



3.0 m | 10 ft Standard Parabolic Unshielded Antenna, single-polarized, 14.400–15.350 GHz, UG-541A/U, gray antenna, with flash, standard pack—one-piece reflector

Product Classification

Product Type Microwave antenna

General Specifications

| | |
|-------------------------------|---|
| Antenna Type | P - Standard Parabolic Unshielded Antenna, single-polarized |
| Diameter, nominal | 3.0 m 10 ft |
| Packing | Standard pack |
| Reflector Construction | One-piece reflector |
| Antenna Input | UG-541A/U |
| Antenna Color | Gray |
| Antenna Type | P - Standard Parabolic Unshielded Antenna, single-polarized |
| Diameter, nominal | 3.0 m 10 ft |
| Flash Included | Yes |
| Polarization | Single |

Electrical Specifications

| | |
|---|---------------------|
| Operating Frequency Band | 14.400 – 15.350 GHz |
| Beamwidth, Horizontal | 0.5 ° |
| Beamwidth, Vertical | 0.5 ° |
| Cross Polarization Discrimination (XPD) | 30 dB |
| Front-to-Back Ratio | 58 dB |
| Gain, Low Band | 50.2 dBi |
| Gain, Mid Band | 50.5 dBi |
| Gain, Top Band | 50.8 dBi |
| Operating Frequency Band | 14.400 – 15.350 GHz |
| Radiation Pattern Envelope Reference (RPE) | 1507E |
| Return Loss | 26.4 dB |
| VSWR | 1.10 |

Mechanical Specifications

| | |
|--------------------------------------|--------------------|
| Fine Azimuth Adjustment | $\pm 5^\circ$ |
| Fine Elevation Adjustment | $\pm 5^\circ$ |
| Mounting Pipe Diameter | 115 mm 4.5 in |
| Net Weight | 144 kg 317 lb |
| Side Struts, Included | 1 inboard |
| Side Struts, Optional | 2 outboard |
| Wind Velocity Operational | 110 km/h 68 mph |
| Wind Velocity Survival Rating | 200 km/h 125 mph |

Wind Forces At Wind Velocity Survival Rating

| | |
|--|-------------------------|
| Angle α for MT Max | -125 ° |
| Axial Force (FA) | 24019 N 5400 lbf |
| Side Force (FS) | 6556 N 1474 lbf |
| Twisting Moment (MT) | -9605 N-m -7084 ft lb |
| Weight with 1/2 in (12 mm) Radial Ice | 356 kg 785 lb |
| Zcg with 1/2 in (12 mm) Radial Ice | 551 mm 22 in |
| Zcg without Ice | 457 mm 18 in |

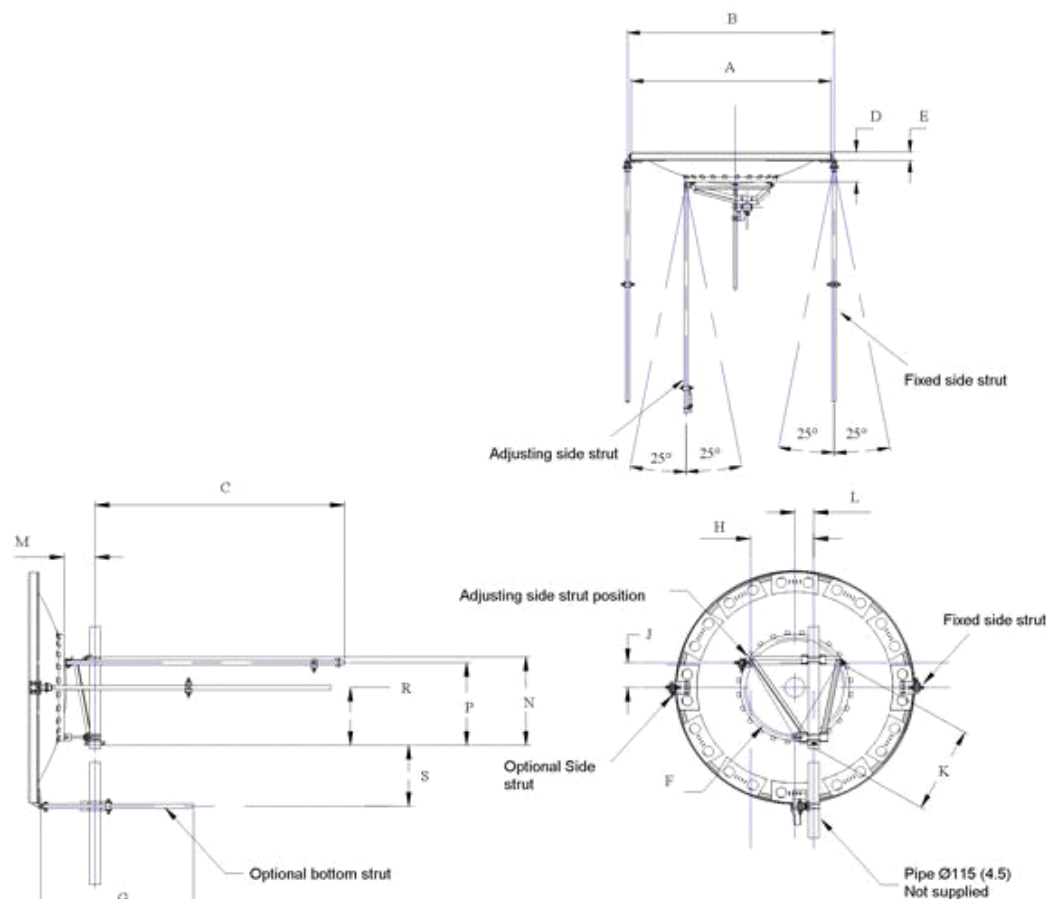
Wind Forces At Wind Velocity Survival Rating Image



Packed Dimensions

| | |
|-------------------------------------|----------------------|
| Gross Weight, Packed Antenna | 398.0 kg 877.4 lb |
| Height | 2490.0 mm 98.0 in |
| Length | 3280.0 mm 129.1 in |
| Volume | 9.3 m ³ |
| Width | 2290.0 mm 90.2 in |

Antenna Dimensions And Mounting Information



| ANTENNA DIMENSIONS | | | |
|-------------------------------|--------------|---|-------------|
| All dimensions in mm (inches) | | | |
| A | 3160 (124.5) | J | 275 (10.75) |
| B | 3315 (130.5) | K | 950 (37.5) |
| C | 3050 (120) | L | 200 (8) |
| D | 615 (24.25) | M | 330 (13) |
| E | 140 (5.5) | N | 950 (37.5) |
| F | 1100 (43.25) | P | 895 (35.25) |
| G | 1525 (60) | R | 625 (24.5) |
| H | 680 (26.75) | S | 695 (27.25) |

Regulatory Compliance/Certifications

Agency

ISO 9001:2015

Classification

Designed, manufactured and/or distributed under this quality management system



* Footnotes

| | |
|---|---|
| Axial Force (FA) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Cross Polarization Discrimination (XPD) | The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam. |
| Front-to-Back Ratio | Denotes highest radiation relative to the main beam, at $180^\circ \pm 40^\circ$, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise. |
| Gain, Mid Band | For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns. |
| Operating Frequency Band | Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order. |
| Packing | Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options. |
| Radiation Pattern Envelope Reference (RPE) | Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of $\pm 1^\circ$ throughout |
| Return Loss | The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted. |
| Side Force (FS) | Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Twisting Moment (MT) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| VSWR | Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band. |
| Wind Velocity Operational | The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna. |
| Wind Velocity Survival Rating | The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice. |



3.0 m | 10 ft Standard Parabolic Unshielded Antenna, single-polarized,
14.400–15.350 GHz

Product Classification

Product Type Microwave antenna

General Specifications

Antenna Type P - Standard Parabolic Unshielded Antenna, single-polarized
Diameter, nominal 3.0 m | 10 ft
Polarization Single

Electrical Specifications

Beamwidth, Horizontal 0.5 °
Beamwidth, Vertical 0.5 °
Cross Polarization Discrimination (XPD) 30 dB
Front-to-Back Ratio 58 dB
Gain, Low Band 50.2 dBi
Gain, Mid Band 50.5 dBi
Gain, Top Band 50.8 dBi
Operating Frequency Band 14.400 – 15.350 GHz
Radiation Pattern Envelope Reference (RPE) 1507E
Return Loss 26.4 dB
VSWR 1.10

Mechanical Specifications

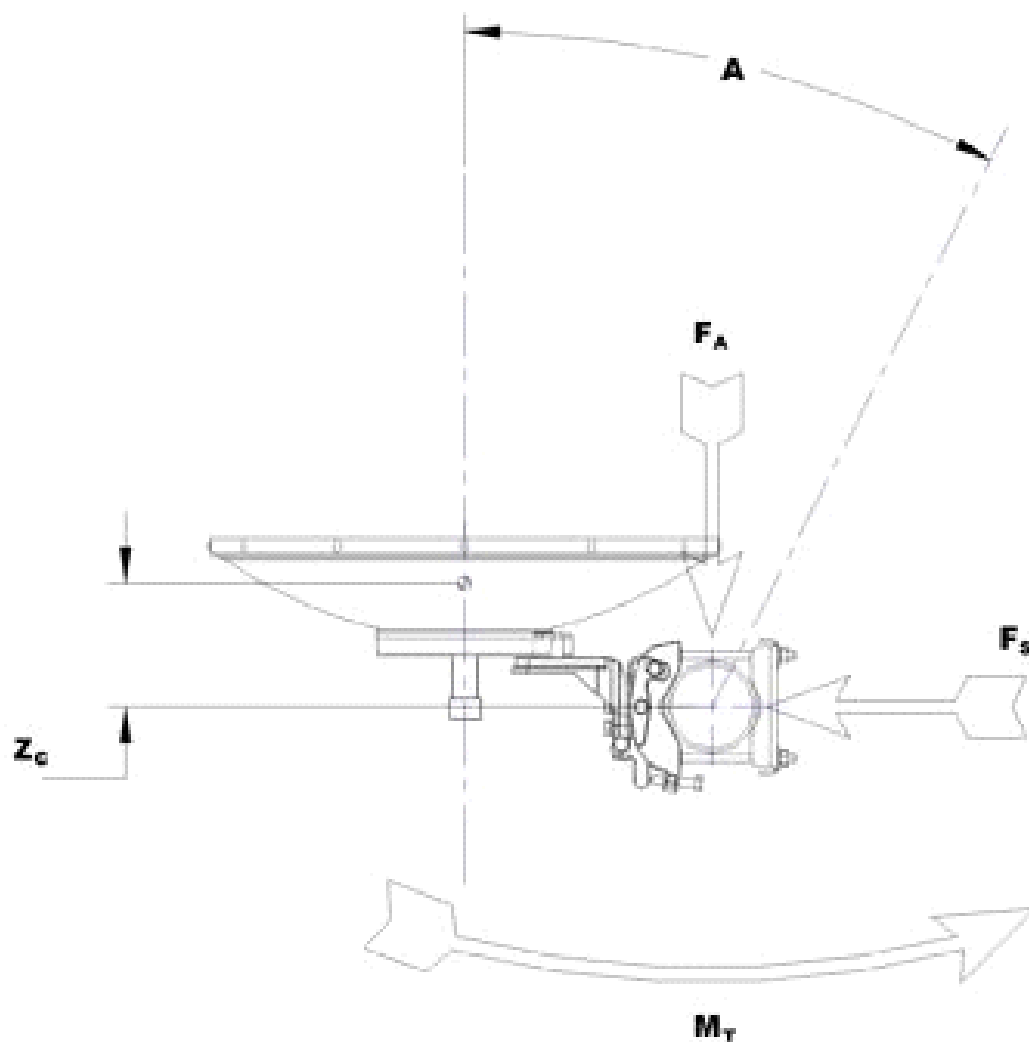
Fine Azimuth Adjustment ±5°
Fine Elevation Adjustment ±5°
Mounting Pipe Diameter 115 mm | 4.5 in
Net Weight 144 kg | 317 lb
Side Struts, Included 1 inboard
Side Struts, Optional 2 outboard
Wind Velocity Operational 110 km/h | 68 mph

Wind Velocity Survival Rating 200 km/h | 125 mph

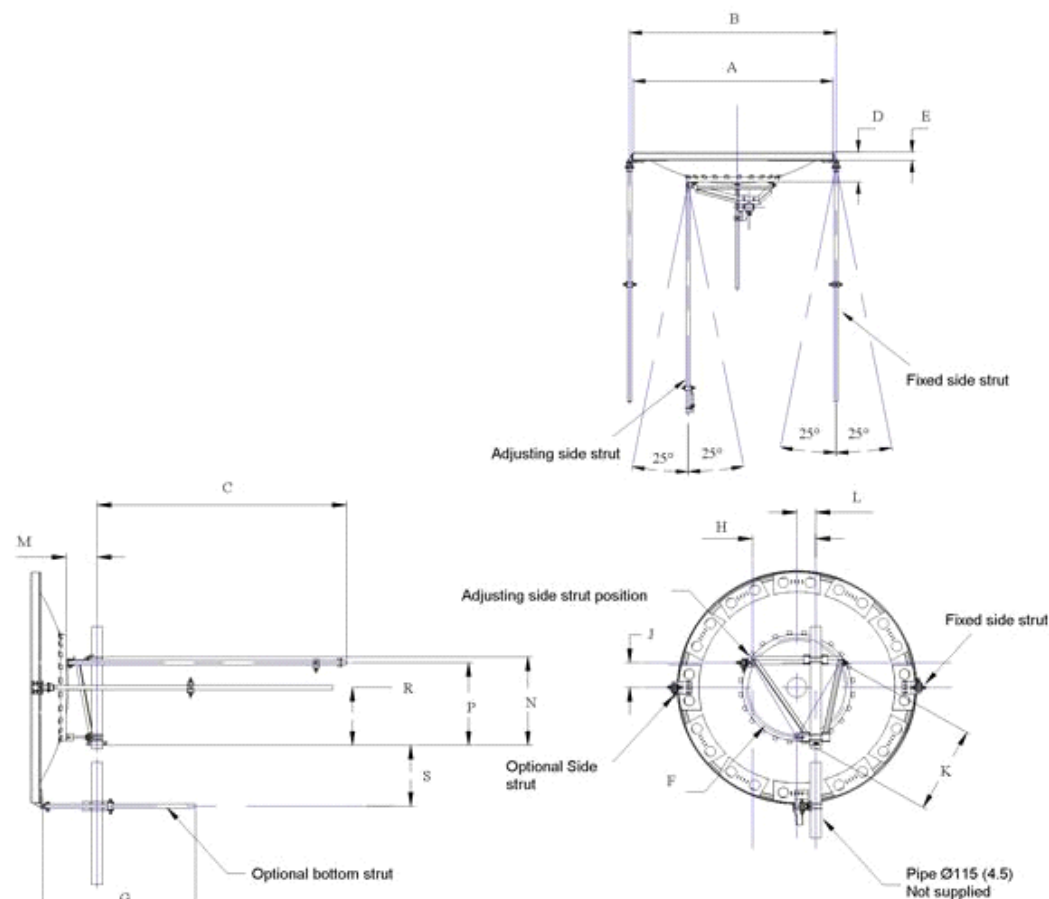
Wind Forces At Wind Velocity Survival Rating

| | |
|---------------------------------------|-------------------------|
| Angle α for MT Max | -125 ° |
| Axial Force (FA) | 24019 N 5400 lbf |
| Side Force (FS) | 6556 N 1474 lbf |
| Twisting Moment (MT) | -9605 N-m -7084 ft lb |
| Weight with 1/2 in (12 mm) Radial Ice | 356 kg 785 lb |
| Zcg with 1/2 in (12 mm) Radial Ice | 551 mm 22 in |
| Zcg without Ice | 457 mm 18 in |

Wind Forces At Wind Velocity Survival Rating Image



Antenna Dimensions And Mounting Information



| ANTENNA DIMENSIONS | | | |
|-------------------------------|--------------|---|-------------|
| All dimensions in mm (inches) | | | |
| A | 3160 (124.5) | J | 275 (10.75) |
| B | 3315 (130.5) | K | 950 (37.5) |
| C | 3050 (120) | L | 200 (8) |
| D | 615 (24.25) | M | 330 (13) |
| E | 140 (5.5) | N | 950 (37.5) |
| F | 1100 (43.25) | P | 895 (35.25) |
| G | 1525 (60) | R | 625 (24.5) |
| H | 680 (26.75) | S | 695 (27.25) |

Regulatory Compliance/Certifications

Agency

ISO 9001:2015

Classification

Designed, manufactured and/or distributed under this quality management system



* Footnotes

| | |
|---|---|
| Axial Force (FA) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Cross Polarization Discrimination (XPD) | The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam. |
| Front-to-Back Ratio | Denotes highest radiation relative to the main beam, at $180^\circ \pm 40^\circ$, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise. |
| Gain, Mid Band | For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns. |
| Operating Frequency Band | Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order. |
| Radiation Pattern Envelope Reference (RPE) | Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of $\pm 1^\circ$ throughout |
| Return Loss | The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted. |
| Side Force (FS) | Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Twisting Moment (MT) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| VSWR | Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band. |
| Wind Velocity Operational | The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna. |
| Wind Velocity Survival Rating | The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice. |