



# UBS

Unique Broadband Systems  
a DOL Technologies Inc. Company

WAVEGUIDE PRODUCT  
CATALOGUE  
**2024**

## Waveguide and Coaxial

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## Overview

UBS manufactures diverse transmission products to exploit a growing market in high-quality television, Internet, and data services.

## Ordering

Please contact our Sales Department to discuss your specific custom application. One of our knowledgeable sales staff will recommend possible solutions to satisfy your specific requirements.

Email: [sales@uniquesys.com](mailto:sales@uniquesys.com)

(Specifications are subject to change without notice)

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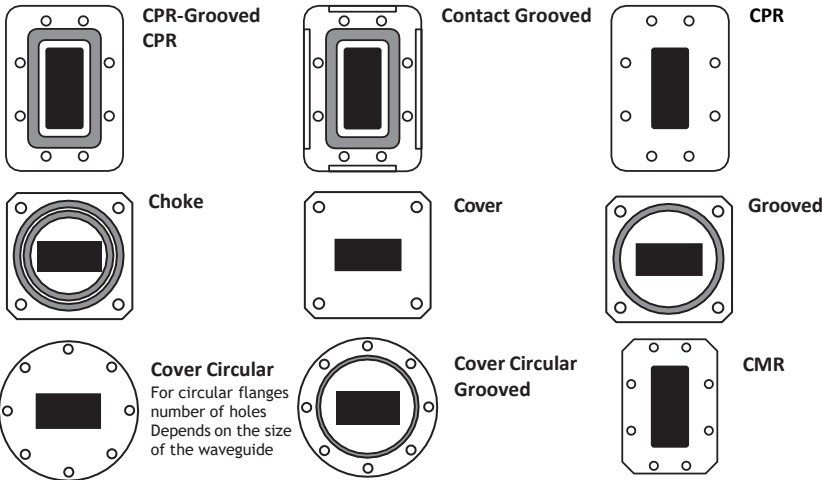
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# Waveguide Shims

Series No: 108

## Part Description

UBS offers waveguide shims as set out in the table below in Aluminum and Bronze



## Ordering Data

Part number - 108 - X/X - X - X - X

Series No. \_\_\_\_\_  
WG Size \_\_\_\_\_  
Flange Type \_\_\_\_\_  
Thickness \_\_\_\_\_  
Material \_\_\_\_\_

## Example

WR75 cover shim  
108 - 75 - C - .25 - A  
¼ WR75 shim  
A - Aluminum  
B - Bronze  
Thickness range from 1/32 - 1 inch

## North American (EIA Standard)

Size	UG STYLE						COVER			CPR		CMR
	SQUARE	CIRCULAR	CHOKE	CPR CONTACT		CMR	SQUARE	CIRCULAR	GROOVED	FLAT	GROOVED	
	C	C	CHOKE	FLAT	GROOVED	CMR	C	C	G	F	G	
				CONTACT-F	CONTACT-G	CMR						
WR28	UG-599/U		UG-600A/U				•		•			
WR34						UG-1530/U	•		•			
WR42	UG-595/U UG-597/U		UG-596A/U UG-598A/U				•		•			
WR51							•		•			
WR62	UG-419/U UG-1665/U		UG-541A/U				•		•			
WR75							•		•	•	•	
WR90	UG-39/U UG-135/U		UG-40B/U UG-136B/U	UG-1736/U UG-1737/U	UG-1360/U UG-1361/U	UG-1478/U UG-1483/U	•		•	•	•	•
WR112	UG-51/U UG-138/U		UG-52B/U UG-137B/U	UG-1734/U UG-1735/U	UG-1358/U UG-1359/U	UG-1477/U UG-1482/U	•		•	•	•	•
WR137		UG-344/U UG-441/U	UG-343B/U UG-440B/U	UG-1732/U UG-1733/U	UG-1356/U UG-1357/U	UG-1476/U UG-1481/U		•	•	•	•	•
WR159				UG-1730/U UG-1731/U	UG-1354/U UG-1355/U			•	•	•	•	•
WR187		UG-149A/U UG-407/U	UG-148C/U UG-406B/U	UG-1728/U UG-1729/U	UG-1352/U UG-1353/U	UG-1475/U UG-1480/U		•	•	•	•	•
WR229				UG-1726/U UG-1727/U	UG-1350/U UG-1351/U			•	•	•	•	•
WR284		UG-53/U UG-584/U	UG-54B/U UG-585/U	UG-1724/U UG-1725/U	UG-1348/U UG-1349/U	UG-1479/U UG-1484/U		•	•	•	•	•
WR340				UG-1712/U UG-1713/U	UG-1346/U UG-1347/U					•	•	
WR430				UG-1716/U UG-1711/U	UG-1344/U UG-1345/U					•	•	
WR650										•	•	

Notes 1. UG Style W/G Material

WR90	UG-39/U	Brass/Copper
	UG-135/U	

2. For flanges not found in this please contact our sales department  
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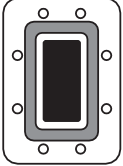
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# Standard Shim Types

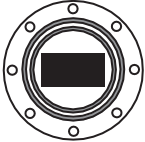
Series No: 108

## Part Description

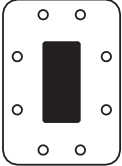
UBS offers shims as set out in the table below in Aluminum and Bronze



**PDR**



**CAR**  
For circular flanges number of holes depends on the size of the waveguide



**UDR**

**Ordering Data**

**Part number - 108 - X/X - X - X - X**

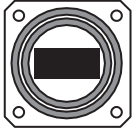
Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

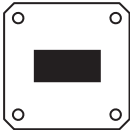
Flange Type \_\_\_\_\_

Thickness \_\_\_\_\_


Material \_\_\_\_\_



**CBR**



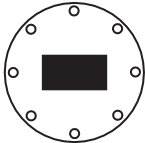
**UBR**



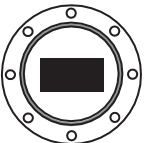
**PBR**

**Example**

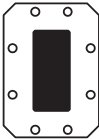
WR75 cover shim  
108 - 75 - C - .25 - A  
¼ WR75 shim  
A - Aluminum  
B - Bronze  
Thickness range from 1/32 - 1inch



**UAR**  
For circular flanges number of holes depends on the size of the waveguide



**PAR**  
For circular flanges number of holes depends on the size of the waveguide



**UER**

## European (IEC Standard)

Waveguide Size			UBR	UAR	UDR	UER	PAR	PBR	PDR	CBR	CAR
EIA	RCSC	IEC	C	C	CPR	CMR	G	G	CPR-G	CHOKE	CHOKE
WR28	WG22	R320	UBR320					PBR320			
WR34	WG21	R260	UBR260					PBR260			
WR42	WG20	R220	UBR220					PBR220		CBR220	
WR51	WG19	R180	UBR180					PBR180			
WR62	WG18	R140	UBR140					PBR140		CBR140	
WR75	WG17	R120	UBR120		UDR120			PBR120	PDR120	CBR120	
WR90	WG16	R100	UBR100		UDR100	UER100		PBR100	PDR100	CBR100	
WR112	WG15	R84	UBR84		UDR84	UER84	PAR84	PBR84	PDR84	CBR84	
WR137	WG14	R70		UAR70	UDR70	UER70	PAR70		PDR70		CAR70
WR159	WG13	R58		UAR58	UDR58	UER58	PAR58		PDR58		CAR58
WR187	WG12	R48		UAR48	UDR48	UER48	PAR48		PDR48		CAR48
WR229	WG11A	R40			UDR40	UER40			PDR40		
WR284	WG10	R32		UAR32	UDR32	UER32	PAR32		PDR32		CAR32
WR340	WG9A	R26			UDR26				PDR26		
WR430	WG8	R22			UDR22				PDR22		
WR650	WG6	R14			UDR14				PDR14		

### Notes

1. Holes in IEC flanges are to accommodate metric hardware

(Specifications are subject to change without notice)

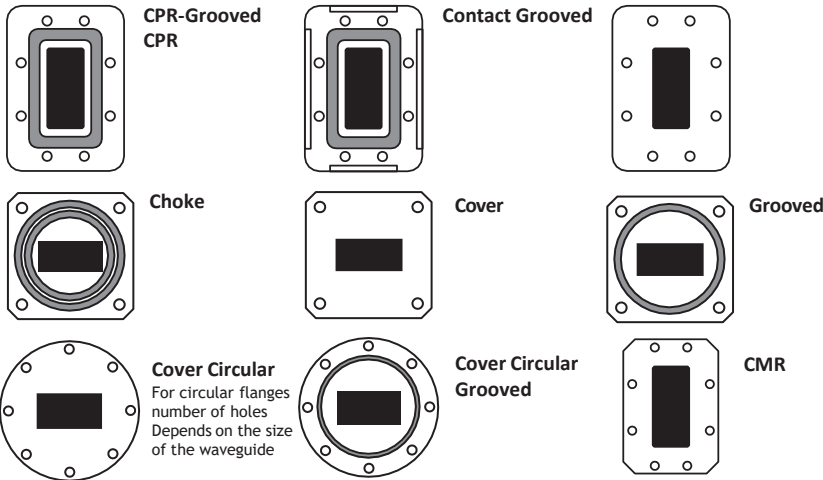
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Series No: 109

## Part Description

UBS offers flanges as set out in the table below in Aluminum and Bronze



## Ordering Data

Part number - 109 - X/X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Flange Type \_\_\_\_\_  
 Flange hole configuration \_\_\_\_\_  
 Material \_\_\_\_\_

## Example

WR75 cover flange, through holes but configuration.

109 - 75 - C - T1 - A

T1 = through holes    A - Aluminum

T2 = threaded holes    B - Bronze

## North American (EIA Standard)

Size	UG STYLE						COVER			CPR		CMR
	SQUARE	CIRCULAR	CHOKE	CPR CONTACT		CMR	SQUARE	CIRCULAR	GROOVED	FLAT	GROOVED	
	C	C	CHOKE	CONTACT-F	CONTACT-G		CMR	C	C	G	F	
WR28	UG-599/U		UG-600A/U				•		•			
WR34						UG-1530/U	•		•			
WR42	UG-595/U UG-597/U		UG-596A/U UG-598A/U				•		•			
WR51							•		•			
WR62	UG-419/U UG-1665/U		UG-541A/U				•		•			
WR75							•		•	•	•	
WR90	UG-39/U UG-135/U		UG-40B/U UG-136B/U	UG-1736/U UG-1737/U	UG-1360/U UG-1361/U	UG-1478/U UG-1483/U	•		•	•	•	•
WR112	UG-51/U UG-138/U		UG-52B/U UG-137B/U	UG-1734/U UG-1735/U	UG-1358/U UG-1359/U	UG-1477/U UG-1482/U	•		•	•	•	•
WR137		UG-344/U UG-441/U	UG-343B/U UG-440B/U	UG-1732/U UG-1733/U	UG-1356/U UG-1357/U	UG-1476/U UG-1481/U		•	•	•	•	•
WR159				UG-1730/U UG-1731/U	UG-1354/U UG-1355/U			•	•	•	•	•
WR187		UG-149A/U UG-407/U	UG-148C/U UG-406B/U	UG-1728/U UG-1729/U	UG-1352/U UG-1353/U	UG-1475/U UG-1480/U		•	•	•	•	•
WR229				UG-1726/U UG-1727/U	UG-1350/U UG-1351/U			•	•	•	•	•
WR284		UG-53/U UG-584/U	UG-54B/U UG-585/U	UG-1724/U UG-1725/U	UG-1348/U UG-1349/U	UG-1479/U UG-1484/U		•	•	•	•	•
WR340				UG-1712/U UG-1713/U	UG-1346/U UG-1347/U					•	•	
WR430				UG-1716/U UG-1711/U	UG-1344/U UG-1345/U					•	•	
WR650										•	•	

Notes 1. UG Style W/G Material

WR90	UG-39/U	Brass/Copper
	UG-135/U	

2. For flanges not found in this please contact our sales department  
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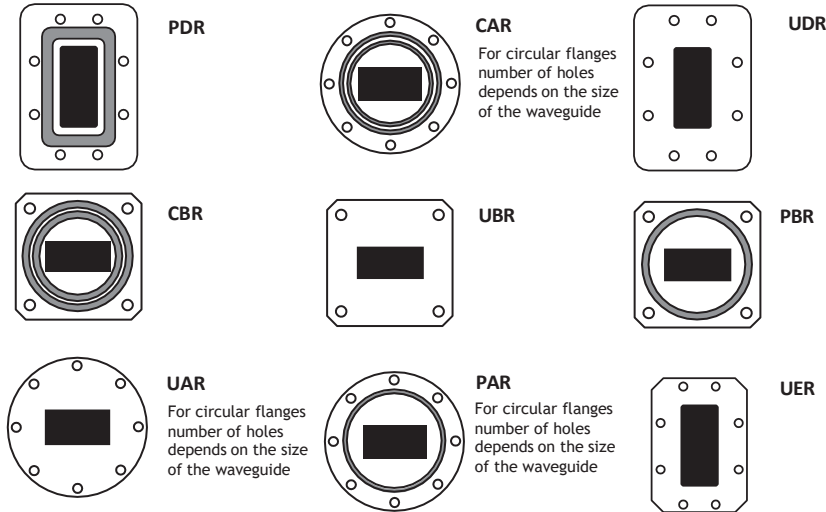


# Standard Flange Types

Series No: 109

## Part Description

UBS offers flanges as set out in the table below in Aluminum and Bronze



## Ordering Data

Part number - 109 - X/X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Flange Type \_\_\_\_\_  
 Flange hole configuration \_\_\_\_\_  
 Material \_\_\_\_\_

## Example

WR75 cover flange, through holes but configuration.  
 109 - 75 - C - T1 - A  
 T1 = through holes    A - Aluminum  
 T2 = threaded holes    B - Bronze

## European (IEC Standard)

Waveguide Size			UBR	UAR	UDR	UER	PAR	PBR	PDR	CBR	CAR
EIA	RCSC	IEC	C	C	CPR	CMR	G	G	CPR-G	CHOKE	CHOKE
WR28	WG22	R320	UBR320					PBR320			
WR34	WG21	R260	UBR260					PBR260			
WR42	WG20	R220	UBR220					PBR220		CBR220	
WR51	WG19	R180	UBR180					PBR180			
WR62	WG18	R140	UBR140					PBR140		CBR140	
WR75	WG17	R120	UBR120		UDR120			PBR120	PDR120	CBR120	
WR90	WG16	R100	UBR100		UDR100	UER100		PBR100	PDR100	CBR100	
WR112	WG15	R84	UBR84		UDR84	UER84	PAR84	PBR84	PDR84	CBR84	
WR137	WG14	R70		UAR70	UDR70	UER70	PAR70		PDR70		CAR70
WR159	WG13	R58		UAR58	UDR58	UER58	PAR58		PDR58		CAR58
WR187	WG12	R48		UAR48	UDR48	UER48	PAR48		PDR48		CAR48
WR229	WG11A	R40			UDR40	UER40			PDR40		
WR284	WG10	R32		UAR32	UDR32	UER32	PAR32		PDR32		CAR32
WR340	WG9A	R26			UDR26				PDR26		
WR430	WG8	R22			UDR22				PDR22		
WR650	WG6	R14			UDR14				PDR14		

## Notes

I. Holes in IEC flanges are to accommodate metric hardware

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## Part Description

UBS offers gaskets that are either electrically conductive or non-conductive.

Hardware quantity to match the flange type and mounting style are 18-8 stainless steel, including Hex bolt, lock washer, and hex nut.



Ordering Part No.	Description
110-28-CH-C	WR-28 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-28-CH-NC	WR-28 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-51-CH-C	WR-51 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-51-CH-NC	WR-51 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-62-CH-C	WR-62 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-62-CH-NC	WR-62 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-75-CH-C	WR-75 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-75-CH-NC	WR-75 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-90-CH-C	WR-90 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-90-CPRG-C	WR-90 Waveguide Electrically Conductive Gasket kit, CPR Grooved Flange
110-90-CH-NC	WR-90 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-90-CPRG-NC	WR-90 Waveguide Gasket kit, CPR90 Flat Flange, Non-Conductive
110-112-CH-C	WR-112 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange
110-112-CPRG-C	WR-112 Waveguide Electrically Conductive Gasket kit, CPR Grooved Flange
110-112-CH-NC	WR-112 Waveguide Gasket kit Square Cover, Choke Flange, Non-Conductive
110-112-CPRG-NC	WR-112 Waveguide Gasket kit, CPR112 Grooved Flange, Non-Conductive
110-137-CPRG-C	WR-137 Waveguide Electrically Conductive Gasket kit, CPR Grooved Flange
110-137-CH-C	WR-137 Waveguide Electrically Conductive Gasket kit, Round Cover, Choke Flange
110-137-CH-NC	WR-137 Waveguide Gasket kit Round Cover, Choke Flange, Non-Conductive
110-137-CPRG-NC	WR-137 Waveguide Gasket kit, CPR137 Grooved Flange, Non-Conductive
110-42-CH-C	WR-42, WR-34 Waveguide Electrically Conductive Gasket kit Square Cover, Choke Flange

(Specifications are subject to change without notice)

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# Rectangular Waveguide

Series No: 111

## Rectangular Waveguide Product Line

UBS stocks rectangular waveguide raw materials in sizes ranging from WR-28 to WR-650. UBS is also able to manufacture products from other industry-standard waveguide sizes upon request. In addition to the standard line of waveguide products offered in this catalog, UBS also is a supplier of OEM products to the military and commercial communications industry. UBS has the experienced staff and the resources to develop and manufacture waveguide components specific to your OEM application.

## Rectangular Waveguide Section Numbering System

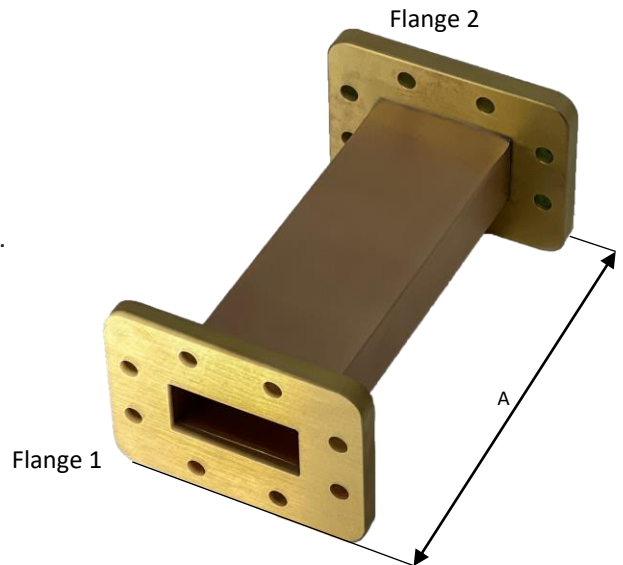
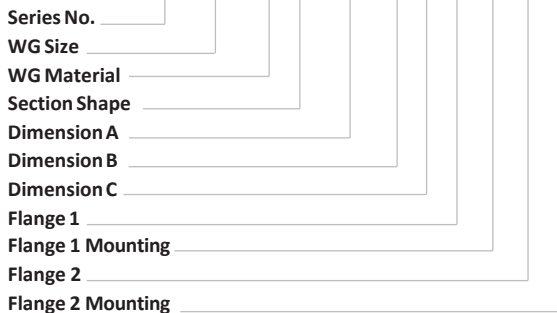
The UBS rectangular waveguide section numbering system, allows the end user to specify the exact waveguide section(s) required.

### Example 1

You require a WR-42 straight section(S), 12" long.

- The waveguide material selected is bronze(B).
- Flange 1 is to be grooved(G) to accept a gasket
- Flange 2 at the other end is to be flat cover(C).
- The flange mounting holes are to be threaded(T2).

Part number - 111-WR42-B-S-12.00-X-X-G-T2-C-T2



NOTE: Dimensions "B" and "C" do not apply and are left as "X" in the part number.

## Materials

Straight and complex sections can be specified from high-conductivity copper, bronze, or aluminum. Flexible waveguide is manufactured from a convoluted beryllium-copper alloy material that is fully pressurizable and flexible in both the E and H planes. Longitudinal twists are not possible with this type of flexible waveguide. If a rigid longitudinal twist section is required, a suitable one can be specified from the UBS 112 series. For longitudinal twist use the 118 series of flexible twistable waveguides.

## Section Dimensions

The maximum length of a rigid waveguide is 6 ft, a flexible waveguide is 2 ft, and a flexible twistable waveguide is 4 ft.

## Tips and Suggestions

Large sections manufactured from copper should be avoided. Instead, use bronze for additional strength. It is strongly recommended that a single large complex section be constructed by specifying several smaller and less complicated sections for assembly by the user on-site

You are advised to contact UBS for assistance in specifying large complex sections to best meet your requirements.

(Specifications are subject to change without notice)

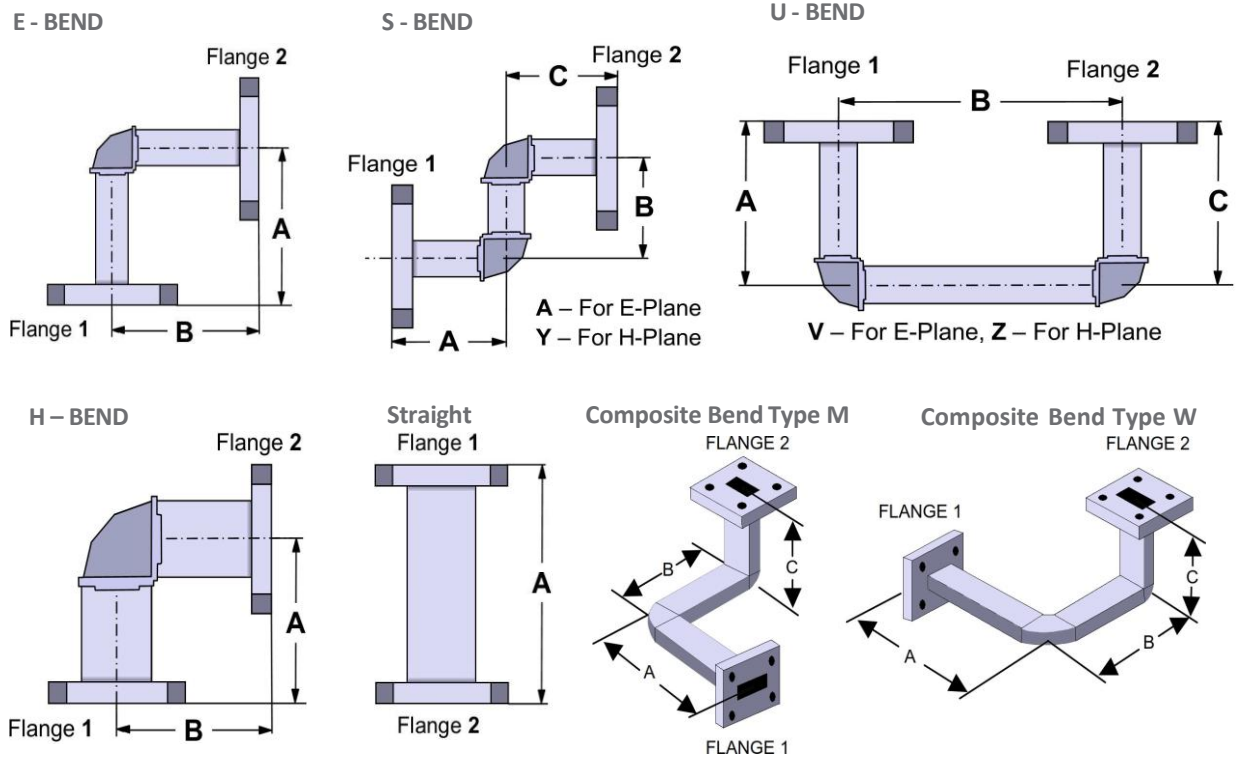
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**Ordering Data**

Part number - 111-X-X-X-X-X-X-X-X-X-X-X  
 Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 WG Material \_\_\_\_\_  
 Section Shape \_\_\_\_\_  
 Dimension A \_\_\_\_\_  
 Dimension B \_\_\_\_\_  
 Dimension C \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_

**Flange Configuration**

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

**Material**

C	Copper
A	Aluminum
B	Bronze

**Waveguide Section**

E	E-BEND
H	H-BEND
S	Straight Solid
F	Straight Flex
A	S-BEND E-PLANE
Y	S-BEND H-PLANE
V	U-BEND E-PLANE
Z	U-BEND H-PLANE
W	Composite Bend Type W
M	Composite Bend Type M

**Electrical Specification**

VSWR	< 1.06:1
------	----------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Nonstandard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

# Twist (with flanges)

Series No: 112

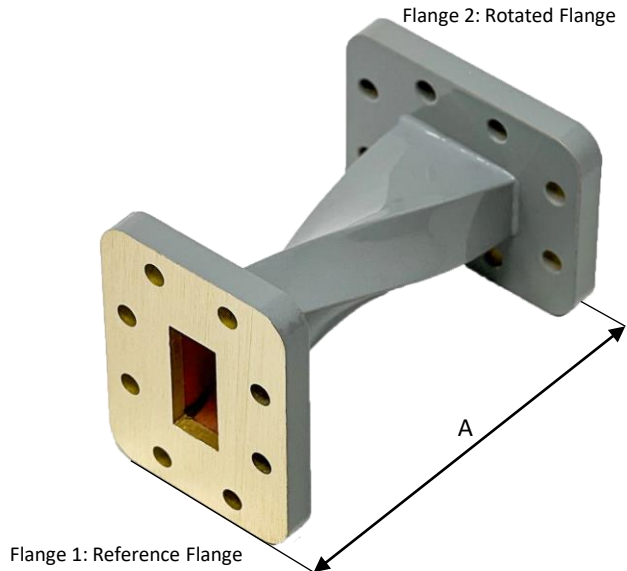
## Part Description

UBS offers a custom product line of formed twist sections covering waveguide sizes from WR-28 through WR-650. Insertion loss is equivalent to straight waveguide sections. Please specify the length.

## Ordering Data

Part number - 112 - X - X - X - X - X - X - X

Series No.	_____
WG Size	_____
Dimension A	_____
Flange 1	_____
Flange 1 Mounting	_____
Flange 2	_____
Flange 2 Mounting	_____
Twist Angle	_____



## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE CMR CPR(F, G)
Flange Mounting Holes	T1 - Through Holes T2 - Threaded A - Alternating
Twist Angle	1. - 90° Twist 2. - 45° Twist

## Specifications

Size	Frequency GHz	Minimum Dimension Available for 90° Twist
WR28	26.50 - 40.00	1.00
WR34	22.00 - 33.00	1.00
WR42	18.00 - 26.00	1.00
WR51	15.00 - 22.00	1.00
WR62	12.40 - 18.00	1.50
WR75	10.00 - 15.00	1.50
WR90	8.20 - 12.40	1.50
WR112	7.05 - 10.00	2.00
WR137	5.85 - 8.20	2.00
WR159	4.90 - 7.05	3.00
WR187	3.95 - 5.85	3.00
WR229	3.30 - 4.90	3.00
WR284	2.60 - 3.95	6.00
WR340	2.20 - 3.30	8.00
WR430	1.70 - 2.60	9.00
WR650	1.12 - 1.70	15.00

## Electrical Specification

VSWR	< 1.06 -1.10 (length dependent)
------	---------------------------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

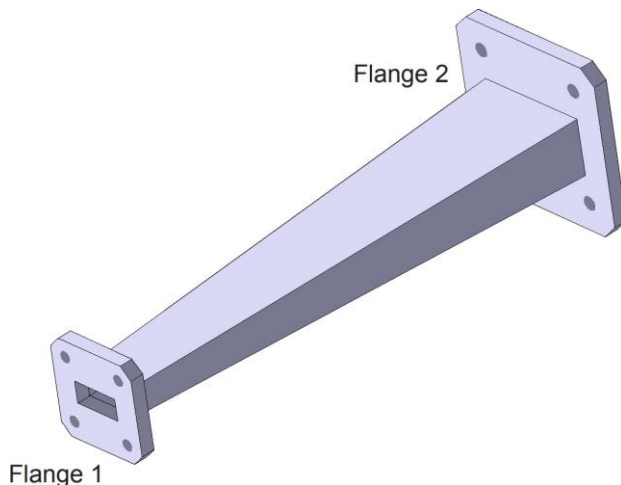
(Specifications are subject to change without notice)

## Part Description

UBS standard product line of fabricated waveguide transitions is designed to interconnect different size waveguide components in a minimum space. The standard rectangular sizes from WR-28 through WR-284 are shown on this datasheet.

## Ordering Data

Part number - 113 - 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

## Specifications

Size	Frequency GHz
WR28/34	26.50 - 33.00
WR34/42	22.00 - 26.50
WR42/51	18.00 - 22.00
WR51/62	15.00 - 18.00
WR62/75	12.40 - 15.00
WR75/90	10.00 - 12.40
WR90/112	8.20 - 10.00
WR112/137	7.05 - 8.20
WR137/159	5.85 - 7.05
WR159/187	4.90 - 5.85
WR187/229	3.95 - 4.90
WR229/284	3.30 - 3.75

## Electrical Specification

VSWR	1.10 max.
------	-----------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Nonstandard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

# Shorting Plates

Series No: 114

## Part Description

UBS offers a line of shorting plates and offset shorts to mate with standard waveguide flanges. In addition to the popular standard flanges listed, UBS offers a more complete line of industry-standard flange styles upon request.

## Ordering Data

Part number - 114 - X - X - X - O

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Flange \_\_\_\_\_  
 Flange Mounting \_\_\_\_\_  
 Add "O" for Offset \_\_\_\_\_



## Flange Configuration

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

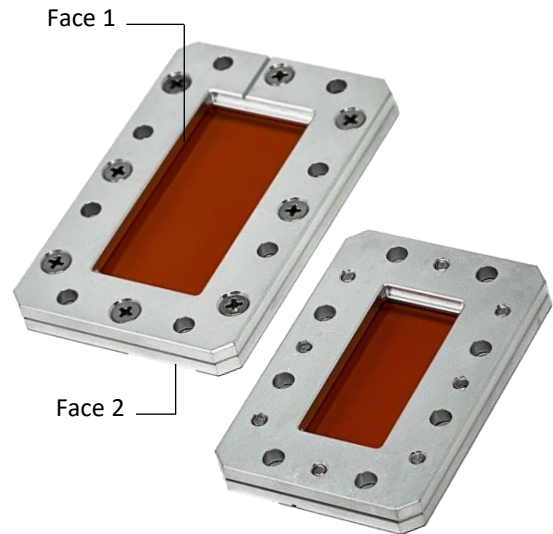
## Specifications

Size	C	G	CMR	CPR
WR28	•	•		
WR34	•	•		
WR42	•	•		
WR51	•	•		
WR62	•	•		
WR75	•	•	•	•
WR90	•	•	•	•
WR112	•	•	•	•
WR137	•	•	•	•
WR159	•	•	•	•
WR187	•	•	•	•
WR229	•	•	•	•
WR284	•	•	•	•
WR340	•	•	•	•
WR430	•	•	•	•
WR650	•	•	•	•

(Specifications are subject to change without notice)

## Part Description

UBS offers a line of pressure windows to mate with all standard waveguide flanges. In addition to the popular standard flanges listed, UBS offers a more complete line of industry-standard flange styles upon request. All pressure windows are manufactured from 0.0625" material and are designed to be used up to a maximum pressure of 10 psi (3-5 psi typical). These pressure windows are for low-power Tx/ Rx applications (below 250 Watts average power) and do not have pressure inlets or gasket grooves. Holes for attachment hardware are drilled clear.



## Ordering Data

**Part number - 115 - X - X - X - T1**

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Flange Face 1 \_\_\_\_\_  
 Flange Face 2 \_\_\_\_\_

## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE CMR CPR (F, G)

## Electrical Specification

VSWR	< 1.1 max.
------	------------

## Specifications

Size	C	G	CHOKE	CMR	CPR
WR28	•	•	•		
WR34	•	•	•		
WR42	•	•	•		
WR51	•	•	•		
WR62	•	•	•		
WR75	•	•	•	•	•
WR90	•	•	•	•	•
WR112	•	•	•	•	•
WR137	•	•	•	•	•
WR159	•	•	•	•	•
WR187	•	•	•	•	•
WR229	•	•	•	•	•
WR284	•	•	•	•	•
WR340	•	•	•	•	•
WR430	•	•	•	•	•
WR650	•	•	•	•	•

(Specifications are subject to change without notice)

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# Pressure Inserter

Series No: 116

## Part Description

UBS offers a line of pressure inserters to mate with all standard waveguide flanges. In addition to the popular standard flanges listed, UBS offers a complete line of industry-standard flange styles upon request. All pressure inserters are manufactured from aluminum alloy chemically cleaned and coated to prevent corrosion. The pressure inlet has a 1/8" female pipe thread and is shipped with a sealed 1/8" male pipe thread plug installed. Thickness 0.375". Holes for attachment hardware are drilled clear.

## Ordering Data

Part number - 116 - X - X - T1

Series No.   
 WG Size   
 Flange



## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE CMR CPR (F, G)

## Electrical Specification

VSWR	< 1.1 max.
------	------------

## Specifications

Size	C	G	CHOKE	CMR	CPR
WR28	•	•	•		
WR34	•	•	•		
WR42	•	•	•		
WR51	•	•	•		
WR62	•	•	•		
WR75	•	•	•	•	•
WR90	•	•	•	•	•
WR112	•	•	•	•	•
WR137	•	•	•	•	•
WR159	•	•	•	•	•
WR187	•	•	•	•	•
WR229	•	•	•	•	•
WR284	•	•	•	•	•
WR340	•	•	•	•	•
WR430	•	•	•	•	•
WR650	•	•	•	•	•

(Specifications are subject to change without notice)

## Part Description

The rectangular waveguide hangers offered by UBS are designed to allow the suspension of rectangular waveguides in any position and are suitable for indoor and outdoor applications. Available in single, double, triple, or quadruple waveguide configurations.

## Ordering Data

**Part number - 117 - X - X - X**

Series No.

WG Size

Number of Waveguides

Hardware

## Note

The diagram shows the optional thread rod kit  
Waveguide sizes up to WER-650 are available.  
Contact our sales department with your requirements.



1 WG



2 WGs

WG - waveguides

## Flange Hardware Kit

The flange hardware kits offered by UBS include all required stainless steel fasteners including nuts, flat washers, and lock washers. Gaskets supplied are half, full, or double thickness as required.

## Ordering Data

**Part number - 117 - USFHK - X**

Series No.

Flange

(Specifications are subject to change without notice)

# 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 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

Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

WG Type \_\_\_\_\_

Length \_\_\_\_\_

Flange 1 \_\_\_\_\_

Flange 1 Mounting \_\_\_\_\_

Flange 2 \_\_\_\_\_

Flange 2 Mounting \_\_\_\_\_



## 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

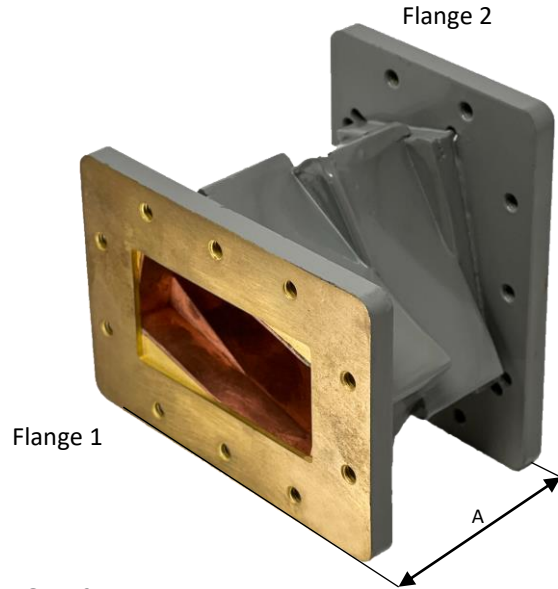
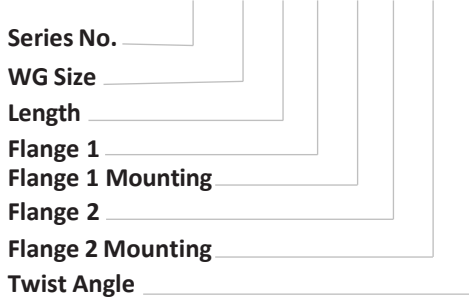
(Specifications are subject to change without notice)

### Part Description

UBS offers a custom product line of Electroformed step twist covering waveguide sizes from WR-90 through WR-650. Insertion loss is equivalent to straight waveguide sections.

### Ordering Data

Part number - 119 - 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
Twist Angle	1. - 90° Twist 2. - 45° Twist

### Electrical Specification

VSWR	< 1.2 max.
------	------------

### Specifications

Size	Frequency GHz	Minimum Dimension Available for 90° Twist (inches)	Minimum Dimension Available for 45° Twist (inches)
WR90	8.20 - 12.40	2.00	1.50
WR112	7.05 - 10.00	2.00	1.50
WR137	5.85 - 8.20	2.00	1.50
WR159	4.90 - 7.05	3.00	2.00
WR187	3.95 - 5.85	3.00	2.00
WR229	3.30 - 4.90	3.00	2.00
WR284	2.60 - 3.95	6.00	5.00
WR340	2.20 - 3.30	6.00	5.00
WR430	1.70 - 2.60	6.00	5.00
WR650	1.12 - 1.70	9.00	8.00

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

# Right Angle Adapter (Waveguide to Coaxial)

Series No: 121

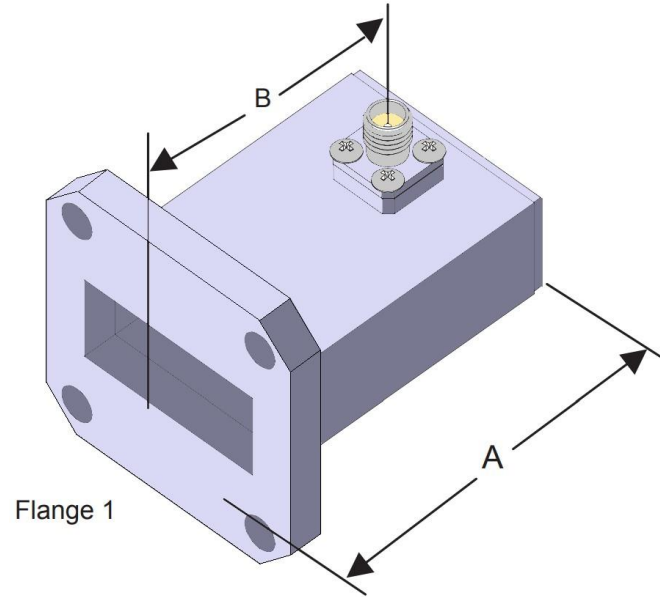
## Part Description

UBS offers a standard product line of precision rectangular waveguide-to-coax adapters covering waveguide sizes from WR-28 through WR-430.

## Ordering Data

Part number - 121 - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Port 1 Connector Style \_\_\_\_\_  
 Port 1 Connector Type \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

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

## Connector Style

Style	SMA N 2.9 mm (K) 3.5 mm 2.4 mm
Type	M - Male F - Female

## Electrical Specification

VSWR	< 1.10 typ.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions			
		SMA-Type		N-Type	
		A	B	A	B
WR28	26.50 - 40.00	-	-	-	-
WR34	22.00 - 33.00	-	-	-	-
WR42	18.00 - 26.00	1.00	0.75	-	-
WR51	15.00 - 22.00	1.12	0.82	-	-
WR62	12.40 - 18.00	1.01	0.79	1.67	1.42
WR75	10.00 - 15.00	1.01	0.65	1.38	1.09
WR90	8.20 - 12.40	1.07	0.72	1.65	1.24
WR112	7.05 - 10.00	1.42	1.03	1.88	1.45
WR137	5.85 - 8.20	1.57	1.03	2.13	1.61
WR159	4.90 - 7.05	2.00	1.40	2.38	1.76
WR187	3.95 - 5.85	3.50	2.80	2.41	1.65
WR229	3.30 - 4.90	3.50	2.70	2.41	1.47
WR284	2.60 - 3.95	4.00	2.70	2.66	1.46
WR340	2.20 - 3.30	-	-	3.52	2.12
WR430	1.70 - 2.60	-	-	4.50	2.62

(Specifications are subject to change without notice)



# End-Launch Adapter (Waveguide to Coaxial)

Series No: 122

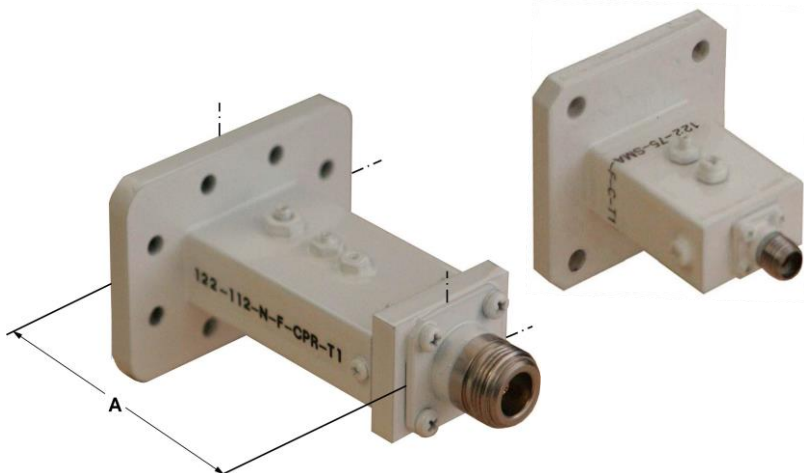
## Part Description

UBS offers a standard product line of precision rectangular waveguide-to-coax end launch adapters covering waveguide sizes from WR-22 through WR-650

## Ordering Data

Part number - 122 - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Port 1 Connector Style \_\_\_\_\_  
 Port 1 Connector Type \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Material \_\_\_\_\_



## Flange Configuration

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

## Connector Style

Style	SMA N (Male option upon request) 2.9 mm (K) 3.5 mm 2.4 mm
Type	M - Male F - Female

## Material

A	Aluminum
B	Brass

## Electrical Specification

VSWR	< 1.20 typ.
------	-------------

## Specifications

Size	Frequency GHz	Dimension A (inches)
WR28	26.50 - 40.00	1.00
WR34	22.00 - 33.00	1.00
WR42	18.00 - 26.00	1.00
WR51	15.00 - 22.00	1.25
WR62	12.40 - 18.00	1.50
WR75	10.00 - 15.00	1.50
WR90	8.20 - 12.40	1.50
WR112	7.05 - 10.00	1.75
WR137	5.85 - 8.20	2.00
WR159	4.90 - 7.05	2.25
WR187	3.95 - 5.85	2.50
WR229	3.30 - 4.90	3.00
WR284	2.60 - 3.95	3.50
WR340	2.20 - 3.30	4.00
WR430	1.70 - 2.60	5.00
WR650	1.12 - 1.70	6.50

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Other connectors are available upon request. Improved VSWR performance is available upon request. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

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# Termination (Low Power Precision)

Series No: 131

## Part Description

UBS' standard precision low-power terminations product line uses spear load elements for optimum electrical performance. Maximum power handling capacity: 0.5 watts for waveguide sizes WR-28 to WR-42, 1 watt for WR-51 and WR-62, and 2 watts for waveguide sizes WR-75 to WR-650.

## Ordering Data

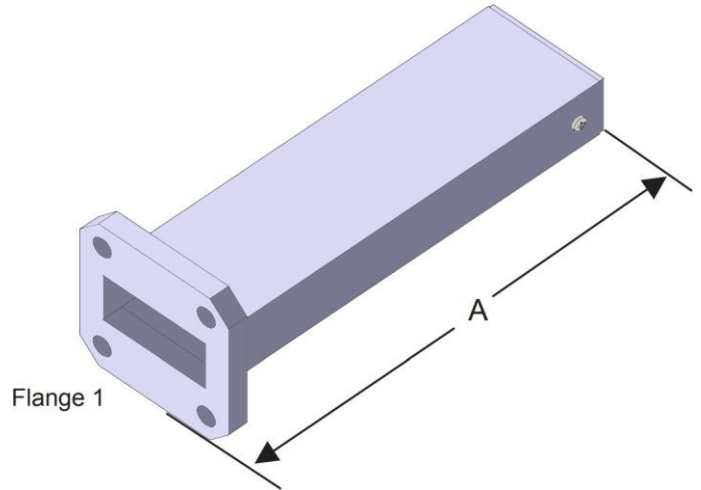
Part number - 131 - X - X - X

Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

Flange 1 \_\_\_\_\_

Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

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

## Electrical Specification

VSWR	< 1.02 max.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions (inches) A (min)
WR28	26.50 - 40.00	2.50
WR34	22.00 - 33.00	2.50
WR42	18.00 - 26.00	2.59
WR51	15.00 - 22.00	3.25
WR62	12.40 - 18.00	3.43
WR75	10.00 - 15.00	4.30
WR90	8.20 - 12.40	4.31
WR112	7.05 - 10.00	3.58
WR137	5.85 - 8.20	4.23
WR159	4.90 - 7.05	3.00
WR187	3.95 - 5.85	3.00
WR229	3.30 - 4.90	7.50
WR284	2.60 - 3.95	11.00
WR340	2.20 - 3.30	11.18
WR430	1.70 - 2.60	-
WR650	1.12 - 1.70	-

(Specifications are subject to change without notice)

## Part Description

UBS' standard precision low-power terminations product line uses spear load elements for optimum electrical performance. Maximum power handling capacity: 0.5 watts for waveguide sizes WR-28 to WR-42, 1 watt for WR-51 and WR-62, and 2 watts for waveguide sizes WR-75 to WR-650.

## Ordering Data

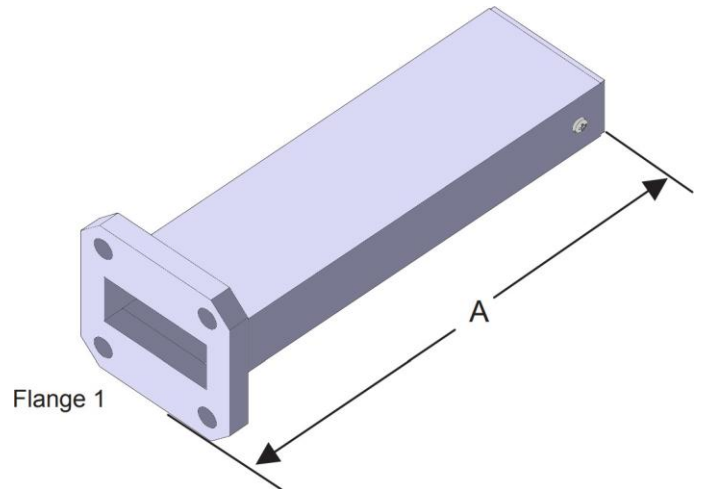
Part number - 132 - X - X - X

Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

Flange 1 \_\_\_\_\_

Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

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

## Specifications

Size	Frequency GHz	Dimensions (inches) A (min)
WR28	26.50 - 40.00	2.00
WR34	22.00 - 33.00	2.00
WR42	18.00 - 26.00	3.00
WR51	15.00 - 22.00	3.00
WR62	12.40 - 18.00	4.00
WR75	10.00 - 15.00	4.00
WR90	8.20 - 12.40	6.00
WR112	7.05 - 10.00	6.00
WR137	5.85 - 8.20	6.50
WR159	4.90 - 7.05	7.50
WR187	3.95 - 5.85	8.50
WR229	3.30 - 4.90	10.00
WR284	2.60 - 3.95	10.50
WR340	2.20 - 3.30	-
WR430	1.70 - 2.60	-
WR510	1.45 - 2.02	-
WR650	1.12 - 1.70	-

## Electrical Specification

VSWR	< 1.10 max.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

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# Termination (Low Power short-length)

Series No: 133

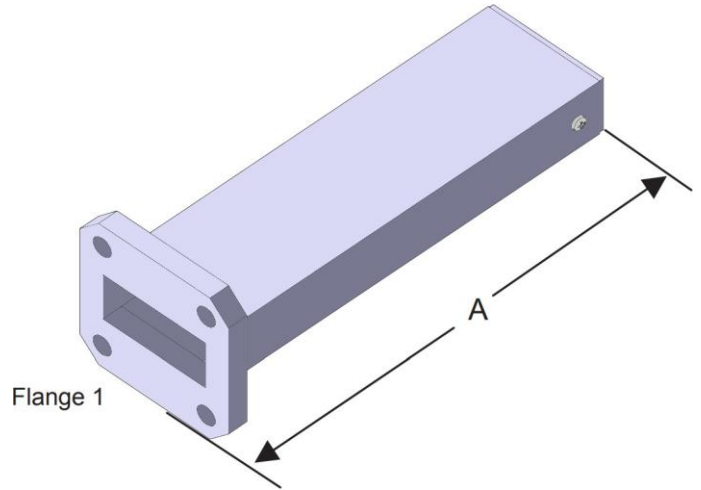
## Part Description

UBS' standard product line of precision low-power terminations uses spear load elements for optimum electrical performance. Maximum power handling capacity: 0.5 watt for waveguide sizes WR-28 to WR-42, 1 watt for WR-51 and WR-62, 2 watts for waveguide sizes WR-75 to WR-650

## Ordering Data

Part number - 133 - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE CMR CPR(F, G)
Flange Mounting Holes	T1 - Through Holes T2 - Threaded A - Alternating
VSWR	< 1.15 max.

## Specifications

Size	Frequency GHz	Dimensions (inches) A (min)
WR28	26.50 - 40.00	1.00
WR34	22.00 - 33.00	1.00
WR42	18.00 - 26.00	1.00
WR51	15.00 - 22.00	1.40
WR62	12.40 - 18.00	1.80
WR75	10.00 - 15.00	2.00
WR90	8.20 - 12.40	3.00
WR112	7.05 - 10.00	3.28
WR137	5.85 - 8.20	3.50
WR159	4.90 - 7.05	3.50
WR187	3.95 - 5.85	4.00
WR229	3.30 - 4.90	5.00
WR284	2.60 - 3.95	6.00
WR340	2.20 - 3.30	-
WR430	1.70 - 2.60	-
WR510	1.45 - 2.02	-
WR650	1.12 - 1.70	-

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

# Termination (Medium Power)

Series No: 134

## Part Description

UBS' standard product line of medium power terminations is constructed of normal wall waveguide tubing and extruded heat sink material. The load elements are custom-ground silicon carbide spears tapered for an optimum VSWR response of 1.10 max. Maximum power handling capacity: 25 watts for waveguide sizes WR-28 to WR-62, 50 watts for waveguide sizes WR-75 to WR-430.

## Ordering Data

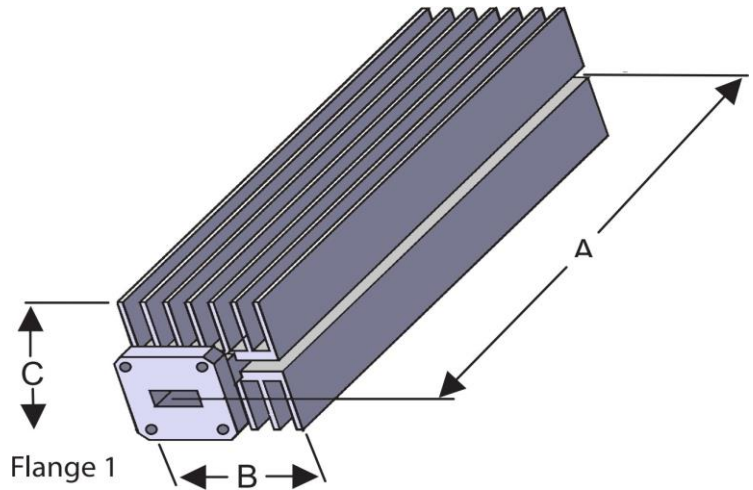
Part number - 134 - X - X - X

Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

Flange 1 \_\_\_\_\_

Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

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

## Electrical Specification

VSWR	< 1.10 max.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions (inches)		
		A	B	C
WR28	26.50 - 40.00	5.00	2.30	3.40
WR34	22.00 - 33.00	5.00	2.30	3.40
WR42	18.00 - 26.00	5.00	2.30	3.40
WR51	15.00 - 22.00	5.00	2.30	3.40
WR62	12.40 - 18.00	5.00	2.30	3.40
WR75	10.00 - 15.00	7.00	2.30	3.40
WR90	8.20 - 12.40	7.00	2.30	3.40
WR112	7.05 - 10.00	7.00	2.30	3.40
WR137	5.85 - 8.20	7.00	2.30	3.40
WR159	4.90 - 7.05	8.50	2.30	3.40
WR187	3.95 - 5.85	8.50	2.30	3.40
WR229	3.30 - 4.90	9.00	2.30	3.40
WR284	2.60 - 3.95	12.00	2.30	3.40
WR340	2.20 - 3.30	-	-	-
WR430	1.70 - 2.60	-	-	-

(Specifications are subject to change without notice)

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# Termination (Medium Power, short-length)

Series No: 135

## Part Description

UBS' standard product line of medium power terminations is constructed of normal wall waveguide tubing and extruded heat sink material. The load elements are custom-ground silicon carbide spears tapered for an optimum VSWR response of 1.15 max.

## Ordering Data

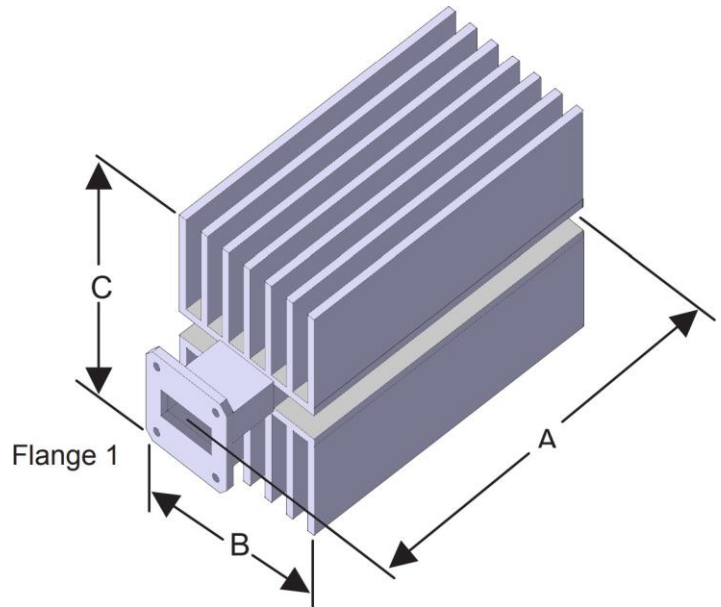
Part number - 135 - X - X - X

Series No.

WG Size

Flange 1

Flange 1 Mounting



## Flange Configuration

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

## Electrical Specification

VSWR	< 1.15 max.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

### Notes

1. All dimensions are for reference only
2. Depending on waveguide size and power requirements, the termination may require a heatsink. If required, UBS will advise and quote the termination with the heatsink included
3. All heatsinks are selected based on natural convection cooling. For Forced air cooling, contact UBS.

## Specifications

Size	Frequency GHz	Dimensions (inches)			Average Power Watts
		A	B	C	
WR28	26.50 - 40.00	3.00	2.30	3.40	50
WR34	22.00 - 33.00	3.00	2.30	3.40	50
WR42	18.00 - 26.00	3.00	2.30	3.40	80
WR51	15.00 - 22.00	3.00	2.30	3.40	100
WR62	12.40 - 18.00	3.00	2.30	3.40	150
WR75	10.00 - 15.00	4.00	2.30	3.40	80
WR90	8.20 - 12.40	5.00	2.30	3.40	150
WR112	7.05 - 10.00	5.00	2.30	3.40	250
WR137	5.85 - 8.20	5.00	2.30	3.40	350
WR159	4.90 - 7.05	5.00	2.30	3.40	300
WR187	3.95 - 5.85	5.50	2.30	3.40	450
WR229	3.30 - 4.90	6.00	2.30	3.40	300
WR284	2.60 - 3.95	7.50	2.30	3.40	500
WR340	2.20 - 3.30	-	-	-	700
WR430	1.70 - 2.60	-	-	-	450

(Specifications are subject to change without notice)

## Part Description

UBS' standard product line of short-length high power terminations is constructed similarly to the medium power terminations.

## Ordering Data

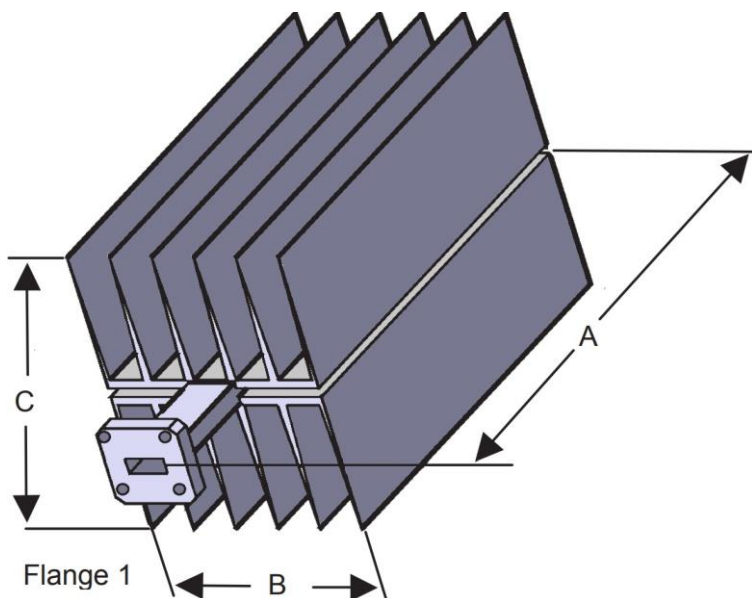
Part number - 136 - X - X - X

Series No.

WG Size

Flange 1

Flange 1 Mounting



## Flange Configuration

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

## Electrical Specification

VSWR	< 1.10 max.
------	-------------

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions (inches)			Average Power
		A	B	C	Watts
WR28	26.50 - 40.00	5.00	2.30	3.40	50
WR34	22.00 - 33.00	5.00	2.30	3.40	75
WR42	18.00 - 26.00	5.00	2.30	3.40	150
WR51	15.00 - 22.00	5.00	2.30	3.40	110
WR62	12.40 - 18.00	5.00	2.30	3.40	200
WR75	10.00 - 15.00	8.00	5.20	5.15	200
WR90	8.20 - 12.40	8.00	5.20	5.15	225
WR112	7.05 - 10.00	8.00	5.20	5.15	425
WR137	5.85 - 8.20	8.00	5.20	5.15	500
WR159	4.90 - 7.05	9.00	5.20	5.15	625
WR187	3.95 - 5.85	9.50	5.20	5.15	750
WR229	3.30 - 4.90	12.00	5.20	5.15	1000
WR284	2.60 - 3.95	13.00	5.20	5.15	1200
WR340	2.20 - 3.30	-	-	-	-
WR430	1.70 - 2.60	-	-	-	-

## Notes

- All dimensions are for reference only
- Depending on waveguide size and power requirements, the termination may require a heatsink. If required, UBS will advise and quote the termination with the heatsink included
- All heatsinks selected based on natural convection cooling. For Forced air cooling, contact UBS.

(Specifications are subject to change without notice)

# Termination (RAM)

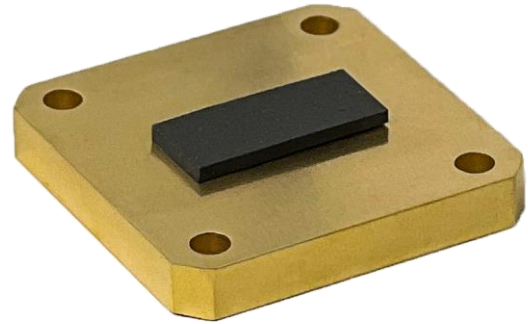
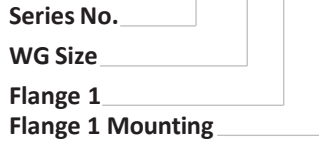
Series No: 137

## Part Description

UBS offers a line of RAM terminations to mate with standard waveguide flanges. In addition to the popular standard flanges listed, UBS offers a more complete line of industry-standard flange styles upon request.

## Ordering Data

Part number - 137 - X - X - X



## Flange Configuration

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

## Electrical Specification

VSWR	≤ 1.925
------	---------

## Specifications

Size	Frequency GHz
WR28	26.50 - 40.00
WR34	22.00 - 33.00
WR42	18.00 - 26.00
WR51	15.00 - 22.00
WR62	12.40 - 18.00
WR75	10.00 - 15.00
WR90	8.20 - 12.40
WR112	7.05 - 10.00
WR137	5.85 - 8.20
WR159	4.90 - 7.05
WR187	3.95 - 5.85
WR229	3.30 - 4.90
WR284	2.60 - 3.95
WR340	2.20 - 3.30
WR430	1.70 - 2.60
WR650	1.12 - 1.70

(Specifications are subject to change without notice)

# Termination (Ferrite)

Series No: 138

## Part Description

UBS offers a line of Ferrite terminations to mate with standard waveguide flanges. In addition to the popular standard flanges listed, UBS offers a more complete line of industry-standard flange styles upon request.

## Ordering Data

Part number - 138 - X - X - X

Series No. \_\_\_\_\_

WG Size \_\_\_\_\_

Flange 1 \_\_\_\_\_

Flange 1 Mounting \_\_\_\_\_



## Flange Configuration

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

## Electrical Specification

VSWR	≤ 1.1
------	-------

## Specifications

Size	Frequency GHz
WR28	26.50 - 40.00
WR34	22.00 - 33.00
WR42	18.00 - 26.00
WR51	15.00 - 22.00
WR62	12.40 - 18.00
WR75	10.00 - 15.00
WR90	8.20 - 12.40
WR112	7.05 - 10.00
WR137	5.85 - 8.20
WR159	4.90 - 7.05
WR187	3.95 - 5.85
WR229	3.30 - 4.90
WR284	2.60 - 3.95
WR340	2.20 - 3.30
WR430	1.70 - 2.60
WR650	1.12 - 1.70

(Specifications are subject to change without notice)

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# Broadwall Directional Coupler

Series No: 141

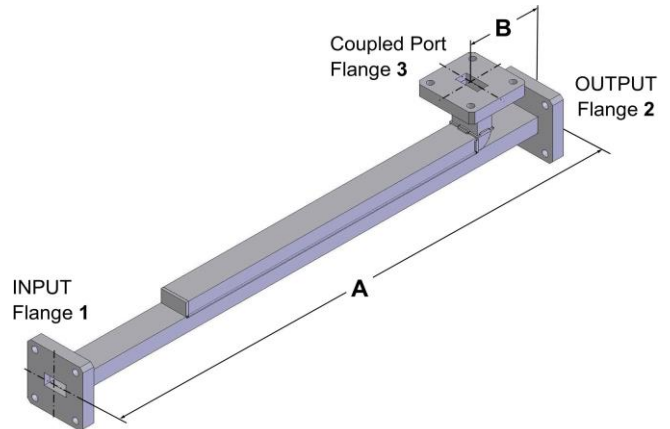
## Part Description

UBS offers a standard product line of multi-hole waveguide broadwall directional couplers covering waveguide sizes from WR-28 through WR-650. The optimum electrical characteristics of high directivity and coupling flatness are achieved utilizing a precision machined Tchebyscheff coupling hole distribution and a precision ground tapered load element in the secondary arm.

## Ordering Data

Part number - 141 - X - X - X - X - X - X - X - X - X

Series No.	
WG Size	
Coupling	
Flange 1	
Flange 1 Mounting	
Flange 2	
Flange 2 Mounting	
Flange 3	
Flange 3 Mounting	
Material	



## Flange Configuration

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

## Material

C	Copper
A	Aluminum
B	Bronze

## Electrical Specification

VSWR	1.08 max. primary line 1.12 max. secondary line
Coupling	± 1.0 dB mean
Directivity	35 dB min.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus “Admiralty Gray” epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	8.00	0.80
WR34	22.00 - 33.00	9.00	0.80
WR42	18.00 - 26.00	10.00	0.90
WR51	15.00 - 22.00	11.50	1.00
WR62	12.40 - 18.00	12.75	1.00
WR75	10.00 - 15.00	14.50	1.25
WR90	8.20 - 12.40	17.00	1.50
WR112	7.05 - 10.00	18.75	1.50
WR137	5.85 - 8.20	22.00	1.50
WR159	4.90 - 7.05	25.00	1.75
WR187	3.95 - 5.85	30.00	2.00
WR229	3.30 - 4.90	35.00	2.00
WR284	2.60 - 3.95	46.00	2.50
WR340	2.20 - 3.30	52.00	3.00
WR430	1.70 - 2.60	60.00	4.00

## Coupling

10, 20, 30, 40, 50 and 60 dB



# Dual Broadwall Directional Coupler

Series No: 142

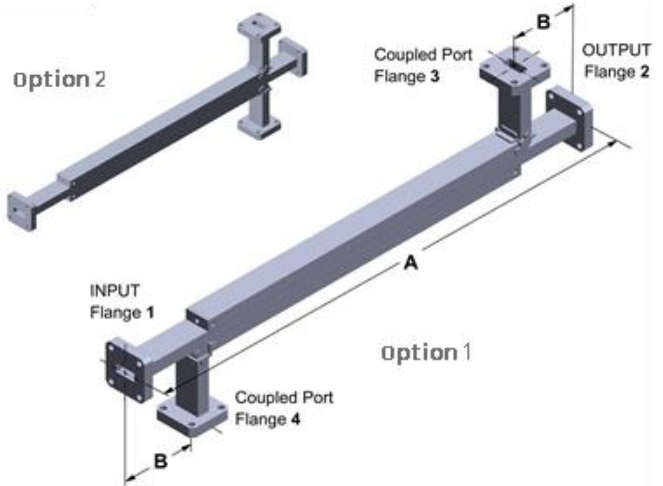
## Part Description

UBS offers a standard line of dual-arm multi-hole broadwall directional couplers covering waveguide sizes from WR-28 through WR-284 and configured similarly to the single-arm models.

## Ordering Data

Part number - 142 - X - X - X - X - X - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Coupling \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_  
 Flange 3 \_\_\_\_\_  
 Flange 3 Mounting \_\_\_\_\_  
 Flange 4 \_\_\_\_\_  
 Flange 4 Mounting \_\_\_\_\_  
 Material \_\_\_\_\_



## Flange Configuration

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

## Material

C	Copper
A	Aluminum
B	Bronze

## Electrical Specification

VSWR	1.08 max. primary line 1.15 max. secondary line
Coupling	± 1.0 dB mean
Directivity	35 dB min.

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	12.00	0.80
WR34	22.00 - 33.00	14.00	0.80
WR42	18.00 - 26.00	14.50	0.90
WR51	15.00 - 22.00	16.00	1.00
WR62	12.40 - 18.00	18.00	1.00
WR75	10.00 - 15.00	20.00	1.25
WR90	8.20 - 12.40	22.00	1.50
WR112	7.05 - 10.00	24.00	1.50
WR137	5.85 - 8.20	28.00	1.50
WR159	4.90 - 7.05	32.00	1.75
WR187	3.95 - 5.85	36.00	2.00
WR229	3.30 - 4.90	42.00	2.50
WR284	2.60 - 3.95	46.00	2.50
WR340	2.20 - 3.30	56.00	3.00
WR430	1.70 - 2.60	68.00	4.00

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus “Admiralty Gray” epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Coupling

10, 20, 30, 40 and 50 dB

(Specifications are subject to change without notice)

# Broadwall Directional Coupler

Coax Secondaries  
Part Description

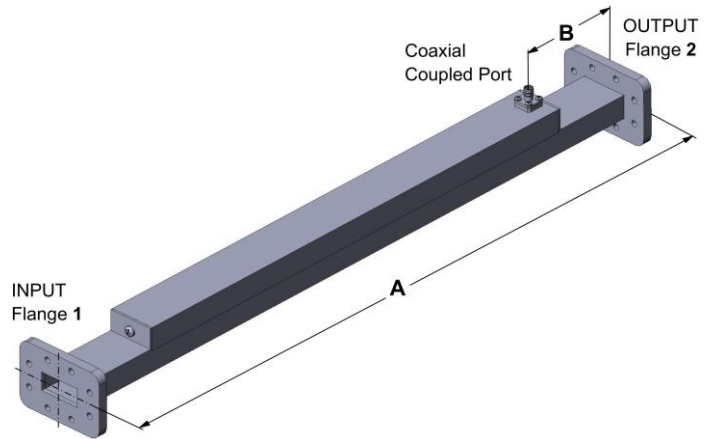
Series No: 143

UBS offers a standard product line of multi-hole coax secondary broadwall couplers covering waveguide sizes from WR-28 through WR-650. The optimum electrical characteristics of high directivity and coupling flatness are achieved utilizing a precision machined Tchebyscheff coupling hole distribution and a precision ground tapered load element in the secondary arm.

## Ordering Data

Part number - 143 - X - X - X - X - X - X - X - X

Series No.	
WG Size	
Coupling	
Port 1 Connector Style	
Port 1 Connector Type	
Flange 1	
Flange 1 Mounting	
Flange 2	
Flange 2 Mounting	



## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE, CMR, CPR(F, G)
Flange Mounting Holes	T1 - Through Holes T2 - Threaded A - Alternating
Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR	1.08 max. primary line 1.30 max. secondary line
Coupling	± 1.0 dB mean
Directivity	35 dB min.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus "Admiralty Gray" epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	8.00	1.00
WR34	22.00 - 33.00	9.00	1.25
WR42	18.00 - 26.00	10.00	1.25
WR51	15.00 - 22.00	11.50	1.70
WR62	12.40 - 18.00	12.75	1.90
WR75	10.00 - 15.00	14.50	2.00
WR90	8.20 - 12.40	17.00	2.20
WR112	7.05 - 10.00	18.75	2.80
WR137	5.85 - 8.20	22.00	3.00
WR159	4.90 - 7.05	25.00	3.00
WR187	3.95 - 5.85	30.00	4.00
WR229	3.30 - 4.90	35.00	5.00
WR284	2.60 - 3.95	46.00	6.00
WR340	2.20 - 3.30	52.00	8.00
WR430	1.70 - 2.60	60.00	8.50

## Coupling

6, 10, 20, 30, 40 and 50 dB

## Note

For 60 dB coupling, an attenuator will be used on the coaxial port and the coupling mean is ±1.0 dB frequency response.

# Dual Broadwall Directional Coupler

Series No: 144

Coax Secondaries

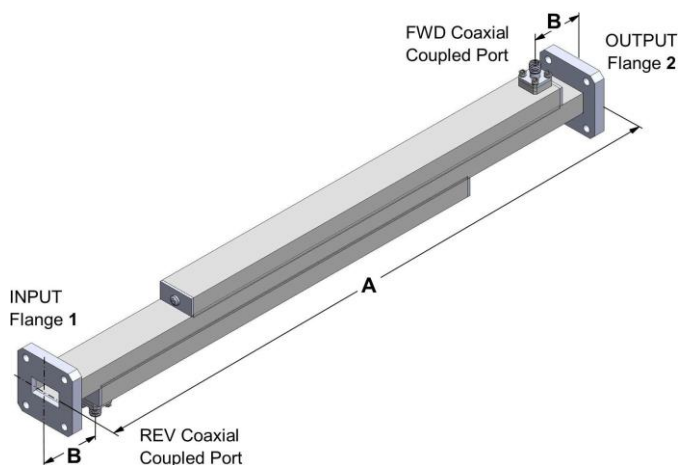
## Part Description

UBS offers a standard product line of dual arm multi-hole coax dual directional couplers covering waveguide sizes from WR-28 through WR-650 and configured similarly to the single arm models.

## Ordering Data

Part number - 144 - X - X - X - X - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Coupling \_\_\_\_\_  
 Port 1 Connector Style \_\_\_\_\_  
 Port 1 Connector Type \_\_\_\_\_  
 Port 1 Connector Style \_\_\_\_\_  
 Port 1 Connector Type \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_



## Flange Configuration

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

## Port Configuration (Style 3 Only)

Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR	1.08 max. primary line 1.30 max. secondary line
Coupling	± 1.0 dB mean ± 0.50 dB freq. response
Directivity	35 dB min.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus “Admiralty Gray” epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	12.00	1.00
WR34	22.00 - 33.00	14.00	1.25
WR42	18.00 - 26.00	14.50	1.25
WR51	15.00 - 22.00	16.00	1.70
WR62	12.40 - 18.00	18.00	1.90
WR75	10.00 - 15.00	20.00	2.00
WR90	8.20 - 12.40	22.00	2.20
WR112	7.05 - 10.00	24.00	2.80
WR137	5.85 - 8.20	28.00	3.00
WR159	4.90 - 7.05	32.00	3.00
WR187	3.95 - 5.85	36.00	4.00
WR229	3.30 - 4.90	48.00	5.00
WR284	2.60 - 3.95	60.00	6.00
WR340	2.20 - 3.30	72.00	8.00
WR430	1.70 - 2.60	80.00	8.50

## Coupling

10, 20, 30, 40 and 50 dB

## Note

For Connector Style, contact the factory for 2.9mm, 3.5mm, and 2.4mm

(Specifications are subject to change without notice)

# Cross Guide Coupler

Series No: 145

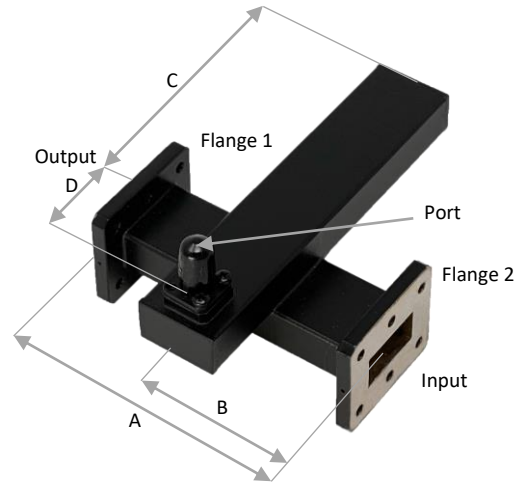
## Part Description

UBS directional crossguide couplers utilize an ultra-flat coupling technique that exhibits high power handling characteristics while maintaining optimum electrical performance parameters over the full waveguide bandwidth.

## Ordering Data

Part number - 145 - X - X - X - X - X - X - X - X - X - X - X - X

Series No.	
WG Size	
Coupling	
Port 1 Connector Style	
Port 1 Connector Type	
Flange 1	
Flange 1 Mounting	
Flange 2	
Flange 2 Mounting	
Flange 1	
Flange 1 Mounting	
Flange 2	
Flange 2 Mounting	



## Flange Configuration

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

## Port Configuration (Style 3 Only)

Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR	1.08 max. primary line 1.30 max. secondary line
Coupling	±1.0dB max for 10% of WG Band
Directivity	20 dB min.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus "Admiralty Gray" epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions (inches)			
		A	B	C	D
WR28	26.50 - 40.00	3.00	1.50	3.50	0.75
WR34	22.00 - 33.00	3.00	1.50	3.50	0.75
WR42	18.00 - 26.00	3.00	1.50	3.50	0.75
WR51	15.00 - 22.00	3.00	1.50	3.50	0.75
WR62	12.40 - 18.00	3.00	1.50	3.50	0.75
WR75	10.00 - 15.00	3.00	1.50	3.80	1.00
WR90	8.20 - 12.40	3.50	1.75	3.80	1.00
WR112	7.05 - 10.00	4.00	2.00	5.20	1.25
WR137	5.85 - 8.20	4.00	2.00	4.50	2.00
WR159	4.90 - 7.05	5.00	2.50	6.00	2.25
WR187	3.95 - 5.85	5.50	2.75	6.50	2.25
WR229	3.30 - 4.90	6.00	3.00	8.00	2.50
WR284	2.60 - 3.95	7.00	3.50	10.00	3.00

## Coupling

20, 30, 40, 50 and 60 dB

## Note

For connector style, contact factory for 2.9 mm(K), 3.5 mm, 2.4 mm

(Specifications are subject to change without notice)

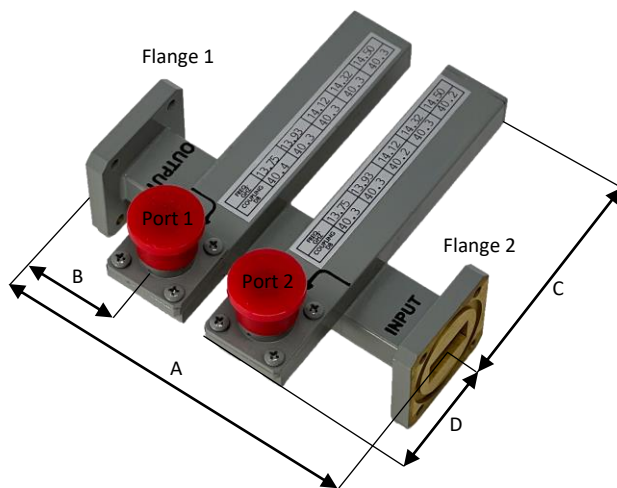
## Part Description

UBS directional crossguide couplers utilize an ultra-flat coupling technique that exhibits high power handling characteristics while maintaining optimum electrical performance parameters.

## Ordering Data

Part number - 150 - X - X - X - X - X - X - X - X - X - X - X

Series No.	_____
WG Size	_____
Coupling	_____
Body Style	_____
Flange 1	_____
Flange 1 Mounting	_____
Flange 2	_____
Flange 2 Mounting	_____
Port 1	_____
Port 1 Type	_____
Port 2	_____
Port 2 Type	_____



## Flange Configuration

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

## Port Configuration

Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR	1.08 max. primary line 1.30 max. secondary line
Coupling	±1.0dB max for 10% of WG Band
Directivity	20 dB min.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus "Admiralty Gray" epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimensions (inches)			
		A	B	C	D
WR28	26.50 - 40.00	2.90	1.00	1.12	1.00
WR34	22.00 - 33.00	3.20	1.10	1.26	1.10
WR42	18.00 - 26.00	3.30	1.10	1.33	1.10
WR51	15.00 - 22.00	3.50	1.20	1.77	1.40
WR62	12.40 - 18.00	3.90	1.35	2.25	1.75
WR75	10.00 - 15.00	4.10	1.45	2.25	1.87
WR90	8.20 - 12.40	4.25	1.50	2.71	2.00
WR112	7.05 - 10.00	4.80	1.65	3.00	2.10
WR137	5.85 - 8.20	5.25	1.75	3.75	2.50
WR159	4.90 - 7.05	6.20	2.10	3.98	2.50
WR187	3.95 - 5.85	6.75	2.25	4.75	3.00
WR229	3.30 - 4.90	7.51	2.42	5.46	3.25
WR284	2.60 - 3.95	8.75	2.75	6.25	3.50
WR340	2.20 - 3.30	12.00	3.35	7.68	3.75
WR430	1.70 - 2.60	12.05	3.40	9.73	4.75

## Coupling

20, 30, 40, 50 and 60 dB

## Note

For connector style, contact factory for 2.9 mm(K), 3.5 mm, 2.4 mm

(Specifications are subject to change without notice)

# Magic Tee

Series No: 146

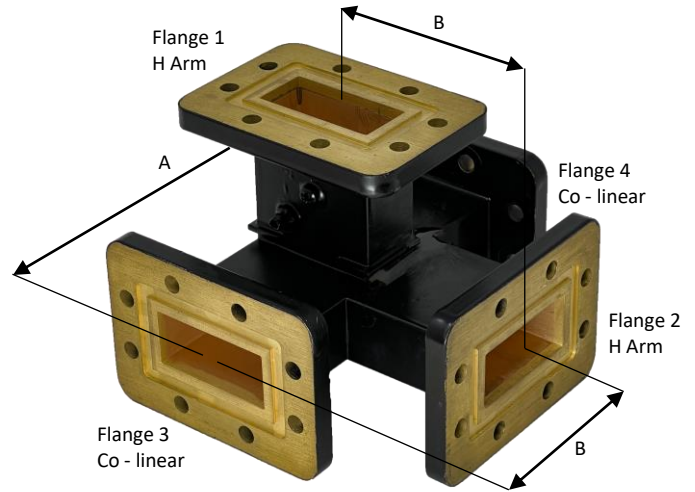
## Part Description

UBS offers a standard product line of isolated four-port hybrid power dividers covering waveguide sizes from WR-28 through WR-340.

## Ordering Data

Part number - 146 - X - X - X - X - X - X - X - X - X

Series No.	
WG Size	
Flange 1	
Flange 1 Mounting	
Flange 2	
Flange 2 Mounting	
Flange 3	
Flange 3 Mounting	
Flange 4	
Flange 4 Mounting	



## Flange Configuration

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

## Electrical Specification

VSWR	1.3 nom. 1.5 max.
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## Isolation

E to H	30 dB min.
Co-Linear	15 dB min.
Power Split Variation	+/- 0.3 dB

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	2.50	1.25
WR34	22.00 - 33.00	2.50	1.25
WR42	18.00 - 26.00	2.50	1.25
WR51	15.00 - 22.00	2.50	1.25
WR62	12.40 - 18.00	2.50	1.25
WR75	10.00 - 15.00	2.50	1.25
WR90	8.20 - 12.40	2.50	1.25
WR112	7.05 - 10.00	3.50	1.25
WR137	5.85 - 8.20	4.50	2.25
WR159	4.90 - 7.05	5.00	2.50
WR187	3.95 - 5.85	5.00	2.50
WR229	3.30 - 4.90	6.00	3.00
WR284	2.60 - 3.95	6.00	3.00
WR340	2.20 - 3.30	-	-

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus “Admiralty Gray” epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)



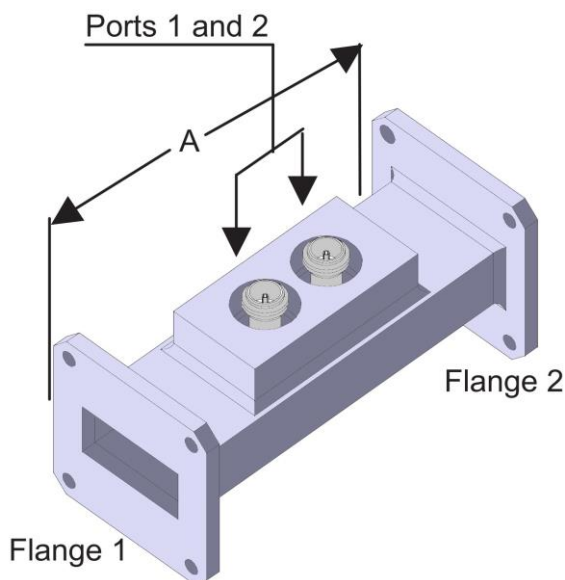
## Part Description

UBS series of waveguide loop couplers offers a new dimension in high directivity couplers. They are available over a coupling range of 30-70 dB. These couplers are engineered to perform with a minimum of waveguide length making them the smallest of any waveguide couplers available.

## Ordering Data

Part number - 147 - X - X - X - X - X - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Coupling \_\_\_\_\_  
 Port 1,2 Connector Style \_\_\_\_\_  
 Port 1,2 Connector Type \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_  
 Bandwidth (10 or 20 %) \_\_\_\_\_  
 Centre Frequency \_\_\_\_\_  
 Hardware \_\_\_\_\_



## Flange Configuration

Flange Type	C - Cover G - Groove CHOKE, CMR, CPR(F, G)
Flange Mounting Holes	T1 - Through Holes T2 - Threaded A - Alternating
Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR - Mainline	1.05 max
Coupling	± 1dB max for 20% of WG Band
Directivity	30 dB typ. for 10% of WG Band 25 dB typ. for 20% of WG Band

**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus "Admiralty Gray" epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimension (inches) A
WR90	8.20 - 12.40	2.50
WR102	7.00 - 11.00	2.50
WR112	7.05 - 10.00	2.50
WR137	5.85 - 8.20	3.50
WR159	4.90 - 7.05	3.50
WR187	3.95 - 5.85	3.50
WR229	3.30 - 4.90	5.00
WR284	2.60 - 3.95	5.00
WR340	2.20 - 3.30	-
WR430	1.70 - 2.60	5.00
WR650	1.12 - 1.70	-

## Coupling

30 dB, 40 dB, 50 dB, 60 dB and 70 dB

(Specifications are subject to change without notice)

# Power Samplers

Series No: 148

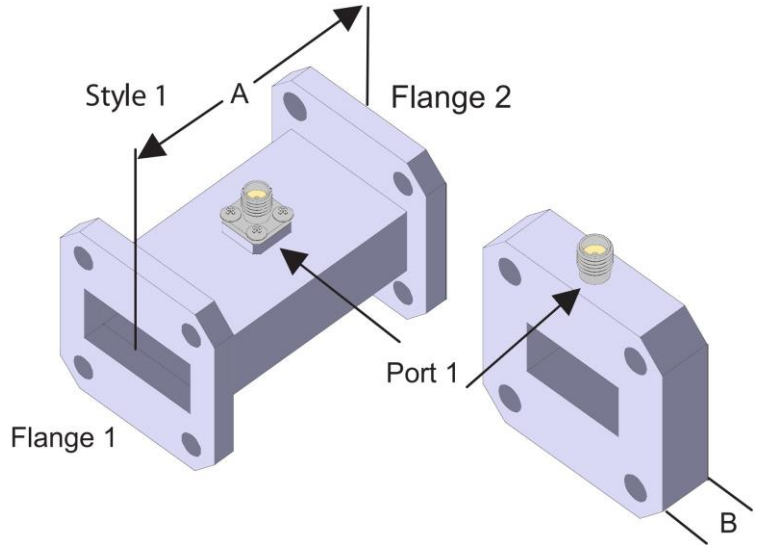
## Part Description

UBS power samplers offer a low-cost approach to monitoring power in matched waveguide systems where high directivity is not a concern. Standard coupling values are available from 20 dB to 90 dB with coupling flatness maintained at +/- 1.0 dB.

## Ordering Data

Part number - 148-X-X-X-X-X-X-X-X-X

Series No.	_____
WG Size	_____
Coupling	_____
Port 1 Connector Style	_____
Port 1 Connector Type	_____
Flange 1	_____
Flange 1 Mounting	_____
Flange 2	_____
Flange 2 Mounting	_____



## Flange Configuration

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

## Port Configuration

Connector Style	SMA, N, 2.9 mm(K), 3.5 mm, 2.4mm
Connector Type	M - Male, F - Female

## Electrical Specification

VSWR - Mainline	1.10 max.
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**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus “Admiralty Gray” epoxy top coat. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 is available. Contact our sales department with your requirements.

## Specifications

Size	Frequency GHz	Dimension (inches)	
		A	B
WR28	26.50 - 40.00	2.00	0.75
WR34	22.00 - 33.00	2.00	0.75
WR42	18.00 - 26.00	2.00	0.75
WR51	15.00 - 22.00	2.00	0.75
WR62	12.40 - 18.00	2.00	0.75
WR75	10.00 - 15.00	2.00	0.75
WR90	8.20 - 12.40	2.00	0.75
WR112	7.05 - 10.00	2.00	0.75
WR137	5.85 - 8.20	2.50	0.75
WR159	4.90 - 7.05	2.50	-
WR187	3.95 - 5.85	3.00	-
WR229	3.30 - 4.90	3.00	-
WR284	2.60 - 3.95	3.00	-

(Specifications are subject to change without notice)

# Quadrature Hybrid

Series No: 149

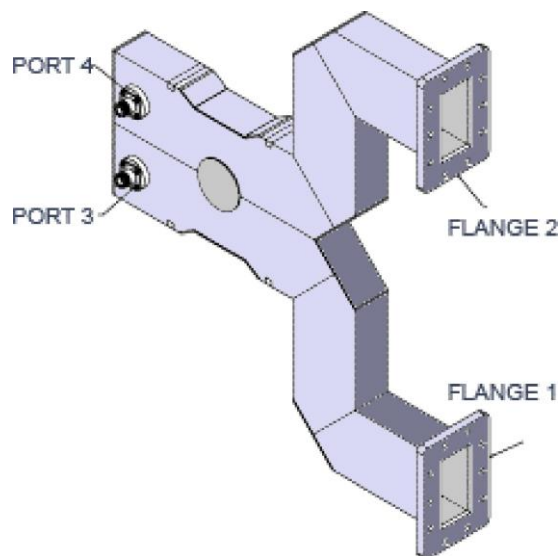
## Ordering Data

Part number - 149 - X - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Body Style \_\_\_\_\_  
 Flange 1 & 2 Type \_\_\_\_\_  
 Flange 1 & 2 Mounting \_\_\_\_\_  
 Flange 3 & 4 Type (Style 2 only) \_\_\_\_\_  
 Flange 3 & 4 Mounting (Style 2 only) \_\_\_\_\_  
 Port 3 & 4 Connector Type \_\_\_\_\_

## Specifications

Frequency Bandwidth	2.5 to 2.7 GHz
VSWR	1.25:1 max.
Insertion Loss	0.25 dB typ.
Isolation	18 dB max.
Unbalance	+/- 0.25 dB

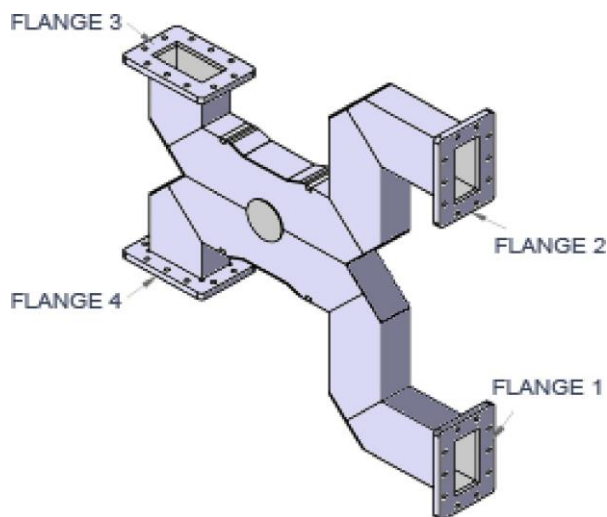


## Flange Configuration

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

## Port Configuration

Connector Style	N-Type, 7/16 DIN-Type, 7/8 EIA
Connector Type	M - Male, F - Female



**STANDARD FINISH:** is electroless corrosion protection for the metal surface, plus "Admiralty Gray" epoxy top coat. Non standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)

# Fixed Attenuator

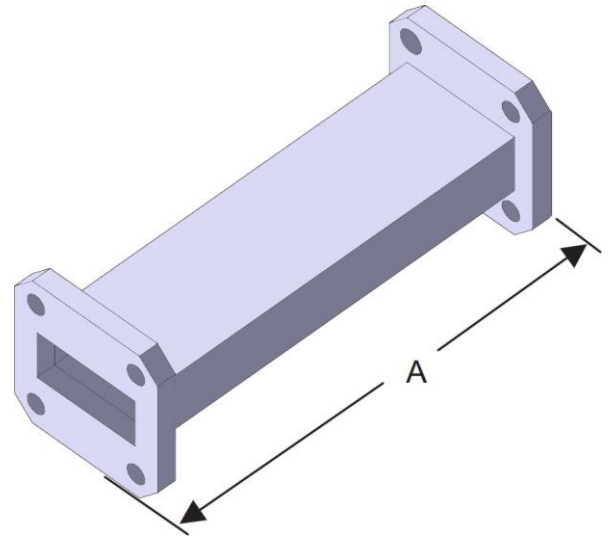
Series No: 152

## Part Description

UBS offers a series of rectangular waveguide precision attenuators covering waveguide sizes from WR-28 through WR-284. The assembly construction includes precision ground observing elements for optimum electrical performance. Attenuation flatness is +/- 0.5 dB over the 30% bandwidth and +/- 1.5 dB Full Band. The max. power rating for all waveguide sizes is 1 watt WR-28 to WR-62.

## Ordering Data

Part number - 152 - 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

## Electrical Specification

Attenuation	1 - 60 dB
VSWR	< 1.10 max.

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR- 650 are available. Contact our sales department with your requirements

## Specifications

Size	Frequency GHz	Minimum Dimension
WR28	26.50 - 40.00	2.00
WR34	22.00 - 33.00	2.00
WR42	18.00 - 26.00	2.00
WR51	15.00 - 22.00	2.50
WR62	12.40 - 18.00	2.50
WR75	10.00 - 15.00	3.00
WR90	8.20 - 12.40	3.00
WR112	7.05 - 10.00	3.50
WR137	5.85 - 8.20	3.50
WR159	4.90 - 7.05	3.50
WR187	3.95 - 5.85	4.00
WR229	3.30 - 4.90	4.00
WR284	2.60 - 3.95	4.00

(Specifications are subject to change without notice)

# Waveguide Bulkhead Feed Assembly

Series No: 154

## Part Description

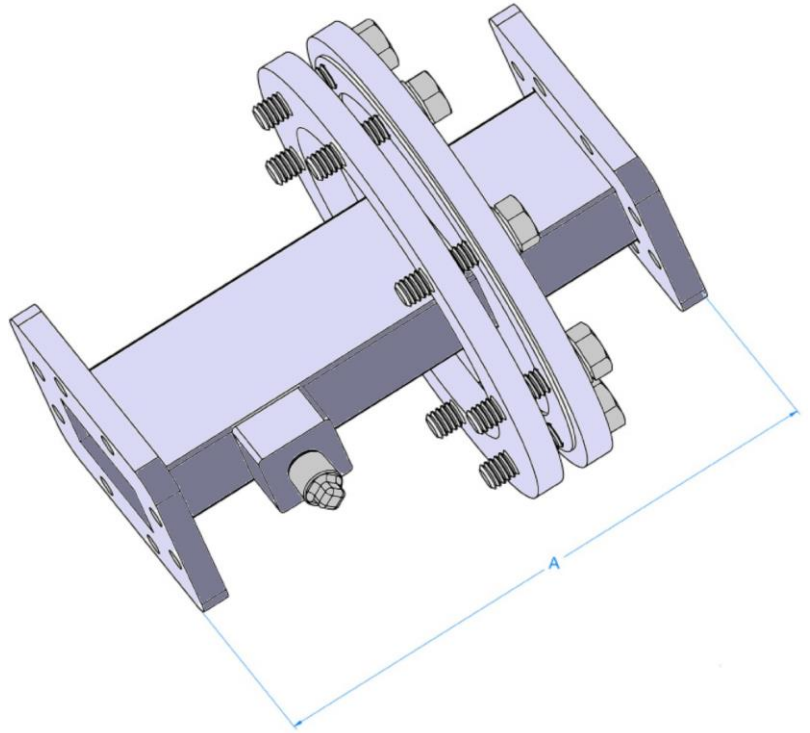
The 154 series Waveguide Bulkhead Feed Assembly was designed to be a wall feed-through in assemblies. A gasket is provided on the panel mount side for weather resistance and the adapter is finished in a baked enamel paint.

These adapters operate over the full waveguide bandwidths and are available for WR75 to WR137 waveguide sizes. Standard lengths are 5.00 inches with custom lengths and various flange types available upon request.

## Ordering Data

Part number - 154 - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Length \* \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_



## Flange Configuration

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

## Specifications

Size	Frequency (GHz)	Length (inches)
WR75	10.00 - 15.00	5.00
WR90	8.20 - 12.40	5.00
WR112	7.05 - 10.00	5.00
WR137	5.85 - 8.20	5.00

(Specifications are subject to change without notice)

# Horn Antenna Series

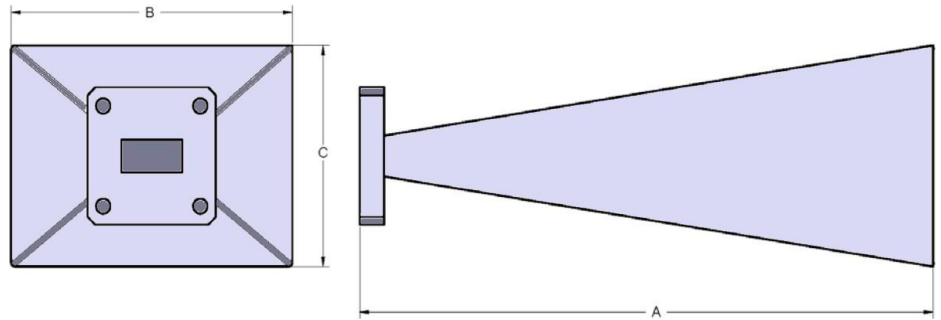
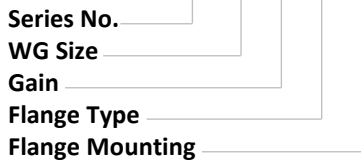
Series No: 155

## Part Description

UBS offers a series of precision horn antennas covering waveguide sizes from WR-28 through WR-650. The assembly construction includes precision ground observing elements for optimum electrical performance.

## Ordering Data

Part number - 155 - X - X - X - X



## Flange Configuration

## Specifications

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

Size	Frequency GHz	Dimensions (inches)												
		10 dB			15 dB			20 dB						
		A	B	C	A	B	C	A	B	C				
WR28	26.50-40.00													
WR34	22.00-33.00													
WR42	18.00-26.00	1.24	0.62	0.43	2.35	1.15	0.84	4.09	2.13	1.56				
WR51	15.00-22.00													
WR62	12.40-18.00	1.15	1.10	0.62	2.41	1.67	1.32	5.92	2.88	2.11				
WR75	10.00-15.00	1.95	1.62	0.93	4.65	2.23	1.32	8.32	4.04	2.97				
WR90	8.20-12.40	2.07	1.51	1.12	5.44	2.63	1.92	10.2	5.16	3.75				
WR112	7.05-10.00													
WR137	5.85-8.20	3.12	2.03	1.44	6.53	3.45	2.51	12.33	6.71	4.70				
WR159	4.90-7.05													
WR187	3.95-5.85													
WR229	3.30-4.90													
WR284	2.60-3.95													
WR340	2.20-3.30													
WR430	1.70-2.60													
WR650	1.12-1.70													

## Electrical Specification

VSWR	1.15 max.
Gain	10 dB, 15 dB, 20 dB
Gain Variance	± 2.0 dB

**STANDARD FINISH:** is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR- 650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)



### Part Description

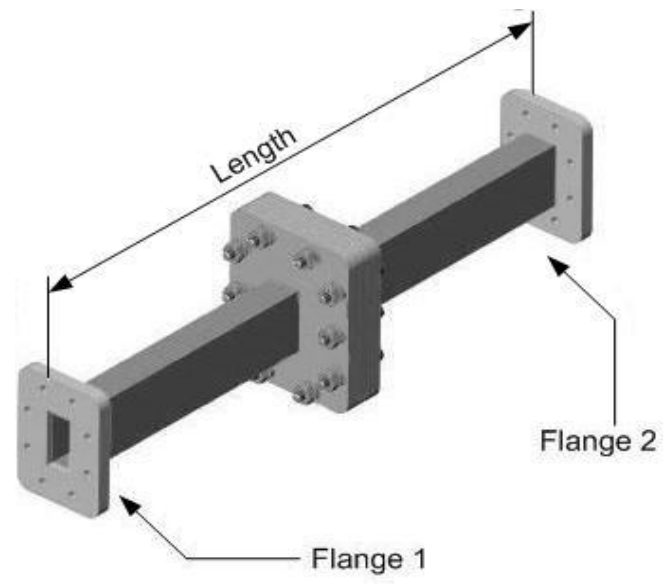
UBS offers a series of DC Blocks covering waveguide sizes from WR-28 through WR-650. The assembly construction includes precision ground elements for optimum electrical performance.

### Ordering Data

Part number - 156 - X - X - X - X - X - X

Series No. \_\_\_\_\_  
 WG Size \_\_\_\_\_  
 Length \* \_\_\_\_\_  
 Flange 1 \_\_\_\_\_  
 Flange 1 Mounting \_\_\_\_\_  
 Flange 2 \_\_\_\_\_  
 Flange 2 Mounting \_\_\_\_\_

\* Customer requested Length (contact Sales for more information)



### Flange Configuration

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

### Specifications

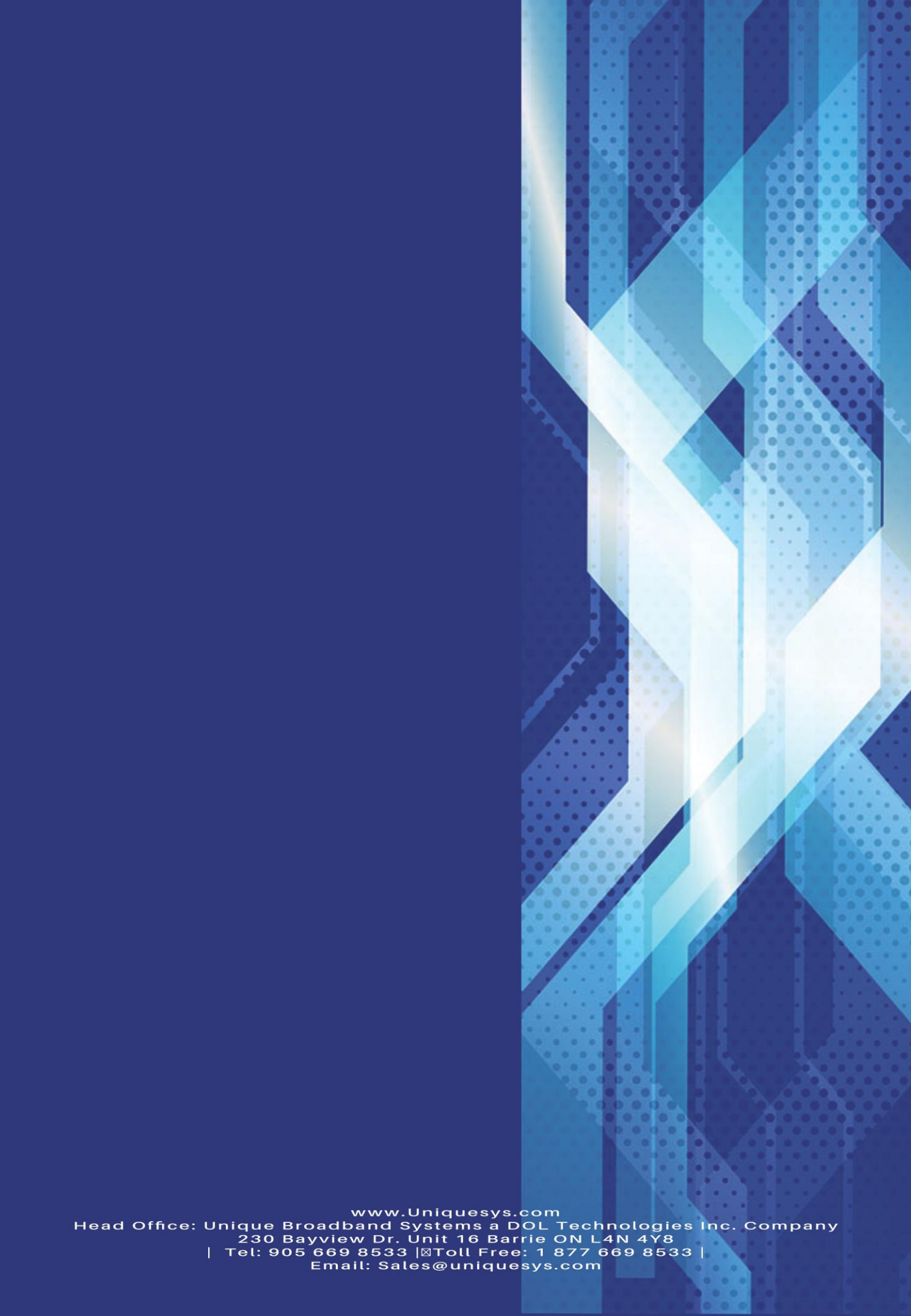
Size	Frequency GHz	C	G	CHOKE	CMR	CPR
WR28	26.50 - 40.00	•	•	•		
WR34	22.00 - 33.00	•	•	•		
WR42	18.00 - 26.00	•	•	•		
WR51	15.00 - 22.00	•	•	•		
WR62	12.40 - 18.00	•	•	•		
WR75	10.00 - 15.00	•	•	•	•	•
WR90	8.20 - 12.40	•	•	•	•	•
WR112	7.05 - 10.00	•	•	•	•	•
WR137	5.85 - 8.20	•	•	•	•	•
WR159	4.90 - 7.05	•	•	•	•	•
WR187	3.95 - 5.85	•	•	•	•	•
WR229	3.30 - 4.90	•	•	•	•	•
WR284	2.60 - 3.95	•	•	•	•	•
WR340	2.20 - 3.30	•	•	•	•	•
WR430	1.70 - 2.60	•	•	•	•	•
WR650	1.12 - 1.70	•	•	•	•	•

### Electrical Specification

VSWR	1.15 max.
Insertion Loss	0.15 dB max.

STANDARD FINISH: is electroless corrosion protection for the metal surface. Non-standard configurations and finishes (Silver, Nickel, Cadmium plating) are available upon request. Waveguide sizes up to WR-650 are available. Contact our sales department with your requirements.

(Specifications are subject to change without notice)



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