

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-401

Stage Size 40 × 40 mm

TSD-402

RoHS

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XYZ Axis Stages

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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

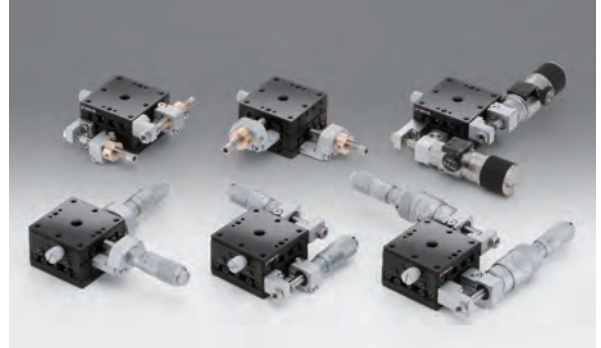
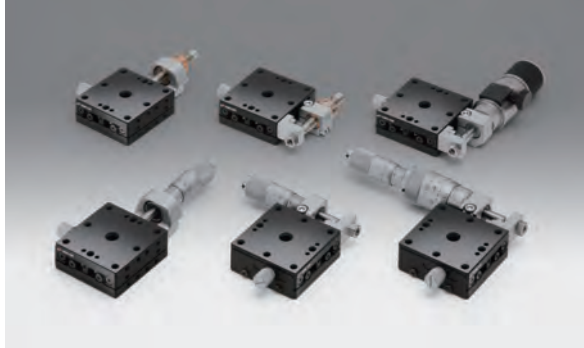
100 × 100 mm

120 × 120 mm

Others

Hardened steel linear 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.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-401/402) are also available.

TSDS-401 [Reference](#) E206 [Catalog Code](#) W7005

TSDS-402 [Reference](#) E208 [Catalog Code](#) W7031

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.

Specifications

Part Number	METRIC	TSD-401C	TSD-401S	TSD-402C	TSD-402S
	INCH	TSD-401CUU	TSD-401SUU	TSD-402CUU	TSD-402SUU
(Opposite Model)	METRIC	—	TSD-401SR	—	TSD-402SR
	INCH	—	TSD-401SRUU	—	TSD-402SRUU
Stage Size [mm]		40×40	40×40	40×40	40×40
Axes of Travel		X axis		XY axis	
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±6.5	±6.5	±6.5	±6.5
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		Steel			
Finish		Super black chrome			
Load Capacity [N]		196 (20kgf)	196 (20kgf)	196 (20kgf)	196 (20kgf)
Travel Accuracy	Straightness [μm]	0.5	0.5	0.5	0.5
	Pitch [″]	25	25	25	25
	Yaw [″]	15	15	15	15
Max. Moment Capacity	Pitch [N·m]	7.8	7.8	7.8	7.8
	Roll [N·m]	7.8	7.8	7.8	7.8
	Yaw [N·m]	5.0	5.0	5.0	5.0
Moment Stiffness	Pitch [°/N·cm]	0.3	0.3	0.5	0.5
	Roll [°/N·cm]	0.2	0.2	0.5	0.5
	Yaw [°/N·cm]	0.23	0.23	0.46	0.46
Parallelism [μm]		15	15	30	30
Running Parallelism [μm]		7	7	12	12
Orthogonality [μm]		—	—	10	10
Options		FP/DM/WP/DL	FP/DM/WP/DL	FP/DM/WP/DL	FP/DM/WP
Weight [kg]		0.2	0.2	0.3	0.3

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-62540	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	
DL	Differential Micrometer Heads	MDC-13	0.5	0.01	

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

* Installation may not be possible depending on the direction of DL.

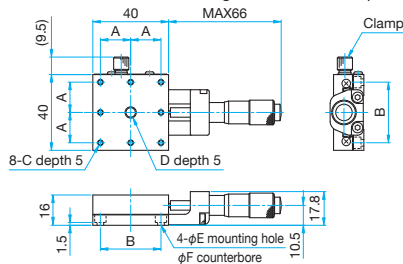
* C type is replacement work requires a special tool (MNS). [Reference](#) F006 [Catalog Code](#) W8004



Outline Drawing

TSD-401C/401CUU Hexagonal socket head cap screw M3×6...4 screws, Spring washers

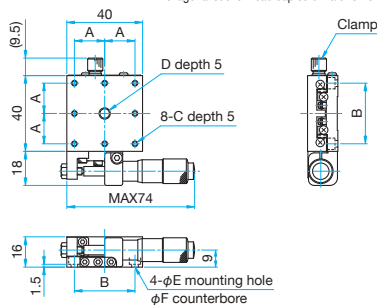
Hexagonal socket head cap screw 6/32UNC×3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-401C	16	32	M3	M6 P1	3.5	6
TSD-401CUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-401S/401SUU Hexagonal socket head cap screw M3×6...4 screws, Spring washers

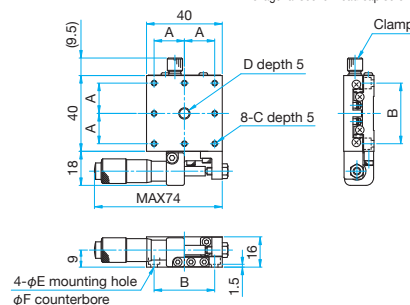
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TSD-401SR/401SRUU Hexagonal socket head cap screw M3×6...4 screws, Spring washers

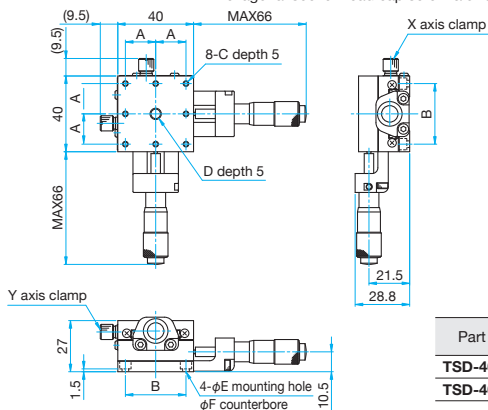
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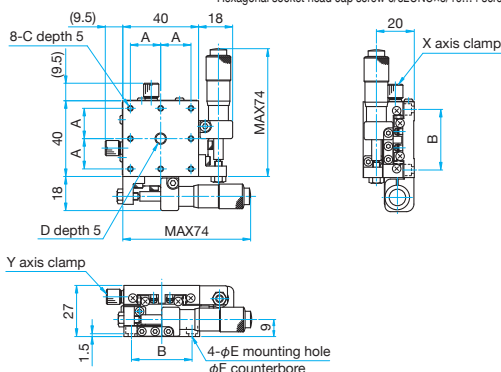
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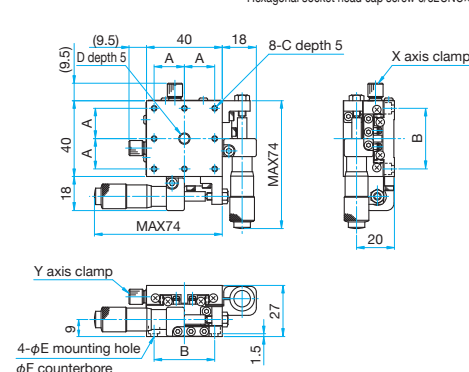
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