



CABLE EXITS  
(TRIPOD CABLES LOOPED DOWN  
TO PIVOT POINT ON  
CUSTOMER'S SYSTEM BASE)

ØR DIAMETER  
(MOUNTING  
SURFACE)

ØH  
(BOLT CIRCLE  
DIAMETER)

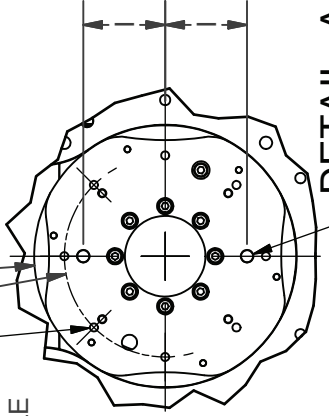
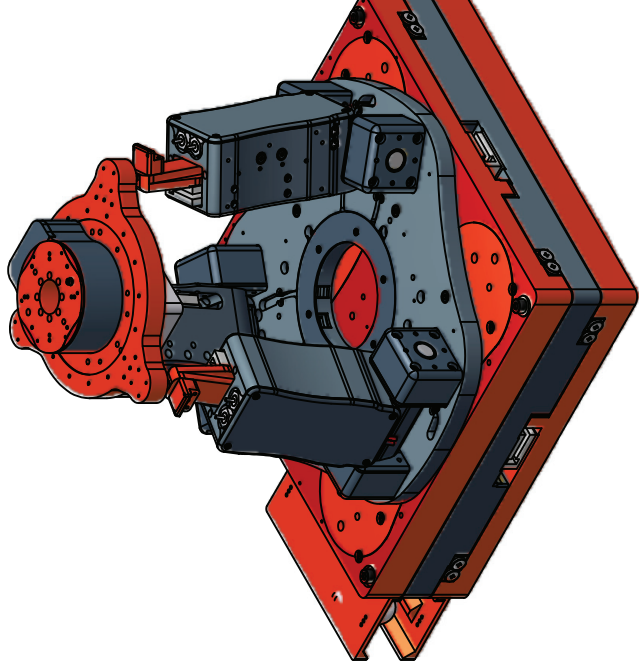
8X "L" (TAP)  
(EQUALLY SPACED  
ON BOLT CIRCLE  
DIAMETER "H")

2X Ø5.0 mm (H9)  $\nabla$  5.0 mm  
SLIP FIT FOR M5 DOWEL PIN

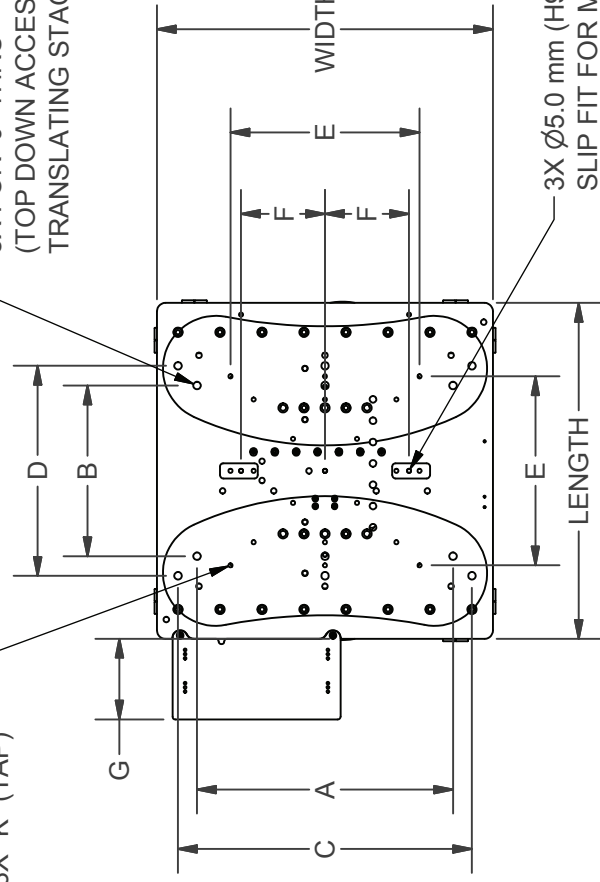
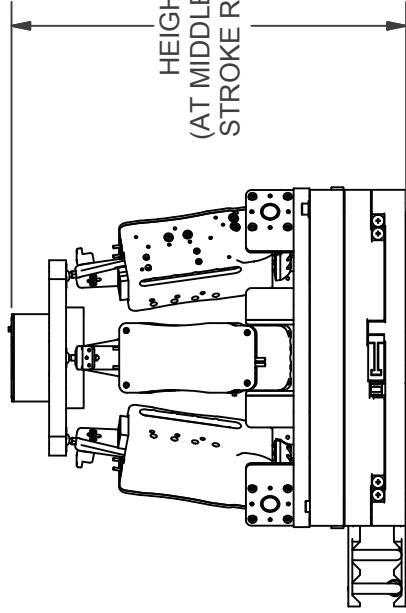
HEIGHT  
(AT MIDDLE OF Z  
STROKE RANGE)

8X "K" (TAP)  
STAGE MOUNT  
8X FOR "J" THRU  
(TOP DOWN ACCESS BY  
TRANSLATING STAGE)

3X Ø5.0 mm (H9)  $\nabla$  5.0 mm  
SLIP FIT FOR M5 DOWEL PIN



DETAIL A



**STANDARD FEATURES**

<b>Stage</b>	Vacuum Hybrid Hexapod
<b>Travel</b>	6 Degrees of Freedom (X, Y, Z, Pitch, Roll, and Yaw)
<b>XY Travel</b>	100 - 300+ mm
<b>Z Travel</b>	6 - 106 mm
<b>Angular Travel</b>	+/- 3 to +/- 18 degrees (Pitch and Roll) 360 degrees continuous (Yaw)
<b>Max Payload</b>	2.0 - 7.0+ kg
<b>Motor</b>	Ironless Core Linear Motor and Frameless Torque Motor
<b>Feedback</b>	Non-Contact Optical Encoder
<b>Scale</b>	Gold Tape Scale and Stainless Steel Ring Optional: Near Zero CTE ZeroMet
<b>Linear Resolution</b>	~5 nm
<b>Angular Resolution</b>	< 0.04 arc-sec
<b>Sensors</b>	Integrated Home and End of Travel Limits
<b>Bearings</b>	High Precision Crossed Roller Bearings
<b>Counterbalance</b>	Non-Contact Magnetic Spring
<b>Cables</b>	High Flex, 10M Cycle, 3m Length
<b>Structure</b>	Anodized Aluminum 6061-T6 Optional: Stainless Steel
<b>Environment</b>	Vacuum 10-5 Torr, Vacuum 10-7 Torr
<b>Temperature</b>	0°C to 50°C
<b>Humidity</b>	10% to 80% Non-Condensing
<b>Precision</b>	6-D Nano Precision™ Test Methods

XY TRAVEL	Z TRAVEL	PITCH & ROLL TRAVEL	R DIAMETER	OPTION	LENGTH	WIDTH	HEIGHT	A (inch)	B (inch)	C	D	E	F	G	H	I	J	K	L
100	24	+/- 12 degrees	56	CM, MS	262.5	246	230.9	6	4	125	100	120	70	52	30	22.5#	M6 or 1/4-20	M5 (6X)	M3
100	24	+/- 12 degrees	56	MS	262.5	246	250.9	6	6	175	125	170	70	52	30	22.5#	M6 or 1/4-20	M6	M3

\* All units millimeters unless otherwise noted.  
 \* All hole patterns centered on M5 dowel pin at center of XY stage or centered on thru hole of top rotary stage.  
 \* See specification sheet and contact ALIO technical sales for assistance in model selection.  
 # M5 dowel pins on the mount surface are rotated 90 degrees relative to dowel pins shown on this datasheet.

ALIO INDUSTRIES PROPRIETARY INFORMATION  
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TITLE  
**AI-6D-(XY TRAVEL)XY-  
 (Z TRAVEL)Z-(R DIAMETER)R  
 -VAC-(OPTION)**

SIZE	B	DWG NO	0010-08036	REV	001
FINISH	SEE NOTES	SCALE	ALIO STD TEMPLATE - REV 006	SHEET	1 OF 1

NOTE: MODEL AI-6D-250XY-55Z-104R SHOWN.