1/2" Dovetail Stages





Description

DT12(/M) and DT12XYZV(/M)

The DT12(/M) and DT12V(/M) Dovetail Translation Stages are compact, entry-level linear positioners designed for applications where installation space is limited. Each single axis unit features a 1.0 in (25.4 mm) square footprint and provides 0.5 in (12.7 mm) of linear travel.

A precision-rolled M3 × 0.35 mm pitch lead screw enables smooth and consistent linear motion across the full travel range. The moving platform includes an integrated lock mechanism to prevent unintentional displacement during operation.

The modular design of the DT12(/M) and DT12V(/M) series allows multiple stages to be combined to form two-axis or three-axis assemblies. Two-axis and three-axis configurations for DT12 and DT12V stages are supplied preassembled with the DT12A and DT12AV right-angle brackets. Item #s DT12XY(/M) and DT12XYV(/M) are two-axis stages for translation in the XY plane, Item #s DT12XZ(/M) and DT12XZV(/M) are two-axis stages for translation in the XZ plane, and Item #s DT12XYZ(/M) and DT12XYZV(/M) are three-axis stages for XYZ translation. Users may still assemble two DT12V units in an XY configuration if required.

Mounting options for securing the stage to a work surface include:

- DT12B/DT12BV Slotted Baseplate
- CL6/CL6V Mounting Clamps (pair)

The DT12RA Rotation Adapter (non-vacuum compatible) enables the addition of a rotational axis to existing DT12 stage configurations, providing 360° rotational movement for pitch, roll, or yaw adjustments.
The rotation adapter must first be removed from the existing assembly before the additional stage can be securely attached.

Specifications

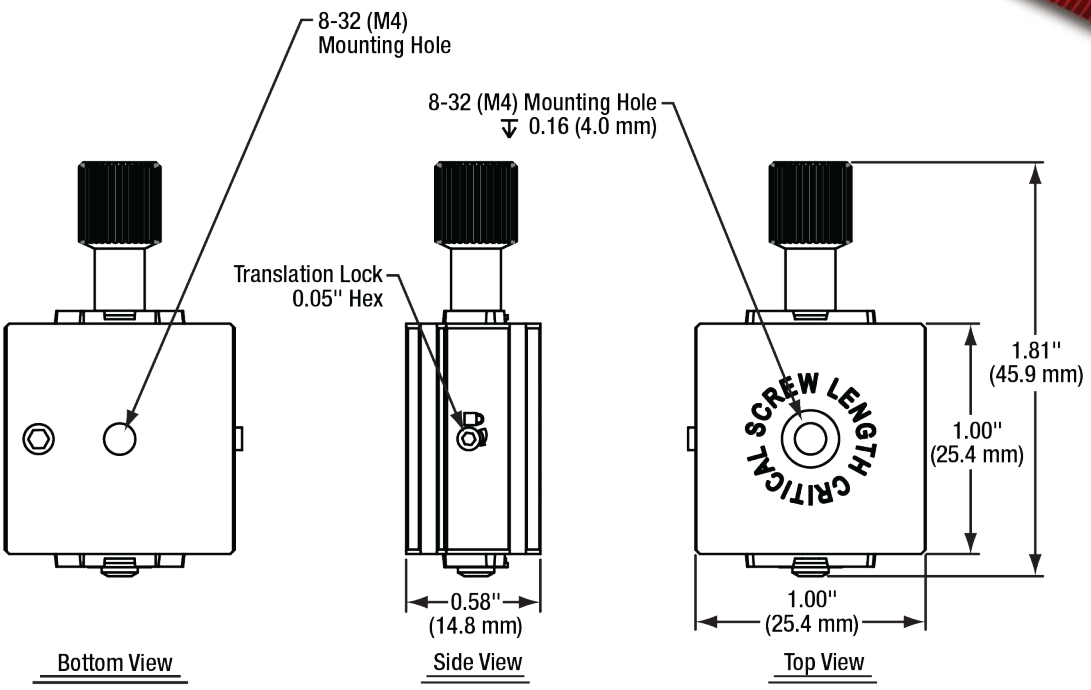
1- and 2-Axis Stage Specifications						
Item #	**DT12(/M)**	**DT12V(/M)**	**DT12XY(/M)**	**DT12XYV(/M)**	**DT12XZ(/M)**	**DT12XZV(/M)**
Number of Axes	1		2 (XY)		2 (XZ)	
Travel Range (Per Axis)	12.7 mm (0.5")					
Load Capacity	Horizontal Mounting 1.2 kg (2.5 lbs) Vertical Mounting 0.25 kg (0.55 lbs)					
Maximum Off-Axis Load	0.25 Nm					
Actuator Travel	0.35 mm per revolution (0.014")					
Construction	Aluminum with Precision Steel Leadscrew and Bronze Bushings and Mounting Hole					
Dimensions (Including Actuators, Not Including Baseplate Screw)	25.4 mm x 45.9 mm x 14.8 mm (1.00" x 1.81" x 0.58")		52.2 mm x 45.9 mm x 35.6 mm (2.06" x 1.81" x 1.40")		43.0 mm x 58.0 mm x 72.4 mm (1.69" x 2.28" x 2.85")	
Mounting Hole Threading[a]	8-32 (M4 x 0.7)					
Maximum Bakeout Temperature[b]	N/A	130 °C (266 °F)	N/A	130 °C (266 °F)	N/A	130 °C (266 °F)
Vacuum Compatibility	N/A	10^{-6} Torr	N/A	10^{-6} Torr	N/A	10^{-6} Torr

a. Maximum Screw Insertion Depth: 9/64" (3.5 mm).
b. Baking this stage under HV or UHV conditions may cause zinc vapor from the bronze to contaminate the vacuum chamber or potentially compromise the stage's mechanical integrity.

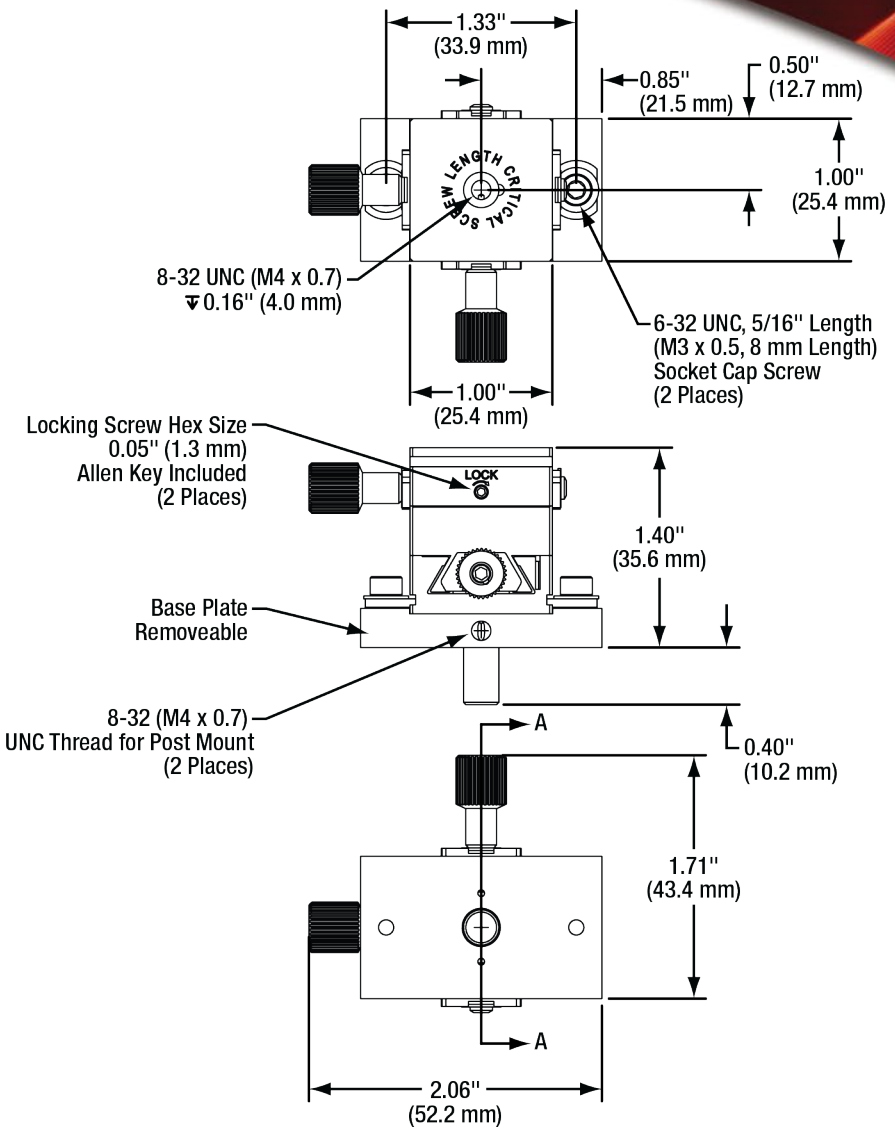
3-Axis Stage Specifications		
Item #	**DT12XYZ(/M)**	**DT12XYZV(/M)**
Number of Axes	3 (XYZ)	
Travel Range (Per Axis)	12.7 mm (0.5")	
Load Capacity	Horizontal Mounting 1.2 kg (2.5 lbs) Vertical Mounting 0.25 kg (0.55 lbs)	
Maximum Off-Axis Load	0.25 Nm	
Actuator Travel	0.35 mm per revolution (0.014")	
Construction	Aluminum with Precision Steel Leadscrew and Bronze Bushings and Mounting Hole	
Dimensions (Including Actuators, Not Including Baseplate Screw)	52.2 mm x 66.4 mm x 61.8 mm (2.06" x 2.61" x 2.43")	
Mounting Hole Threading[a]	8-32 (M4 x 0.7)	
Maximum Bakeout Temperature[b]	N/A	130 °C (266 °F)
Vacuum Compatibility	N/A	10^{-6} Torr

a. Maximum Screw Insertion Depth: 9/64" (3.5 mm)
b. Baking this stage under HV or UHV conditions may cause zinc vapor from the bronze to contaminate the vacuum chamber or potentially compromise the stage's mechanical integrity.

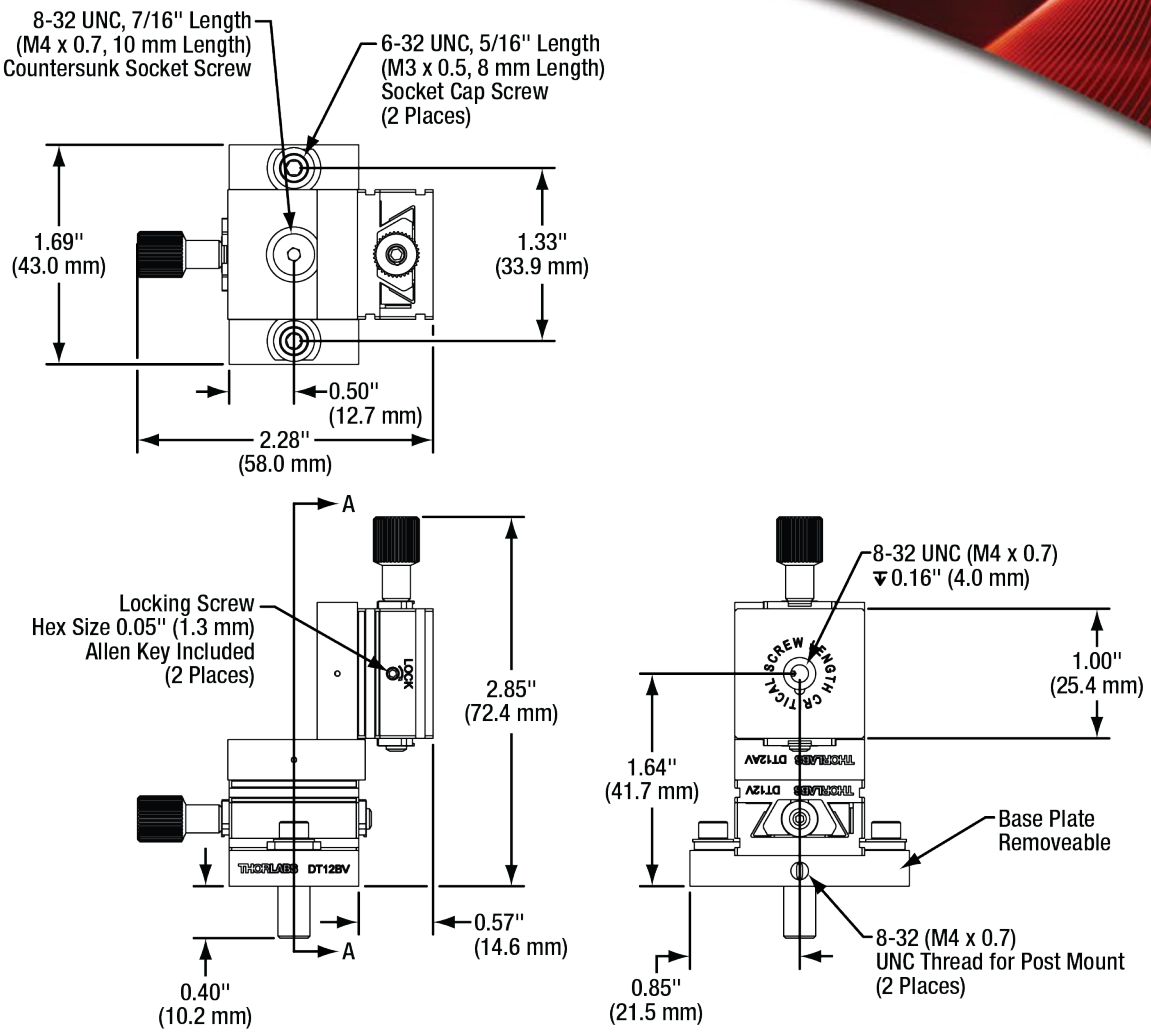
Dimensions



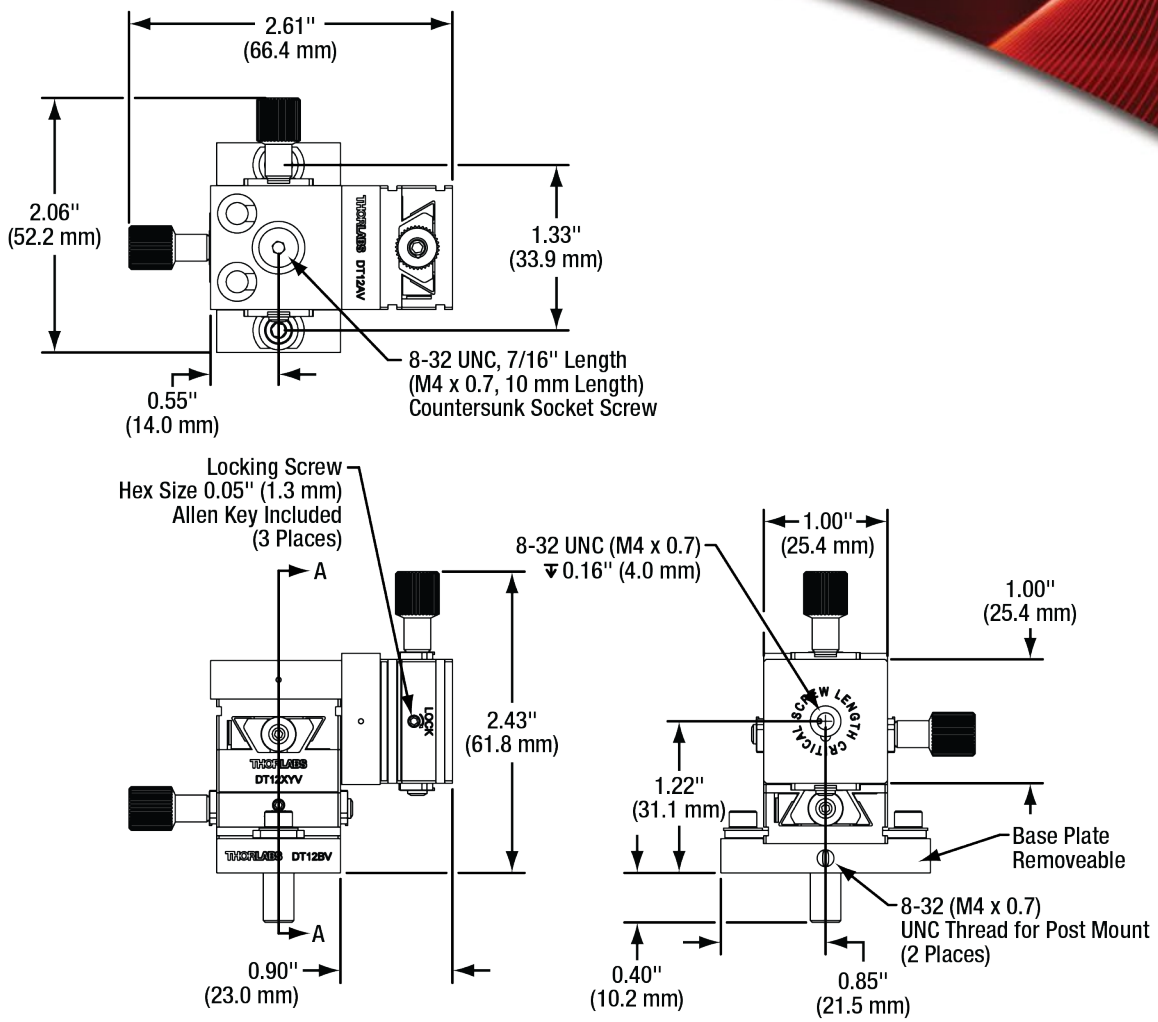
Mechanical Drawing Representative of DT12(/M) and DT12V(/M)



Mechanical Drawing Representative of DT12XY(/M) and DT12VXYV(/M)



Mechanical Drawing Representative of DT12XZ(/M) and DT12VXZV(/M)



Mechanical Drawing Representative of DT12XYZ(/M) and DT12VXYZV(/M)

General Notices

1. When attaching accessories to the moving platform, ensure screw insertion does not exceed 3.5 mm (9/64").
2. Avoid applying excessive force to the moving platform.
3. DT12A(/M) or DT12AV(/M)/DT12B(/M) or DT12BV(/M) mounting brackets and CL6/CL6V clamps are compatible with both imperial and metric stage versions and include all required fixings and tools.
4. The DT12B(/M)/DT12BV(/M) baseplate is compatible with both imperial and metric worksurfaces.
5. DT12CTA(/M)/DT12CTAV(/M) provides increased mounting options for the DT12(/M) and DT12V(/M).