

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-251

Stage Size 25 x 25 mm

RoHS

TSD-252

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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

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-251/252) are also available.

TSDS-251 [Reference](#) E206 [Catalog Code](#) W7005

TSDS-252 [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-251C	TSD-251S	TSD-252C	TSD-252S
(Opposite Model)	METRIC	—	TSD-251SR	—	TSD-252SR
Stage Size [mm]		25x25	25x25	25x25	25x25
Axes of Travel		X axis		XY axis	
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±3	±3	±3	±3
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]		49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	0.5	0.5	0.5	0.5
	Pitch ["]	30	30	30	30
	Yaw ["]	25	25	25	25
Max. Moment Capacity	Pitch [N·m]	3.0	3.0	3.0	3.0
	Roll [N·m]	3.7	3.7	3.0	3.0
	Yaw [N·m]	3.5	3.5	3.5	3.5
Moment Stiffness	Pitch ["/N·cm]	1.8	1.8	3.0	3.0
	Roll ["/N·cm]	1.1	1.1	2.2	2.2
	Yaw ["/N·cm]	1.1	1.1	2.2	2.2
Parallelism [μm]		30	30	30	30
Running Parallelism [μm]		7	7	10	10
Orthogonality [μm]		—	—	10	10
Options		FP/DL	FP/DL	FP/DL	FP
Weight [kg]		0.07	0.07	0.1	0.1

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-42525	0.25	—	E008
DL	Differential Micrometer Heads	MDC-6.5	0.5	0.01	

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

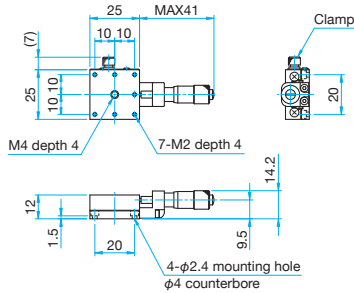
* Installation may not be possible depending on the direction of DL.

* The suffix “-C” type uses adhesive for fixing the micrometer. Please contact our International Sales Division for more information on replacement.

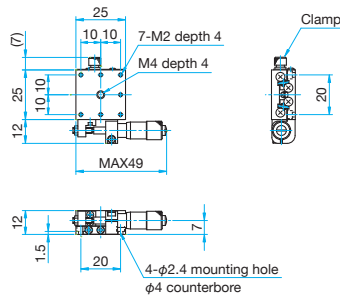


Outline Drawing

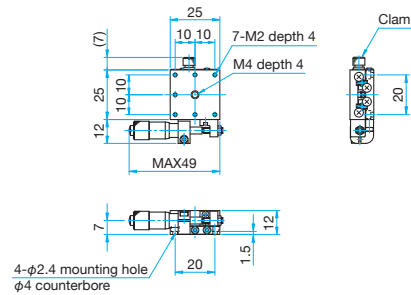
TSD-251C Hexagonal socket head cap screw M2x4...4 screws



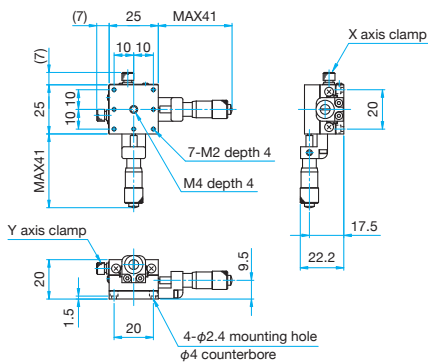
TSD-251S Hexagonal socket head cap screw M2x4...4 screws



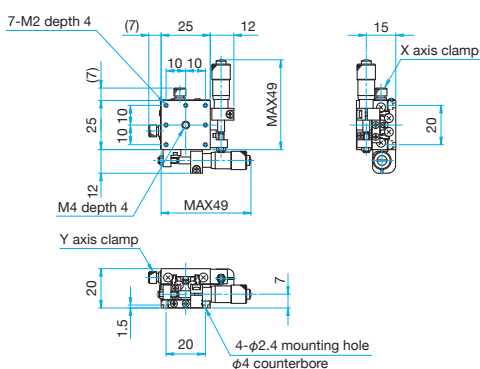
TSD-251SR Hexagonal socket head cap screw M2x4...4 screws



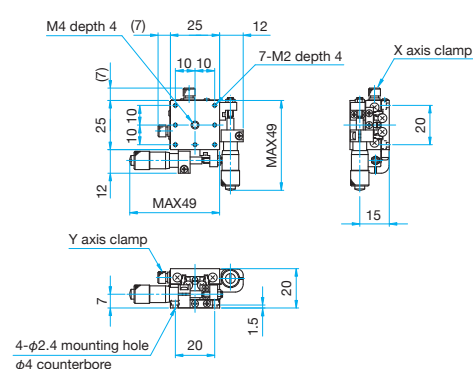
TSD-252C Hexagonal socket head cap screw M2x4...4 screws



TSD-252S Hexagonal socket head cap screw M2x4...4 screws



TSD-252SR Hexagonal socket head cap screw M2x4...4 screws



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Dovetail

Lapping

V Groove Screw

Ohters

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

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-401

Stage Size 40 x 40 mm

RoHS

TSD-402

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65 x 65 mm

80 x 80 mm

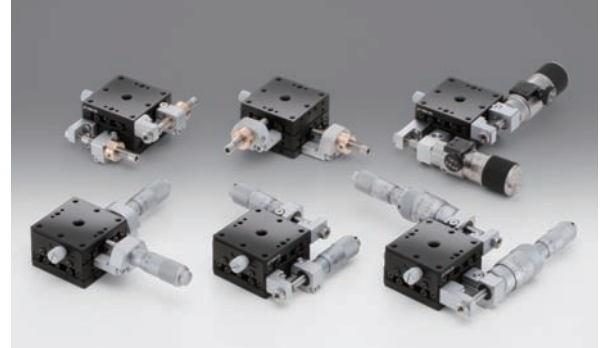
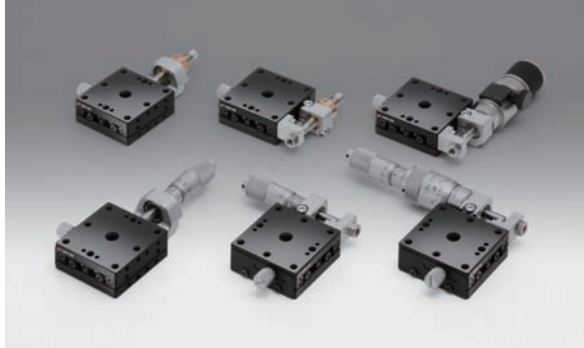
100 x 100 mm

120 x 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]		40x40	40x40	40x40	40x40
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.

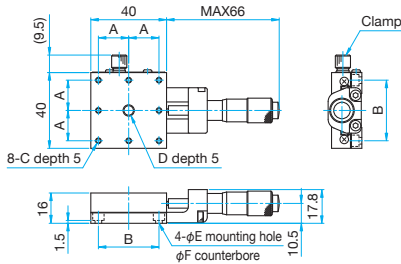
* Installation may not be possible depending on the direction of DL.

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



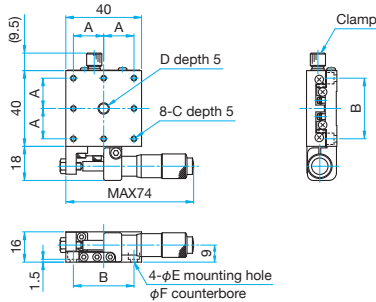
Outline Drawing

TSD-401C/401CUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



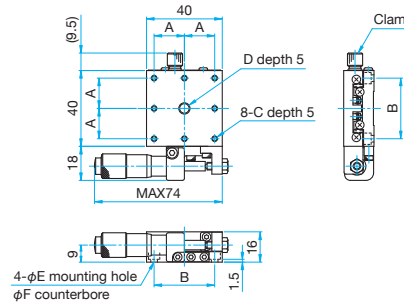
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-401C	16	32	M3	M6 P1	3.5	6
TSD-401CUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-401S/401SUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



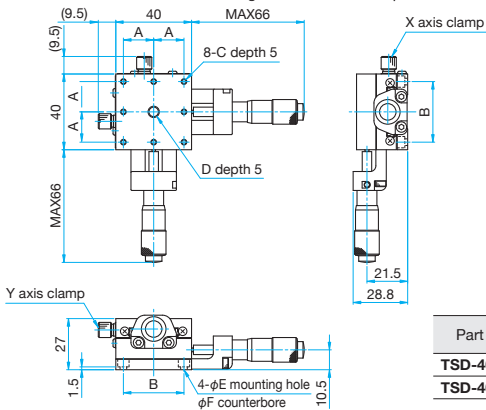
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-401S	16	32	M3	M6 P1	3.5	6
TSD-401SUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-401SR/401SRUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



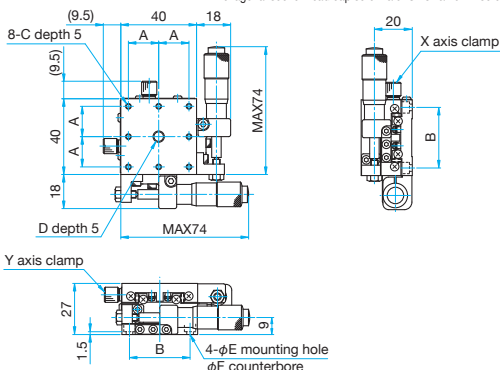
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-401SR	16	32	M3	M6 P1	3.5	6
TSD-401SRUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-402C/402CUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



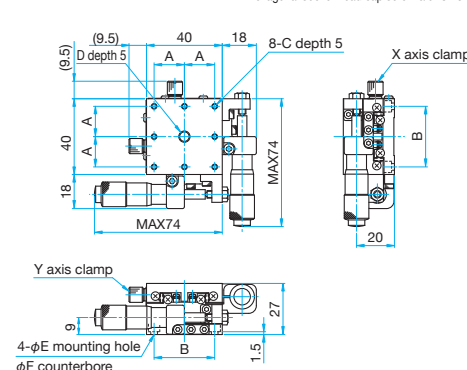
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-402C	16	32	M3	M6 P1	3.5	6
TSD-402CUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-402S/402SUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-402S	16	32	M3	M6 P1	3.5	6
TSD-402SUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-402SR/402SRUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6/32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-402SR	16	32	M3	M6 P1	3.5	6
TSD-402SRUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

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V Groove Screw

Ohters

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

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-601

Stage Size 60 × 60 mm

RoHS

TSD-602

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

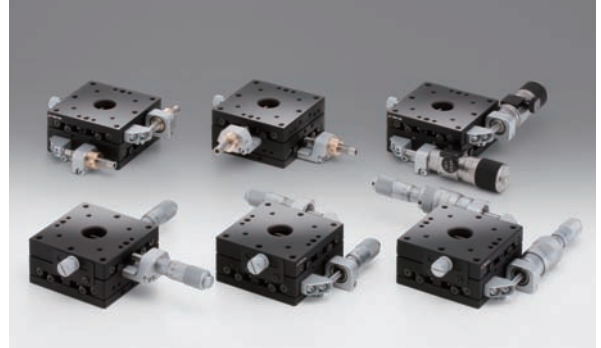
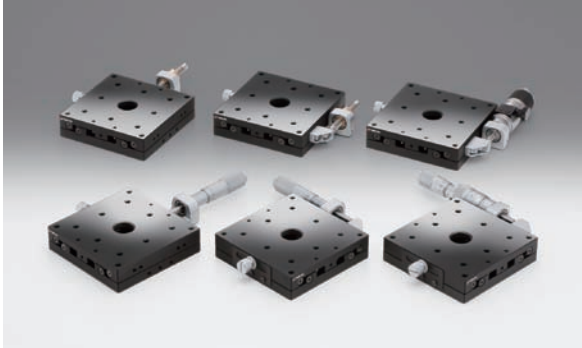
100 × 100 mm

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-601/602) are also available.

TSDS-601 [Reference](#) E206 [Catalog Code](#) W7005

TSDS-602 [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-601C	TSD-601S	TSD-602C	TSD-602S
(Opposite Model)	METRIC	—	TSD-601SR	—	TSD-602SR
Stage Size [mm]		60×60	60×60	60×60	60×60
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]		343 (35.0kgf)	343 (35.0kgf)	343 (35.0kgf)	343 (35.0kgf)
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]	13.2	13.2	13.2	13.2
	Roll [N·m]	14.7	14.7	13.2	13.2
	Yaw [N·m]	10	10	10	10
Moment Stiffness	Pitch [″/N·cm]	0.08	0.08	0.13	0.13
	Roll [″/N·cm]	0.05	0.05	0.13	0.13
	Yaw [″/N·cm]	0.08	0.08	0.16	0.16
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]		0.5	0.5	0.9	0.9

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.

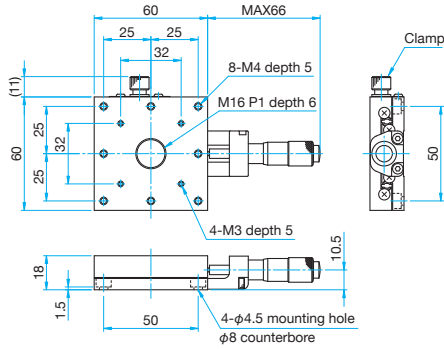
* Installation may not be possible depending on the direction of DL.

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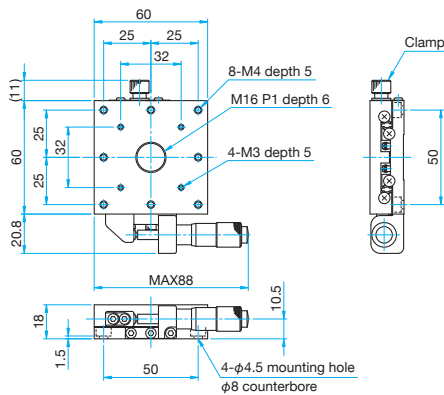


Outline Drawing

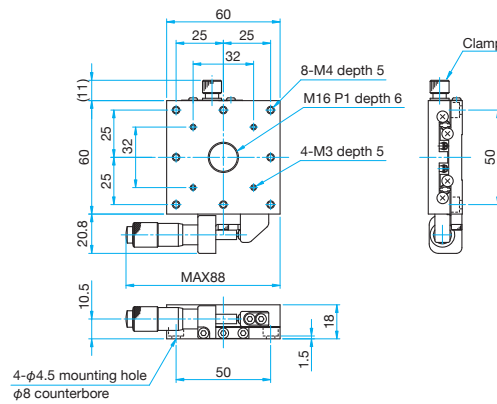
TSD-601C Hexagonal socket head cap screw M4x6...4 screws



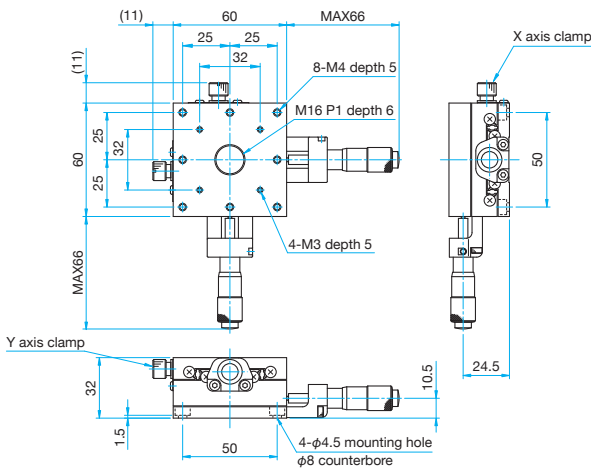
TSD-601S Hexagonal socket head cap screw M4x6...4 screws



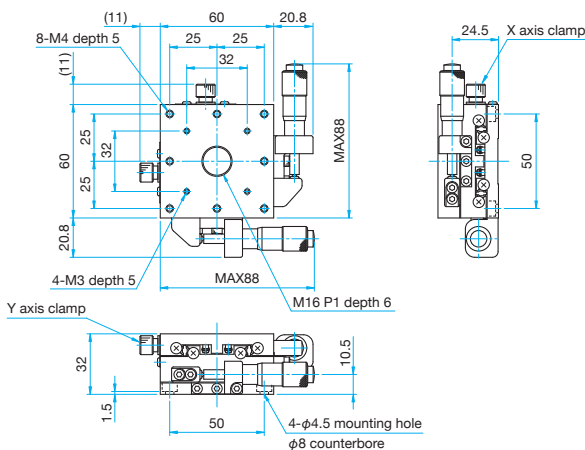
TSD-601SR Hexagonal socket head cap screw M4x6...4 screws



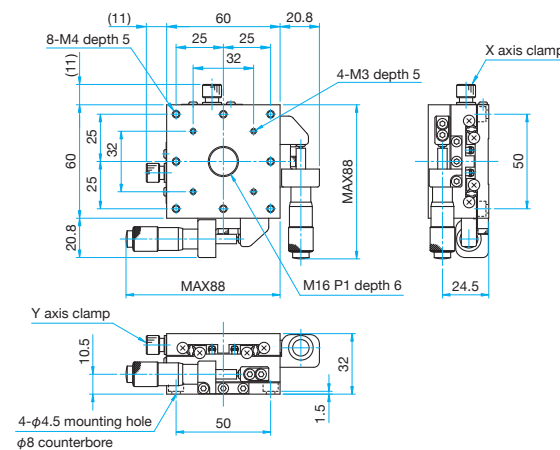
TSD-602C Hexagonal socket head cap screw M4x6...4 screws



TSD-602S Hexagonal socket head cap screw M4x6...4 screws



TSD-602SR Hexagonal socket head cap screw M4x6...4 screws



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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

X Axis Steel Extended Contact Translation Stages -M6

Stage Size 65 × 65 mm

TSD-651

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.



Guide

- ▶ Vacuum-compatible stainless steel stages (TSDS-651) are also available. [Reference](#) E206 [Catalog Code](#) W7005
- ▶ 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 more information.

Specifications

Part Number	METRIC	TSD-651C-M6	TSD-651S-M6	TSD-651C25-M6	TSD-651S25-M6
	INCH	TSD-651CUU	TSD-651SUU	TSD-651C25UU	TSD-651S25UU
(Opposite Model)	METRIC	—	TSD-651SR-M6	—	—
	INCH	—	TSD-651SRUU	—	—
Stage Size [mm]		65×65	65×65	65×65	65×65
Axes of Travel		X axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±6.5	±6.5	±12.5	±12.5
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]		294 (30.0kgf)	294 (30.0kgf)	294 (30.0kgf)	294 (30.0kgf)
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]	13.2	13.2	13.2	13.2
	Roll [N·m]	14.7	14.7	14.7	14.7
	Yaw [N·m]	10	10	10	10
Moment Stiffness	Pitch [°/N·cm]	0.08	0.08	0.08	0.08
	Roll [°/N·cm]	0.05	0.05	0.05	0.05
	Yaw [°/N·cm]	0.08	0.08	0.08	0.08
Parallelism [μm]		15	15	15	15
Running Parallelism [μm]		7	7	7	7
Options		FP ¹ /DM/WP/DL	FP ¹ /DM/WP/DL	FP ²	FP ²
Weight [kg]		0.6	0.6	0.6	0.6

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 ¹ FPSA-62550 ²	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.

* Replacement work requires a special tool (MNS). [Reference](#) F006z [Catalog Code](#) W8005

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

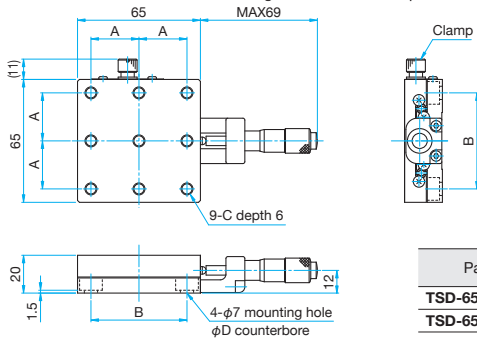
120 × 120 mm

Others



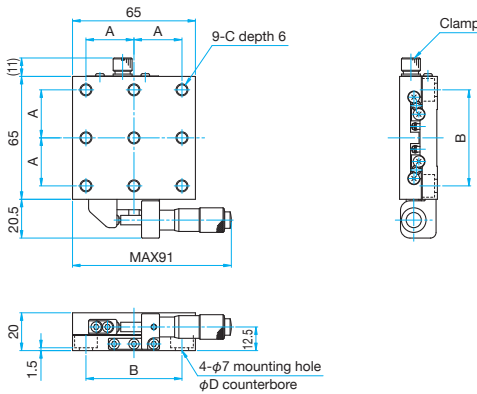
Outline Drawing

TSD-651C-M6/651CUU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



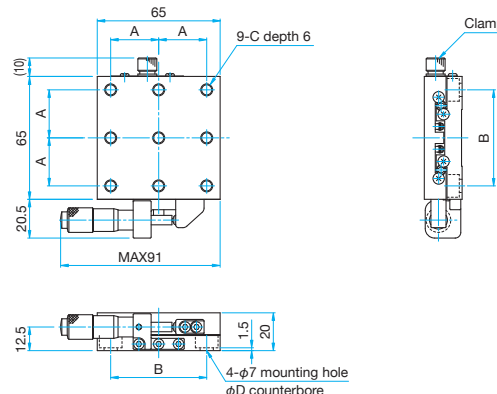
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-651C-M6	25	50	M6 P1	11
TSD-651CUU	25.4	50.8	1/4-20UNC	12

TSD-651S-M6/651SUU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



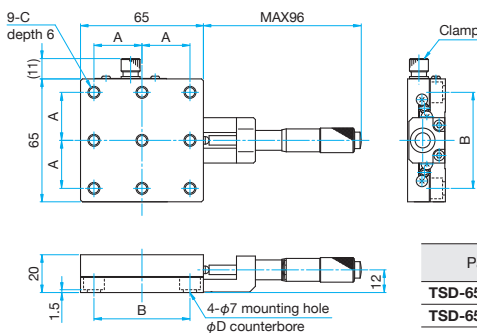
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-651S-M6	25	50	M6 P1	11
TSD-651SUU	25.4	50.8	1/4-20UNC	12

TSD-651SR-M6/651SRUU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



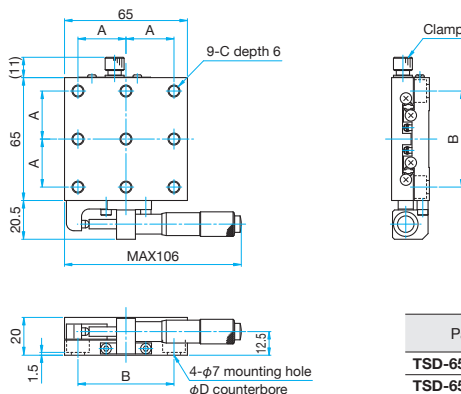
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-651SR-M6	25	50	M6 P1	11
TSD-651SRUU	25.4	50.8	1/4-20UNC	12

TSD-651C25-M6/651C25UU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-651C25-M6	25	50	M6 P1	11
TSD-651C25UU	25.4	50.8	1/4-20UNC	12

TSD-651S25-M6/651S25UU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-651S25-M6	25	50	M6 P1	11
TSD-651S25UU	25.4	50.8	1/4-20UNC	12

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Ohters

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

XY Axis Steel Extended Contact Translation Stages -M6

Stage Size 65 × 65 mm

TSD-652

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. These XY stages are integrated and therefore have a lower profile vs. (2) single axis stages combined.

There are options for metric/inch, micrometer position and fine pitch screws.



Guide

- ▶ Vacuum-compatible stainless steel stages (TSDS-652) are also available. [Reference](#) E208 [Catalog Code](#) W7031
- ▶ 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 more information.

Specifications

Part Number	METRIC	TSD-652C-M6	TSD-652S-M6	TSD-652C25-M6	TSD-652S25-M6
	INCH	TSD-652CUU	TSD-652SUU	TSD-652C25UU	TSD-652S25UU
(Opposite Model)	METRIC	—	TSD-652SR-M6	—	—
	INCH	—	TSD-652SRUU	—	—
Stage Size [mm]		65×65	65×65	65×65	65×65
Axes of Travel		XY axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±6.5	±6.5	±12.5	±12.5
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]		294 (30.0kgf)	294 (30.0kgf)	294 (30.0kgf)	294 (30.0kgf)
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]	13.2	13.2	13.2	13.2
	Roll [N·m]	13.2	13.2	13.2	13.2
	Yaw [N·m]	10	10	10	10
Moment Stiffness	Pitch [″/N·cm]	0.13	0.13	0.13	0.13
	Roll [″/N·cm]	0.13	0.13	0.13	0.13
	Yaw [″/N·cm]	0.16	0.16	0.16	0.16
Parallelism [μm]		30	30	30	30
Running Parallelism [μm]		12	12	12	12
Orthogonality [μm]		10	10	10	10
Options		FP ¹ /DM/WP/DL	FP ¹ /DM/WP	FP ²	FP ²
Weight [kg]		0.9	0.9	0.9	0.9

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 ¹ FPSA-62550 ²	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.

* Replacement work requires a special tool (MNS). [Reference](#) F006 [Catalog Code](#) W8005

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

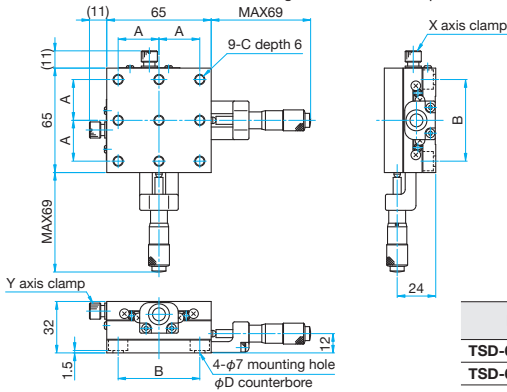
120 × 120 mm

Others



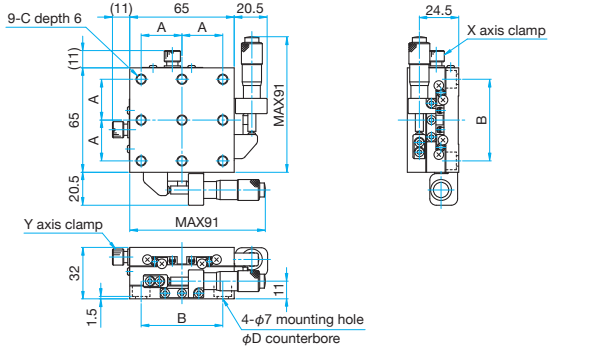
Outline Drawing

TSD-652C-M6/652CUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



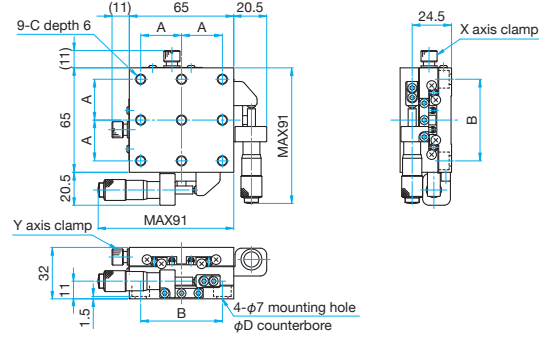
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-652C-M6	25	50	M6 P1	11
TSD-652CUU	25.4	50.8	1/4-20UNC	12

TSD-652S-M6/652SUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



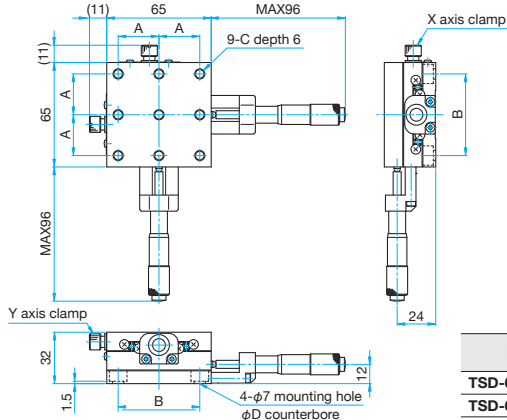
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-652S-M6	25	50	M6 P1	11
TSD-652SUU	25.4	50.8	1/4-20UNC	12

TSD-652SR-M6/652SRUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



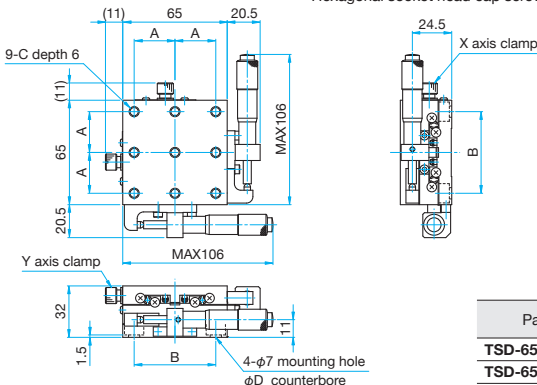
Part Number	A (mm)	B (mm)	C	D (mm)
TSD-652SR-M6	25	50	M6 P1	11
TSD-652SRUU	25.4	50.8	1/4-20UNC	12

TSD-652C25-M6/652C25UU 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)
TSD-652C25-M6	25	50	M6 P1	11
TSD-652C25UU	25.4	50.8	1/4-20UNC	12

TSD-652S25-M6/652S25UU 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)
TSD-652S25-M6	25	50	M6 P1	11
TSD-652S25UU	25.4	50.8	1/4-20UNC	12

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Ohters

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

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

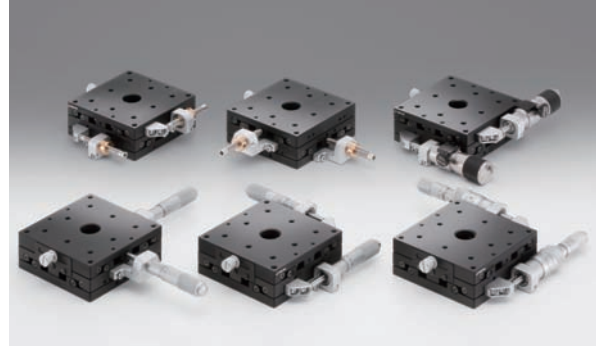
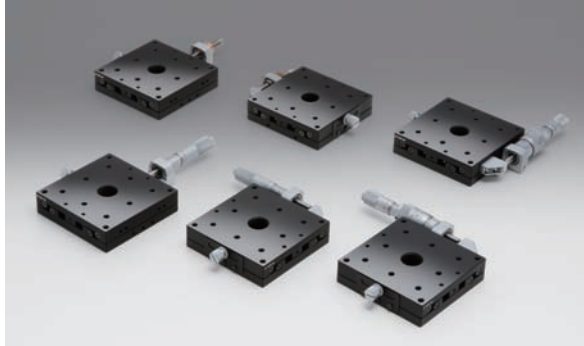
TSD-801
TSD-802

Stage Size 80 x 80 mm

RoHS

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.



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-801C	TSD-801S	TSD-802C	TSD-802S
(Opposite Model)	METRIC	—	TSD-801SR	—	TSD-802SR
Stage Size [mm]		80x80	80x80	80x80	80x80
Axes of Travel		X axis		XY axis	
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±12.5	±12.5	±12.5	±12.5
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]		490 (50.0kgf)	490 (50.0kgf)	490 (50.0kgf)	490 (50.0kgf)
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]	19.4	19.4	19.4	19.4
	Roll [N·m]	21.5	21.5	19.4	19.4
	Yaw [N·m]	19.5	19.5	19.5	19.5
Moment Stiffness	Pitch [°/N·cm]	0.04	0.04	0.06	0.06
	Roll [°/N·cm]	0.02	0.02	0.06	0.06
	Yaw [°/N·cm]	0.04	0.04	0.08	0.08
Parallelism [μm]		20	20	40	40
Running Parallelism [μm]		7	7	15	15
Orthogonality [μm]		—	—	10	10
Options		FP/DM/WP	FP/DM/WP	FP/DM/WP	FP/DM/WP
Weight [kg]		0.9	0.9	1.4	1.4

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-62550	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 travel of DM and WP is ±6.5 mm.
- * Replacement work requires a special tool (MNS). [Reference](#) F006 [Catalog Code](#) W8005

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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

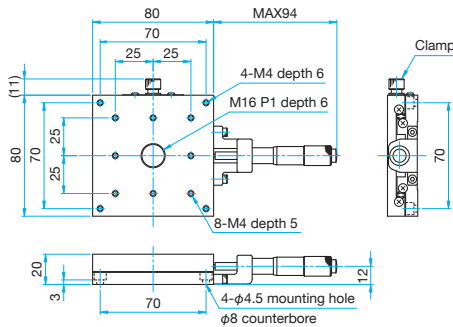
120 x 120 mm

Others

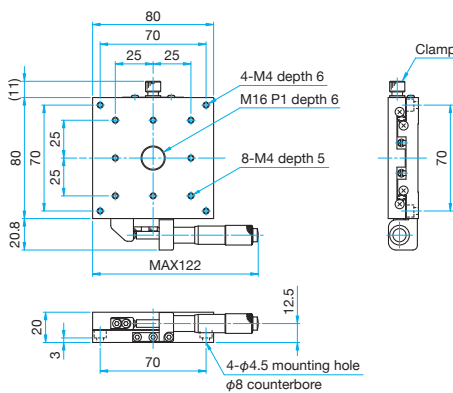


Outline Drawing

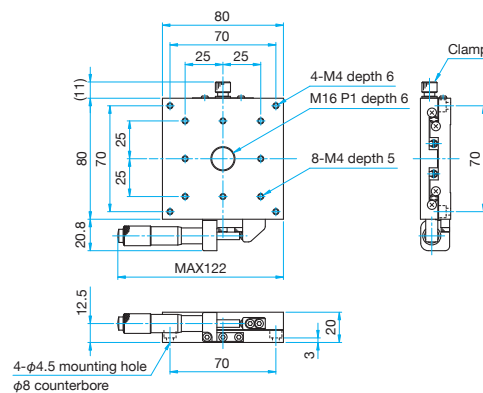
TSD-801C Hexagonal socket head cap screw M4x8...4 screws



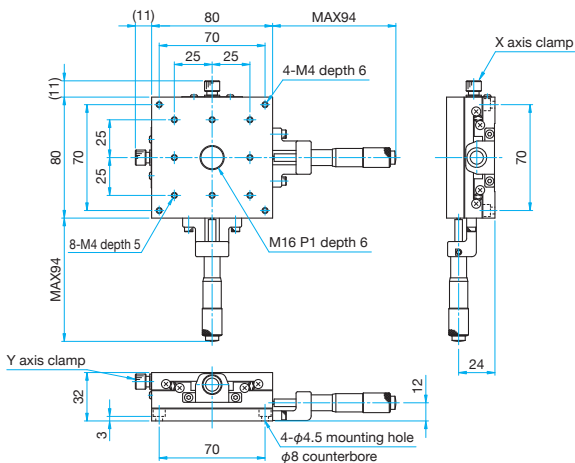
TSD-801S Hexagonal socket head cap screw M4x8...4 screws



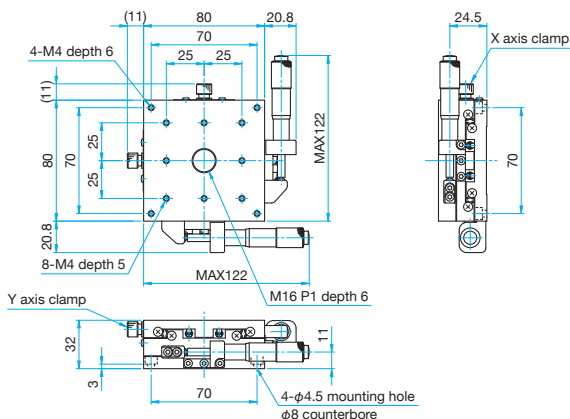
TSD-801SR Hexagonal socket head cap screw M4x8...4 screws



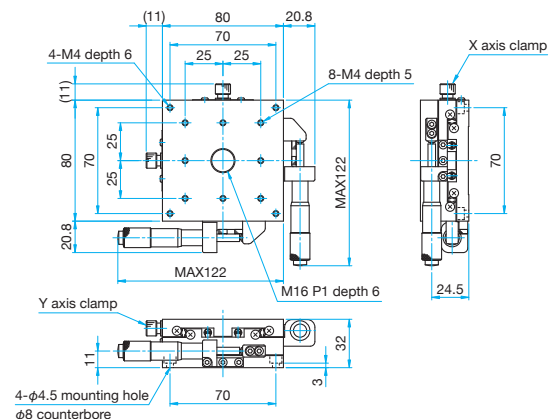
TSD-802C Hexagonal socket head cap screw M4x8...4 screws



TSD-802S Hexagonal socket head cap screw M4x8...4 screws



TSD-802SR Hexagonal socket head cap screw M4x8...4 screws



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Ohters

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

X Axis Steel Extended Contact Translation Stages

XY Axis Steel Extended Contact Translation Stages

TSD-1001

Stage Size 100 x 100 mm

TSD-1002

RoHS

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.



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-1001C	TSD-1001S	TSD-1002C	TSD-1002S
(Opposite Model)	METRIC	—	TSD-1001SR	—	TSD-1002SR
Stage Size [mm]		100×100	100×100	100×100	100×100
Axes of Travel		X axis		XY axis	
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±12.5	±12.5	±12.5	±12.5
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]		588 (60.0kgf)	588 (60.0kgf)	588 (60.0kgf)	588 (60.0kgf)
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]	35.0	35.0	35.0	35.0
	Roll [N·m]	41.7	41.7	35.0	35.0
	Yaw [N·m]	32.0	32.0	32.0	32.0
Moment Stiffness	Pitch [″/N·cm]	0.02	0.02	0.03	0.03
	Roll [″/N·cm]	0.01	0.01	0.03	0.03
	Yaw [″/N·cm]	0.02	0.02	0.04	0.04
Parallelism [μm]		20	20	40	40
Running Parallelism [μm]		8	8	15	15
Orthogonality [μm]		—	—	10	10
Options		FP/DG	FP	FP/DG	FP
Weight [kg]		1.5	1.5	2.6	2.6

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-62555	0.25	—	E008
DG	Micrometer Heads (Digital display)	MHN2-25M	0.5	0.001	

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

* DG is a digital display type. Reference: F005 Catalog Code W8002

* Replacement work requires a special tool (MNS). Reference: F006 Catalog Code W8005

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

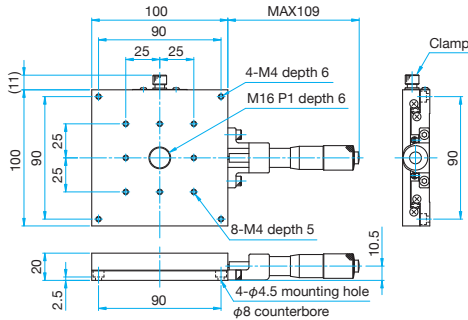
120 × 120 mm

Others

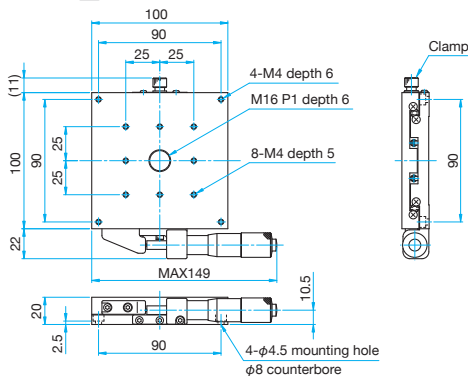


Outline Drawing

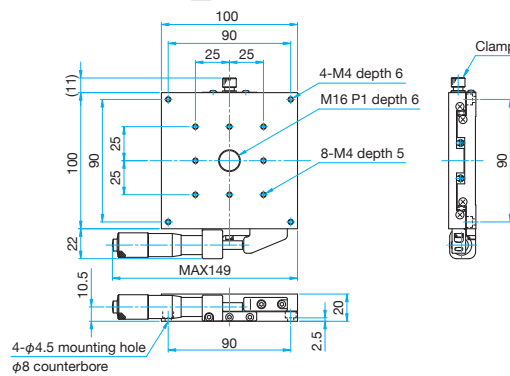
TSD-1001C Hexagonal socket head cap screw M4x8...4 screws



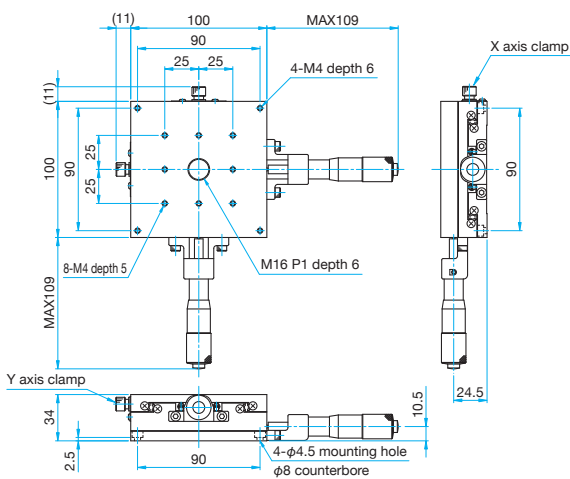
TSD-1001S Hexagonal socket head cap screw M4x8...4 screws



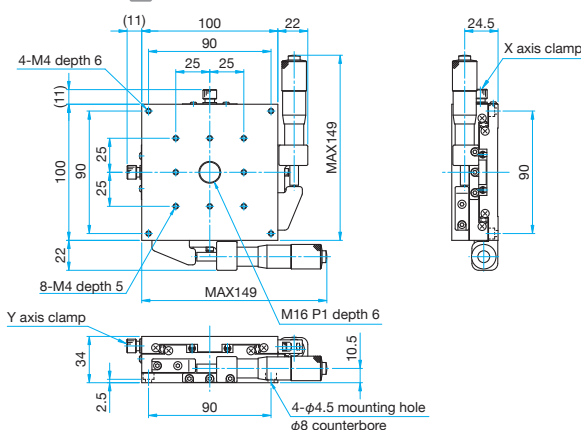
TSD-1001SR Hexagonal socket head cap screw M4x8...4 screws



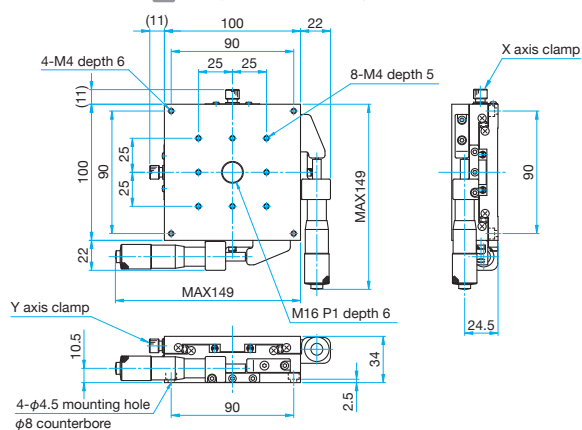
TSD-1002C Hexagonal socket head cap screw M4x8...4 screws



TSD-1002S Hexagonal socket head cap screw M4x8...4 screws



TSD-1002SR Hexagonal socket head cap screw M4x8...4 screws



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Ohters

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

X Axis Steel Extended Contact Translation Stages

Stage Size 120 × 120 mm

TSD-1201

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. There are options for metric/inch, micrometer position and fine pitch screws.

- The $\phi 56$ mm aperture is maintained throughout the rated travel range.



Guide

- ▶ Choose from M4, M6, or, 1/4-20 Mounting and tapped holes..
- ▶ The suffix “UU” specifies 1/4-20 (Inch) and is able to mount directly onto vibration isolation systems or laboratory benches by using M6 or 1/4-20 screws.

Attention

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

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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

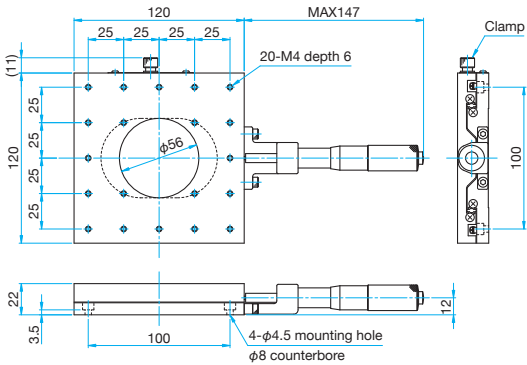
Others

Specifications					
Part Number	METRIC	TSD-1201CH	TSD-1201SH	TSD-1201CH-M6	TSD-1201SH-M6
	INCH	—	—	TSD-1201CHUU	TSD-1201SHUU
(Opposite Model)	METRIC	—	TSD-1201SRH	—	TSD-1201SRH-M6
	INCH	—	—	—	TSD-1201SRHUU
Stage Size [mm]		120×120	120×120	120×120	120×120
Axes of Travel		X axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±20	±20	±20	±20
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]		686 (70.0kgf)	686 (70.0kgf)	686 (70.0kgf)	686 (70.0kgf)
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]	53.9	53.9	53.9	53.9
	Roll [N·m]	49.0	49.0	49.0	49.0
	Yaw [N·m]	27.0	27.0	27.0	27.0
Moment Stiffness	Pitch [′/N·cm]	0.03	0.03	0.03	0.03
	Roll [′/N·cm]	0.02	0.02	0.02	0.02
	Yaw [′/N·cm]	0.03	0.03	0.03	0.03
Parallelism [μm]		50	50	50	50
Running Parallelism [μm]		12	12	12	12
Weight [kg]		2.0	2.0	2.0	2.0

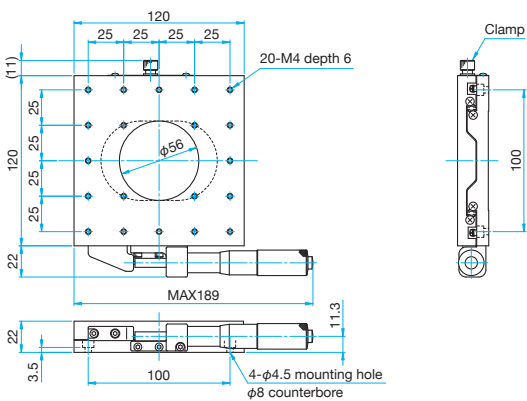


Outline Drawing

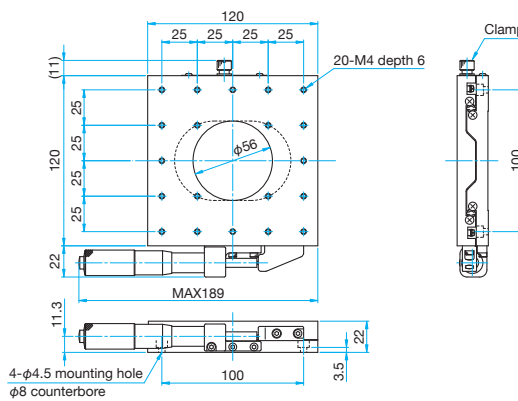
TSD-1201CH Hexagonal socket head cap screw M4x8...4 screws



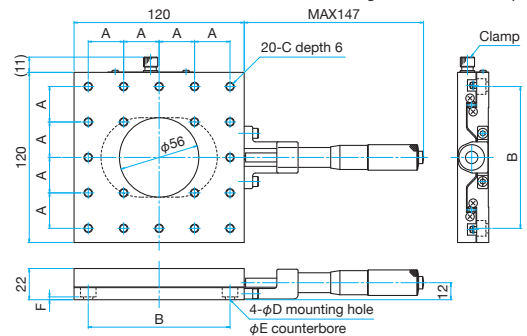
TSD-1201SH Hexagonal socket head cap screw M4x8...4 screws



TSD-1201SRH Hexagonal socket head cap screw M4x8...4 screws

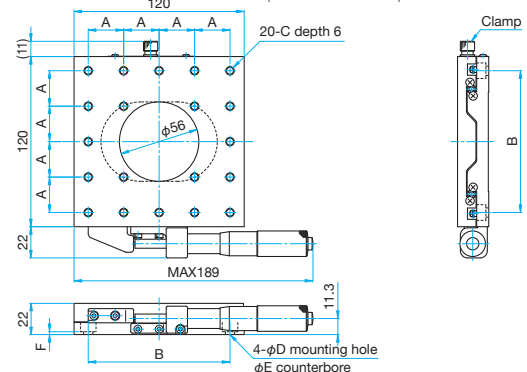


TSD-1201CH-M6/1201CHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



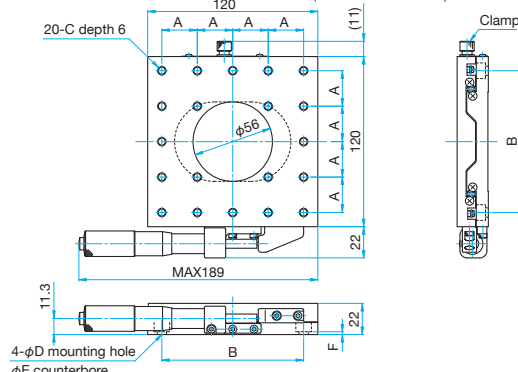
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1201CH-M6	25	100	M6 P1	6.5	11
TSD-1201CHUU	25.4	101.6	1/4-20UNC	7	12

TSD-1201SH-M6/1201SHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1201SH-M6	25	100	M6 P1	6.5	11
TSD-1201SHUU	25.4	101.6	1/4-20UNC	7	12

TSD-1201SRH-M6/1201SRHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1201SRH-M6	25	100	M6 P1	6.5	11
TSD-1201SRHUU	25.4	101.6	1/4-20UNC	7	12

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V Groove Screw

Ohters

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

XY Axis Steel Extended Contact Translation Stages

Stage Size 120 × 120 mm

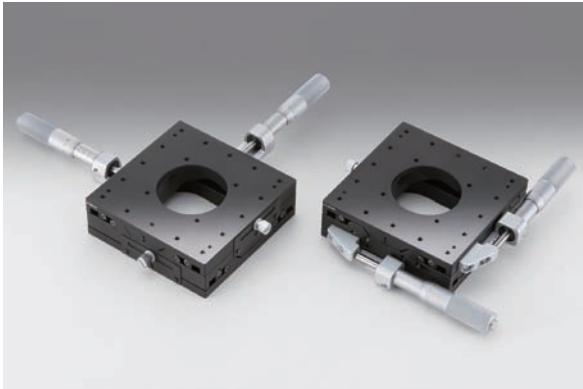
TSD-1202

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. These XY stages are integrated and therefore have a lower profile vs. (2) single axis stages combined.

There are options for metric/inch, micrometer position and fine pitch screws.

- The $\phi 56\text{mm}$ aperture is maintained throughout the rated travel range.



Guide

- ▶ Choose from M4, M6, or, 1/4-20 Mounting and tapped holes..
- ▶ The suffix “UU” specifies 1/4-20 (Inch) and is able to mount directly onto vibration isolation systems or laboratory benches by using M6 or 1/4-20 screws.

Attention

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

Specifications					
Part Number	METRIC	TSD-1202CH	TSD-1202SH	TSD-1202CH-M6	TSD-1202SH-M6
	INCH	—	—	TSD-1202CHUU	TSD-1202SHUU
(Opposite Model)	METRIC	—	TSD-1202SRH	—	TSD-1202SRH-M6
	INCH	—	—	—	TSD-1202SRHUU
Stage Size [mm]		120×120	120×120	120×120	120×120
Axes of Travel		XY axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		±20	±20	±20	±20
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]		686 (70.0kgf)	686 (70.0kgf)	686 (70.0kgf)	686 (70.0kgf)
Travel Accuracy	Straightness [μm]	0.5	0.5	0.5	0.5
	Pitch [$^{\circ}$]	25	25	25	25
	Yaw [$^{\circ}$]	15	15	15	15
Max. Moment Capacity	Pitch [N·m]	49.0	49.0	49.0	49.0
	Roll [N·m]	49.0	49.0	49.0	49.0
	Yaw [N·m]	27.0	27.0	27.0	27.0
Moment Stiffness	Pitch [$^{\circ}$ /N·cm]	0.05	0.05	0.05	0.05
	Roll [$^{\circ}$ /N·cm]	0.05	0.05	0.05	0.05
	Yaw [$^{\circ}$ /N·cm]	0.06	0.06	0.06	0.06
Parallelism [μm]		50	50	50	50
Running Parallelism [μm]		25	25	25	25
Orthogonality [μm]		10	10	10	10
Weight [kg]		3.1	3.1	3.1	3.1

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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

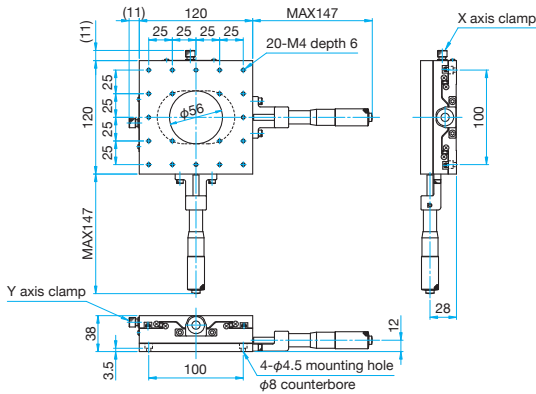
120 × 120 mm

Others

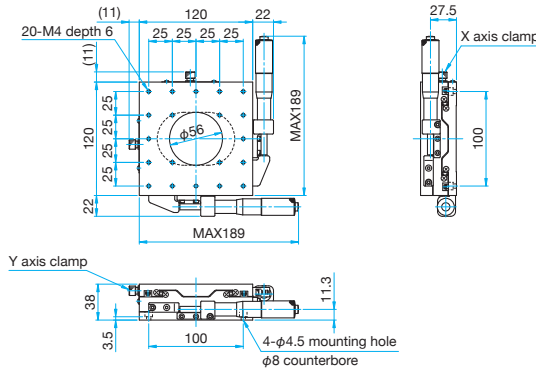


Outline Drawing

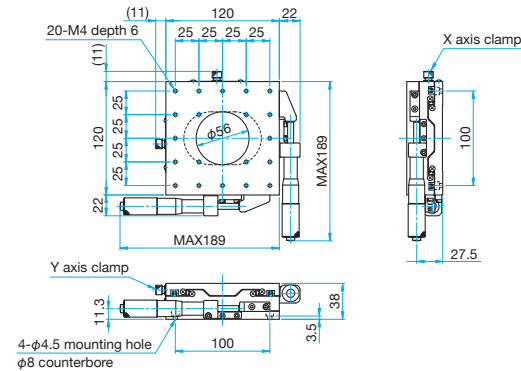
TSD-1202CH Hexagonal socket head cap screw M4x8...4 screws



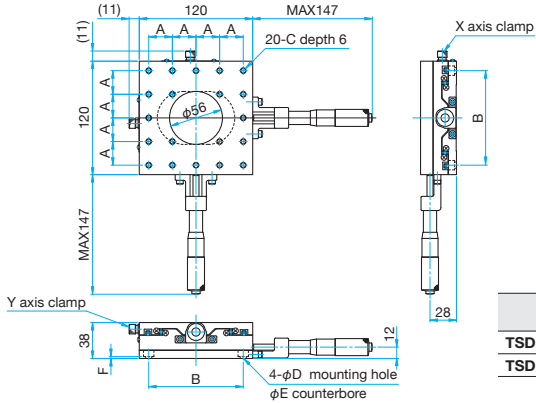
TSD-1202SH Hexagonal socket head cap screw M4x8...4 screws



TSD-1202SRH Hexagonal socket head cap screw M4x8...4 screws

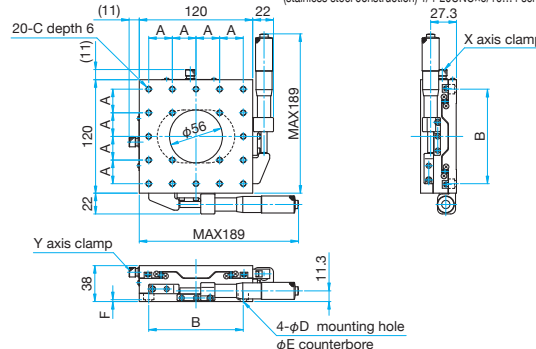


TSD-1202CH-M6/1202CHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



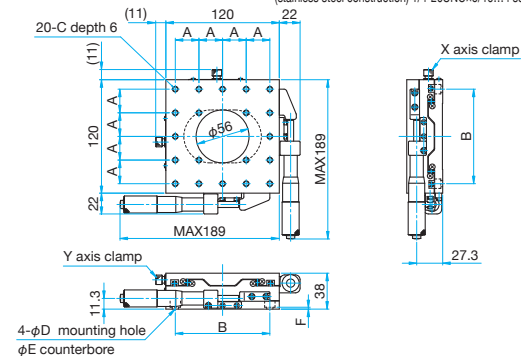
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1202CH-M6	25	100	M6 P1	6.5	11
TSD-1202CHUU	25.4	101.6	1/4-20UNC	7	12

TSD-1202SH-M6/1202SHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1202SH-M6	25	100	M6 P1	6.5	11
TSD-1202SHUU	25.4	101.6	1/4-20UNC	7	12

TSD-1202SRH-M6/1202SRHUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1202SRH-M6	25	100	M6 P1	6.5	11
TSD-1202SRHUU	25.4	101.6	1/4-20UNC	7	12

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Lapping

V Groove Screw

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

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 course/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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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

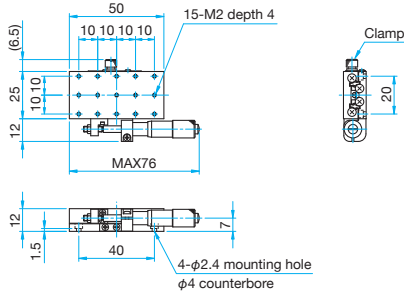
Specifications

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]		25×50	40×80	60×120	60×160
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

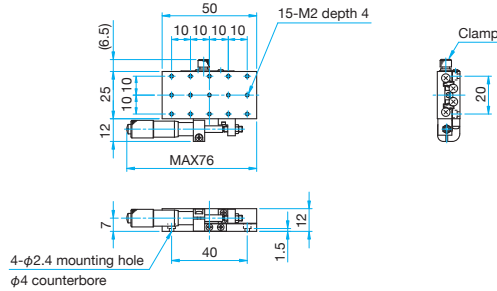


Outline Drawing

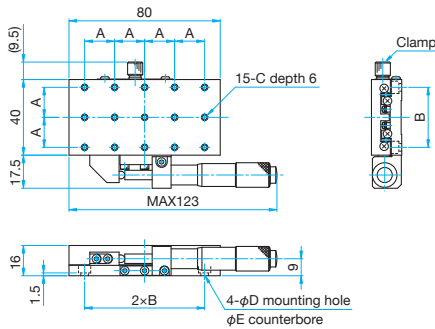
TSD-25501S Hexagonal socket head cap screw M2x4...4 screws



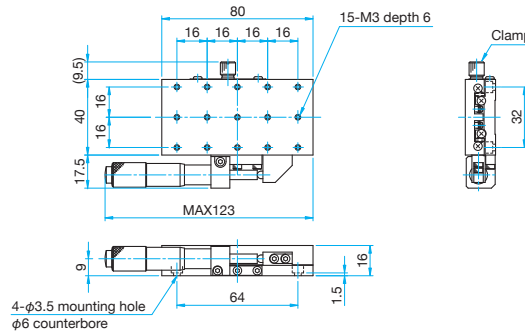
TSD-25501SR Hexagonal socket head cap screw M2x4...4 screws



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

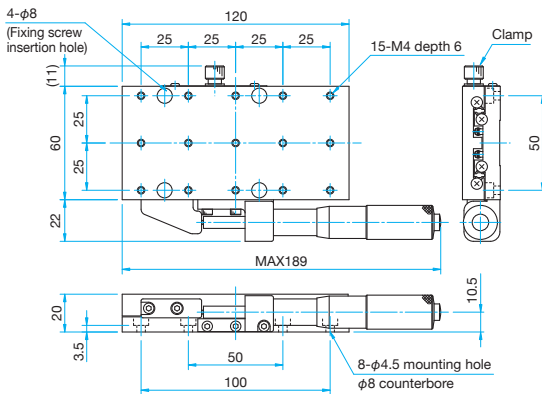


TSD-40801SR Hexagonal socket head cap screw M3x6...4 screws, Spring washers

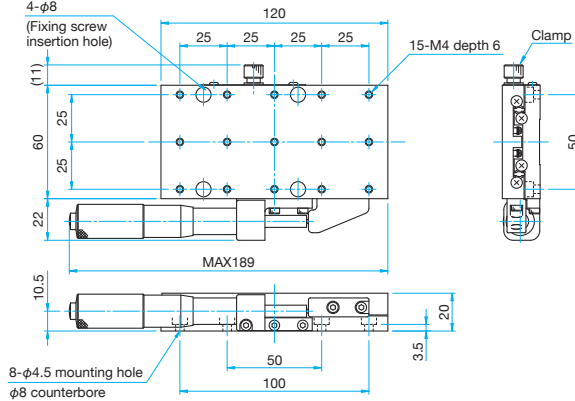


Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-40801S	16	32	M3	3.5	6
TSD-40801SUU	15.875	31.75	6-32UNC	4	6.5

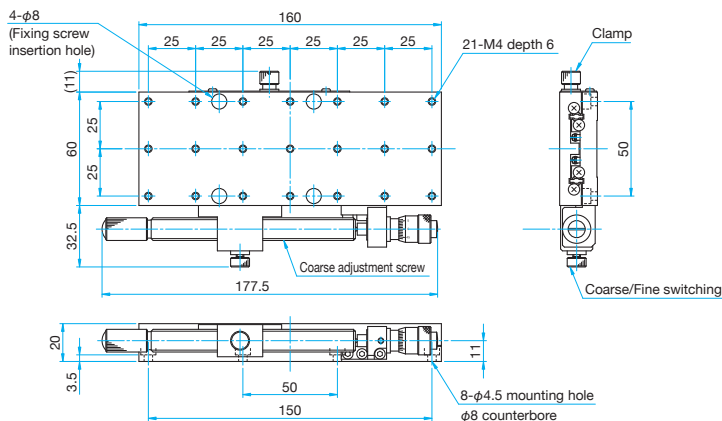
TSD-60121S Hexagonal socket head cap screw M4x8...4 screws



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



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



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Lapping

V Groove Screw

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

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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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

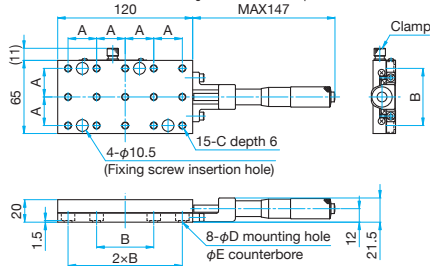
Specifications

Part Number	METRIC	TSD-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]		65×120	65×120	65×170	65×120	65×120	65×170
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



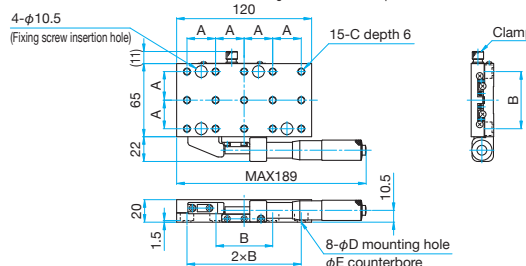
Outline Drawing

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)



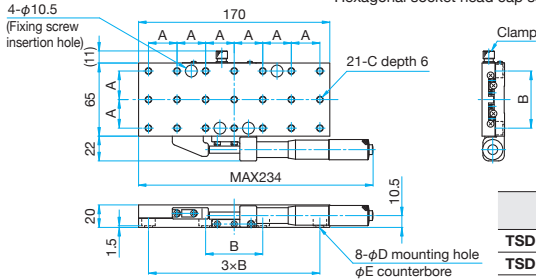
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65121C-M6	25	50	M6 P1	6.5	11
TSD-65121CUU	25.4	50.8	1/4-20UNC	7	12

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)



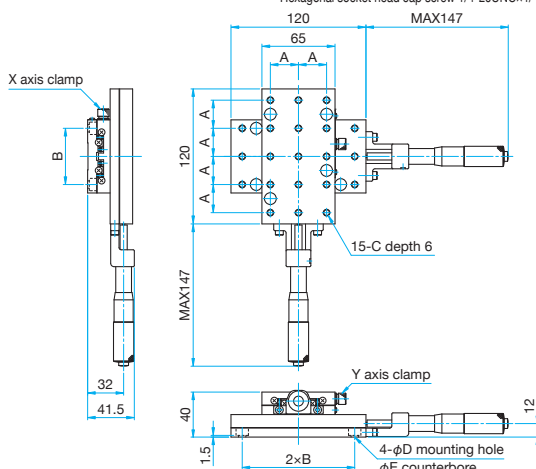
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65121S-M6	25	50	M6 P1	6.5	11
TSD-65121SUU	25.4	50.8	1/4-20UNC	7	12

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)



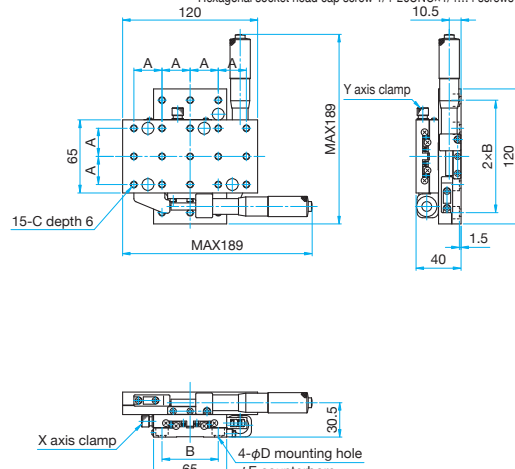
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65171S-M6	25	50	M6 P1	6.5	11
TSD-65171SUU	25.4	50.8	1/4-20UNC	7	12

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)



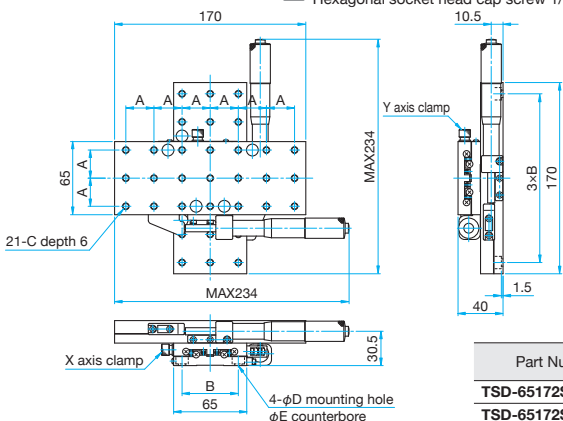
Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-65122C-M6	25	50	M6 P1	6.5	11
TSD-65122CUU	25.4	50.8	1/4-20UNC	7	12

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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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

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

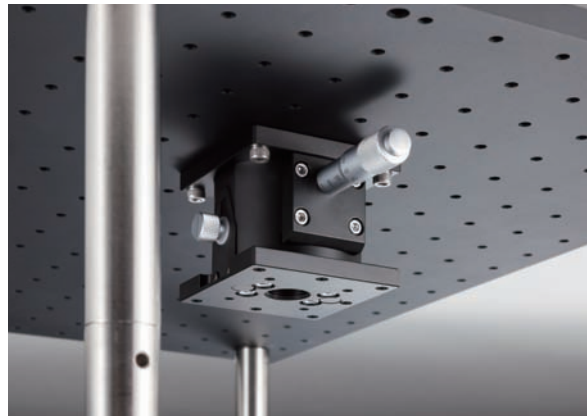
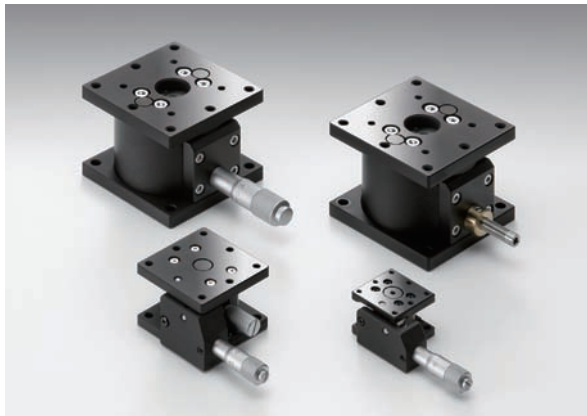
TSD-UD Stage Size 60 × 60 mm / 65 × 65 mm

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
	Pitch [N·m]	1.0	3.9	6.9	6.9	6.9	6.9
Max. Moment Capacity	Roll [N·m]	1.0	3.9	6.9	6.9	6.9	6.9
	Pitch ["/N·cm]	5.0	1.2	0.41	0.41	0.41	0.41
Moment Stiffness	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-42525 ¹ FPSA-62540 ²	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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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

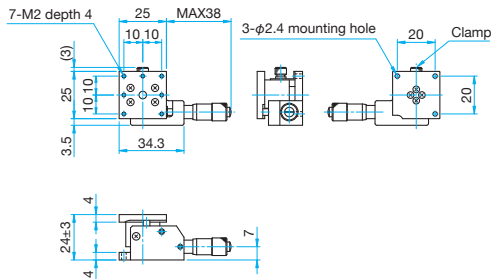
120 × 120 mm

Others

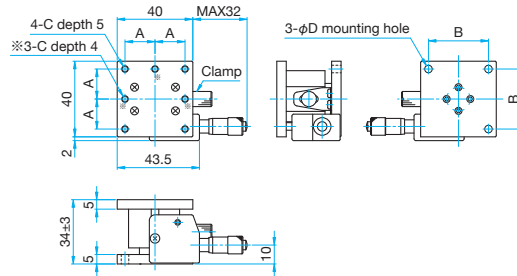


Outline Drawing

TSD-253 Hexagonal socket head cap screw M2×6...3screws

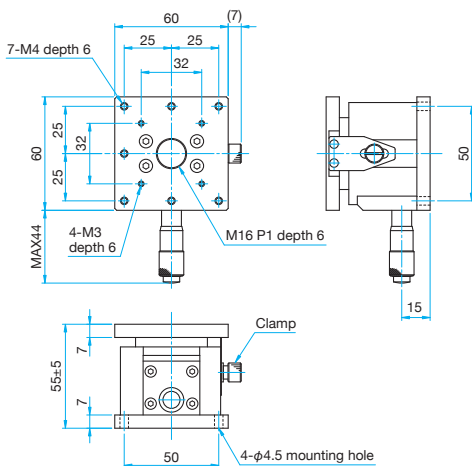


TSD-403/403UU
Hexagonal socket head cap screw M3×8...3screws
Hexagonal socket head cap screw 6-32UNC×5/16...3screws (UU)

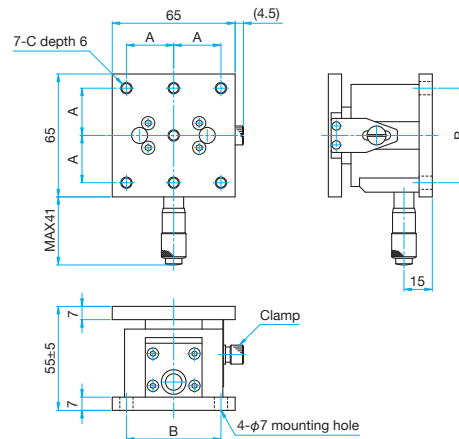


Part Number	A (mm)	B (mm)	C	D (mm)
TSD-403	16	32	M3	3.5
TSD-403UU	15.875	31.75	6-32UNC	4

TSD-603 Hexagonal socket head cap screw M4×12...4 screws

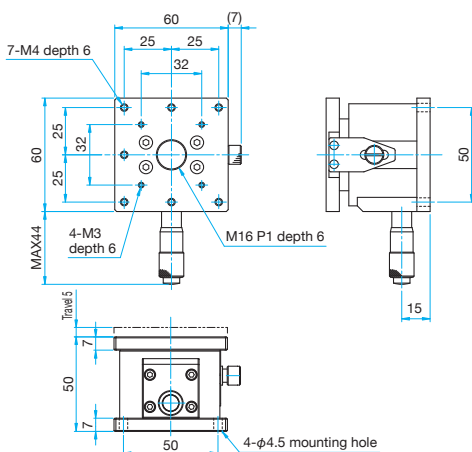


TSD-653-M6/653UU
Hexagonal socket head cap screw M6×12...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/2...4 screws (UU)

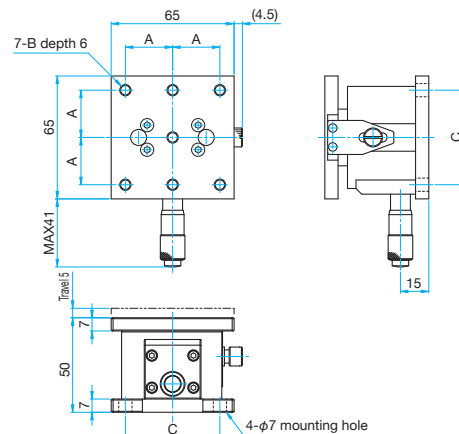


Part Number	A (mm)	B (mm)	C
TSD-653-M6	25	50	M6 P1
TSD-653UU	25.4	50.8	1/4-20UNC

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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Ohters

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 Stainless Steel Extended Contact Translation Stages - Footprints

Stage Size 80 × 80 mm / 100 × 100 mm / 120 × 120 mm

TSD-3

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.



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.

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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

Specifications

Part Number	METRIC	TSD-803	TSD-1003	TSD-1203	TSD-1203-M6
	INCH	—	—	—	TSD-1203UU
Stage Size [mm]		80×80	100×100	120×120	120×120
Axes of Travel		Z axis			
Travel [mm]		±5	±10	±10	±10
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		Black matte			
Load Capacity [N]		147 (15.0kgf)	245 (25.0kgf)	245 (25.0kgf)	245 (25.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	6.9	9.8	9.8	9.8
	Roll [N·m]	6.9	9.8	9.8	9.8
Moment Stiffness	Pitch ["/N·cm]	0.41	0.36	0.36	0.36
	Roll ["/N·cm]	0.41	0.36	0.36	0.36
Parallelism [μm]		80	100	100	100
Running Parallelism [μm]		20	20	20	20
Options		FP ¹	FP ²	FP ²	FP ²
Weight [kg]		1.2	3.5	4.2	4.2

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 ¹ FPSA-62555 ²	0.25	—	E008

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

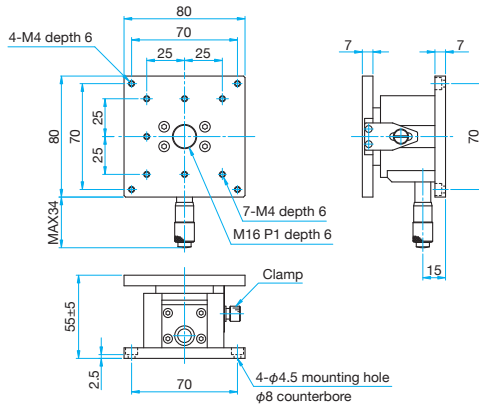
* The load capacity of the FP type is 39.2N (4.0kgf).



Outline Drawing

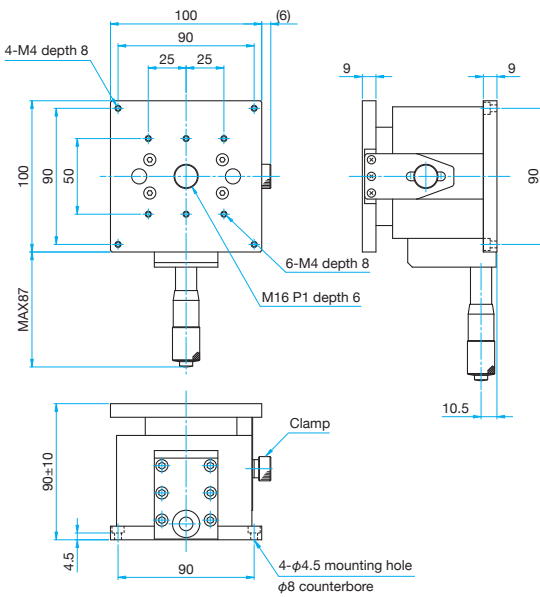
TSD-803

Hexagonal socket head cap screw M4x8...4 screws



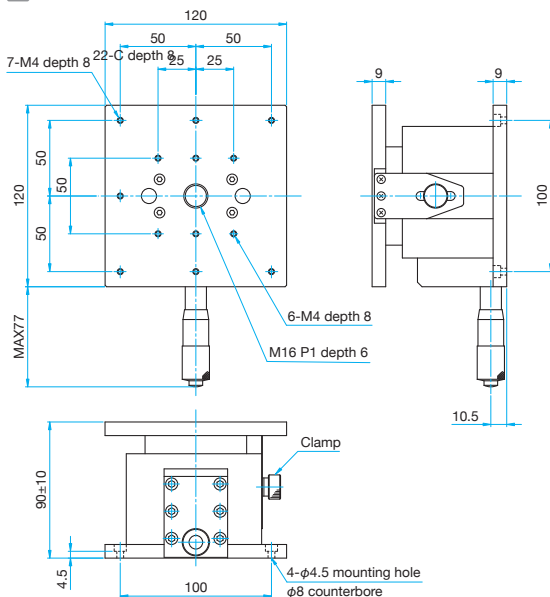
TSD-1003

Hexagonal socket head cap screw M4x10...4 screws, Spring washers



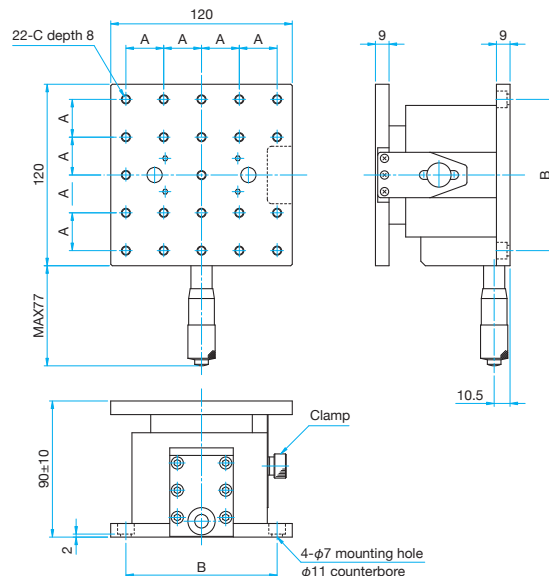
TSD-1203

Hexagonal socket head cap screw M4x10...4 screws, Spring washers



TSD-1203-M6/1203UU

Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx3/8...4 screws (UU)



Part Number	A (mm)	B (mm)	C
TSD-1203-M6	25	100	M6 P1
TSD-1203UU	25.4	101.6	1/4-20UNC

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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 Steel Extended Contact Translation Stages (Vertical)

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

TSD-L

RoHS

Z axis translation stages with integrated stage and angle bracket.

- Hardened Steel linear translation stages with integrated bearing ways for superior stiffness, accuracy and durability



Specifications					
Part Number	METRIC	TSD-253L	TSD-403L	TSD-603L	TSD-653L-M6
	INCH	—	TSD-403LUU	—	TSD-653LUU
(Opposite Model)	METRIC	TSD-253RL	TSD-403RL	TSD-603RL	TSD-653RL-M6
	INCH	—	TSD-403RLUU	—	TSD-653RLUU
Stage Size [mm]		25×25	40×40	60×60	65×65
Axes of Travel		Z axis			
Travel [mm]		±3	±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]		14.7 (1.5kgf)	49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1	1
	Pitch [″]	30	25	25	25
	Yaw [″]	25	15	15	15
Max. Moment Capacity	Pitch [N·m]	2.2	5.0	10.0	10.0
	Roll [N·m]	3.5	5.0	9.0	9.0
	Yaw [N·m]	2.0	5.0	10.0	10.0
Moment Stiffness	Pitch [″/N·cm]	1.8	0.3	0.08	0.08
	Roll [″/N·cm]	1.1	0.2	0.05	0.05
	Yaw [″/N·cm]	1.1	0.23	0.08	0.08
Running Parallelism [μm]		15	20	20	20
Squareness [μm]		30	30	30	30
Options		FP ¹	FP ² /DM/WP	FP ² /DM/WP	FP ² /DM/WP
Weight [kg]		0.1	0.3	0.8	1.0

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 ¹ FPSA-62540 ²	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: 0.025	Coars: 0.005 Fine: 0.0005	

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

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

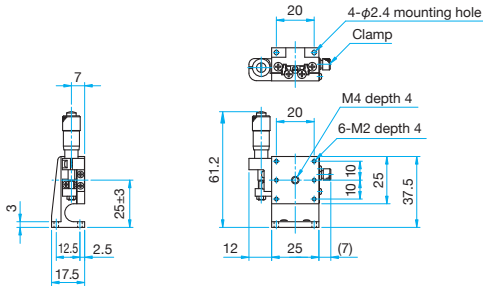
120 × 120 mm

Others

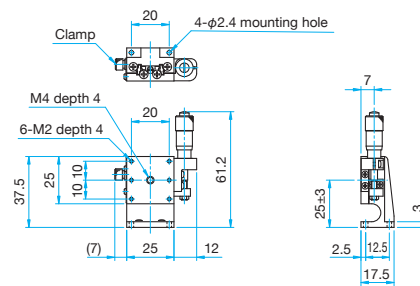


Outline Drawing

TSD-253L Hexagonal socket head cap screw M2×6...4 screws

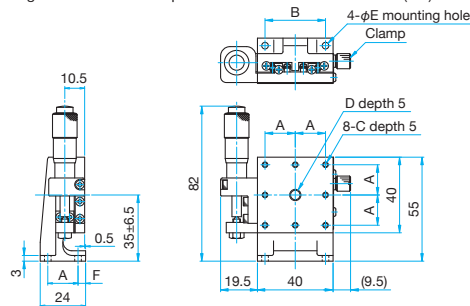


TSD-253RL Hexagonal socket head cap screw M2×6...4 screws



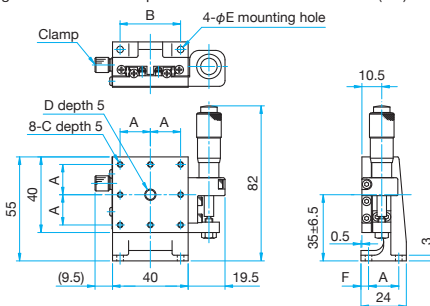
TSD-403L/403LUU

Hexagonal socket head cap screw M3×6...4 screws
Hexagonal socket head cap screw 6-32UNC×1/4...4 screws (UU)



TSD-403RL/403RLUU

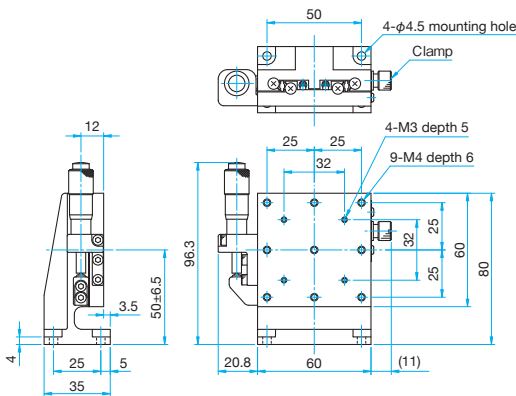
Hexagonal socket head cap screw M3×6...4 screws
Hexagonal socket head cap screw 6-32UNC×1/4...4 screws (UU)



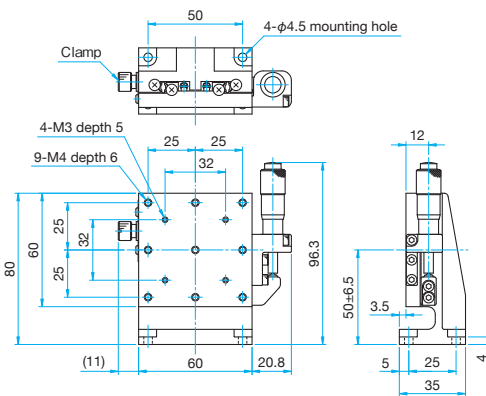
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-403L	16	32	M3	M6 P1	3.5	4
TSD-403LUU	15.875	31.75	6-32UNC	1/4-20UNC	4	3.625

Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-403RL	16	32	M3	M6 P1	3.5	4
TSD-403RLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	3.625

TSD-603L Hexagonal socket head cap screw M4×8...4 screws

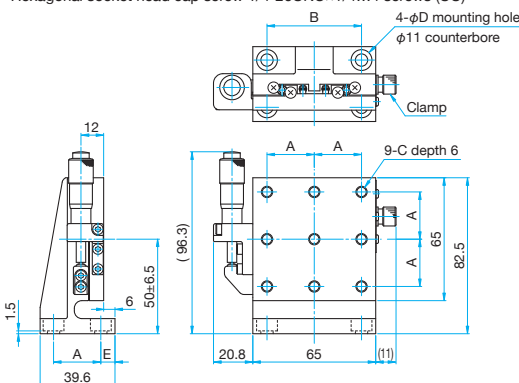


TSD-603RL Hexagonal socket head cap screw M4×8...4 screws



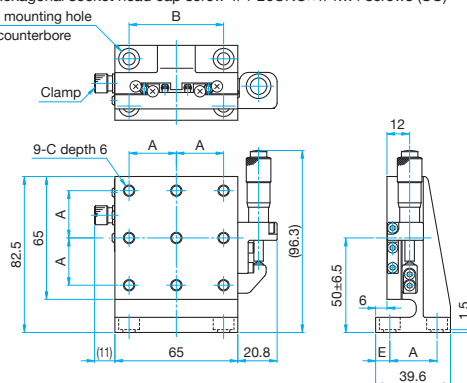
TSD-653L-M6/653LUU

Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



TSD-653RL-M6/653RLUU

Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-653L-M6	25	50	M6 P1	6.5	7.5
TSD-653LUU	25.4	50.8	1/4-20UNC	7	7.1

Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-653RL-M6	25	50	M6 P1	6.5	7.5
TSD-653RLUU	25.4	50.8	1/4-20UNC	7	7.1

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Ohters

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

XZ Axis Steel Extended Contact Translation Stages

TSD-254 Stage Size 25 x 25 mm

RoHS

TSD-404 Stage Size 40 x 40 mm

RoHS

This XZ assembly incorporates an (X) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



Guide

- ▶ Vacuum-compatible stainless steel stages (TSDS-254/404) are also available. [Reference](#) E212 [Catalog Code](#) W7064

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.

Specifications

Guide	METRIC	TSD-254C	TSD-254S	TSD-404C	TSD-404S
Part Number	INCH	—	—	TSD-404CUU	TSD-404SUU
(Opposite Model)	METRIC	—	TSD-254SR	—	TSD-404SR
	INCH	—	—	—	TSD-404SRUU
Stage Size [mm]		25×25	25×25	40×40	40×40
Axes of Travel		XZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		X axis ±3 Z axis ±3	X axis ±3 Z axis ±3	X axis ±6.5 Z axis ±3	X axis ±6.5 Z axis ±3
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 + Black matte			
Load Capacity [N]		29.4 (3.0kgf)	29.4 (3.0kgf)	88.3 (9.0kgf)	88.3 (9.0kgf)
Travel Accuracy	Straightness [μm]	5	5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	1.0	1.0	3.9	3.9
	Roll [N·m]	1.0	1.0	3.9	3.9
Moment Stiffness	Pitch [°/N·cm]	8.95	8.95	2.14	2.14
	Roll [°/N·cm]	8.75	8.75	2.04	2.04
Parallelism [μm]		110	110	110	110
Options		FP	FP	FP	FP
Weight [kg]		0.17	0.17	0.45	0.45

Option for □25mm

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	0.25	—	E008

Option for □40mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	X axis: FPSA-62540 Z axis: FPSA-42525	0.25	—	E008

* 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). (40 × 40mm)

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

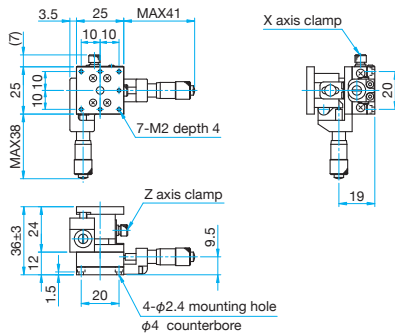
120 × 120 mm

Others

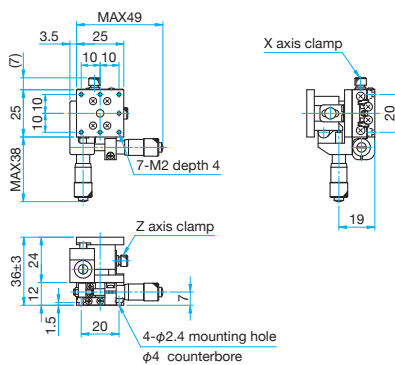


Outline Drawing

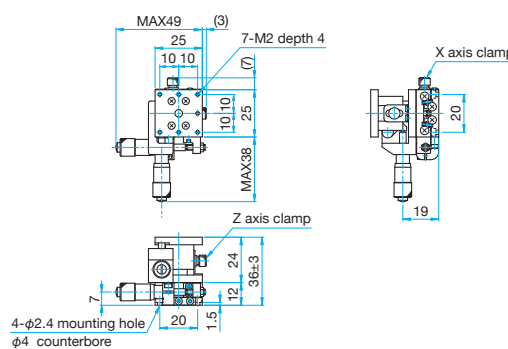
TSD-254C Hexagonal socket head cap screw M2×4...4 screws



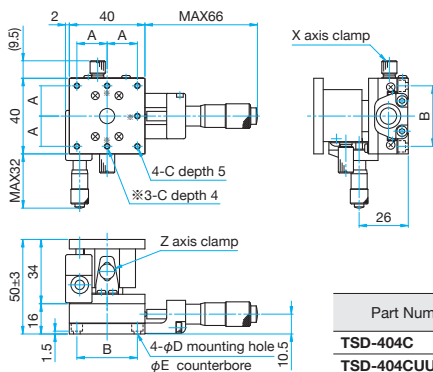
TSD-254S Hexagonal socket head cap screw M2×4...4 screws



TSD-254SR Hexagonal socket head cap screw M2×4...4 screws



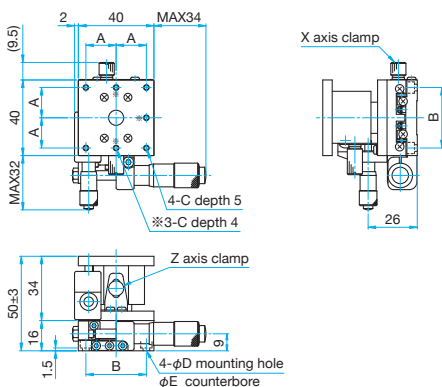
TSD-404C/404CUU Hexagonal socket head cap screw M3×6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNC×3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-404C	16	32	M3	3.5	6
TSD-404CUU	15.875	31.75	6-32UNC	4	6.5

TSD-404S/404SUU

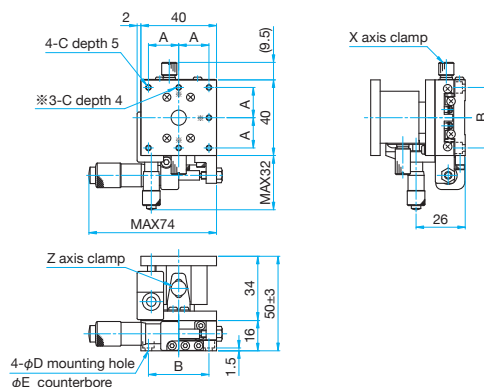
Hexagonal socket head cap screw M3×6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNC×3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-404S	16	32	M3	3.5	6
TSD-404SUU	15.875	31.75	6-32UNC	4	6.5

TSD-404SR/404SRUU

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 (mm)	E (mm)
TSD-404SR	16	32	M3	3.5	6
TSD-404SRUU	15.875	31.75	6-32UNC	4	6.5

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Ohters

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

XZ Axis Steel Extended Contact Translation Stages

TSD-604 Stage Size 60 × 60 mm

TSD-654 Stage Size 65 × 65 mm

RoHS

RoHS

This XZ assembly incorporates an (X) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-604/654) are also available. [Reference](#) E212 [Catalog Code](#) W7064

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.

Specifications

Part Number	METRIC	TSD-604C	TSD-604S	TSD-654C-M6	TSD-654S-M6
	INCH	—	—	TSD-654CUU	TSD-654SUU
(Opposite Model)	METRIC	—	TSD-604SR	—	TSD-654SR-M6
	INCH	—	—	—	TSD-654SRUU
Stage Size [mm]		60×60	60×60	65×65	65×65
Axes of Travel		XZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		X axis ±6.5 Z axis ±5	X axis ±6.5 Z axis ±5	X axis ±6.5 Z axis ±5	X axis ±6.5 Z axis ±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 + Black matte			
Load Capacity [N]		147 (15.0kgf)	147 (15.0kgf)	147 (15.0kgf)	147 (15.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
	Pitch [N·m]	6.9	6.9	6.9	6.9
Max. Moment Capacity	Roll [N·m]	6.9	6.9	6.9	6.9
	Pitch [°/N·cm]	0.73	0.73	0.73	0.73
Moment Stiffness	Roll [°/N·cm]	0.64	0.64	0.64	0.64
	Parallelism [μm]	110	110	110	110
Options		FP	FP	FP	FP
Weight [kg]		1.5	1.5	1.7	1.7

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 SA-62540	0.25	—	E008

* 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).

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

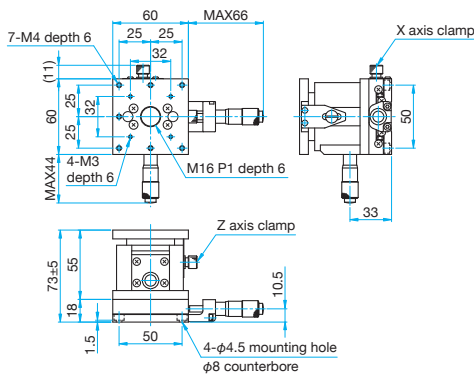
120 × 120 mm

Others

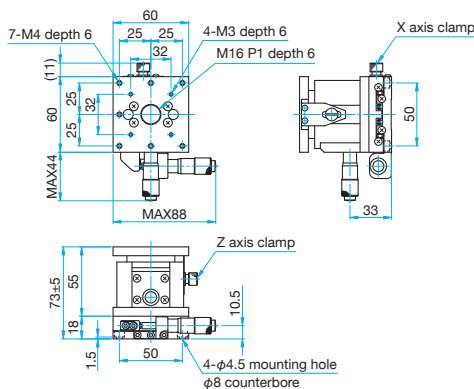


Outline Drawing

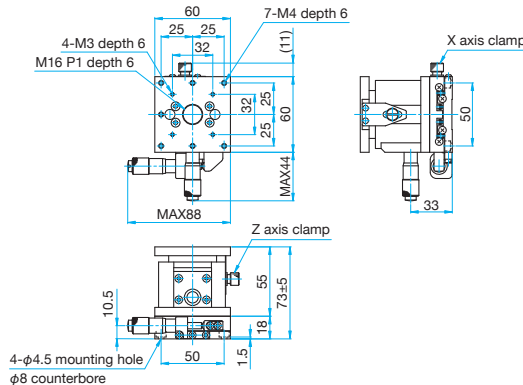
TSD-604C Hexagonal socket head cap screw M4x6...4 screws



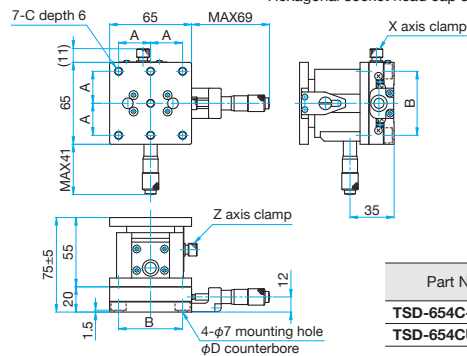
TSD-604S Hexagonal socket head cap screw M4x6...4 screws



TSD-604SR Hexagonal socket head cap screw M4x6...4 screws



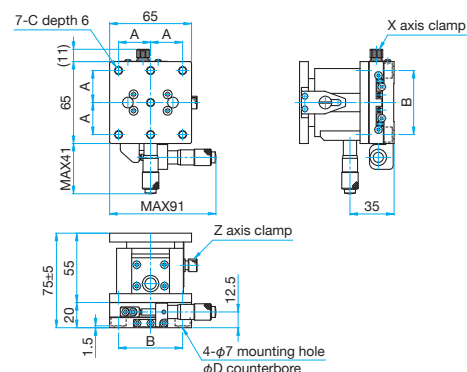
TSD-654C-M6/654CUU Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-654C-M6	25	50	M6 P1	11
TSD-654CUU	25.4	50.8	1/4-20UNC	12

TSD-654S-M6/654SUU

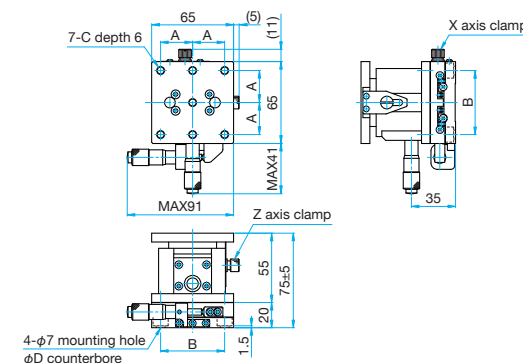
Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-654S-M6	25	50	M6 P1	11
TSD-654SUU	25.4	50.8	1/4-20UNC	12

TSD-654SR-M6/654SRUU

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)
TSD-654SR-M6	25	50	M6 P1	11
TSD-654SRUU	25.4	50.8	1/4-20UNC	12

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Ohters

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

XZ Axis Steel Extended Contact Translation Stages

TSD-804 Stage Size 80 x 80 mm

TSD-1004 Stage Size 100 x 100 mm



This XZ assembly incorporates an (X) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



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.

Specifications

Part Number	METRIC	TSD-804C	TSD-804S	TSD-1004C	TSD-1004S
(Opposite Model)	METRIC	—	TSD-804SR	—	TSD-1004SR
Stage Size [mm]		80×80	80×80	100×100	100×100
Axes of Travel		XZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		X axis ±12.5 Z axis ±5	X axis ±12.5 Z axis ±5	X axis ±12.5 Z axis ±10	X axis ±12.5 Z axis ±10
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 + Black matte			
Load Capacity [N]		147 (15.0kgf)	147 (15.0kgf)	245 (25.0kgf)	245 (25.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	6.9	6.9	9.8	9.8
	Roll [N·m]	6.9	6.9	9.8	9.8
Moment Stiffness	Pitch [°/N·cm]	0.61	0.61	0.42	0.42
	Roll [°/N·cm]	0.57	0.57	0.39	0.39
Parallelism [μm]		110	110	130	130
Options		FP	FP	FP	FP
Weight [kg]		2.1	2.1	5.0	5.0

Option for □80mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	X axis: FPSA-62550 Z axis: FPSA-62540	0.25	—	E008

Option for □100mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	FPSA-62555	0.25	—	E008

* 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).

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

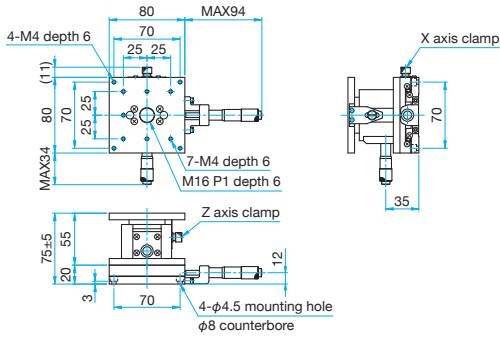
120 × 120 mm

Others

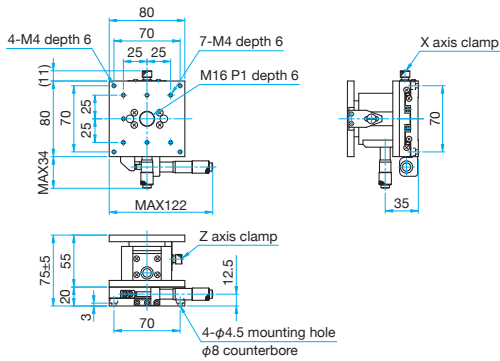


Outline Drawing

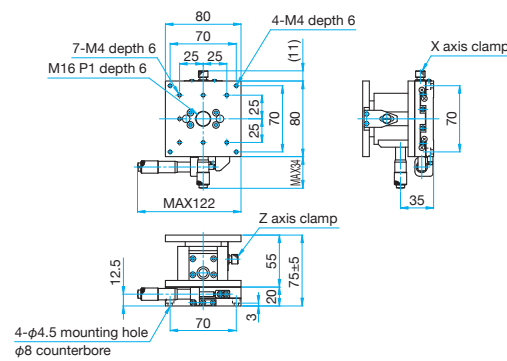
TSD-804C Hexagonal socket head cap screw M4x8...4 screws



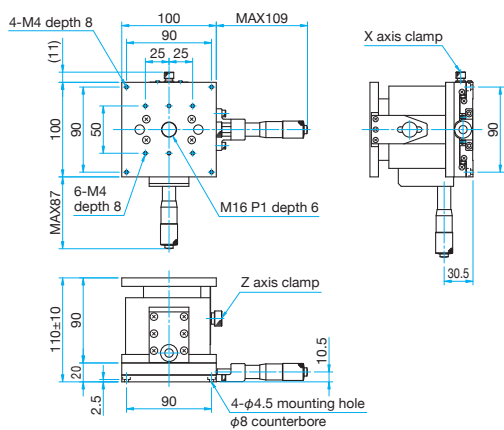
TSD-804S Hexagonal socket head cap screw M4x8...4 screws



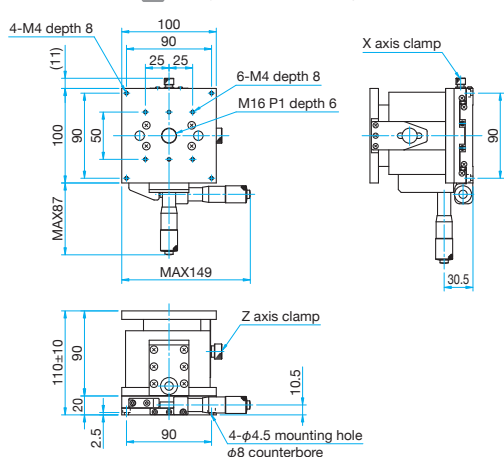
TSD-804SR Hexagonal socket head cap screw M4x8...4 screws



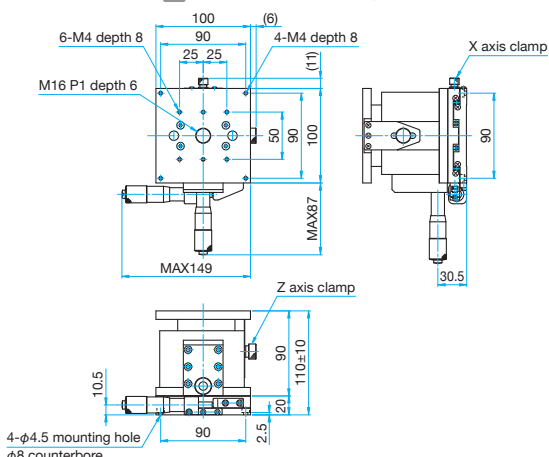
TSD-1004C Hexagonal socket head cap screw M4x8...4 screws



TSD-1004S Hexagonal socket head cap screw M4x8...4 screws



TSD-1004SR Hexagonal socket head cap screw M4x8...4 screws



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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

XZ Axis Steel Extended Contact Translation Stages

Stage Size 120 × 120 mm

TSD-1204

RoHS

This XZ assembly incorporates an (X) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



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.

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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

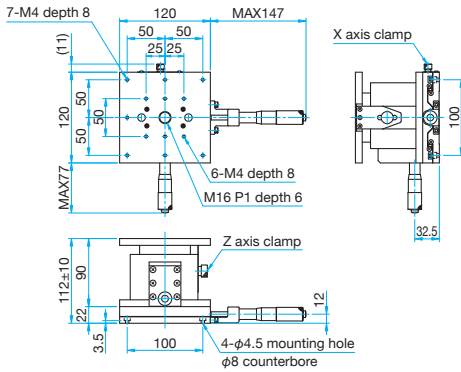
Others

Specifications					
Part Number	METRIC	TSD-1204C	TSD-1204S	TSD-1204C-M6	TSD-1204S-M6
	INCH	—	—	TSD-1204CUU	TSD-1204SUU
(Opposite Model)	METRIC	—	TSD-1204SR	—	TSD-1204SR-M6
	INCH	—	—	—	TSD-1204SRUU
Stage Size [mm]	120×120		120×120	120×120	120×120
Axes of Travel	XZ axis				
Micrometer Position	Center		Side	Center	
Travel [mm]	X axis ±20 Z axis ±10		X axis ±20 Z axis ±10	X axis ±20 Z axis ±10	
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	Steel				
Finish	Super black chrome + Black matte				
Load Capacity [N]	245 (25.0kgf)		245 (25.0kgf)	245 (25.0kgf)	
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	
Max. Moment Capacity	Pitch [N·m]	9.8	9.8	9.8	
	Roll [N·m]	9.8	9.8	9.8	
Moment Stiffness	Pitch [°/N·cm]	0.4	0.4	0.4	
	Roll [°/N·cm]	0.38	0.38	0.38	
Parallelism [μm]	150		150	150	
Weight [kg]	6.2		6.2	6.2	

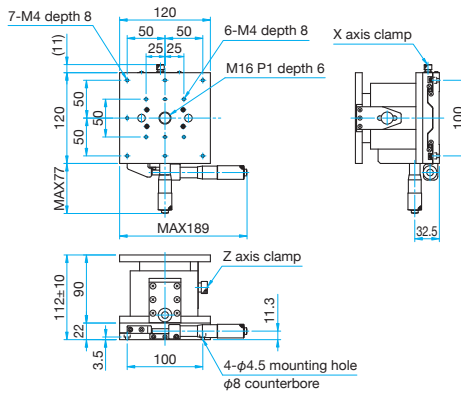


Outline Drawing

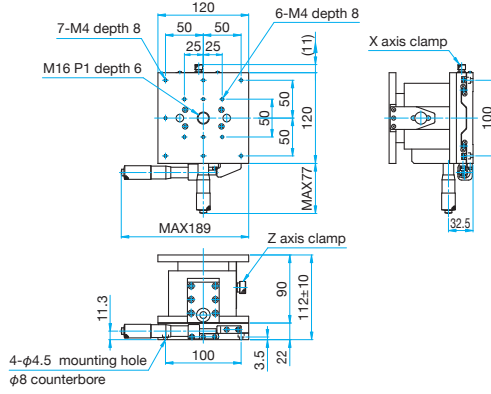
TSD-1204C Hexagonal socket head cap screw M4x8...4 screws



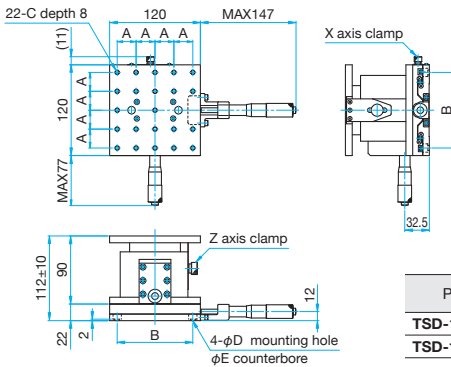
TSD-1204S Hexagonal socket head cap screw M4x8...4 screws



TSD-1204SR Hexagonal socket head cap screw M4x8...4 screws



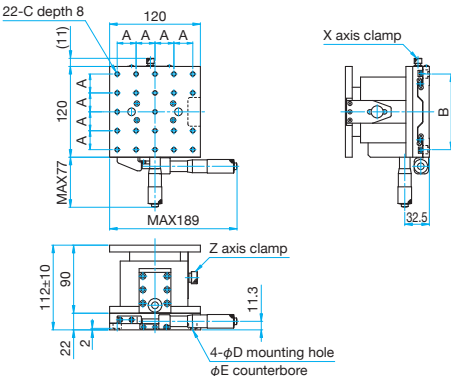
TSD-1204C-M6/1204CUU Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1204C-M6	25	100	M6 P1	6.5	11
TSD-1204CUU	25.4	101.6	1/4-20UNC	7	12

TSD-1204S-M6/1204SUU

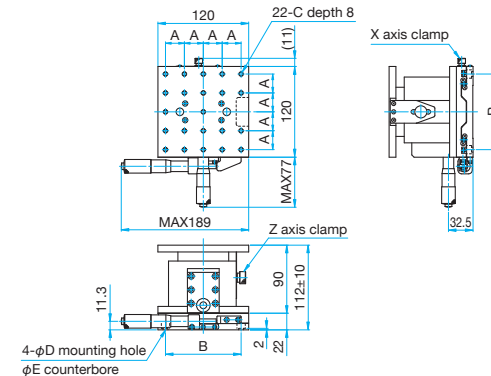
Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1204S-M6	25	100	M6 P1	6.5	11
TSD-1204SUU	25.4	101.6	1/4-20UNC	7	12

TSD-1204SR-M6/1204SRUU

Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1204SR-M6	25	100	M6 P1	6.5	11
TSD-1204SRUU	25.4	101.6	1/4-20UNC	7	12

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Ohters

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

XZ Axis Steel Extended Contact Translation Stages (Vertical)

TSD-254L Stage Size 25 x 25 mm

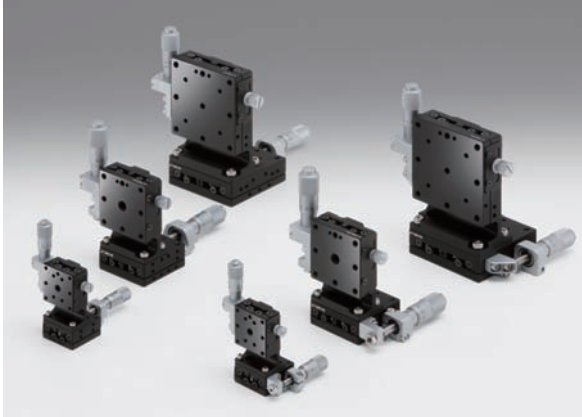
RoHS

TSD-404L Stage Size 40 x 40 mm

RoHS

This XZ assembly incorporates an (X) axis steel linear stage and a (Z) axis steel stage with an integrated vertical bracket.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-254*L/404*L) are also available. [Reference](#) E214 [Catalog Code](#) W7068

Specifications

Part Number	METRIC	TSD-254CL	TSD-254SL	TSD-404CL	TSD-404SL
	INCH	—	—	TSD-404CLUU	TSD-404SLUU
(Opposite Model)	METRIC	—	TSD-254SRL	—	TSD-404SRL
	INCH	—	—	—	TSD-404SRLUU
Stage Size [mm]		25×25	25×25	40×40	40×40
Axes of Travel		XZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		X axis ±3 Z axis ±3	X axis ±3 Z axis ±3	X axis ±6.5 Z axis ±6.5	X axis ±6.5 Z axis ±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]		14.7 (1.5kgf)	14.7 (1.5kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1.0	1.0
	Pitch [N·m]	2.2	2.2	5.0	5.0
Max. Moment Capacity	Roll [N·m]	2.1	2.1	5.0	5.0
	Pitch [°/N·cm]	5.1	5.1	0.9	0.9
Options		FP	FP	FP	FP
Weight [kg]		0.17	0.17	0.5	0.5

Option for □25mm

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	0.25	—	E008

Option for □40mm

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

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

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

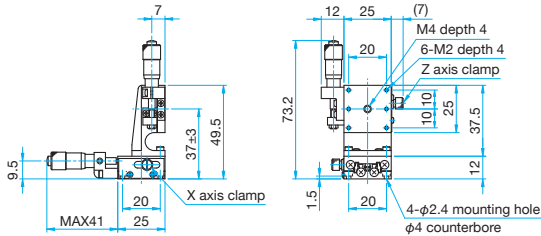
120 × 120 mm

Others

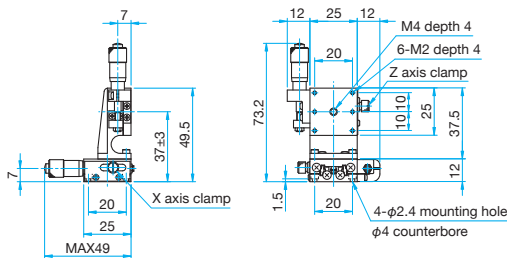


Outline Drawing

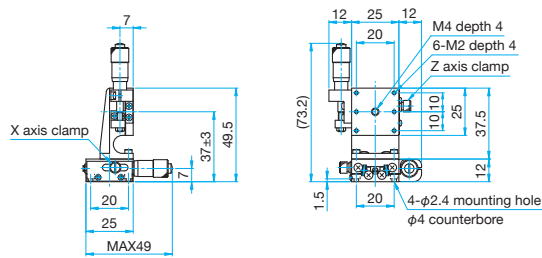
TSD-254CL Hexagonal socket head cap screw M2x4...4 screws



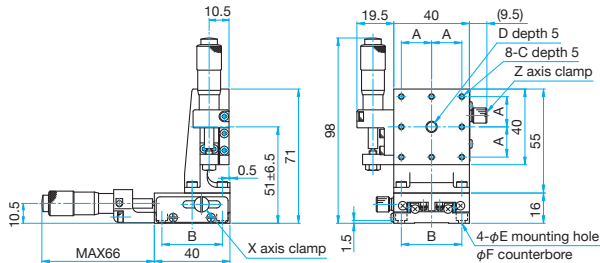
TSD-254SL Hexagonal socket head cap screw M2x4...4 screws



TSD-254SRL Hexagonal socket head cap screw M2x4...4 screws

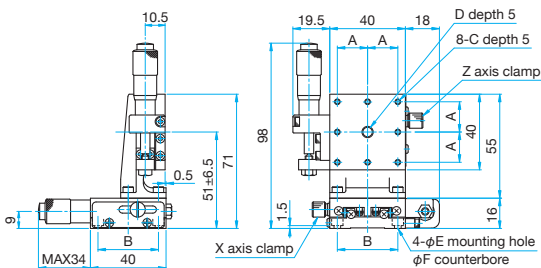


TSD-404CL/404CLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



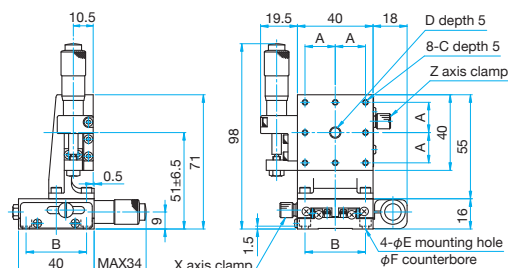
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-404CL	16	32	M3	M6 P1	3.5	6
TSD-404CLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-404SL/404SLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-404SL	16	32	M3	M6 P1	3.5	6
TSD-404SLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-404SRL/404SRLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-404SRL	16	32	M3	M6 P1	3.5	6
TSD-404SRLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

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Ohters

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

XZ Axis Steel Extended Contact Translation Stages (Vertical)

TSD-604L Stage Size 60 x 60 mm

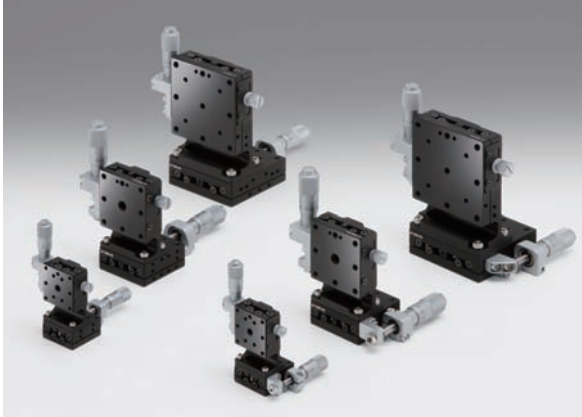
TSD-654L Stage Size 65 x 65 mm

RoHS

RoHS

This XZ assembly incorporates an (X) axis steel linear stage and a (Z) axis steel stage with an integrated vertical bracket.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-604*/L/654*/L) are also available. [Reference](#) E214 [Catalog Code](#) W7068

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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-604CL	TSD-604SL	TSD-654CL-M6	TSD-654SL-M6
	INCH	—	—	TSD-654CLUU	TSD-654SLUU
(Opposite Model)	METRIC	—	TSD-604SRL	—	TSD-654SRL-M6
	INCH	—	—	—	TSD-654SRLUU
Stage Size [mm]		60×60	60×60	65×65	65×65
Axes of Travel		XZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		X axis ± 6.5 Z axis ±6.5	X axis ±6.5 Z axis ±6.5	X axis ±6.5 Z axis ±6.5	X axis ±6.5 Z axis ±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]		49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1	1
	Pitch [N·m]	8.0	8.0	8.0	8.0
Max. Moment Capacity	Roll [N·m]	8.0	8.0	8.0	8.0
	Pitch [°/N·cm]	0.45	0.45	0.45	0.45
Options		FP	FP	FP	FP
Weight [kg]		1.3	1.3	1.6	1.6

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

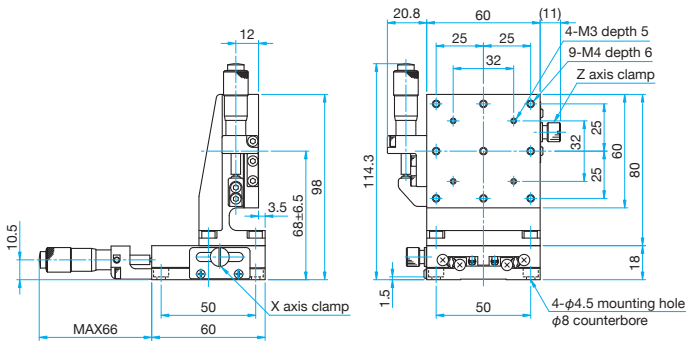
* Please add an option code as the part number suffix to specify various optional specifications.

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

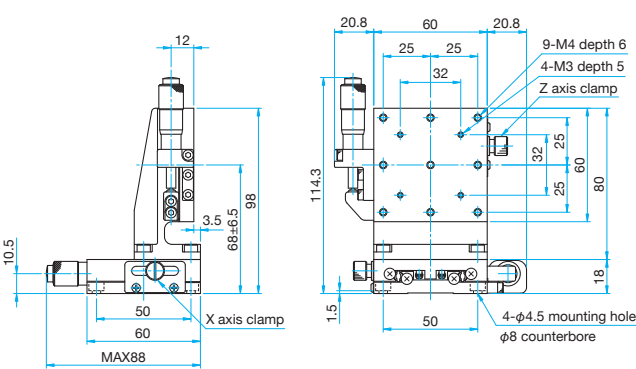


Outline Drawing

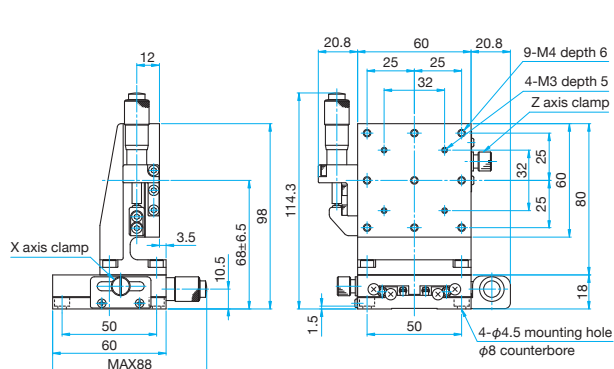
TSD-604CL Hexagonal socket head cap screw M4×6...4 screws



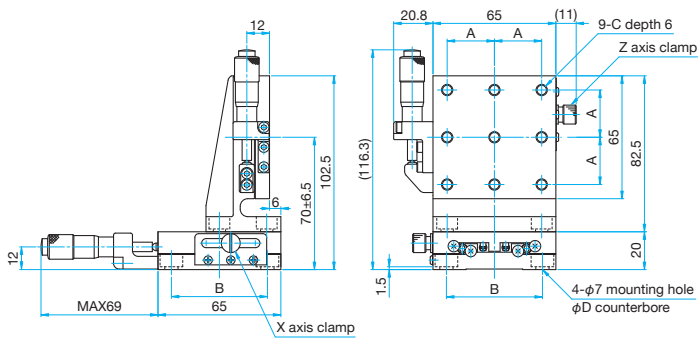
TSD-604SL Hexagonal socket head cap screw M4×6...4 screws



TSD-604SRL Hexagonal socket head cap screw M4×6...4 screws



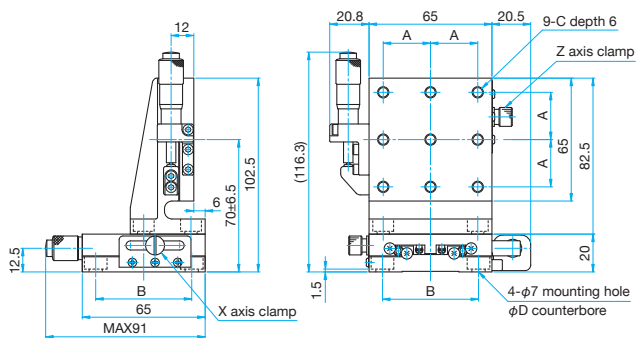
TSD-654CL-M6/654CLUU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-654CL-M6	25	50	M6 P1	11
TSD-654CLUU	25.4	50.8	1/4-20UNC	12

TSD-654SL-M6/654SLUU

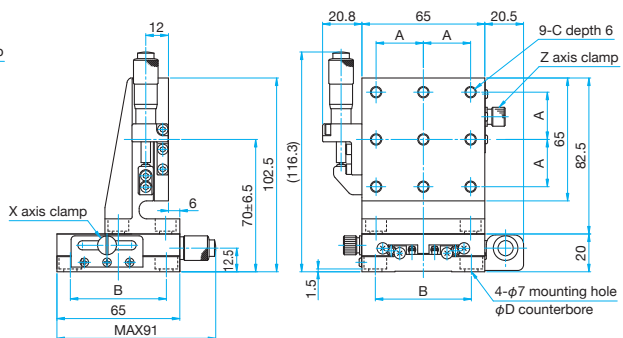
Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-654SL-M6	25	50	M6 P1	11
TSD-654SLUU	25.4	50.8	1/4-20UNC	12

TSD-654SRL-M6/654SRLUU

Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-654SRL-M6	25	50	M6 P1	11
TSD-654SRLUU	25.4	50.8	1/4-20UNC	12

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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages

TSD-255 Stage Size 25 × 25 mm

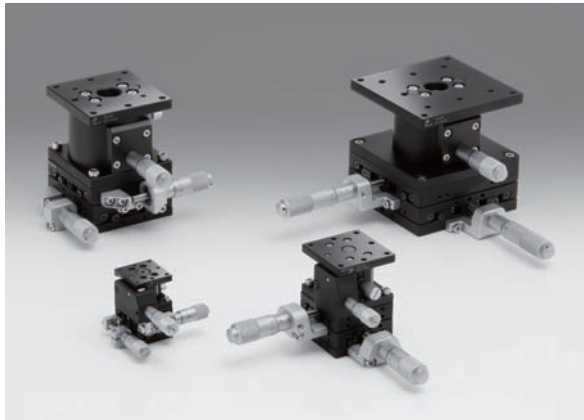
RoHS

TSD-405 Stage Size 40 × 40 mm

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



Guide

- ▶ Vacuum-compatible stainless steel stages (TSDS-255/405) are also available. [Reference](#) E216 [Catalog Code](#) W7076

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.

Specifications

Guide	METRIC	TSD-255C	TSD-255S	TSD-405C	TSD-405S	
Part Number	INCH	—	—	TSD-405CUU	TSD-405SUU	
X Axis Stages	METRIC	—	TSD-255SR	—	TSD-405SR	
XY Axis Stages	INCH	—	—	—	TSD-405SRUU	
Z Axis Stages	Stage Size [mm]	25×25	25×25	40×40	40×40	
XZ Axis Stages	Axes of Travel	XYZ axis				
XYZ Axis Stages	Micrometer Position	Center	Side	Center	Side	
Rotation Stages	Travel [mm]	XY axis ±3 Z axis ±3	XY axis ±3 Z axis ±3	XY axis ±6.5 Z axis ±3	XY axis ±6.5 Z axis ±3	
Goniometer	Lead of Actuator [mm/rotation]	0.5	0.5	0.5	0.5	
Tilt Stages	Micrometer Readable Resolution [mm]	0.01	0.01	0.01	0.01	
Vacuum	Guide Method	Extended contact ball bearing guide				
Ball Bearing Guide	Primary Material	Steel				
Crossed Roller	Finish	Super black chrome + Black matte				
Dovetail	Load Capacity [N]	29.4 (3.0kgf)	29.4 (3.0kgf)	88.3 (9.0kgf)	88.3 (9.0kgf)	
Lapping	Travel Accuracy	Straightness [μm]	5	5	2.5	2.5
V Groove Screw	Max. Moment Capacity	Pitch [N·m]	1.0	1.0	3.9	3.9
Ohters		Roll [N·m]	1.0	1.0	3.9	3.9
15 × 15 mm	Moment Stiffness	Pitch [°/N·cm]	10.55	10.55	2.34	2.34
25 × 25 mm		Roll [°/N·cm]	10.55	10.55	2.34	2.34
40 × 40 mm	Parallelism [μm]	130	130	130	130	
60 × 60 mm	Options	FP	FP	FP	FP	
65 × 65 mm	Weight [kg]	0.2	0.2	0.55	0.55	

Option for □25mm

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	0.25	—	E008

Option for □40mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	XY axis: FPSA-62540 Z axis: FPSA-42525	0.25	—	E008

* 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). (40 × 40mm)

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Ohters

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

120 × 120 mm

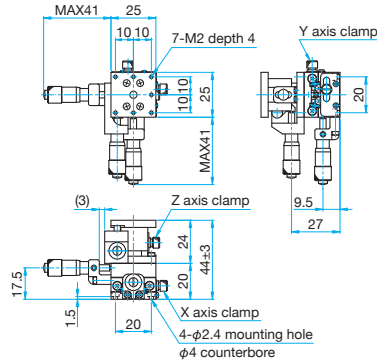
Others



Outline Drawing

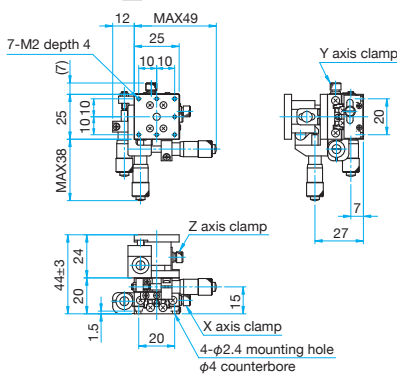
TSD-255C

Hexagonal socket head cap screw M2x4...4 screws



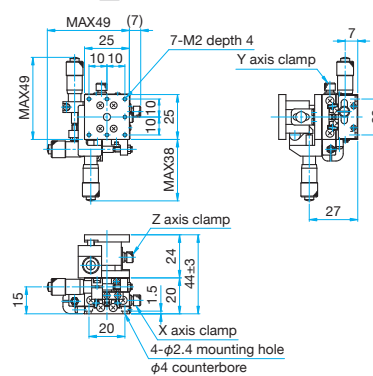
TSD-255S

Hexagonal socket head cap screw M2x4...4 screws



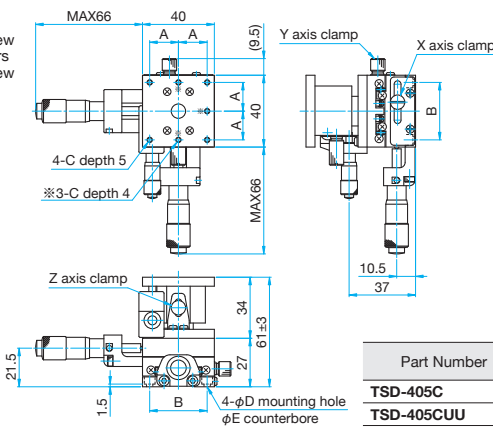
TSD-255SR

Hexagonal socket head cap screw M2x4...4 screws



TSD-405C/405CUU

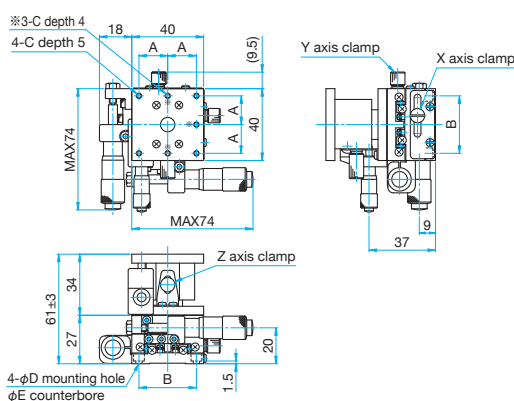
Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-405C	16	32	M3	3.5	6
TSD-405CUU	15.875	31.75	6-32UNC	4	6.5

TSD-405S/405SUU

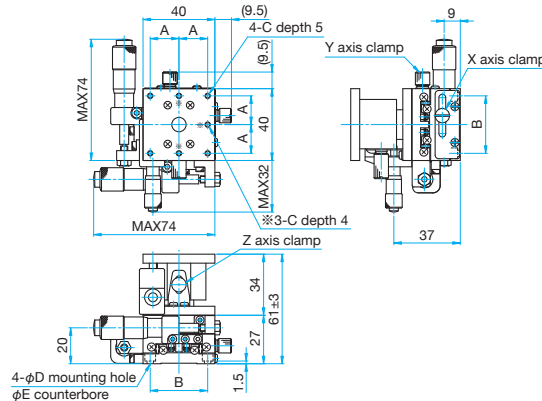
Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-405S	16	32	M3	3.5	6
TSD-405SUU	15.875	31.75	6-32UNC	4	6.5

TSD-405SR/405SRUU

Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-405SR	16	32	M3	3.5	6
TSD-405SRUU	15.875	31.75	6-32UNC	4	6.5

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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages

TSD-605 Stage Size 60 x 60 mm

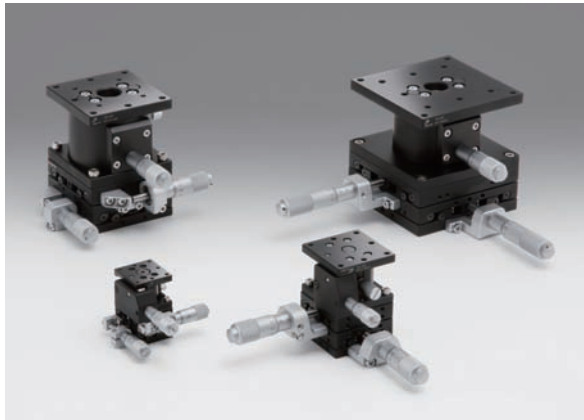
RoHS

TSD-655 Stage Size 65 x 65 mm

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-605/655) are also available. [Reference](#) E216 [Catalog Code](#) W7076

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.

Specifications

Part Number	METRIC	TSD-605C	TSD-605S	TSD-655C-M6	TSD-655S-M6
	INCH	—	—	TSD-655CUU	TSD-655SUU
(Opposite Model)	METRIC	—	TSD-605SR	—	TSD-655SR-M6
	INCH	—	—	—	TSD-655SRUU
Stage Size [mm]		60×60	60×60	65×65	65×65
Axes of Travel		XYZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		XY axis ±6.5 Z axis ±5	XY axis ±6.5 Z axis ±5	XY axis ±6.5 Z axis ±5	XY axis ±6.5 Z axis ±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 + Black matte			
Load Capacity [N]		147 (15.0kgf)	147 (15.0kgf)	147 (15.0kgf)	147 (15.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	6.9	6.9	6.9	6.9
	Roll [N·m]	6.9	6.9	6.9	6.9
Moment Stiffness	Pitch [°/N·cm]	0.81	0.81	0.81	0.81
	Roll [°/N·cm]	0.81	0.81	0.81	0.81
Parallelism [μm]		130	130	130	130
Options		FP	FP	FP	FP
Weight [kg]		1.9	1.9	2.0	2.0

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

* 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).

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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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

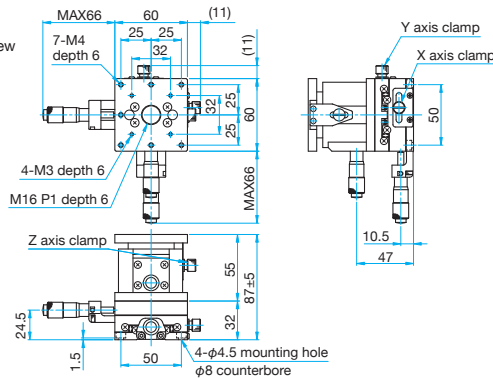
Others



Outline Drawing

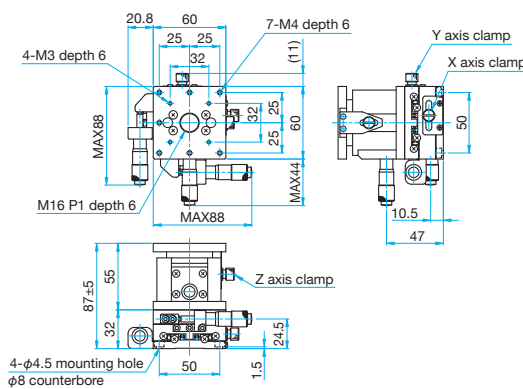
TSD-605C

Hexagonal socket head cap screw M4x6...4 screws



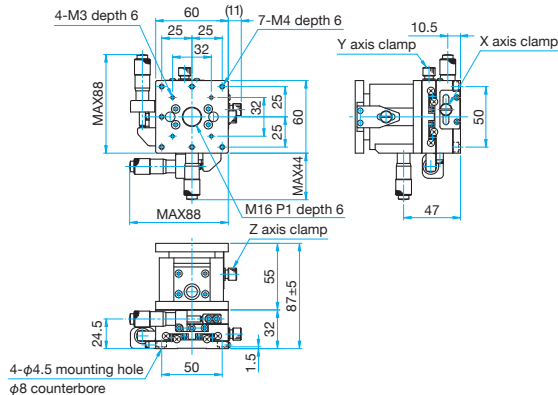
TSD-605S

Hexagonal socket head cap screw M4x6...4 screws



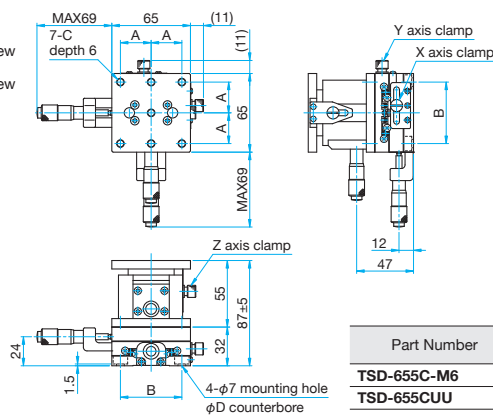
TSD-605SR

Hexagonal socket head cap screw M4x6...4 screws



TSD-655C-M6/655CUU

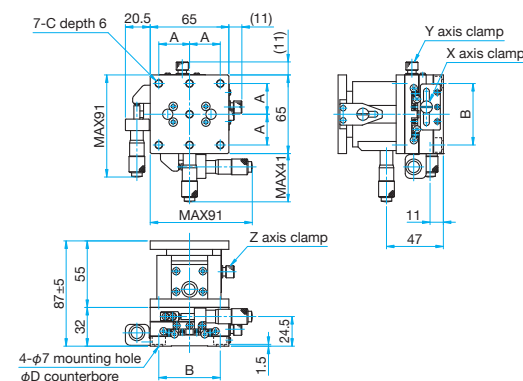
Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-655C-M6	25	50	M6 P1	11
TSD-655CUU	25.4	50.8	1/4-20UNC	12

TSD-655S-M6/655SUU

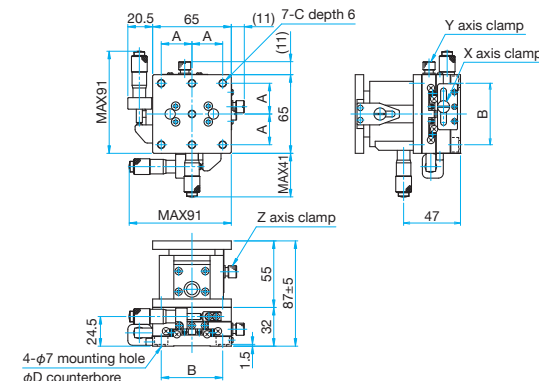
Hexagonal socket head cap screw M6x6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNCx1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-655S-M6	25	50	M6 P1	11
TSD-655SUU	25.4	50.8	1/4-20UNC	12

TSD-655SR-M6/655SRUU

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)
TSD-655SR-M6	25	50	M6 P1	11
TSD-655SRUU	25.4	50.8	1/4-20UNC	12

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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages

TSD-805 Stage Size 80 x 80 mm

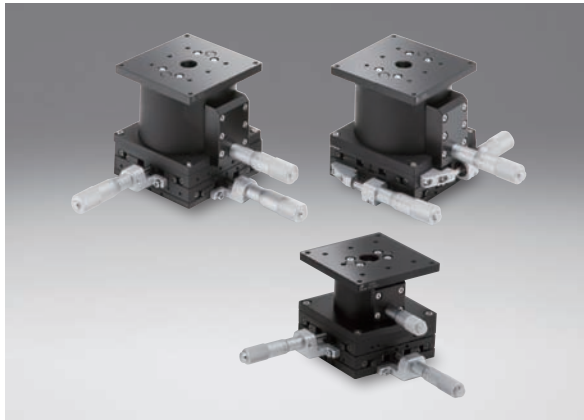
TSD-1005 Stage Size 100 x 100 mm

RoHS

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for micrometer position and fine pitch screws.



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.

Specifications

Part Number	METRIC	TSD-805C	TSD-805S	TSD-1005C	TSD-1005S
(Opposite Model)	METRIC		TSD-805SR	—	TSD-1005SR
Stage Size [mm]		80×80	80×80	100×100	100×100
Axes of Travel		XYZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		XY axis ±12.5 Z axis ±5	XY axis ±12.5 Z axis ±5	XY axis ± 12.5 Z axis ±10	XY axis ±12.5 Z axis ±10
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 + Black matte			
Load Capacity [N]		147 (15.0kgf)	147 (15.0kgf)	245 (25.0kgf)	245 (25.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	6.9	6.9	9.8	9.8
	Roll [N·m]	6.9	6.9	9.8	9.8
Moment Stiffness	Pitch [°/N·cm]	0.67	0.67	0.45	0.45
	Roll [°/N·cm]	0.67	0.67	0.45	0.45
Parallelism [μm]		130	130	150	150
Options		FP	FP	FP	FP
Weight [kg]		2.6	2.6	6.1	6.1

Option for □80mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	XY axis: FPSA-62550 X axis: FPSA-62540	0.25	—	E008

Option for □100mm

Option Code	Compatible product		Lead of Actuator [mm/rotation]	Micrometer Readable Resolution [mm]	Reference
	Products Name	Part Number			
FP	Fine-pitch Screw Adjusters	FPSA-62555	0.25	—	E008

* 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).

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

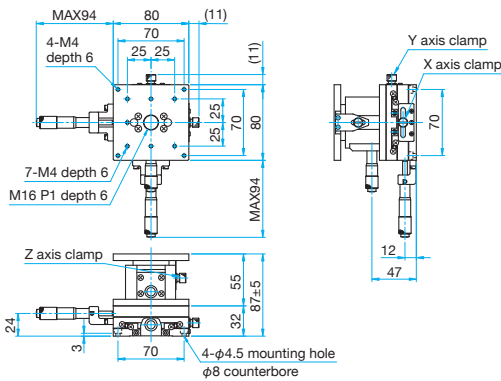
120 × 120 mm

Others

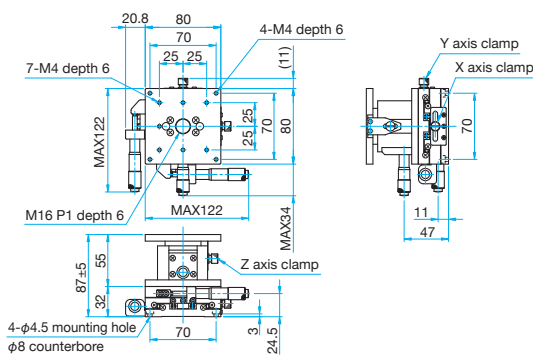


Outline Drawing

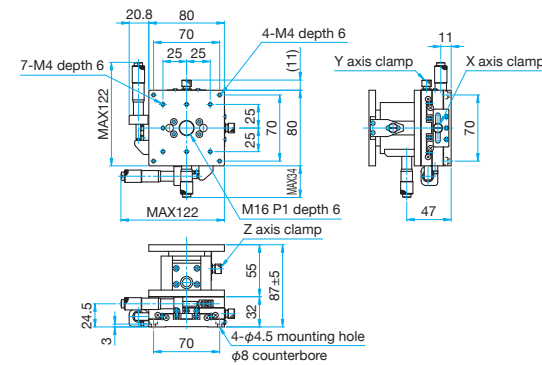
TSD-805C Hexagonal socket head cap screw M4x8...4 screws



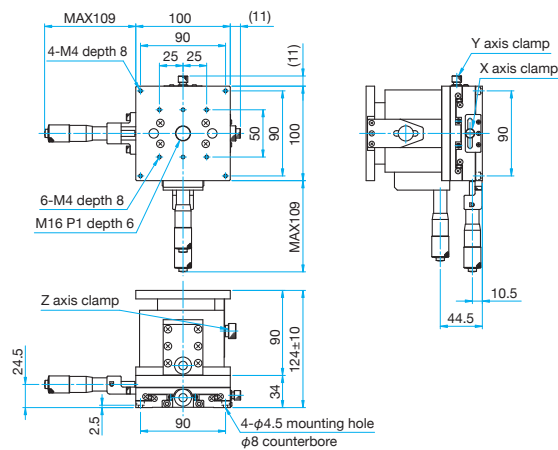
TSD-805S Hexagonal socket head cap screw M4x8...4 screws



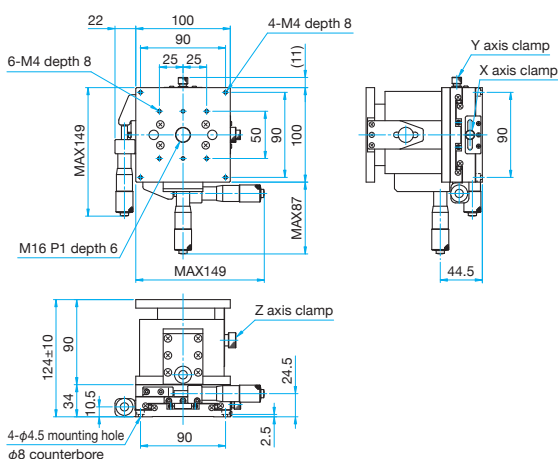
TSD-805SR Hexagonal socket head cap screw M4x8...4 screws



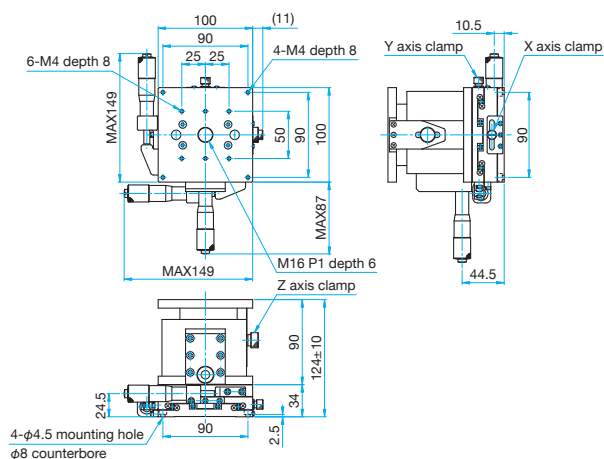
TSD-1005C Hexagonal socket head cap screw M4x8...4 screws



TSD-1005S Hexagonal socket head cap screw M4x8...4 screws



TSD-1005SR Hexagonal socket head cap screw M4x8...4 screws



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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages

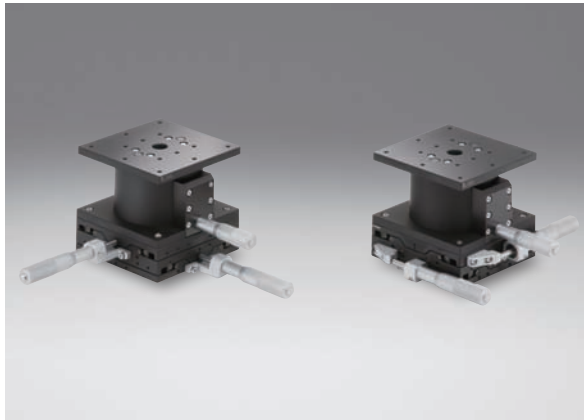
Stage Size 120 × 120 mm

TSD-1205

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) vertical axis steel stage with a horizontal flat top plate.

There are options for metric/inch, micrometer position and fine pitch screws.



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.

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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

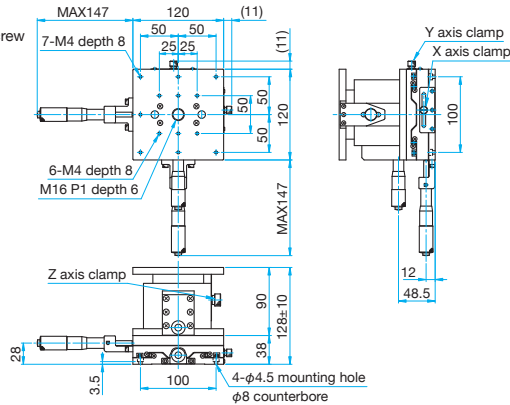
Specifications					
Part Number	METRIC	TSD-1205C	TSD-1205S	TSD-1205C-M6	TSD-1205S-M6
	INCH	—	—	TSD-1205CUU	TSD-1205SUU
(Opposite Model)	METRIC	—	TSD-1205SR	—	TSD-1205SR-M6
	INCH	—	—	—	TSD-1205SRUU
Stage Size [mm]		120×120	120×120	120×120	120×120
Axes of Travel		XYZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		XY axis ±20 Z axis ±10	XY axis ±20 Z axis ±10	XY axis ±20 Z axis ±10	XY axis ±20 Z axis ±10
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 + Black matte			
Load Capacity [N]		245 (25.0kgf)	245 (25.0kgf)	245 (25.0kgf)	245 (25.0kgf)
Travel Accuracy	Straightness [μm]	2.5	2.5	2.5	2.5
Max. Moment Capacity	Pitch [N·m]	9.8	9.8	9.8	9.8
	Roll [N·m]	9.8	9.8	9.8	9.8
Moment Stiffness	Pitch [°/N·cm]	0.41	0.41	0.41	0.41
	Roll [°/N·cm]	0.41	0.41	0.41	0.41
Parallelism [μm]		150	150	150	150
Weight [kg]		7.3	7.3	7.3	7.3



Outline Drawing

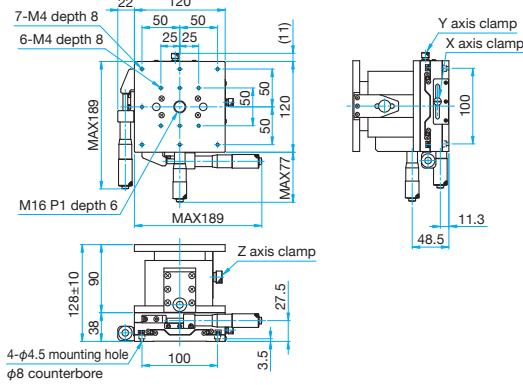
TSD-1205C

Hexagonal socket head cap screw M4x8...4 screws



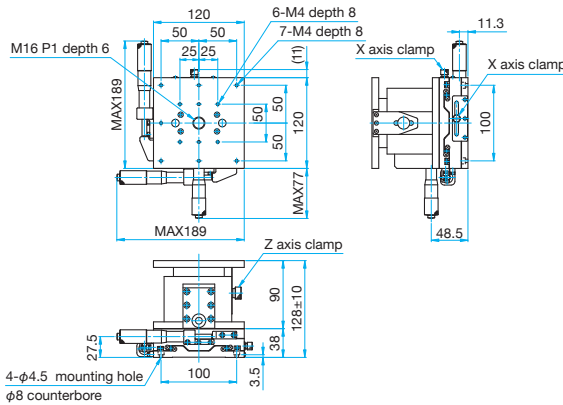
TSD-1205S

Hexagonal socket head cap screw M4x8...4 screws



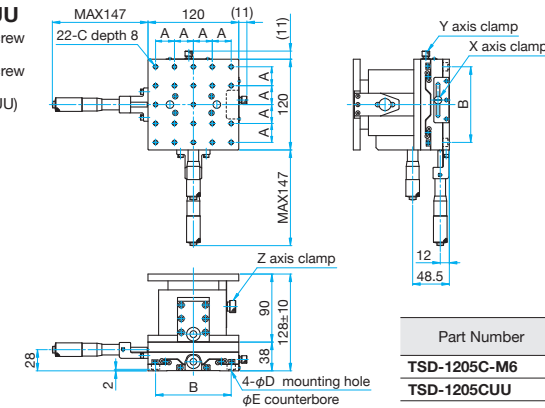
TSD-1205SR

Hexagonal socket head cap screw M4x8...4 screws



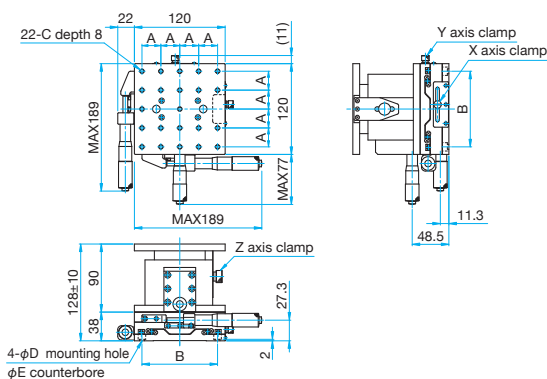
TSD-1205C-M6/1205CUU

Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



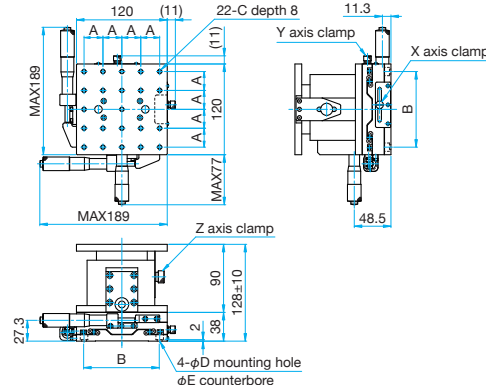
TSD-1205S-M6/1205SUU

Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



TSD-1205SR-M6/1205SRUU

Hexagonal socket head cap screw M6x8...4 screws (M6)
Hexagonal socket head cap screw (stainless steel construction) 1/4-20UNCx5/16...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1205S-M6	25	100	M6 P1	6.5	11
TSD-1205SUU	25.4	101.6	1/4-20UNC	7	12

Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1205SR-M6	25	100	M6 P1	6.5	11
TSD-1205SRUU	25.4	101.6	1/4-20UNC	7	12

Part Number	A (mm)	B (mm)	C	D (mm)	E (mm)
TSD-1205C-M6	25	100	M6 P1	6.5	11
TSD-1205CUU	25.4	101.6	1/4-20UNC	7	12

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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages (Vertical)

TSD-255L Stage Size 25 x 25 mm

TSD-405L Stage Size 40 x 40 mm

RoHS

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) axis steel stage with an integrated vertical bracket.

There are options for micrometer position and fine pitch screws.



Guide

► Vacuum-compatible stainless steel stages (TSDS-255*L/405*L) are also available. [Reference](#) E218 [Catalog Code](#) W7080

Specifications

Part Number	METRIC	TSD-255CL	TSD-255SL	TSD-405CL	TSD-405SL
	INCH	—	—	TSD-405CLUU	TSD-405SLUU
(Opposite Model)	METRIC	—	TSD-255SRL	—	TSD-405SRL
	INCH	—	—	—	TSD-405SRLUU
Stage Size [mm]		25×25	25×25	40×40	40×40
Axes of Travel		XYZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		XY axis ±3 Z axis ±3	XY axis ±3 Z axis ±3	XY axis ±6.5 Z axis ±6.5	XY axis ±6.5 Z axis ±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]		14.7 (1.5kgf)	14.7 (1.5kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1	1
Max. Moment Capacity	Pitch [N·m]	2.2	2.2	5.0	5.0
	Roll [N·m]	2.1	2.1	5.0	5.0
Moment Stiffness	Pitch [°/N·cm]	6.7	6.7	1.1	1.1
	Options	FP	FP	FP	FP
Weight [kg]		0.2	0.2	0.6	0.6

Option for □25mm

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	0.25	—	E008

Option for □40mm

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

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

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

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Others

15 × 15 mm

25 × 25 mm

40 × 40 mm

60 × 60 mm

65 × 65 mm

80 × 80 mm

100 × 100 mm

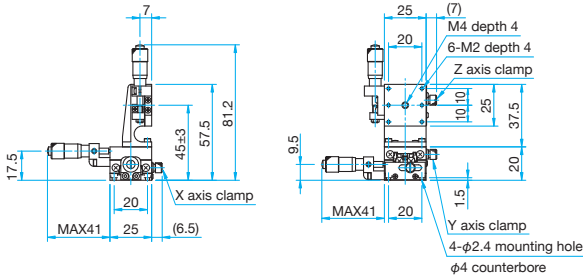
120 × 120 mm

Others

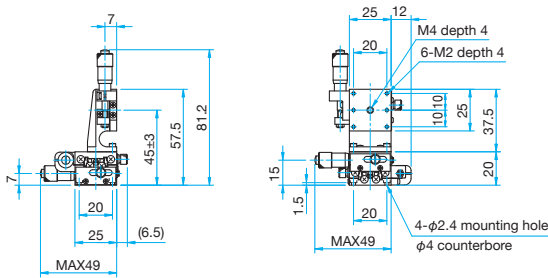


Outline Drawing

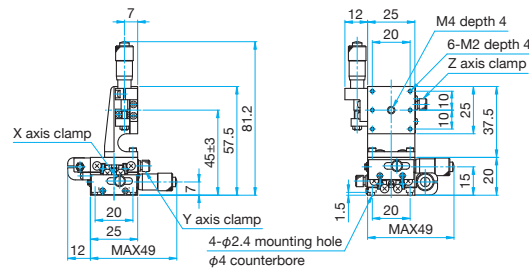
TSD-255CL Hexagonal socket head cap screw M2x4...4 screws



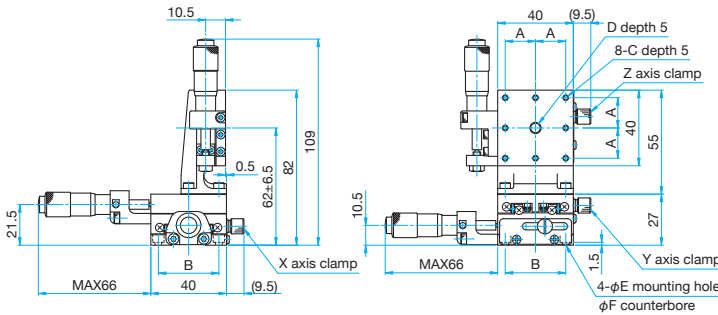
TSD-255SL Hexagonal socket head cap screw M2x4...4 screws



TSD-255SRL Hexagonal socket head cap screw M2x4...4 screws

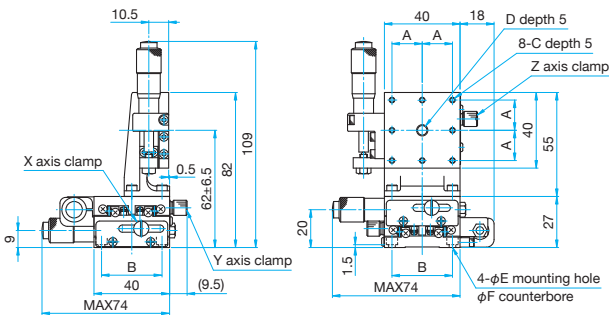


TSD-405CL/405CLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/6...4 screws (UU)



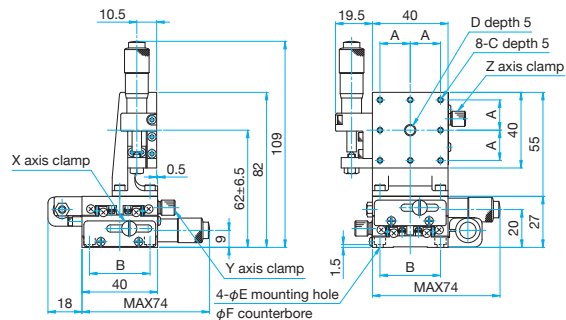
Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-405CL	16	32	M3	M6 P1	3.5	6
TSD-405CLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-405SL/405SLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/6...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-405SL	16	32	M3	M6 P1	3.5	6
TSD-405SLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

TSD-405SRL/405SRLUU Hexagonal socket head cap screw M3x6...4 screws, Spring washers
Hexagonal socket head cap screw 6-32UNCx3/6...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D	E (mm)	F (mm)
TSD-405SRL	16	32	M3	M6 P1	3.5	6
TSD-405SRLUU	15.875	31.75	6-32UNC	1/4-20UNC	4	6.5

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Ohters

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

XYZ Axis Steel Extended Contact Translation Stages (Vertical)

TSD-605L Stage Size 60 x 60 mm

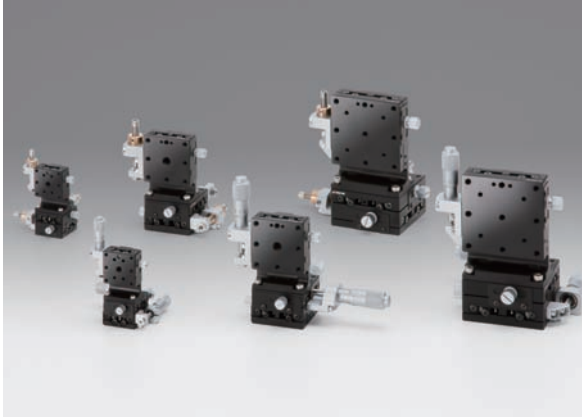
RoHS

TSD-655L Stage Size 65 x 65 mm

RoHS

This XYZ assembly incorporates an integrated (XY) axis steel linear stage and a (Z) axis steel stage with an integrated vertical bracket.

There are options for micrometer position and fine pitch screws.



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► Vacuum-compatible stainless steel stages (TSDS-605*L/655*L) are also available. [Reference](#) E218 [Catalog Code](#) W7080

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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-605CL	TSD-605SL	TSD-655CL-M6	TSD-655SL-M6
	INCH	—	—	TSD-655CLUU	TSD-655SLUU
(Opposite Model)	METRIC	—	TSD-605SRL	—	TSD-655SRL-M6
	INCH	—	—	—	TSD-655SRLUU
Stage Size [mm]		60×60	60×60	65×65	65×65
Axes of Travel		XYZ axis			
Micrometer Position		Center	Side	Center	Side
Travel [mm]		XY axis ±6.5 Z axis ±6.5	XY axis ±6.5 Z axis ±6.5	XY axis ±6.5 Z axis ±6.5	XY axis ±6.5 Z axis ±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]		49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)	49 (5.0kgf)
Travel Accuracy	Straightness [μm]	1	1	1	1
	Pitch [N·m]	8.0	8.0	8.0	8.0
Max. Moment Capacity	Roll [N·m]	8.0	8.0	8.0	8.0
	Pitch [°/N·cm]	0.58	0.58	0.58	0.58
Options		FP	FP	FP	FP
Weight [kg]		1.7	1.7	1.9	1.9

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

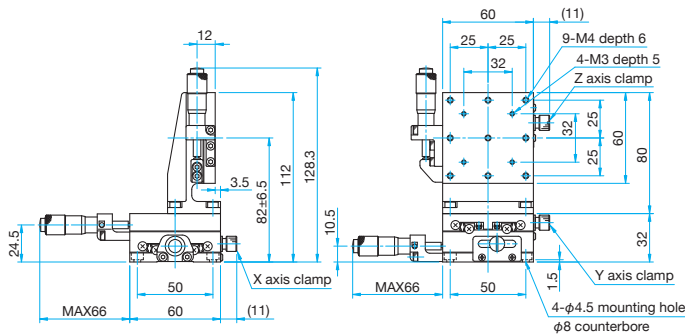
* Please add an option code as the part number suffix to specify various optional specifications.

* The FP type requires a hex wrench or the optional hex wrench with knob (KCL) for driving operation. [Reference](#) F010 [Catalog Code](#) W8008

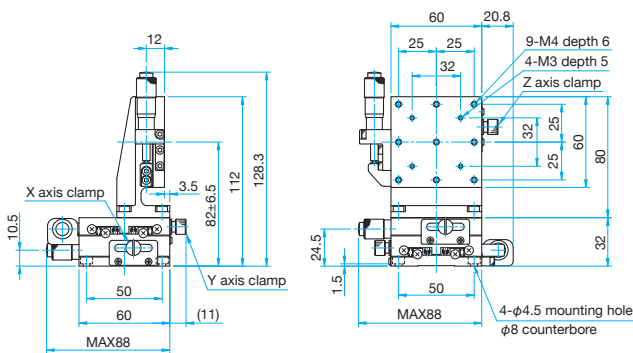


Outline Drawing

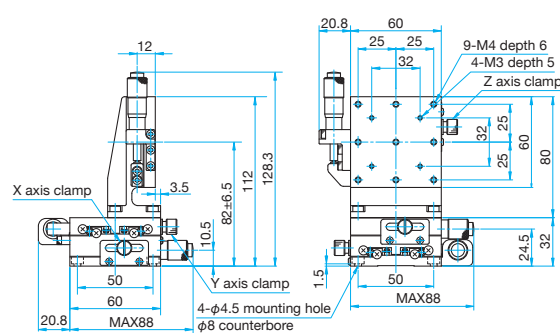
TSD-605CL Hexagonal socket head cap screw M4×6...4 screws



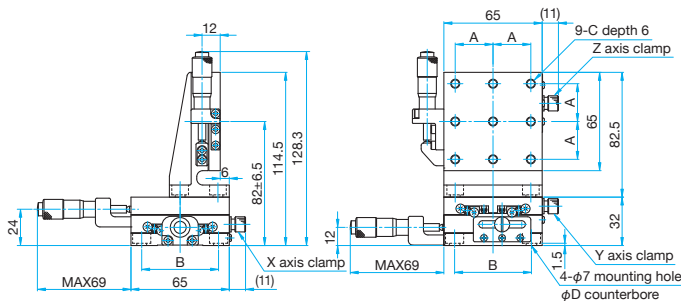
TSD-605SL Hexagonal socket head cap screw M4×6...4 screws



TSD-605SRL Hexagonal socket head cap screw M4×6...4 screws



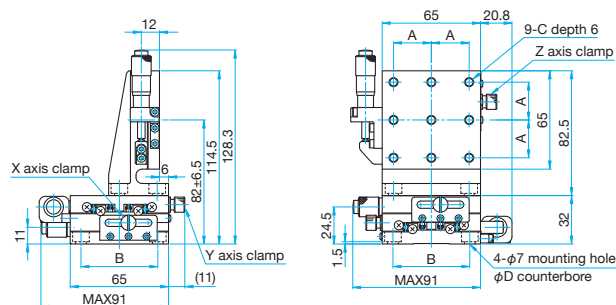
TSD-655CL-M6/655CLUU Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-655CL-M6	25	50	M6 P1	11
TSD-655CLUU	25.4	50.8	1/4-20UNC	12

TSD-655SL-M6/655SLUU

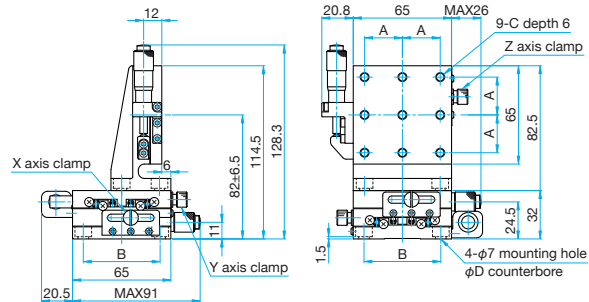
Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-655SL-M6	25	50	M6 P1	11
TSD-655SLUU	25.4	50.8	1/4-20UNC	12

TSD-655SRL-M6/655SRLUU

Hexagonal socket head cap screw M6×6...4 screws (M6)
Hexagonal socket head cap screw 1/4-20UNC×1/4...4 screws (UU)



Part Number	A (mm)	B (mm)	C	D (mm)
TSD-655SRL-M6	25	50	M6 P1	11
TSD-655SRLUU	25.4	50.8	1/4-20UNC	12

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