

# Quad-Ridge Flared Horns



## SOLUTION FOR

- Wideband illumination of CATR systems
- Wideband feeder for reflector antennas

## Main features

### Technical performance

- Nearly constant gain with frequency
- Dual linear polarization with high polarization purity and isolation
- Low return loss / VSWR
- Wide bandwidth

### Design

- Flared horn with rolled aperture edges for minimum diffraction and optimum impedance matching
- Well-defined smooth radiation pattern throughout the operational bandwidth
- Lightweight for easy handling

### Surface treatment

- Alodine 1200 according to MIL-C 5541E class 3
- Polyurethane paint

### Repeatability

- Stiff and robust mechanical design
- Standard MVG circular interface for precision centering
- Precision pins for accurate polarization alignment
- Precision machined
- High reliability coaxial connectors

### Delivered documents

- Typical performance data (TYMEDA™)
- Measured return loss data

## Product configuration

### Equipment

- Mounting flange
- Integrated coaxial transition with high precision connectors
- Protective radome/lens for outdoor installation and improved gain performance
- Available in combination with baffle absorbers to reduce direct illumination of the Quiet Zone in CATRs

### Related services

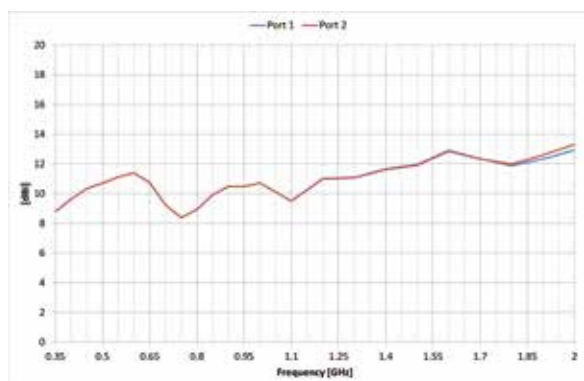
- Calibration and maintenance
- Customization

■ Included □ Optional

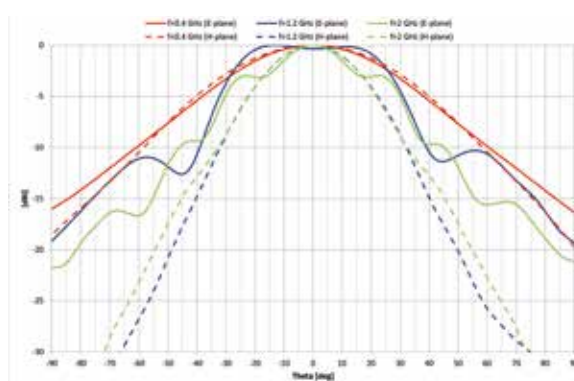
## Electrical characteristics

Part number	QRFH350	QRFH3500
Type of antenna	Quad-ridge flared horn	Quad-ridge flared horn
Frequency range	0.35 – 2 GHz	3.5 – 18 GHz
Polarization	Dual linear	Dual linear
Gain	8.5 – 13 dBi	8.5 – 13 dBi
Half-power beamwidth		
E-plane	70 – 30°	70 – 30°
H-plane	65 – 25°	65 – 25°
VSWR	< 3.25 [0.35 – 0.37] GHz < 2 [0.37 – 0.7] GHz < 1.5 [0.7 – 2] GHz	< 1.9
Return loss	< -5.5 dB [0.35 – 0.37] GHz < -9.5 dB [0.37 – 0.7] GHz < -14 dB [0.7 – 2] GHz	< -10 dB
Impedance	50 Ohms	50 Ohms

QRFH350 typical boresight gain



QRFH350 typical radiation pattern



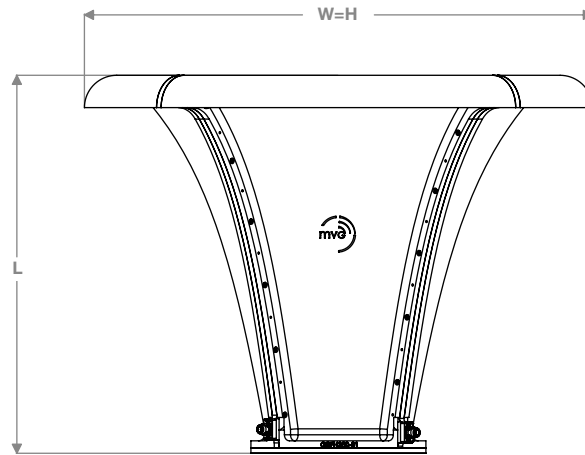
## Mechanical characteristics

Part number	QRFH350	QRFH3500
Dimensions [mm] (H x W x L)	840 x 840 x 625	100 x 100 x 80
Weight (approx.)	25 Kg	2 Kg
RF connectors	N-type Female	PC 3.5 Female <sup>(1)</sup>
Material	Aluminum	Aluminum
Treatment	Alodine 1200 <sup>(2)</sup>	Alodine 1200 <sup>(2)</sup>
Interface	Fixture plate with recessed female pilot	Circular Ø 60 mm

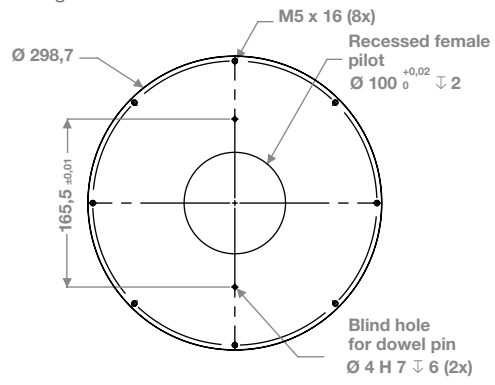
(1) Huber & Suhner type 23 PC35-50-0-51/199 UE

(2) Equivalent to MIL-C 5541E class 3

Dimensional drawing



QRFH350 flange



QRFH3500 flange

