

Z Axis Steel Extended Contact Translation Stages - Footprints

Z Axis Steel Extended Contact Translation Stages (Inverted)

TSD-3 Stage Size 25 × 25 mm / 40 × 40 mm / 60 × 60 mm / 65 × 65 mm

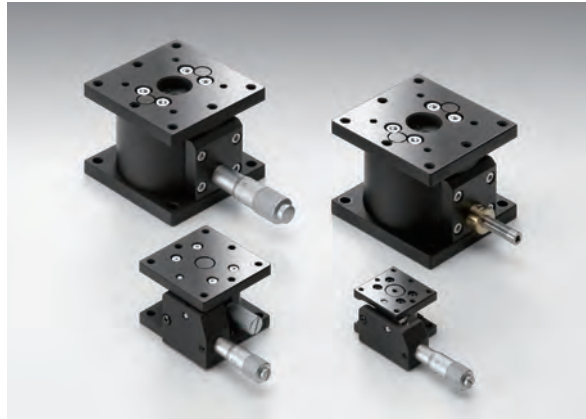
TSD-UD Stage Size 60 × 60 mm / 65 × 65 mm

RoHS

Horizontal (Flat) Z axis steel translation stages. In-line micrometer utilizes an internal pivot mechanism to enable vertical translation.

High stiffness due to steel extended contact bearing ways. Black chrome finish.

- The TSD-UD translation stages are intended for inverted use. As a result, the stage is operating under tension vs. compression.



Guide

- Vacuum-compatible stainless steel stages (TSDS) are also available.
Reference E210 **Catalog Code** W7043

Attention

- This translation stage type is not suitable for inverted use. In this condition, all load would be pulling against the spring.
- Regarding 25 × 25mm and 40 × 40mm size stages, please do not apply heavy load toward the rotating ('yawing') direction, as it may damage the stage.
- These stages use a pivot mechanism to transfer horizontal motion to vertical motion. This mechanism induces a small non-linearity between the distance the micrometer moves and the distance the stage platform moves. Contact our Sales Division for more information.

Specifications

Part Number	METRIC	TSD-253	TSD-403	TSD-603	TSD-653-M6	TSD-603UD	TSD-653UD-M6
	INCH	—	TSD-403UU	—	TSD-653UU	—	TSD-653UDUU
Stage Size [mm]		25×25	40×40	60×60	65×65	60×60	65×65
Axes of Travel		Z axis					
Travel [mm]		±3	±3	±5	±5	+5, -0	+5, -0
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				Steel (Upper and lower plate: Aluminum)	
Finish		Black matte				Black matte / Black anodized	
Load Capacity [N]		29.4 (3.0kgf)	88.3 (9.0kgf)	147 (15.0kgf)	147 (15.0kgf)	98 (10.0kgf)	98 (10.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	1.0	3.9	6.9	6.9	6.9	6.9
	Roll [N·m]	1.0	3.9	6.9	6.9	6.9	6.9
Moment Stiffness	Pitch [°/N·cm]	5.0	1.2	0.41	0.41	0.41	0.41
	Roll [°/N·cm]	5.0	1.2	0.41	0.41	0.41	0.41
Parallelism [μm]		80	80	80	80	80	80
Running Parallelism [μm]		15	20	20	20	20	20
Options		FP ¹	FP ¹	FP ² /DM/WP	FP ² /DM/WP	—	—
Weight [kg]		0.1	0.25	1.0	1.1	1.0	1.1

Option

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	FPSA-42525¹ FPSA-62540²	0.25	—	E008
DM	Differential Micrometer Heads	MHF2-13F	Coars: 0.5 Fine: 0.025	Coars: 0.01 Fine: 0.0005	
WP	Sub-micron Worm Drive Micrometer Heads	WGP-13	Coars: 0.25 Fine: 0.005	Coars: 0.005 Fine: 0.0005	

* Please add an option code as the part number suffix to specify various optional specifications.

* The load capacity of the FP type is 39.2N (4.0kgf).

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Crossed Roller

Dovetail

Lapping

V Groove Screw

Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

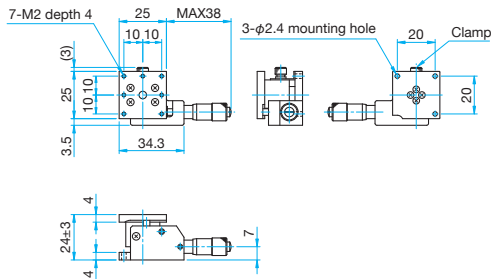
100 × 100 mm

120 × 120 mm

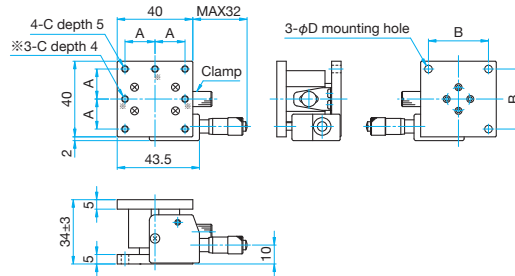
Others



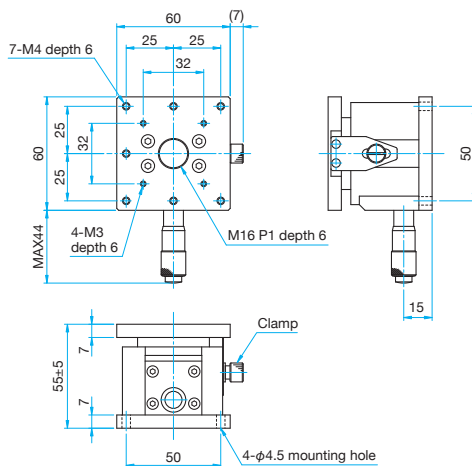
Outline Drawing

TSD-253 Hexagonal socket head cap screw M2×6...3screws**TSD-403/403UU**

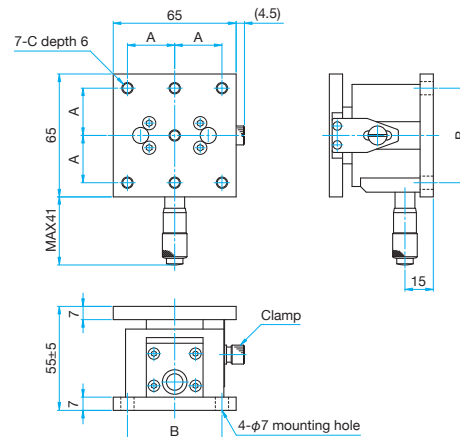
Hexagonal socket head cap screw M3×8...3screws
Hexagonal socket head cap screw 6-32UNC×5/16...3screws (UU)



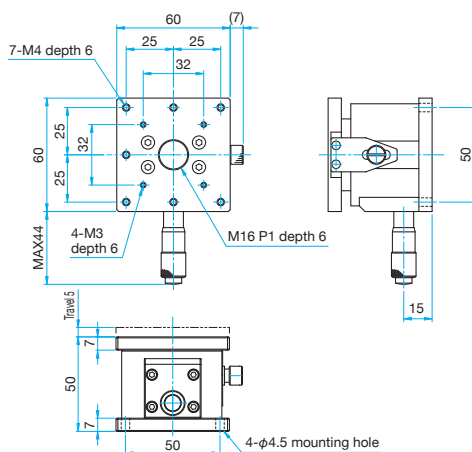
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-403	16	32	M3	3.5
TSD-403UU	15.875	31.75	6-32UNC	4

TSD-603 Hexagonal socket head cap screw M4×12...4 screws**TSD-653-M6/653UU**

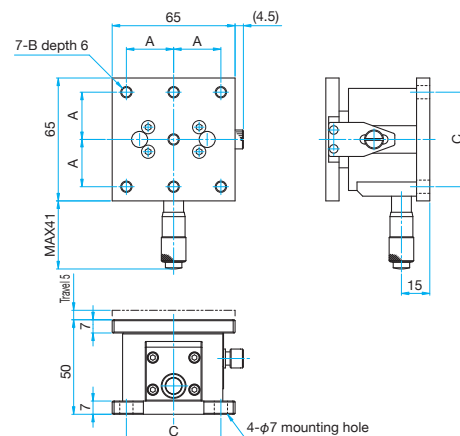
Hexagonal socket head cap screw M6×12...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws (UU)



Part Number	A (mm)	B (mm)	C
TSD-653-M6	25	50	M6 P1
TSD-653UU	25.4	50.8	1/4-20UNC

TSD-603UD Hexagonal socket head cap screw M4×12...4 screws**TSD-653UD-M6/653UDUU**

Hexagonal socket head cap screw M6×12...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws (UU)



Part Number	A (mm)	B	C (mm)
TSD-653UD-M6	25	50	M6 P1
TSD-653UDUU	25.4	50.8	1/4-20UNC

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