

X Axis Steel Extended Contact Translation Stages

X Axis Steel Extended Contact Translation Stages (Coarse/Fine Resolution)

TSD
TSD-SDM

RoHS

Hardened steel linear translation stages with integrated bearing ways and a black chrome finish. Our “Extended Contact” technology yields superior stability, stiffness, accuracy, and durability.

- Rectangular shape minimizes the footprint while providing longer travel.
- Unique coarse/fine feature uses a 5mm lead screw on one end, enabling fast translation, and a micrometer on the opposite end for fine adjustments.



Attention

- ▶ Micrometer brackets may extend above the top surface of some stages. Check drawings for detailed information.
- ▶ Note that based upon payload size, rated travel could be reduced.

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Others

15 x 15 mm

25 x 25 mm

40 x 40 mm

60 x 60 mm

65 x 65 mm

80 x 80 mm

100 x 100 mm

120 x 120 mm

Others

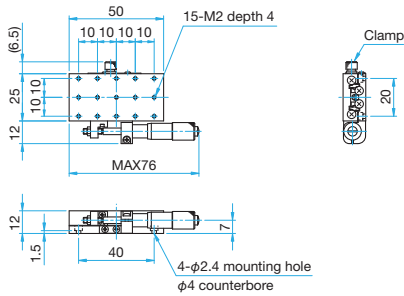
Specifications

Part Number	METRIC	TSD-25501S	TSD-40801S	TSD-60121S	TSD-60161SDM
	INCH	—	TSD-40801SUU	—	—
(Opposite Model)	METRIC	TSD-25501SR	TSD-40801SR	TSD-60121SR	—
Stage Size [mm]		25x50	40x80	60x120	60x160
Axes of Travel		X axis			
Micrometer Position		Side	Side	Side	Side
Travel [mm]		±6.5	±12.5	±20	Coars: ±35 Fine: ±3
Lead of Actuator [mm/rotation]		0.5	0.5	0.5	Coars: 5 Fine: 0.5
Micrometer Readable Resolution [mm]		0.01	0.01	0.01	Coars: — Fine: 0.01
Guide Method		Extended contact ball bearing guide			
Primary Material		Steel			
Finish		Super black chrome			
Load Capacity [N]		49 (5.0kgf)	196 (20.0kgf)	392 (40.0kgf)	490 (50.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1	1
	Pitch [″]	30	30	25	25
	Yaw [″]	25	30	15	15
Max. Moment Capacity	Pitch [N·m]	3.9	7.9	19.6	29.4
	Roll [N·m]	2.5	3.9	9.8	9.8
	Yaw [N·m]	2.0	4.9	9.8	14.7
Moment Stiffness	Pitch [°/N·cm]	1.2	0.2	0.1	0.07
	Roll [°/N·cm]	1.6	0.3	0.2	0.2
	Yaw [°/N·cm]	1.2	0.2	0.1	0.09
Parallelism [μm]		30	30	50	50
Running Parallelism [μm]		10	10	12	15
Weight [kg]		0.1	0.4	1.0	1.3

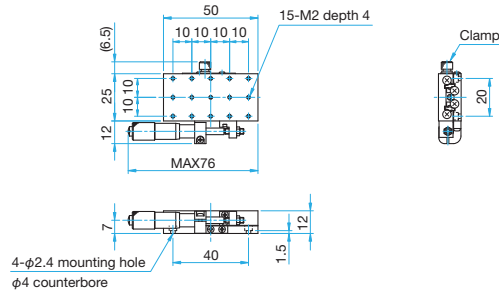


Outline Drawing

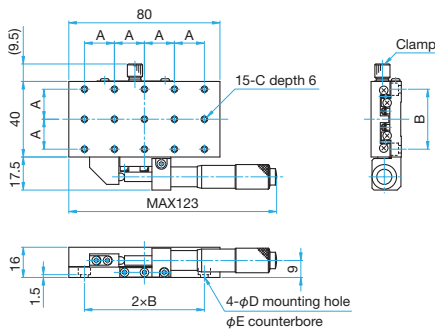
TSD-25501S Hexagonal socket head cap screw M2x4...4 screws



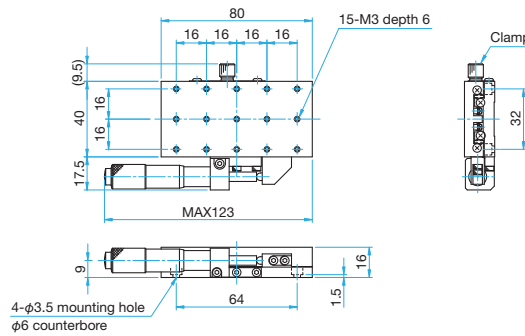
TSD-25501SR Hexagonal socket head cap screw M2x4...4 screws



TSD-40801S/40801SUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers

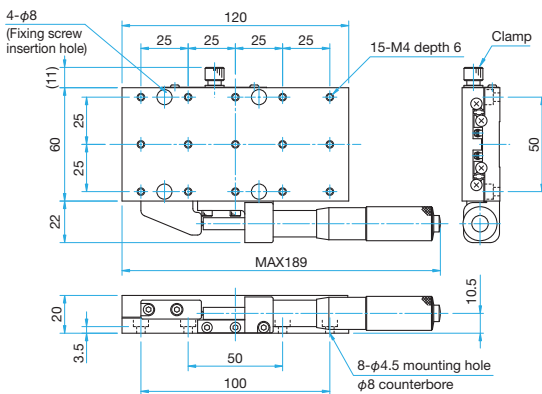


TSD-40801SR Hexagonal socket head cap screw M3x6...4 screws, Spring washers

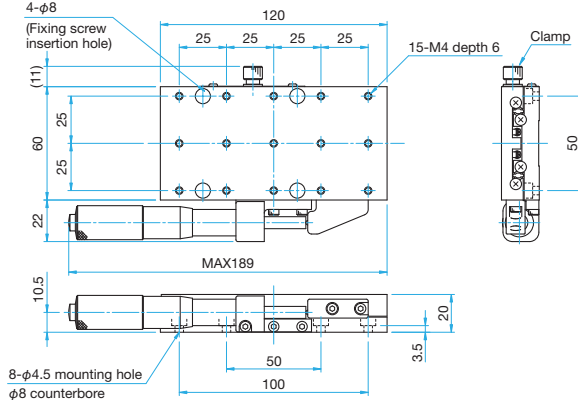


Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-40801S	16	32	M3	3.5	6
TSD-40801SUU	15.875	31.75	6-32UNC	4	6.5

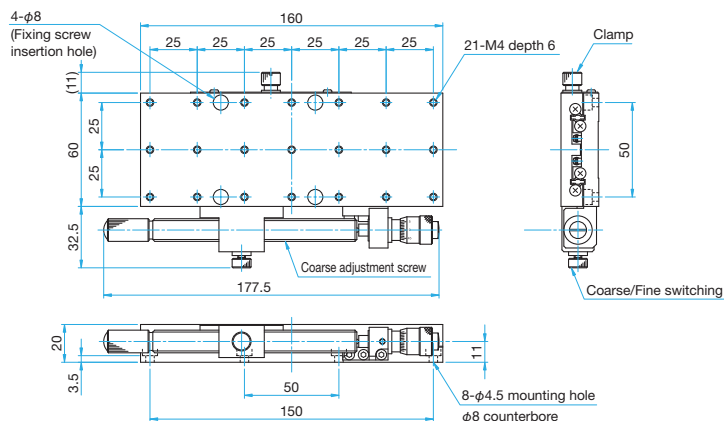
TSD-60121S Hexagonal socket head cap screw M4x8...4 screws



TSD-60121SR Hexagonal socket head cap screw M4x8...4 screws



TSD-60161SDM Hexagonal socket head cap screw M4x8...4 screws



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15 x 15 mm

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40 x 40 mm

60 x 60 mm

65 x 65 mm

80 x 80 mm

100 x 100 mm

120 x 120 mm

Others

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-651-M6/UU

RoHS

TSD-652-M6/UU

Hardened steel linear translation stages with integrated bearing ways and a black chrome finish. Our “Extended Contact” technology yields superior stability, stiffness, accuracy, and durability. These XY stages are integrated and therefore have a lower profile vs. (2) single axis stages combined.

- Bottom counter bore clearance holes are sized and spaced to accept both M6 or 1/4 size screws for mounting these stages down to a table.
- Both M6 or 1/4-20 inch tapped hole versions available.
- Both left and right hand adjustment versions available.
- Multiple actuator options available. Standard micrometer, sub-micron micrometer, fine pitch screw.
- All stages are equipped with a robust knurled head locking screw.



Attention

- Micrometer brackets may extend above the top surface of some stages. Check drawings for detailed information.

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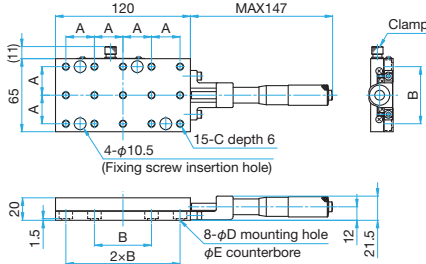
Specifications

Part Number	METRIC	TSD-65121C-M6	TSD-65121S-M6	TSD-65171S-M6	TSD-65122C-M6	TSD-65122S-M6	TSD-65172S-M6
	INCH	TSD-65121CUU	TSD-65121SUU	TSD-65171SUU	TSD-65122CUU	TSD-65122SUU	TSD-65172SUU
Stage Size [mm]		65x120	65x120	65x170	65x120	65x120	65x170
Axes of Travel		X axis			XY axis		
Micrometer Position		Center	Side	Side	Center	Side	Side
Travel [mm]		±20	±20	±25	±20	±20	±25
Lead of Actuator [mm/rotation]		0.5	0.5	0.5	0.5	0.5	0.5
Micrometer Readable Resolution [mm]		0.01	0.01	0.01	0.01	0.01	0.01
Guide Method		Extended contact ball bearing guide					
Primary Material		Steel					
Finish		Super black chrome					
Load Capacity [N]		392 (40kgf)	392 (40kgf)	490 (50kgf)	392 (40kgf)	392 (40kgf)	490 (50kgf)
Travel Accuracy	Straightness [µm]	3	3	5	3	3	5
	Pitch ["]	25	25	25	25	25	25
	Yaw ["]	15	15	15	15	15	15
Max. Moment Capacity	Pitch [N·m]	19.6	19.6	29.4	9.8	9.8	9.8
	Roll [N·m]	9.8	9.8	9.8	9.8	9.8	9.8
	Yaw [N·m]	9.8	9.8	14.7	9.8	9.8	10
Moment Stiffness	Pitch ["/N·cm]	0.1	0.1	0.07	0.3	0.3	0.27
	Roll ["/N·cm]	0.2	0.2	0.2	0.3	0.3	0.27
	Yaw ["/N·cm]	0.2	0.2	0.2	0.3	0.3	0.27
Parallelism [µm]		50	50	50	100	100	100
Running Parallelism [µm]		12	12	15	25	25	30
Weight [kg]		1.0	1.0	1.7	2.4	2.4	3.4



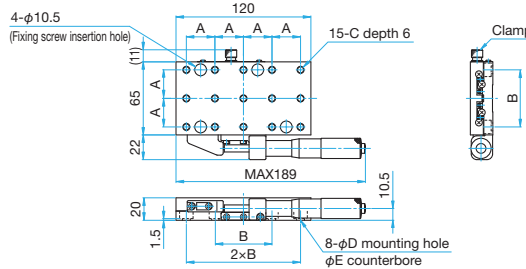
Outline Drawing

TSD-65121C-M6/65121CUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



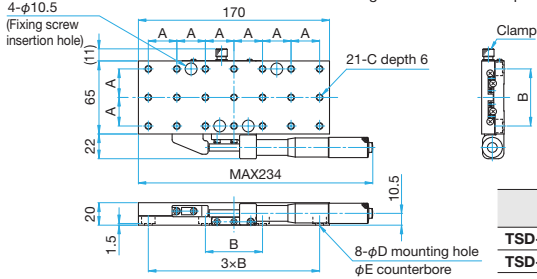
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65121C-M6	25	50	M6 P1	6.5	11
TSD-65121CUU	25.4	50.8	1/4-20UNC	7	12

TSD-65121S-M6/65121SUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



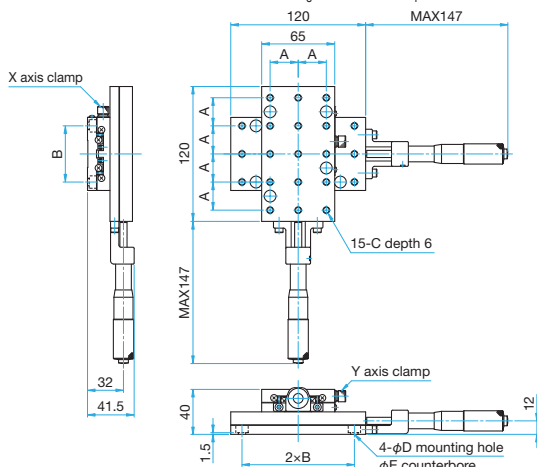
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65121S-M6	25	50	M6 P1	6.5	11
TSD-65121SUU	25.4	50.8	1/4-20UNC	7	12

TSD-65171S-M6/65171SUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



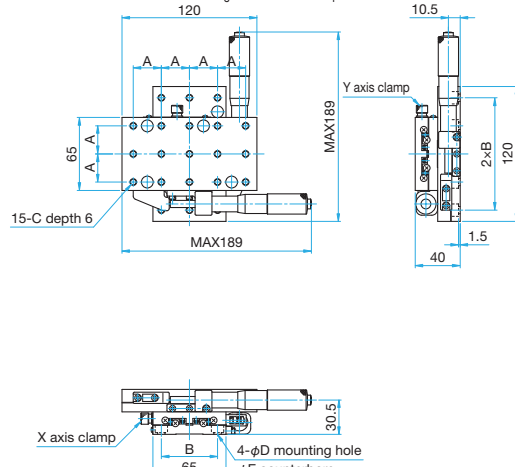
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65171S-M6	25	50	M6 P1	6.5	11
TSD-65171SUU	25.4	50.8	1/4-20UNC	7	12

TSD-65122C-M6/65122CUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



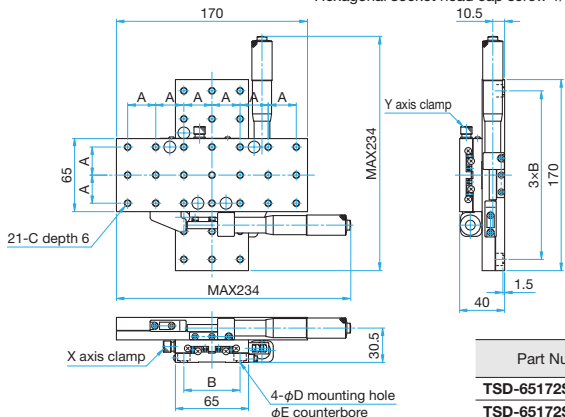
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65122C-M6	25	50	M6 P1	6.5	11
TSD-65122CUU	25.4	50.8	1/4-20UNC	7	12

TSD-65122S-M6/65122SUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65122S-M6	25	50	M6 P1	6.5	11
TSD-65122SUU	25.4	50.8	1/4-20UNC	7	12

TSD-65172S-M6/65172SUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65172S-M6	25	50	M6 P1	6.5	11
TSD-65172SUU	25.4	50.8	1/4-20UNC	7	12

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