



ATM SHORT LENGTH HIGH DIRECTIVITY [SLHD] WAVEGUIDE COUPLERS

ATM's Short Length High Directivity [SLHD] Waveguide Directional Couplers are designed to meet requirements for a coupler smaller than traditional Crossguide or Broadwall Couplers, BUT, have better Directivity and accuracy than that of Loop Couplers or Crossguide Couplers.

The table below summarizes the features of the various types of Waveguide Couplers.

COMPARISON OF TYPICAL WAVEGUIDE COUPLERS				
Coupler Type	Directivity	Coupling dB	Coupling Interface	Size
Crossguide	20dB min	30dB to 60dB	Flange or Coax	Medium
Loop	15dB min	30dB to 50dB	Coax	Small
Short Length High Directivity (SLHD)	25dB min	30dB to 60dB	Coax	Small
Broadwall	30dB min	3dB to 60dB	Flange or Coax	Large

ATM's Short Length High Directivity Coupler has Directivity 25dB min, (30dB typical) in a short insertion length package. Select from full band units and shorter partial band units. Typical nominal coupling variation of +/-0.5dB and flatness of +/-0.5dB are obtained by carefully controlled manufacturing methods.

KEY FEATURES INCLUDE:

- Directivity: 25dB min, 30dB typical (for 30dB, 40dB, or 50dB coupling)
- Units are available in full frequency band models [-339 Base Model], or partial band models, which are designed for approximately 40% bandwidth.
- Single or Dual Coupled Output Units
- Coupled Output to SMA-f Connectors or Type-K [2.9mm], depending upon frequency band.
- Coupling: 30dB, 40dB, or 50dB is standard. Others available upon request.
- VSWR Mainline: 1.05 max ; VSWR Coax: 1.25 max (1.40 max WR28 thru WR42, 1.5 max WR22)
- Nominal Coupling: Accuracy +/-0.5dB
- Frequency Sensitivity: +/-0.5dB
- Units can be pressure tested to 30psi. (Use "/PT" option)

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Short Length, High Directivity Couplers - Single



ELECTRICAL SPECS

VSWR: 1.05 Mainline
 1.25 Secondary arm (1.40 for WR22, WR28, WR34,WR42)
Standard Coupling values: 30dB, 40dB, 50dB
 (Other coupling values available, but length of unit may change)
Coupling Accuracy: +/-0.5dB
Frequency Sensitivity: +/-0.5dB
Directivity: 25dB min, 30dB typical

MECHANICAL SPECS

Body: Aluminum Standard, Brass/Copper available
Flanges: Multiple types available
Connectors: Stainless Steel
Operation Temp: -45° to 110°C

OPTIONS

Pressure sealed Units: Units sealed to hold 10 psi.
 When ordering, add "PT" to model number.
Example: P/N 34-331A-30-6-6 sealed, becomes **34-331A-30-6-6/PT**

Standard Models

WG Size	Freq (GHz) **	Standard Model No. *	Length (inches)
WR137	5.85 - 8.20	137-339A-dB-2-2	13.3
WR137	5.80 - 6.50	137-331A-dB-2-2	7.0
WR137	7.20 - 7.80	137-332A-dB-2-2	7.0
WR137	7.90 - 8.40	137-333A-dB-2-2	7.0
WR112	7.05 - 10.0	112-339A-dB-6-6	12.3
WR112	7.20 - 7.80	112-332A-dB-6-6	5.5
WR112	8.50 - 9.50	112-331A-dB-6-6	5.5
WR102	7.00 - 11.00	102-339A-dB-6-6	12.0
WR102	8.20 - 9.80	102-331A-dB-6-6	4.75
WR90	8.20 - 12.40	90-339A-dB-6-6	11.4
WR90	8.16 - 9.84	90-331A-dB-6-6	4.0
WR75	10.0 - 15.0	75-339A-dB-6-6	9.2
WR75	10.7 - 12.7	75-331A-dB-6-6	3.0
WR75	13.5 - 14.5	75-332A-dB-6-6	3.0
WR62	12.4 - 18.0	62-339A-dB-6-6	8.1
WR62	15.0 - 18.0	62-331A-dB-6-6	3.0
WR51	15.0 - 22.0	51-339A-dB-6-6	3.0
WR51	18.2 - 21.0	51-331A-dB-6-6	3.0
WR42	17.7 - 21.0	42-331A-dB-6-6	3.0
WR42	18.0 - 26.5	42-339A-dB-6-6	3.0
WR34	22.0 - 33.0	34-339A-dB-6-6	3.0
WR34	27.8 - 32.2	34-331A-dB-6-6	2.75
WR28	26.5 - 40.0	28-339A-dB-6-6	2.75
WR28	27.3 - 32.7	28-331A-dB-6-6	2.5
WR28	36.0 - 40.0	28-332A-dB-6-6	2.5
WR22	33.0 - 50.0	22-339A-dB-6-6	2.5
WR22	40.0 - 44.0	22.331A-dB-6-6	2.5

** Units are available in full frequency band models [-339 Base Model] or partial band models, which are designed for approximately 40% bandwidth. Consult factory for other bands and specifications.

* When ordering, replace "-dB" with 20, 40, or 50, for coupling value.



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ALSO AVAILABLE IN DUAL OUTPUT ...

Short Length, High Directivity Couplers - Dual



ELECTRICAL SPECS

VSWR: 1.05 Mainline
1.25 Secondary arm (1.40 for WR22, WR28, WR34, WR42)
Standard Coupling values: 30dB, 40dB, 50dB
(Other coupling values available, but length of unit may change)
Coupling Accuracy: +/-0.5dB
Frequency Sensitivity: +/-0.5dB
Directivity: 25dB min, 30dB typical

MECHANICAL SPECS

Body: Aluminum Standard, Brass/Copper available
Flanges: Multiple types available
Connectors: Stainless Steel
Operation Temp: -45° to 110°C

OPTIONS

Pressure sealed Units: Units sealed to hold 10 psi.
When ordering, add "PT" to model number.
Example: P/N 34-331DA-30-30-6-6 sealed, becomes **34-331DA-30-30-6-6/PT**

Standard Models

WG Size	Freq. (GHz)**	Standard Model No. *	Length (Inches)
WR137	5.80 - 6.50	137-331DA-dBF-dBR-2-2	11.63
WR137	7.20 - 7.80	137-332DA-dBF-dBR-2-2	11.63
WR137	7.90 - 8.40	137-333DA-dBF-dBR-2-2	11.63
WR112	8.50 - 9.50	112-331DA-dBF-dBR-6-6	10.00
WR102	8.20 - 9.80	102-331DA-dBF-dBR-6-6	10.00
WR90	8.16 - 9.84	90-331DA-dBF-dBR-6-6	7.00
WR75	13.5 - 14.5	75-331DA-dBF-dBR-6-6	6.00
WR62	15.0 - 18.0	62-331DA-dBF-dBR-6-6	5.63
WR51	18.2 - 21.0	51-331DA-dBF-dBR-6-6	5.00
WR51	15.0 - 17.5	51-332DA-dBF-dBR-6-6	5.00
WR42	17.7 - 21.0	42-331DA-dBF-dBR-6-6	5.00
WR34	27.8 - 32.2	34-331DA-dBF-dBR-6-6	5.00
WR28	27.3 - 32.7	28-331DA-dBF-dBR-6-6	5.00
WR28	36.0 - 40.0	28-332DA-dBF-dBR-6-6	5.00
WR22	40.0 - 45.0	22-331DA-dBF-dBR-6-6	5.00

**These units are designed for approximately 40% bandwidth, consult factory for other specifications

* When ordering, replace "-dB" with 20, 40, or 50, for coupling value.

For full specifications, options, and outline drawings, please visit our website at ...

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