

Newport TR80S-BL

Precision Steel Rotation Stage



Limited Availability
Used and in Excellent Condition

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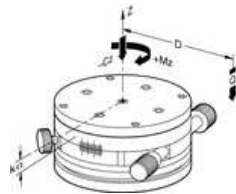
UTR Series Precision Steel Rotation Stages

- Steel construction, high load capacity
- Lockable 360° coarse/4° fine motion
- Better than 6-arc-second sensitivity
- Available in four different sizes
- Low-profile versions

Versatile UTR Series Precision Rotation Stages are ideal for fine-tuning angular orientation of any component after rotating it to an approximate angle. A center aperture permits convenient mounting and adjustment of rotating components in transmissive applications.

Bearings are preloaded into precision-ground, tool steel races for a smooth, accurate trajectory with minimum eccentricity. Disengaging the side-mounted clutch knob permits continuous free rotation of the stage over 360°. Once the approximate angular orientation is obtained, a zero-backlash manual drive provides four degrees of fine adjustment range. Scale markings on the side of the rotation stage and a vernier on the stage body measure angular position with 1 arc min resolution (30 arc min for UTR46).

UTR Rotary Stages mount to UMR Series Linear Stages and other components with BR Series Bridles (included with each stage), which fit into the mounting collar around the circumference of the base. For mounting UTR stages beneath UMR stages, an adaptor is required. Also, for mounting to other positioners and tables, the optional PBN base plate may be used. Stages can also be mounted to components with the tapped mounting holes on the stage's bottom surface (see PBN Base Plates for hole pattern). Components may be mounted to the top of the rotation stage via English or metric tapped holes.



Q	Off-centered load must be $\leq Cz / (1 + D/a)$
Cz	Centered load capacity perpendicular to bearing system
D	Cantilever distance in mm
a	Construction parameter
ka	Transverse stiffness
+Mz	Maximum forward rotation torque
-Mz	Maximum reverse rotation torque

Specifications

	UTR46	UTR80	UTR120	UTR160
Travel (coarse/fine)	360 °/4 °	360 °/4 °	360 °/4 °	360 °/4 °
Graduations	2 °	1 °	1 °	1 °
GraduationsVernier (arc min)	30	1	1	1
Sensitivity (arc sec)	6	4	2.5	2
Wobble (μrad)	±100	±60	±50	±40
Max Centered Load [lb (N)]	6.7 (30)	45 (200)	112 (500)	180 (800)
Weight [lb (kg)]	0.6 (0.3)	1.8 (0.8)	4.6 (2.1)	11 (5)

Load Characteristics

	UTR46	UTR80	UTR80S	UTR120	UTR160
Centered Load Capacity, Cz (N)	30	200	200	500	800
Construction Parameter, a (mm)	20	40	40	60	80
Transverse Stiffness, ka (μrad/Nm)	130	30	30	20	5
Maximum Forward Rotation Torque +Mz (Nm)	0.65	3.6	1.3	10	30
Maximum Reverse Rotation Torque -Mz (Nm)	0.2	0.5	0.4	1.5	3.5

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