

DJ310 Series

Precision Mechanical Lift Stages



SUBMICRON ACCURACY

PRELOADED BALL SCREW

PRECISION GROUND BASE AND TOP PLATE

LONG-LIFE LINEAR GUIDE BEARING SYSTEM

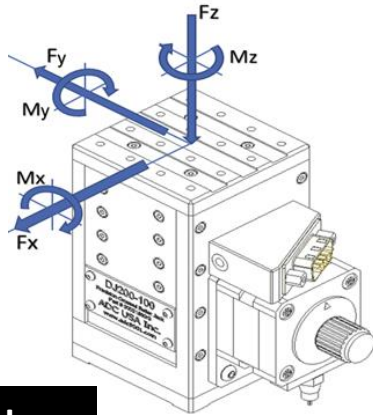
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ADVANCED DESIGN
CONSULTING USA, INC.

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DJ310 SERIES SPECIFICATIONS

The DJ310 series jacks provide an accurate and rigid platform for use in any positioning system. The rugged anodized aluminum housing features a precision ground base and top plate, each with multiple utility holes for easy integration into the users' system. The vertical stage is driven by a high class preloaded ball screw coupled to a high torque 200 step per revolution stepper motor, which can be run in full, half, or micro stepping mode to meet your resolution requirements. Maximum rigidity is assured using preloaded crossed roller linear bearings. Each jack also features two adjustable, normally closed limit switches at the end of travel.



KEY FEATURES

- Travels 25-100mm
- 1 μm Repeatability
- Various Motor Options
- Load Capacity up to 46 kg
- High Dynamic Performance

LOAD CHARACTERISTICS

Description	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
DJ310	430	365	460	22.2	19.4	26.3

*Loads are not simultaneous

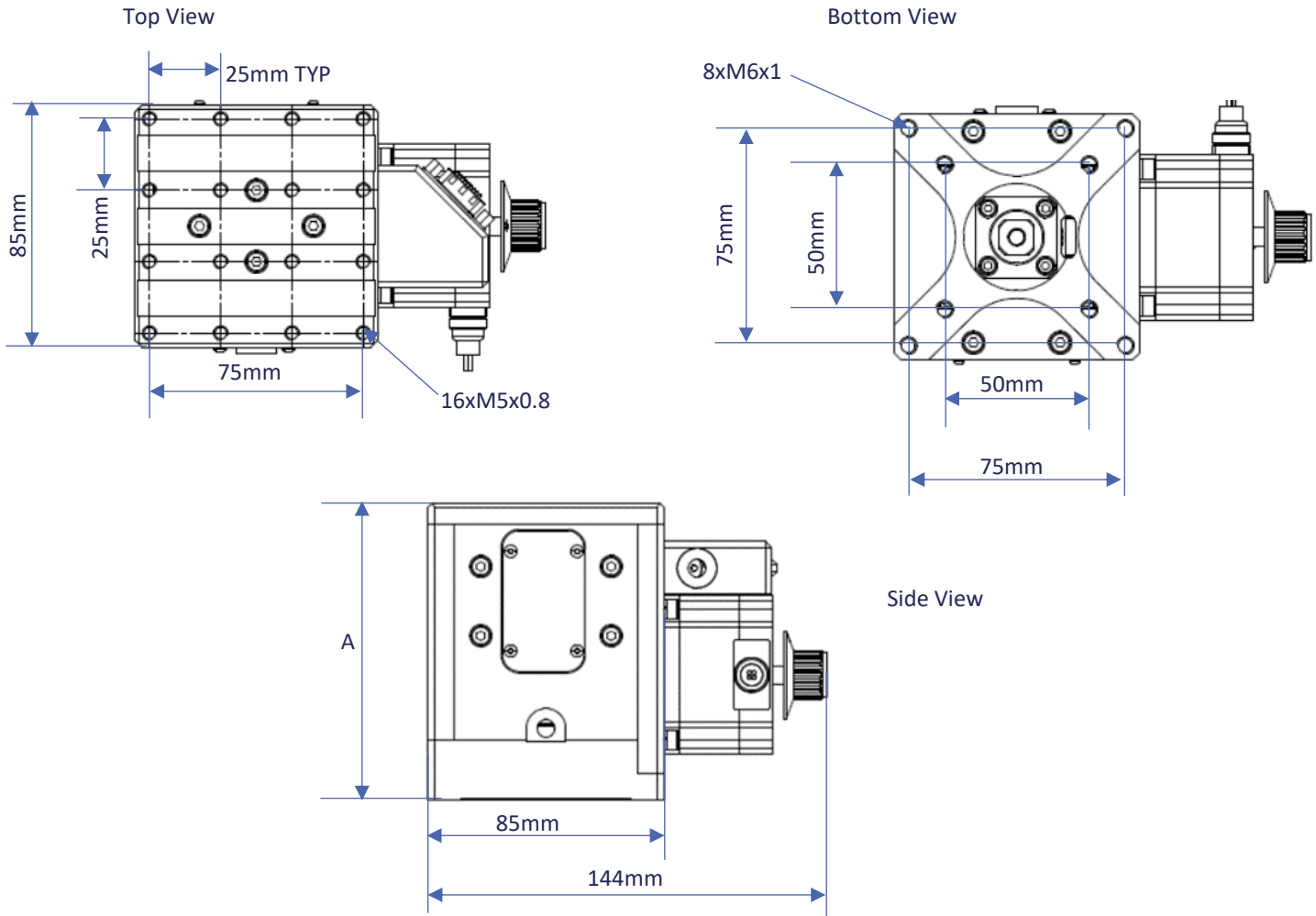
MECHANICAL

Description	25	50	75	100
Travel (mm)	25	50	75	100
Optional Linear Encoder	Yes	Yes	Yes	Yes
Repeatability (μm RMS)	1	1	1	1
Lead Accuracy ($\mu\text{m}/25\text{mm}$)	5.0	5.0	5.0	5.0
Trajectory Straightness ($\mu\text{m}/25\text{mm}$)	3.0	3.0	3.0	3.0
Ball Screw Lead (mm)	1.0	1.0	1.0	1.0
Maximum Speed (mm/sec)	12.5	12.5	12.5	12.5
Load Capacity (kg)	46	46	46	46
Mass (kg)	2.6	3.4	3.9	5.1

ELECTRICAL

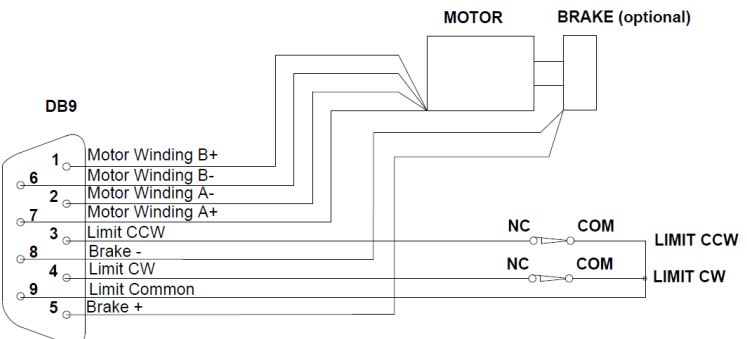
Description	
Motor	2-Phase, 5-Phase Stepper; DC
Limit Switches	Mechanical, Normally Closed
Optical Encoder Type	Renishaw Tonic (www.renishaw.com)
2-Phase Current (Amps/Phase)	2.8

DJ310 SERIES DIMENSIONS AND INFORMATION



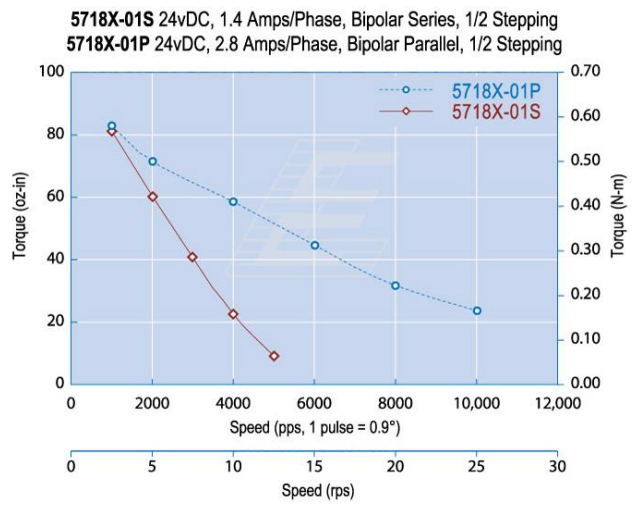
Model	25	50	75	100
A- Closed Height (mm)	107.5	148.5	170	245

ELECTRICAL CONNECTOR



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

2-PHASE MOTOR TORQUE GRAPH



DJ310 ORDERING INFORMATION

DJ310	-50	-A	-N	-B	-2PH	-G
Series	Model	Air Type	Encoder	Brake	Motor	Gearbox
	-25	-A	-E	-B	-2PH	3:1
	-50	-HV	-N	-N	-5PH	to
	-75				-DC	100:1
	-100					ratio

Travel Options

-25	25mm Stage Travel
-50	50mm Stage Travel
-75	75mm Stage Travel
-100	100mm Stage 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

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

Gearbox Option

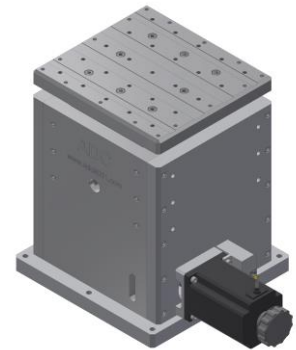
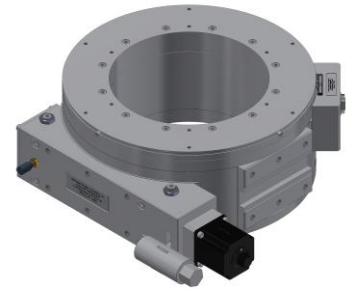
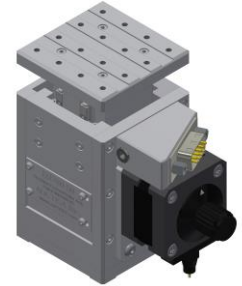
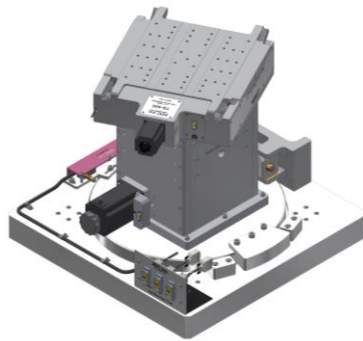
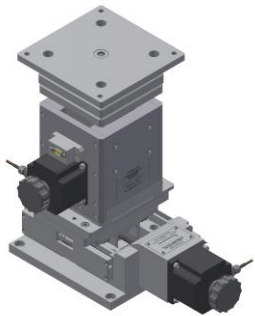
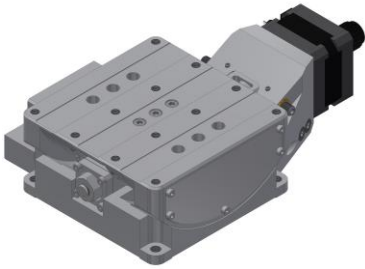
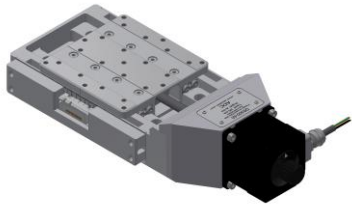
Available from 3:1 to 100:1 ratios

Example Order

DJ310-50-A-N-B-2PH

This is an order for a DJ310 Precision Crossed Roller Jack with 50 mm travel, in air, with no encoder, with a brake, and a 2-phase motor.

Similar ADC Products



Linear Stages	Lift Stages
DS210	DJ210
DS310	DJ310 (Shown)
DS410	DJ410
DS510	
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
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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