

Series 55500 Low RCS Target Mounting Systems

Features

- Provides safe, reliable target support and positioning
- Covers a wide range of load capacities and heights

Description

MI Technologies provides a complete line of low RCS target mounting systems that minimize electromagnetic backscatter while providing safe, reliable target support and positioning.

The Series 55500 target mounting systems consist of a pylon and a target positioner system. The standard pylons have load capacities of 1500 lbs (682 kgs) and 3000 lbs (1364 kgs) and are available in heights from 5 to 25 ft (1.6 to 7.6 m). The standard pylon is a 4:1 ratio ogive and is made of aluminum.

Azimuth-over-elevation rotators for 500-, 1500-, and 3000-lb (227-, 682-, and 1364-kg) capacities are available as standard products. A shaft-drive, azimuth-only rotator is also available for loads up to 500 lbs (227 kgs). A unique tip design developed by MI Technologies permits all three positioners to be interchangeable on the standard 3,000-lb pylon.

The target, the rotator and the top portion of the ogive column separate as a unit from the main portion of the pylon. All electrical and mechanical adjustments, including the tightening of the target-to-pylon interface, have been brought to the base of the pylon where the access panel will not interrupt the polished surface near the target. This unique system for target replacement means there is virtually no surface discontinuity in the vicinity of the target or primary electromagnetic zone. All electrical and mechanical connections are contained within the support column.

The shaft drive positioning system is intended for use with targets (up to 500 lb.), which cannot accommodate an azimuth/elevation rotator due to target size or shape. The shaft drive top is interchangeable with rotators tips, and the conversion from rotator to shaft drive can be accomplished without taking the pylon down. Interface to the target is a female spline in the tip. The drive assembly is located in the base of the pylon and includes a tachometer, dual speed (1:1 and 36:1) synchro transmitter, and DC shunt wound motor. The drive assembly is compatible with MI Technologies position controls and displays.

Specifications

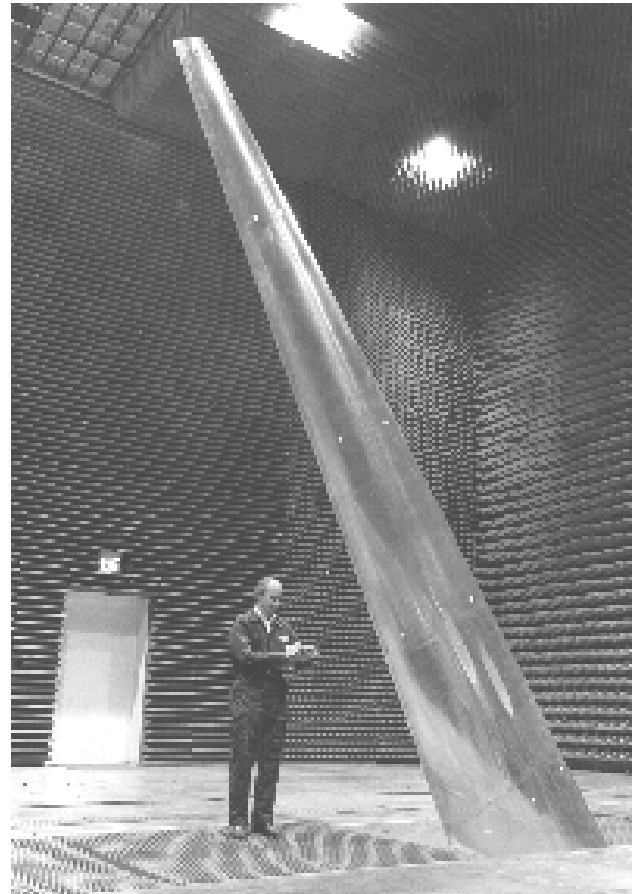
Pylon Leading Edge
25° from vertical

Pylon Trailing Edge Angle
35° from vertical

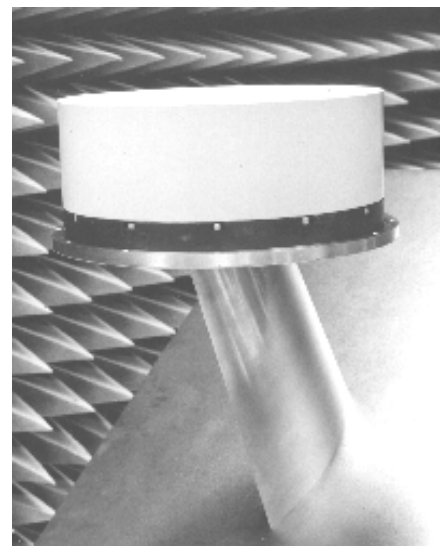
Pylon Ogive Shape Ratio
4:1

Pylon Surface Finish
65 micro-inches RMS (17 micrometers)

Pylon Edge Sharpness
Better than 0.002 inches (0.51 mm)



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Products – Positioners, Pylons, and Controllers

Series 55500 Low RCS Target Mounting Systems - continued

Pylon Load Capacity

55515	1500 lbs (682 kg)
55530	3000 lbs (1364 kg)

Standard Rotators and Shaft Drives

Model	55550	55551	55552	55553
Design Type	Rotator	Rotator	Shaft Drive	Rotator
Target Weight lbs (kg)	500 (227)	1500 (682)	500 (227)	3000 (1364)
EL Delivered Torque ft-lbs (N-m)	500 (678)	1500 (2034)	20 (27)	3600 (4881)
AZ Delivered Torque ft-lbs (N-m)	200 (271)	350 (474)	NA	720 (976)
Overturning Moment ft-lbs (N-m)	283 (384)	500 (678)	250 (339)	1025 (1390)
Elevation Travel (degrees)	-45, +5	-45, +5	NA	-45, +5
Azimuth Travel	360 degrees, continuous			
Elevation Synchro Accuracy (degrees, peak-to-peak)	±0.05	±0.05	NA	±0.05
Azimuth Synchro Accuracy (degrees, peak-to-peak)	±0.05	±0.05	±0.25	±0.05
Azimuth Rotation Speed (degrees/minute)	42	36	0 to 2160 variable	48
Elevation Rotation Speed (degrees/minute)	6.5	4.2	NA	7.5

Ordering Information

When ordering a Model 55515 or Model 55530 pylon, specify the height required (from 5 to 25 ft or 1.6 to 7.6 m). Pylon height is defined as the vertical distance from the center of the pylon tip interface to the bottom of the baseplate (see illustration below).

Rotators and shaft drives are ordered separately. Four designs are available:

- Model 55550
- Model 55551
- Model 55552
- Model 55553

Please note that the Model 55552 AZ-only shaft drive rotator only can be used with pylons 9.0 ft (2.75 m) or greater in height.

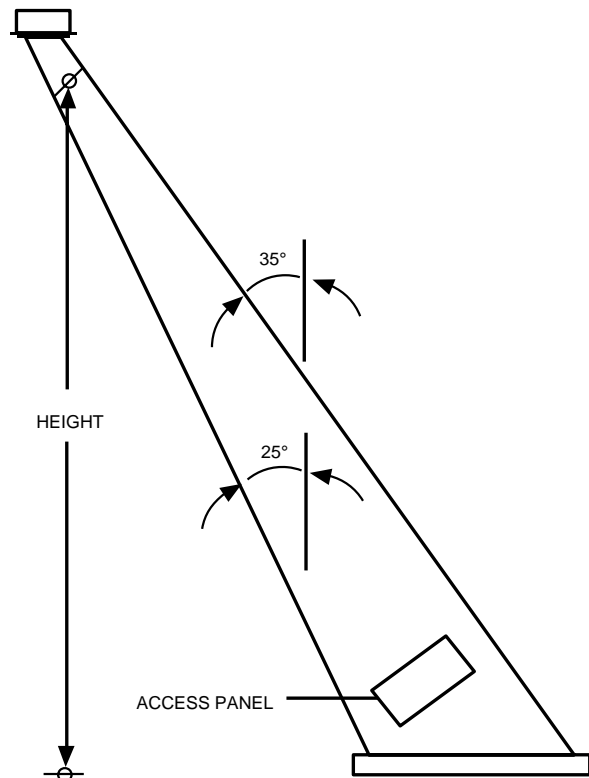
Since the geometries of the various tips are fixed, the height of the target will vary slightly when tips are changed. As the drawings on the following page show, the 500 lb tip will place the target 14 inches (35.6 cm) higher than the 1500 lb tip on the same pylon. The 1500 lb tip will place the target 4.4 inches (11.2 cm) higher than the 3000 lb tip. Because the lighter weight targets are generally smaller than the heavier targets, this offset within the test zone is not usually critical. It is important, however, that this variation be considered if more than one type of rotator will be used.

Options

Not Applicable

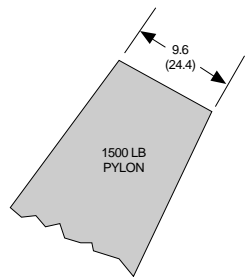
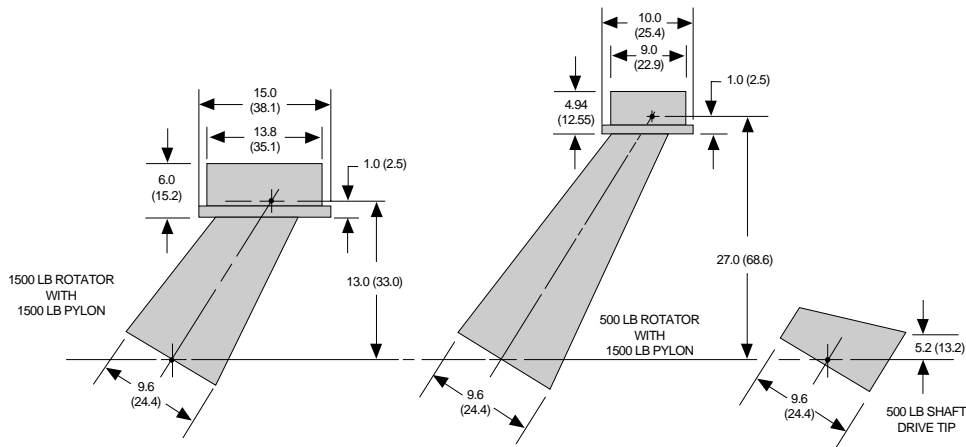
Accessories

- Model 4131 Position Controller
- Model 4139 Position Controller



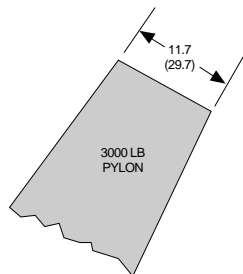
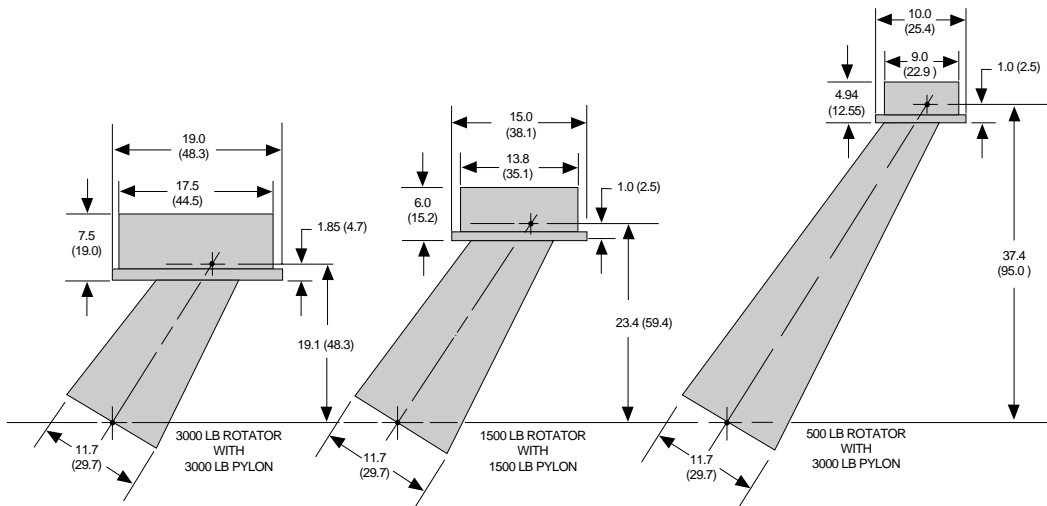
Products – Positioners, Pylons, and Controllers

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All dimensions stated in inches (cm)

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