

# Z Axis Stainless Steel Extended Contact Translation Stages

Stage Size 25 × 25 mm / 40 × 40 mm / 60 × 60 mm / 65 × 65 mm

TSDS-3

RoHS

Catalog Code

W7043

**Stainless Steel Linear Stages** suitable for hard vacuum and clean room applications. Made entirely of stainless steel, they yield excellent corrosion resistance. The stage bearingways and the stainless steel micrometer heads are lubricated with a high grade vacuum grease (YVAC2).



### Guide

- ▶ The TSDS series stages are suitable for use in clean rooms or vacuum applications.
- ▶ **Reference** ▶ Vacuum measurement data E205
- ▶ Also ideal for use in airtight spaces that have to avoid outgassing.

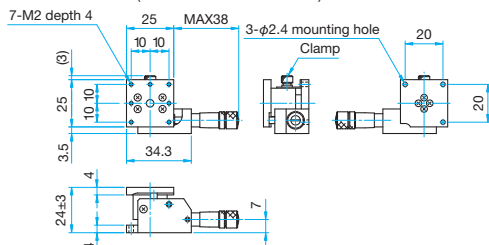
### Attention

- ▶ This translation stage type is not suitable for inverted use. In this condition, all load would be pulling against the spring.
- ▶ 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.
- ▶ 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.

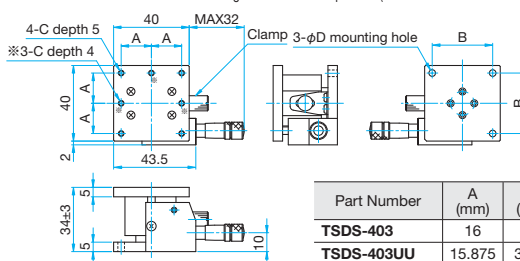


### Outline Drawing

**TSDS-253** Hexagon socket head cap screw (stainless steel construction) M2×6...3 screws

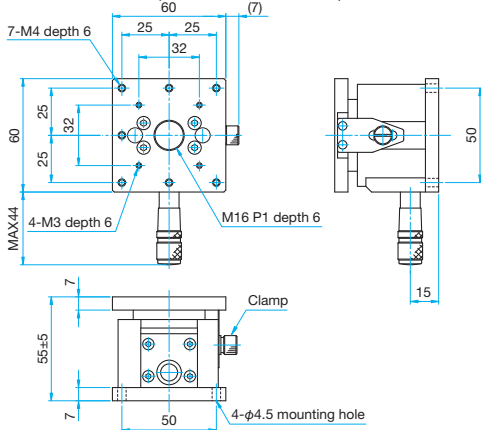


**TSDS-403/403UU** Hexagon socket head cap screw (stainless steel construction) M3×8...3 screws  
Hexagon socket head cap screw (stainless steel construction) 6-32UNC×3/8...3 screws (UU)

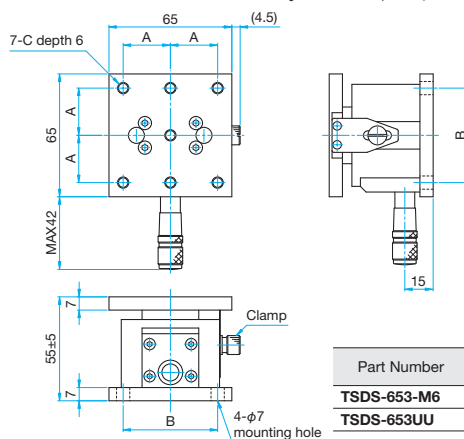


Part Number	A (mm)	B (mm)	C	D (mm)
TSDS-403	16	32	M3	3.5
TSDS-403UU	15.875	31.75	6-32UNC	4

**TSDS-603** Hexagon socket head cap screw (stainless steel construction) M4×12...4 screws



**TSDS-653-M6/653UU** Hexagon socket head cap screw (stainless steel construction) M6×12...3 screws (M6)  
Hexagon socket head cap screw (stainless steel construction) 1/4-20UNC×1/2...4 screws (UU)



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

### Specifications

Part Number	METRIC	TSDS-253	TSDS-403	TSDS-603	TSDS-653-M6
	INCH	—	TSDS-403UU	—	TSDS-653UU
Stage Size [mm]		25×25	40×40	60×60	65×65
Axes of Travel		Z axis			
Travel [mm]		±3	±3	±5	±5
Lead of Actuator [mm/rotation]		0.5	0.5	0.5	0.5
Micrometer Readable Resolution [mm]		0.01	0.01	0.01	0.01
Guide Method		Extended contact ball bearing guide			
Primary Material		Stainless steel			
Finish		None			
Load Capacity [N]		29.4 (3.0kgf)	88.3 (9.0kgf)	147 (15.0kgf)	147 (15.0kgf)
Travel Accuracy	Straightness [μm]	5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	1	3.9	6.9	6.9
	Roll [N·m]	1	3.9	6.9	6.9
Moment Stiffness	Pitch ["/N·cm]	7.14	1.84	0.51	0.51
	Roll ["/N·cm]	7.15	1.84	0.51	0.51
Parallelism [μm]		80	80	80	80
Running Parallelism [μm]		15	20	25	25
Weight [kg]		0.1	0.25	1.0	1.1

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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