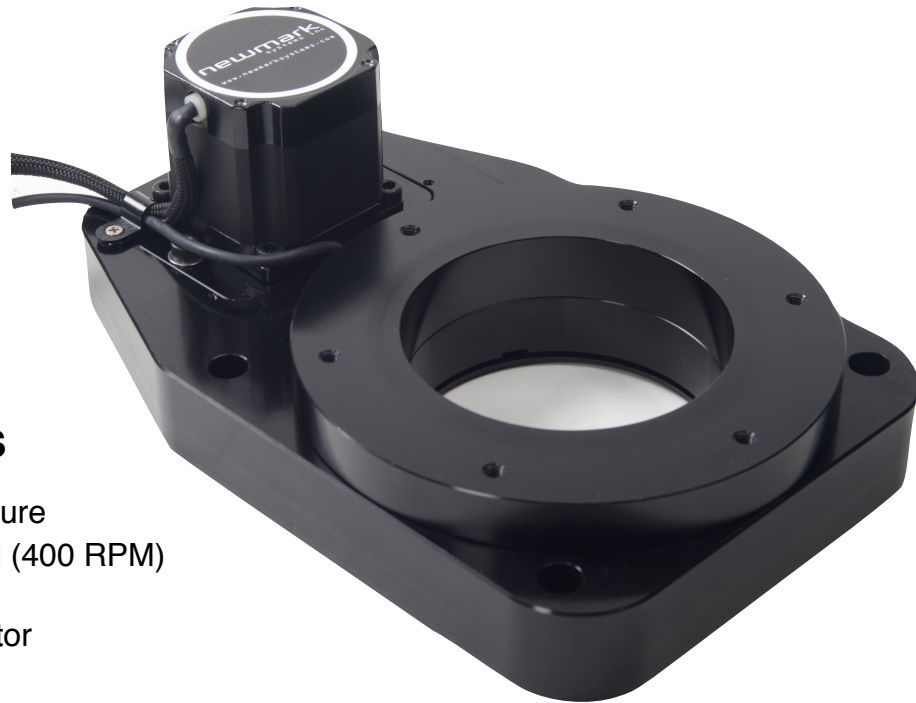


# RB SERIES ROTARY STAGE



## FEATURES

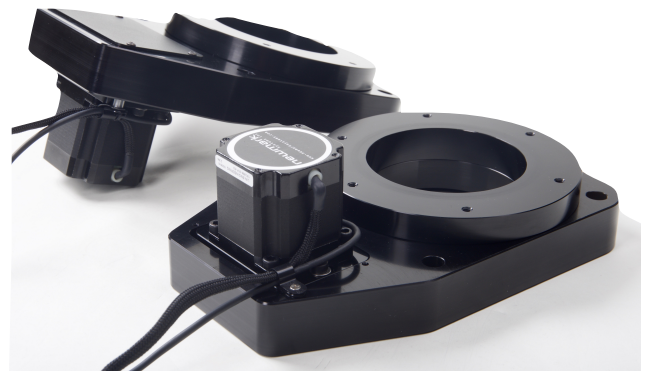
- Large Aperture
- High Speed (400 RPM)
- Belt Drive
- Size 23 motor

## RB Design

The design takes advantage of a single preloaded crossed roller bearing for the table movement. This design approach eliminates the use of a dual bearing configuration thus improving on axial runout and wobble. This rotary table utilizes a timing belt to couple the motor to the spindle. This offers maintenance free operation with zero backlash.

The RB rotary stage is available with a 2 phase stepper motor or an MDrive motor with integrated controller.

The motor can be installed from the top or bottom of the rotary stage to give clearance for large diameter payloads.

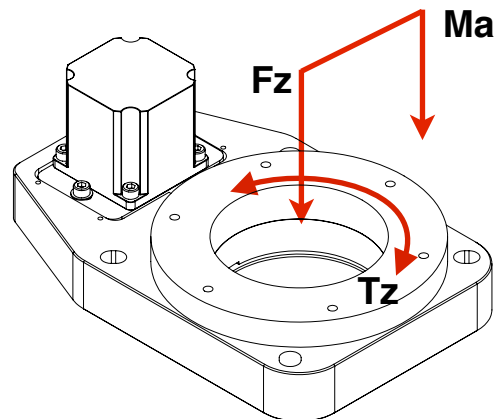


## Specifications

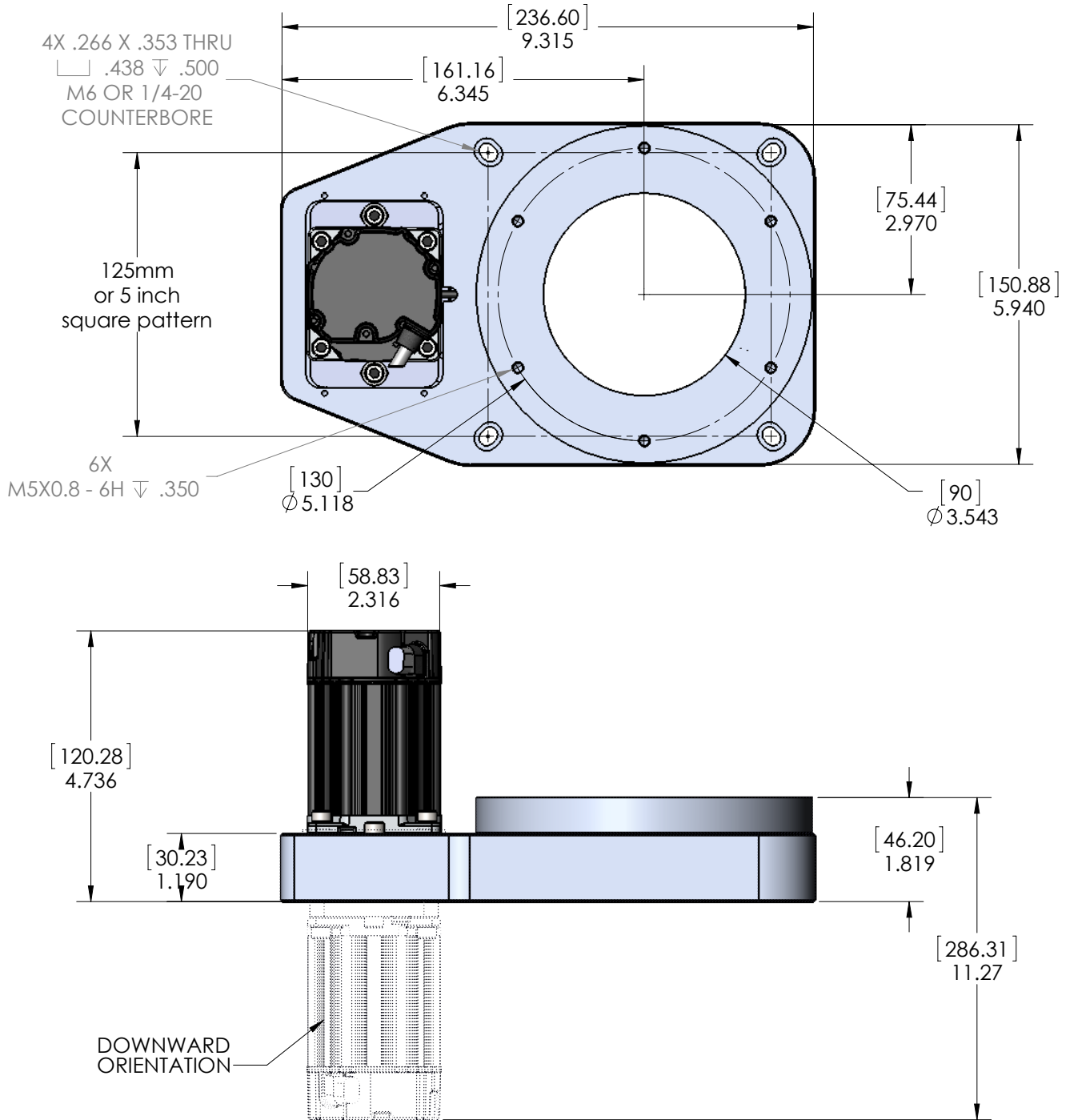
Resolution	0.0036°
Accuracy	0.1 degree
Max. Speed	200 RPM (Stepper Motor)   400 RPM (Servo Motor)
Repeatability	0.01 degree
Max Payload Weight	9.1 kg (20 lbs)
Travel Range	360° Continuous
Encoder	Optical rotary encoder mounted to rear of motor, 1000 lines (4000 CPR) with Index (Optional)
Origin	Inductive Home Switch Optical index mark on encoder (with encoder option)
Gear Ratio	4:1
Stage Weight	2.4 kg (5.3 lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize

## Load Characteristics

Normal Load (Fz)	9.1 kg (20 lbs)
Moment Load (Ma)	13.5 Nm (10 lb-ft)
Max. Torque (Tz)	1.1 Nm (0.83 lb-ft) @200 RPM



# Dimensions



# Pin Assignment

## Standard Stepper Motor

### Motor

DB-9 Male	Description
1.	Phase A
2.	Phase A'
3.	Phase B
4.	Phase B'

### Motor Specifications

Step Angle	1.8°
Amps/Phase	2.8
Holding Torque	173 oz-in
Resistance	0.9 Ohm/Phase
Inductance	2.5 mH/Phase
Inertia	1.5 oz-in <sup>2</sup>

### Signals

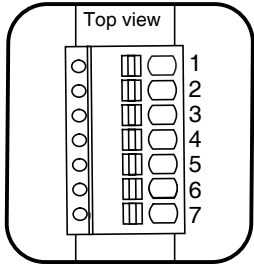
DB-9 Female	Description
1	N.C.
2	N.C.
3	Ground
4	Home
5	+5 VDC

### Signals (Encoder Option)

HD-15 Female	Description
1.	N.C.
2.	N.C.
3.	N.C.
4.	Encoder Ground
5.	+5V Encoder Power
6.	Ch. A
7.	Ch. A-
8.	Ch. B
9.	Ch. B-
10.	Index +
11.	Index -
12.	Home

# Pin Assignment

## MDrive Motor



7-Pin Pluggable Terminal

### Power and I/O

7-Pin Terminal	Description
1	I/O 1
2	I/O 2
3	I/O 3
4	I/O 4
5	Analog Input
6	Power GND
7	+24V Motor Power

### Connected to 7-Pin Terminal

DC Jack, 2.1mm	Description
Center	+24 VDC
Outside	Power Ground

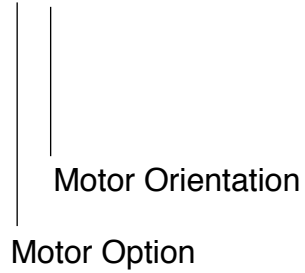
### RS-422 Communications

10-Pin IDC	Description
1	TX+
2	TX-
3	RX+
4	RX-
5	Aux-Logic
6	RX+
7	RX-
8	TX-
9	TX+
10	COMM GND

# Ordering Information

## Part Numbers Configuration

RB-90 - X X



### Motor Options

- 1 Stepper Motor
- 2 Stepper Motor with encoder
- 3 MDrive Motor
- 4 Servo Motor

### Motor Orientation

- U Up
- D Down

## Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the RB-90 Stage.

[NCS-A1 Series](#) | [NSC-G Series](#)