

# DJ210 Series

Precision Mechanical Lift Stages



**SUBMICRON ACCURACY**

**PRELOADED BALL SCREW**

**PRECISION GROUND BASE AND TOP PLATE**

**LONG-LIFE LINEAR GUIDE BEARING SYSTEM**

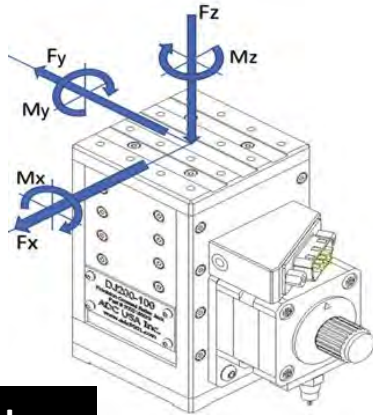
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## DJ210 SERIES SPECIFICATIONS

The DJ210 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 10-50mm
- 2  $\mu\text{m}$  Repeatability
- Various Motor Options
- Load Capacity up to 31 kg
- High Dynamic Performance

## LOAD CHARACTERISTICS

Description	Fx (N)	Fy (N)	Fz (N)	Mx (Nm)	My (Nm)	Mz (Nm)
DJ210	160	135	310	1.47	1.79	3.22

\*Loads are not simultaneous

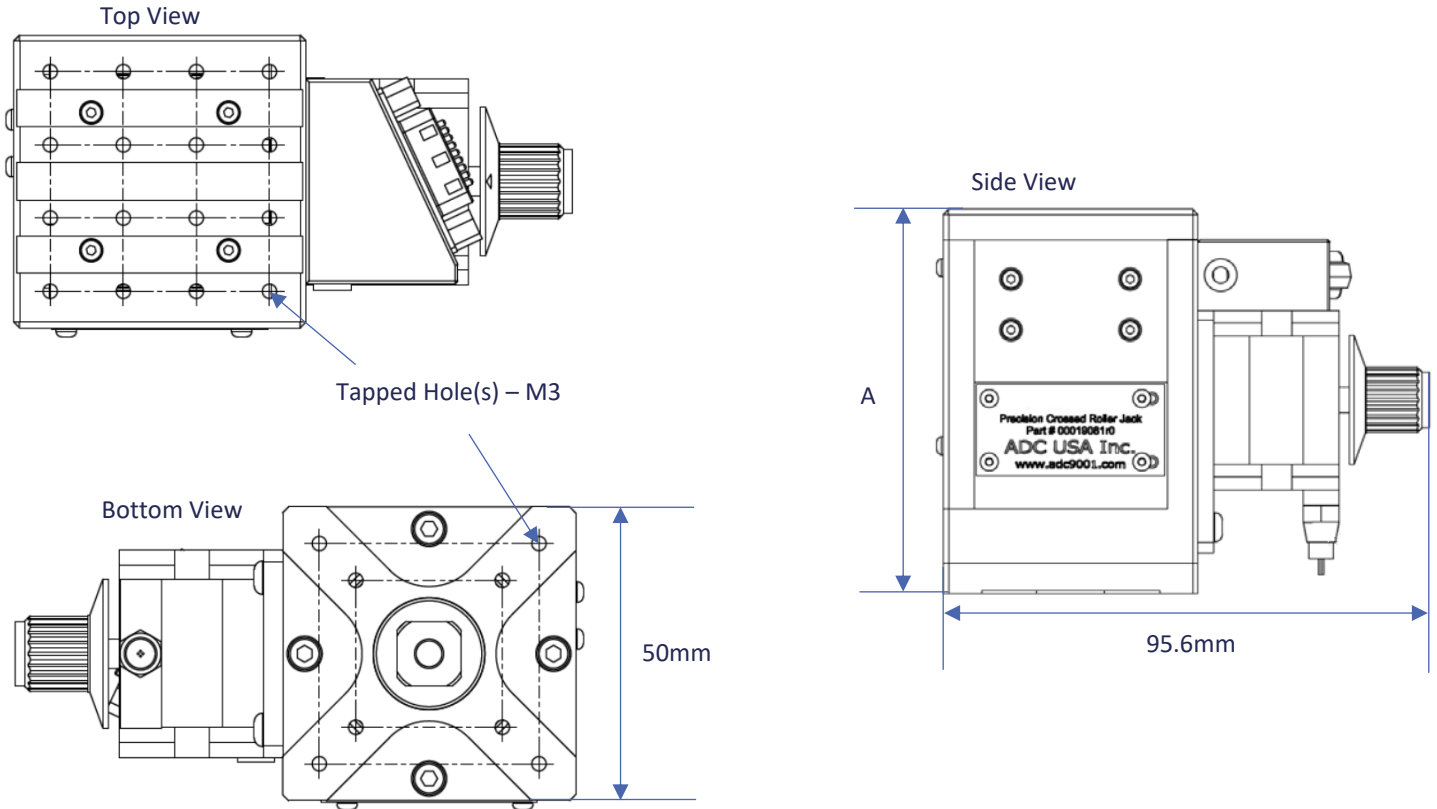
## MECHANICAL

Description	10	25	35	50
Travel (mm)	10	25	35	50
Optional Linear Encoder	No	No	No	No
Repeatability ( $\mu\text{m}$ RMS)	2	2	2	2
Lead Accuracy ( $\mu\text{m}/25\text{mm}$ )	2.5	2.5	2.5	2.5
Trajectory Straightness ( $\mu\text{m}/25\text{mm}$ )	2.5	2.5	2.5	2.5
Ball Screw Lead (mm)	1	1	1	1
Maximum Speed (mm/sec)	50	50	50	50
Load Capacity (kg)	31	31	31	31
Mass (kg)	0.6	.8	1	1.1

## ELECTRICAL

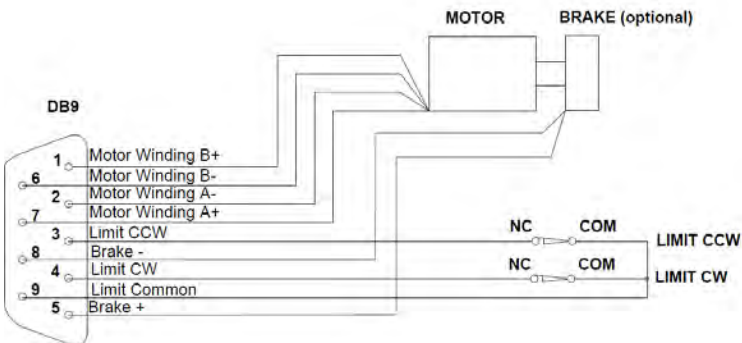
Description	
Motor	2-Phase, 5-Phase Stepper; DC
Limit Switches	Mechanical, Normally Closed
Optical Encoder Type	Renishaw Tonic ( <a href="http://www.renishaw.com">http://www.renishaw.com</a> )
2-Phase Current (Amps/Phase)	0.45

# DJ210 SERIES DIMENSIONS AND INFORMATION



Model	10	25	35	50
A- Closed Height (mm)	75.5	89.4	113.9	137.4

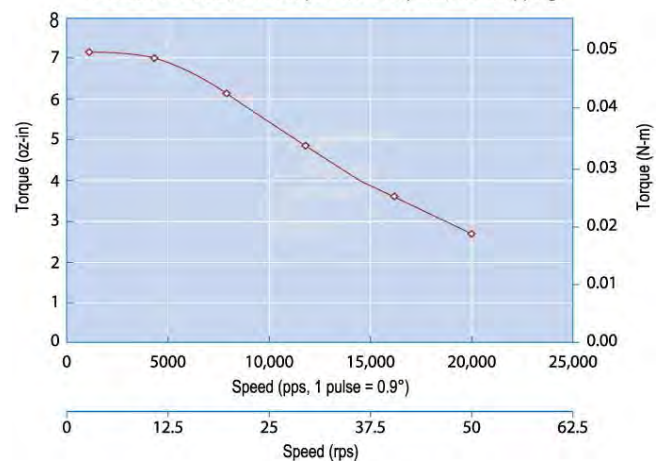
## ELECTRICAL CONNECTOR



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

## 2-PHASE MOTOR TORQUE GRAPH

3518X-04 24vDC, 0.45 Amps/Phase, Bipolar, 1/2 Stepping



## DJ210 ORDERING INFORMATION

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DJ210	-50	-A	-N	-B	-2PH	-G
Series	Model	Air Type	Encoder	Brake	Motor	Gearbox
	-10	-A	-N	-B	-2PH	3:1
	-25	-HV		-N	-5PH	to
	-35				-DC	100:1
	-50					ratio

### Travel Options

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-10	10mm Stage Travel
-25	25mm Stage Travel
-35	35mm Stage Travel
-50	50mm Stage Travel

### Air Preparation Options

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-A	Standard Air Stage
-HV	High Vacuum Air Stage, 10 <sup>-7</sup> torr

### Optical Encoder Options

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-N	Without Optical Encoder
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### Brake Options

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-B	With Brake, 24VDC
-N	Without Brake

### Motor Options

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

### Gearbox Option

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Available from 3:1 to 100:1 ratios

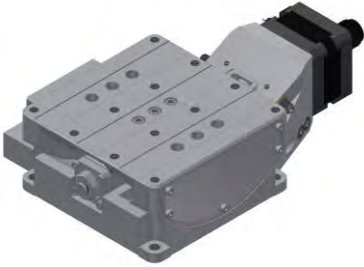
### Example Order

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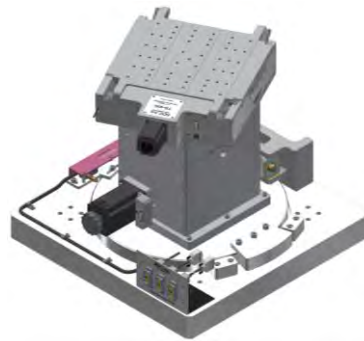
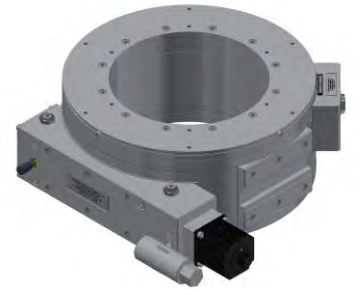
#### DJ210-50-A-N-B-2PH

This is an order for a DJ210 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 (Shown)
DS310	DJ310
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](mailto:adc@adc9001.com) or visit our website [www.adc9001.com](http://www.adc9001.com)



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