

ADC Products

TS-HD SERIES

-High Precision Heavy Load Tilt Stages-

March 2020



SPECIFICATIONS

The TS-HD Series tilt stage(s) provide a rigid, accurate motion for general goniometric use. Each stage is stepper motor driven and curved linear bearing guided stages with a rugged anodized aluminum body. The top and bottom mounting surfaces are precision ground to provide an optimal interface. The TS-HD Series uses a tangent bar type mechanism to facilitate the rotary motion. A stepper motor driven linear actuator interfaces to the stage through a limited rotation flexure style bearing. This interface results in a highly resolved, very rigid rotary motion. The stage is guided by preloaded ball type profiled linear rails. An optional optical encoder gives closed loop feedback for the device.

MECHANICAL

Specification	TS300	TS400	TS565	TS700
Travel Range (°)	+/-8	+/-7	+/-4	+/-4
Repeatability (µrad RMS)	17	17	80	40
Trajectory Straightness (µm/25mm)	20	20	5	5
Runout (µm)	15	15	3	3
Full Step Resolution (µrad)	38	29	38	87
Load Capacity (kg)	23.3	27	27.3	33.4

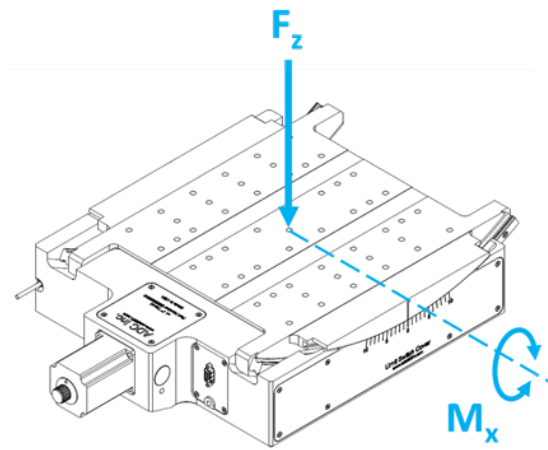
ELECTRICAL

Motor	Limit Switches	Optical Encoder
2-Phase; 5-Phase Stepper; DC	Mechanical, Normally Closed	Renishaw Tonic Series

LOAD CHARACTERISTICS

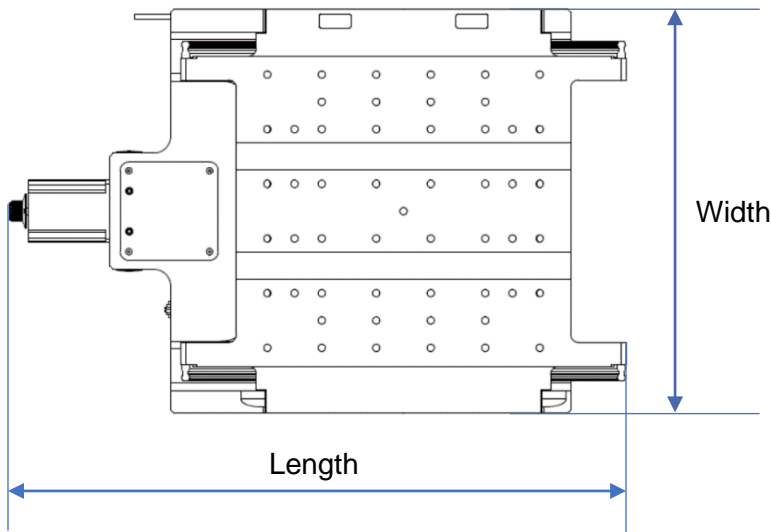
F _x (kN)*	M _x (Nm)
10	250

*For eccentric maximum load, contact ADC engineering.

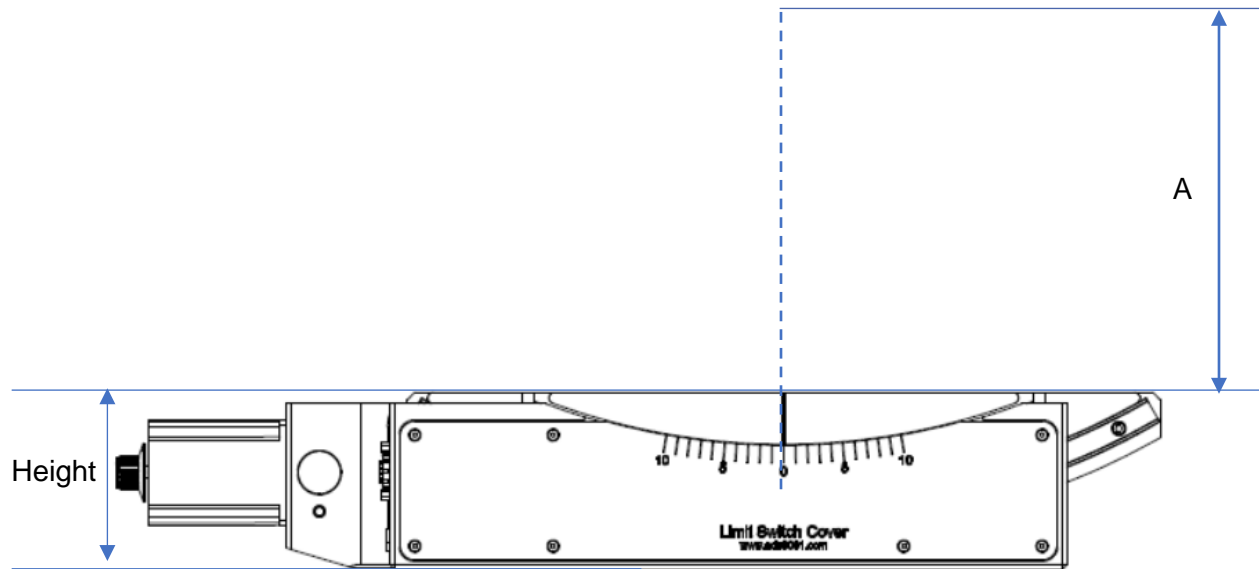


DIMENSIONS

Top View



Side View



(mm)	Length	Width	Height	A	Mounting Surface	Curvature of Rails
TS-300	518	347	95	237.3	270 x 218	300
TS-400	566	411	95	337	284 x 307	400
TS-565	567	337.5	95	501	300x300	565
TS-700	570	636	111	636	300x300	700

ORDERING INFORMATION

Tilt Stages can be ordered with different configurations. Please use the codes provided below when ordering. Please call or e-mail to ask about any other customization required.

TS-HD (Heavy Duty Tilt Stage)	TS-300	TS-400	TS-565	TS-700
Air Preparation Options	-A (Standard Air Stage) -V (Vacuum Stage; ask about options when placing order)			
Encoder Options	-E (With Encoder) -N (Without Encoder)			
Brake Options	-B (With Brake, 24VDC) -N (Without Brake)			
Motor Options	-2PH (Standard 2 Phase Bi-Polar Stepper Motor) -5PH (5 Phase Stepper Motor) -DC (DC Motor)			

Example Order:
TS565-A-E-N-5PH

This is an order for a TS565 Precision Goniometer with in air, with an encoder, with no brake, and a 5-phase motor.

OTHER ADC STAGES



Linear Stages	Lift Stages
DS210	DJ210
DS310	DJ310
DS410	DJ410
DS510	BJ10
	BJ25
Tilt Stages/ Goniometers	Rotation Stages
TS-50	RS-100
TS-90	RS-200
TS-160	RS-300
TS-300	RS-400
TS-400	RS-500
TS-565	
TS-700	

