

Custom Rigid Waveguide Sections



ESAT1210

Straight Waveguide

ESAT1220/1230

E or H-Bend Waveguide

ESAT1240

Twist Waveguide

Rigid Waveguide Extensions

Made to order rigid waveguide extensions are available in WR-28 (R320) through WR-340 (R26) waveguide sizes. They are manufactured from copper or aluminum waveguide with brass or aluminum flanges in the required lengths and flange combinations. E and H plane waveguide bends are supplied with a choice of formed sweep or mitre-casting waveguide styles. Waveguide twists are manufactured from formed waveguide.

Waveguide extensions are available with the most common North American (EIA) and European (IEC) standard flange combinations. Flange dash numbers used for rigid waveguide extensions are the same as those used for our other waveguide products.

Our waveguides are tested to full waveguide band, but performance optimization over narrower designated bands is available upon request. Waveguides are finished with corrosion protection and exterior surfaces are painted with black, white or grey paint suitable for outdoor use.

Electrical Specifications

Add 0.03 to VSWR for Choke flanges

Waveguide Size		Frequency	Insertion loss		VSWR	
IEC	EIA	Full Operating Band GHz	Typical	Typical	Typical	Typical
R	WR		dB/100ft. (10m) Copper	dB/100ft. (10m) Aluminum	Straight	Single Bend or Twist
26	340	2.20-3.30	0.60 (0.19)	0.89 (0.29)	1.03	1.05
32	284	2.60-3.95	0.82 (0.27)	1.24 (0.41)	1.03	1.05
40	229	3.22-4.90	1.05 (0.34)	1.58 (0.52)	1.04	1.06
48	187	3.94-5.99	1.55 (0.51)	2.33 (0.76)	1.04	1.06
58	159	4.64-7.05	1.70 (0.56)	2.59 (0.85)	1.04	1.07
70	137	5.85-8.20	2.23 (0.73)	3.31 (1.09)	1.05	1.07
84	112	7.05-10.00	3.11 (1.02)	4.67 (1.53)	1.05	1.07
100	90	8.20-12.40	4.79 (1.57)	7.35 (2.41)	1.06	1.07
120	75	10.00-15.00	5.79 (1.90)	8.70 (2.85)	1.06	1.08
140	62	12.40-18.00	7.35 (2.41)	11.1 (3.63)	1.07	1.09
180	51	14.50-22.00	10.1 (3.30)	15.1 (4.96)	1.07	1.09
220	42	18.00-26.50	16.3 (5.34)	24.5 (8.03)	1.08	1.10
260	34	22.00-33.00	20.1 (6.58)	30.2 (9.90)	1.08	1.10
320	28	26.50-40.00	27.6 (9.06)	41.4 (13.6)	1.09	1.13

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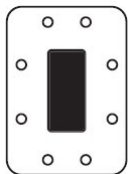
ESAT1240

Twist Waveguide

Waveguide Flanges

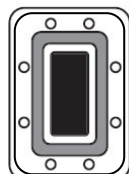
North American (EIA) and European (IEC) standard waveguide flanges are manufactured in-house and maintained in inventory reducing product lead time so we can respond quickly to market demands.

Rectangular Flanges



FLAT
Contact

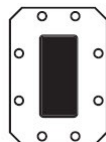
CPR -02
UDR -22



GROOVED
Contact

CPRG -01
PDR -21

Number of holes
for some flange
styles depends on
waveguide size

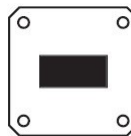


MINIATURE
Contact

CMR -09,10,11
UER -30

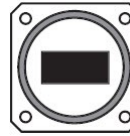
Square Flanges

WR28 to WR112 / R84 to R220



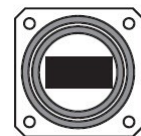
FLAT

COVER -03
UBR -23



GROOVED

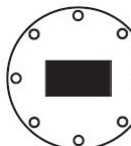
COVER -04
PBR -24



CHOKE -05
CBR -25

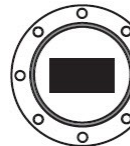
Round Flanges

WR137 to WR340 / R26 to R70



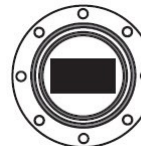
FLAT

COVER -06
UAR -26



GROOVED

COVER -07
PAR -27



CHOKE -08
CAR -28

Accessories

Hardware, fixing and clamping kit accessories are available for use with our flexible waveguide products. Consult our web site www.esatcom.com for accessory part numbers.

Flange Hardware Kits

Hardware kits are available for WR-28 (R320) through WR-340 (R26) waveguide flange sizes.



Kits include stainless steel screws, flat and lock washers, and depending on the flange type, either rectangular or O-ring silicone gaskets.

Flange Quick Disconnect Kits

Quick Disconnect clamp kits are available for WR-28 (R320) through WR-137 (R70) waveguide sizes and flange types.

Kits include nylon alignment screws, mating clamps, a retaining ring, and depending on the flange type, either rectangular or O-ring silicone gaskets.



Fast waveguide connection and easy installation.

Excellent choice for mobile and transportable applications.



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Part Number Guide

ESAT1220 -08 -E 90 -5 IN -4 IN -03 -04 -PB

Waveguide Type	ESAT1210	Length								Waveguide Finish	-R	
Straight Section	ESAT1210			Length 1				Length 2			Iridite	-R
E or H Sweep Bend Section	ESAT1220			Unit Length	IN						Painted Black	-PB
E or H Cast Bend Section	ESAT1230			inch	IN						Painted White	-PW
Twist Section	ESAT1240			mm	MM						Painted Grey	-PG
				Blank for Straight WG								
				Bend or Twist Angle (degrees)								
	Waveguide Size	-08	-E	Plane Bend								
	R26 / WR340	-340	-H	Plane Bend								
	R32 / WR284	-01	-R	R-Left Hand Twist								
	R40 / WR229	-02	-L	L-Left Hand Twist								
	R48 / WR187	-03										
	R58 / WR159	-04										
	R70 / WR137	-05										
	R84 / WR112	-06										
	R100 / WR90	-07										
	R120 / WR75	-08										
	R140 / WR62	-09										
	R180 / WR51	-10										
	R220 / WR42	-11										
	R260 / WR34	-12										
	R320 / WR28	-13										

Standard

Copper WG

Brass flanges

Special Request

Aluminium WG and flanges
add "A" after JMC12XX above