



FEATURES

- Bending moment up to 2,033,727 (1,500,000 ft-lb)
- Precision native accuracy & construction
- Industry leading power density vs. size
- Payloads up to 272,155 kg (600,000 lb)
- Superior reliability & longevity
- Standardized add-on options
- Durable marine-grade finish
- All-weather design

DESCRIPTION

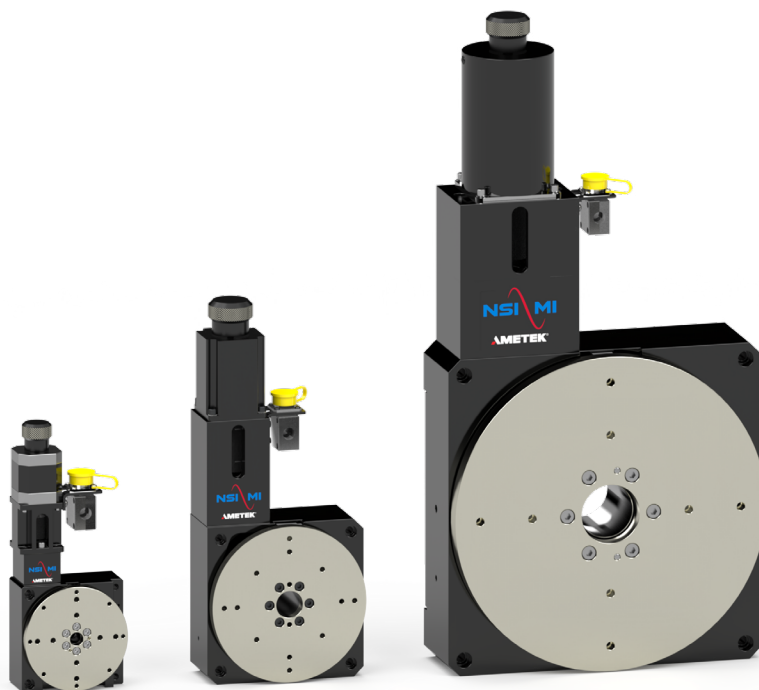
NSI-MI Technologies' Azimuth Positioners support loads up to 272,155 kg (600,000 lb) and are equipped standard with either brushless servo or stepper motors, high efficiency powertrain components, absolute or incremental position feedback, and user adjustable hardware limits. A broad selection of performance, convenience, and protection options enable you to configure the positioner for your specific application.

IDEAL FOR

- Pointing & tracking
- Transportable radars
- Antenna testing
- Radome measurement
- Radar Cross Section (RCS) measurement
- Ground communication
- General purpose positioning
- Factory automation
- Scientific and R & D
- Surveillance

SPECIFICATIONS: ULTRA LIGHT DUTY

Parameters		Units	MEC-AZ-0.03	MEC-AZ-0.1	MEC-AZ-0.5
Bending Moment, Static		Nm (ft-lb)	27 (20)	95 (70)	542 (400)
Bending Moment, Operation		Nm (ft-lb)	27 (20)	95 (70)	477 (352)
Operating Load		kg (lb)	195 (430)	723 (1,595)	1,996 (4,400)
Delivered Torque		Nm (ft-lb)	8 (6)	31 (23)	84 (62)
Withstand Torque		Nm (ft-lb)	9 (7)	37 (27)	163 (120)
Maximum Speed		rpm	3.3	6.6	3.3
Position Readout Accuracy		deg	±0.075 (Open Loop)	±0.05 (Open Loop)	
Backlash		deg	0.05		
Limit-to-Limit Travel		deg	±170 (Limits Enabled) Continuous (Limits Disabled)		
Physical					
Thru Hole Diameter		mm (in.)	12 (0.5)	25 (1.0)	51 (2.0)
Turntable Diameter		mm (in.)	98 (3.9)	148 (5.8)	298 (11.7)
Height		mm (in.)	55 (2.2)	75 (3.0)	108 (4.2)
Net Weight		kg (lb)	2 (4.5)	7 (14.5)	39 (85)
Environmental					
Operating Conditions		N/A	Indoor		
Temperature Range	Operating	°C (°F)	5 to 40 (41 to 104)		
	Storage	°C (°F)	0 to 70 (32 to 158)		
Relative Humidity	Operating	%	95 Non-Condensing		
	Storage	%	95 Non-Condensing		
Compatibility					
Controller		N/A	Stepper		



SPECIFICATIONS: LIGHT DUTY

Parameters		Units	MEC-AZ-2	MEC-AZ-4	MEC-AZ-8	MEC-AZ-20
Bending Moment, Static		Nm (ft-lb)	2,034 (1,500)	4,067 (3,000)	8,135 (6,000)	20,337 (15,000)
Bending Moment, Operation		Nm (ft-lb)	1,356 (1,000)	2,712 (2,000)	5,423 (4,000)	13,558 (10,000)
Operating Load		kg (lb)	907 (2,000)	1,361 (3,000)	2,722 (6,000)	4,536 (10,000)
Delivered Torque		Nm (ft-lb)	136 (100)	244 (180)	678 (500)	678 (500)
Withstand Torque		Nm (ft-lb)	203 (150)	407 (300)	1,017 (750)	881 (650)
Maximum Speed		rpm	3	3	2	1.6
Position Readout Accuracy		deg	±0.05 (PF1)	±0.05 (PF1) ±0.01 (PF4)	±0.04 (PF1) ±0.005 (PF4)	±0.05 (Open Loop) ±0.02 (PF1)
Backlash		deg	0.15	0.15	0.1	0.1
Limit-to-Limit Travel		deg	±200 Adjustable Limit Switch (LS1) or Continuous (LS0)			±170 (Limits Enabled) Continuous (Limits Disabled)
Physical						
Thru Hole Diameter		mm (in.)	64 (2.5)	76 (3.0)	102 (4.0)	105 (4.1)
Turntable Diameter		mm (in.)	203 (8)	305 (12)	356 (14)	508 (20)
Height		mm (in.)	239 (9.4)	275 (10.8)	310 (12.2)	305 (12)
Net Weight		kg (lb)	32 (70)	41 (90)	68 (150)	132 (290)
Environmental						
Operating Conditions		N/A	Direct Outdoor Exposure			Indoor
Temperature Range	Operating	°C (°F)	-20 to 60 (-4 to 140)			5 to 40 (41 to 104)
	Storage	°C (°F)	-30 to 70 (-22 to 158)			0 to 70 (32 to 158)
Relative Humidity	Operating	%	100			95 Non-Condensing
	Storage	%	100			95 Non-Condensing
Compatibility						
Controller		N/A	Servo			Stepper
Factory Installed Options¹						
PF	Position Feedback	N/A	PF1	PF1	PF1	PF1
			N/A	PF4	PF4	N/A
LS	Limit Switch Options	N/A	LS0	LS0	LS0	N/A
			LS1	LS1	LS1	N/A
RFP	RF Path Options	GHz	RFP18, RJ18	RFP18, RJ18	RFP18, RJ18	N/A
			RFP26, RJ26	RFP26, RJ26	RFP26, RJ26	RJ26
			RFP40, RJ40	RFP40, RJ40	RFP40, RJ40	RJ40
			RFP50, RJ50	RFP50, RJ50	RFP50, RJ50	RJ50
RRU CRU	Electrical Path Options ²	No. of Axis	N/A	N/A	N/A	CRU1
RRT CRT	Electrical Path Options ²	No. of Conductors	RRT24, CRT24	RRT24, CRT24	RRT24, CRT24	CRT24

¹ Refer to page 7 for factory installed options definitions.

² These options are mutually exclusive.

SPECIFICATIONS: MEDIUM DUTY

Parameters		Units	MEC-AZ-45	MEC-AZ-80	MEC-AZ-120	MEC-AZ-300
Bending Moment, Static		Nm (ft-lb)	45,759 (33,750)	81,350 (60,000)	122,024 (90,000)	305,059 (225,000)
Bending Moment, Operation		Nm (ft-lb)	30,506 (22,500)	54,233 (40,000)	81,350 (60,000)	203,373 (150,000)
Operating Load		kg (lb)	9,072 (20,000)	18,144 (40,000)	27,216 (60,000)	68,039 (150,000)
Delivered Torque		Nm (ft-lb)	1,627 (1,200)	3,525 (2,600)	8,135 (6,000)	13,558 (10,000)
Withstand Torque		Nm (ft-lb)	2,440 (1,800)	5,288 (3,900)	12,202 (9,000)	20,337 (15,000)
Maximum Speed		rpm	1.5	0.5	0.4	0.5
Position Readout Accuracy		deg	±0.04 (PF1) ±0.005 (PF4)			±0.03 (PF1) ±0.005 (PF3)
Backlash		deg	0.1			0.05
Limit-to-Limit Travel		deg	±200 Adjustable Limit Switch (LS1) or Continuous (LS0)			
Physical						
Thru Hole Diameter		mm (in.)	102 (4.0)	153 (6.0)	152 (6.0)	216 (8.5)
Turntable Diameter		mm (in.)	610 (24)	762 (30)	813 (32)	978 (38.5)
Height		mm (in.)	368 (14.5)	405 (15.9)	541 (21.3)	610 (24.0)
Net Weight		kg (lb)	318 (700)	613 (1,350)	1,134 (2,500)	1,679 (3,700)
Environmental						
Operating Conditions		N/A	Direct Outdoor Exposure			
Temperature Range	Operating	°C (°F)	-20 to 60 (-4 to 140)			
	Storage	°C (°F)	-30 to 70 (-22 to 158)			
Relative Humidity	Operating	%	100			
	Storage	%	100			
Compatibility						
Controller		N/A	Servo			
Factory Installed Options¹						
PF	Position Feedback	N/A	PF1	PF1	PF1	PF1
			PF4	PF4	PF4	PF4
LS	Limit Switch Options	N/A	LS0	LS0	LS0	LS0
			LS1	LS1	LS1	LS1
RFP	RF Path Options	GHz	RFP18, RJ18	RFP18, RJ18	RFP18, RJ18	RFP18, RJ18
			RFP26, RJ26	RFP26, RJ26	RFP26, RJ26	RFP26, RJ26
			RFP40, RJ40	RFP40, RJ40	RFP40, RJ40	RFP40, RJ40
			RFP50, RJ50	RFP50, RJ50	RFP50, RJ50	RFP50, RJ50
RRU CRU	Electrical Path Options ²	No. of Axis	RRU1, CRU1	RRU1, CRU1	RRU1, CRU1	RRU1, CRU1
			RRU2, CRU2	RRU2, CRU2	RRU2, CRU2	RRU2, CRU2
			N/A	N/A	N/A	RRU3, CRU3
RRT CRT	Electrical Path Options ²	No. of Conductors	RRT24, CRT24	RRT24, CRT24	RRT24, CRT24	RRT24, CRT24
			RRT60, CRT60	RRT60, CRT60	RRT60, CRT60	RRT60, CRT60

¹ Refer to page 7 for factory installed options definitions.

² May require a riser below the positioner to support the slip ring(s).

SPECIFICATIONS: HEAVY DUTY

Parameters		Units	MEC-AZ-500	MEC-AZ-800	MEC-AZ-2000
Bending Moment, Static		Nm (ft-lb)	508,432 (375,000)	813,491 (600,000)	2,033,727 (1,500,000)
Bending Moment, Operation		Nm (ft-lb)	338,955 (250,000)	542,327 (400,000)	1,355,818 (1,000,000)
Operating Load		kg (lb)	90,718 (200,000)	136,078 (300,000)	272,155 (600,000)
Delivered Torque		Nm (ft-lb)	33,895 (25,000)	47,454 (35,000)	108,465 (80,000)
Withstand Torque		Nm (ft-lb)	50,843 (37,500)	71,180 (52,500)	162,698 (120,000)
Maximum Speed		rpm	0.2	0.15	0.06
Position Readout Accuracy		deg	±0.02 (PF1) ±0.005 (PF4)		
Backlash		deg	0.04	0.03	0.02
Limit-to-Limit Travel		deg	±200 Adjustable Limit Switch (LS1) or Continuous (LS0)		
Physical					
Thru Hole Diameter		mm (in.)	203 (8.0)	305 (12)	305 (12)
Turntable Diameter		mm (in.)	1,219 (48)	1,778 (70)	2,184 (86)
Height		mm (in.)	627 (24.7)	635 (25)	864 (34)
Net Weight		kg (lb)	2,722 (6,000)	3,742 (8,250)	5,897 (13,000)
Environmental					
Operating Conditions		N/A	Direct Outdoor Exposure		
Temperature Range	Operating	°C (°F)	-20 to 60 (-4 to 140)		
	Storage	°C (°F)	-30 to 70 (-22 to 158)		
Relative Humidity	Operating	%	100		
	Storage	%	100		
Compatibility					
Controller		N/A	Servo		
Factory Installed Options¹					
PF	Position Feedback	N/A	PF1	PF1	PF1
			PF4	PF4	PF4
LS	Limit Switch Options	N/A	LS0	LS0	LS0
			LS1	LS1	LS1
RFP	RF Path Options	GHz	RFP18, RJ18	RFP18, RJ18	RFP18, RJ18
			RFP26, RJ26	RFP26, RJ26	RFP26, RJ26
			RFP40, RJ40	RFP40, RJ40	RFP40, RJ40
			RFP50, RJ50	RFP50, RJ50	RFP50, RJ50
RRU CRU	Electrical Path Options ²	No. of Axis	RRU1, CRU1	RRU1, CRU1	RRU1, CRU1
			RRU2, CRU2	RRU2, CRU2	RRU2, CRU2
			RRU3, CRU3	RRU3, CRU3	RRU3, CRU3
RRT CRT	Electrical Path Options ²	No. of Conductors	RRT24, CRT24	RRT24, CRT24	RRT24, CRT24
			RRT60, CRT60	RRT60, CRT60	RRT60, CRT60

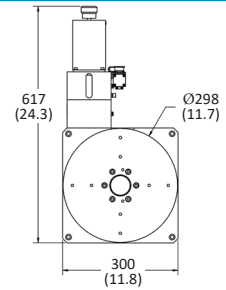
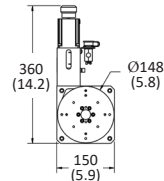
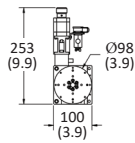
¹ Refer to page 7 for factory installed options definitions.

² May require a riser below the positioner to support the slip ring(s).

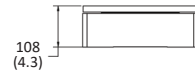
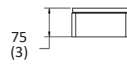
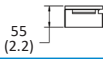
MEC-AZ POSITIONER DIMENSIONAL CONFIGURATIONS

MEC-AZ-0.03	MEC-AZ-0.1	MEC-AZ-0.5
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Top View

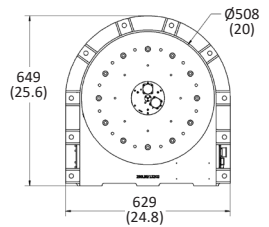
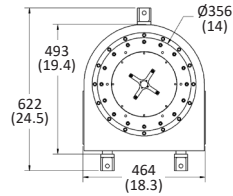
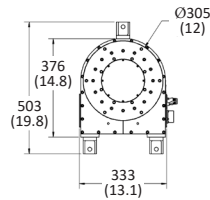
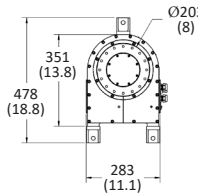


Front View

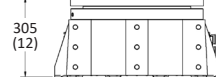
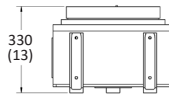
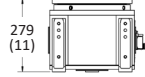
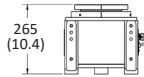


MEC-AZ-2	MEC-AZ-4	MEC-AZ-8	MEC-AZ-20
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Top View

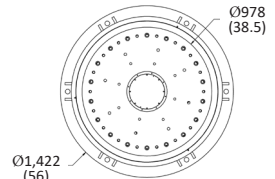
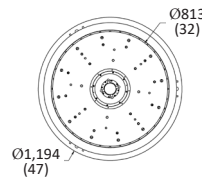
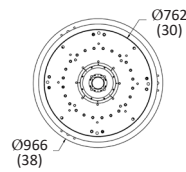
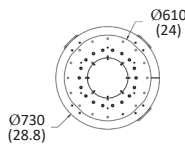


Front View

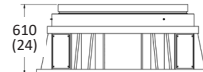
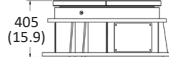


MEC-AZ-45	MEC-AZ-80	MEC-AZ-120	MEC-AZ-300
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Top View

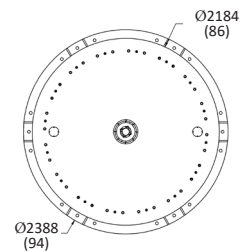
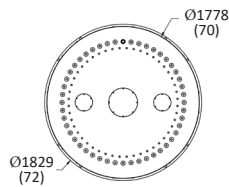
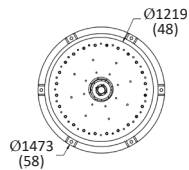


Front View

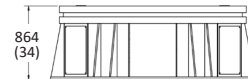
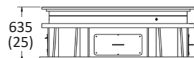
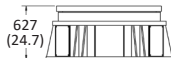


MEC-AZ-500	MEC-AZ-800	MEC-AZ-2000
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Top View



Front View



All dimensions are in mm (in.)

FACTORY INSTALLED OPTIONS

POSITION FEEDBACK OPTIONS



PF1: Off-Axis Absolute Encoder
Standard absolute feedback with Encoder



PF4: High Accuracy, ± 0.005 degrees native read-out accuracy for most positioners
Replaces standard absolute feedback with center-drive high accuracy absolute encoder

Notes: Options are available to further enhance the native accuracy using error correction techniques. See Enhanced Accuracy Options brochure for additional information.

LIMIT SWITCH OPTIONS

LS0: No Limits, Continuous Rotation

LS1: Restricted Rotation up to ± 200 degrees (adjustable)

RF PATH OPTIONS



RJ Rotary Joint (Continuous Rotation)

Adds a single channel RF path inside the positioner supporting continuous, unrestricted rotation of the axis. The factory installed kit contains RF rotary joint and internal RF cabling.

RJ18: DC-18 GHz, SMA

RJ26: DC-26.5 GHz, 3.5 mm

RJ40: DC-40 GHz, K

RJ50: DC-50 GHz, 2.4 mm



RF Path (Restricted Rotation)

Adds a single channel RF path inside the positioner with restricted travel of the positioner up to a ± 200 degree travel range. The factory installed kit contains internal RF cabling.

RFP18: DC-18 GHz, SMA

RFP26: DC-26.5 GHz, 3.5 mm

RFP40: DC-40 GHz, K

RFP50: DC-50 GHz, 2.4 mm

ELECTRICAL PATH OPTIONS

CRU (Continuous Rotation for Upper-Axes)

Adds an electrical path inside the positioner supporting continuous unrestricted rotation of the upper motorized axis. The factory installed kit includes an internal electrical slip-ring assembly and internal wiring.

CRU1: Wiring Support for One (1) Axis

CRU2: Wiring Support for Two (2) Axes

CRU3: Wiring Support for Three (3) Axes

RRU (Restricted Rotation for Upper-Axes)

Adds an electrical path for upper motorized axes inside the positioner supporting restricted rotation up to ± 200 degrees. The factory installed kit includes internal wiring.

RRU1: Wiring Support for One (1) Axis

RRU2: Wiring Support for Two (2) Axes

RRU3: Wiring Support for Three (3) Axes

CRT (Continuous Rotation for Thru-Contacts)

Adds an electrical path inside the positioner supporting continuous unrestricted rotation for dedicated thru-contacts. The factory installed kit contains an internal electrical slip-ring assembly and internal wiring.

Applications: RF switch control, amplifier DC power, attenuation control.

CRT24: Thru-Contacts, 24 Contacts

CRT60: Thru-Contacts, 60 Contacts

RRT (Restricted Rotation for Thru-Contacts)

Adds an electrical path inside the positioner supporting restricted rotation up to ± 200 degrees for dedicated thru-contacts. The factory installed kit contains an internal wiring harness, cap and chain protectors.

Applications: RF switch control, amplifier DC power, attenuation control.

RRT24: Thru-Contacts, 24 Contacts

RRT60: Thru-Contacts, 60 Contacts

CONVENIENCE & PROTECTION OPTIONS



Stow-Pin:

Adds manual stow-pin and mating receptacle to protect the positioner's drive-train in susceptible environments such as high wind-gust exposure in outdoor environments and high-load pick-up mode applications. Includes electrical interlock circuit for disabling the servo system when stow-pin is inserted. Default position is zero (0) degrees. Alternate stow-pin angle locations are available upon request.

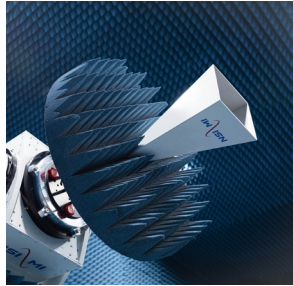
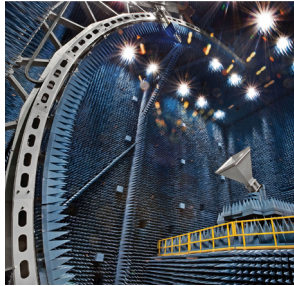
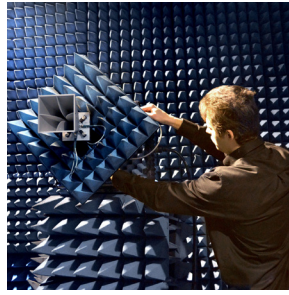
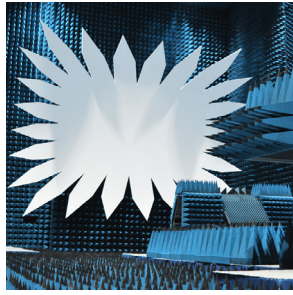
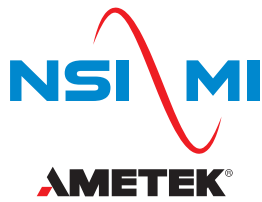
SP1 – Stow-Pin, Azimuth

Riser:

Adds a structural riser below the positioner for applications requiring accurate centering from a platform, outdoor silo applications, and various customer requested heights. Risers are designed to withstand the full capacity of the mated positioner and are tailored to your required height. Available features include access hatches, custom color, internal shelving, and external and internal ladders.

RS1 – Riser





LOCATIONS

1125 Satellite Blvd., Suite 100
Atlanta, Georgia 30024-4629
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19730 Magellan Drive
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NSI-MI Technologies introduced the world to microwave antenna measurement systems and is the preferred global supplier of antenna, radar cross section, and radome measurement solutions. Today, our innovative products, systems, and services lead the industry in setting new standards for tomorrow's performance. From world-class in-house testing facilities to delivering industry-leading turnkey systems, we provide the highest quality measurement products on the market.

Our full range of standard products and custom-designed systems are backed by our longstanding commitment to precision-engineered accuracy, reliability, and lasting performance. We provide the right solution for every RF measurement need and our worldwide network of service professionals are always available to offer support.

For more information on ordering NSI-MI Technologies' products, applications or services please contact your nearest NSI-MI office. Our complete sales team information is available at: www.nsi-mi.com/contact-us

ISO 9001:2015 COMPLIANT

