

RM-8 SERIES ROTARY STAGE

FEATURES

- Resolution: up to 0.36 arc-sec
- Speed: up to 100°/sec
- Compact Size
- Size 23 motor



RM-8 Design

This high capacity rotary stage features a 200mm diameter stainless steel table top designed to support a 700 lb load.

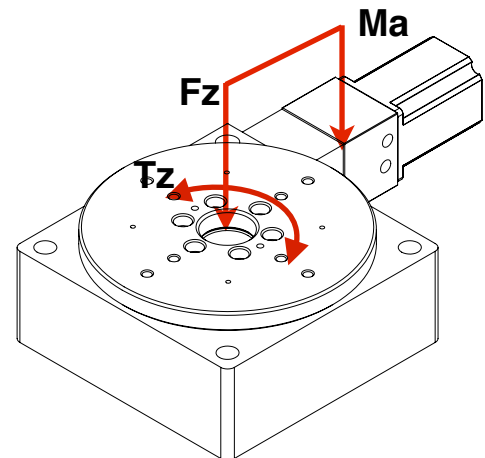
The design takes advantage of a single high capacity preloaded crossed roller bearing for the table movement. This design approach eliminates the use of a dual bearing configuration thus improving on axial runout and wobble. It can be fitted with a high performance servo motor or with a stepper motor. The RM-8 utilizes a worm gear drive with a gear ratio of 80:1. The worm gear is preload to minimize the backlash in the gear train.

Specifications

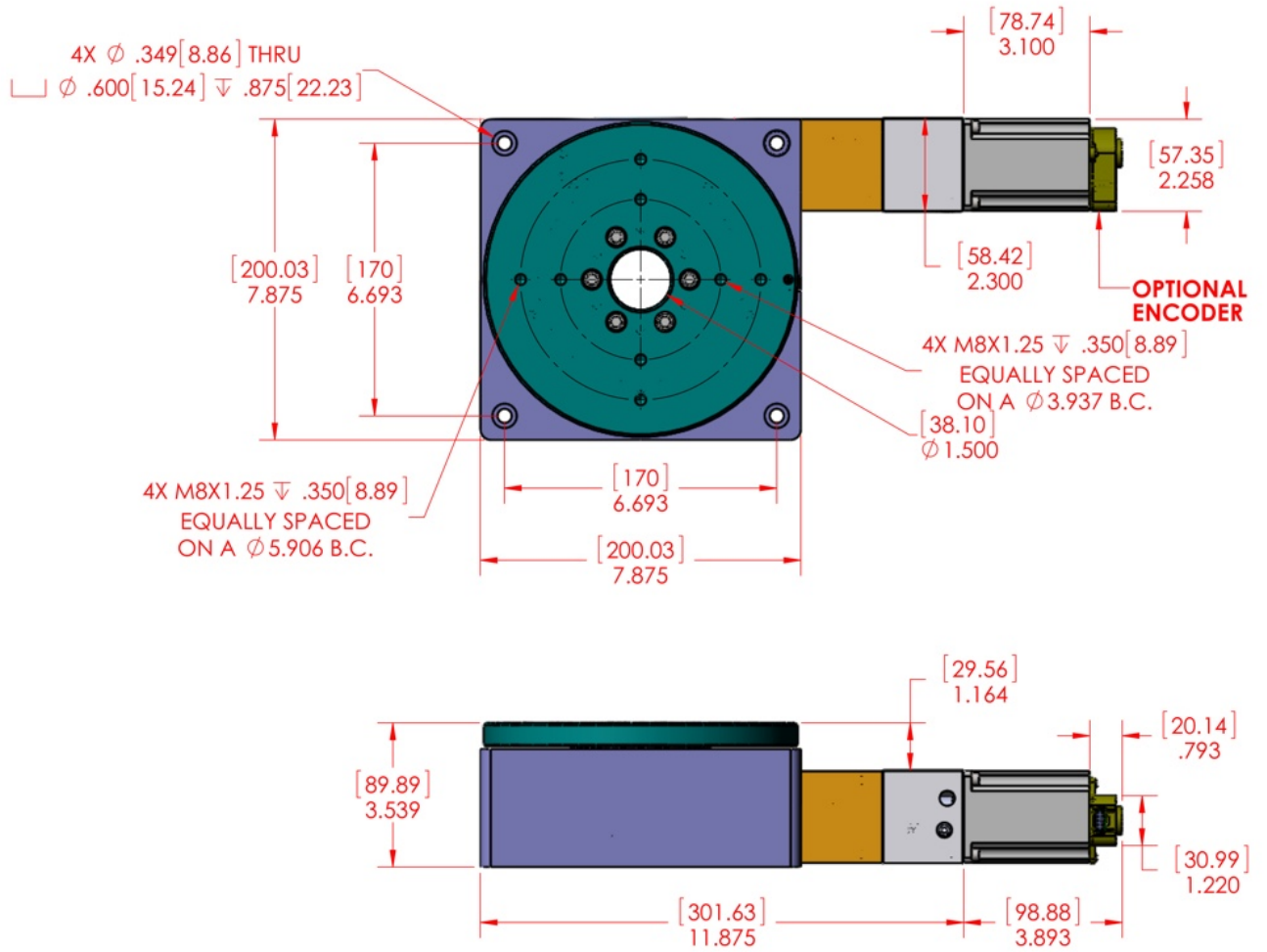
Resolution	Stepper Motor: 0.32 arc-sec Servo Motor: 4.1 arc-sec
Accuracy	70 arc-sec
Max. Speed	Stepper Motor: 20°/sec Servo Motor: 100°/sec
Repeatability (uni-directional)	5 arc-sec
Max Load Capacity	317 kg (700 lbs)
Travel Range	360° Continuous
Encoder	Optical rotary encoder mounted to rear of motor, 4000 CPR with Index (Optional)
Origin	Inductive home switch (Optional) Optical index mark on encoder (with encoder option)
Gear Ratio	80:1
Stage Weight	13.6 kg (30 lbs)
Material	Aluminum Alloy Construction
Finish	Black Anodize

Load Characteristics

Normal Load (Fz)	317 kg (700 lbs)
Moment Load (Ma)	135.5 Nm (100 lb-ft)
Max. Torque (Tz)	23 Nm (17 lb-ft)



Dimensions RM-8 Motorized Rotary Stage



Pin Assignment

Standard Stepper Motor Version

Motor

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

Motor Specifications

Step Size: 1.8°/step

Amps/Phase: 2.8

Resistance: 1.1 Ohm/Phase

Inductance: 3.8 mH/Phase

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.	Ground
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 Switch

Pin Assignment

Brushless Servo Motor Version

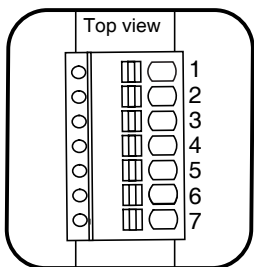
Motor

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

Signals

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

MDrive Stepper Motor Version



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

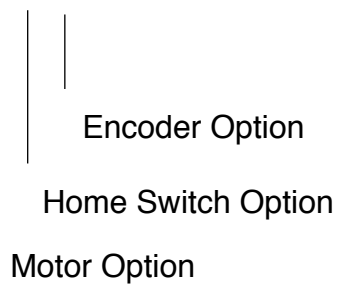
RS-422 Communications

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

RM-8-X X X



Motor Options

- 1 Stepper Motor
- 3 MDrive Motor
- 4 Servo Motor

Home Switch Option

- 0 No Home Switch
- 1 With Home Switch

Encoder Options

- 0 No Encoder
- 1 Rotary Encoder

Motion Controllers

The following Newmark Systems, Inc. controllers are compatible with the RM-8 Stage.

[NCS-A1 Series](#) | [NSC-3311 Series](#) | [NSC-G Series](#)