

Precision Linear-Rotary Stage

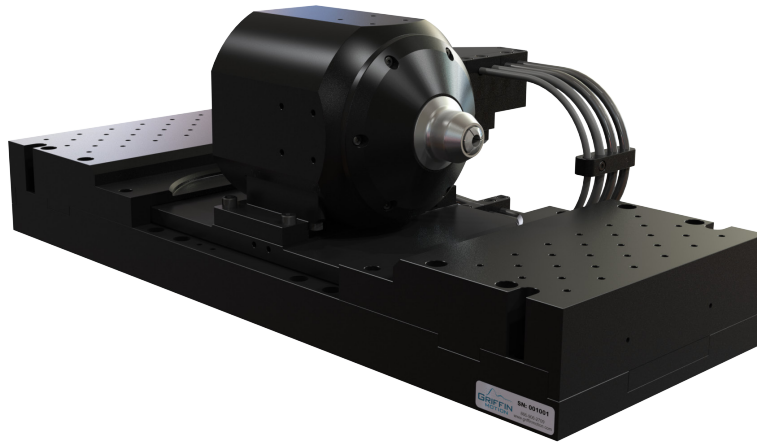
FEATURES

Linear Axis

- 100mm Travel
- Ironless linear servo motor
- Optical limit switches
- High resolution linear encoder
- Crossed roller linear bearings

Rotary Axis

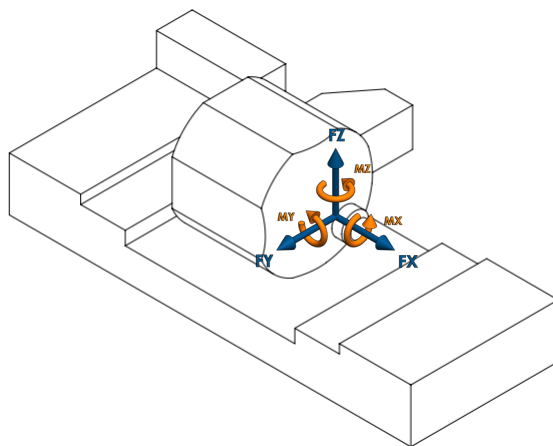
- Continuous 360° rotation
- High Resolution Rotary Encoder
- Brushless DC motor
- Ø 8.00mm through bore
- Pneumatically activated collet chuck
- Accepts Levin 'D' Type collets



The linear-rotary stages are designed for high loading capacities and precise positioning to suit a variety of applications. The pneumatic dead-length collet chuck allows to collet to remain stationary axially during opening and closing. The crossed roller bearings and the linear motor offer extremely smooth operation and velocity control. This stage has exceptional levels of accuracy, repeatability, flatness and straightness. A hard cover makes it excellent choice for dirty environments.

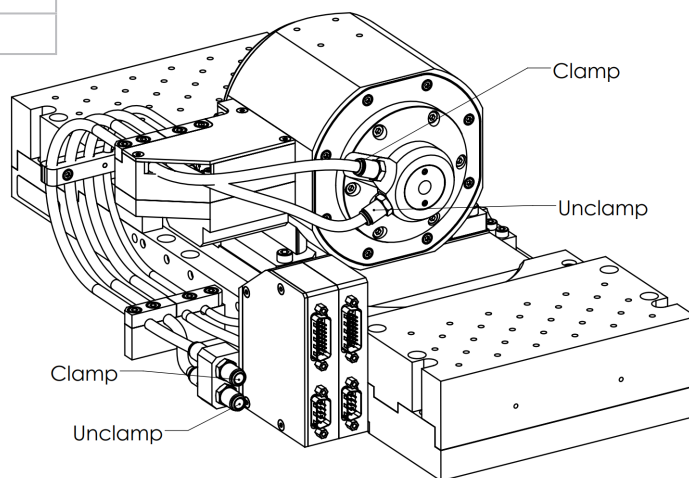
Product Specifications

Air Pressure Maximum (PSI)	90
Air Quality Required	ISO 8573-1 Class 1
Angular Accuracy (arc-sec)	30
Angular Repeatability +/- (arc-sec)	4
Continuous Force X (N)	58
Encoder Output	1Vp-p
Flatness (μm)	4
Height (mm)	155
Length (mm)	450
Limit Switches	Yes
Linear Accuracy (μm)	4
Linear Encoder Resolution	25 periods/mm
Linear Repeatability (μm)	0.8
Linear Velocity (mm/s)	300
Maximum Aperture (mm)	7.9
Moving Mass X (kg)	7.7
Peak Torque (Nm)	3.07
Pitch +/- (arc-sec)	5
Radial Runout of gage pin in collet (μm)	<30
Rotational Speed (deg/s)	3600
Stage Mass (kg)	14.2
Straightness (μm)	4
Width (mm)	165
Yaw +/- (arc-sec)	3



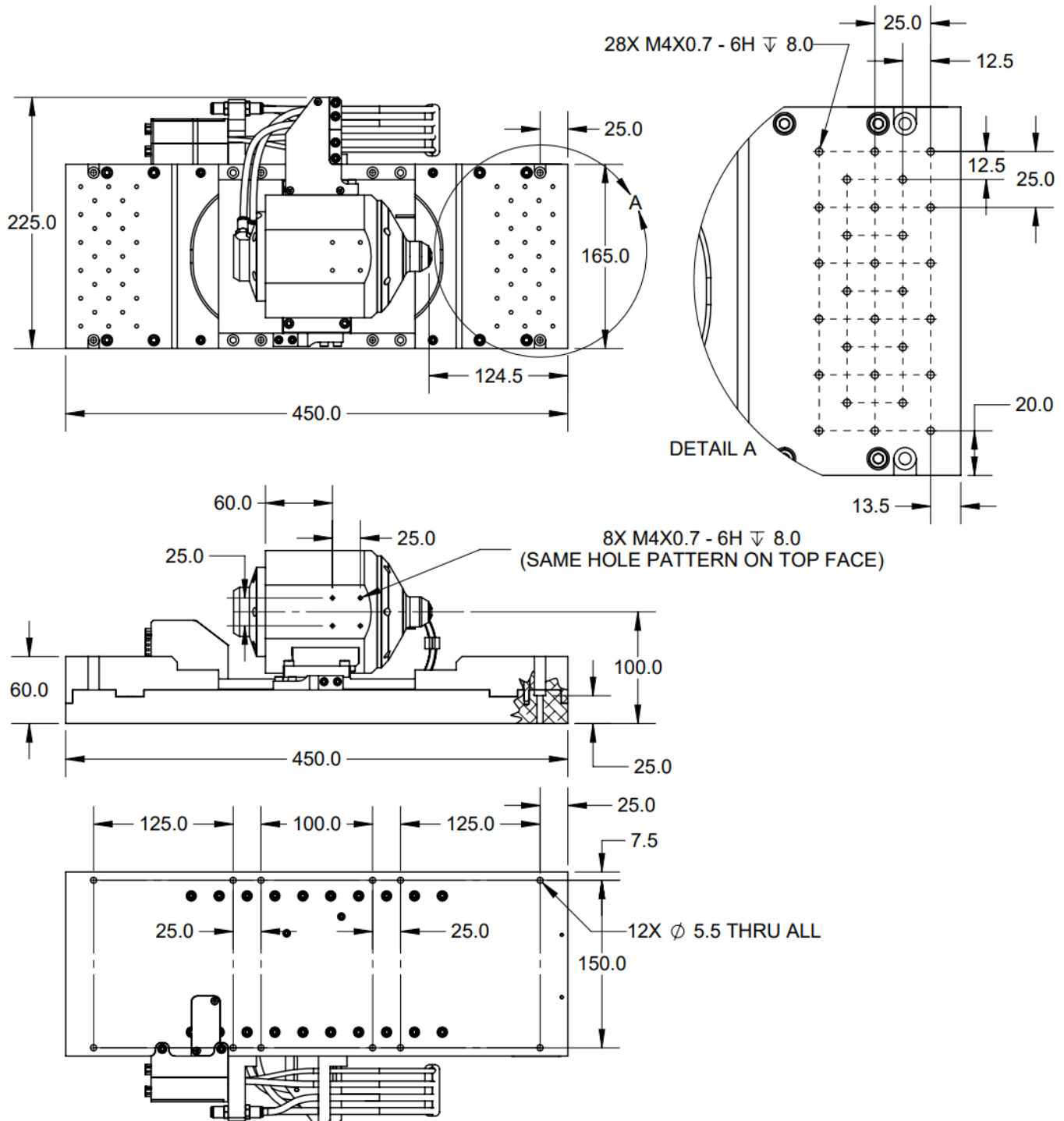
LOAD DIRECTIONS

Note: Supply Pressure to each port to move the piston. Air flow will return from the non-pressurized port and must be vented to atmosphere.



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Mechanical Specifications

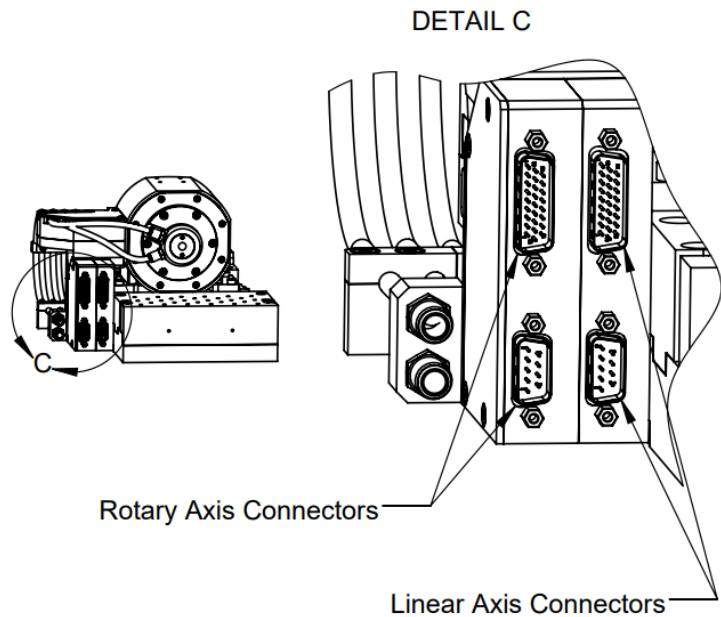


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Electrical Pinout

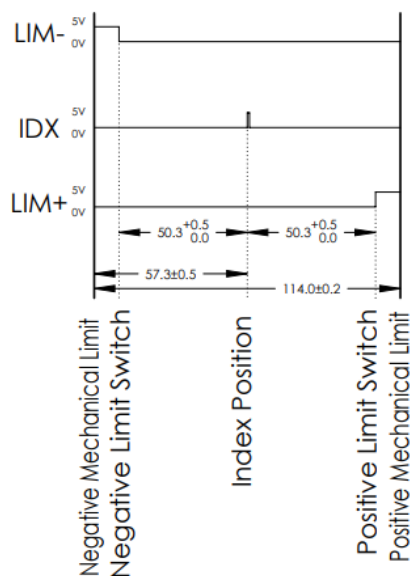
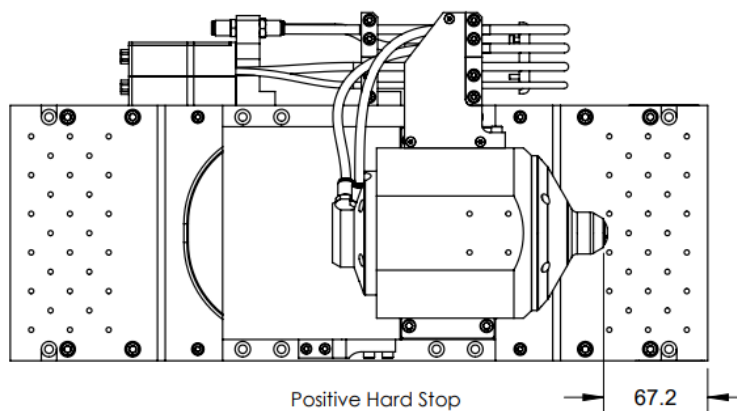
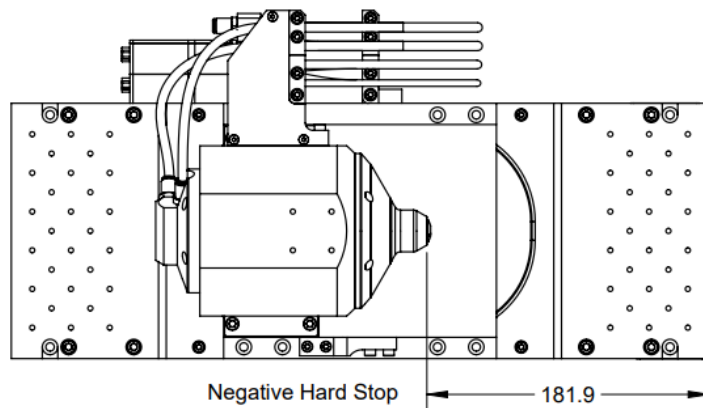
Feedback Connector (DSUB26HD MALE)	
PIN	NAME
1	+5V
2	SIN+
3	COS+
4	IDX+
5	LIM+
6	*
7	*
8	*
9	*
10	OVRTMP**
11	SIN-
12	COS-
13	IDX-
14	LIM-
15	*
16	*
17	*
18	*
19	GND
20	HALL A
21	HALL B
22	HALL C
23	HOME
24	*
25	*
26	*
* Reserved	
**Only on Linear Axis	

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



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End of Travel Locations



Maximum Travel

Note: Dimensions shown are to maximum travel locations. Hard stop cushions engage approximately 2mm prior to these positions. Limit switches engage first as shown to the left.



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Electrical Specifications

Motor Specifications		
	Linear AXIS	Rotary AXIS
Motor Type	3 Φ Brushless DC	3 Φ Brushless DC
BEMF Constant (V/KRPM)	-	92.3
BEMF Constant (V/m/s)	30	-
Electrical Time Constant (ms)	0.35	1.91
Max Bus Voltage (VDC)	300	300
Max Continuous Current (A)	2.26	2.0
Motor Torque Constant (Nm/A)	-	0.76
Motor Torque Constant (N/A)	26.0	-
Peak Current (A)	7.78	4.05
Pin to Pin Inductance (mH)	6	25.3
Pin to Pin Resistance (ohm)	18.6	13.22
Poles per Revolution	-	12
Magnetic Pole Pitch (mm)	30	-
Continuous Force (N)	58	-
Peak Force (N)	200	-
Continuous Torque (Nm)	-	1.58
Peak Torque (Nm)	-	3.07
Note: All values listed as Amperes (peak-of-sine)		

Feedback Specifications		
	Linear AXIS	Rotary AXIS
Supply Voltage (V)	5.0 \pm 10%	
Supply Current (mA)	200	
Encoder Feedback	Yes	
Encoder Type	Incremental	
Encoder Output	1Vpp; Sin, Cos, Idx; differential pairs	
Encoder Resolution	25periods/mm	11840periods/rev
Hall Switch Output	CMOS	CMOS
Hall Switch max current (mA)	\pm 20	\pm 20
Limit Switches	Yes	No
Limit Switch Output Type	CMOS	
Limit Switches Output current (mA)	\pm 20	
Limit Switch Output Low (V)	0.8	
Index Pulse	Yes, center stroke	Yes, one per rev
Over Temp Switch	Yes	no
Over Temp Switch Type		
Over Temp Switch Polarity		