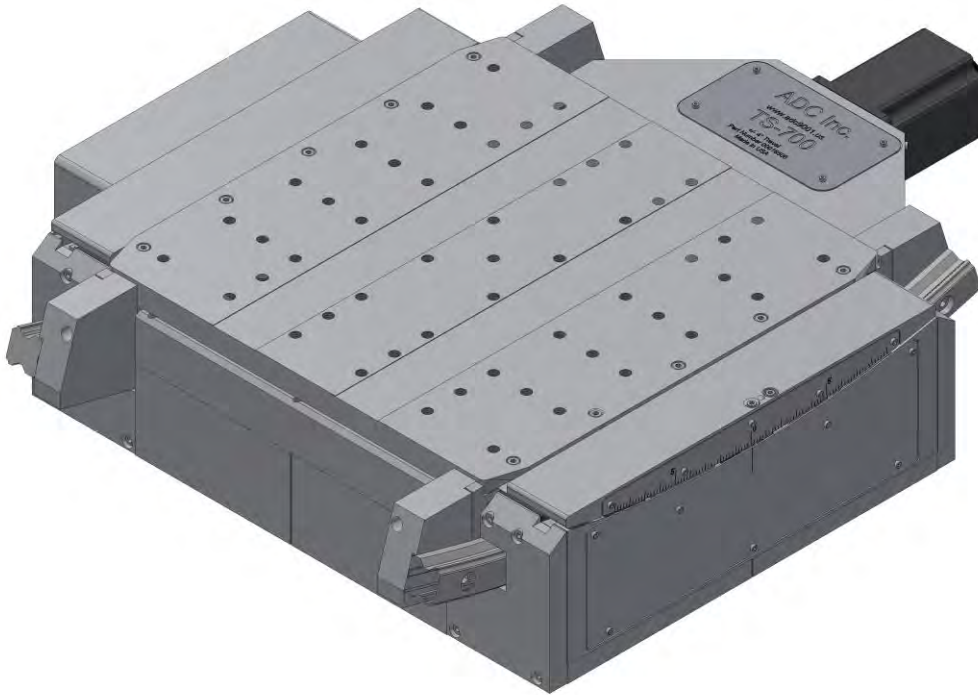


TS-HD Series

Heavy Duty Mechanical Tilt Stages



EXCEPTIONAL ACCURACY AND REPEATABILITY

CURVED LINEAR BEARING GUIDED STAGES

LARGE LOAD CAPACITY

HIGHLY RESOLVED ANGULAR MOTION

126 Ridge Rd, Lansing NY, 14882
www.adc9001.com

ADVANCED DESIGN
CONSULTING USA, INC.

1-607-533-3531
adc@adc9001.com

TS-HD Series 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.

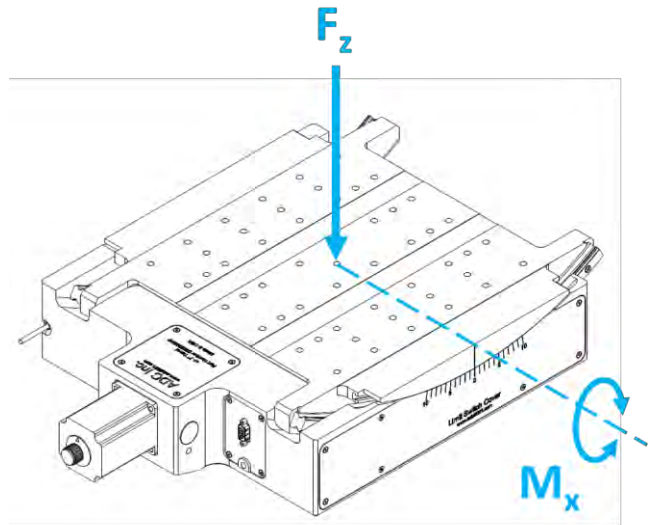
LOAD CHARACTERISTICS

Description	Max. Centered Load, F_z (kN)*	Max. Torque, M_x (Nm)
TS-300	10	250
TS-400	10	250
TS-565	10	250
TS-700	10	250

*For eccentric maximum load, contact ADC engineering

KEY FEATURES

- Travels up to $\pm 8^\circ$
- Load Capacity of up to 1600 kg
- High Resolution
- Incredible Stability



MECHANICAL

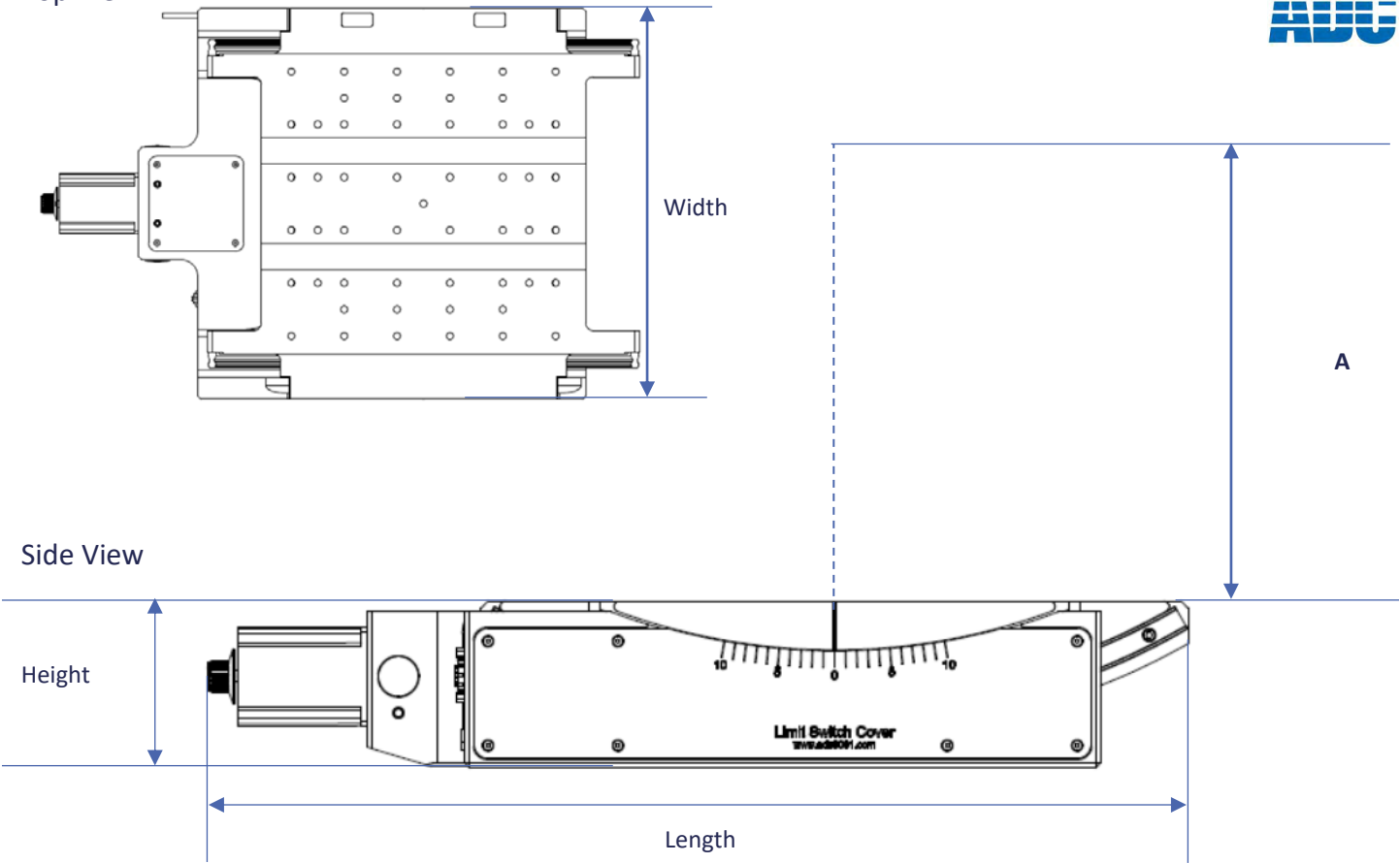
Model	300	400	565	700
Travel Range ($^\circ$)	± 8	± 7	± 4	± 4
Actuation Mechanism	Tangent Bar	Tangent Bar	Tangent Bar	Tangent Bar
Repeatability ($\mu\text{rad RMS}$)	17	17	80	40
Trajectory Straightness ($\mu\text{m}/25\text{mm}$)	20	20	5.0	5.0
Runout (μm)	15	15	3.0	3.0
Full Step Resolution (μrad)	38	29	38	87
Load Capacity (kg)	680	680	680	1624
Mass (kg)	23.3	27	27.3	33.4
Optional Linear Encoder	Yes	Yes	Yes	Yes

ELECTRICAL

Description	
Motor	2-Phase, 5-Phase Stepper; DC
Limit Switches	Mechanical, Normally Closed
Optical Encoder Type	Renishaw Tonic (http://www.renishaw.com)
2-Phase Current (Amps/Phase)	3

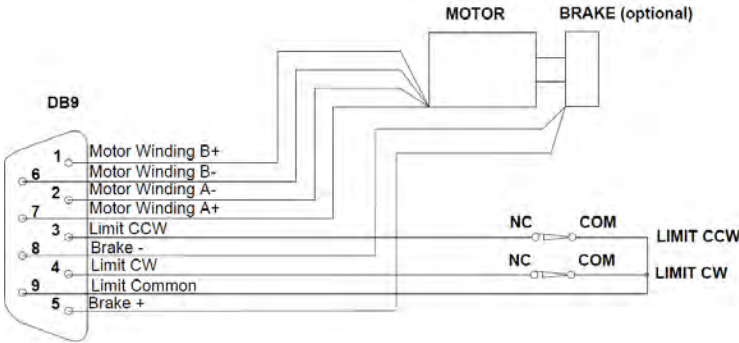
TS-HD DIMENSIONS AND INFORMATION

Top View



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

ELECTRICAL CONNECTOR



ADC uses a standard male DB-9 Connector for both the motor and limit switches.



TS-HD ORDERING INFORMATION

TS	-XL	-A	-N	-2PH
Series	Model	Air Type	Encoder	Motor
	-300	-A	-E	-2PH
	-400	-HV	-N	-5PH
	-565			-DC
	-700			

Travel Options

-300	+/-8° of Travel
-400	+/-7° of Travel
-565	+/-4° of Travel
-700	+/-4° of Travel

Air Preparation Options

-A	Standard Air Stage
-HV	High Vacuum Air Stage, 10 ⁻⁷ torr

Optical Encoder Options

-E	With Optical Encoder
-N	Without Optical Encoder

Motor Options

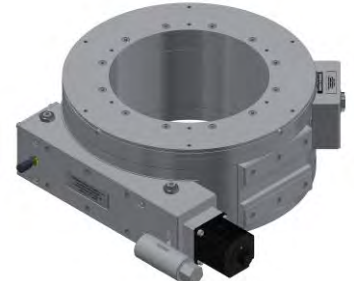
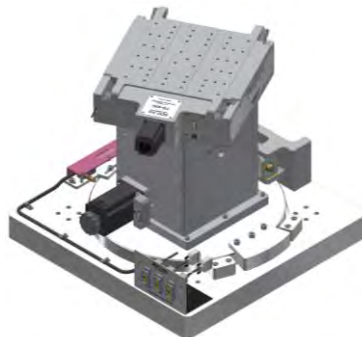
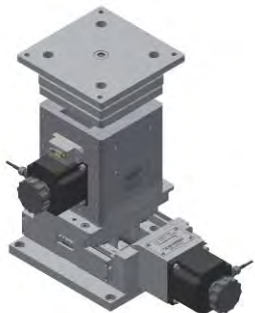
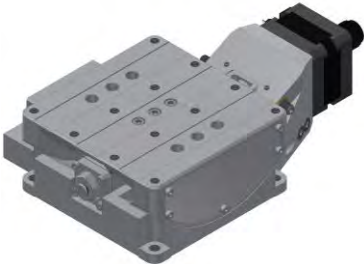
-2PH	Standard 2 Phase Bi-Polar Stepper Motor
-5PH	5 Phase Stepper Motor
-DC	DC Motor

Example Order

TS-300-A-E-2PH

This is an order for a TS-300 Precision Goniometer with 8° of travel, in air, with an encoder, and a 2-phase motor.

Similar ADC Products



Linear Stages	Lift Stages
DS210	DJ210
DS310	DJ310
DS410	DJ410
DS510	
Tilt Stages/ Goniometers (shown)	Rotation Stages
TS-50	RS-100
TS-90	RS-200
TS-160	RS-300
TS-300	RS-400
TS-400	RS-500
Mounting Brackets	Big Jacks
MB200	BJ25-50
MB300	BJ25-100
MB400	BJ25-150
	BJ25-200

Custom Complex Motion Systems

For custom complex motion systems, contact ADC at adc@adc9001.com or visit our website www.adc9001.com



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