

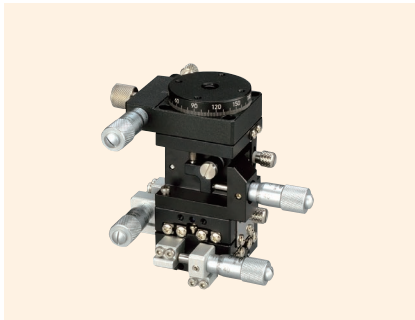
# High-Grade Aluminum XYZ Rotary Stages 30 x 30, 40 x 40, 50 x 50



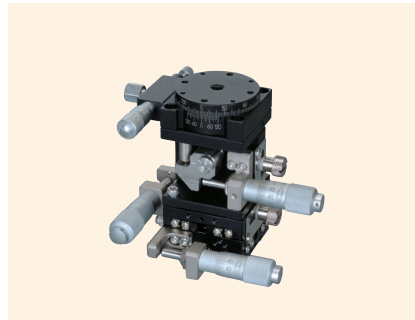
HG-VCR method



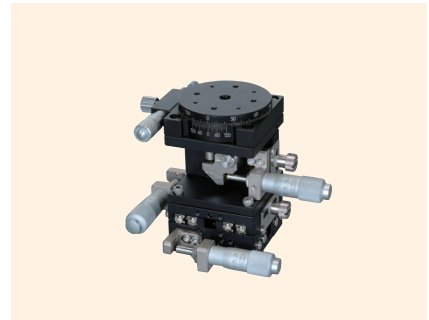
V-CR method



↑ TTR-3047-S1



↑ TTR-4047-S1



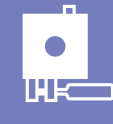
↑ TTR-5047-S1

## Features

- An XYZ rotary stage combining a high-grade aluminum XY stage with a lightweight Z axis and rotary axis stage.
- Standard types and symmetrical types are available for a left-right symmetrical structure.
- Versatile use for precision positioning of cameras, sensors, workpieces, and more.

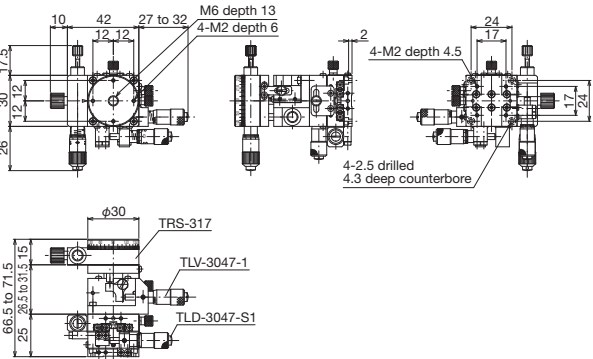
Model number (Standard type)	TTR-3047-S1	TTR-4047-S1	TTR-5047-S1
Model number (Symmetrical type)	TTR-3047-SR1	TTR-4047-SR1	TTR-5047-SR1
Model name	High-Grade Aluminum XYZ Rotary Stage 30 x 30	High-Grade Aluminum XYZ Rotary Stage 40 x 40	High-Grade Aluminum XYZ Rotary Stage 50 x 50
Travel direction	XYZ rotary quadruple direction		
Stage surface	φ 30 mm	φ 39 mm	φ 50 mm
Clamp method	XYZ axis plate clamp, rotating axis compound clamp		
Operating part mounting position	XY axis side *-SR1 is the reverse side to the XY axis		
Travel mechanism/feed method	XY axis CMH-6.5RA, Z axis CMH-6.5F, rotating axis CMH-6.5RA (each axis has a standard micrometer)	XYZ axis CMH-13RM, rotating axis CMH-6.5RA (each axis has a standard micrometer)	
Travel amount	XY axes ±3 mm, Z axis 0 to 5 mm, rotating axis moves 360° with coarse movement and ±5° with fine movement	XY axes ±6.5 mm, Z axis 0 to 10 mm, rotating axis moves 360° with coarse movement and ±5° with fine movement	
Travel amount/1 knob rotation	XYZ axes 0.5 mm, rotating axis moves approx. 1.36°	XYZ axes 0.5 mm, rotating axis moves approx. 0.99°	XYZ axes 0.5 mm, rotating axis moves approx. 0.92°
Scale	XYZ axis - micrometer 0.01 mm, rotating axis scale reading 2'/micrometer 0.01 mm (1 scale marking is approx. 0.027°)	XYZ axis micrometer 0.01 mm, rotating axis vernier reading 10'/micrometer 0.01 mm (1 scale marking is approx. 0.020°)	XYZ axis micrometer 0.01 mm, rotating axis vernier reading 10'/micrometer 0.01 mm (1 scale marking is approx. 0.018°)
Sensitivity	XYZ axes 0.003 mm		
Travel guide	XY axis HG-VCR (V-groove and cross rollers), Z axis V-groove and cross rollers, rotating axis, sliding	XYZ axis HG-VCR (V-groove and cross rollers), rotating axis, sliding	
Travel accuracy	Straightness: XY axes 0.002 mm, Z axis 0.003 mm, Circularity: rotating axis 0.02 mm, Surface runout: rotating axis 0.02 mm	Straightness: XY axes 0.002 mm, Z axis 0.003 mm, Circularity: rotating axis 0.05 mm, Surface runout: rotating axis 0.02 mm	
XY orthogonality	0.01 mm		
Load capacity	9.8 N (1 kgf)	14.7 N (1.5 kgf)	19.6 N (2 kgf)
Mass	0.28 kg	0.50 kg	0.70 kg
Main materials/surface treatment	Aluminum alloy/black satin anodized finish	XY rotary axis aluminum alloy/black satin anodized finish, Z axis stainless steel, aluminum alloy/black chromium oxide, black satin anodized finish	

\*Z stages do not have left-right symmetry. Check the product appearance for details.

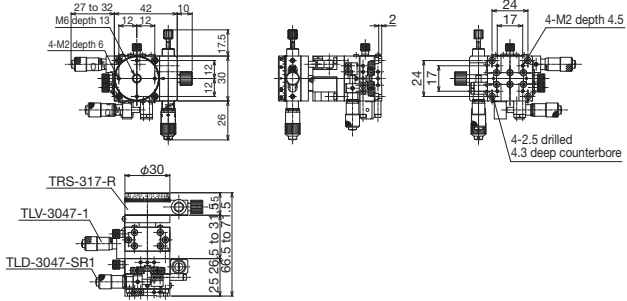


# High-Grade Stages ◀ Manual Stages ◀

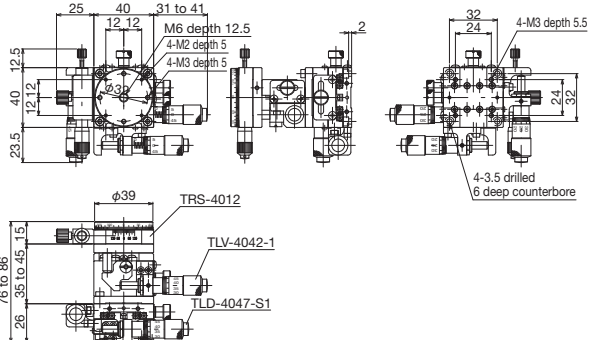
## Product Appearance



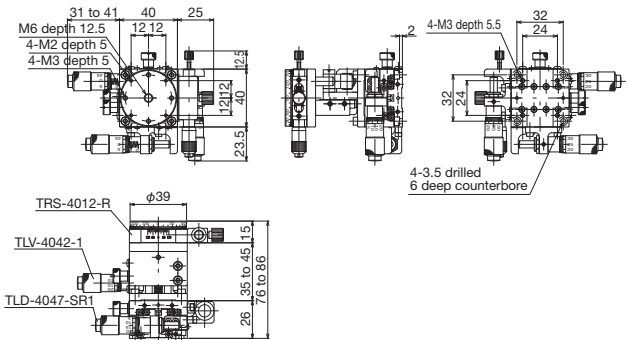
↑ TTR-3047-S1



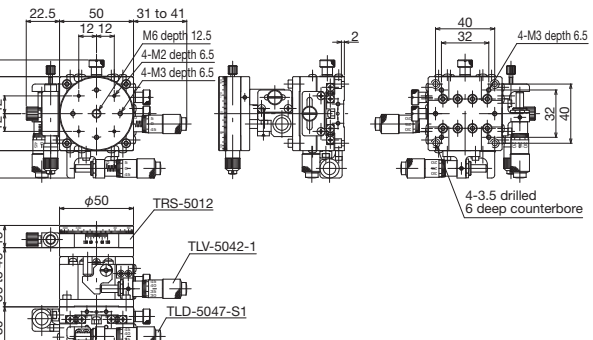
↑ TTR-3047-SR1



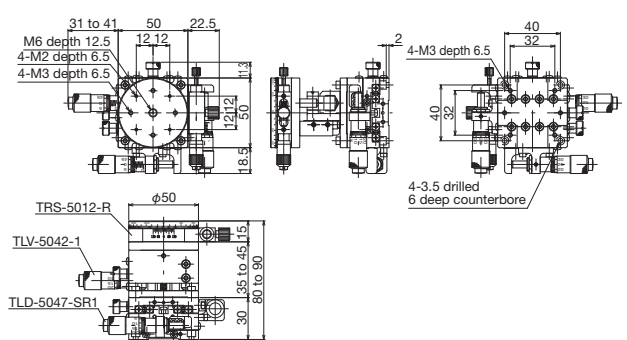
↑ TTR-4047-S1



↑ TTR-4047-SR1



↑ TTR-5047-S1



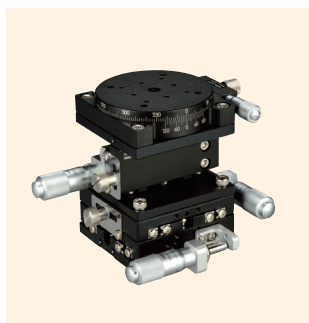
↑ TTR-5047-SR1

Motorized Stages
Automated Products for Microscopes
<b>Manual Stages</b>
Fix Stages
Thin V8 Stages
Rack & Pinion Stages
<b>High-Grade Stages</b>
Swim Stages, Cross Roller Stages
Z-Like Stages
Rotary Stages
TTR Stages
TTR/Rotary Stages
XZ, YZ Stages
XYZ Stages

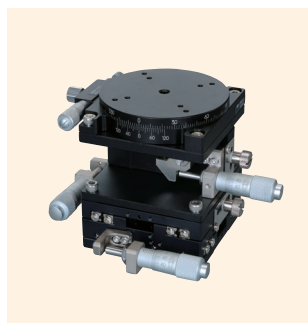
## High-Grade Aluminum XYZ Rotary Stages 60 x 60, 70 x 70



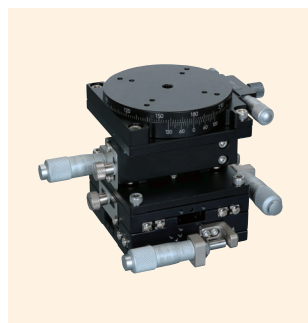
↑ TTR-6047-S1



↑ TTR-6047-SR1



↑ TTR-7047-S1



↑ TTR-7047-SR1

### Features

- An XYZ stage combining a high-grade aluminum XY stage with a high-grade Z lift stage and fine rotary movement stage.
- Standard types and symmetrical types are available for a left-right symmetrical structure.
- Versatile use for precision positioning of cameras, sensors, workpieces, and more.

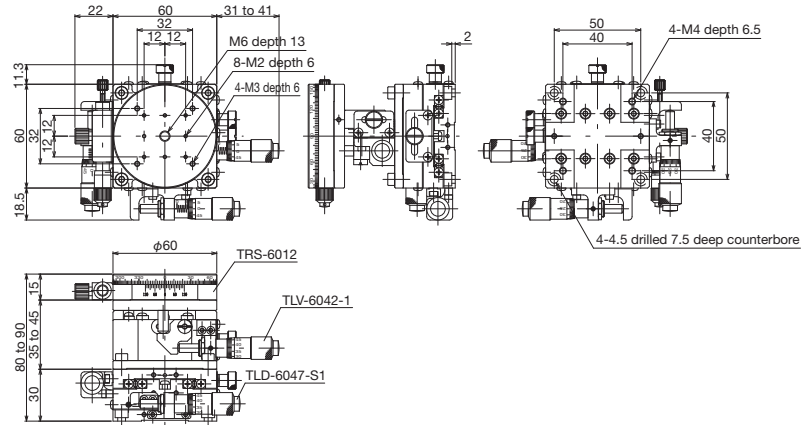
Model number (Standard type)	TTR-6047-S1	TTR-7047-S1
Model number (Symmetrical type)	TTR-6047-SR1	TTR-7047-SR1
Model name	High-Grade Aluminum XYZ Rotary Stage 60 x 60	High-Grade Aluminum XYZ Rotary Stage 70 x 70
Travel direction	XYZ rotary quadruple direction	
Stage surface	φ 60 mm	φ 70 mm
Clamp method	XYZ axis plate clamp, rotating axis compound clamp	
Operating part mounting position	XY axis side *-SR1 is the reverse side to the XY axis	
Feed method	XYZ axis CMH-13RM, rotating axis CMH-6.5RA (each axis has a standard micrometer)	
Travel amount	XY axes ±6.5 mm, Z axis 0 to 10 mm, rotating axis moves 360° with coarse movement and ±5° with fine movement	
Travel amount/1 knob rotation	XYZ axes 0.5 mm, rotating axis moves approx. 0.80°	XYZ axes 0.5 mm, rotating axis moves approx. 0.70°
Scale	XYZ axis micrometer 0.01 mm, rotating axis vernier reading 10'/micrometer 0.01 mm (1 scale marking is approx. 0.016°)	XYZ axis micrometer 0.01 mm, rotating axis vernier reading 10'/micrometer 0.01 mm (1 scale marking is approx. 0.014°)
Sensitivity	XYZ axes 0.003 mm	
Travel guide	XYZ axis HG-VCR (V-groove and cross rollers), rotating axis, sliding	
Travel accuracy	Straightness: XY axes 0.002 mm, Z axis 0.003 mm, Circularity: rotating axis 0.04 mm, Surface runout: rotating axis 0.02 mm	Straightness: XY axes 0.002 mm, Z axis 0.005 mm, Circularity: rotating axis 0.04 mm, Surface runout: rotating axis 0.02 mm
XY orthogonality	0.01 mm	
Load capacity	29.4 N (3 kgf)	
Mass	0.89 kg	1.11 kg
Main materials/surface treatment	XY rotary axis aluminum alloy/black satin anodized finish, Z axis stainless steel, aluminum alloy/black chromium oxide, black satin anodized finish	

\*Z stages do not have left-right symmetry. Check the product appearance for details.

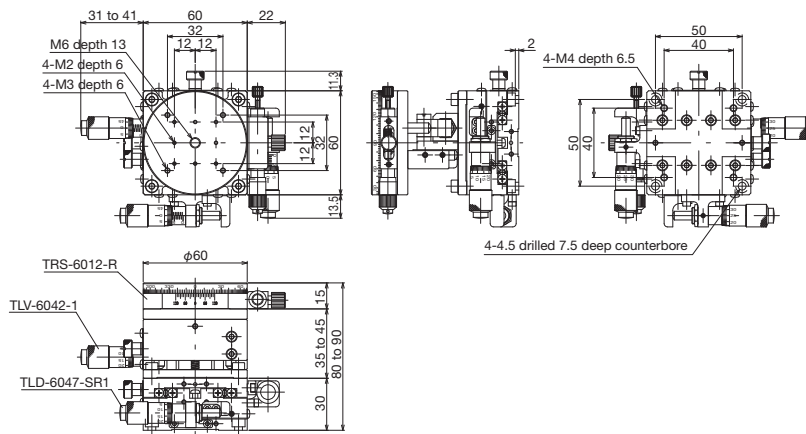


# High-Grade Stages ◀ Manual Stages ◀

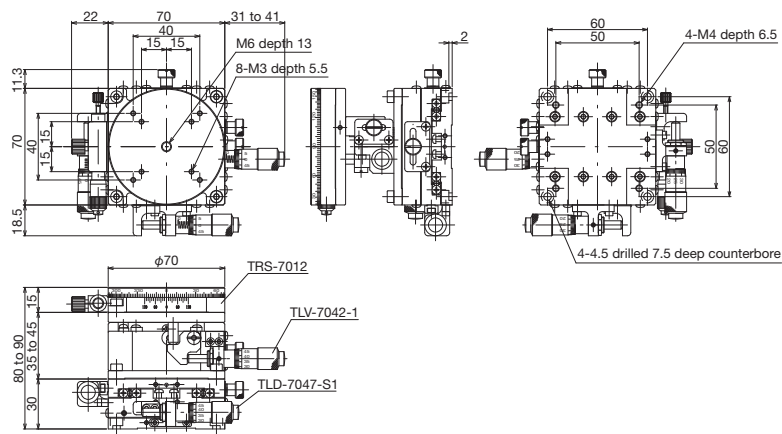
## Product Appearance



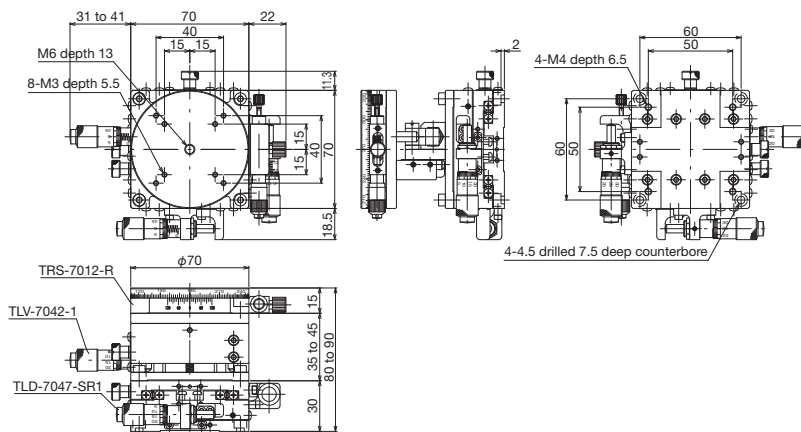
↑ TTR-6047-S1



↑ TTR-6047-SR1



↑ TTR-7047-S1



↑ TTR-7047-SR1

Motorized Stages	Automated Products for Microscopes	Manual Stages
Fix Stages	Thin VB Stages	Rack & Pinion Stages
High-Grade Stages	Swim Stages, Cross Roller Stages, Z-Lift Stages, Z Stages	Rotary Stages
Thin Rotary Stages	XZ, YZ Stages	X, Y Z Stages