

XYRB Precision XY Table



Dover Motion

(800) 227-1066

sales@dovermotion.com

www.dovermotion.com

Features

- :: Low Profile
- :: High Stiffness
- :: Superior Repeatability
- :: Fast Speeds

Description

The XYRB Series Precision XY Table are low profile stages designed for a wide range of applications. These precision xy tables use stiff crossed roller mechanical ways for support and smooth motion. Precision ground preloaded ballscrews allow higher speeds and better accuracy compared to leadscrew driven products. A specialized monolithic center couples the upper and lower axes, making the

stage stiff and compact. Both motors are mounted to the center section, so they move with the lower axis. For highest repeatability and accuracy linear encoders can be added for more precise positioning feedback.

XYRB Precision XY Table Specifications

Specifications	XYRB-4040	XYRB-6060	XYRB-8080	XYRB-1010	XYRB-1212	XYRB-1414
Travel (inches)	2 x 2	4 x 4	6 x 6	8 x 8	10 x 10	12 x 12
Travel (mm)	50 x 50	100 x 100	150 x 150	200 x 200	250 x 250	300 x 300
Positional Accuracy (µm) Linear Encoder	8	10	15	20	25	30
Positional Accuracy (µm) Open loop	13	15	20	25	30	35
Bidirectional Repeatability (± µm)	1	1	1	1	1	1
Flatness & Straightness, (µm TIR)	5	7	9	11	15	20
Orthogonality (arc-seconds)	20	20	20	20	20	20
Load Capacity (for all, kg) ¹	75	95	125	145	175	175
Maximum Ballscrew Velocity(rps) ²	50	50	50	50	50	50
Moving Mass (kg)						
Upper Axis	0.5	1	1.7	2.5	3.6	
Lower Axis	3.4	6.3	9.2	14.1	20	
Total Mass (kg)	3.9	7.3	10.9	16.6	23.6	

Configurations (Apply to all of the above models)

Ballscrew Lead Pitch (mm/rev)

2 or 5

Motor

200 step / rev Standard,

also available with 400 step / rev or Servo

Encoder

Standard option has no encoder, options include:

Rotary encoder with 2,000 or 4,000 counts/rev

Linear encoder with analog feedback

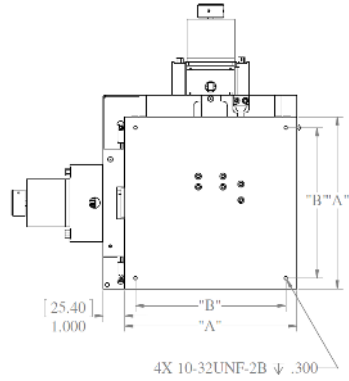
Linear encoder with 1µm, 0.1µm, 0.1µm, 0.001µm digital feedback

¹ Please contact our Applications Engineers for loads exceeding the specification.

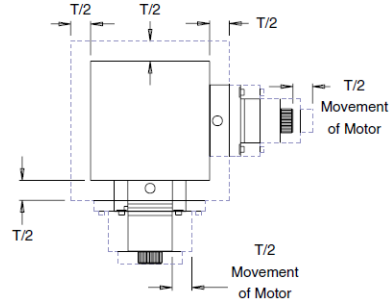
² Multiply leadscrew velocity by chosen lead pitch to determine maximum linear velocity

Dimensions

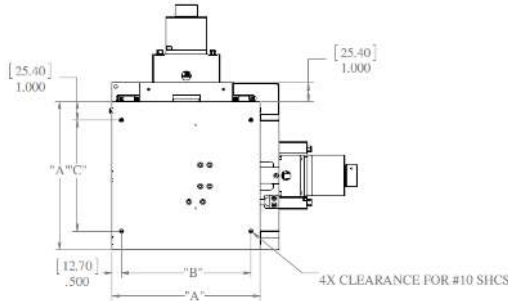
Top View



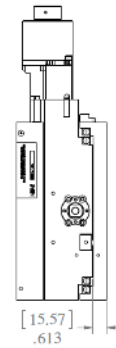
Side View



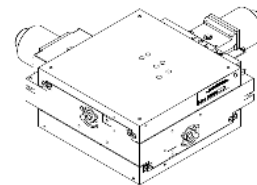
Bottom View



End View



Moving Envelope



Model	Travel (T)	Length (L)	A	B	C
XYRB-4040	2.00	4.00	3	3	2
XYRB-6060	4.00	6.00	5	5	4
XYRB-8080	6.00	8.00	7	7	6
XYRB-1010	8.00	10.00	9	9	8
XYRB-1212	10.00	12.00	11	11	10
XYRB-1414	12.00	14.00	13		

Measurements in inches

Wiring

23 Frame Rotary Motor Units

Pin	Motor Connector (DE-9P)			Limit/Encoder Connector (DE-9S)
	Stepper	Servo		
		Brushless	Brush	
1	Coil A	Motor Phase 1	Motor +V	+5 Volts
2	Coil \bar{A}	Motor phase 2	Not connected	+ Limit Output ¹
3	Not connected	Ground	Not connected	- Limit Output
4	Coil B	Hall input 1	Not connected	Index Output ²
5	Coil \bar{B}	Hall input 2	Not connected	Ground
6	Coil A, center tap	Motor phase 3	Motor -V	Encoder Channel A
7	Not connected	+5 volts	Not connected	Encoder Channel B
8	Not connected	Motor Fault Input	Not connected	Encoder Channel \bar{A}
9	Coil B, center tap	Hall input 3	Not connected	Encoder Channel \bar{B}