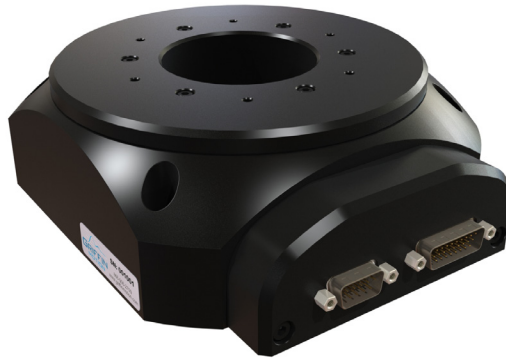


Precision Rotary Table

FEATURES

- Compact Low-Profile Design
- Continuous 360° rotation
- 60mm through bore
- High resolution encoder
- Precision index mark for homing
- Direct drive brushless servo motor



The RTS-DD Series Rotary tables are compact, direct drive, precision positioning tables designed for laboratory, factory automation and semiconductor processing equipment. The brushless direct drive technology eliminates backlash and improves reliability by eliminating sliding friction throughout the stage. The compact stage profile helps to minimize abbe error when used in conjunction with other motion axis. The bore allows convenient routing of vacuum or high voltage lines for a range of wafer chucks. Positioning resolution can be selected to meet the needs of the final application.



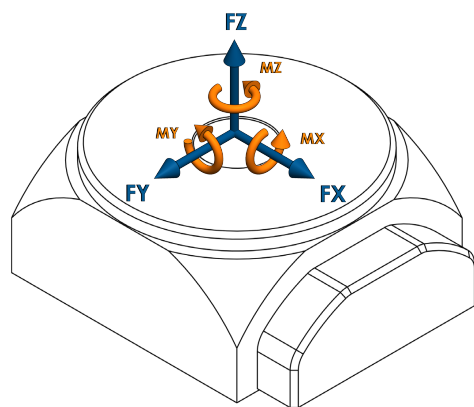
1040 CLASSIC ROAD | APEX, NC 27539
P: 866.906.2709 | F: 919.882.1430
www.griffinmotion.com

RTS-DD-150-BB-E-A-S-0-00

Motion Specifications

Product Specifications

Angular Accuracy (arc-sec)	30*
Angular Repeatability (arc-sec)	3*
Angular Velocity (deg/s)	2650*
Axial Runout (μm)	10
Encoder Output	1Vp-p sine and cosine, index
Force X (N)	180
Force Y (N)	180
Force Z (N)	350
Height (mm)	58
Length (mm)	175
Limit Switches	No
Moment X (N-m)	15
Moment Y (N-m)	15
Moment Z (N-m)	Same as Torque
Encoder Resolution (arc-sec)	18,000 sine periods / rev
Radial Runout (μm)	10
Rotational Inertia ($\text{kg}\cdot\text{m}^2$)	0.0025
Stage Mass (kg)	2.7
Torque, Continuous (N-m)	1.56
Torque, Peak (N-m)	3.12
Travel Range (deg)	360 continuous
Width (mm)	150
Wobble (arc-sec)	10
*Subject to control configuration	



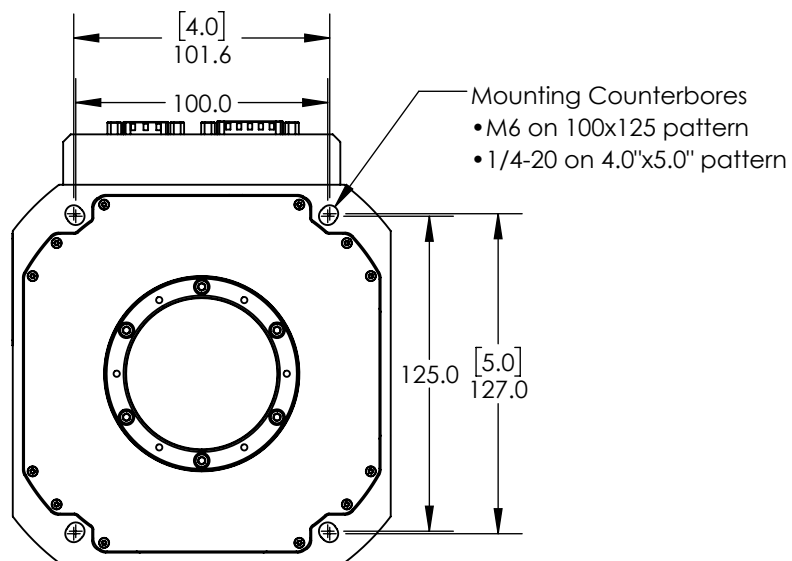
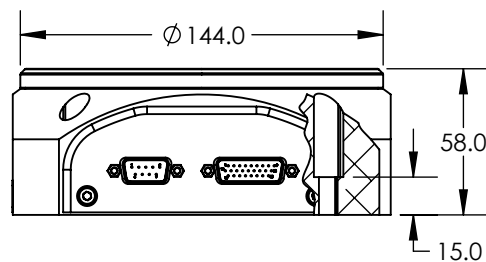
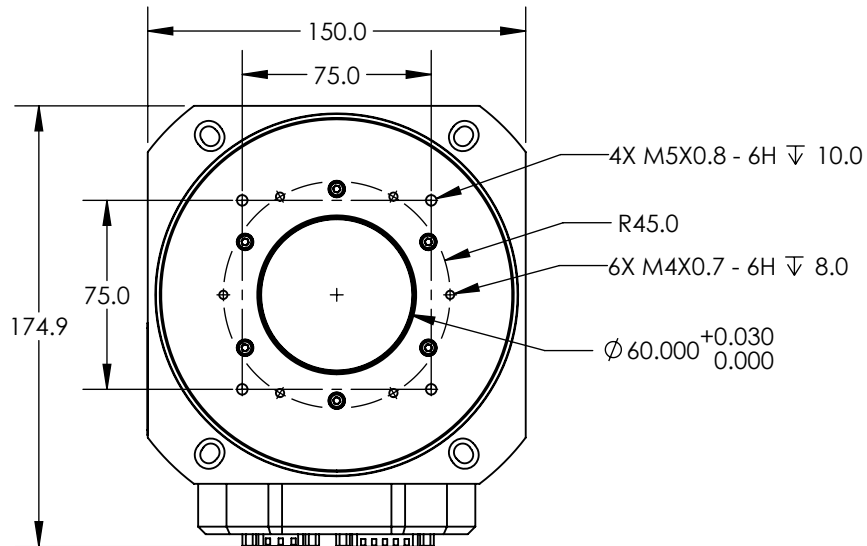
LOAD DIRECTIONS

Part Number Description

RTS	RTS Series
DD	Direct Drive
150	150mm Diameter
BB	Glass Disk, 18000 Line Pairs
E	Sinusoidal Output
A	Aluminum Hub
S	Standard Precision
0	No Additional Options
00	Standard Product (Call for custom)

RTS-DD-150-BB-E-A-S-0-00

Mechanical Specifications



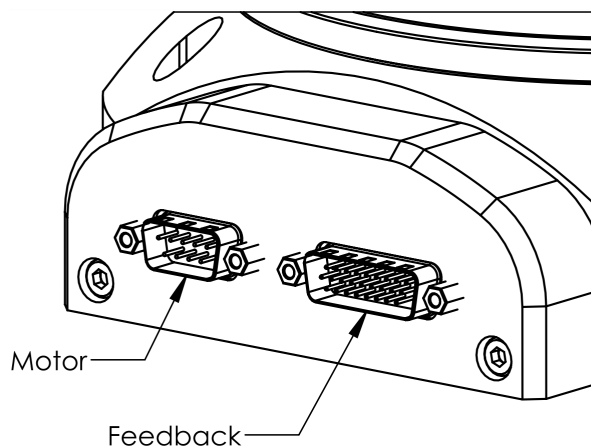
RTS-DD-150-BB-E-A-S-0-00

Rev 1

RTS-DD-150-BB-E-A-S-0-00

Electrical Pinout

Feedback Connector (DSUB26HD MALE)	
PIN	NAME
1	+5Vdc
2	SIN+
3	COS+
4	INDEX+
5	*
6	*
7	*
8	*
9	*
10	*
11	SIN-
12	COS-
13	INDEX-
14	*
15	*
16	*
17	*
18	*
19	GND
20	HALL A
21	HALL B
22	HALL C
23	*
24	*
25	*
26	*
*Reserved	



Motor Connector (DSUB9 MALE)	
PIN	NAME
1	PE
2	*
3	*
4	*
5	*
6	PHASE A
7	PHASE B
8	PHASE C
9	*
*Reserved	



RTS-DD-150-BB-E-A-S-0-00

Electrical Specifications

Motor Specifications	
Motor Type	3 phase brushless DC
BEMF Output (Vpk/Krpm)	50.0
Electrical Time Constant (msec)	1.90
Bus Voltage (Vdc)	48 nominal (300 max)
Max Continuous Current (A _{pk})	4.43*
Motor Torque Constant (Nm/A _{pk})	0.414
Peak Current (A _{pk})	8.86
Pin to Pin Inductance (mH)	7.48
Pin to Pin Resistance (ohm)	3.86
Poles Per Revolution	28
*Assumes stage mounted to an aluminum heat sink (540 mm * 540mm * 25mm) in ambient 27°C still air.	

Feedback Specifications	
Supply Voltage (Vdc)	5.0 ± 10%
Supply Current (mA)	350
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Output Type	1V _{pp} Sinusoidal; Sin, Cos, Index; Differential Pairs
Hall Switch Feedback	Yes
Hall Switch Output Type	Open-collector, 1k pullup resistor to supply
Hall Switch max current (mA)	-20
Limit Switch Feedback	No
Error Output Feedback	No

The encoder has one index mark. It will output a pulse once per revolution when this index mark is passed. This pulse is highly repeatable and can be used to find an absolute position (within one revolution of the output shaft) upon power-up.