

# Z Axis General-Purpose Stainless Steel Translation Stages (Vertical Mounting)

Stage Size 25 × 25 mm / 40 × 40 mm / 60 × 60 mm

TSDH-SZ

RoHS

Catalog Code W7153

High precision crossed-roller linear translation stages with black anodized aluminum bodies.

- Stage body consists of stainless steel (440C). To prevent rusting, the finish has been processed with electroless nickel plating.



### Guide

- ▶ Also available with a super black chrome cap surface finish. Please contact sales for more information.

### Attention

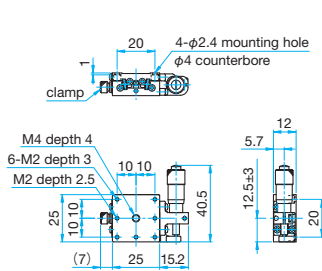
- ▶ Micrometer brackets may extend above the top surface of some stages. Check drawings for more information.
- ▶ Note that some samples might not be able to be fixed on the stage depending on their shapes, or required travel might not be ensured.



### Outline Drawing

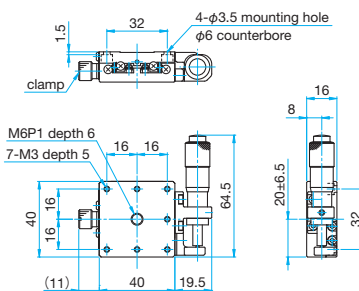
#### TSDH-251SZ

- Hexagonal socket head cap screw (stainless steel construction) M2×4...4 screws



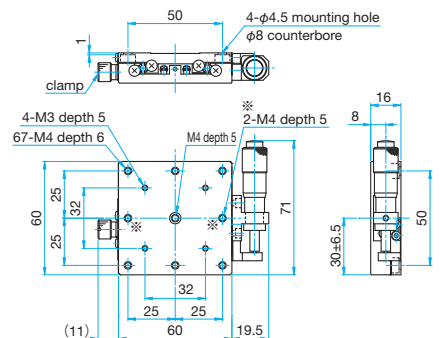
#### TSDH-401SZ

- Hexagonal socket head cap screw (stainless steel construction) M3×6...4 screws, Spring washers



#### TSDH-601SZ

- Hexagonal socket head cap screw (stainless steel construction) M4×6...4 screws



### Specifications

Part Number	METRIC	TSDH-251SZ	TSDH-401SZ	TSDH-601SZ
Stage Size [mm]		25×25	40×40	60×60
Axes of Travel			Z axis	
Micrometer Position			Side	
Travel [mm]		±3	±6.5	±6.5
Lead of Actuator [mm/rotation]		0.5	0.5	0.5
Micrometer Readable Resolution [mm]		0.01	0.01	0.01
Guide Method		Extended contact ball bearing guide		
Primary Material		SUS440C quench hardened		
Finish		Electroless nickel		
Load Capacity [N]		14.7N (1.5kgf)	24.5N (2.5kgf)	29.4N (3.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1
Max. Moment Capacity	Pitch [N·m]	1.7	4	6.4
	Roll [N·m]	1.8	4	6.4
Moment Stiffness	Pitch [°/N·cm]	1.9	0.4	0.25
Running Parallelism [μm]		20	20	20
Options		FP <sup>1</sup>	FP <sup>2</sup>	FP <sup>2</sup>
Weight [kg]		0.07	0.2	0.45

### 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-42525 <sup>1</sup> FPSA-62540 <sup>2</sup>	0.25	—	E008

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

Application Systems

Optics &amp; Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators &amp; Adjusters

Motorized Stages

Light Sources &amp; Laser Safety

Index

Guide

X Axis Stages

XY Axis Stages

Z Axis Stages

XZ Axis Stages

XYZ Axis Stages

Rotation Stages

Goniometer

Tilt Stages

Vacuum

Ball Bearing Guide

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

# Z Axis General-Purpose Stainless Steel Translation Stages

Stage Size 25 × 25 mm / 40 × 40 mm / 60 × 60 mm

TSDH-L

RoHS

Catalog Code W7131

## High precision crossed-roller linear translation stages with black anodized aluminum bodies.

- Stage body consists of stainless steel (440C). To prevent rusting, the finish has been processed with electroless nickel plating.



### Guide

- ▶ Also available with a super black chrome surface finish. Please contact sales for more information.

### Attention

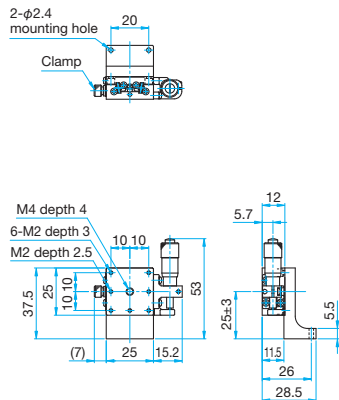
- ▶ Micrometer brackets may extend above the top surface of some stages. Check drawings for more information.
- ▶ Note that some samples might not be able to be fixed on the stage depending on their shapes, or required travel might not be ensured.



## Outline Drawing

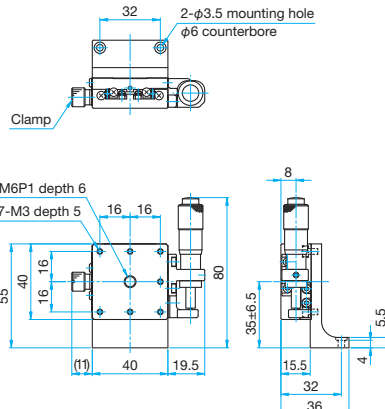
### TSDH-253L

- Hexagon socket head cap screw (stainless steel construction) M2×8...2 screws



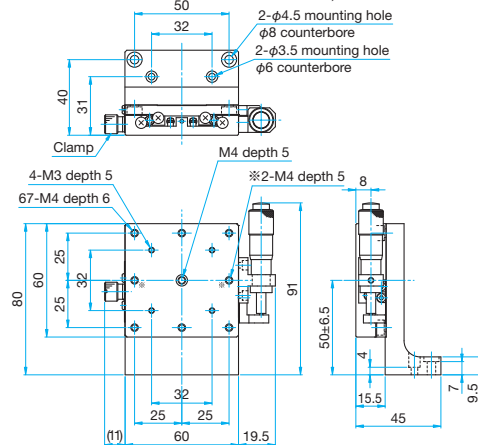
### TSDH-403L

- Hexagon socket head cap screw (stainless steel construction) M3×8...2 screws



### TSDH-603L

- Hexagon socket head cap screw (stainless steel construction) M3×8...2 screws, M4×12...2 screws



## Specifications

Part Number	METRIC	TSDH-253L	TSDH-403L	TSDH-603L
Stage Size [mm]		25×25	40×40	60×60
Axes of Travel			Z axis	
Travel [mm]		±3	±6.5	±6.5
Lead of Actuator [mm/rotation]		0.5	0.5	0.5
Micrometer Readable Resolution [mm]		0.01	0.01	0.01
Guide Method		Extended contact ball bearing guide		
Primary Material		SUS440C quench hardened		
Finish		Electroless nickel		
Load Capacity [N]		9.8 (1.0kgf)	19.6 (2.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1
	Pitch [ ′ ]	30	30	25
	Yaw [ ′ ]	25	25	15
Max. Moment Capacity	Pitch [N·m]	0.7	1.0	1.0
	Roll [N·m]	0.5	1.0	1.0
	Yaw [N·m]	0.4	1.0	1.0
Moment Stiffness	Pitch [ ′/N·cm]	4.7	0.9	0.6
	Roll [ ′/N·cm]	3.2	0.8	0.6
	Yaw [ ′/N·cm]	3.0	0.6	0.4
Running Parallelism [μm]		20	20	20
Squareness [μm]		30	30	30
Options		FP <sup>1</sup>	FP <sup>2</sup>	FP <sup>2</sup>
Weight [kg]		0.1	0.25	0.65

## Option

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference ▶
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	FP <sup>1</sup> FPSA-42525 <sup>1</sup> FP <sup>2</sup> FPSA-62540 <sup>2</sup>	0.25	—	E008

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

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Optics & Optical Coatings

Opto-Mechanics

Bases

Manual Stages

Actuators & Adjusters

MotORIZED Stages

Light Sources & Laser Safety

Index

Guide

X Axis Stages

XY Axis Stages

Z Axis Stages

XZ Axis Stages

XYZ Axis Stages

Rotation Stages

Goniometer

Tilt Stages

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Crossed Roller

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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