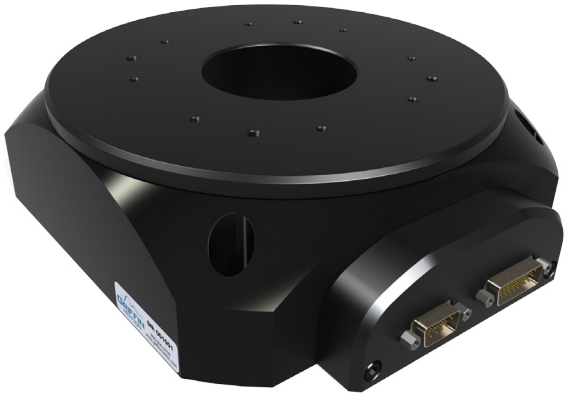
1040 CLASSIC ROAD | APEX, NC 27539
P: 866.906.2709 | F: 919.882.1430
www.griffinmotion.com

Precision Rotary Table

FEATURES

- Compact Low-Profile Design
- Continuous 360° rotation
- 65mm 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.

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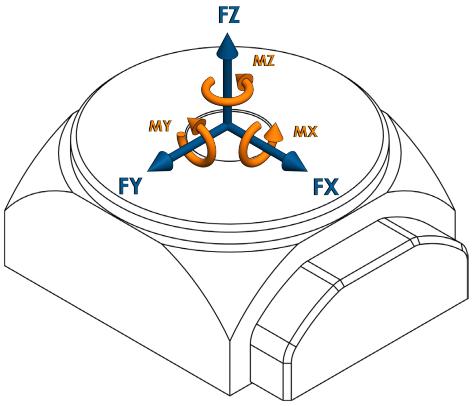
Product Specifications

Angular Accuracy (arc-sec)	300
Angular Repeatability (arc-sec)	200
Angular Resolution (arc-sec)	71.429
Angular Velocity (deg/s)	2400
Axial Runout (µm)	10
Continuous Torque (N·m)	3.5
Encoder Output	A quad B, index
Force X (N)	250
Force Y (N)	250
Force Z (N)	500
Height (mm)	65
Length (mm)	210
Limit Switches	No
Moment X (N·m)	25
Moment Y (N·m)	25
Moment Z (N·m)	3.5
Encoder Resolution (arc-sec)	71.429 (18144cts/rev)
Peak Torque (N·m)	19
Radial Runout (µm)	10
Rotational Inertia (kg·m²)	0.006594
Stage Mass (kg)	4.76
Travel Range (deg)	360 continuous
Width (mm)	190
Wobble (arc-sec)	10



LOAD DIRECTIONS

Part Number Description

RTS	RTS Series
DD	Direct Drive
200	200mm Diameter
P	Mylar Disk, 4536 Line Pairs
H	1X Interpolation
A	Aluminum Hub
S	Standard Precision
0	No Additional Options
00	Standard Product (Call for custom)

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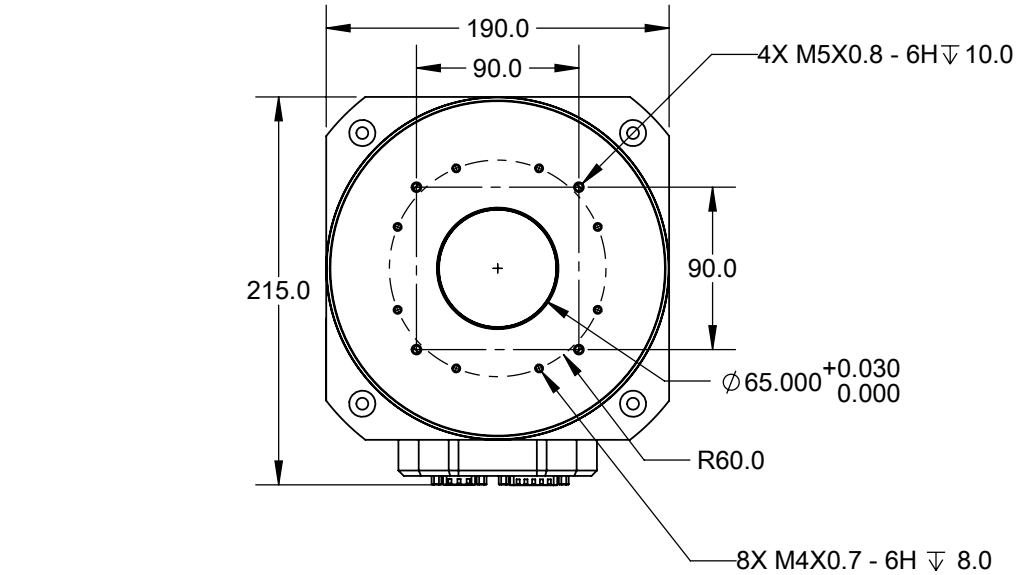
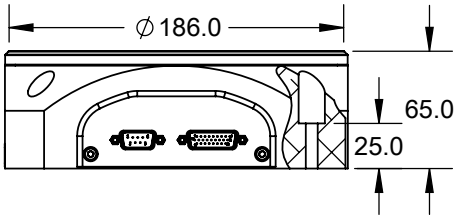
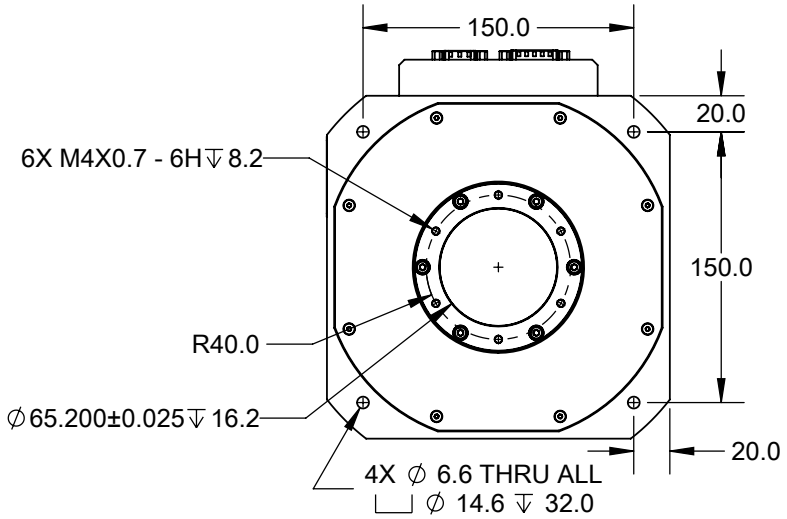
Mechanical Specifications







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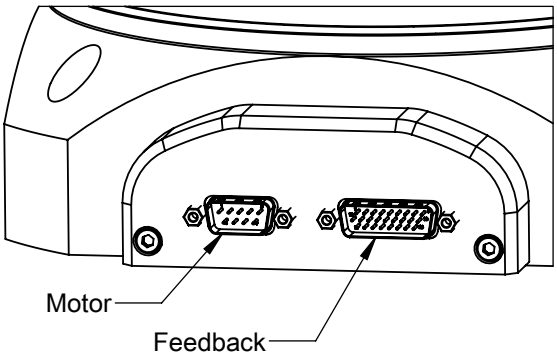
Electrical Pinout

Feedback Connector (DSUB26HD MALE)	
PIN	NAME
1	+5V
2	A+
3	B+
4	Z+
5	*
6	ERR+
7	*
8	*
9	*
10	*
11	A-
12	B-
13	Z-
14	*
15	ERR-
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	*
2	*
3	*
4	*
5	*
6	PHASE A
7	PHASE B
8	PHASE C
9	*
* Reserved	

Motor Specifications	
Motor Type	3 Φ Brushless DC
BEMF Constant (V/KRPM)	114.7
Electrical Time Constant (ms)	2.13
Max Bus Voltage (VDC)	300
Max Continuous Current (A)	3.19
Motor Torque Constant (N·m/A)	1.096
Peak Current (A)	17.7
Pin to Pin Inductance (mH)	12.71
Pin to Pin Resistance (ohm)	5.93
Poles per Revolution	24

Feedback Specifications	
Supply Voltage (V)	5.0±10%
Supply Current (mA)	250
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Ouput	Square Wave Quadrature, RS-422 compatible, A,B,Z, Differential Pairs
Hall Switch Output	Open-Collector, No Pullup Resistor
Hall Switch max current (mA)	-20
Limit Switches	No
Error Output	CMOS
Error Output max current(mA)	±20

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.

An Error output will provide a pulse if there is an error in interpolation. This can be caused by a shaft speed that is too high or by the enocoder signal dropping below a preset threshold. In normal operation with no error, this output will be high.