

Model Towers - Medium Duty

AL-48000 Series

Our AL-48000 model towers are suited to for medium duty applications with an operating load of up to 1,000 lbs (455 kg). This series is available with a choice of either a manual handwheel style or motorized linear offset slide. The mast, which can be vertical or inclined, is available in either fiberglass or aluminum construction.

AL-48100



AL-48210



Applications

- General Purpose Positioning Subsystems
- Far-Field & Near-Field Antenna Measurements
- Indoor Use

Product Highlights

- High Performance Torque & Accuracy
- Linear Bearings
- AUT Adjustment over Lower AZ Center of Rotation
- Compatible with Standard Antenna Positioners (Support Wiring Required)

Specifications - AL-48000 Series Model Towers Medium Duty

PARAMETER	UNITS	MODEL			
		Manual	Motorized	Manual	Motorized
					
		AL-48100	AL-48200	AL-48110	AL-48210

MODEL TOWER ASSEMBLY

Operating Load (maximum)	lbs	600		1,000	
	kg	272		455	
Total Model Tower Height (F) (maximum) ¹	ft	13		20	
	m	4		6	
Fore-Aft Bending Moment (maximum)	ft-lbs	800		3,000	
	m-kg	110		415	
Maximum Swing Radius ⁶ (H)	in	45	48	45	83
	mm	1,150	1,220	1,150	2,110
Weight (Approx.)	lbs	660	750	1,322	1,410
	kg	300	340	600	640
1. Roll Positioner					
Option 1: Discrete Positioner	Maximum Roll Positioner		AL-560-1P		AL-760-1P
	Maximum Roll/EL Positioner		AL-4380-1		AL4381-1
Option 2: Integrated Gearhead	Gearhead Model		GH3		
	Operating Load	lbs	1,000		
		kg	455		
	Delivered Torque	ft-lbs	500		
		m-kg	70		
	Withstand Torque	ft-lbs	600		
		m-kg	83		
	Gearhead Turntable Bending Moment (maximum)	ft-lbs	3,000		
		m-kg	415		
	Motor Drive Power	hp	1/8		
	Nominal Speed	rpm	1		
	Roll Standard Angle Transducer Format		Dual Speed Synchro		
	Roll Standard Accuracy	deg	± 0.15		
	Roll Maximum Backlash	deg	0.15		
	Gearhead Flange Diameter	in	8		
		mm	203		
Thru-Hole Diameter	in	1.5			
	mm	38			

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2. Mast				
Mast Style			Vertical or Inclined	Vertical or Inclined
Mast Construction			Fiberglass or metal	Fiberglass or metal
3. Linear Offset Slide				
Manual and Motorized	Limit-to-Limit Travel [®] (A) (maximum)	in	24	24
		mm	610	610
	Slide Bending Moment (maximum)	ft-lbs	2,000	3,000
		m-kg	280	415
	Slide Construction		Aluminum	Aluminum
Motorized Only	Slide Standard Angle Transducer Format		Dual Speed Synchro	Dual Speed Synchro
	Slide Standard Accuracy	in	± 0.005	± 0.005
		mm	± 0.13	± 0.13
	Slide Maximum Backlash	ft-lbs	0.002	0.002
m-kg		0.05	0.05	
4. Lower Positioner				
Lower Positioner ²			Refer to AZ, AZ/EL, EL/AZ or AZ/EL/AZ catalog section	

ENVIRONMENTAL

Operating Temperature	- 4° F to 140° F (- 20° C to 60° C)
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OPTIONS

EN001	Incremental Encoder (Standard Accuracy)		Opt	Opt
	Accuracy	deg	± 0.15	± 0.15
EN004	Absolute Encoder (Standard Accuracy)		Opt	Opt
	Accuracy	deg	± 0.15	± 0.15
EN005	Gearhead Incremental Encoder (High Accuracy)		Opt	Opt
	Accuracy	deg	± 0.07	± 0.07
SR	Slip Ring		SR051L, SR101L, SR201L	
RJ	Rotary Joint		RJ12L, RJ18L, RJ26L, RJ40L, RJ50L	
MM	Mounting Thread		MM002	
IC	Interlock Circuit		IC002	
CW	Counterweight		CW001	

(-) N/A S Standard Opt Optional

Supplied Accessories

Digital Documentation Set

User Manual (Installation, Setup, Operation & Maintenance)

Cables

- Cable Carrier
- Interconnect Cable for Connection to Lower Positioner

Optional Accessories

- Absorber Plates
- Alignment Fixture Between Roll Positioner & Mast
- Counterweights (may apply if elevation axis is defined)



Technical Notes

- / 1** Model tower height is defined as the distance from the base of the offset slide to the center of the roll axis. The height of the model tower assembly will impact *pickup mode* in lower positioners containing an elevation axis. Define elevation measurement angles and verify lower positioner specifications when configuring this product
- / 2** The lower positioner may require electrical wiring and/or an RF path to support the model tower. Options are available for the lower positioner, including EX002, SR, and R.J. Lower positioner is purchased separately
- / 3** All accuracy data is based on no-load conditions. Contact MVG-ORBIT/FR for accuracy under load conditions.
- / 4** Roll axis is equipped with adjustable limit switches capable of approx 20° up to 900° total travel. When rotary joint options are specified, limit switches remain but are electrically disabled. Roll axis is factory-set at 400° (± 200°)
- / 5** Rotary joint options may alter the original physical profile of the roll axis stage. Consult MVG-ORBIT/FR
- / 6** Verify model tower's total swing radius (G - clearance to absorber) when specifying this product for use inside an anechoic chamber
- / 7** Dimensions may vary depending on final configuration
- / 8** Standard offset slide travel is 24 inches. Other lengths are available in one foot increments, up to 8 feet
- / 9** For special requirements with space limitations, the linear offset slide can be provided upside-down in order to move the mast without moving the slide
- / 10** An optional alignment fixture can be installed between the roll axis positioner and mast, with or without a base riser



ORDERING INFORMATION

- Build your configuration using the ordering example below.

AL-48100	-	24	-	96	-	F	-	C	-	560
Model Tower Series 481xx - Manual 482xx - Motorized		Linear Offset Slide Travel (in)		Total Roll-to-Base Height (in)		Mast Construction F - Fiberglass A - Aluminum S - Steel		Mast C - Inclined V - Vertical		Discrete Positioner Model*

* To order with integrated gearhead, leave the end of the part number blank and add GH2 or GH3 as a separate line item.



Contact your local sales representative for more information

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www.mvg-world.com/positioners