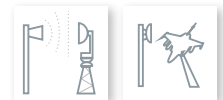
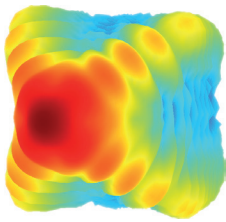


Diagonal Horns

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

- Alodine 1200 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



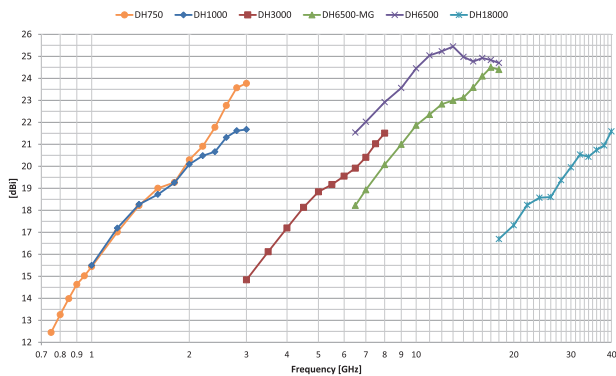
The low sidelobe level of the diagonal horn results in extremely low specular reflections from chamber walls, thus providing substantially improved quiet zone performance and greater measurement accuracy.

Electrical characteristics

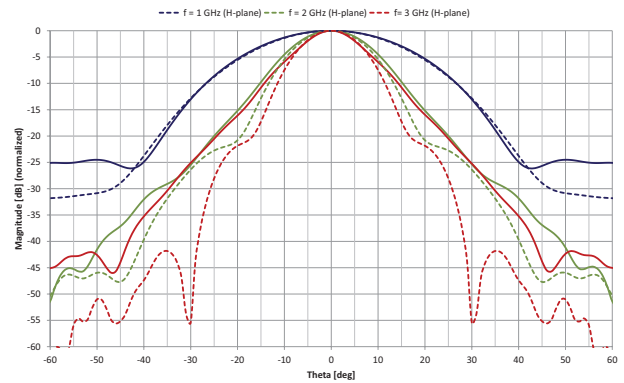
| Part number | DH750 | DH1000 | DH3000 | DH6500 | DH6500-MG | DH18000 |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------------------|---------------|
| Type of antenna | Diagonal horn | Diagonal horn | Diagonal horn | Diagonal horn | Medium gain diagonal horn | Diagonal horn |
| Frequency range | 0.75 – 3 GHz | 1 – 3 GHz | 3 – 6.5 GHz | 6.5 – 18 GHz | 6.5 – 18 GHz | 18 - 40 GHz |
| Gain | 12 – 24 | 15 – 22 | 14 – 21 | 21 – 26 | 18 - 25 | 17 - 22 |
| Side lobe level | < -20 dB | < -20 dB | < -20 dB | < -20 dB | < -20 dB | < -20 dB |
| VSWR | < 1.9 | < 1.9 | < 1.9 | < 1.9 | < 1.9 | < 1.9 |
| Return loss | < -10 dB | < -10 dB | < -10 dB | < -10 dB | < -10 dB | < -10 dB |
| Isolation between adjacent horns* | < -60 dB | < -60 dB | < -60 dB | < -60 dB | < -60 dB | < -60 dB |
| Polarization | Single linear | Single linear | Single linear | Single linear | Single linear | Single linear |
| Impedance | 50 Ohms | 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

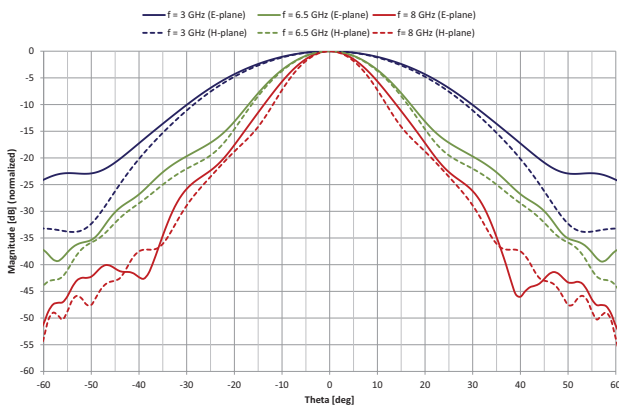
Boresight realized gain



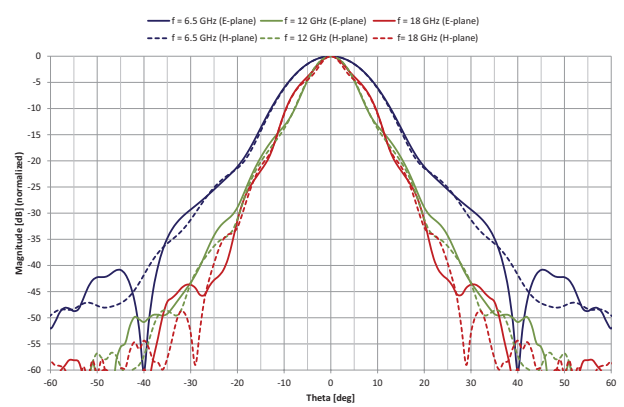
DH1000 radiation pattern



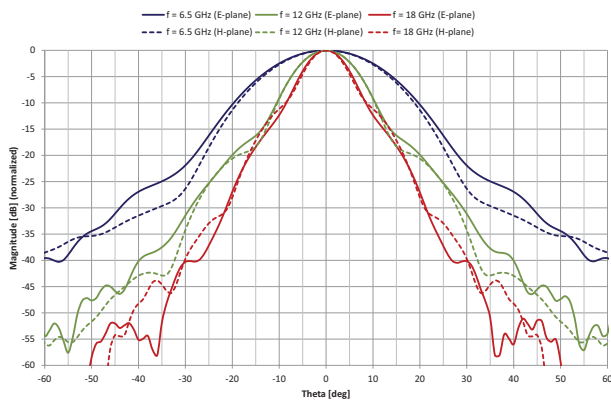
DH3000 radiation pattern



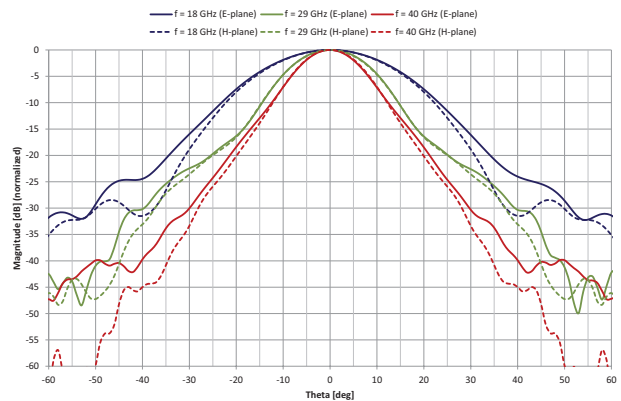
DH6500 radiation pattern



DH6500-MG radiation pattern



DH18000 radiation pattern

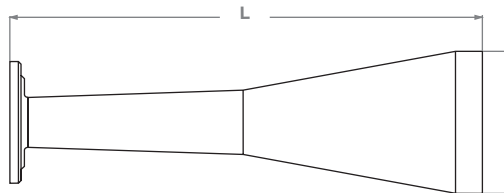


Mechanical characteristics

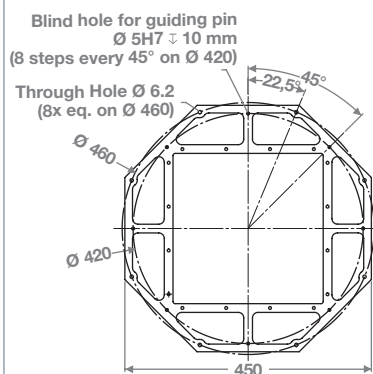
| Part number | DH750 | DH1000 | DH3000 | DH6500 | DH6500-MG | DH18000 |
|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|-----------------------------|
| Dimensions (H x W x L) [mm] | 581 x 581 x 1569 | 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 | 27 | 2.2 | 2 | 1.2 | 0.15 |
| Connector | N-type Female ⁽¹⁾ | N-type Female ⁽¹⁾ | PC 3.5 Female ⁽²⁾ | PC 3.5 Female ⁽²⁾ | PC 3.5 Female ⁽²⁾ | K Female ⁽³⁾ |
| Material | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium | Aluminium |
| Treatment | Alodine 1200 ⁽⁴⁾ | Alodine 1200 ⁽⁴⁾ | Alodine 1200 ⁽⁴⁾ | Alodine 1200 ⁽⁴⁾ | Alodine 1200 ⁽⁴⁾ | Alodine 1200 ⁽⁴⁾ |
| Interface | Octagonal □ 450 mm | Octagonal □ 450 mm | Circular ∅ 110 mm | Circular ∅ 110 mm | Circular ∅ 110 mm | Circular ∅ 110 mm |

- (1) SPINNER ref. # BN058739 and BN133670
- (2) Huber+Suhner type 23 PC35-50-0-51/199UE
- (3) Southwest 1012-16SF
- (4) Equivalent to MIL-C 5541E class 3

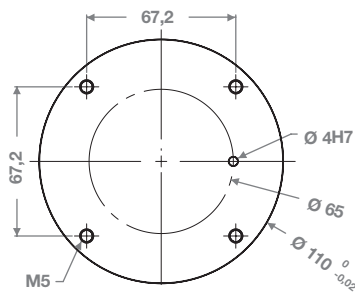
Dimensional drawing of diagonal horn



DH750, DH1000 interface



DH3000, DH6500,
DH6500-MG interface



DH18000 interface

