

MICROWAVE COMPONENTS



Lambda Microwaves Pvt. Ltd.

(An ISO 9001 : 2000 Certified Co.)

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WAVEGUIDES

PRODUCTS DESCRIPTION

Lambda waveguides are drawn in copper and brass, The copper & brass materials are of high conductive electric grade. Brass material confirms to IS 319 Grade 2 Whereas ETP copper is of high conductivity



GENERAL SPECIFICATION

1. Corner Radial < 0.7 mm
2. Twist < 2 deg per meter
3. Finish Inside - Mirror
4. Finish Outside - Powder Coated

Waveguide Size	Frequency Range (GHz)	Material	Outside Dimensions (Nominal)	Wall Thickness	Theoretical Ins. Loss dB/100 ft.
WR-19	40.00-60.00	Copper	.268x.174	.040	34.00
WR-22	33.00-50.00	Copper	.304x.195	.040	26.00
WR-28	26.50-40.00	Copper	.360x.220	.040	22.00
		Brass			27.00
WR-34	22.00-33.00	Copper	.420x.250	.040	18.00
		Brass			22.50
WR-42	18.00-26.50	Copper	.500x.250	.040	14.00
		Brass			17.50
WR-51	15.00-22.00	Copper	.590x.335	.040	10.00
		Brass			12.50
WR-62	12.40-18.00	Copper	.702x.391	.040	6.50
		Brass			8.20
WR-75	10.00-15.00	Copper	.850x.475	.040	5.25
		Brass			6.50
WR-90	8.20-12.40	Copper	1.000x.500	.050	4.12
		Brass			5.50
WR-112	7.05-10.00	Copper	1.250x.625	.064	2.75
		Brass			3.50
WR-137	5.85-8.20	Copper	1.500x.750	.064	2.00
		Brass			2.50
WR-159	4.90-7.05	Copper	1.718x.923	.064	1.50
		Brass			2.10
WR-187	3.95-5.85	Copper	2.000x1.000	.064	1.40
		Brass			1.75
WR-229	3.30-4.90	Copper	2.418x1.273	.064	.93
		Brass			1.35
WR-284	2.60-3.95	Copper	3.000x1.500	.080	.73
		Brass			.95
WR-340	2.20-3.30	Brass	.3.560x1.860	.080	.68
WR-430	1.70-2.60	Brass	4.460x2.310	.080	.45

PASSIVE WAVE GUIDE COMPONENTS FOR TELECOM

Waveguide Bends, Straight Sections and Twists

SALIENT FEATURE

1. Minimum insertion loss
2. Low VSWR
3. Any length and rotation angle
4. Precise Construction

WAVEGUIDE STRAIGHT SECTION

Lambda produces straight sections with different lengths and flanges as per system / customer requirements. Typical VSWR is 1.04 Covering the frequency Range of 2 to 40 GHz in various Frequency bands.

WAVEGUIDE BEND

E plane, and H plane bends are available with angles of 30°, 45°, 60° and 90°. Typical VSWR 1.05 Covering-the frequency range of 2 to 40 Ghz in various wave guide bands

WAVEGUIDE TWIST

Twists allow changing the orientation in a waveguide. Twists are available with angles of 45° in left or right hand twist or standard 90°. Covering the frequency range of 2 to 40 GHz in various wave guide bands

SPECIAL FEATURES

Typical VSWR is 1.05 over full band. Covering the frequency range of 2 to 40 GHz in various Frequency bands.



MULTI HOLE DIRECTIONAL COUPLERS

Directional couplers are used to sample power flowing in waveguides. The power so tapped is called coupling factor or coupling in dB, of directional coupler. These are designed using Microwave CAD softwares.

These are available in 3, 6, 10 and 20 dB coupling. It consists of two wave guide, joined with their broad wall. The main wave guide is straight and fitted with flanges at both ends. The auxiliary wave guide has 90° bend at one end in E plane and another end is fitted with suitable matched load. The common broad wall of both wave guide has a row of coupling holes. The diameter and number of holes in a row and number of rows varies accordingly to coupling factor required.

Special designs for military have achieved coupling in 40dB, 50dB, 60dB in waveguide WR-112

Coupling : 3,6,10,20,30 dB

Directivity : > 30 dB

VSWR Primary Line --- 1.1 , Secondary Line — 1.15 max



CROSS DIRECTIONAL COUPLER

This is another type of directional coupler. It differs from multihole directional coupler in some manners, two waveguide joined with their broad wall makes an exact 90 cross. Thus any two consequent ports has 90deg angle with each other. All four ports are fitted with flanges.

DUMMY LOAD

Lambda standard products line of high & low power termination are constructed using extruded heat sink material. The load elements are custom ground silicon carbide Tapered for optimum- VSWR response (1.15 max.) maintaining moderate power handling characteristics.



WAVEGUIDE TO COAXIAL ADOPTER

This is immense tool to connect waveguide output to coaxial system.

The waveguide mode is converted to TEM coaxial mode. The output connector can be N type or SMA type. Low VSWR is maintained for optimum coupling. Lambda design coaxial adopters in all frequency bands achieving low VSWR of 1.15 in full band. High power adopters with pressure sealing 30 psi also available.



XX--- CAN--- Waveguide to coaxial adopter with N (female) connector
CAS--- Waveguide to coaxial adopter with SMA (Female) connector

PRESSURIZING SECTIONS (Pressure Inlet, Gauges)

Pressure Sections are used where air or other gases are to be introduced into the waveguide system. Stainless Steel Schrader valves (tire valves") are used as inlets for air/gases. Pressure Gauges in either 0-15 psi or 0-30 p.s.i. ranges to monitor internal pressure. Units are 1.10 max. VSWR.

PRESSURE WINDOW

Lambda Offers standard products line of rectangular waveguide pressure window constructed using a combination all clear or al tapped aluminium or brass or copper & groove type Flange Captivating a high temperature dielectric material. These units with stand pressure upto 30 psi. VSWR is less than 1.10



SALIENT FEATURES

- * Low VSWR
 - * High pressure upto 30 psi
- Lambda offers high pressure high power window also on special request.

DEHYDRATORS

The Dehydrators maintain the performance of your feeding system components and save money. Thanks to lower Maintenance costs. As the successful cases, the dehydrator is ideal for small, medium volume microwave, cellular and broadcast systems from 2 to 100 ft.



Features:

1. Digital display system
2. Small volume and light weight;
3. Electro-magnetic pump instead of electrical pump
4. Inflation enables long time pressure keeping Power consumption less than 0.03 Kwh
5. The modern power supply 220V +/- 20% suitable for areas with no stable voltage
6. Strong functions: automatic air leak monitoring, Remote alarm, automatic counting times, pressure control or timer control.
7. Desiccant last long time for recycling Desiccant has larger volume, better seal and special air tunnel;
8. Working ambient temperature -10°C ~ 40°C, Humidity_≤ 90%;

SPECIFICATIONS

TYPE		BCAC-4	BCDC-2
Voltage (V)		AC 220V	DC48V
Power (W)		35	25
Working Pressure (kPa)		3-20	3-15
AverageFlow Volume (m3/h)		>1	> 1
Noice (dB)		<45	<35
DIM (cm3)	Wall Hanging Type	40x2 x16	40x2 x16
	Rack Type	48x28X13	48x28X13
Weight (Kg)	Wall Hanging Type	10	10
	Rack Type	10	10