Model Towers - Heavy Duty

AL-58000 Series

Our AL-58000 model towers are suited for applications requiring very large capacities, with an operating load of up to 17,600 lbs (8,000 kg). They have durable steel masts, which can be vertical or inclined (limited to specific loads). This series is available with a steel linear offset slide in a choice of manual handwheel style, manual fixed step, or motorized.

AL-58210

AL-58110

Applications

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

Product Highlights

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

Specifications - AL-58000 Series Model Towers Heavy Duty

PARAMETER		UNITS	MODEL					
			Manual	Motorized	Manual	Motorized	Manual	Motorized
								
			AL-58100	AL-58200	AL-58110	AL-58210	AL-58120	AL-58220
MODEL TOWER ASSEMBLY								
Operating Load (maximum)		lbs	3,000		9,000		17,600	
		kg	1,360		4,100		8,000	
Total Model Tower Height (F) (maximum)[1]		ft	13		18		20	
		m	4		5		6	
Fore-Aft Bending Moment (maximum)		ft-lbs	15,900		20,000		40,000	
		m-kg	2,200		2,750		5,500	
Maximum Swing Radius[6] (H)		in	120		180		240	
		mm	3,000		4,500		6,000	
Weight (Approx.)		lbs	2,200		4,400		8,800	
		kg	1,000		2,000		4,000	
1. Roll Positioner								
Discrete Positioner	Maximum Roll Positioner		AL-1260-1P		AL-1790-1P		AL-2860-1P	
	Maximum Roll/EL Positioner		AL-4382-1		AL-4385-1		AL-4387-1	
2. Mast								
Mast Style			Vertical or Inclined		Vertical or Inclined		Vertical or Inclined	
Mast Construction			Steel		Steel		Steel	
3. Linear Offset Slide								
Limit-to-Limit Travel[8] (A)		in	24		24		24	
		mm	610		610		610	
Slide Bending Moment (maximum)		ft-lbs	20,000		25,000		50,000	
		m-kg	2,750		3,450		6,900	
Slide Construction			Steel		Steel		Steel	
Slide Standard Angle Transducer Format			Dual Speed Synchro		Dual Speed Synchro		Dual Speed Synchro	
Slide Standard Accuracy – Motorized Only		in	± 0.008		± 0.008		± 0.008	
		mm	± 0.2		± 0.2		± 0.2	
Slide Maximum Backlash – Motorized Only		in	0.004		0.004		0.004	
		mm	0.1		0.1		0.1	
4. Lower Positioner								
Lower Positioner[2]			Refer to AZ, AZ/EL, EL/AZ or AZ/EL/AZ catalog section					

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ENVIRONMENTAL

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

OPTIONS

EN001	Incremental Encoder (Standard Accuracy)		Opt	Opt	Opt
	Accuracy	deg	± 0.15	± 0.15	± 0.15
EN004	Absolute Encoder (Standard Accuracy)		Opt	Opt	Opt
	Accuracy	deg	± 0.15	± 0.15	± 0.15
EN005	Gearhead Incremental Encoder (Standard Accuracy)		Opt	Opt	Opt
	Accuracy	deg	± 0.07	± 0.07	± 0.07
SR	Slip Ring		SR051L, SR101L, SR201L		
RJ[4, 5]	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 RJ. Lower positioner 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
9. For special requirements with space limits, the 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-58100	-	HW	-	24	-	96	-	S	-	C	-	1260
Model Tower Series 581xx - Manual 582xx - Motorized		HW - Handwheel FS - Fixed Step M - Motorized		Linear Offset Slide Travel (in)		Total Roll-to-Base Height (in)		Mast Construction (Steel Only)		Mast C - Inclined V - Vertical		Discrete Positioner Model

Contact your local sales representative for more information
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www.mvg-world.com/positioners