

## Rack & Pinion - X Stages 40 x 40, 40 x 60



↑ TLS-412



↑ TLS-412W



↑ TLS-412S



↑ TLS-412WS



↑ TLS-612



↑ TLS-612W



↑ TLS-612S



↑ TLS-612WS

### Features

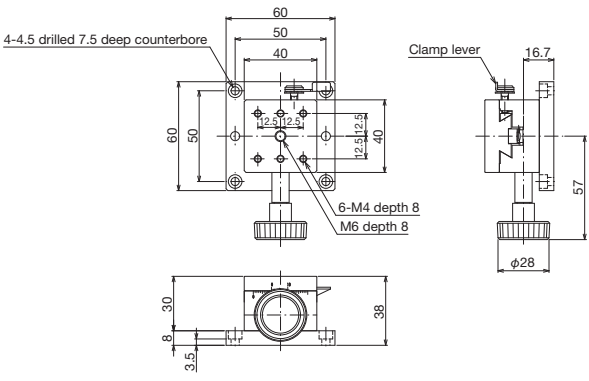
- The travel unit uses a dovetail (D-T method) for the travel guide.
- A rack & pinion is used for the feed method, achieving large travel amounts.
- Versatile use for positioning of cameras, sensors, etc.
- A lever type clamp enables fixing in a desired position with strong retention force.

Model number	TLS-412	TLS-412W	TLS-412S	TLS-412WS	TLS-612	TLS-612W	TLS-612S	TLS-612WS
Model name	DT X Stage 40 x 40	DT X Stage 40 x 40 (Double Knob)	DT X Stage 40 x 40 (Coarse/ Fine Movement Knob)	DT X Stage 40 x 40 (Double Coarse/ Fine Movement Knob)	DT X Stage 40 x 60	DT X Stage 40 x 60 (Double Knob)	DT X Stage 40 x 60 (Coarse/ Fine Movement Knob)	DT X Stage 40 x 60 (Double Coarse/ Fine Movement Knob)
Travel direction	X-axis single direction							
Stage surface	40 mm x 40 mm				40 mm x 60 mm			
Clamp method	Lever method							
Operating part mounting position	Single knob	Double knob	Single coarse/fine movement knob	Double coarse/fine movement knob	Single knob	Double knob	Single coarse/fine movement knob	Double coarse/fine movement knob
Feed method	Rack & pinion method							
Travel amount	±10 mm				±15 mm			
Travel amount/1 knob rotation	Approx. 18 mm		Coarse movement: approx. 25.5 mm, Fine movement: approx. 3.3 mm		Approx. 18 mm		Coarse movement: approx. 25.5 mm, Fine movement: approx. 3.3 mm	
Scale	Vernier reading: 0.1 mm							
Sensitivity	0.1 mm							
Travel guide	Dovetail							
Travel accuracy	Straightness: 0.03 mm							
Moment rigidity	Pitch rigidity: 0.7 s/N-cm, roll rigidity: 0.3 s/N-cm				Pitch rigidity: 0.6 s/N-cm, roll rigidity: 0.2 s/N-cm			
Parallelism	0.06 mm							
Parallelism of motion	0.03 mm				0.04 mm			
Load capacity	39.2 N (4 kgf)							
Mass	0.24 kg	0.27 kg	0.31 kg	0.37 kg	0.31 kg	0.33 kg	0.38 kg	0.44 kg
Main materials/surface treatment	Aluminum alloy/black satin anodized finish							

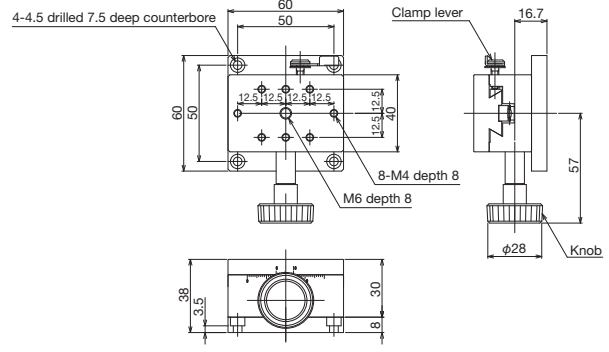


# Rack & Pinion Stages ◀ Manual Stages ◀

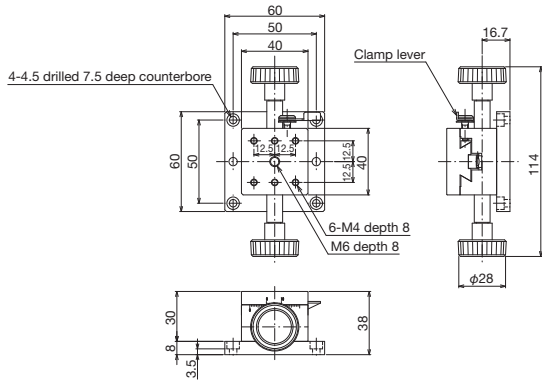
## Product Appearance



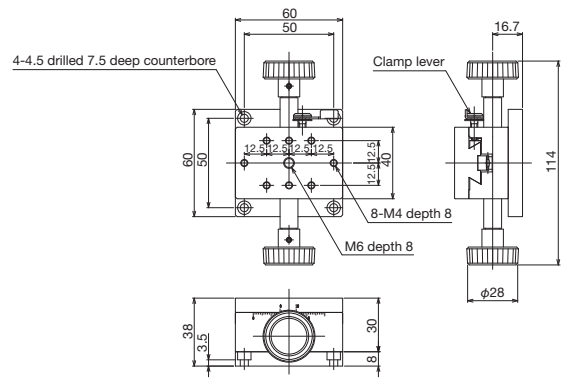
↑ TLS-412



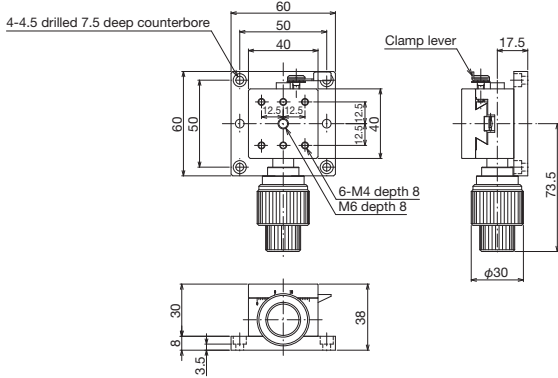
↑ TLS-612



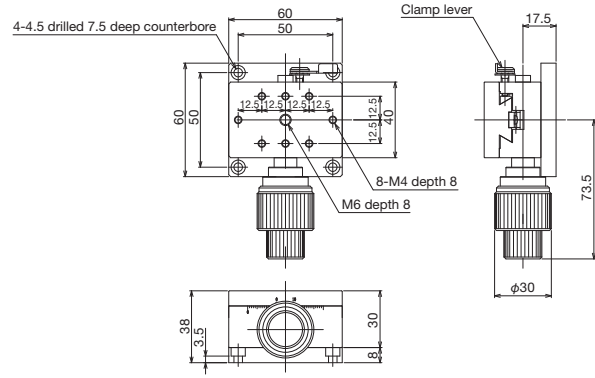
↑ TLS-412W



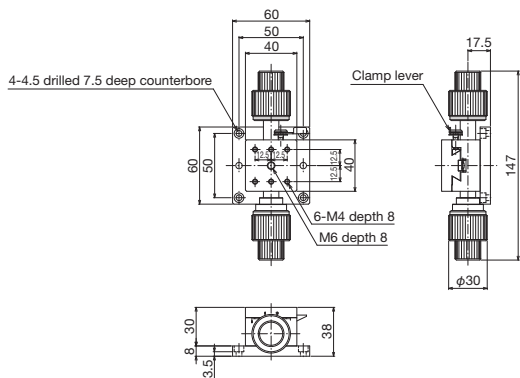
↑ TLS-612W



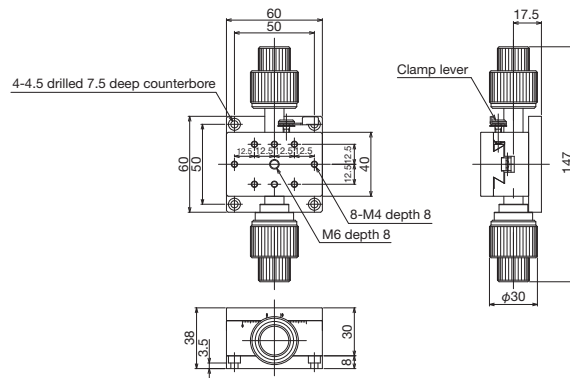
↑ TLS-412S



↑ TLS-612S



↑ TLS-412WS



↑ TLS-612WS

Motorized Stages	Automated Products for Microscopes	Manual Stages	Fix Stages	Thin VB Stages	Rack & Pinion Stages	High-Carriage Stages	Swim Stages, Cross Roller Stages	Z-Like Stages, Z Stages	Rotary Stages	Tilt Stages	Tilt/Rotary Stages	XZ, YZ Stages	XYZ Stages
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## Rack & Pinion - X Stages 40 x 90, 40 x 140



↑ TLS-912



↑ TLS-912W



↑ TLS-912S



↑ TLS-912WS



↑ TLS-112



↑ TLS-112W



↑ TLS-112S



↑ TLS-112WS

### Features

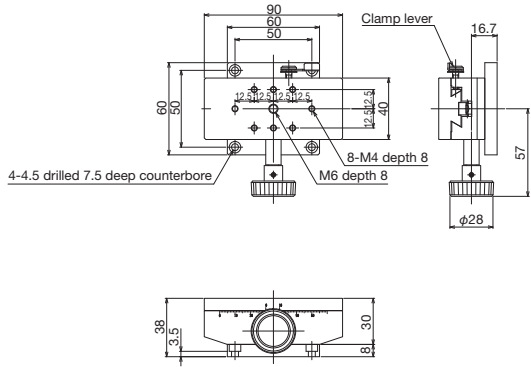
- The travel unit uses a dovetail (D-T method) for the travel guide.
- A rack & pinion is used for the feed method, achieving large travel amounts.
- Versatile use for positioning of cameras, sensors, etc.
- A lever type clamp enables fixing in a desired position with strong retention force.

Model number	TLS-912	TLS-912W	TLS-912S	TLS-912WS	TLS-112	TLS-112W	TLS-112S	TLS-112WS
Model name	DT X Stage 40 x 90	DT X Stage 40 x 90 (Double Knob)	DT X Stage 40 x 90 (Coarse/ Fine Movement Knob)	DT X Stage 40 x 90 (Double Coarse/ Fine Movement Knob)	DT X Stage 40 x 140	DT X Stage 40 x 140 (Double Knob)	DT X Stage 40 x 140 (Coarse/ Fine Movement Knob)	DT X Stage 40 x 140 (Double Coarse/ Fine Movement Knob)
Travel direction	X-axis single direction							
Stage surface	40 mm x 90 mm				40 mm x 140 mm			
Clamp method	Lever method							
Operating part mounting position	Single knob	Double knob	Single coarse/fine movement knob	Double coarse/fine movement knob	Single knob	Double knob	Single coarse/fine movement knob	Double coarse/fine movement knob
Feed method	Rack & pinion method							
Travel amount	±30 mm				±50 mm			
Travel amount/1 knob rotation	Approx. 18 mm		Coarse movement: approx. 25.5 mm, Fine movement: approx. 3.3 mm		Approx. 18 mm		Coarse movement: approx. 25.5 mm, Fine movement: approx. 3.3 mm	
Scale	Vernier reading: 0.1 mm							
Sensitivity	0.1 mm							
Travel guide	Dovetail							
Travel accuracy	Straightness: 0.03 mm							
Moment rigidity	Pitch rigidity: 0.5 s/N-cm, roll rigidity: 0.2 s/N-cm				Pitch rigidity: 0.4 s/N-cm, roll rigidity: 0.1 s/N-cm			
Parallelism	0.06 mm				0.08 mm			
Parallelism of motion	0.05 mm				0.06 mm			
Load capacity	39.2 N (4 kgf)							
Mass	0.4 kg	0.42 kg	0.47 kg	0.53 kg	0.55 kg	0.58 kg	0.61 kg	0.67 kg
Main materials/surface treatment	Aluminum alloy/black satin anodized finish							

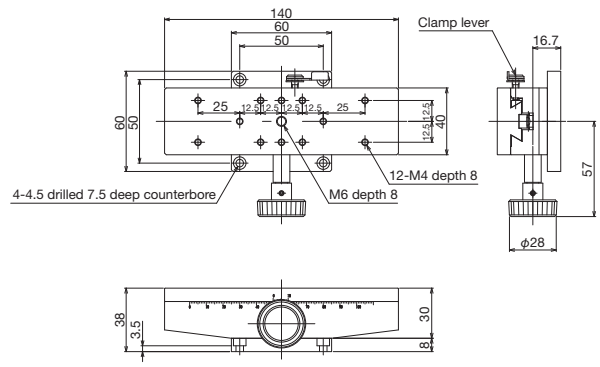


# Rack & Pinion Stages ◀ Manual Stages ◀

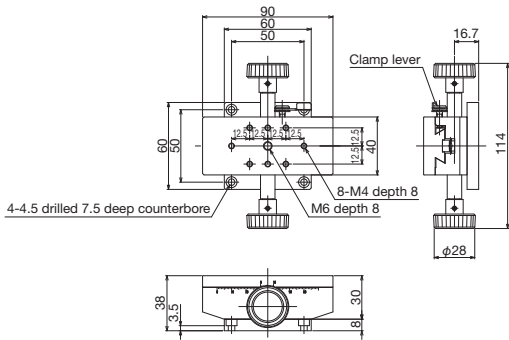
## Product Appearance



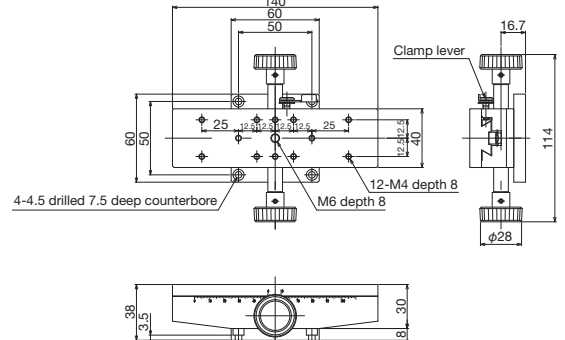
↑ TLS-912



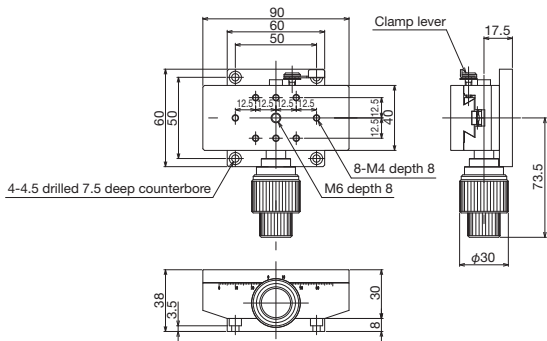
↑ TLS-112



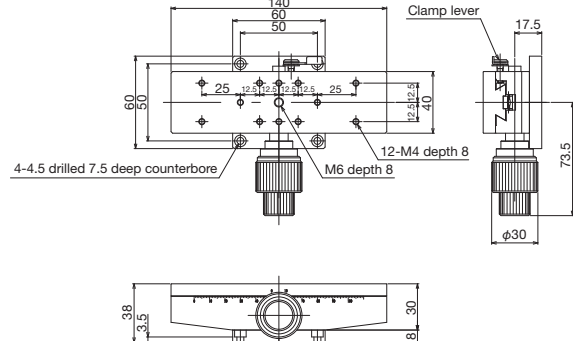
↑ TLS-912W



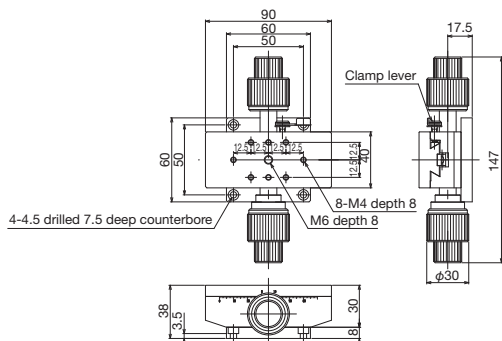
↑ TLS-112W



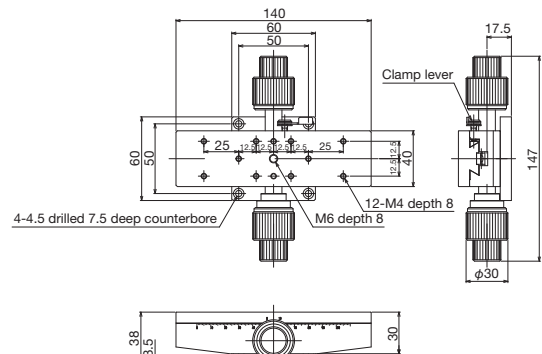
↑ TLS-912S



↑ TLS-112S



↑ TLS-912WS



↑ TLS-112WS

Motorized Stages	Automated Products for Microscopes
Manual Stages	
Fix Stages	
Thin VB Stages	
Rack & Pinion Stages	
High-Grade Stages	
Stein Stages, Cross Roller Stages	
Z-Like Stages, Z Stages	
Rotary Stages	
Tilt Stages	
Tilt/Rotary Stages	
XZ, YZ Stages	
XYZ Stages	