

3.0 m | 10 ft Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized, 7.125–7.750 GHz, PDR70, gray antenna, with flash, standard pack—two-piece reflector

### Product Type

## Microwave antenna

### Antenna Type

PL - Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized

3.0 m | 10 ft

Standard pack

Two-piece reflector

PDR70

Gray

PL - Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized

3.0 m | 10 ft

Yes

Single

### Operating Frequency Band

7.125 – 7.750 GHz

0.9 °

0.9 °

30 dB

ETSI Class 1 | US FCC Part 74A

52 dB

44.1 dBi

44.5 dBi

44.8 dBi

7.125 – 7.750 GHz

Radiation Pattern Envelope Reference (RPE) 2699E

30.7 dB

1.06

## Mechanical Specifications

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

## Wind Forces At Wind Velocity Survival Rating

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

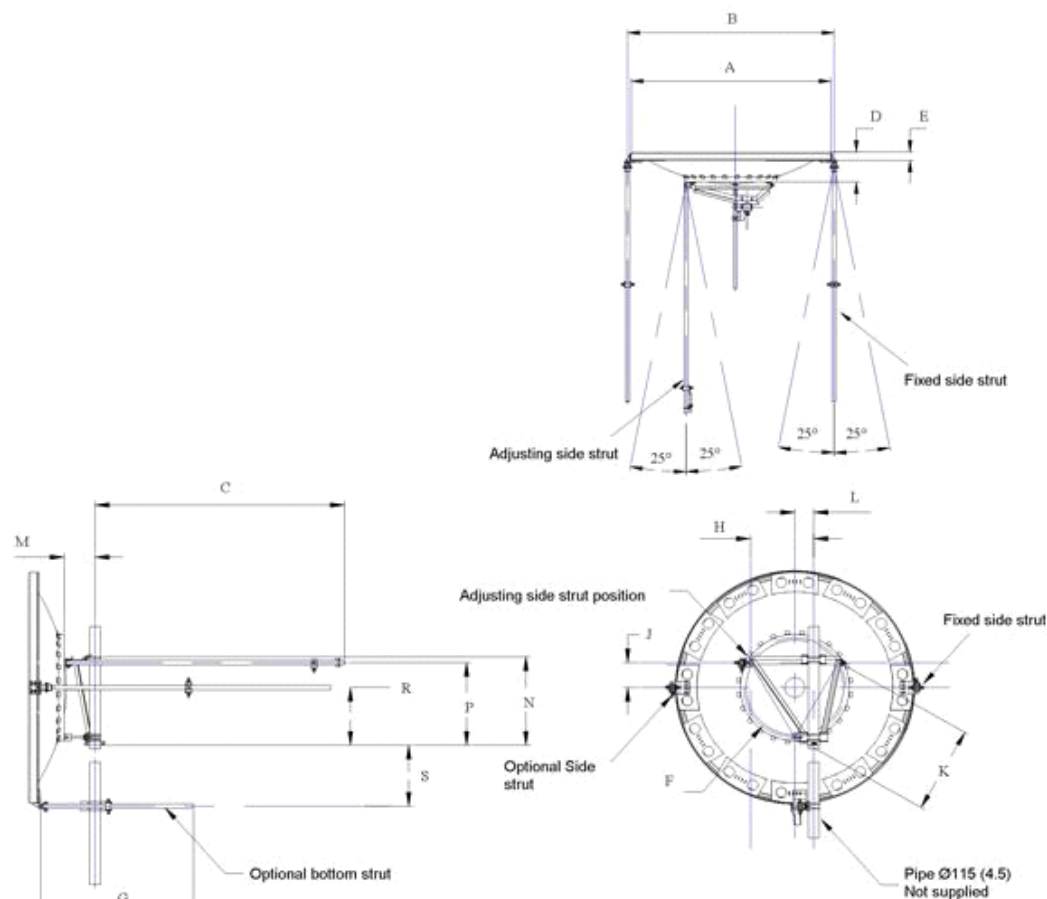
## Wind Forces At Wind Velocity Survival Rating Image



## Packed Dimensions

|                                     |                      |
|-------------------------------------|----------------------|
| <b>Gross Weight, Packed Antenna</b> | 413.0 kg   910.5 lb  |
| <b>Height</b>                       | 1880.0 mm   74.0 in  |
| <b>Length</b>                       | 3400.0 mm   133.9 in |
| <b>Volume</b>                       | 7.5 m <sup>3</sup>   |
| <b>Width</b>                        | 1170.0 mm   46.1 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

|                                                   |                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Axial Force (FA)</b>                           | 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.                               |
| <b>Cross Polarization Discrimination (XPD)</b>    | 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.                                                                                              |
| <b>Front-to-Back Ratio</b>                        | 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.                                                                           |
| <b>Gain, Mid Band</b>                             | 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.                                                           |
| <b>Operating Frequency Band</b>                   | Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.                                                                                                                          |
| <b>Packing</b>                                    | 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.                                    |
| <b>Radiation Pattern Envelope Reference (RPE)</b> | 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 |
| <b>Return Loss</b>                                | The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.                                                                                                                              |
| <b>Side Force (FS)</b>                            | 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.                                |
| <b>Twisting Moment (MT)</b>                       | 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.                               |
| <b>VSWR</b>                                       | Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.                                                                                                                                                                                  |
| <b>Wind Velocity Operational</b>                  | 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.                                                                  |
| <b>Wind Velocity Survival Rating</b>              | 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, Low VSWR Unshielded Antenna, single-polarized, 7.125–7.750 GHz

## Product Classification

**Product Type** Microwave antenna

## General Specifications

**Antenna Type** PL - Standard Parabolic, Low VSWR Unshielded Antenna, single-polarized  
**Diameter, nominal** 3.0 m | 10 ft  
**Polarization** Single

## Electrical Specifications

**Beamwidth, Horizontal** 0.9 °  
**Beamwidth, Vertical** 0.9 °  
**Cross Polarization Discrimination (XPD)** 30 dB  
**Electrical Compliance** ETSI Class 1 | US FCC Part 74A  
**Front-to-Back Ratio** 52 dB  
**Gain, Low Band** 44.1 dBi  
**Gain, Mid Band** 44.5 dBi  
**Gain, Top Band** 44.8 dBi  
**Operating Frequency Band** 7.125 – 7.750 GHz  
**Radiation Pattern Envelope Reference (RPE)** 2699E  
**Return Loss** 30.7 dB  
**VSWR** 1.06

## Mechanical Specifications

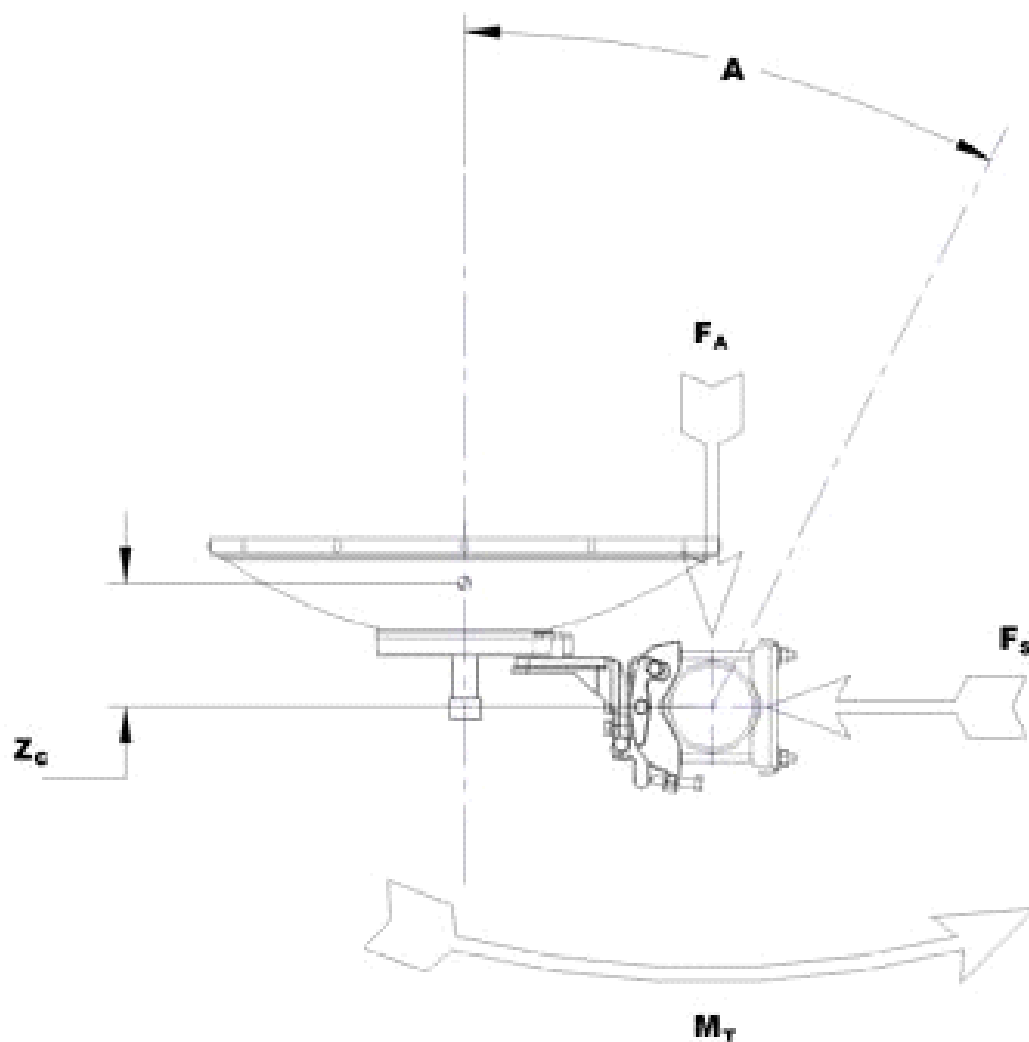
**Fine Azimuth Adjustment** ±5°  
**Fine Elevation Adjustment** ±5°  
**Mounting Pipe Diameter** 115 mm | 4.5 in  
**Net Weight** 144 kg | 317 lb  
**Side Struts, Included** 1 inboard  
**Side Struts, Optional** 2 outboard

|                                      |                    |
|--------------------------------------|--------------------|
| <b>Wind Velocity Operational</b>     | 110 km/h   68 mph  |
| <b>Wind Velocity Survival Rating</b> | 200 km/h   125 mph |

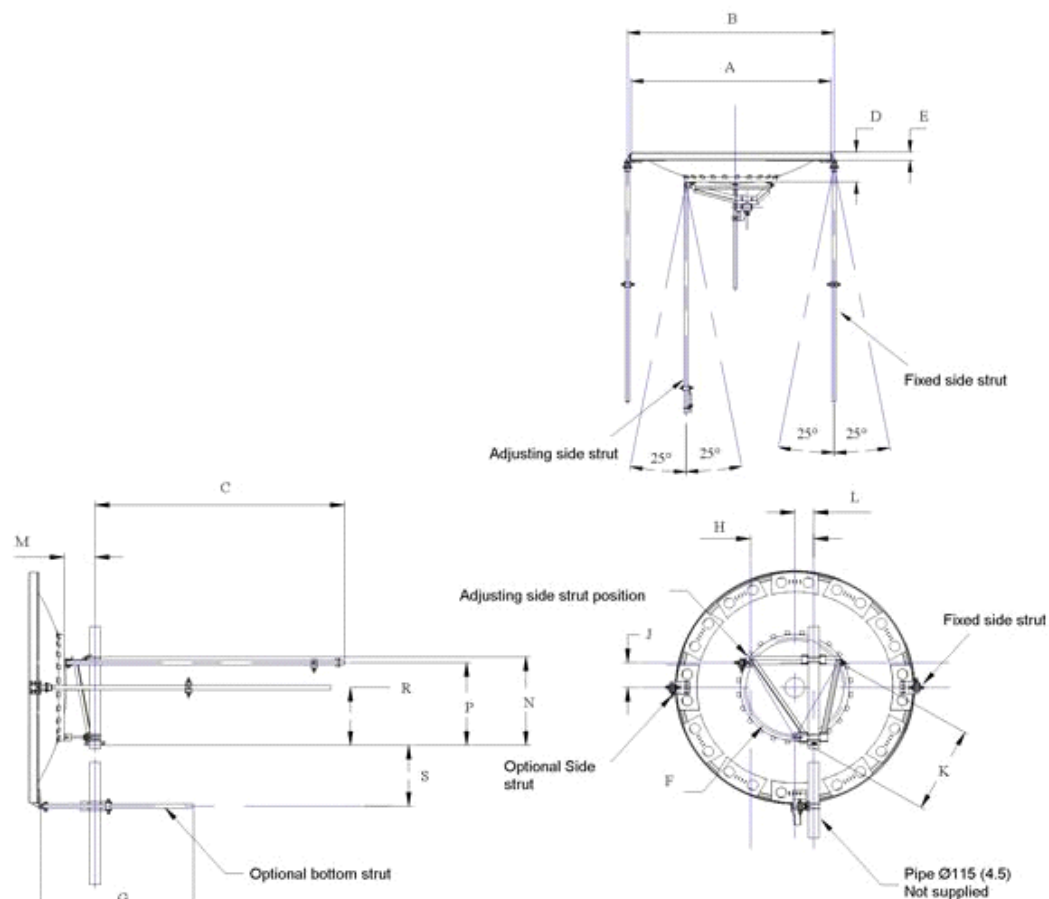
## Wind Forces At Wind Velocity Survival Rating

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

|                                                   |                                                                                                                                                                                                                                                                         |
|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Axial Force (FA)</b>                           | 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.                               |
| <b>Cross Polarization Discrimination (XPD)</b>    | 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.                                                                                              |
| <b>Front-to-Back Ratio</b>                        | 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.                                                                           |
| <b>Gain, Mid Band</b>                             | 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.                                                           |
| <b>Operating Frequency Band</b>                   | Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.                                                                                                                          |
| <b>Radiation Pattern Envelope Reference (RPE)</b> | 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 |
| <b>Return Loss</b>                                | The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.                                                                                                                              |
| <b>Side Force (FS)</b>                            | 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.                                |
| <b>Twisting Moment (MT)</b>                       | 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.                               |
| <b>VSWR</b>                                       | Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.                                                                                                                                                                                  |
| <b>Wind Velocity Operational</b>                  | 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 $0.3 \times$ the 3 dB beam width of the antenna.                                                           |
| <b>Wind Velocity Survival Rating</b>              | 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.                        |