

TRectangular Waveguide Bends

LOW VSWR **LOW INSERTION LOSS** PRECISION FABRICATION

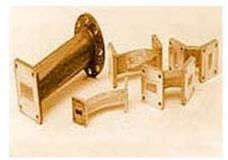
CMI's Rectangular Waveguide Bends are useful for field and laboratory applications where lowest loss and SWR are required. The waveguide conforms to MIL-W-85. Bends may be used alone or in combination for systems packaging. Straights, Bends and Twists are normally supplied with UG cover flanges; however choke, CPR, CMR and other flanges may be requested. VSWR of Standard Waveguide models is 1.03 typical, 1.05 max. over the full waveguide band while insertion loss is essentially that of straight waveguide. Units are available in aluminum or copper. Finish is chromate conversion per MIL-C-5541, Class 3 for aluminum and corrosion resistant coatings for all others, painted with gray enamel.





*The Standard Model Numbers below are the most common parts ordered for size, material and flanges. However, these models can easily be altered to accommodate your needs by using the above Model # code system.



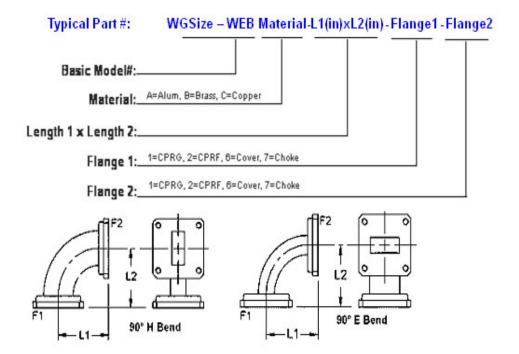


CALL OUR SALES DEPARTMENT FOR MORE INFORMATION OR VARIATIONS OF THIS PRODUCT.

Corry Micronics, Inc. One Plastics Rd. - Corry, PA 16407 Fax (814) 664-4582 www.cormic.com (814) 664-7728



90°E&H Bends **Order Information**



Example:

CMI284-WEBA-8x8-6-6 is WR284 - 90° E bend Alum material - 8x8 - Cover flg - Cover flg CMI284-WHBA-8x8-6-6 is WR284 - 90° H bend Alum material - 8x8 - Cover flg - Cover flg

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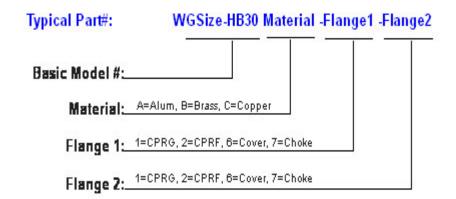
| Standard Models | | | | | |
|-----------------|-------------|--|-------------------------------------|--|--|
| WG Size | Freq GHz | 90 Degree E Bend Standard Model No* | 90 Degree H Bend Standard Model No* | | |
| WR340 | 2.20 - 3.30 | 340-WEBA-8x8-2-2 | 340-WHBA-10x10-2-2 | | |
| WR284 | 2.60 - 3.95 | 284-WEBA-6x6-6-6 | 284-WHBA-6x6-6-6 | | |
| WR229 | 3.30 - 4.90 | 229-WEBB-4x4-2-2 | 229-WHBB-4x4-2-2 | | |
| WR187 | 3.95 - 5.85 | 187-WEBA-3x3-6-6 | 187-WHBA-3x3-6-6 | | |
| WR159 | 4.09 - 7.05 | 159-WEBB-2.5x2.5-2-2 | 159-WHBB-2.5x2.5-2-2 | | |
| WR137 | 5.85 - 8.20 | 137-WEBB-2.5x2.5-2-2 | 137-WHBB-2.5x2.5-2-2 | | |
| WR112 | 7.05 - 10.0 | 112-WEBB-2x2-6-6 | 112-WHBB-2x2-6-6 | | |
| WR102 | 7.00 - 11.0 | 102-WEBA-2x2-6-6 | 102-WHBA-2x2-6-6 | | |
| WR90 | 8.20 - 12.4 | 90-WEBA-2x2-6-6 | 90-WHBA-2x2-6-6 | | |
| WR75 | 10.0 - 15.0 | 75-WEBB-1.75x1.75-6-6 | 75-WHBB-1.75x1.75-6-6 | | |
| WR62 | 12.4 - 18.0 | 62-WEBB-1.75x1.75-6-6 | 62-WHBB-1.75x1.75-6-6 | | |
| WR51 | 15.0 - 22.0 | 51-WEBB-1.5x1.5-6-6 | 51-WHBB-1.5x1.5-6-6 | | |
| WR42 | 18.0 - 26.5 | 42-WEBB-1x1-6-6 | 42-WHBB-1x1-6-6 | | |
| WR34 | 22.0 - 33.0 | 34-WEBB-1x1-6-6 | 34-WHBB-1x1-6-6 | | |
| WR28 | 26.5 - 40.0 | 28-WEBB-1x1-6-6 | 28-WHBB-1x1-6-6 | | |

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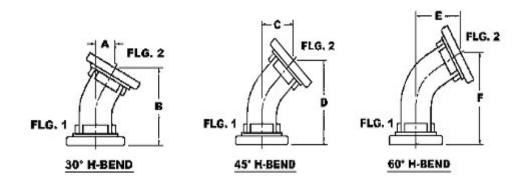


30°,45°& 60°H Bends



Example:

CMI650-HB30A-2-2 is a WRCMI650 - 30°H bend Alum material - CPRF flange - CPRF flange CMI650-HB45A-2-2 is a WRCMI650 - 45°H bend Alum material - CPRF flange - CPRF flange CMI650-HB60A-2-2 is a WRCMI650 - 60°H bend Alum material - CPRF flange - CPRF flange



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Micronics Product Specification

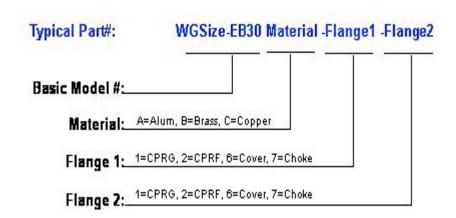
| | | | | St | andard Models | 6 | | | | | |
|-------|----------------|-----------------------|-------------|-------------|-----------------------|------------------|-------------|-----------------------|------------------|-------------|--|
| WG | Freq | 30 Degree H Be | nd | | 45 Degree H Be | 45 Degree H Bend | | | 60 Degree H Bend | | |
| Size | GHz | Standard Model No* | A (in)** | B (in)** | Standard Model No* | C (in)** | D (in)** | Standard Model No* | E (in)** | F (in)** | |
| WR340 | 2.20 - 3.30 | CMI340- HB30A-2-2 | 2.05 | 7.65 | CMI340- HB45A-2-2 | 4.39 | 10.58 | CMI340- HB60A-2-2 | 5.26 | 9.15 | |
| WR284 | 2.60 - 3.95 | CMI284- HB30A-6-6 | 1.50 | 5.60 | CMI284- HB45A-6-6 | 3.38 | 8.15 | CMI284- HB60A-6-6 | 3.45 | 6.00 | |
| WR229 | 3.30 - 4.90 | CMI229- HB30B-2-2 | 1.48 | 5.50 | CMI229- HB45B-2-2 | 2.84 | 6.84 | CMI229- HB60B-2-2 | 3.32 | 5.78 | |
| W187 | 3.95 - 5.85 | CMI187- HB30A-6-6 | 1.30 | 4.85 | CMI187- HB45A-6-6 | 2.12 | 5.12 | CMI187- HB60A-6-6 | 2.72 | 4.73 | |
| WR159 | 4.09 - 7.05 | CMI159- HB30B-2-2 | 1.30 | 4.85 | CMI159- HB45B-2-2 | 1.77 | 4.27 | CMI159- HB60B-2-2 | 2.63 | 4.58 | |
| WR137 | 5.85 - 8.20 | CMI137- HB30B-2-2 | 1.13 | 4.20 | CMI137- HB45B-2-2 | 1.77 | 4.27 | CMI137- HB60B-2-2 | 2.16 | 3.75 | |
| WR112 | 7.05 - 10.0 | CMI112- HB30B-6-6 | 1.10 | 4.10 | CMI112- HB45B-6-6 | 1.41 | 3.41 | CMI112- HB60B-6-6 | 1.98 | 3.45 | |
| WR102 | 7.00 - 11.0 | CMI102- HB30A-6-6 | 1.03 | 3.82 | CMI102- HB45A-6-6 | 1.41 | 3.41 | CMI102- HB60A-6-6 | 1.81 | 3.15 | |
| WR90 | 8.20 - 12.4 | CMI90-HB30A- 6-6 | 1.00 | 3.73 | CMI90-HB45A- 6-6 | 1.41 | 3.41 | CMI90-HB60A- 6-6 | 1.72 | 3.00 | |
| WR75 | 10.0 - 15.0 | CMI75-HB30B- 6-6 | 1.00 | 3.73 | CMI75-HB45B- 6-6 | 1.24 | 2.99 | CMI75-HB60B- 6-6 | 1.72 | 3.00 | |
| WR62 | 12.4 - 18.0 | CMI62-HB30B- 6-6 | 0.95 | 3.54 | CMI62-HB45B- 6-6 | 1.24 | 2.99 | CMI62-HB60B- 6-6 | 1.64 | 2.85 | |
| WR51 | 15.0 - 22.0 | CMI51-HB30B- 6-6 | 0.88 | 3.26 | CMI51-HB45B- 6-6 | 1.06 | 2.56 | CMI51-HB60B- 6-6 | 1.47 | 2.55 | |
| WR42 | 18.0 - 26.5 | CMI42-HB30B- 6-6 | 0.80 | 2.98 | CMI42-HB45B- 6-6 | 0.71 | 1.71 | CMI42-HB60B- 6-6 | 1.25 | 2.18 | |
| WR28 | 26.5 - 40.0 | CMI28-HB30B- 6-6 | 0.75 | 2.80 | CMI28-HB45B- 6-6 | 0.71 | 1.71 | CMI28-HB60B- 6-6 | 1.12 | 1.95 | |

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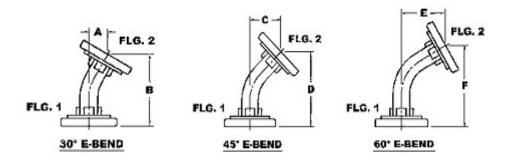


30°, 45°& 60°E Bends



Example:

CMI650-EB30A-2-2 is a WR650 - 30°E bend Alum material - CPRF flange - CPRF flange CMI650-EB45A-2-2 is a WR650 - 45°E bend Alum material - CPRF flange - CPRF flange CMI650-EB60A-2-2 is a WR650 - 60°E bend Alum material - CPRF flange - CPRF flange



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Micronics Product Specification

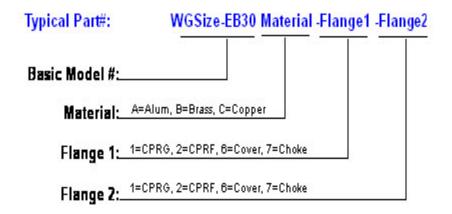
| | Standard Models | | | | | | | | | |
|-------|-----------------|-----------------------|----------|-------------|-----------------------|------------------|-------------|-----------------------|-------------|-------------|
| WG | Freq | 30 Degre | e E Bend | | 45 Degree | 45 Degree E Bend | | | E Bend | i |
| Size | GHz | Standard Model No* | A (in)** | B (in)** | Standard Model No* | C (in)** | D (in)** | Standard Model No* | E (in)** | F (in)** |
| WR340 | 2.20 - 3.30 | CMI340- EB30A-2-2 | 1.50 | 5.60 | CMI340- EB45A-2-2 | 4.18 | 10.07 | CMI340- EB60A-2-2 | 4.83 | 8.40 |
| WR284 | 2.60 - 3.95 | CMI284- EB30A-6-6 | 1.43 | 5.32 | CMI284- EB45A-6-6 | 3.38 | 8.15 | CMI284- EB60A-6-6 | 3.10 | 5.40 |
| WR229 | 3.30 - 4.90 | CMI229- EB30B-2-2 | 1.40 | 5.22 | CMI229- EB45B-2-2 | 2.77 | 6.68 | CMI229- EB60B-2-2 | 3.02 | 5.25 |
| WR187 | 3.95 - 5.85 | CMI187- EB30A-6-6 | 1.25 | 4.66 | CMI187- EB45A-6-6 | 2.12 | 5.12 | CMI187- EB60A-6-6 | 2.46 | 4.28 |
| WR159 | 4.09 - 7.05 | CMI159- EB30B-2-2 | 1.23 | 4.57 | CMI159- EB45B-2-2 | 1.77 | 4.27 | CMI159- EB60B-2-2 | 2.46 | 4.28 |
| WR137 | 5.85 - 8.20 | CMI137- EB30B-2-2 | 1.08 | 4.01 | CMI137- EB45B-2-2 | 1.77 | 4.27 | CMI137- EB60B-2-2 | 1.98 | 3.45 |
| WR112 | 7.05 - 10.0 | CMI112- EB30B-6-6 | 1.05 | 3.92 | CMI112- EB45B-6-6 | 1.41 | 3.41 | CMI112- EB60B-6-6 | 1.81 | 3.15 |
| WR102 | 7.00 - 11.0 | CMI102- EB30A-6-6 | 1.00 | 3.73 | CMI102- EB45A-6-6 | 1.41 | 3.41 | CMI102- EB60A-6-6 | 1.72 | 3.00 |
| WR90 | 8.20 - 12.4 | CMI90-EB30A- 6-6 | 0.95 | 3.54 | CMI90-EB45A- 6-6 | 1.41 | 3.41 | CMI90-EB60A- 6-6 | 1.64 | 2.85 |
| WR75 | 10.0 - 15.0 | CMI75-EB30B- 6-6 | 0.98 | 3.64 | CMI75-EB45B- 6-6 | 1.24 | 2.99 | CMI75-EB60B- 6-6 | 1.68 | 2.93 |
| WR62 | 12.4 - 18.0 | CMI62-EB30B- 6-6 | 0.93 | 3.45 | CMI62-EB45B- 6-6 | 1.24 | 2.99 | CMI62-EB60B- 6-6 | 1.55 | 2.70 |
| WR51 | 15.0 - 22.0 | CMI51-EB30B- 6-6 | 0.88 | 3.26 | CMI51-EB45B- 6-6 | 1.06 | 2.56 | CMI51-EB60B- 6-6 | 1.38 | 2.40 |
| WR42 | 18.0 - 26.5 | CMI42-EB30B- 6-6 | 0.80 | 2.98 | CMI42-EB45B- 6-6 | 0.71 | 1.71 | CMI42-EB60B- 6-6 | 1.16 | 2.03 |
| WR28 | 26.5 - 40.0 | CMI28-EB30B- 6-6 | 0.CMI75 | 2.80 | CMI28-EB45B- 6-6 | 0.71 | 1.71 | CMI28-EB60B- 6-6 | 1.12 | 1.95 |

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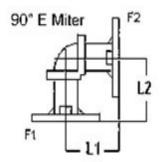


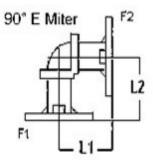
90°E&H Miter Bends



Example:

CMI284-MEBA-4x4-6-6 is WR284 - 90° E miter Alum material - 4x4 - Cover flg - Cover flg CMI284-MHBA-4x4-6-6 is WR284 - 90° H miter Alum material - 4x4- Cover flg - Cover flg





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| Standard Models | | | | | |
|-----------------|-------------|--|--|--|--|
| WG Size | Freq GHz | 90 Degree E Miter Bend Standard Model No* | 90 Degree H Miter Bend Standard Model No* | | |
| WR650 | 1.00 - 1.70 | CMI650-MEBA-4x4-2-2 | CMI650-MHBA-5x5-2-2s | | |
| WR430 | 1.70 - 2.60 | CMI430-MEBA-3x3-2-2 | CMI430-MHBA-4x4-2-2 | | |
| WR284 | 2.60 - 3.95 | CMI284-MEBA-3.75x3.75-6-6 | CMI284-MHBA-4x4-6-6 | | |
| WR229 | 3.30 - 4.90 | CMI229-MEBB-2.21x2.21-2-2 | CMI229-MHBB-3x3-2-2 | | |
| WR187 | 3.95 - 5.85 | CMI187-MEBA-1.87x1.87-6-6 | CMI187-MHBA-3x3-6-6 | | |
| WR159 | 4.09 - 7.05 | CMI159-MEBB-1.75x1.75-2-2 | CMI159-MHBB-3x3 -2-2 | | |
| WR137 | 5.85 - 8.20 | CMI137-MEBB-1.82x1.82-2-2 | CMI137-MHBB-3x3-2-2 | | |
| WR112 | 7.05 - 10.0 | CMI112-MEBB-1.6x1.6-6-6 | CMI112-MHBB-2x2-6-6 | | |
| WR102 | 7.00 - 11.0 | CMI102-MEBA-1.47x1.47-6-6 | CMI102-MHBA-2x2-6-6 | | |
| WR90 | 8.20 - 12.4 | CMI90-MEBA-1.34x1.34-6-6 | CMI90-MHBA-2x2-6-6 | | |
| WR75 | 10.0 - 15.0 | CMI75-MEBB-1.16x1.16-6-6 | CMI75-MHBB-2x2-6-6 | | |
| WR62 | 12.4 - 18.0 | CMI62-MEBB88x.88-6-6 | CMI62-MHBB-1.5x1.5-6-6 | | |
| WR51 | 15.0 - 22.0 | CMI51-MEBB95x.95-6-6 | CMI51-MHBB-1.5x1.5-6-6 | | |
| WR42 | 18.0 - 26.5 | CMI42-MEBB77x.77-6-6 | CMI42-MHBB-1x1-6-6 | | |
| WR28 | 26.5 - 40.0 | CMI28-MEBB77x.77-6-6 | CMI28-MHBB-1x1-6-6 | | |

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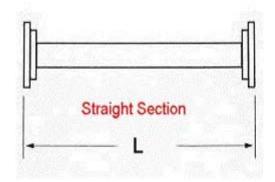


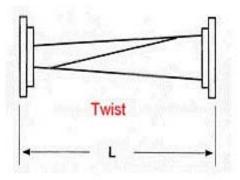
Straight & Twist Sections

CMI's Straight Sections of Rectangular Waveguide are useful for field and laboratory applications where lowest loss and VSWR are required. The waveguide conforms to MIL-W-85. Up to 12 feet long Straight Sections can be supplied.

VSWR of Standard Waveguide models is 1.05 typical, 1.08 max. over the full waveguide band, while insertion loss is essentially that of straight waveguide. Units are available in aluminum or copper. Finish is chromate conversion per MIL-C-5541, Class 3 for aluminum and corrosion resistant coatings for all others, painted with gray enamel.







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| Typical Part #: | WGSize - T/S Material - L(in) - Flange1 -Flange2 |
|-----------------|--|
| Basic Model#:_ | |
| Material: | A=Alum, B=Brass, C=Copper |
| L(in):_ | |
| Flange 1:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |
| Flange 2:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |

Example:

CMI340-TA-15-6-6 is WR340 twist Aluminum material - 15(in) - Cover Flg - Cover Flg CMI340-SA-12-6-6 is WR340 straight section Aluminum material - 12(in) - Cover Flg - Cover Flg

| Standard Models | | | | | |
|-----------------|-------------|------------------------------|--------------------------------|--|--|
| WG Size | Freq GHz | 90 Degree Twist Model No* | Straight Sections Model No* | | |
| WR650 | 1.00 - 1.70 | CMI650-TA-24-2-2 | CMI650-SA-12-2-2 | | |
| WR430 | 1.70 - 2.60 | CMI430-TA-16-2-2 | CMI430-SA-12-2-2 | | |
| WR340 | 2.20 - 3.30 | CMI340-TA-15-2-2 | CMI340-SA-12-2-2 | | |
| WR284 | 2.60 - 3.95 | CMI284-TA-12-6-6 | CMI284-SA-10-6-6 | | |
| WR229 | 3.30 - 4.90 | CMI229-TB-12-2-2 | CMI229-SB-6-2-2 | | |
| WR187 | 3.95 - 5.85 | CMI187-TA-8-6-6 | CMI187-SA-6-6-6 | | |
| WR159 | 4.09 - 7.05 | CMI159-TB-6-2-2 | CMI159-SB-6-2-2 | | |
| WR137 | 5.85 - 8.20 | CMI137-TB-6-2-2 | CMI137-SB-6-2-2 | | |
| WR112 | 7.05 - 10.0 | CMI112-TB-6-6-6 | CMI112-SB-6-6-6 | | |
| WR102 | 7.00 - 11.0 | CMI102-TA-6-6-6 | CMI102-SA-6-6-6 | | |
| WR90 | 8.20 - 12.4 | CMI90-TA-5-6-6 | CMI90-SA-6-6-6 | | |
| WR75 | 10.0 - 15.0 | CMI75-TB-4-6-6 | CMI75-SB-6-6-6 | | |
| WR62 | 12.4 - 18.0 | CMI62-TB-4-6-6 | CMI62-SB-6-6-6 | | |
| WR51 | 15.0 - 22.0 | CMI51-TB-4-6-6 | CMI51-SB-6-6-6 | | |
| WR42 | 18.0 - 26.5 | CMI42-TB-3-6-6 | CMI42-SB-3-6-6 | | |
| WR34 | 22.0 - 33.0 | CMI34-TB-3-6-6 | CMI34-SB-3-6-6 | | |
| WR28 | 26.5 - 40.0 | CMI28-TB-3-6-6 | CMI28-SB-3-6-6 | | |

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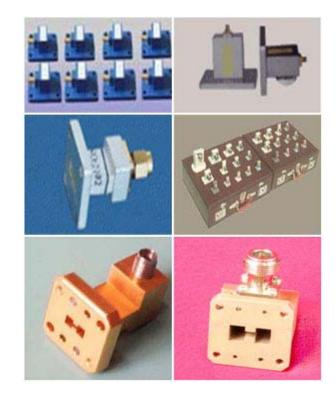
Standard Rectangular Waveguide-to-Coaxial Adapters

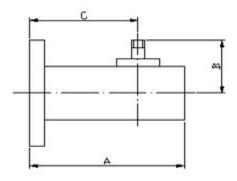
LOWEST VSWR LOW INSERTION LOSS NARROW AND BROAD BANDWIDTHS

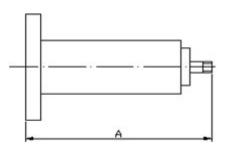
CMI offers a wide range of Adapters for specialized applications requiring non-standard rectangular waveguides and/or frequency bands. They allow transmission of power in either direction with the lowest possible reflection. This is achieved by using broadband matching techniques. High power adapters are available up to the power rating of the connector requested.

Requirements for other bands, waveguide heights and in-line adapters can also be satisfied. Assemblies are furnished with aluminum housing. Finish is chromate conversion per MIL-C-5541, Class3, painted with gray epoxy enamel.

The Standard Model Numbers above are the most common parts ordered for size, material and flange. However, these models can easily be altered to accommodate your needs by using the above Model # code system. Standard Connectors are SMA and Type-N, Connectors such as SC, TNC, and 7/16 are available. Consult the factory for details.







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| Typical Part#: | WGSize - SMA | /N | Material - Flange |
|------------------------|-------------------------------|-----|-------------------|
| Basic Model#:_ | A=Alum, B=Brass | | |
| material:_ Flange:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Ch | oke | |

Example:

CMI187-SMAA-6 is WR187-SMA(F)WG-Coax Adapter, Aluminum Material, Cover Flange

Standard Waveguide to Coax Adapters

| WG Size | Freq GHz | SMA (F) | Type N (F) | VSWR (Max.) | Outline A X B X C (mm) |
|------------|-------------|----------------|-------------|-------------|------------------------|
| | | Model No.* | Model No.* | | |
| WR650 | 1.12 - 1.70 | CMI650-SMAA-2 | CMI650-NA-2 | 1.4 | 170 × 70 × 46 |
| WR430 | 1.70 - 2.60 | CMI430- SMAA-2 | CMI430-NA-2 | 1.4 | 113 × 56 × 33 |
| WR340 × 28 | 2.20 - 3.30 | CMI340- SMAA-2 | CMI340-NA-2 | 1.25 | 93 × 51 |
| WR284 | 2.60 - 3.95 | CMI84- SMAA-6 | CMI284-NA-6 | 1.25 | 57 × 46 × 19 |
| WR229 | 3.30 - 4.90 | CMI229- SMAB-2 | CMI229-NB-2 | 1.25 | |
| WR187 | 3.95 - 5.85 | CMI187- SMAA-6 | CMI187-NA-6 | 1.25 | 57 × 40 × 23 |
| WR159 | 4.90 - 7.05 | CMI159- SMAB-2 | CMI159-NB-2 | 1.25 | 51 × 38 × 15.5 |
| WR137 | 5.85 - 8.20 | CMI137- SMAB-2 | CMI137-NB-2 | 1.25 | 47 × 37 × 16 |
| WR112 | 7.05 - 10.0 | CMI112- SMAB-6 | CMI112-NB-6 | 1.25 | 42 × 35 × 18 |
| WR90 | 8.20 - 12.4 | CMI90- SMAA-6 | CMI90-NA-6 | 1.25 | 32 × 30 × 8 |
| WR75 | 10.0 - 15.0 | CMI75- SMAB-6 | CMI75-NB-6 | 1.25 | 39 × 17 × 9 |
| WR62 | 12.4 - 18.0 | CMI62- SMAB-6 | CMI62-NB-6 | 1.25 | 27 × 18 × 10 |
| WR51 | 15.0 - 22.0 | CMI51- SMAB-6 | N/A | 1.50 | 30 × 14 × 11 |
| WR42 | 18.0 - 26.5 | CMI42- KB-6 | N/A | 1.80 | 28 × 16 × 8.5 |
| WR34 | 22.0 - 33.0 | CMI34-KB-6** | N/A | 1.25 | |
| WR28 | 26.5 - 40.0 | CMI28-KA-6** | N/A | 1.25 | |

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| Typical Part #: | WGSize - SMA/N | Material - | Flange |
|-----------------|----------------------------------|------------|--------|
| Basic Model#:_ | | | |
| Material:_ | A=Alum, B=Brass | | |
| Flange:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke | | |

End launch Waveguide to Coax Adapters - SMA & Type-N

| WG Size | Frequency Range (GHz) | Model No. | VSWR (Max.) | Connectors | Length (mm) |
|---------|-----------------------|---------------|-------------|------------|-------------|
| WR284 | 2.60 ~ 3.95 | CMI284-NA-2 | 1.25 | N | 90 |
| WR229 | 3.30 ~ 4.90 | CMI229-NA-2 | 1.25 | N | |
| WR187 | 3.95 ~ 5.85 | CMI187-NA-2 | 1.25 | N | |
| WR159 | 4.90 ~ 7.05 | CMI159-NA-2 | 1.25 | N | 79.6 |
| WR137 | 5.85 ~ 8.20 | CMI137-SMAA-2 | 1.25 | SMA | 64.5 |
| WR137 | 5.90 ~ 8.20 | CMI137-NA-2 | 1.25 | N | 31.6 |
| WR112 | 7.05 ~ 10.0 | CMI112-NA-2 | 1.25 | N | |
| WR112 | 7.05 ~ 10.0 | CMI112-SMAA-2 | 1.25 | SMA | |
| WR90 | 8.20 ~ 12.4 | CMI90-NB-2 | 1.25 | N | 61.6 |
| WR90 | 8.20 ~ 12.4 | CMI90-SMAB-2 | 1.25 | SMA | 53.5 |
| WR75 | 10.0 ~ 15.0 | CMI75-NB-2 | 1.25 | N | 72 |
| WR75 | 10.0 ~ 15.0 | CMI75-SMAB-2 | 1.25 | SMA | 38.5 |
| WR62 | 12.4 ~ 18.0 | CMI62-NB-2 | 1.25 | N | |
| WR62 | 12.4 ~ 18.0 | CMI62-SMAB-2 | 1.25 | SMA | 32 |
| WR51 | 15.0 ~ 22.0 | CMI51-SMAB-2 | 1.5 | SMA | 33.5 |
| WR42 | 18.0 ~ 26.5 | CMI42-KB-2 | 1.5 | К | |
| WR34 | 22.0 ~ 33.0 | CMI34-KB-2 | 1.8 | К | |
| WR28 | 26.5 ~ 40.0 | CMI28-KB-2 | 1.8 | К | |

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Double Ridge Waveguide to Coax Adapters

| WG Size | Freq GHz | SMA | Type N | VSWR |
|---------|-------------|-------------------|---------------|------|
| | | Model No.* | Model No.* | max |
| WRD180 | 7.5 - 18.0 | CMID180-SMAB-2 ** | CMID180-NB-2 | - |
| WRD750 | 7.5 - 18.0 | CMID750- SMAB-2 | CMID750-NB-2 | 1.5 |
| WRD650 | 6.5 - 18.0 | CMID650- SMAB-2 | CMID650- NB-2 | 1.5 |
| WRD580 | 5.8 - 16.0 | CMID580- SMAB-2 | CMID580- NB-2 | 1.5 |
| WRD475 | 4.75 - 11.0 | CMID475- SMAB-2 | CMID475- NB-2 | 1.5 |

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Rectangular Waveguide Cross Guide Couplers

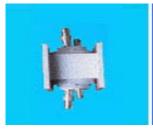
LOWEST VSWR LOW INSERTION LOSS NARROW AND BROAD BANDWIDTHS

CMI's Cross Guide Couplers have specially-designed coupling apertures that produce flat coupling over the full waveguide frequency band. The couplers are symmetrical four-port devices; either arm may be used as the main line. They are also available with built-in terminations, integral coaxial adapters, and terminated dual secondary arms (dual directional couplers). These rugged, moderate-directivity couplers are ideal where the high directivity of the longer broad-wall multi-hole couplers is not required. The units are well-suited for many microwave applications including injection, reflection measurement, attenuation, and isolation. And because of their compactness and simplicity of construction, they have found wide acceptance in production applications. Assemblies are furnished with an aluminum or brass housing. Finish is chromate conversion per MIL-C-5541. Class 3, painted with gray epoxy enamel.

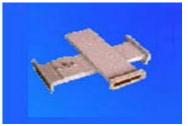














Coupling: 20, 30, 40, 50 dB Directivity: typically 18 dB min

Coupling Mean: ±4.0 dB

Frequency Sensitivity:

 $20 = \pm 1.2 \text{ dB max}.$

 $20 = \pm 1.2 \text{ dB max}.$

 $30 = \pm 1.0 \text{ dB max}.$ $40 = \pm 0.8 \text{ dB max}.$

 $50 = \pm 0.6 \text{ dB max}.$

VSWR:

Waveguide Ports 1.05 max.

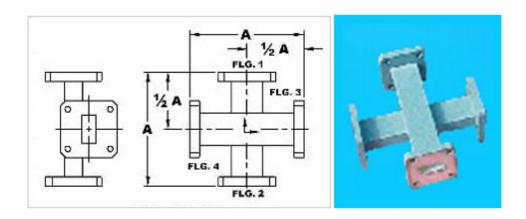
Coaxial Ports std.; 1.25, 1.10, 1.15 avail.

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The Model numbers listed below are the most common model numbers for size, material, coupling, and flanges however; these models can easily be altered to accommodate customer needs by following the Model # code system. In addition the customer must choose the coupling value appropriate for application (20,30dB, 40dB, or 50dB) and insert it in the model number where dB is listed.

Crossguide Directional Coupler- 4 Waveguide Ports



| Typical Part# | : WGSize 4P Material -Coupling -Flange1 -Flange2 -Flange3 -Flange4 |
|-----------------|--|
| Basic Model#:_ | |
| Material:_ | A=Alum, B=Brass |
| Coupling (dB):_ | 30, 40, or 50dB |
| Flange1:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |
| Flange2:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |
| Flange3:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |
| Flange4: | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |

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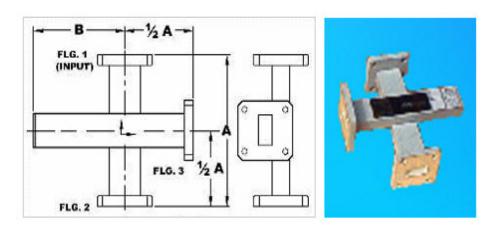


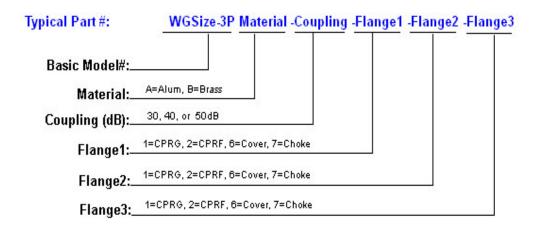
| | Standard Models | | | | | | |
|---------|-----------------|---------------------|--------------|----------|--|--|--|
| WG Size | Freq GHz | Standard | Dim A | В | | | |
| | | Model No.* | (Inches) Dim | (Inches) | | | |
| WR430 | 1.70 - 2.60 | CMI430-3PA-dB-2-2-2 | 7.50 | 8.00 | | | |
| WR284 | 2.60 - 3.95 | CMI284-3PA-dB-6-6-6 | 7.50 | 5.00 | | | |
| WR229 | 3.30 - 4.90 | CMI229-3PB-dB-2-2-2 | 7.00 | 4.75 | | | |
| WR187 | 3.95 - 5.85 | CMI187-3PA-dB-6-6-6 | 6.50 | 4.50 | | | |
| WR159 | 4.90 - 7.05 | CMI159-3PB-dB-2-2-2 | 6.00 | 4.00 | | | |
| WR137 | 5.85 - 8.20 | CMI137-3PB-dB-2-2-2 | 6.00 | 4.00 | | | |
| WR112 | 7.05 - 10.0 | CMI112-3PB-dB-6-6-6 | 4.20 | 3.00 | | | |
| WR90 | 8.20 - 12.4 | CMI90-3PA-dB-6-6-6 | 4.00 | 2.75 | | | |
| WR75 | 10.0 - 15.0 | CMI75-3PB-dB-6-6-6 | 3.75 | 2.50 | | | |
| WR62 | 12.4 - 18.0 | CMI62-3PB-dB-6-6-6 | 3.50 | 2.37 | | | |
| WR51 | 15.0 - 22.0 | CMI51-3PB-dB-6-6-6 | 3.10 | 2.25 | | | |
| WR42 | 18.0 - 26.5 | CMI42-3PB-dB-6-6-6 | 2.20 | 1.50 | | | |
| WR34 | 22.0 - 33.0 | CMI34-3PB-dB-6-6-6 | 2.20 | 1.50 | | | |
| WR28 | 26.5 - 40.0 | CMI28-3PB-dB-6-6-6 | 2.00 | 1.50 | | | |

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Crossguide Directional Coupler- 3 Waveguide Ports





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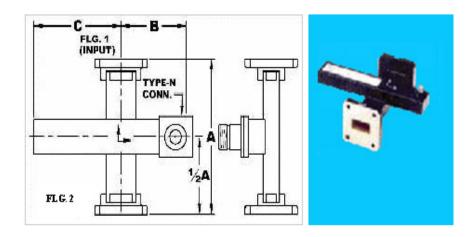
| | Standard Models | | | | | | |
|---------|-----------------|---------------------|--------------|----------|--|--|--|
| WG Size | Freq GHz | Standard | Dim A | В | | | |
| | | Model No.* | (Inches) Dim | (Inches) | | | |
| WR430 | 1.70 - 2.60 | CMI430-3PA-dB-2-2-2 | 7.50 | 8.00 | | | |
| WR284 | 2.60 - 3.95 | CMI284-3PA-dB-6-6-6 | 7.50 | 5.00 | | | |
| WR229 | 3.30 - 4.90 | CMI229-3PB-dB-2-2-2 | 7.00 | 4.75 | | | |
| WR187 | 3.95 - 5.85 | CMI187-3PA-dB-6-6-6 | 6.50 | 4.50 | | | |
| WR159 | 4.90 - 7.05 | CMI159-3PB-dB-2-2-2 | 6.00 | 4.00 | | | |
| WR137 | 5.85 - 8.20 | CMI137-3PB-dB-2-2-2 | 6.00 | 4.00 | | | |
| WR112 | 7.05 - 10.0 | CMI112-3PB-dB-6-6-6 | 4.20 | 3.00 | | | |
| WR90 | 8.20 - 12.4 | CMI90-3PA-dB-6-6-6 | 4.00 | 2.75 | | | |
| WR75 | 10.0 - 15.0 | CMI75-3PB-dB-6-6-6 | 3.75 | 2.50 | | | |
| WR62 | 12.4 - 18.0 | CMI62-3PB-dB-6-6-6 | 3.50 | 2.37 | | | |
| WR51 | 15.0 - 22.0 | CMI51-3PB-dB-6-6-6 | 3.10 | 2.25 | | | |
| WR42 | 18.0 - 26.5 | CMI42-3PB-dB-6-6-6 | 2.20 | 1.50 | | | |
| WR34 | 22.0 - 33.0 | CMI34-3PB-dB-6-6-6 | 2.20 | 1.50 | | | |
| WR28 | 26.5 - 40.0 | CMI28-3PB-dB-6-6-6 | 2.00 | 1.50 | | | |

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Crossguide Directional Coupler- 2 Waveguide Ports 1 Type N/SMA (F) Coax Port



| Typical Part#: | WGSize-2PN/S Material -Coupling -Flange1 -Flange2 |
|-----------------|---|
| Basic Model#:_ | |
| Material:_ | A=Alum, B=Brass |
| Coupling (dB):_ | 30, 40, or 50dB |
| Flange1:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |
| Flange2:_ | 1=CPRG, 2=CPRF, 6=Cover, 7=Choke |

Example:

CMI187-2PNA-40-6-6 is a WR187 -2 WG port N connector Alum mat'l -40dB -Cover Flg -Cover Flg CMI187-2PSA-40-6-6 is a WR187 -2 WG port SMA connector Alum mat'l -40dB -Cover Flg -Cover Flg

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| | Standard Models | | | | | | | |
|---------|-----------------|------------------------|-------------------|-------------------|-------------------|--|--|--|
| WG Size | Freq GHz | Standard Model No.* | Dim A (Inches) | Dim B (Inches) | Dim C (Inches) | | | |
| WR430 | 1.70 - 2.60 | CMI430-2PN/SA-dB-2-2 | 7.50 | 5.00 | 8.00 | | | |
| WR284 | 2.60 - 3.95 | CMI284-2PN/SA-dB-6-6 | 7.50 | 3.75 | 5.00 | | | |
| WR229 | 3.30 - 4.90 | CMI229-2PN/SB-dB-2-2 | 7.00 | 3.50 | 4.75 | | | |
| WR187 | 3.95 - 5.85 | CMI187-2PN/SA-dB-6-6 | 6.50 | 3.25 | 4.50 | | | |
| WR159 | 4.90 - 7.05 | CMI159-2PN/SB-dB-2-2 | 6.00 | 3.00 | 4.00 | | | |
| WR137 | 5.85 - 8.20 | CMI137-2PN/SB-dB-2-2 | 6.00 | 3.00 | 4.00 | | | |
| WR112 | 7.05 - 10.0 | CMI112-2PN/SB-dB-6-6 | 4.20 | 2.10 | 3.00 | | | |
| WR90 | 8.20 - 12.4 | CMI90-2PN/SA-dB-6-6 | 4.00 | 2.00 | 2.75 | | | |
| WR75 | 10.0 - 15.0 | CMI75-2PN/SB-dB-6-6 | 3.75 | 1.87 | 2.50 | | | |
| WR62 | 12.4 - 18.0 | CMI62-2PN/SB-dB-6-6 | 3.50 | 1.75 | 2.37 | | | |

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Rectangular Waveguide Broad-Wall Multi-Hole Directional Couplers

HIGH DIRECTIVITY FLAT COUPLING WAVEGUIDE OR COAXIAL PORTS

These directional couplers consist of rectangular waveguide primary and secondary lines with a common broad wall where high directivity coupling is achieved over the full waveguide band by a Tchebyscheff multi-hole coupling structure and a precision termination in the secondary arm. Waveguide cover flanges are provided on the main line while secondary lines are available with either cover flanges or coaxial connectors. Both single directional (160 Series) and dual directional (200 Series) couplers have minimum size consistent with electrical performance. These couplers are ideal in reflectometer set-ups to measure VSWR's as low as 1.04:1 over full waveguide bands. They are also well suited as samplers in leveling loops or as power dividers and combiners. Finish is chromate conversion per MIL-C-5541, Class 3 for aluminum, and corrosion-resistant coatings for all others when specified, painted with gray epoxy enamel.













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PRODUCT SPECIFICATION

Specifications:

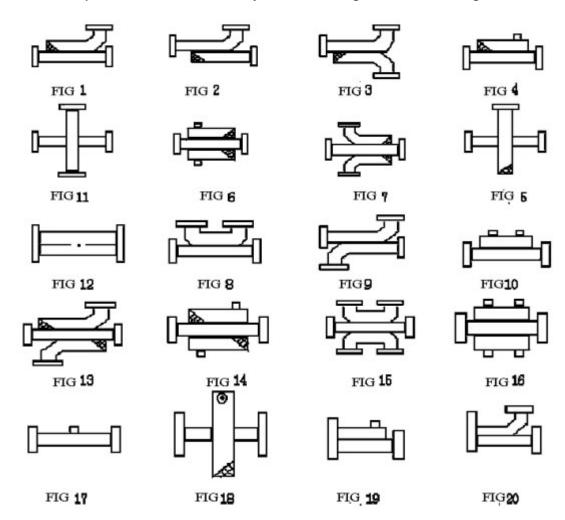
Directivity: 35dB Min VSWR: 1.05 Max. Main Line

Coupling: 10, 20, 30, 40, 50 dB 1.10 Max, Waveguide Secondary

Coupling: ±0.4 dB 1.35 Max, Coaxial Secondary

Frequency Sensitivity: ±0.5 dB Max.

Except the standard couplers, customer can select any one of the configurations as following:

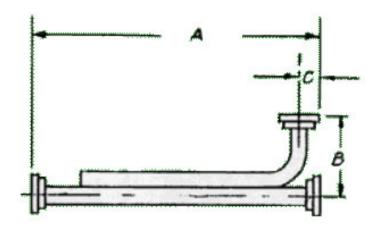


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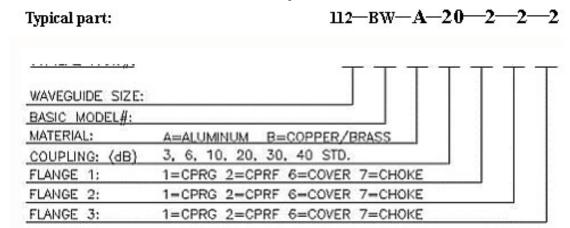
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Standard Waveguide Multi-Hole Directional Couplers



Code system



Example: P/N CMI112-BW-20-2-2-2 is WR112 Coupler, Aluminum material, 20dB coupling, CPRF flanges

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Multi-Hole Directional Coupler - 3 Waveguide Port

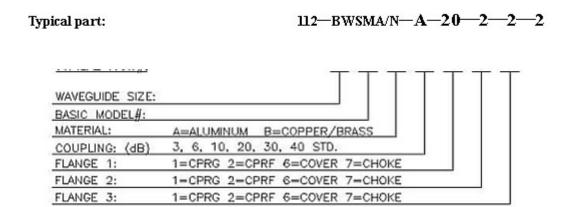
| | | | | Dimensions | |
|---------|-------------|--------------------|-------|------------|------|
| WG Size | Freq GHz | Model No.* | Α | В | С |
| WR284 | 2.60 - 3.95 | CMI284-BW-dB-6-6-6 | 50.25 | 9.18 | 2.66 |
| WR229 | 3.30 - 4.90 | CMI229-BW-dB-2-2-2 | 42.00 | 6.81 | 1.84 |
| WR187 | 3.95 - 5.85 | CMI187-BW-dB-6-6-6 | 34.62 | 6.44 | 1.81 |
| WR159 | 4.90 - 7.05 | CMI159-BW-dB-2-2-2 | 32.50 | 5.25 | 1.56 |
| WR137 | 5.85 - 8.20 | CMI137-BW-dB-2-2-2 | 26.50 | 3.06 | 1.56 |
| WR112 | 7.05 - 10.0 | CMI112-BW-dB-6-6-6 | 18.62 | 3.06 | 1.56 |
| WR90 | 8.20 - 12.4 | CMI90-BW-dB-6-6-6 | 16.68 | 1.94 | 1.50 |
| WR75 | 10.0 - 15.0 | CMI75-BW-dB-6-6-6 | 15.00 | 2.50 | 1.25 |
| WR62 | 12.4 - 18.0 | CMI62-BW-dB-6-6-6 | 13.75 | 2.18 | 0.66 |
| WR51 | 15.0 - 22.0 | CMI51-BW-dB-6-6-6 | 11.50 | 1.25 | 0.66 |
| WR42 | 18.0 - 26.5 | CMI42-BW-dB-6-6-6 | 9.50 | 1.25 | 0.75 |
| WR34 | 22.0 - 33.0 | CMI34-BW-dB-6-6-6 | 9.00 | 1.25 | 0.75 |
| WR28 | 26.5 - 40.0 | CMI28-BW-dB-6-6-6 | 8.00 | 1.12 | 0.75 |

Insert desired coupling value (30, 40, or 50dB) where dB is listed in the model number.

Note: The standard model numbers above are the most common parts ordered for size, material and flange.

However, these models can easily be altered to accommodate your needs by using the above model # code system.

Ordering Information



Example: P/N CMI112-BWSMA-20-2-2 is WR112 Coupler, Aluminum material, 20dB coupling, CPRF flanges.

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Multi-Hole Directional Coupler-2 Waveguide Ports, 1 SMA Coax Port

| | | | I | Dimensions | |
|---------|-------------|----------------|-------|------------|------|
| WG Size | Freq GHz | Model No. | Α | В | С |
| WR430 | 1.70 - 2.60 | CMI430-BWSMA-2 | 60.00 | 3.76 | 5.00 |
| WR284 | 2.60 - 3.95 | CMI284-BWSMA-6 | 50.25 | 2.55 | 2.66 |
| WR229 | 3.30 - 4.90 | CMI229-BWSMA-2 | 42.00 | 2.22 | 2.25 |
| WR187 | 3.95 - 5.85 | CMI187-BWSMA-6 | 34.62 | 1.81 | 2.00 |
| WR159 | 4.90 - 7.05 | CMI159-BWSMA-2 | 32.50 | 1.82 | 1.75 |
| WR137 | 5.85 - 8.20 | CMI137-BWSMA-2 | 26.50 | 1.56 | 1.75 |
| WR112 | 7.05 - 10.0 | CMI112-BWSMA-6 | 18.62 | 1.38 | 1.75 |
| WR90 | 8.20 - 12.4 | CMI90-BWSMA-6 | 16.68 | 1.20 | 1.75 |
| WR75 | 10.0 - 15.0 | CMI75-BWSMA-6 | 15.00 | 1.17 | 1.50 |
| WR62 | 12.4 - 18.0 | CMI62-BWSMA-6 | 13.75 | 1.05 | 1.00 |
| WR51 | 15.0 - 22.0 | CMI51-BWSMA-6 | 11.50 | 0.97 | 0.75 |
| WR42 | 18.0 - 26.5 | CMI42-BWSMA-6 | 9.50 | 0.84 | 0.75 |
| WR34 | 22.0 - 33.0 | CMI34-BWSMA-6 | 9.00 | 0.84 | 0.75 |
| WR28 | 26.5 - 40.0 | CMI28-BWSMA-6 | 8.00 | 0.79 | 0.88 |

Multi-Hole Directional Coupler-2 Waveguide Ports, 1 Type N Port

| | | | Dimensions | | |
|---------|-------------|--------------|------------|------|------|
| WG Size | Freq GHz | Model No. | Α | В | С |
| WR430 | 1.70 - 2.60 | CMI430-BWN-2 | 60.00 | 4.12 | 5.00 |
| WR284 | 2.60 - 3.95 | CMI284-BWN-6 | 50.25 | 2.91 | 2.66 |
| WR229 | 3.30 - 4.90 | CMI229-BWN-2 | 42.00 | 2.58 | 2.25 |
| WR187 | 3.95 - 5.85 | CMI187-BWN-6 | 34.62 | 2.17 | 2.00 |
| WR159 | 4.90 - 7.05 | CMI159-BWN-2 | 32.50 | 2.18 | 1.75 |
| WR137 | 5.85 - 8.20 | CMI137-BWN-2 | 26.50 | 1.92 | 1.75 |
| WR112 | 7.05 - 10.0 | CMI112-BWN-6 | 18.62 | 1.73 | 1.75 |
| WR90 | 8.20 - 12.4 | CMI90-BWN-6 | 16.68 | 1.56 | 1.75 |
| WR75 | 10.0 - 15.0 | CMI75-BWN-6 | 15.00 | 1.52 | 1.50 |
| WR62 | 12.4 - 18.0 | CMI62-BWN-6 | 13.75 | 1.41 | 1.00 |

CALL OUR SALES DEPARTMENT FOR MORE INFORMATION OR VARIATIONS OF THIS PRODUCT.

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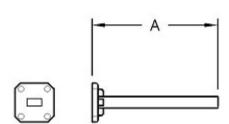
Low Power Matched Terminations

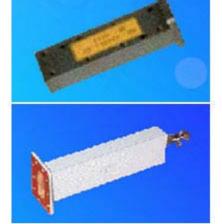
LOW VSWR LIGHT WEIGHT FULL BANDWIDTH COMPACT

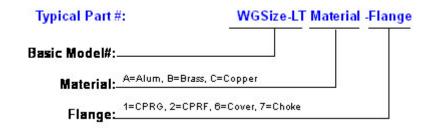
CMI's Rectangular Waveguide Standard Terminations consist of precision aluminum waveguide containing rugged material especially selected and designed to absorb incident power with very low reflection.

These units are ideal for laboratory and field measurements and production setups requiring high quality terminations. Additional features are short length and light weight. Typical applications include VSWR measurement of waveguide components, low power dummy antennas and matched terminations for directional couplers, hybrids and other devices.









Example: P/N CMI187-LTA-6 is WR187 low power term. Aluminum Material-Cover Flange

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| Standard Models | | | | | | | |
|-----------------|-------------|--------------|-----------------|-----------------------|--------------------|--|--|
| WG Size | Freq GHz | VSWR max. | Avg Power Watts | Standard Model No. | Dim A. (Inches) | | |
| WR650 | 1.12 - 1.70 | 1.02 | 25 | CMI650-LTA-2 | 12.50 | | |
| WR430 | 1.70 - 2.60 | 1.02 | 15 | CMI430-LTA-2 | 11.00 | | |
| WR340 | 2.20 - 3.30 | 1.01 | 12 | CMI340-LTA-2 | 10.75 | | |
| WR284 | 2.60 - 3.95 | 1.01 | 10 | CMI284-LTA-6 | 10.75 | | |
| WR229 | 3.30 - 4.90 | 1.01 | 10 | CMI229-LTB-2 | 7.50 | | |
| WR187 | 3.95 - 5.85 | 1.01 | 8 | CMI187-LTA-6 | 6.25 | | |
| WR159 | 4.90 - 7.05 | 1.01 | 7 | CMI159-LTB-2 | 6.00 | | |
| WR137 | 5.85 - 8.20 | 1.01 | 6 | CMI137-LTB-2 | 5.50 | | |
| WR112 | 7.05 - 10.0 | 1.01 | 4 | CMI112-LTB-6 | 5.00 | | |
| WR102 | 7.00 - 11.0 | 1.01 | 3 | CMI102-LTA-6 | 4.00 | | |
| WR90 | 8.2 - 12.4 | 1.01 | 4 | CMI90-LTA-6 | 4.00 | | |
| WR75 | 10.0 - 15.0 | 1.01 | 2 | CMI75-LTB-6 | 4.00 | | |
| WR62 | 12.4 - 18.0 | 1.01 | 1.5 | CMI62-LTB-6 | 4.00 | | |
| WR42 | 18.0 - 26.5 | 1.01 | 0.5 | CMI42-LTB-6 | 2.50 | | |
| WR34 | 22.0 - 33.0 | 1.01 | 0.5 | CMI34-LTB-6 | 2.50 | | |
| WR28 | 26.5 - 40.0 | 1.02 | 0.5 | CMI28-LTB-6 | 2.00 | | |
| WR22 | 33.0 - 50.0 | 1.02 | 0.5 | CMI22-LTB-6 | 1.50 | | |

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Rectangular Waveguide Well-Matched Tees and Hybrids

LOW VSWR COMPACT FULL BANDWIDTH

CMI offers a superior line of well-matched, broadband 4-port Hybrid magic tees and 3-port tees (100-E for E-Plane series tee). They can also be supplied with an integral medium power termination on the E arm (100-L). The 3-port tees may be used in power dividing networks or as combiners of high power tube outputs. The magic tee hybrid is even more suitable as it offers high isolation. Common applications of the hybrid include balanced mixer operations and connecting a transmitter and receiver to a pair of fore and aft antennas on an aircraft. All units are aluminum with chromate conversion finish. Paint is gray epoxy enamel.

Specifications:

VSWR: Lower VSWR can be supplied over reduced bandwidths -e.g. 1.1 over 5%, 1.15 over 10% 1.20 over 20% frequency bandwidths.

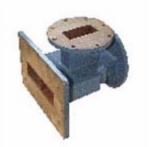
Power Split: 3.2±0.2dB (typ. tracking < 0.3dB = Phase Balance: within ±5° Hybrid Isolation: 30dB to H are, 15 dB collinear arms.

Ordering Information:

- (1) For reduced VSWR over narrow band, add suffix "N" and specify band and VSWR desired.
- (2) Other flanges, materials, and tees such as folded, reduced height, and unequal split are available on request.
- (3) Other waveguide bands and sizes are also available.







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Code system

| TYPICAL PART | 650 T/MT A 2 2 2 2 2 |
|-----------------|-------------------------------|
| WAVEGUIDE SIZE: | |
| BASIC MODEL#: | |
| MATERIAL: | A=ALUMINUM* |
| FLANGE 1: | 1=CPRG 2=CPRF 6=COVER 7=CHOKE |
| FLANGE 2: | 1=CPRG 2=CPRF 6=COVER 7=CHOKE |
| FLANGE 3: | 1-CPRG 2-CPRF 6-COVER 7-CHOKE |
| FLANGE 4: | 1=CPRG 2=CPRF 6=COVER 7=CHOKE |

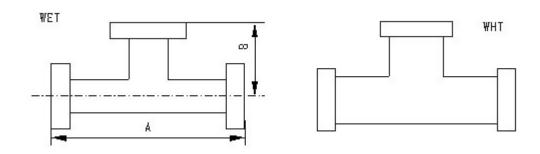
Example: P/N CMI284-THA-6-6-6 is WR284 series H Tee Aluminum Material-Cover Flange-Cover Flange-Cover Flange

| | Waveguide Magic Tees | | | | | | | |
|---------|-----------------------------|------------|-------------|-------------------|--------------------|---------------|--|--|
| WG Size | Optimum Freq Range (GHz) | Bandwidth% | VSWR Max | Max Unbalanced | Standard Model No. | Dimension(MM) | | |
| | | | EΗ | +/- dB | | | | |
| WR430 | 1.90 - 2.30 | 10~20 | 1.2 , 1.5 | 0.25 | CMI430-MTA-2-2-2-2 | 200×100×100 | | |
| WR340 | 2.30 - 2.60 | 10~20 | 1.2 , 1.5 | 0.25 | CMI340-MTA-2-2-2-2 | 185×92.5×73 | | |
| WR284 | 2.90 - 3.20 | 10~20 | 1.2 , 1.5 | 0.25 | CMI284-MTA-6-6-6-6 | 185×92.5×73 | | |
| WR229 | 3.70 - 4.20 | 10~20 | 1.2 , 1.3 | 0.25 | CMI229-MTA-2-2-2-2 | 120× 60× 60 | | |
| WR187 | 4.40 - 5.00 | 10~20 | 1.2 , 1.3 | 0.25 | CMI187-MTA-6-6-6-6 | 110× 55× 55 | | |
| WR159 | 5.90 - 6.40 | 10~20 | 1.2 , 1.3 | 0.25 | CMI159-MTA-2-2-2-2 | 120× 60× 55 | | |
| WR137 | 5.90 - 6.40 | 10~20 | 1.2 , 1.3 | 0.25 | CMI137-MTA-2-2-2-2 | 100× 50× 40 | | |
| WR112 | 7.90 - 8.40 | 10~20 | 1.2 , 1.3 | 0.25 | CMI112-MTA-6-6-6-6 | 100×50×40 | | |
| WR102 | 8.50 - 9.80 | 10~20 | 1.2 , 1.3 | 0.25 | CMI102-MTA-6-6-6-6 | 100×50×50 | | |
| WR90 | 9.00 - 10.0 | 10~20 | 1.2 , 1.3 | 0.25 | CMI90-MTA-6-6-6-6 | 80×40×40 | | |
| WR75 | 13.5 - 14.5 | 10~20 | 1.2 , 1.5 | 0.25 | CMI75-MTA-6-6-6-6 | 70×35×35 | | |
| WR62 | 14.0 - 15.0 | 10~20 | 1.2 , 1.5 | 0.25 | CMI62-MTA-6-6-6-6 | 70×35×35 | | |
| WR42 | 20.0 - 23.0 | 10~20 | 1.2 , 1.5 | 0.25 | CMI42-MTA-6-6-6-6 | 45×23×23 | | |
| WR28 | 34.0 - 37.0 | 10~20 | 1.2 , 1.5 | 0.25 | CMI28-MTA-6-6-6-6 | 32×20×20 | | |

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| | Hybrid Tees | | | | | | | |
|---------|-----------------------------|------------------|------------------|--------------------|--|--|--|--|
| WG Size | Optimum Freq Range (GHz) | - | | Dimension A(mm) | | | | |
| WR650 | 1.12 -1.70 | CMI650-TEA-2-2-2 | CMI650-THA-2-2-2 | 267 | | | | |
| WR430 | 1.70 - 2.60 | CMI430-TEA-2-2-2 | CMI430-THA-2-2-2 | 229 | | | | |
| WR340 | 2.20 - 3.30 | CMI340-TEA-2-2-2 | CMI340-THA-2-2-2 | 210 | | | | |
| WR284 | 2.60 - 3.95 | CMI284-TEA-6-6-6 | CMI284-THA-6-6-6 | 7.50 | | | | |
| WR229 | 3.30 - 4.90 | CMI229-TEA-2-2-2 | CMI229-THA-2-2-2 | 190 | | | | |
| WR187 | 3.95 - 5.85 | CMI187-TEA-6-6-6 | CMI187-THA-6-6-6 | 146 | | | | |
| WR159 | 4.90 - 7.05 | CMI159-TEA-2-2-2 | CMI159-THA-2-2-2 | 140 | | | | |
| WR137 | 5.85 - 8.20 | CMI137-TEA-2-2-2 | CMI137-THA-2-2-2 | 130 | | | | |
| WR112 | 7.05 - 10.0 | CMI112-TEA-6-6-6 | CMI112-THA-6-6-6 | 83 | | | | |
| WR102 | 7.00 - 11.0 | CMI102-TEA-6-6-6 | CMI102-THA-6-6-6 | 81 | | | | |
| WR90 | 8.20 - 12.4 | CMI90-TEA-6-6-6 | CMI90-TAH-6-6-6 | 79 | | | | |
| WR75 | 10.0 - 15.0 | CMI75-TEA-6-6-6 | CMI75-THA-6-6-6 | 76 | | | | |
| WR62 | 12.4 - 18.0 | CMI62-TEA-6-6-6 | CMI62-THA-6-6-6 | 67 | | | | |
| WR42 | 18.0 - 26.5 | CMI42-TEA-6-6-6 | CMI42-THA-6-6-6 | 64 | | | | |
| WR34 | 22.0 - 33.0 | CMI34-TEA-6-6-6 | CMI34-THA-6-6-6 | 61 | | | | |
| WR28 | 26.5 - 40.0 | CMI28-TEA-6-6-6 | CMI28-THA-6-6-6 | 60 | | | | |

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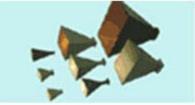
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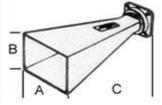


Standard Gain Horn Antennas

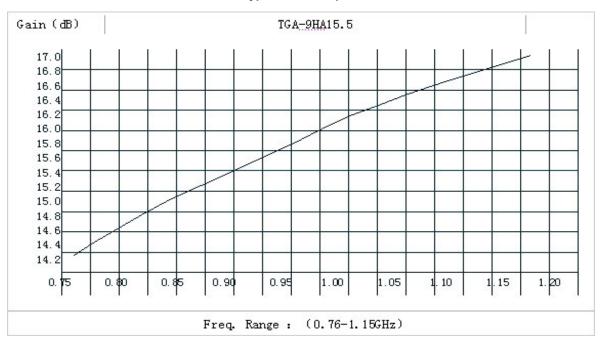
- Lightweight Aluminum Material
- Corrosion Resistant Finish
- Standard Gain Models are 10, 15 and 20. Others available consult factory for details
- Low VSWR
- Multiple Flange Types available
- Typical Gain Variation: +/-1.5 to +/-2.0dB
- Inputs are WG flanges. For SMA or Type N order Tiger's WG to Coax Adaptors
- SMA models, Type N models
- Contact CMI for Radomes, Brackets and other options.







Typical Test Graphic



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Micronics Product Specification

| Model No. | Frequency (GHz) | Waveguide | Gain(dB) | Waveguide-Coaxial Adapters | Shape A×B×C | Material |
|---------------|-----------------|-----------|----------|----------------------------|---------------|----------|
| CMI-3HA13 | 0.26 ~ 0.41 | BJ - 3 | 13 | CMI-3WCA/N | 1700×1300×675 | Al |
| CMI-4HA13 | 0.32 ~ 0.49 | BJ - 4 | 13 | CMI-4WCA/N | | Al |
| CMI-5HA13 | 0.41 ~ 0.62 | BJ - 5 | 13 | CMI-5WCA/N | | Al |
| CMI-6HA14 | 0.49 ~ 0.75 | BJ - 6 | 14 | CMI-6WCA/N | 1230×990×1220 | Al |
| CMI-8HA14 | 0.64 ~ 0.98 | BJ - 8 | 14 | CMI-8WCA/N | | Al |
| CMI-9HA15.5 | 0.77 ~ 1.14 | BJ - 9 | 15.5 | CMI-9WCA/N | 827×613×610 | Al |
| CMI-12HA15.5 | 0.96 ~ 1.46 | BJ - 12 | 15.5 | CMI-12WCA/N | 600×300×1000 | Al |
| CMI-14HA15.5 | 1.14 ~ 1.72 | WR650 | 15.5 | CMI-14WCA/N | 557×413×410 | Al |
| CMI-18HA15.5 | 1.45 ~ 2.2 | WR510 | 15.5 | CMI-18WCA/N | 446×345×350 | Al |
| CMI-22HA15.5 | 1.72 ~ 2.6 | WR430 | 15.5 | CMI-22WCA/N | 365×28.2×270 | Al |
| CMI-26HA15.5 | 2.17 ~ 3.3 | WR340 | 15.5 | CMI-26WCA/N | 309×238.5×235 | Al |
| CMI-32HA20 | 2.6 ~ 3.95 | WR284 | 20 | CMI-32WCA/N | 380×260×450 | Al |
| CMI-40HA20 | 3.3~4.9 | WR229 | 20 | CMI-40WCA/N | 350×270×390 | Al |
| CMI-48HA20 | 3.95 ~ 5.85 | WR187 | 20 | CMI-48WCA/N | 280×215×320 | Al |
| CMI-58HA20 | 4.95 ~ 7.05 | WR159 | 20 | CMI-58WCA/N | 240×180×280 | Al |
| CMI-70HA20 | 5.85 ~ 8.2 | WR137 | 20 | CMI-70WCA/N/SMA | 200×155×260□ | Al |
| CMI-84HA20 | 7.05 ~ 10.0 | WR112 | 20 | CMI-84WCA/N/SMA | 159×122×220 | Al |
| CMI-100HA20 | 8.2 ~ 12.4 | WR90 | 20 | CMI-100WCA/N/SMA | 135×104×170 | Al/Cu |
| CMI-100HA25 | 8.2 ~ 12.4 | WR90 | 25 | CMI-100WCA/N/SMA | 300×232×655 | Al/Cu |
| CMI-120HA20 | 10.0 ~ 15.0 | WR75 | 20 | CMI-120WCA/N/SMA | 108×83×135 □ | Al/Cu |
| CMI-140HA20 | 12.4 ~ 18.0 | WR62 | 20 | CMI-140WCA/N/SMA | 90×69×115 □ | Al/Cu |
| CMI-140HA24.7 | 12.4 ~ 18.0 | WR62 | 24.7 | CMI-140WCA/N/SMA | 152×125×306 | Al/Cu |
| CMI-180HA20 | 15.0 ~ 22.0 | WR51 | 20 | CMI-180WS/APC3.5 | 80×60×100 | Cu |
| CMI-180HA24.7 | 15.0 ~ 22.0 | WR51 | 24.7 | CMI-180WS/APC3.5 | 129×79×25 | Cu |
| CMI-220HA20 | 18.0 ~ 26.5 | WR42 | 20 | CMI-220WS/3.5/2.4 | 68×55×40 | Cu |
| CMI-220HA24.7 | 18.0 ~ 26.5 | WR42 | 24.7 | CMI-220WS/3.5/2.4 | 105×81×285 | Cu |
| CMI-260HA24.7 | 22.0 ~ 33.0 | WR34 | 24.7 | CMI-260WS/3.5/2.4 | 89×68.7×200 | Cu |
| CMI-320HA20 | 26.5 ~ 40.0 | WR28 | 20 | CMI-320WS/3.5/2.4 | 39×30×60 | Cu |
| CMI-320HA24.7 | 26.5 ~ 40.0 | WR28 | 24.7 | CMI-320WS/3.5/2.4 | 69×57×153 | Cu |
| CMI-400HA24.7 | 33.0 ~ 50.0 | WR22 | 24.7 | CMI-400WCA3.5/2.4 | | Cu |
| CMI-500HA24.7 | 40.0 ~ 60.0 | WR18 | 24.7 | CMI-500WCA3.5/2.4 | | Cu |
| CMI-620HA24.7 | 50.0 ~ 75.0 | WR14 | 24.7 | | | Cu |
| CMI-740HA24.7 | 60.0 ~ 90.0 | WR12 | 24.7 | | | Cu |
| CMI-900HA24.7 | 75.0 ~ 110.0 | WR10 | 24.7 | | 26×20×63 | Cu |

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