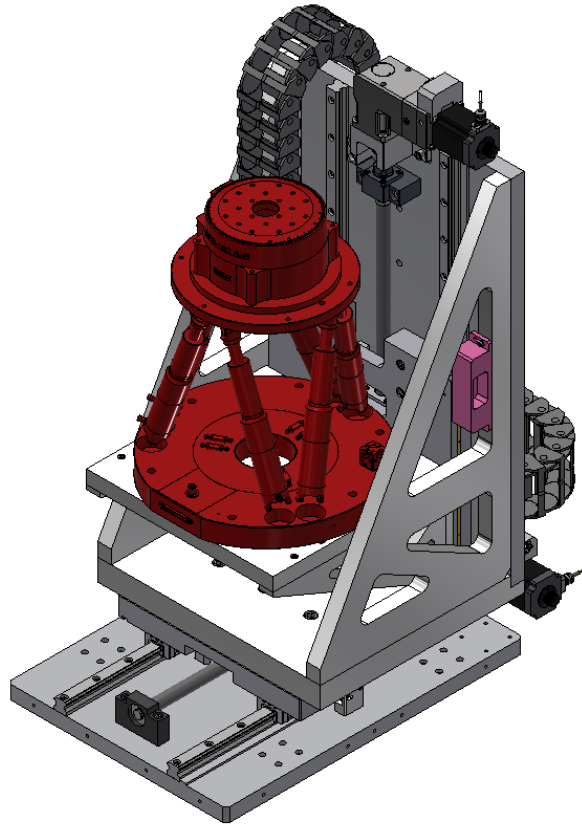


2-Axis System with Controller

Project 18-030 for Elettra



This pair of motion stages for the Elettra synchrotron in Trieste, Italy, was designed and built to hold a further set of stages (shown in red above) which manipulate a sample for X-ray experiments. The lift stage arrangement was select to produce a more compact total height than if a more conventional jack stage was placed directly under the hexapod. Both stages are positioned using ball screws driven by stepper motors, with right-angle gearboxes to keep the overall size as small as possible. Incremental linear encoders are installed to provide position feedback for the control system.

Key Specifications:

Overall System

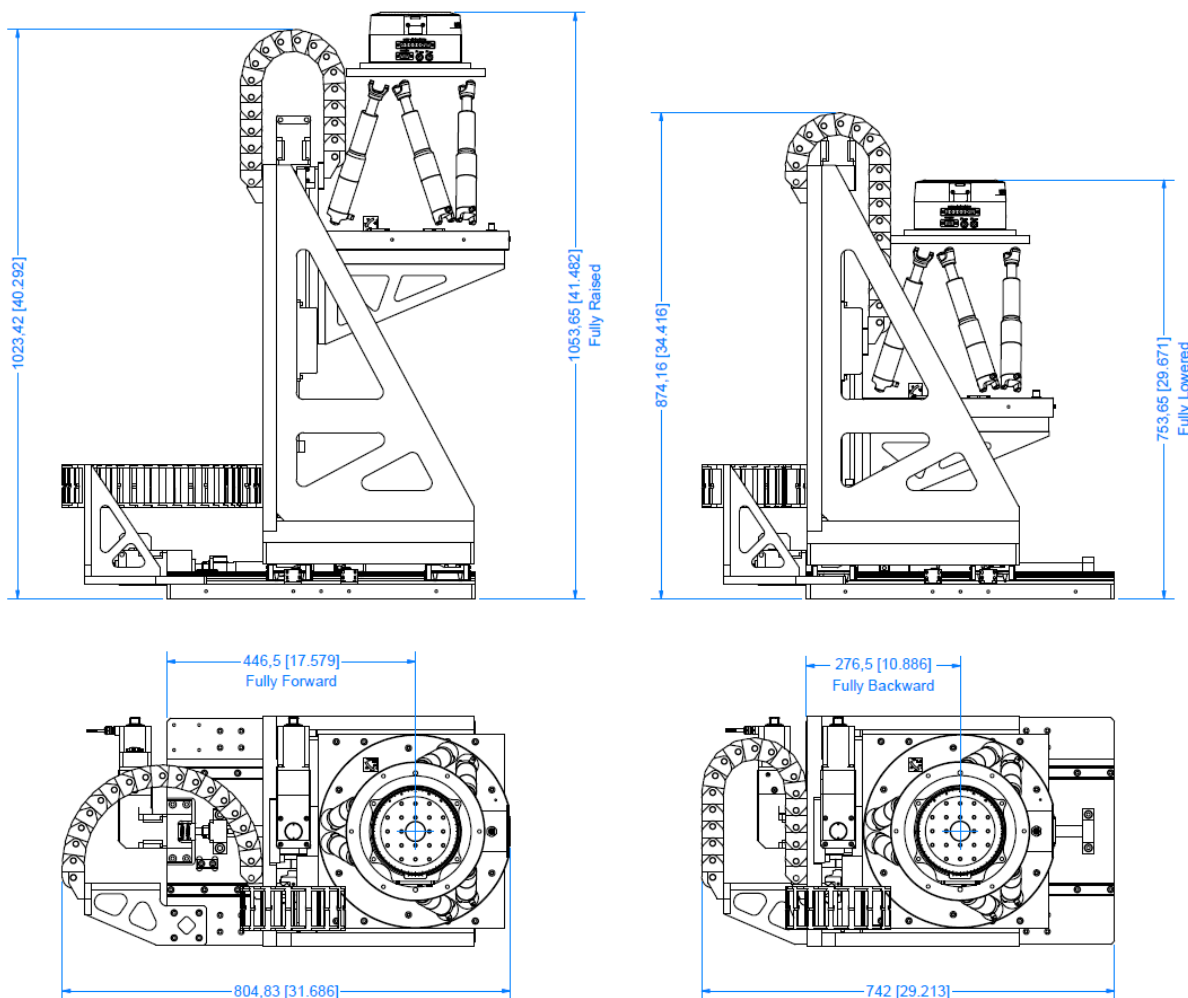
Description	Value	Units
System Mass	143 [315]	kg [lb]
Min. Dynamic Load Capacity	50 [110]	kg [lb]

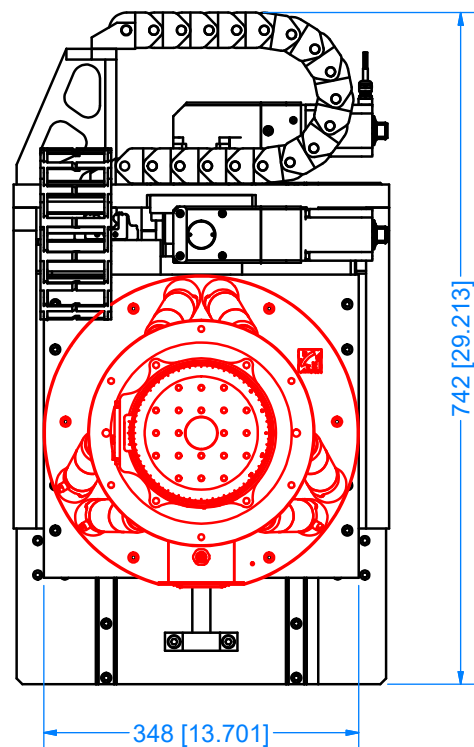
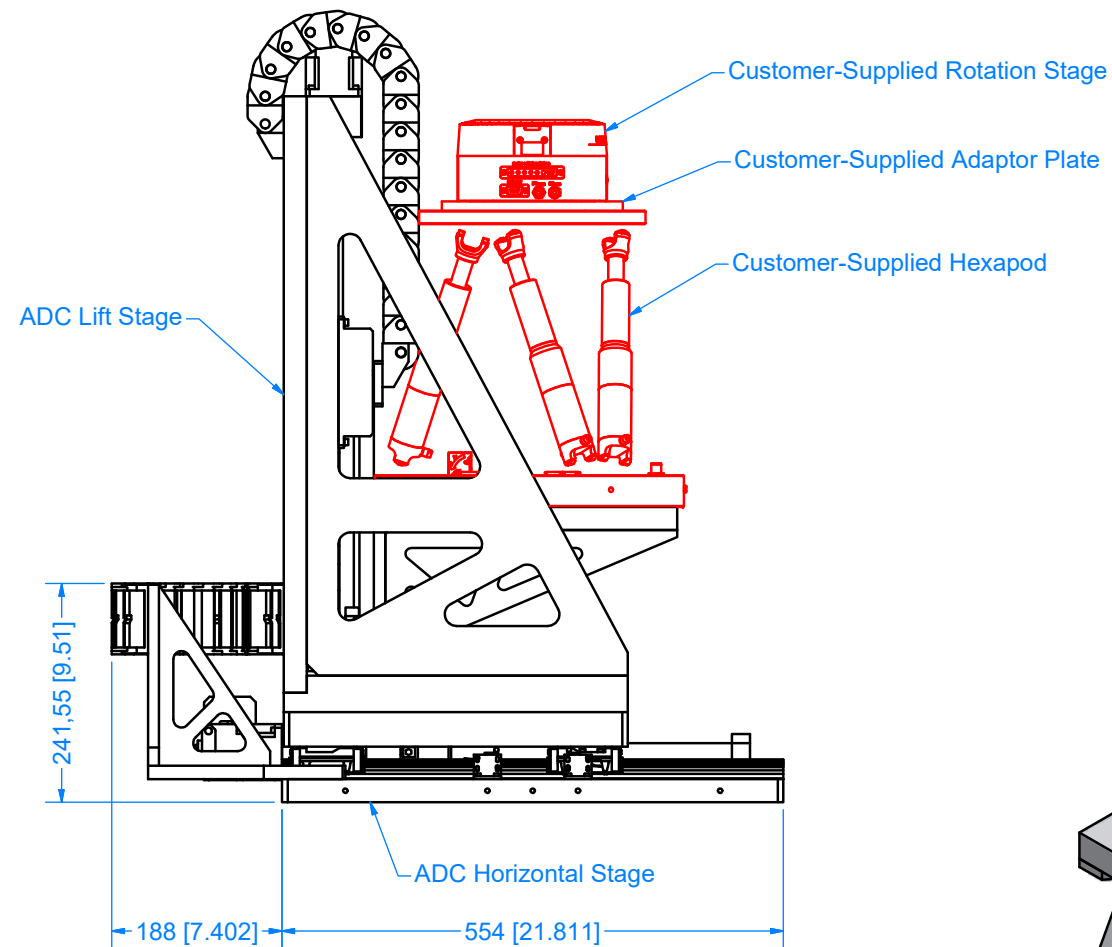
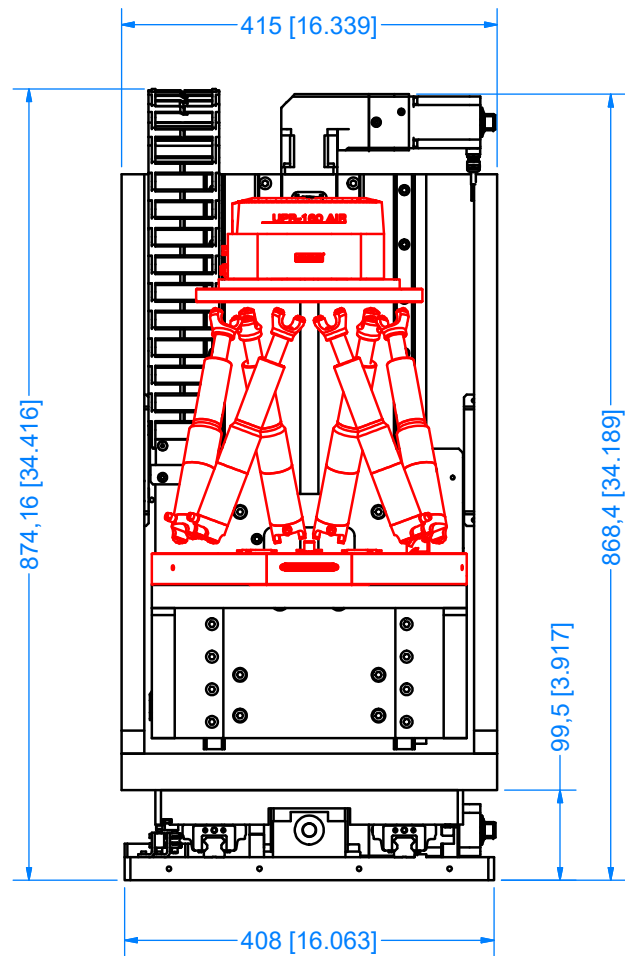
Horizontal Axis

Description	Value	Units
Range of Motion	150 [5.9]	mm [in]
Resolution (unit/step)	5 [~0.0002]	um [in] / step
Encoder Resolution	0.1	um

Vertical Axis

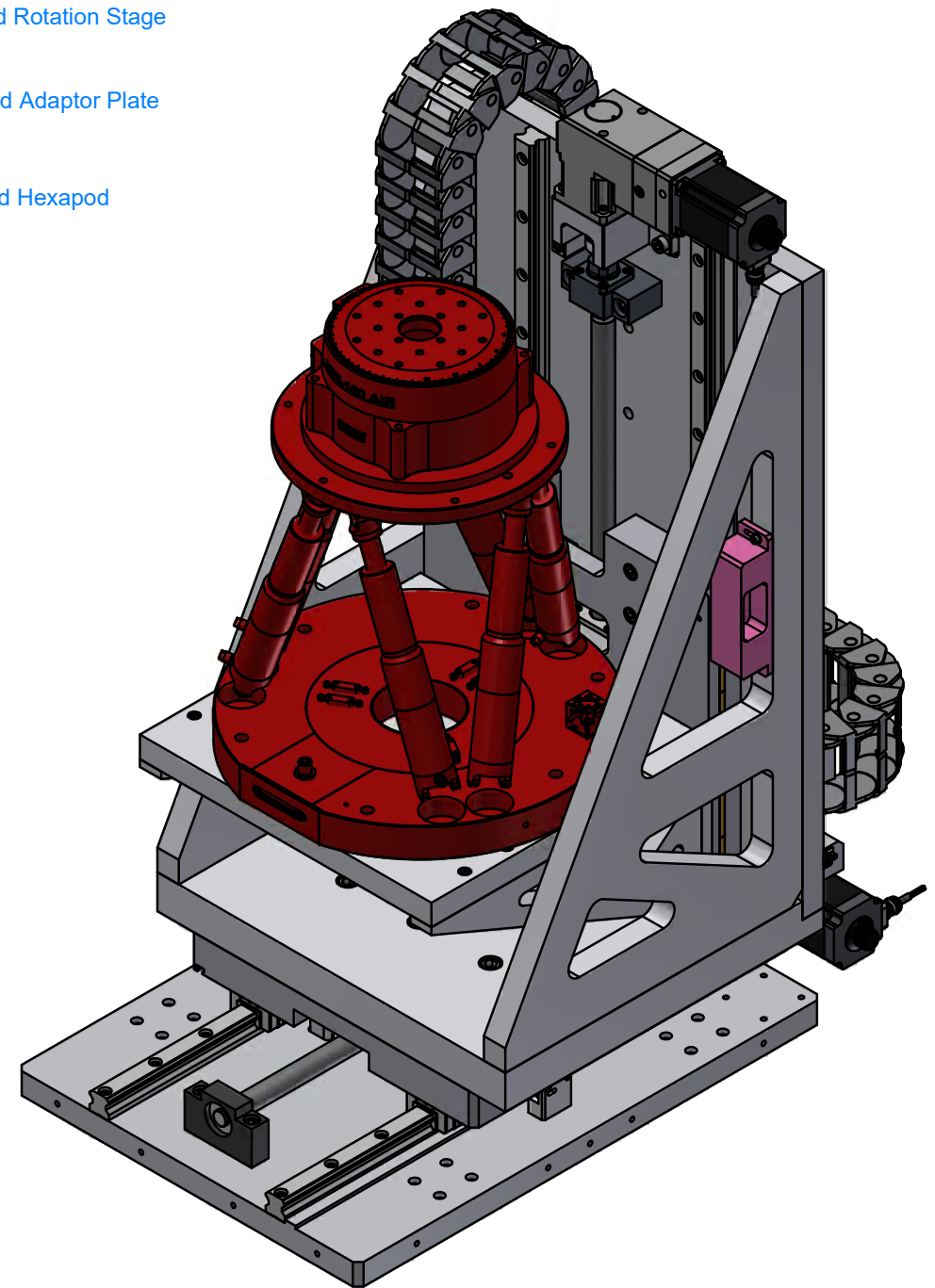
Description	Value	Units
Range of Motion	300 [11.8]	mm [in]
Resolution (unit/step)	2.5 [~0.0001]	um [in] / step
Encoder Resolution	0.1	um







Notes:

1. Customer-supplied equipment shown in red on this sheet
2. Approximate mass 143 kg
3. Horizontal stage specifications:
Travel: at least 150 mm
Resolution: 5 micron/step
Speed: 5 mm/step
Equipped with Incremental Encoder
Driven by 2-phase stepper motor with 5:1 gear reduction
4. Vertical stage specifications:
Travel: 300 mm
Resolution: 2.5 micron/step
Speed: 2.5 mm/step
Equipped with Incremental Encoder
Driven by 2-phase stepper motor with 10:1 gear reduction



Material	Protective Finish None	Drawing Standard: ASME Y14.5-2009		Date	ADC Inc. 126 Ridge Road Lansing, NY 14882 Phone: 607.533.3531 / Fax: 607.533.3618 E-mail: adc@adc9001.com / Web: www.adc9001.com	
Purchased Part Modification No	Approximate Mass 143 kg [315 lbs]	Drawn By Design by	T Shea T Shea	2018-10-08 2018-09-28		
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All Dimensions BASIC		2-Axis Stage System Assembly, 18-030				
N7 machined surfaces		0.13 0.38		Part Number 00031711		
				Risk D2/S1	Revision 0	Size A2
				Sheet		