

## Precision Rotary Collet Stage

### FEATURES

- Continuous 360° rotation
- High resolution encoder
- Brushless DC motor
- Ø 5.00mm through bore
- Spring close, pneumatic open collet
- Accepts ER8 type collets



The RCS series rotary stages are designed for precise positioning and workholding to suit a variety of applications. The brushless direct drive technology eliminates backlash and improves reliability by eliminating sliding friction throughout the stage. The pneumatic open, spring close system allows for a range of collet sizes with exceptional runout capability.

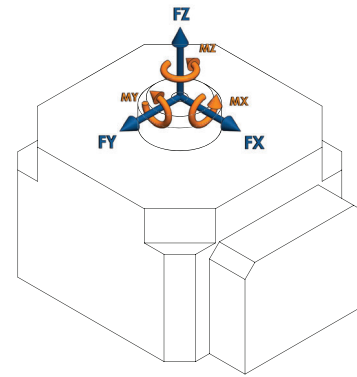


RCS-090-B-D-ER8-00

## Motion Specifications

## Product Specifications

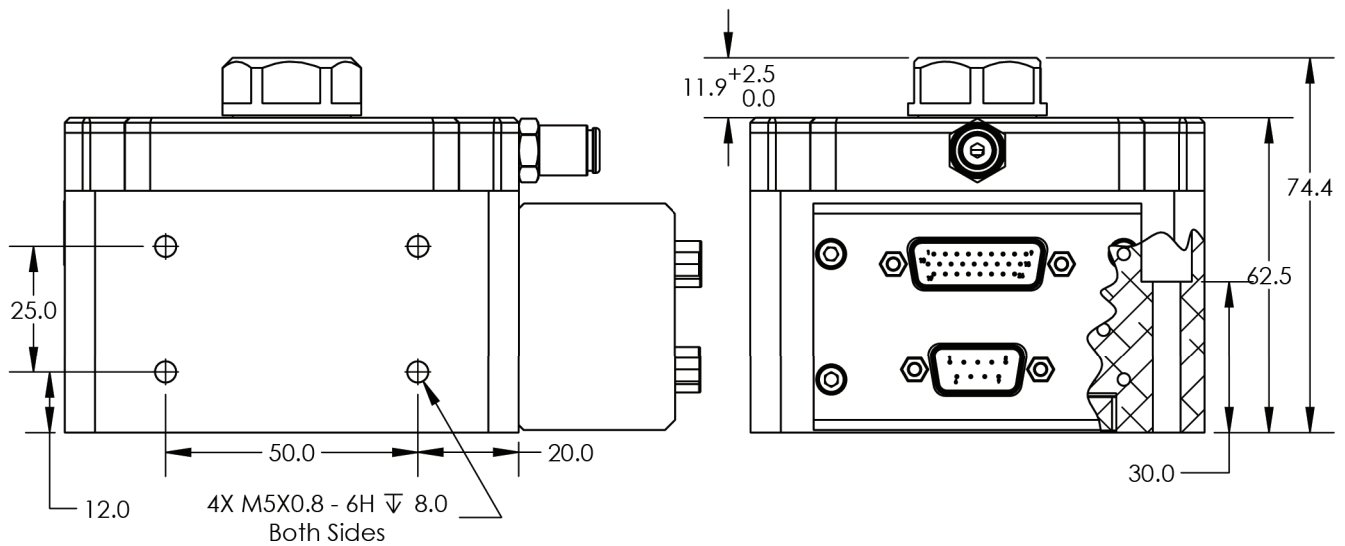
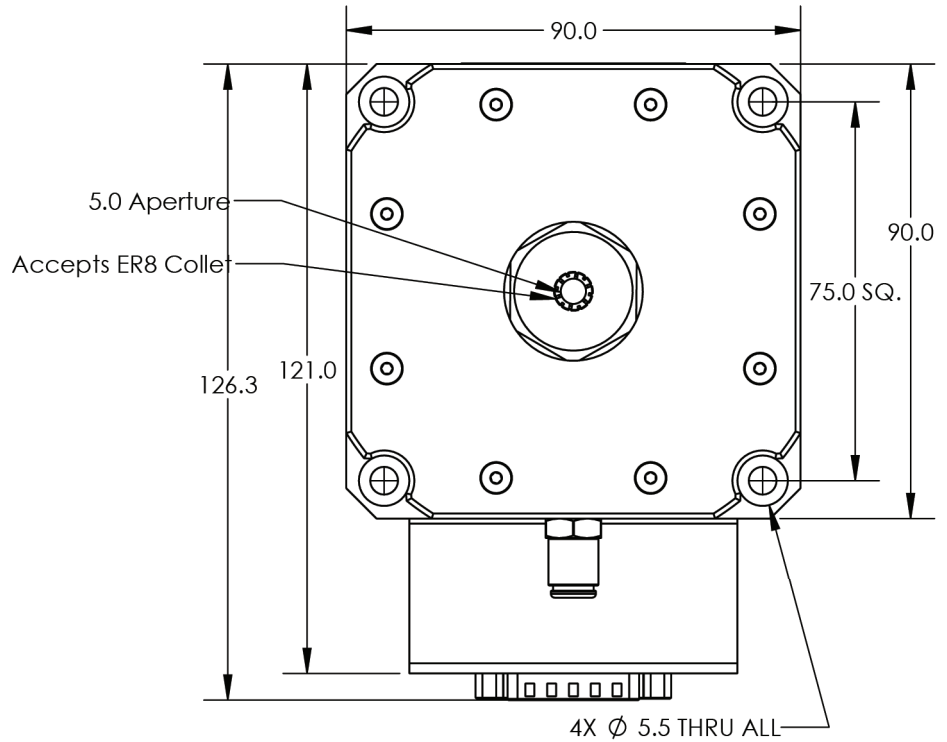
Air Pressure Range (PSI)	60-90
Air Quality Required	Dry Air, 1µm Maximum Particulate Size
Angular Accuracy +/- (arc-sec)	30
Angular Repeatability +/- (arc-sec)	4
Angular Velocity (deg/s)	3600
Collet Type	ER8
Encoder Output	A quad B, index
Height (mm)	76.5
Length (mm)	126
Maximum Aperture (mm)	5
Peak Torque (Nm)	2.9
Radial Runout of gage pin in collet (µm)	<30
Resolution (arc-sec)	0.324 (4,000,000 cts/rev)
Rotational Inertia (kg-m <sup>2</sup> )	0.00034
Stage Mass (kg)	1.5
Travel Range (deg)	360
Through Bore (mm)	5
Width (mm)	90



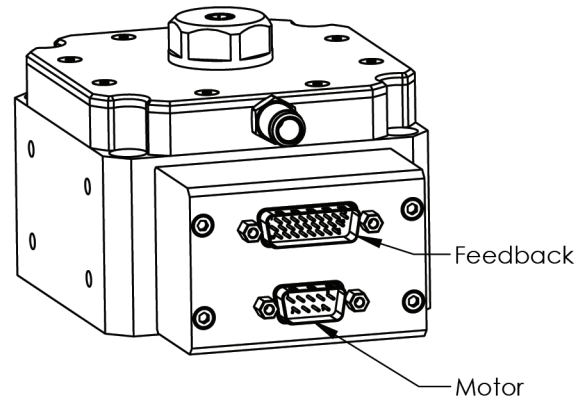
**LOAD DIRECTIONS**

## Part Number Description

RCS	RCS Series
090	90mm Diameter
B	Brushless Motor
D	Glass Disk, 10000 Line Pairs
ER8	Accepts ER8 Collets
0	No Additional Options
00	Standard Product (Call for custom)



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



Motor Specifications	
Motor Type	3 $\Phi$ Brushless DC
BEMF Constant (V/KRPM)	44
Electrical Time Constant (ms)	0.37
Max Bus Voltage (VDC)	340
Max Continuous Current ( $A_p$ )	1.48
Motor Torque Constant (N·m/A)	0.36
Peak Current ( $A_p$ )	2.9
Pin to Pin Inductance (mH)	5.32
Pin to Pin Resistance (ohm)	14.23
Poles per Revolution	16

Feedback Specifications	
Supply Voltage (V)	5.0 $\pm$ 10%
Supply Current (mA)	250
Encoder Feedback	Yes
Encoder Type	Incremental
Encoder Output	Square Wave Quadrature, RS-422 compatible, A,B,Z, Differential Pairs
Hall Switch Output	Open-Collector, 1k pullup resistor to supply
Hall Switch max current (mA)	-20
Limit Switches	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.