ANTENNA POSITIONERS BORESIGHT ANTENNA TOWER

MODEL 2171B

- **Meets ANSI C63.4 Requirements for > 1 GHz Measurements**
- **Adjustable for 3m, 5m, or 10m Test Distances**
- **Variable Speed with Toothed Belt Drive Provides Smooth Operation**
- **Fiber Optic Control Lines Eliminate RF Noise**
- **Accepts Stinger or Classic Antenna Mounts**
- **Hand-Held IR Control Included**
- **Roll-about Casters for Mobility**
- **Compact Size**

ETS-Lindgren's Model 2171B Antenna Tower meets ANSI C63.4 requirements for measurements above 1 GHz by keeping the antenna aimed at the EUT during the antenna's ascent/ descent along the antenna mast. This is especially useful when high gain directional antennas like the log periodic are used. This new antenna tower is also designed with a reduced size base for better maneuverability in smaller chambers.

Patented Boresight System

Mounting adapters on towers normally place the antenna parallel to the ground plane. This means that as the tower raises the antenna above the EUT, measured field strength levels will be lower than actual values. This problem is solved with ETS-Lindgren's innovative boresight system which properly aims the antenna at a designated test point.

During scans, this tower maintains constant directional antenna positioning while varying the angle between the antenna and the mast. This is particularly important when using higher gain antennas of more than 3 dBi. The tilting of the antenna will maintain the EUT within the half power (-3 dB) beamwidth.

Flexible Antenna Mounting

The 2171B accepts stinger or classic EMCO antenna mounts. Mounting methods maintain the antenna's centerline axis during polarization.

Fiber Optic Lines

Fiber optic lines are used between the antenna mast and positioning controller to eliminate RF noise coupling.

Smooth Operation

A toothed belt drive provides smooth ascent and decent of the carrier assembly. The belt is an industrial grade composite that was selected for strength and longevity.

Additionally, the 2171B features variable speed operation with speed rates range from 3 cm/sec to 22 cm/sec as controlled by the EMCenter™ or Model 2090 Positioning Controller.

Travel Limits

To prevent damage to antenna elements which may accidentally rotate into the ground plane or ceiling during polarization, the EMCenter and Model 2090 Positioning Controller both allow programming of two upper and two lower limit settings. These settings allow safe maximizing antenna scan height in either horizontal or vertical polarization – especially useful with Bi-ConiLogs™, biconicals, log periodics, and other antennas with protruding elements.

This model is also provided with proprietary fiber optic limit switches to mechanically limit the travel of the carrier. The upper limit is at a fixed location to stop the carrier at its maximum height. The lower limit is adjustable to fit test requirements.

IR Control

For added convenience, the Model 2171B include a hand-held infrared remote control that is useful when mounting/demounting antennas, without having to access the positioning controller.

Single-Piece Mast

ETS-Lindgren towers are constructed with a single-piece mast made of high density fiberglass-reinforced polymer square tubing. This material has a high degree of immunity from extended exposure to sunlight.

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Standard Configuration

- Tower Assembly
- Variable Speed Motor
- Boresight with Centerline Pneumatic Polarization
- Fiber Optic Cables in 3m and 10m Lengths
- Shielded Room Penetration Kit
- Hand-held Remote Control Unit
- Manual

Options

- Controllers
  - EMCenter with EMControl™ Card
  - 2090 Positioning Controller[1]
- Universal Antenna Mount (Part Number 106102)
- Additional Fiber Optic Cable Lengths

Technical Specifications

Electrical	
Voltage	230 VAC
AMP Maximum	3.0
Hertz	50/60
Phase	1
Physical	
Overall Height	4.9 m
	16.1 ft
Maximum Scan Height	4.0 m
	13.1 ft
Base Dimensions	1.1 m x 0.9 m
	3.5 ft x 3.0 ft
Weight	90.0 kg
	198.0 lb
Cross-Boom Loading	90.9 Nm
	25.0 ft/lb
Linear Speed	3 cm/sec to 22 cm/sec
Polarization Velocity	3 deg/sec to 30 deg/sec
Standard (S) / Optional (O) Equipment	
Centerline Polarization	S
Pneumatic Polarization[2]	S
	S
Universal Antenna Mount	O
Variable Speed	S
Additional Fiber Optic Cable[3]	S
Fiber Optic Feedthrough	S
IR Remote	S
Controller[4]	O

[1] Existing ETS-Lindgren Model 2090 Positioning Controllers require firmware revision 3.12 or higher.
[2] Requires external source of compressed air 410 to 550 l=kPa (4.1 to 5.5 bar, 60 to 80 PSI).
[3] 3m and 10m cable lengths provided.
[4] Manual and programmed control via optional Model 2090 or EMCenter.