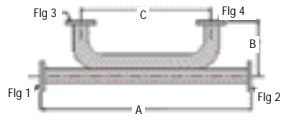


**BROADWALL DIRECTIONAL COUPLERS**



Description:  
 • Full waveguide frequency range  
 • Units pressure tested to 30 psi  
 • Ideal for High Power Combiner/Divider  
 • Finish is a unique corrosion-resistant 316 stainless steel epoxy coating

Electrical Specifications:  
 VSWR (MAX.) PRIMARY: 1.05 (1.10 for WR42, WR28)  
 SECONDARY: 1.10 (1.15 for WR42, WR28)  
 NOM. COUPLING (dB): ± .50 (± .75 for WR42, WR28)  
 FREQ. SENS. (dB): ± .6 (± .75 for WR42, WR28)  
 DIRECTIVITY (dB): 40 typical, 30 min.

Ordering Information: Typical Part #: 137-310 B -10 -1 -1 -1

Basic Model #: \_\_\_\_\_  
 Material: A=Alum, B=Brass, C=Copper, D=Special  
 Coupling (dB): 3, 6, 10, 20, 30, 40  
 Flange 1: 1=CPRG, 2=CPRF, 6=Cover, 7=Choke, 8=Special  
 Flange 2: See above  
 Flange 3: See above  
 Flange 4: See above

Basic Model No.	WG Size	Freq (GHz)	Dimension A (inches)	Dimension B (inches)	Dimension C (inches)
650-310	WR650	1.12 - 1.70	37	8.00	29.0
430-310	WR430	1.70 - 2.60	35	6.00	27.0
284-310	WR284	2.60 - 3.95	31	6.00	24.0
229-310	WR229	3.30 - 4.90	28	5.00	21.0
187-310	WR187	3.95 - 5.85	25	4.00	19.0
159-310	WR159	4.90 - 7.05	23	3.00	17.5
137-310	WR137	5.95 - 8.20	20	3.00	15.5
112-310	WR112	7.05 - 10.0	18	2.50	14.0
90-310	WR90	8.20 - 12.4	17	2.00	13.5
75-310	WR75	10.0 - 15.0	15	1.50	12.0
62-310	WR62	12.4 - 18.0	13	1.25	10.5
51-310	WR51	10.0 - 15.0	12	1.25	9.50
42-310	WR42	18.0 - 26.5	11	1.25	8.50
34-310	WR62	22.0 - 33.0	9	1.00	8.50
28-310	WR28	26.5 - 40.0	10	1.00	8.00

**WAVEGUIDE COMBINER-DIVIDER**

Short slot hybrid configuration  
 Symmetrical 4 port device  
 90 degree phase shift



WG Size WR	Freq (GHz)	VSWR Max	Isolation Min. dB	Model No.
159	5.80-6.50	1.15	26	159-410-2-2-2-2
137	5.80-6.50	1.15	26	137-410-2-2-2-2
112	7.90-9.00	1.15	26	112-410-6-6-6-6
75	13.0-15.0	1.15	26	75-410-2-2-2-2
62	13.5-15.6	1.15	26	62-410-6-6-6-6

Flange Code: 2=CPRG; 6=Cover; 7=Choke

**LOOP COUPLERS**

Description:  
 • Full waveguide frequency range  
 • Units pressure tested to 30 psi  
 • Ideal for High Power Sensing  
 • Finish is a unique corrosion-resistant 316 stainless steel epoxy coating

Electrical Specifications:  
 VSWR: 1.1 max.  
 NOM. COUPLING: +/- 1.00 dB  
 FREQ. SENS.: +/- 1.00 dB max.  
 DIRECTIVITY: 15 dB min.

Ordering Information: Typical Part #: 75-307 B -30 -6 -6

Basic Model #: SMA F=307, N Type F=308  
 Material: A=Alum, B=Brass, C=Copper, D=Special  
 Coupling (dB): 30, 40, 50, 60 (Std.) others available  
 Flange 1: 1=CPRG, 2=CPRF, 6=Cover, 7=Choke, 8=Special  
 Flange 2: See above

Basic Model No. (SMA F)	Basic Model No. (N Type F)	WG Size	Freq (GHz)	Dim. A (inches)	Dim. B (inches)	Dim. C (inches)
430-307	430-308	WR430	1.70 - 2.60	4.5	1.0	1.63
284-307	284-308	WR284	2.60 - 3.95	4.5	1.0	1.63
229-307	229-308	WR229	3.30 - 4.90	4.0	1.0	1.38
187-307	187-308	WR187	3.95 - 5.85	3.5	1.0	1.13
159-307	159-308	WR159	4.90 - 7.05	3.5	1.0	0.88
137-307	137-308	WR137	5.95 - 8.20	3.0	1.0	0.88
112-307	112-308	WR112	7.05 - 10.0	3.0	1.0	0.88
90-307	90-308	WR90	8.20 - 12.4	3.0	1.0	0.88
75-307	75-308	WR75	10.0 - 15.0	3.0	1.0	0.88
62-307	62-308	WR62	12.4 - 18.0	3.0	1.0	0.88
51-307	WR51	15.0 - 22.0	3.0	1.0	0.88	
42-307	WR42	18.0 - 26.5	2.5	1.0	0.63	
34-307	WR34	22.0 - 33.0	2.5	1.0	0.63	
28-307	WR28	26.5 - 40.0	2.5	1.0	0.63	

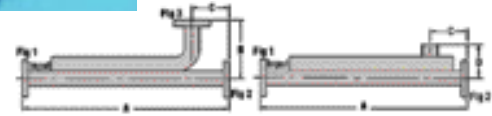
**BROADWALL DIRECTIONAL COUPLERS**

Description:  
 • Full waveguide frequency range  
 • Units pressure tested to 30 psi

• Ideal for High Power Combiner/Divider  
 • Finish is a unique corrosion-resistant 316 stainless steel epoxy coating



Electrical Specifications:  
 VSWR (MAX.) PRIMARY: 1.05 (1.10 for WR42, WR28)  
 SECONDARY: 1.10 (1.15 for WR42, WR28)  
 NOM. COUPLING (dB): ± .50 (± .75 for WR42, WR28)  
 FREQ. SENS. (dB): ± .6 (± .75 for WR42, WR28)  
 DIRECTIVITY (dB): 40 typical, 30 min.



Ordering Information: Typical Part #: 137-304 B -10 -1 -1 -1

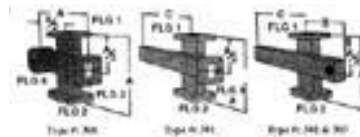
Basic Model #: 304 or 305 or 306  
 Material: A=Alum, B=Brass, C=Copper, D=Special  
 Coupling (dB): 3, 6, 10, 20, 30, 40  
 Flange 1: 1=CPRG, 2=CPRF, 6=COVER, 7=CHOKE, 8=SPECIAL  
 Flange 2: See above  
 Flange 3: See above

Basic Model No.	WG Size	Freq (GHz)	Dimension A (inches)	Dimension B (inches)	Dimension C (inches)
650-Type #	WR650	1.12 - 1.70			
430-Type #	WR430	1.70 - 2.60			
284-Type #	WR284	2.60 - 3.95	50.25	9.18	2.66
229-Type #	WR229	3.30 - 4.90	42.00	6.81	1.00
187-Type #	WR187	3.95 - 5.85	34.62	6.44	1.81
159-Type #	WR159	4.90 - 7.05	32.50	5.25	0.88
137-Type #	WR137	5.95 - 8.20	26.50	3.06	1.56
112-Type #	WR112	7.05 - 10.0	18.62	3.06	0.94
90-Type #	WR90	8.20 - 12.4	16.68	1.94	0.81
75-Type #	WR75	10.0 - 15.0	15.00	2.50	1.25
62-Type #	WR62	12.4 - 18.0	13.75	2.18	0.66
51-Type #	WR51	15.0 - 22.0	11.50	1.25	0.66
42-Type #	WR42	18.0 - 26.5	9.50	1.25	0.75
34-Type #	WR34	22.0 - 33.0	9.00	1.25	0.75
28-Type #	WR28	26.5 - 40.0	8.00	1.12	0.75

**CROSSGUIDE DIRECTIONAL COUPLERS**

Description:  
 • Full waveguide frequency range  
 • Units pressure tested to 30 psi  
 • Ideal for High Power Combiner/Divider  
 • Finish is a unique corrosion-resistant 316 stainless steel epoxy coating

Electrical Specifications:  
 VSWR PRIMARY: 1.05 max.  
 COAX SECONDARY: 1.25 max.  
 NOM. COUPLING: ± 0.50 dB  
 FREQ. SENS.: ± 1.00 dB max.  
 DIRECTIVITY: 20 dB min.



Type #s:  
 300 = 4WG Ports  
 301 = 3WG Ports  
 302 = 2WG Ports  
 1 Type N (F) Coax Port  
 303 = 2WG Ports  
 1 SMA (F) Coax Port

Ordering Information: Typical Part #: 137-300 B -30 -1 -1 -1

Basic Model #: \_\_\_\_\_  
 Material: A=Alum, B=Brass, C=Copper, D=Special  
 Coupling (dB): 30, 40, 50  
 Flange 1: 1=CPRG, 2=CPRF, 6=Cover, 7=Choke, 8=Special  
 Flange 2: See above  
 Flange 3: See above  
 Flange 4: See above

Basic Model No.	WG Size	Freq (GHz)	Dim A (inches)	Dim B (inches)	Dim C (inches)
430-Type #	WR430	1.70 - 2.60	7.50	5.00	8.00
284-Type #	WR284	2.60 - 3.95	7.50	3.75	5.00
229-Type #	WR229	3.30 - 4.90	7.00	3.50	4.75
187-Type #	WR187	3.95 - 5.85	6.50	3.25	4.50
159-Type #	WR159	4.90 - 7.05	6.00	3.00	4.00
137-Type #	WR137	5.95 - 8.20	6.00	3.00	4.00
112-Type #	WR112	7.05 - 10.0	4.20	2.10	3.00
90-Type #	WR90	8.20 - 12.4	4.00	2.00	2.75
75-Type #	WR75	10.0 - 15.0	3.75	1.87	2.50
62-Type #	WR62	12.4 - 18.0	3.50	1.75	2.37
51-Type #	WR51	15.0 - 22.0	3.10	1.50	2.25
42-Type #	WR42	18.0 - 26.5	2.20	1.10	1.50
34-Type #	WR34	22.0 - 33.0	2.20	1.10	1.50
28-Type #	WR28	26.5 - 40.0	2.00	1.00	1.50