

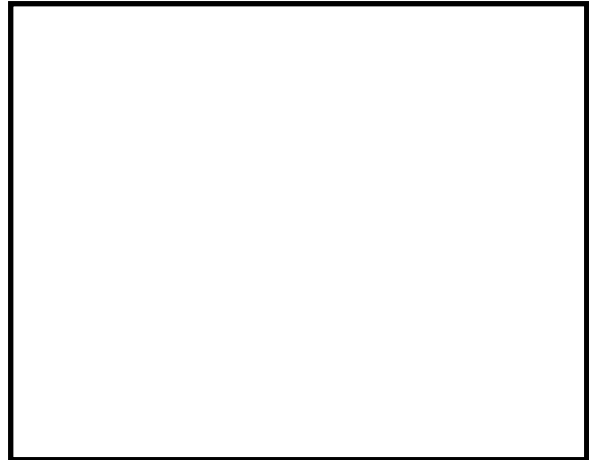
## Rectangular-to-Circular Waveguide Transitions

### FEATURES:

- ❖ Minimum VSWR
- ❖ Minimum Insertion Loss
- ❖ Optional Pressurized Models Available
- ❖ Efficient Conversion from TE<sub>10</sub> Mode Rectangular Waveguide to TE<sub>01</sub> Mode Circular Waveguide

### APPLICATIONS:

- ❖ Radar Systems
- ❖ Test Setup



### DESCRIPTION:

### CRC Series

Cernex's CRC series TE<sub>01</sub> mode transitions are available for operation from 18.0 to 140.0 GHz. These reciprocal devices have a standard rectangular TE<sub>10</sub> mode waveguide input and a circular TE<sub>01</sub> mode output. Because of the different frequency ranges of circular TE<sub>01</sub> mode waveguide, it is possible for a standard sized rectangular waveguide input to have one of several different circular waveguide size outputs. The CRC series circular mode waveguide features low VSWR and insertion loss. The flanges used for circular waveguide output are Cernex's standard male/female type. For maximum mode purity, filtering is recommended for all TE<sub>01</sub> propagation (please refer to Appendix L).

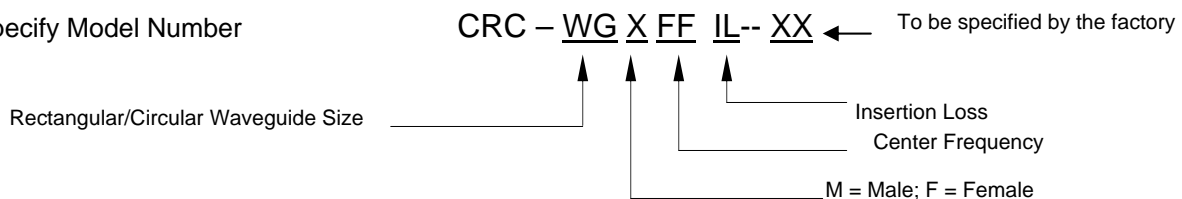
### SPECIFICATIONS:

Waveguide Band	Ku	K	Ka	Q	U	V	E	W	F
Waveguide Size	WR-62	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8
Frequency Range (GHz)	12.4 to 18.0	18.0 to 26.5	26.5 to 40.0	33.0 to 50.0	40.0 to 60.0	50.0 to 75.0	60.0 to 90.0	75.0 to 110.0	90.0 to 140.0
Insertion Loss TE <sub>01</sub> (dB) Max.	0.3	0.3	0.3	0.4	0.4	0.5	0.5	0.6	0.8
VSWR Max.	1.40	1.40	1.40	1.40	1.40	1.40	1.40	1.50	1.60
Bandwidth	6%	6%	6%	6%	5%	5%	4%	4%	3%
Average Power (Watts) <sup>1</sup>	4000	2000	1000	1000	600	400	200	100	50
Peak Power (kW) <sup>1</sup>	20	10	5	4	3	2	1	0.5	0.2
Weight (oz) <sup>2</sup>	40	30	25	25	25	10	5	5	4

Notes: 1. Estimated 2. Average: Weight varies with circular waveguide size and flange configuration.

### HOW TO ORDER:

Specify Model Number



**Example:** To order WR-15 waveguide mode with male waveguide output, a frequency band of 50-55GHz, and an insertion loss of 0.5db, specify CRC-1515M5505-XX.

CERNEX RESERVE THE RIGHT TO CHANGE THE SPECIFICATIONS WITHOUT NOTICE