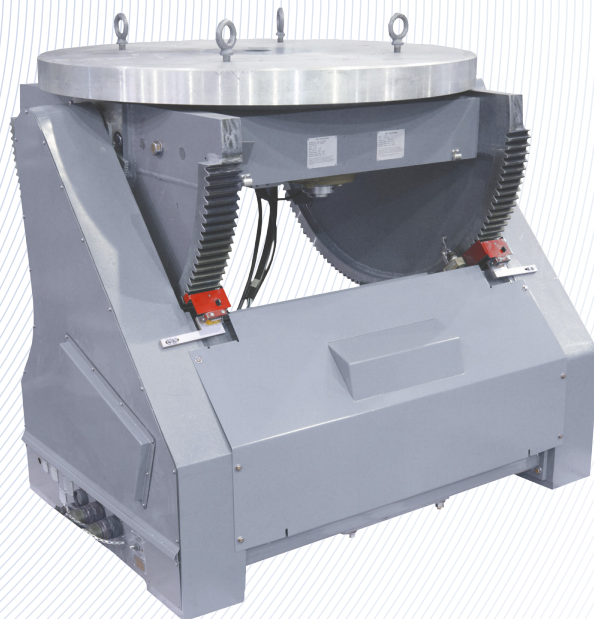


MI-53000 Family of Azimuth-over-Elevation Positioners



- Ideal for general antenna measurements
- Rugged construction assures superior reliability and longevity

Description

The MI-53000 Family of Azimuth-over-Elevation Positioners has two orthogonal axes which permit the simulation of spherical coordinate probe movement. This family of positioners offers a combination of the most desirable operational characteristics of the previously described azimuth positioners.

Cables and position control units are ordered separately. If desired, an installed RF path must be requested by ordering the appropriate option.

For even weight and optimum load distribution, auxiliary base supports are offered for all MI-53000 positioners.

Applications

In addition to the basic support for a microwave antenna under investigation, this family of positioners may also be employed with a polarization positioner mounted on the upper turntable. At the transmitting end of a range, this would provide the flexibility and economy of a single source site remotely controlled to serve each of the several widely separated receiving stations. Employing this configuration at the receiving site, such a platform arrangement permits the introduction of a wide variety of pattern range investigative techniques. A fourth application, but no less important, would be the support for a model tower fixture.

Specifications

Parameter	Units	53050D	53051D	53150D	53152D	53230D	53300D	53450D
Bending Moment	ft-lbs	800	800	2,500	2,500	10,000	30,000	75,000
	Nm	1,085	1,085	3,390	3,390	13,558	40,675	101,687
Vertical Load	lbs	800	800	2,500	2,500	10,000	30,000	40,000
	kg	363	363	1,134	1,134	4,536	13,608	18,144
Drive Motor								
Elevation	hp	1/3	1/3	1/2	1/2	3/4	3/4	5
	kW	0.25	0.25	0.37	0.37	0.56	0.56	3.73
Azimuth	hp	1/15	1/15	1/3	1/3	3/4	3/4	5
	kW	0.05	0.05	0.25	0.25	0.56	0.56	3.73
Delivered Torque								
Elevation	ft-lbs	800	800	2,500	2,500	10,000	20,000	75,000
	Nm	1,085	1,085	3,390	3,390	13,558	27,116	101,687
Azimuth	ft-lbs	100	40	200	500	1,000	2,750	18,000
	Nm	136	54	271	678	1,356	3,729	24,405

Withstand Torque								
Elevation	ft-lbs	800	800	2,500	2,500	10,000	30,000	75,000
	Nm	1,085	1,085	3,390	3,390	13,558	40,675	101,687
Azimuth	ft-lbs	200	200	600	600	1,850	3,800	18,000
	Nm	271	271	813	813	2,508	5,152	24,405
Max. Speed								
Elevation	deg/min	200	200	140	140	32	20	20
Azimuth	rpm	1.2	3	3	1.3	1.2	0.5	0.5
Position Accuracy								
Elevation	deg	0.05	0.05	0.05	0.05	0.05	0.05	0.05
- with Inductosyn® encoder	deg	N/A	N/A	N/A	N/A	±0.005	±0.005	±0.005
Azimuth	deg	0.05	0.05	0.03	0.03	0.03	0.03	0.02
- with Inductosyn® encoder	deg	N/A	N/A	N/A	N/A	±0.005	±0.005	±0.005
Total Max. Drive Gear Backlash								
Elevation	deg	0.08	0.08	0.05	0.05	0.05	0.03	0.03
Azimuth	deg	0.2	0.2	0.15	0.15	0.10	0.10	0.05
Dimensions								
Total Elevation Limit-to-Limit Travel	deg	+95;-45	+95;-45	+95;-45	+95;-45	+92;-45	+92;-45	+92;-45
Turntable Diameter	in	16	16	28	28	43	44	47.3
	mm	406	406	711	711	1092	1118	1201
Center Access Hole Diameter	in	3.75	3.75	3	3	3	3	6
	mm	95	95	76	76	76	76	152
Height	in	21.5	21.5	25.94	25.94	36.75	43.37	66.63
	mm	546	546	659	659	933	1102	1692
Height with Base	in	26	26	30.44	30.44	45.88	52.50	N/A
	mm	660	660	773	773	1165	1334	N/A
Net Weight	lbs	390	390	590	590	1800	2400	7300
	kg	177	177	268	268	816	1089	3311

Configuration Options

Feedback		Limit Switches		Rotary Joint w/ RF path		Slipring Assembly		RF Switch Wiring		Mounting Base	
-FDS		-LS		-RJ0		-SR0		-SW0		-MO	
-FDS	Dual Speed Synchro (36:1) Both axes	-LS0	No Adjustable Limit Switches	-RJ0	No Rotary Joint	-SR0	No Slipring	-SW0	No RF Switch Wiring	-MO	No Mounting Base
-FI	Inductosyn Both axis	-LS	Adjustable Limit Switches	-RJ18	DC-18GHz, AZ only	-SR60	60 Conductor, AZ only	-SW	RF Switch Wiring	-MB	Mounting Base
				-RJ26.5	DC-26.5GHz, AZ only	-SR84	84 Conductor, AZ only				
				-RJ40	DC-40GHz, AZ only						

Option Compatibility Table

Model	Feedback	Limit Switches	Rotary Joint w/ RF path	Slipring Assembly	RF Switch Wiring	Mounting Base
53050D	FDS only	Yes	Yes	No	Note 2	Yes
53051D	FDS only	Yes	Yes	No	Note 2	Yes
53150D	FDS only	Yes	Yes	SR60 only	Yes - Note 1	Yes
53152D	FDS only	Yes	Yes	SR60 only	Yes - Note 1	Yes
53230D	Yes	Yes	Yes	Yes	Yes - Note 1	Yes
53300D	Yes	Yes	Yes	Yes	Yes - Note 1	Yes
53450D	Yes	Yes	Yes	Yes	Yes - Note 1	No

Note 1 - Select either RF Switch Wiring or Slip Ring Assembly but not both

Note 2 - Available on Special Request. Consult Factory.



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