

VHLP4-18/C



1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 17.700–19.700 GHz

Product Classification

| | |
|----------------------|-------------------|
| Product Type | Microwave antenna |
| Product Brand | ValuLine® |

General Specifications

| | |
|------------------------------|---|
| Antenna Type | VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized |
| Polarization | Single |
| Side Struts, Included | 1 inboard |
| Side Struts, Optional | 1 inboard |

Dimensions

| | |
|--------------------------|--------------|
| Diameter, nominal | 1.2 m 4 ft |
|--------------------------|--------------|

Electrical Specifications

| | |
|---|---------------------|
| Operating Frequency Band | 17.700 – 19.700 GHz |
| Gain, Low Band | 44.4 dBi |
| Gain, Mid Band | 44.7 dBi |
| Gain, Top Band | 44.9 dBi |
| Boresite Cross Polarization Discrimination (XPD) | 30 dB |
| Front-to-Back Ratio | 73 dB |
| Beamwidth, Horizontal | 0.9 ° |
| Beamwidth, Vertical | 0.9 ° |
| Return Loss | 17.7 dB |
| VSWR | 1.3 |
| Radiation Pattern Envelope Reference (RPE) | 7061C |

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Electrical Compliance

Brazil Anatel Class 2 | Canada SRSP 317.8 Part A | ETSI 302 217
Class 3 | US FCC Part 101A

Mechanical Specifications

Compatible Mounting Pipe Diameter

115 mm | 4.5 in

Fine Azimuth Adjustment Range

±15°

Fine Elevation Adjustment Range

±15°

Wind Speed, operational

201 km/h | 124.896 mph

Wind Speed, survival

250 km/h | 155.343 mph

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Antenna Dimensions and Mounting Information



| Dimensions in inches (mm) | | | | | |
|---------------------------|-------------|----------|------------|-----------|------------|
| Antenna size, ft (m) | A | B | C | D | E |
| 4 (1.2) | 50.8 (1291) | 16 (407) | 30.2 (767) | 7.2 (183) | 29.5 (748) |

Wind Forces at Wind Velocity Survival Rating

| | |
|--|-----------------------------|
| Axial Force (FA) | 5326 N 1,197.333 lbf |
| Side Force (FS) | 2638 N 593.046 lbf |
| Twisting Moment (MT) | 2162 N-m 19,135.312 in lb |
| Force on Inboard Strut Side | 2862 N 643.403 lbf |
| Zcg without Ice | 43 mm 1.693 in |
| Zcg with 1/2 in (12 mm) Radial Ice | 284 mm 11.181 in |
| Weight with 1/2 in (12 mm) Radial Ice | 74 kg 163.142 lb |

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Wind Forces at Wind Velocity Survival Rating Image



Packaging and Weights

Weight, net

32 kg | 70.548 lb

Regulatory Compliance/Certifications

Agency

ISO 9001:2015

Classification

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



* Footnotes

Operating Frequency Band

Bands correspond with CCIR recommendations or common allocations

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used throughout the world. Other ranges can be accommodated on special order.

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.

Boresite 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.

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.

VSWR

Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.

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

Wind Speed, operational

For VHLP(X), SHP(X), HX and USX antennas, the wind speed where the maximum antenna deflection is 0.3 x the 3 dB beam width of the antenna. For other antennas, it is defined as a deflection is equal to or less than 0.1 degrees.

Wind Speed, survival

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.

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.

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.