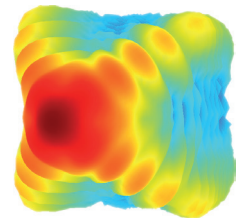


# Diagonal Horns



Typical 3D radiation pattern



## SOLUTION FOR

- Illumination of anechoic chambers
- Far-field test ranges
- Quasi-monostatic radar cross section (RCS) measurements

## Main features

### Technical performance

- Equalized beamwidths in the principal planes
- Extremely low side-lobes
- High cross-polar discrimination
- 2.5:1 bandwidth or more

### Design

- Smooth radiation pattern over the operational bandwidth
- Lightweight for easy handling

### Surface treatment

- Surtec 650 according to MIL-C 5541E class 3
- Polyurethane paint

### Repeatability

- Stiff and robust mechanical design
- Standard circular interface for precision centering
- Precision pin for accurate polarization alignment
- Precision machined product
- High reliability coaxial connector

### Delivered documents

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

## Product configuration

### Equipment

- Mounting flange
- Integrated coaxial transition with high precision connector

### Related services

- Calibration and maintenance
- Customization

■ Included  Optional



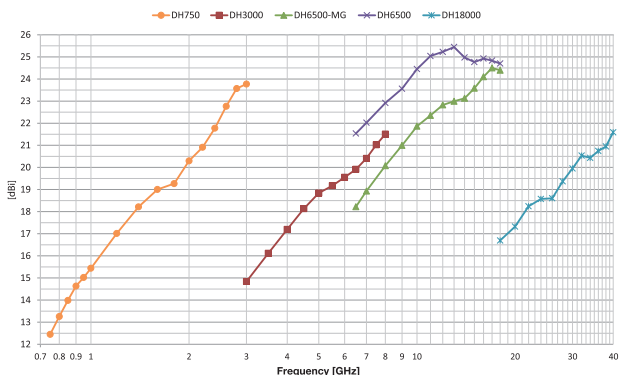
The low sidelobe level of the diagonal horn results in extremely low specular reflections from chamber walls, thus providing substantially improved quiet zone performance and greater measurement accuracy.

## Electrical characteristics

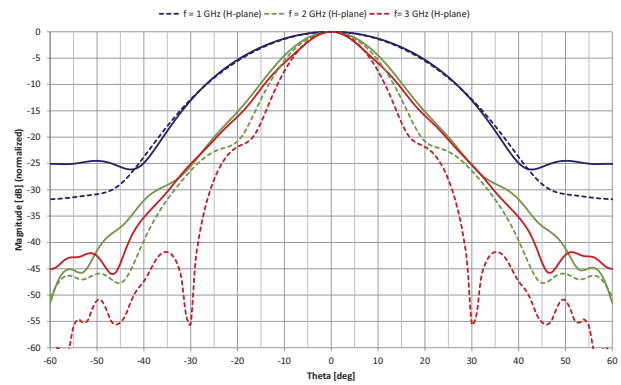
Part number	DH750	DH3000	DH6500	DH6500-MG	DH18000
Type of antenna	Diagonal horn	Diagonal horn	Diagonal horn	Medium gain diagonal horn	Diagonal horn
Frequency range	0.75 – 3 GHz	3 – 6.5 GHz	6.5 – 18 GHz	6.5 – 18 GHz	18 – 40 GHz
Gain	12 – 24	14 – 21	21 – 26	18 – 25	17 – 22
Side lobe level	< -20 dB	< -20 dB	< -20 dB	< -20 dB	< -20 dB
VSWR	< 1.9	< 1.9	< 1.9	< 1.9	< 1.9
Return loss	< -10 dB	< -10 dB	< -10 dB	< -10 dB	< -10 dB
Isolation between adjacent horns*	< -60 dB	< -60 dB	< -60 dB	< -60 dB	< -60 dB
Polarization	Single linear	Single linear	Single linear	Single linear	Single linear
Impedance	50 Ohms	50 Ohms	50 Ohms	50 Ohms	50 Ohms

(\*) Relative to two co-polarized adjacent horns, separated by 20 mm spacing between aperture corners, aligned along the H-plane

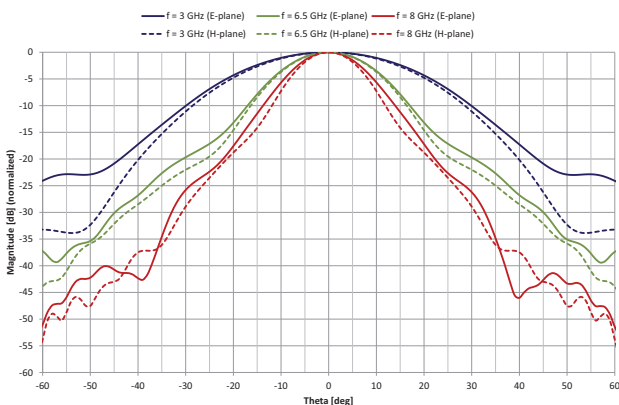
Boresight realized gain



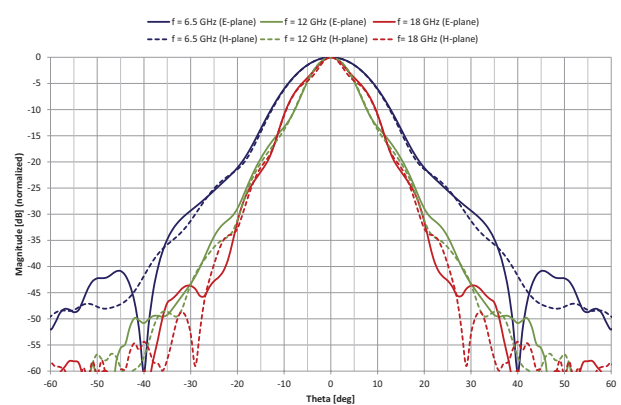
DH750 radiation pattern



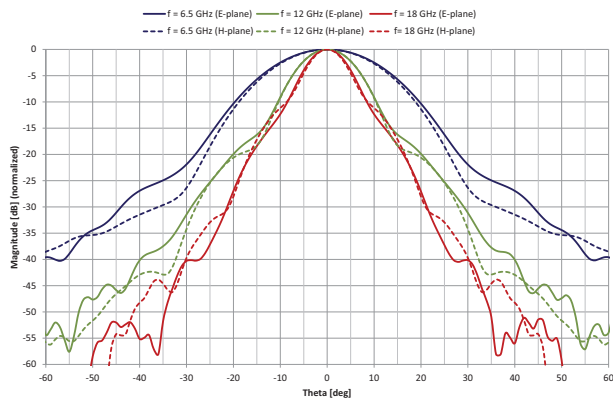
DH3000 radiation pattern



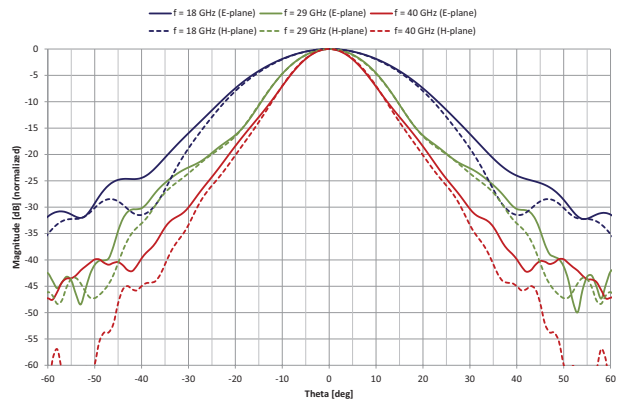
DH6500 radiation pattern



DH6500-MG radiation pattern



DH18000 radiation pattern

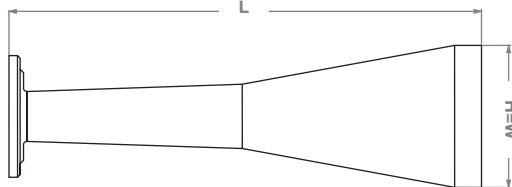


## Mechanical characteristics

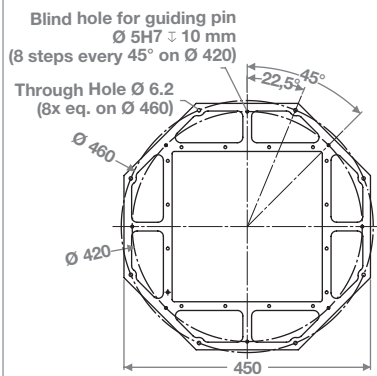
Part number	DH750	DH3000	DH6500	DH6500-MG	DH18000
Dimensions (H x W x L) [mm]	581 x 581 x 1569	179 x 179 x 593	197 x 197 x 630	128 x 128 x 426	60 x 60 x 137
Weight (approx) [Kg]	27	2.2	2	1.2	0.15
Connector	N-type Female <sup>(1)</sup>	3.5 mm Female <sup>(2)</sup>	3.5 mm Female <sup>(2)</sup>	3.5 mm Female <sup>(2)</sup>	2.92 mm Female <sup>(3)</sup>
Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Treatment	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>	Surtec 650 <sup>(4)</sup>
Interface	Octagonal □ 450 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm	Circular Ø 110 mm

- (1) Southwest 312-04SF
- (2) Huber+Suhner type 23 PC35-50-0-51/199UE
- (3) Southwest 1012-16SF
- (4) According to MIL-C 5541E class 3

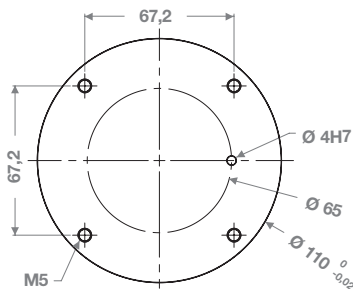
Dimensional drawing of diagonal horn



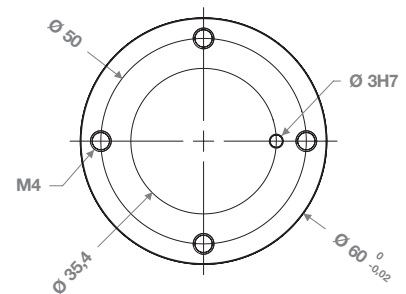
DH750 interface



DH3000, DH6500, DH6500-MG interface



DH18000 interface





**Contact your local sales representative for more information**

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