

Twistable Flexible Waveguide

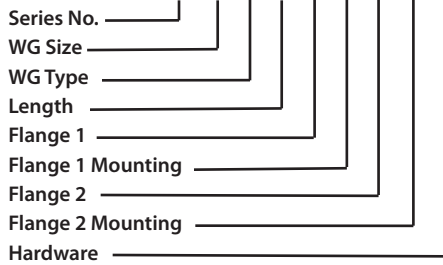
Series No: 118

Part Description

UBS offers a line of twistable flexible or flexible waveguide sections. These sections are manufactured from spiral-wound silver plated conductors covered with a protective, pressure tight black neoprene or silicone rubber jacket. All standard waveguide flanges are available. In addition to the popular standard line of flanges listed, UBS offers a more complete line of industry standard flange styles upon request. Please specify the length that is required.

Ordering Data

Part number - 118 - X - X - X - X - X - X - X - X



Flange Configuration

Flange Type	C - Cover G - Groove CHOKE CMR CPR(F, G)
Flange Mounting Holes	T1 - Through Holes T2 - Threaded A - Alternating

Hardware	1 - Required 0 - Not Required
Twistable Flexible	A
Flexible	B

Specifications

Size	C	G	CHOKE	CMR	CPR	MATCHING WG INTERNAL DIMENSIONS (in)	OPERATIONAL FREQUENCY BAND (GHz)	NOMINAL TEST FREQ. FOR ATTENUATION (GHz)	MAXIMUM IL ATTENUATION (dB/ft)	MAXIMUM VSWR < 36" >	MAXIMUM VSWR < 36" >	Power Handling (W)
WR28	•	•	•			0.280 x 0.140	26.50 - 40.00	34.00	1.00	1.30 - 36" max		75
WR42	•	•	•			0.420 x 0.170	18.00 - 26.50	22.00	0.70	1.18 1.23	1.20 1.25	100
WR51	•	•	•			0.510 x 0.255	15.00 - 22.00	18.50	0.55	1.15 1.18	1.17 1.20	400
WR62	•	•	•			0.622 x 0.311	12.40 - 18.00	14.00	0.28	1.10 1.13	1.13 1.16	400
WR75	•	•	•			0.750 x 0.375	10.00 - 15.00	13.70	0.18	1.08 1.10	1.10 1.13	750
WR90	•	•	•	•	•	0.900 x 0.400	8.20 - 12.40	9.40	0.15	1.07 1.10	1.10 1.13	1000
WR112	•	•	•	•	•	1.122 x 0.497	7.05 - 10.00	9.40	0.12	1.07 1.10	1.10 1.13	1500
WR137	•	•	•	•	•	1.372 x 0.622	5.85 - 8.20	6.45	0.09	1.05 1.09	1.09 1.10	2000
WR159	•	•	•	•	•	1.590 x 0.795	4.90 - 7.05	5.90	0.08	1.05 1.08	1.08 1.10	2500
WR187	•	•	•	•	•	1.872 x 0.872	3.95 - 5.85	4.75	0.05	1.05 1.07	1.07 1.10	3000
WR229	•	•	•	•	•	2.290 x 1.145	3.30 - 4.90	3.85	0.04	1.05 1.07	- -	4000
WR284	•	•	•	•	•	2.840 x 1.340	2.60 - 3.95	3.15	0.04	1.04 1.07	1.07 1.10	4000



S118 -Series Flexible and Twistable Waveguide

Flexible and Twistable Waveguide

Flexible and twistable rectangular waveguides are used in a wide variety of satcom, VSAT and telecom applications that carry high frequency radio (microwave communications) signals. Flexible waveguides are manufactured from helically wound copper alloy strip material which allows the waveguides to twist and bend in the E and H planes simultaneously.

The flexible waveguide core is protected from the environment by a molded neoprene rubber jacket providing durability and full axis of motion over the operating temperature range of -20 to +100 degrees Celsius.

Electrical Specifications

Add 0.03 to VSWR for Choke flanges

Waveguide Size		Frequency	Insertion loss	VSWR		Power Rating
IEC R	EIA WR	Operating GHz	Maximum dB/ft. (m)	Maximum <36 in. (1 m)	Maximum >36 in. (1 m)	Watts
70	137	5.85 -8.20	0.06 (0.20)	1.07	1.11	1700
84	112	7.05 -10.00	0.07 (0.23)	1.09	1.12	1200
100	90	8.20 -12.40	0.09 (0.30)	1.09	1.12	700
120	75	10.00 -15.00	0.13 (0.43)	1.10	1.12	500
140	62	12.40 -18.00	0.16 (0.52)	1.12	1.15	220
220	42	18.00 -26.50	0.38 (1.25)	1.20	1.25	100

Mechanical Specifications

Waveguide Size		Bending Radius Rating Minimum				Twisting Rating Maximum		Length Tolerance	Internal Pressure Rating Maximum
IEC R	EIA WR	Static		Repeated		Static +/- Deg. /ft (m)	Repeated +/- Deg. /ft (m)	Static +/- inches/foot (%)	Static PSIG (kPa)
		E -Plane In. (mm)	H -Plane In. (mm)	E -Plane In. (mm)	H -Plane In. (mm)				
70	137	4.0 (102)	8.0 (203)	16 (406)	32 (813)	64 (210)	16 (52)	0.13 (1%)	30 (207)
84	112	3.0 (76)	6.0 (152)	12 (305)	24 (610)	79 (259)	20 (66)	0.13 (1%)	35 (242)
100	90	2.5 (64)	5.0 (127)	10 (254)	20 (508)	96 (315)	23 (75)	0.13 (1%)	45 (311)
120	75	2.1 (51)	4.2 (102)	8.5 (216)	17 (432)	112 (364)	28 (92)	0.13 (1%)	45 (311)
140	62	1.8 (46)	3.6 (92)	7.0 (178)	14 (368)	136 (446)	34 (112)	0.13 (1%)	45 (311)
220	42	1.2 (30)	2.3 (60)	4.7 (120)	11 (240)	160 (525)	44 (144)	0.13 (1%)	45 (311)

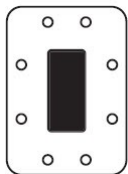
Flexible Waveguide



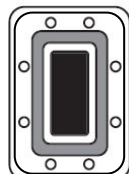
Waveguide Flanges

Brass and aluminum waveguide flanges are manufactured in-house and maintained in inventory reducing product lead time so we can respond quickly to market demands. Both North American (EIA) and European (IEC) standard waveguide flanges are available in corrosion protected base metal or plated finishes.

Rectangular Flanges

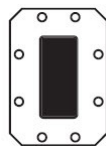


FLAT Contact
CPR -02
UDR -22



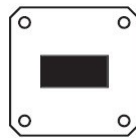
GROOVED Contact
CPRG -01
PDR -21

Number of holes for some flange styles depends on waveguide size

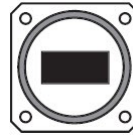


MINIATURE Contact
CMR -09,10,11
UER -30

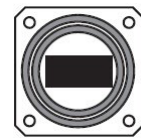
Square Flanges



FLAT
COVER -03
UBR -23

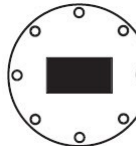


GROOVED
COVER -04
PBR -24

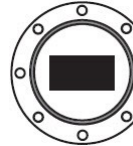


CHOKE -05
CBR -25

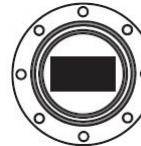
Round Flanges



FLAT
COVER -06
UAR -26



GROOVED
COVER -07
PAR -27



CHOKE -08
CAR -28

WR42 to WR112 / R70 to R220

WR137 / R70

Accessories

Hardware, fixing and clamping kit accessories are available for use with our flexible waveguide products.

Part Number Guide

	S118 -	-08	-36	IN	-N	-03	-04	-R
Flex Type	S118		Flex Length				Flange Finish	
Flex Twist	S118		Unit Length				-S Silver Plated	
			inch IN				-N Nickel Plated	
			mm MM				-T Tin Plated	
			Jacket Type				-G Gold Plated	
			Neoprene -N				-R Iridite	
			Silicone -S					
Waveguide Size					Flange Type		Flange Type	
R70 / WR137	-05			CPRG - Grooved Contact		-01	-21	PDR - Rectangular Grooved
R84 / WR112	-06			CPRF - Contact Flat		-02	-22	UDR - Rectangular Flat
R100 / WR90	-07			Cover Flat - Square		-03	-23	UBR - Square Flat
R120 / WR75	-08			Cover Grooved - Square		-04	-24	PBR - Square Grooved
R140 / WR62	-09			Choke - Square		-05	-25	CBR - Square Choke
R220 / WR42	-11			Cover F WR137 - Round		-06	-26	UAR70 - Round Plain
				Cover G WR137 - Round		-07	-27	PAR70 - Round Grooved
				Choke WR137 - Round		-08	-28	CAR70 - Round Choke
				CMR - Standard Holes		-09		
				CMR - Clear Holes		-10	-30	UER - Clear Holes
				CMR - Tapped Holes		-11	-99	Special - Customer Specified

Standard

Neoprene Rubber Jacket

Brass Flanges

Special Request

Silicone Rubber Jacket -S

Aluminium Flanges -A