



- **Optimized design of high performance**
- **Best for material characterization**
- **Very compact size**
- **Low VSWR**
- **Specific focusing performance can be requested**

Description

Anteral's Focusing Lens Horn Antennas are conical horn antennas with a **double-convex** TEFLON lens added in the aperture, in order to apply phase correction and achieve superior focusing performance with minimum size. The lenses are designed with optimized hyperbolic or spherical profiles to reduce the aberration to the minimum. They are designed to cover the frequency range of 8 to 90 GHz. Anteral designs all Lens Horn Antennas to show not only the best focusing performance, but also low VSWR (< 1.3).

Applications

Focusing Lens Horn Antennas are especially useful when focusing beam is required with short focal distances. Therefore, these antennas are widely used in testing and material characterization.

On the other hand, Anteral also offers Communication Lens Horn Antennas with plano-convex lenses with optimize performance for communication applications up to 170 GHz. Check it in Communication Lens Horn Antenna datasheet.

Additional Notes

All designs are optimized to offer the best focusing performance with the minimum size.

The performance of all devices is checked before delivery.

Extended performance datasheet is available if customer requires.

Anteral offers custom designs. Ask for more information.

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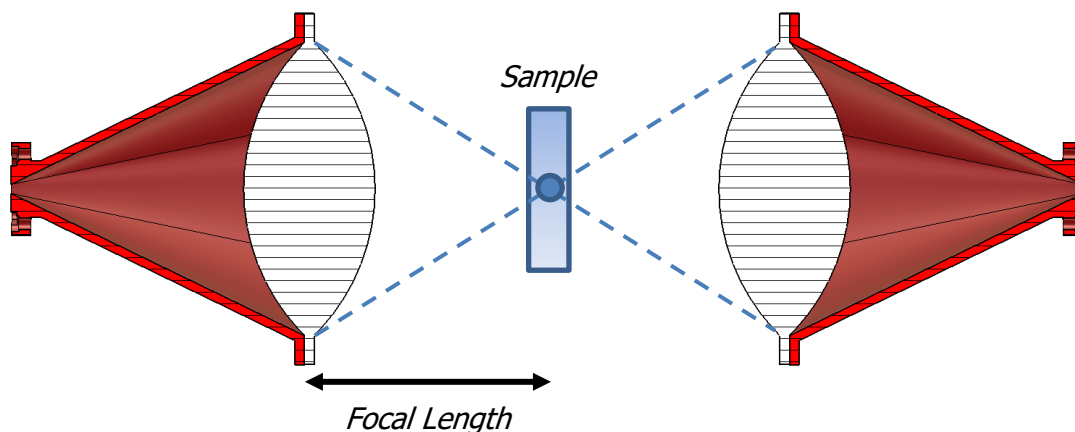
Mechanical and Electrical Specifications

	Description
Typical Beamwidth	$\sim 1.5 \lambda$
Typical VSWR	< 1.3
External color	Ruby red
Material	Aluminum

Focusing Performance

Model	Frequency (GHz)	Focal Length (mm)	Diameter beamwidth (Power -3dB)	
			E-Plane (mm)	H-Plane (mm)
LHA-F-WR137	5.85 – 8.2	300	56.2	67.5
LHA-F-WR90	8.2 – 12.5	200	37.1	45.9
LHA-F-WR62	11.9 – 18	135	23.7	29.5
LHA-F-WR42	18 – 26.5	152	19.1	23.1
LHA-F-WR28	26.5 – 40	148	13.2	17.3
LHA-F-WR22	33 – 50	117	10.3	13.9
LHA-F-WR19	40 – 60	100	9.0	11.3
LHA-F-WR15	50 – 75	110	10.2	13.2
LHA-F-WR12	60 – 90	72	6.6	8.3
LHA-F-WR10	75 - 110	58	5.2	6.5

*For higher frequencies Anteral offers Communication Lens Horn Antennas up to 170 GHz.



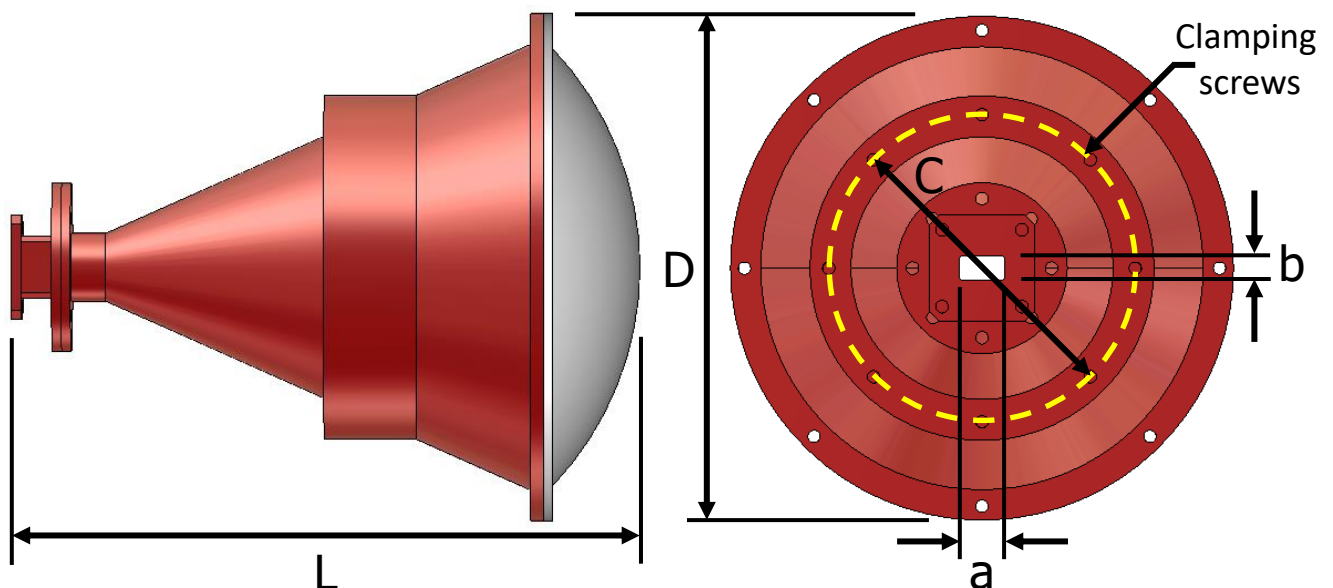
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Antenna Specifications

Rectangular Waveguide Feed

Model	Frequency (GHz)	Input Waveguide	Dimensions a x b (mm)	Standard Flange	D (mm)	L (mm)
LHA-F-WR137	5.85 – 8.2	WR-137	34.849 x 15.799	UG-344/U	320	425
LHA-F-WR90	8.2 – 12.5	WR-90	22.860 x 10.160	UG-39/U	222	286
LHA-F-WR62	11.9 – 18	WR-62	15.799 x 7.899	UG-419/U	162	201
LHA-F-WR42	18 – 26.5	WR-42	10.668 x 4.318	UG-595/U	144	175
LHA-F-WR28	26.5 – 40	WR-28	7.112 x 3.556	UG-599/U	130	153
LHA-F-WR22	33 – 50	WR-22	5.690 x 2.845	UG-383/U	108	124
LHA-F-WR19	40 – 60	WR-19	4.775 x 2.388	UG-383/U	93	104
LHA-F-WR15	50 – 75	WR-15	3.759 x 1.880	UG-385/U	72	74
LHA-F-WR12	60 – 90	WR-12	3.0988 x 1.5494	UG-387/U	62	62
LHA-F-WR10	75 - 110	WR-10	2.540 x 1.270	UG-387/U	53	51

*The antenna length includes a rectangular to circular waveguide transition



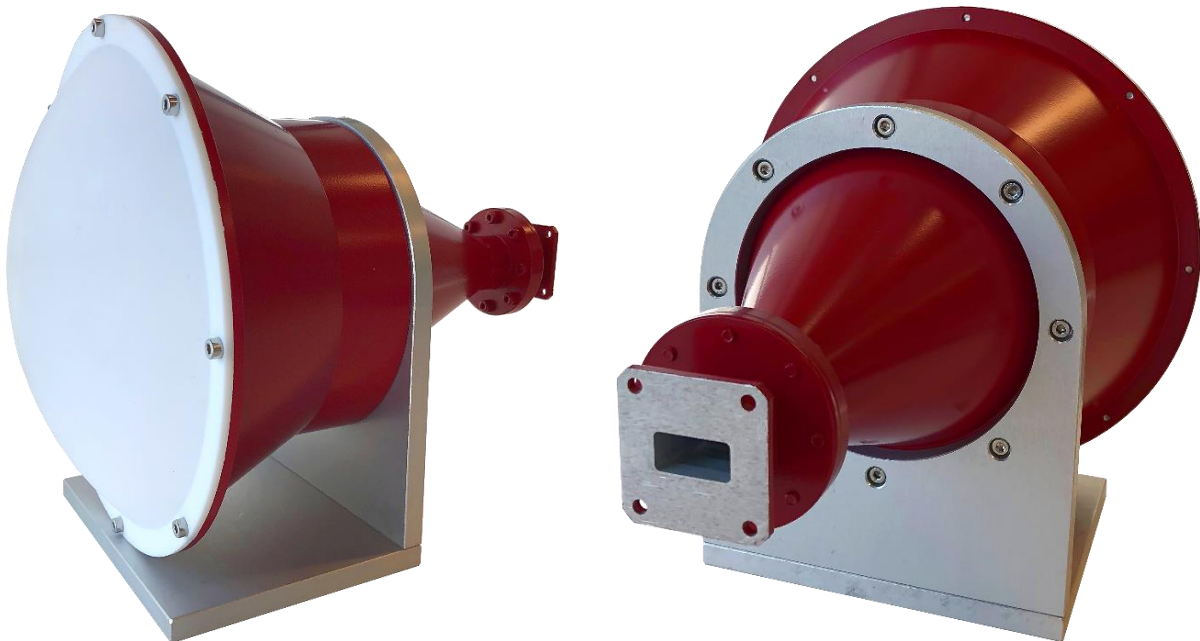
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Dimensions & Clamping Structure

Model	D (mm)	L (mm)	LHA Weight (g)	C (mm)	Clamping Screws	Clamping Structure Weight (g)
LHA-F-WR137	320	425	13410	158	M4 (↓16 mm)	1900
LHA-F-WR90	222	286	4210	136	M4 (↓10 mm)	890
LHA-F-WR62	162	201	1690	98	M4 (↓10 mm)	520
LHA-F-WR42	144	175	1160	84	M4 (↓10 mm)	300
LHA-F-WR28	130	153	840	75	M3 (↓8 mm)	260
LHA-F-WR22	108	124	520	64	M3 (↓8 mm)	190
LHA-F-WR19	93	104	340	58	M3 (↓8 mm)	150
LHA-F-WR15	72	74	150	-	-	-
LHA-F-WR12	62	62	100	-	-	-
LHA-F-WR10	53	51	70	-	-	-

**Clamping structure are only available for bigger and heavy models*

***Clamping structure base can be drilled with custom through holes*



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