZ-TS050AC



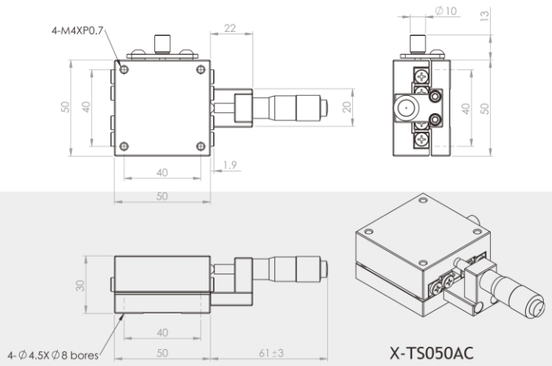
Z-TS050AC

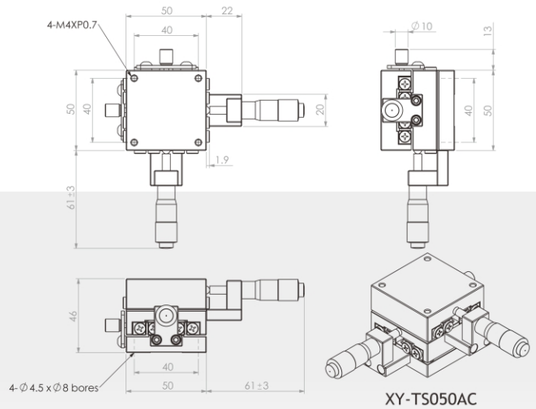


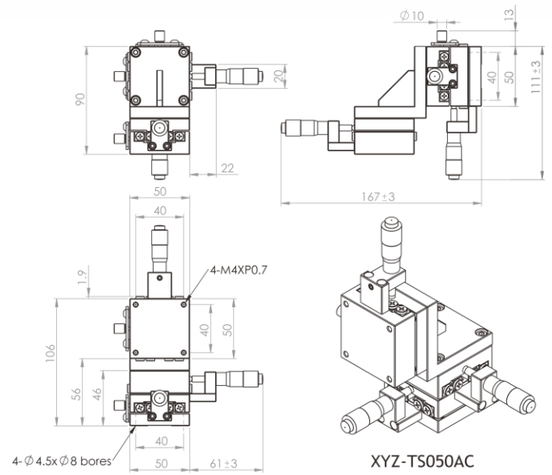
規格型號 / Specifications

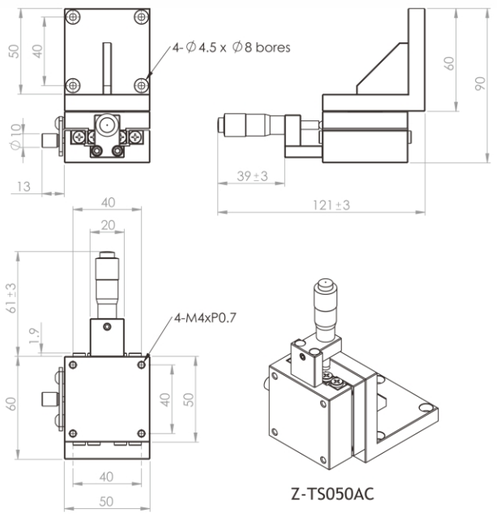
產品編號 / Product No	X-TS050AC	XY-TS050AC	XYZ-TS050AC	Z-TS050AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	50 X 50			
移動量 / Mobile Volume (mm)	±6.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	5 (49N)	6 (58.8N)	3.5 (34.3N)	3.5 (34.3N)
質量 / Mass** (kg)	0.4	0.65	1.2	0.55

外型尺寸 / Dimension

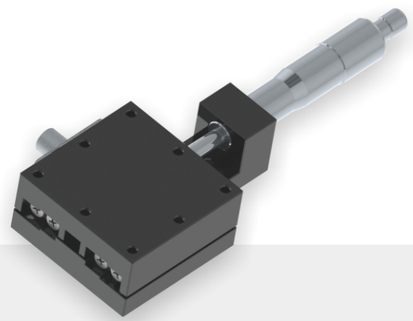




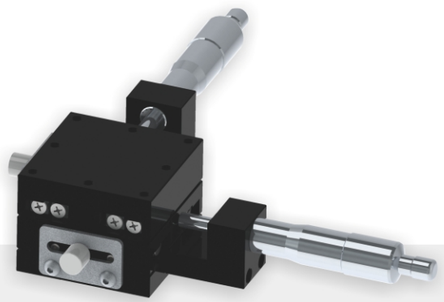




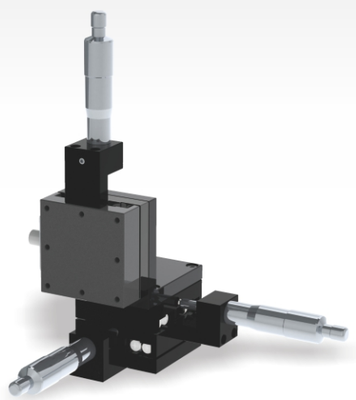
X-TS060AC



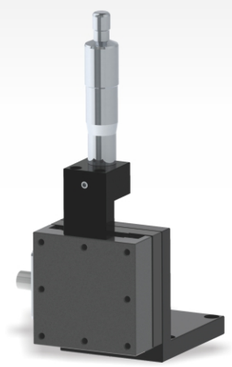
XY-TS060AC



XYZ-TS060AC



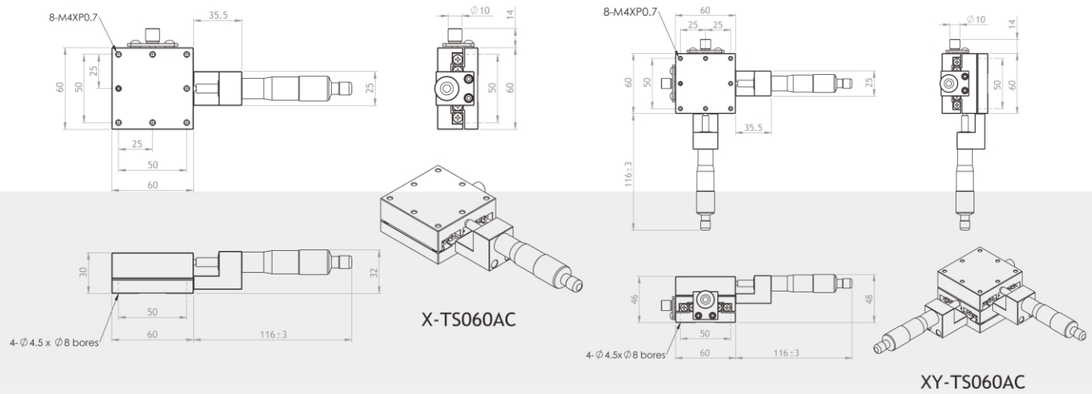
Z-TS060AC

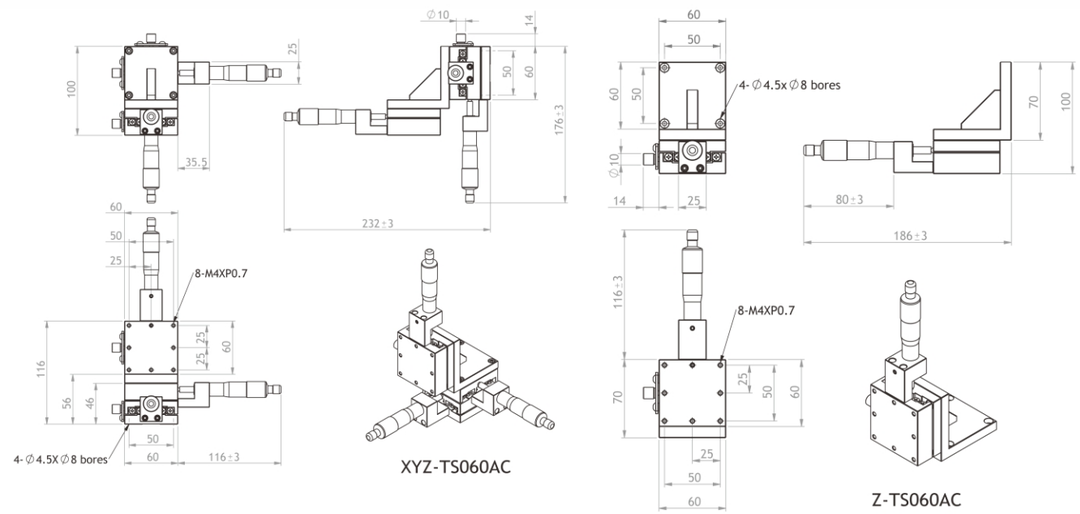


規格型號 / Specifications

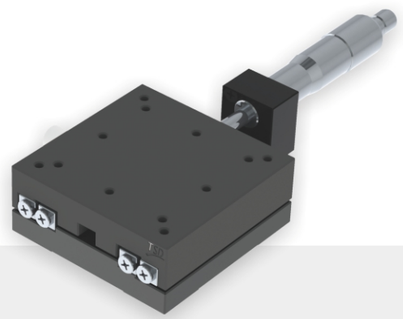
產品編號 / Product No	X-TS060AC	XY-TS060AC	XYZ-TS060AC	Z-TS060AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	60 X 60			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	5 (49N)	6 (58.8N)	4 (39.2N)	4 (39.2N)
質量 / Mass** (kg)	0.5	0.85	1.6	0.75

外型尺寸 / Dimension

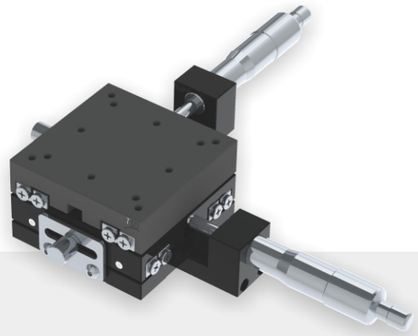




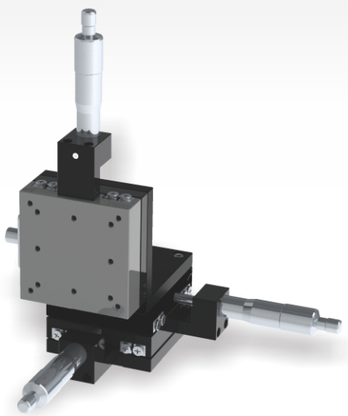
X-TS075AC



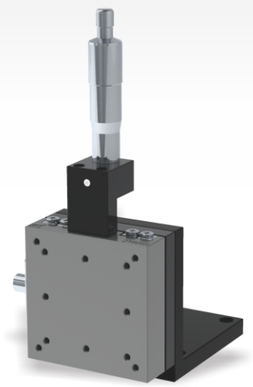
XY-TS075AC



XYZ-TS075AC



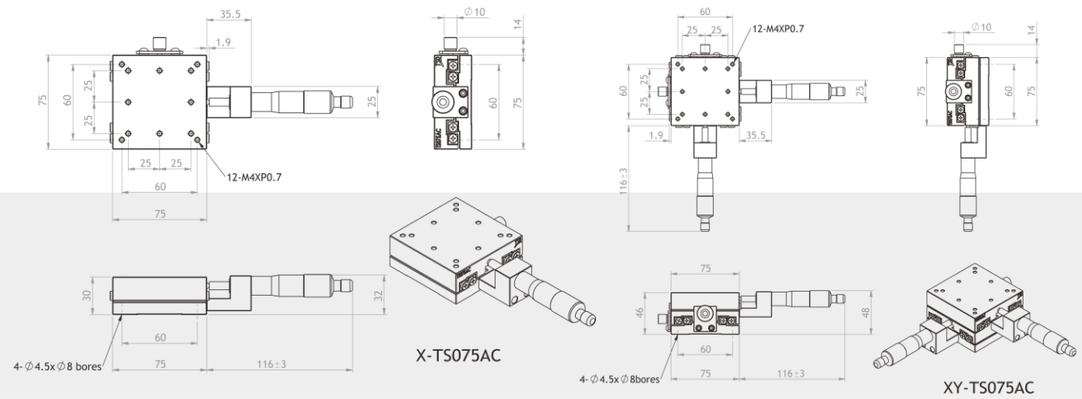
Z-TS075AC

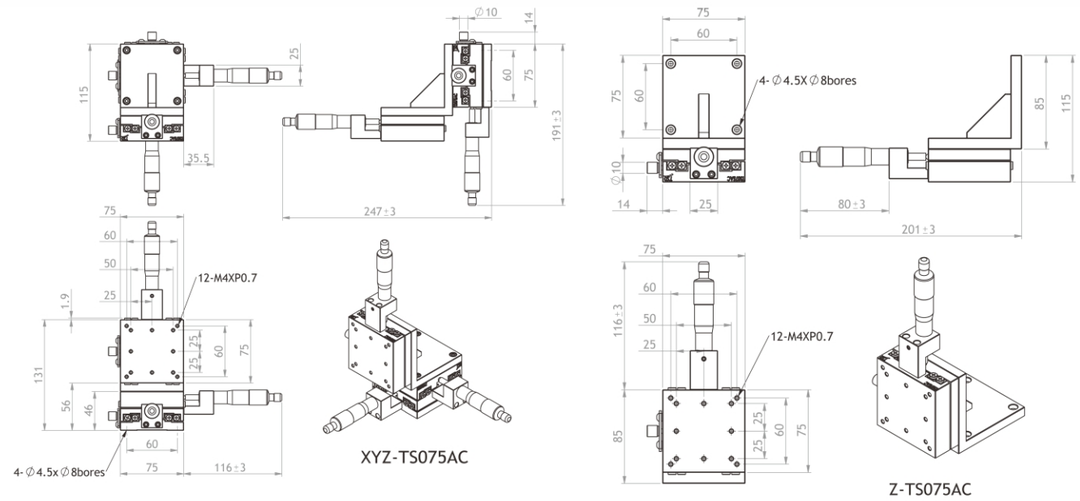


規格型號 / Specifications

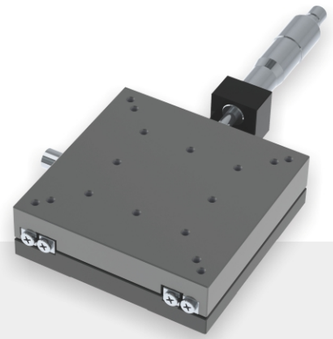
產品編號 / Product No	X-TS075AC	XY-TS075AC	XYZ-TS075AC	Z-TS075AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	75 X 75			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.65	1.2	2.2	1.0

外型尺寸 / Dimension

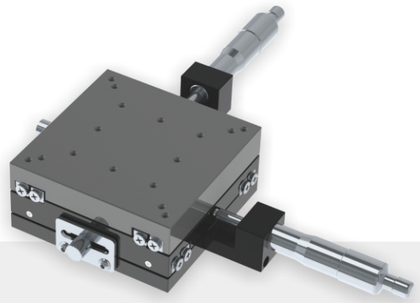




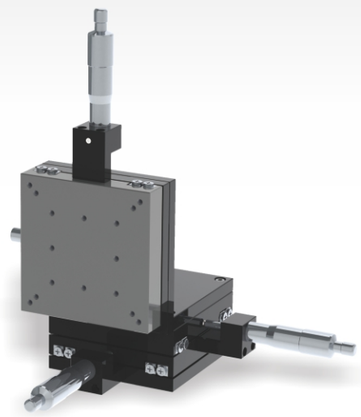
X-TS100AC



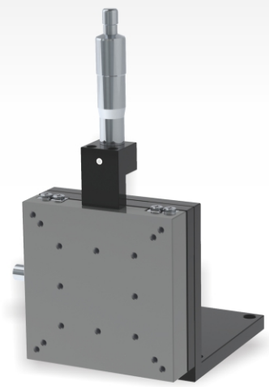
XY-TS100AC



XYZ-TS100AC



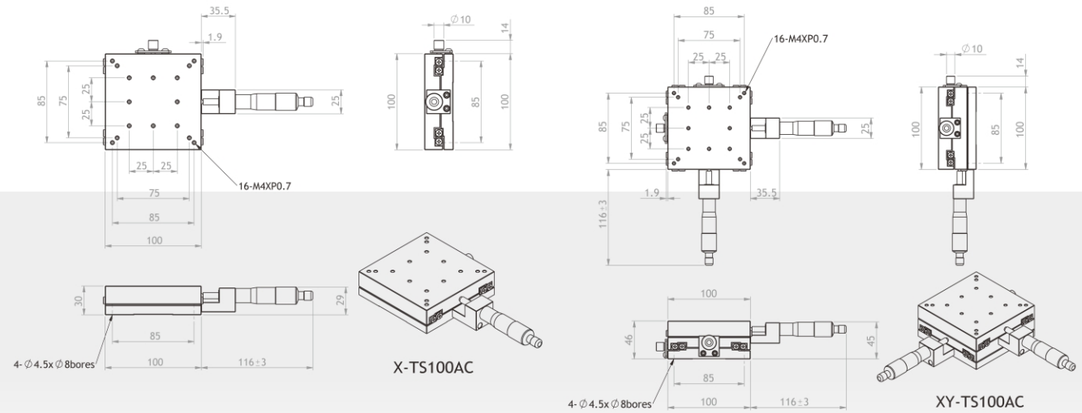
Z-TS100AC

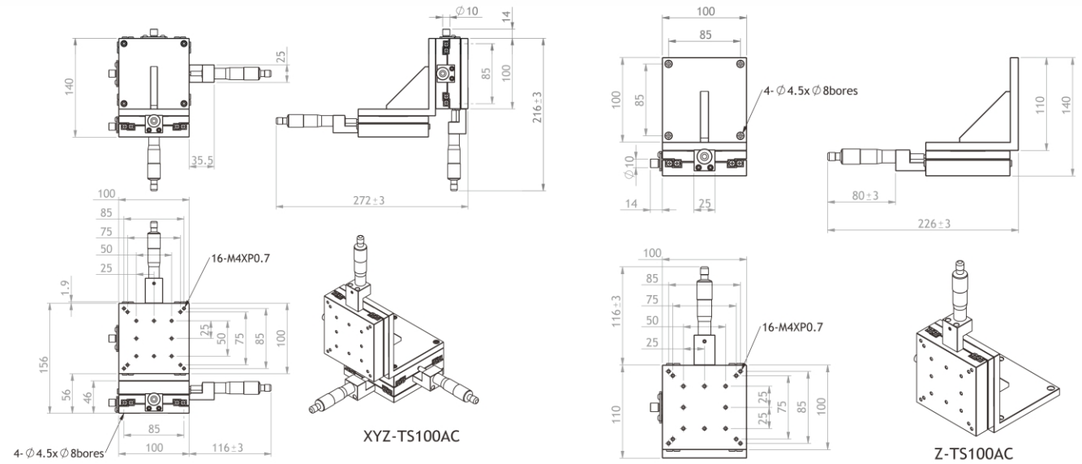


規格型號 / Specifications

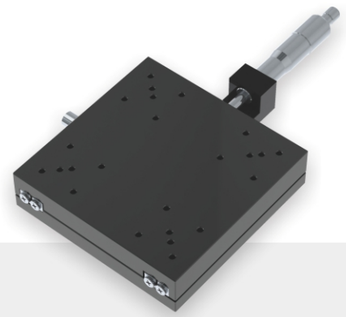
產品編號 / Product No	X-TS100AC	XY-TS100AC	XYZ-TS100AC	Z-TS100AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	100 X 100			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	30			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	0.95	1.6	3.0	1.5

外型尺寸 / Dimension

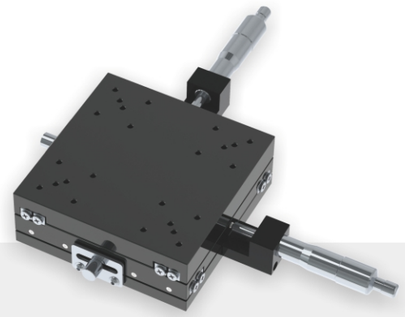




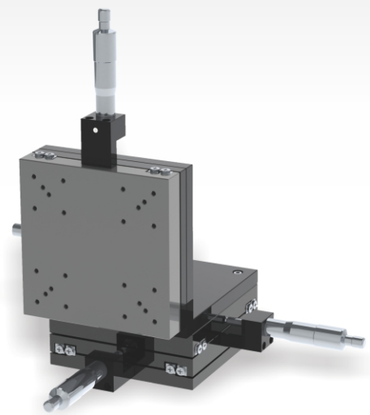
X-TS125AC



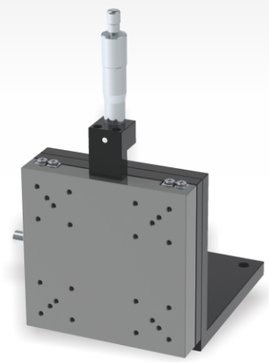
XY-TS125AC



XYZ-TS125AC



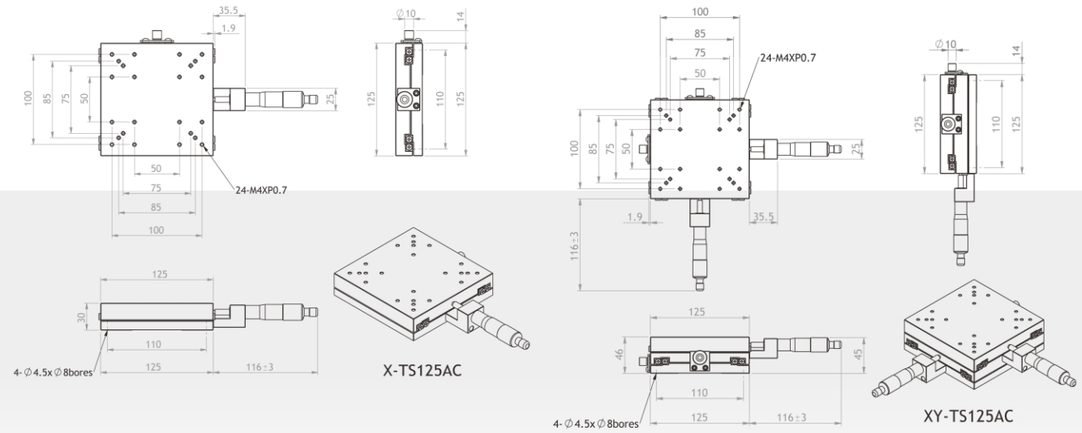
Z-TS125AC

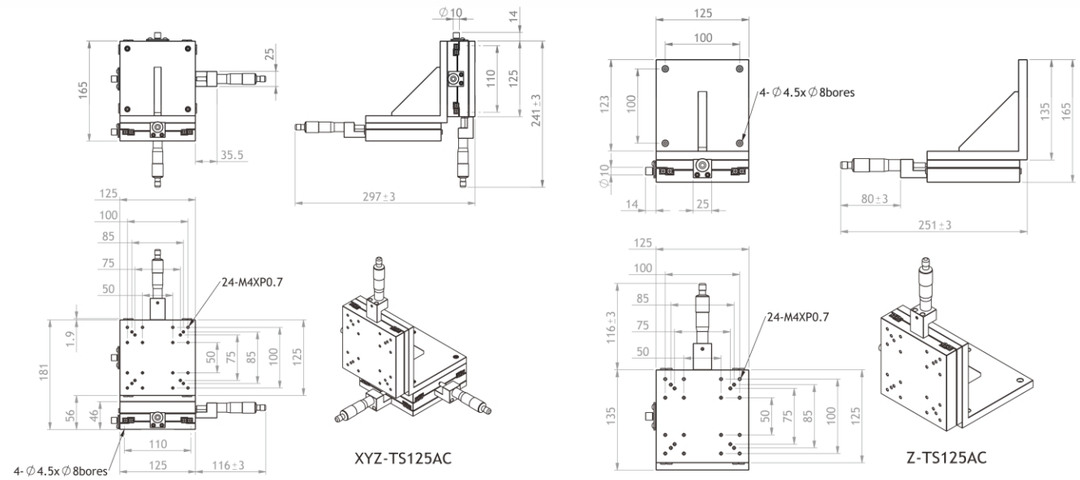


規格型號 / Specifications

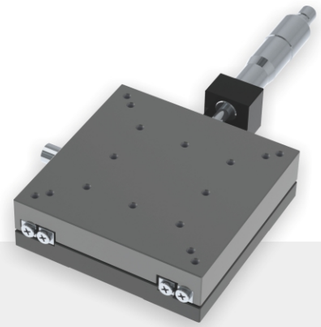
產品編號 / Product No	X-TS125AC	XY-TS125AC	XYZ-TS125AC	Z-TS125AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	125 X 125			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	40			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	1.4	2.2	4.6	2.5

外型尺寸 / Dimension

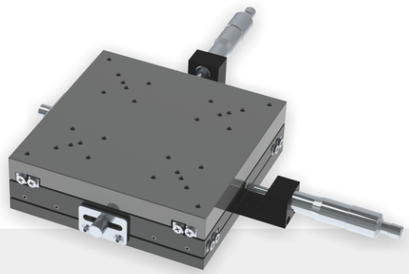




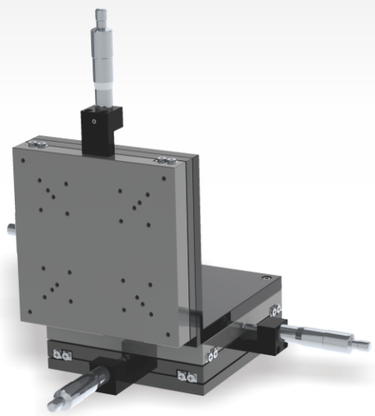
X-TS150AC



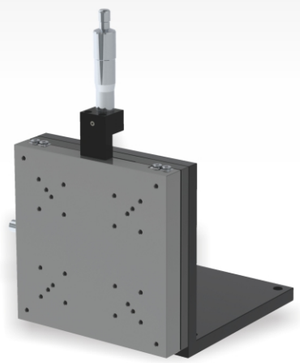
XY-TS150AC



XYZ-TS150AC



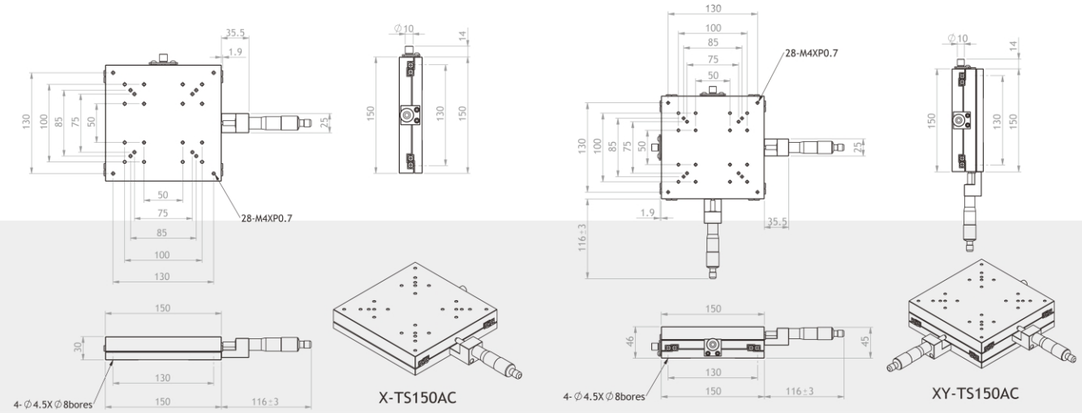
Z-TS150AC

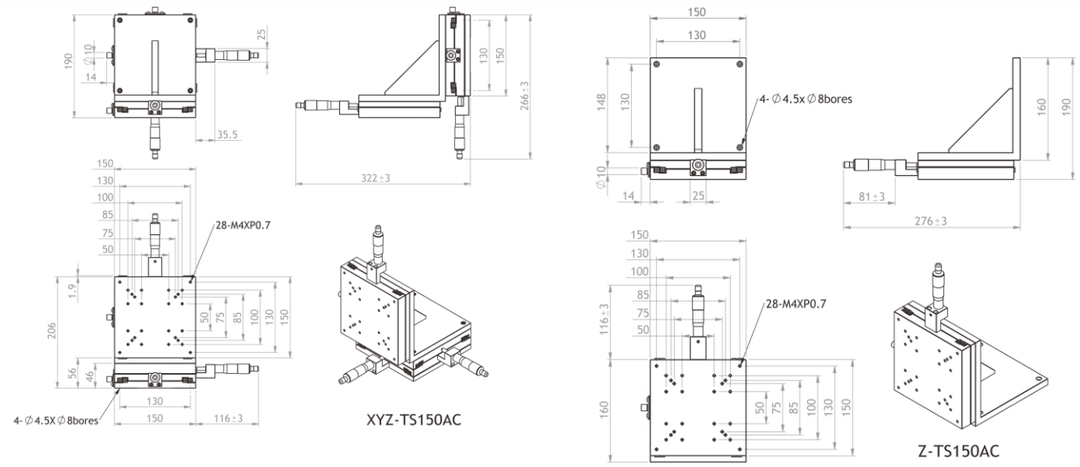


規格型號 / Specifications

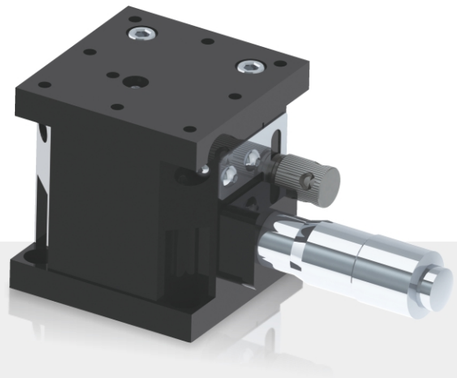
產品編號 / Product No	X-TS150AC	XY-TS150AC	XYZ-TS150AC	Z-TS150AC
移動方向 / Direction Of Movement	X Axis	XY Axis	XYZ Axis	Z Axis
台面尺寸 / Table size (mm)	150 X 150			
移動量 / Mobile Volume (mm)	±12.5			
微調量 / Fine Tuning Volume (μm)	10			
移動精度 / Mobile Accuracy (μm)	5			
平行精度 / Parallel precision(μm)	40			
耐荷重 / Load Resistance (kgf)	10 (98N)	10 (98N)	5 (49N)	5 (49N)
質量 / Mass** (kg)	1.95	2.9	6.5	3.6

外型尺寸 / Dimension

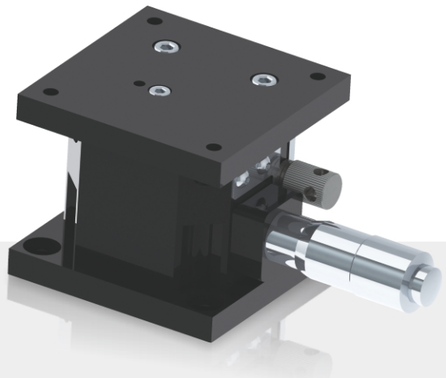




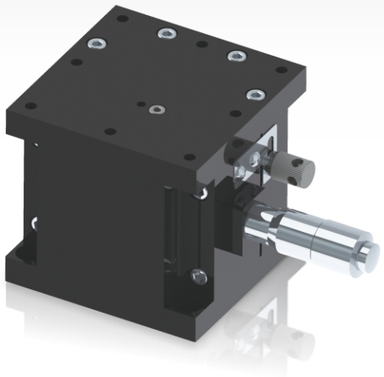
Z-TH040BA



Z-TH050BA



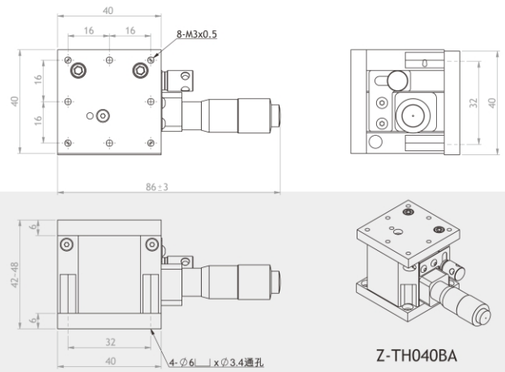
Z-TH060BA



規格型號 / Specifications

產品編號 / Product No	Z-TH040BA	Z-TH050BA	Z-TH060BA
移動方向 / Direction Of Movement		Z Axis	
台面尺寸 / Table size (mm)	40 X 40	50 X 50	60 X 60
移動量 / Mobile Volume (mm)		0~6	
微調量 / Fine Tuning Volume (μm)		10	
移動精度 / Mobile Accuracy (μm)		5	
平行精度 / Parallel precision(μm)		30	
耐荷重 / Load Resistance (kgf)	1 (9.8N)	2 (19.6N)	4 (39.2N)
質量 / Mass** (kg)	0.21	0.24	0.54

外型尺寸 / Dimension



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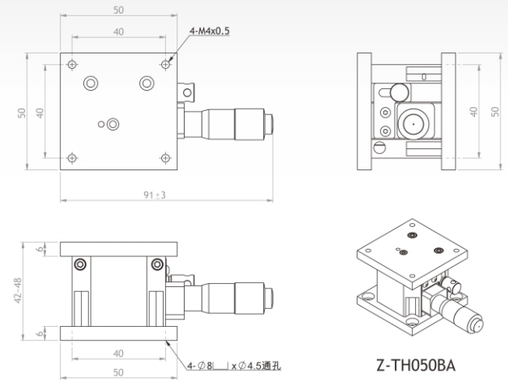

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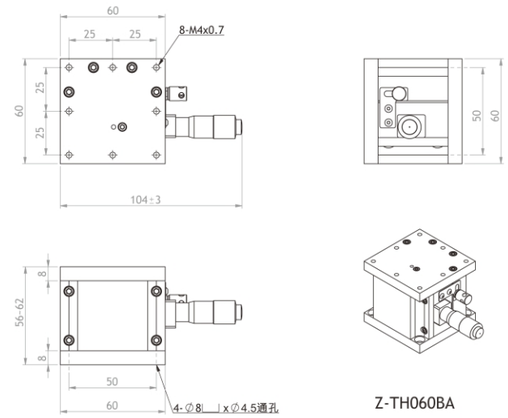
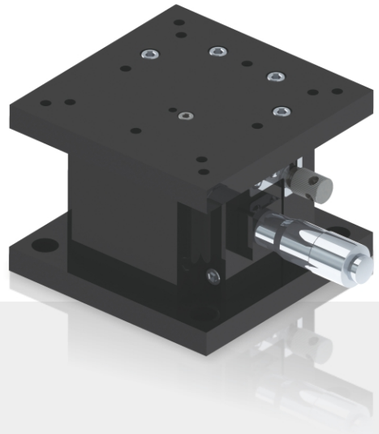
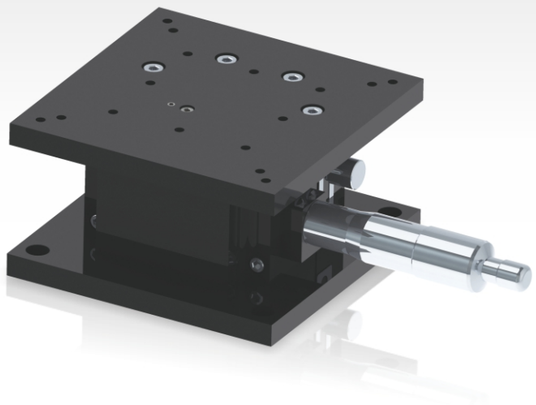


Z-TH060BA

Z-TH075BA



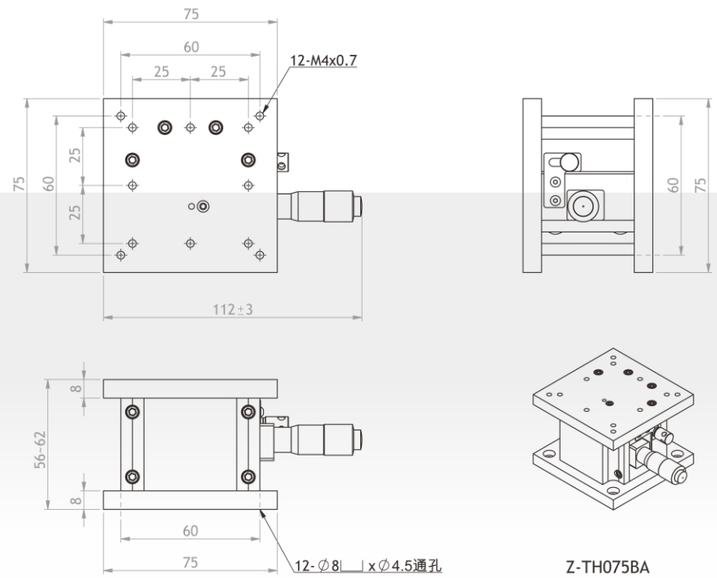
Z-TH100BA



規格型號 / Specifications

產品編號 / Product No	Z-TH075BA	Z-TH100BA
移動方向 / Direction Of Movement	Z Axis	
台面尺寸 / Table size (mm)	75 X 75	100 X 100
移動量 / Mobile Volume (mm)	0~6	0~8
微調量 / Fine Tuning Volume (μm)	10	
移動精度 / Mobile Accuracy (μm)	5	
平行精度 / Parallel precision(μm)	30	40
耐荷重 / Load Resistance (kgf)	5 (49N)	7 (68.6N)
質量 / Mass** (kg)	0.63	1.05

外型尺寸 / Dimension



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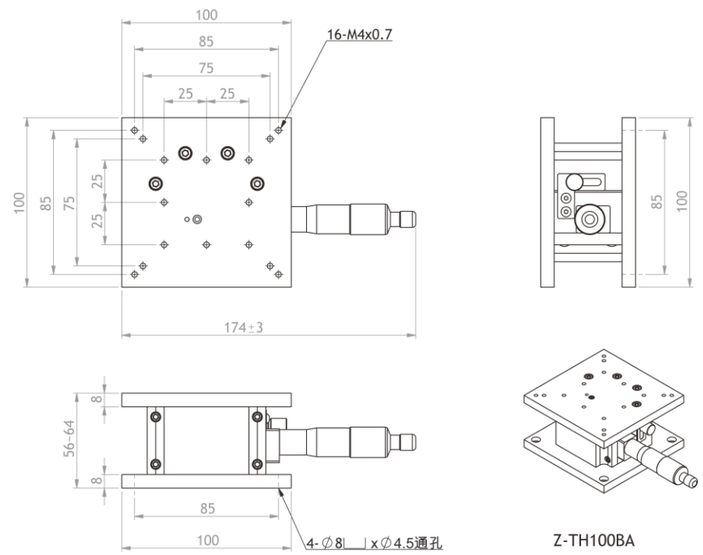
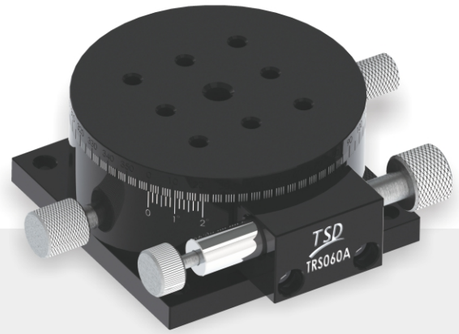
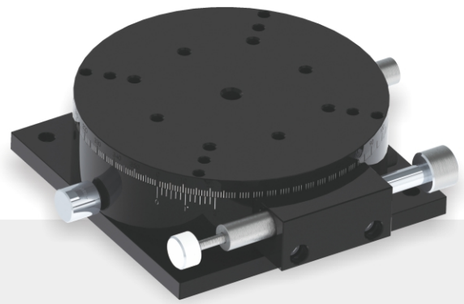


Z-TH100BA

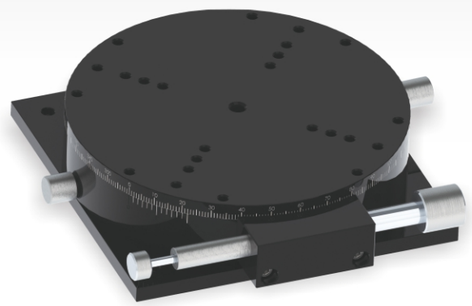
θ-TRS060A



θ-TRS090A



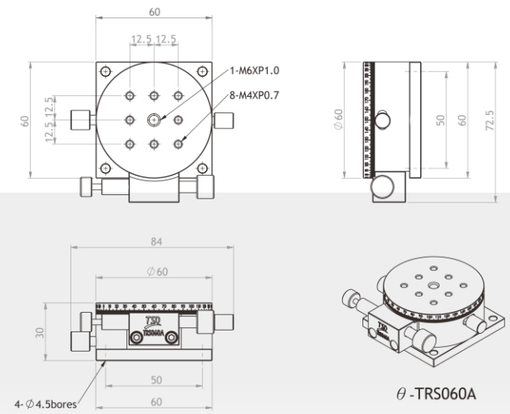
θ-TRS120A



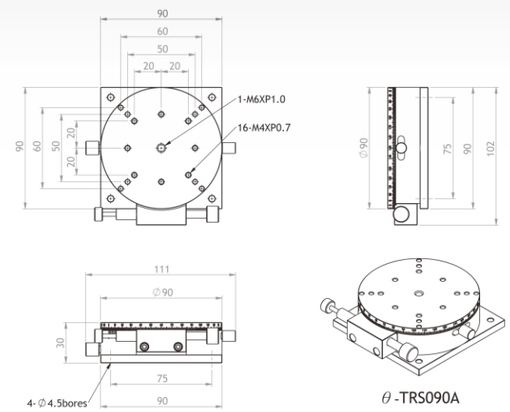
規格型號 / Specifications

產品編號 / Product No	θ-TRS060A	θ-TRS090A	θ-TRS120A
移動方向 / Direction Of Movement		θ Axis	
台面尺寸 / Table size (mm)	ϕ60	ϕ90	ϕ120
移動量 / Mobile Volume (°)	360° / ±5°	360° / ±7.5°	360° / ±7.5°
微調量 / Fine Tuning Volume (')	10'	5'	5'
同心度 / Center Accuracy (μm)		20	
平行精度 / Parallel precision (μm)		30	
耐荷重 / Load Resistance (kgf)	5 (49N)	8 (78.4N)	10 (98N)
質量 / Mass** (kg)	0.3	0.6	1.1

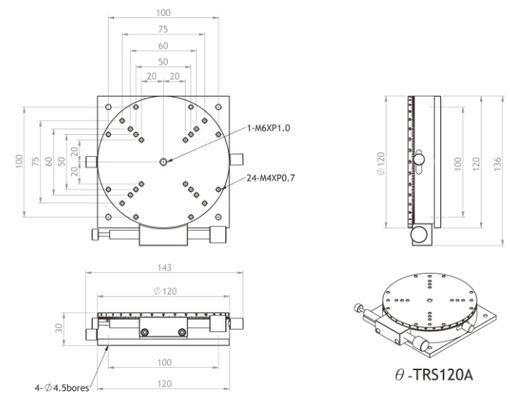
外型尺寸 / Dimension



θ -TRS060A



θ -TRS090A

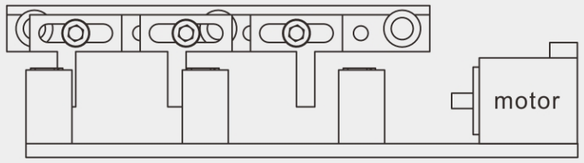


θ -TRS120A

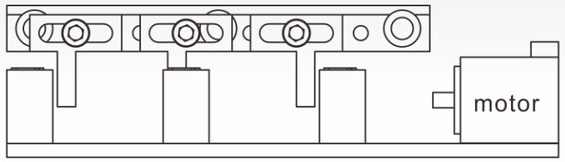
TSD 電動滑台使用說明

感謝使用**TSD**電動滑台，以下解說將能幫助了解如何使用本產品。

關於回原點：請依圖示，可得正確home位置。
※請注意：切勿自行調整極限片的出廠時位置；此舉動將產生行程不足及增加對位平台撞機風險。



（極限片，往馬達方向回home點。）⟶



（**TSD**出廠時，極限片和遮光素子相對位置，已回home點位。）

關於行程：TSD電動滑台行程以home點為中心，往左、右方向展開；如型錄行程為 ±3mm，即為以home點為中心，往左方向行程3mm、往右方向行程3mm之意。

關於旋轉角度：當電控XXY對位平台時，如其3軸皆處於home點位置時，即可得到正確旋轉角度行程；若3軸中其1軸或2軸不在home點位置時實行角度旋轉，將無法獲得正確旋轉角度數值，且易因為機械行程干涉產生死點，使得XXY對位平台卡住，無法作動。

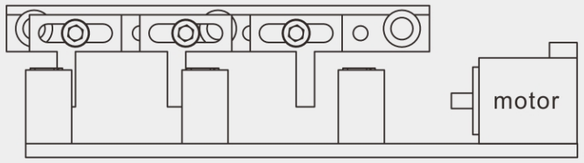
關於精度：TSD電動滑台其精度數值，皆以雷射干涉儀，依照NSK、THK等大廠檢驗準則，以來回7次測定方式所測數值，作為依據。

關於"失步"：當上控系的脈波速率太高時，有可能與步進馬達驅動器無法匹配，造成度對位平台運行"失步"；請參照"馬達轉速與扭矩表"修正設定。

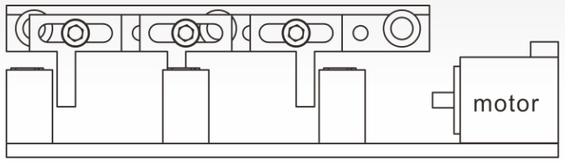
TSD Operation manual of electric stage

Thanks for selecting **TSD** electric stage, it can be helpful to operate this stage with the explanation listed below.

About the home position : please check the home position with graph below.
Notice: it is forbidden to adjust the positon of the plate, it can increase risk of collision because of insufficient stroke.



(Direction of plate movement to motor in home process)⟶



(Stage is at home position before delivery and plate positions before delivery are shown in graph.)

The Stroke : The home position of **TSD** electric stage is at center of stage , stage can move to right or left ; the stroke is ±3mm shown in the catalogue. Namely, the stage can move right 3mm maximum or move left 3mm maximum also.

Rotary Angle : Before make XXY stage rotate, please be sure that 3 motors are at home positions individually. If not, It can lead to stage jammed because mechanical interference.

Precision : All the **TSD** electric stages are checked with Laser Interferometer. Follow check rules by NSK,THK and so on , official data are obtained in check process of back and forth 7 times.

Step missing : while control pulse rate is too high to step motor driver , it is possible that motor movement cannot catch up speed of pulse rate. It can lead to step missing. Please refer to table of motor speed to motor torque to make modification of setting.

備 註

為安全工作，請仔細閱讀以下部份，並保存說明書，以便需要的時後再查看這些要點。

危 險：以下使用錯誤可能導致生命危險或嚴重傷害。

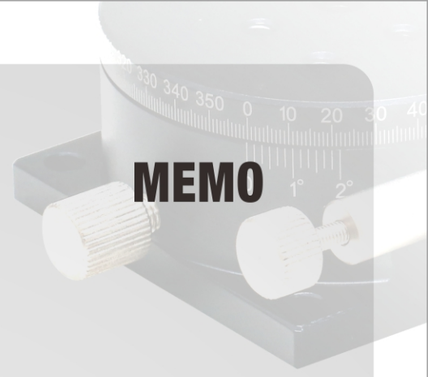
- 為安全工作，禁止碰觸工作中的部件，以避免受到傷害。
- 為防止危險，必須安裝防護裝置。
- 安裝和拆卸時必須切斷電源。
- 緊固螺栓和沉頭螺栓應使用起子、扳手或扭力扳手以適當的力量鎖緊。
- 產品的工作速度不能超過最大速度。

NOTE

For safe, please read the followings carefully, and keep this catalog so that you can review these important points when necessary.

Danger：The following incorrect use me lead to death or serious injury.

- For safe operation, you might be injured if do not touch the products during operation.
- Safety devices must be equipped to prevent danger.
- Electrical power must be off during attachment and removal process.
- Setscrews or cap screws should be properly tightened using a torque driver or torque wrench.
- The product must not be operated at rotational speeds beyond the max rotational frequency.



MEMO