

# Branch Guide Couplers

These waveguide directional couplers offer characteristics which cannot be met by cross-guide, multi-aperture or slot type couplers, especially in the 6-12dB coupling range. They are of very short length and can handle almost full waveguide peak-pulse power capacity. Full waveguide band-widths may be specified: but for flat coupling, the bandwidth should be limited to approximately 10 percent.

Computer aided design for specified parameters enables MDL to reduce design and manufacturing time and assure optimum performance. Mean coupling can be held to a tighter tolerance than for other types of couplers. Directivity is 20dB min. Repeatability in production is facilitated by new manufacturing techniques.

W/G SIZE	FREQ. RANGE (GHz)	MDL MODEL NO.			MEAN COUPLING- (dB)	VAR. FROM MEAN COUPLING (dB)	MECHANICAL DIMENSIONS				
		STYLE 1	STYLE 2	STYLE 3			STYLE 1	LENGTH STYLE 2	STYLE 3	A	B
WR62	15.50-18.00	62CB16	62CB316	62CB416	3.0±.3	±.2	2.00	5.65	4.43	1.20	.81
		62CB36	62CB336	62CB436	6.0±.4	±.2	2.00	5.65	4.43	1.20	.81
		62CB56	62CB356	62CB456	10.0±.5	±.2	2.00	5.65	4.43	1.20	.81
WR90	8.50-9.60	90CB16	90CB316	90CB416	3.0±.3	±.3	2.50	6.00	4.00	2.00	.80
		90CB36	90CB336	90CB436	6.0±.4	±.3	2.50	6.00	4.00	2.00	.80
		90CB56	90CB356	90CB456	10.0±.5	±.3	2.50	6.00	5.00	2.00	.80
WR112	7.50-8.50	112CB16	112CB316	112CB416	3.0±.3	±.2	3.00	8.00	6.00	2.50	1.19
		112CB36	112CB336	112CB436	6.0±.4	±.2	3.00	8.00	6.00	2.50	1.19
		112CB56	112CB356	112CB456	10.0±.5	±.2	3.00	8.00	6.00	2.50	1.19
WR137	5.90-6.60	137CB16	137CB316	137CB416	3.0±.3	±.2	4.00	11.00	8.00	3.00	1.75
		137CB36	137CB336	137CB436	6.0±.4	±.2	4.00	11.00	8.00	3.00	1.75
		137CB56	137CB356	137CB456	10.0±.5	±.2	4.00	11.00	8.00	3.00	1.75
WR159	5.00-5.90	159CB16	159CB316	159CB416	3.0±.3	±.4	4.50	12.00	10.00	3.25	1.50
		159CB36	159CB336	159CB436	6.0±.4	±.5	4.50	12.00	10.00	3.25	1.50
		159CB56	159CB356	159CB456	10.0±.5	±.4	4.50	12.00	10.00	3.25	1.50
WR187	5.30-6.10	187CB16	187CB316	187CB416	3.0±.3	±.2	5.00	14.00	12.00	3.25	2.32
		187CB36	187CB336	187CB436	6.0±.4	±.2	5.00	14.00	12.00	3.25	2.32
		187CB56	187CB356	187CB456	10.0±.5	±.2	5.00	14.00	12.00	3.25	2.32
WR229	3.70-4.20	229CB16	229CB316	229CB416	3.0±.3	±.2	6.10	18.00	12.00	3.50	1.50
		229CB36	229CB336	229CB436	6.0±.4	±.3	6.10	18.00	12.00	3.50	1.50
		229CB56	229CB356	229CB456	10.0±.5	±.2	6.10	18.00	12.00	3.50	1.50
WR284	2.70-3.05	284CB16	284CB316	284CB416	3.0±.3	±.3	8.00	24.00	12.35	5.00	2.60
		284CB36	284CB336	284CB436	6.0±.4	±.3	8.00	24.00	12.35	5.00	2.60
		284CB56	284CB356	284CB456	10.0±.5	±.3	8.00	24.00	12.35	5.00	2.60

\*Cross-guide couplers are available for loose coupling values only, and multi-aperture couplers are too lengthy for tight couplings. Short slot couplers, while capable of handling high power are usually available only in the 3.5 dB range. With reduced bandwidths the directivity can be greater than 30 dB.

