

Waveguides

Waveguide couplers



WAVEGUIDE COUPLERS

| Frequency (GHz) | Description & Application | Type | RF Performances | | | | Package WR | Part Number |
|-----------------|---------------------------|--------------|----------------------|------------------|---------------------|------------|------------|-------------|
| | | | Coupling Factor (dB) | Directivity (dB) | Return loss (dB) | Power (CW) | | |
| 1.98-2.2 | Space | Directive | 33 | 17 | 19 | | 340 1/4h | fh 2680 |
| 1.98-2.2 | | Test Coupler | 33 | 20 | 23 | | 340 1/2h | fh 2656 |
| 2.33 - 2.34 | Space | Directive | 35 | 25 | 21 | | 340 1/4h | fh 1688 |
| 3 | | Loop Coupler | 60 | 35 | 32 | 1760 W | 284 | fh 2188 |
| 3.625-4.2 | Space | Test Coupler | 33 | 20 | 21 | 600 W | 229 | fh 2181 |
| 5.7-7.1 | Space | Test Coupler | 29 | 18 | 20 | | 137 | fh 1885 |
| 5.8-6.7 | Space | Test Coupler | 29 | 18 | 21 | | 137 | fh 1885 |
| 5.9-6.7 | Space | Directive | 10 | 20 | 20 | | 137 | fh 1914 |
| 7-8.4 | | Test Coupler | 33 | 18 | 26 | 500 W | 112 | fh 2853 |
| 8-8.5 | Space | Test Coupler | 30 | 20 | 26 | | 112 | fh 1895 |
| 9.4-10 | | Loop Coupler | 70 | 20 | 1.8 Caox /1.08 main | | 90 | fh 2988 |
| 10.7-12.75 | Space | Test Coupler | 33 | 23 | 21 | 1840 W | 90 | fh 2492 |
| 10.7-12.75 | Space | Test Coupler | 33 | 23 | 21 | 2300 W | 90 | fh 2652 |
| 10.7-12.75 | Space | Test Coupler | 37 | 23 | 21 | 2600 W | 90 | fh 2751 |
| 10.7-12.75 | Space | Test Coupler | 22 | 23 | 21 | | 90 | fh 2652 |
| 10.7-12.75 | Space | Test Coupler | 37 | 23 | 21 | | 90 | fh 2751 |
| 10.7-12.75 | Space | Test Coupler | 33 | 17 | 21 | 1840 W | 90 | fh 2492 |
| 10.7-12.75 | Space | Directive | 7 | 17 | 23 | | 75 | fh 2395 |
| 10.7-12.75 | Space | Directive | 12 | 20 | 26 | 120 W | 75 | fh 1851 |
| 10.7-12.75 | Space | 3 dB | 3 | 21 | 23 | | 75 | fh 2396 |
| 10.9-11.7 | Space | 3 dB | 3 | 20 | 23 | 100 W | 75 | fh 1716 |
| 10.94-11.7 | Space | Directive | 3.3 | 20 | 23 | 120 W | 75 | fh 2520 |
| 10.95-12.75 | Space | Test Coupler | 33 | 23 | 21 | 1620 W | 75 | fh 2179 |
| 10.95-12.75 | Space | Test Coupler | 29 | 19 | 24 | | 75 | fh 2075 |
| 11.7-12.75 | Space | Directive | 3.3 | 20 | 23 | 120 W | 75 | fh 2077 |
| 12.2-12.7 | | Loop Coupler | 30 | 14 | 21 | | 75 | fh 2441 |
| 12.7-14.5 | Space | Test Coupler | 27 | 16 | 21 | | 75 | fh 1849 |
| 12.7-14.8 | Space | Test Coupler | 27 | 14 | 21 | | 75 | fh 1849 |
| 12.75-14.5 | Space | Test Coupler | 27 | 20 | 21 | | 75 | fh 2654 |
| 12.75-14.8 | Space | Directive | 10 | 17 | 23 | | 62 | fh 2405 |
| 12.75-14.8 | Space | 3 dB | 3 | 21 | 23 | | 62 | fh 2406 |
| 12.9-14.5 | Space | Test Coupler | 27 | 20 | 21 | | 75 | fh 2654 |
| 12.9-14.5 | Space | Test Coupler | 27 | 17 | 21 | | 62 | fh 2648 |
| 13.72-14.78 | Space | 3 dB | 3 | 20 | 23 | | 62 | fh 2055 |
| 13.9-14.5 | Space | Directive | 15 | 20 | 23 | | 62 | fh 2087 |
| 13.9-14.5 | Space | 3 dB | 3 | 20 | 25 | | 62 | fh 1626 |
| 13.9-14.5 | Space | Directive | 3 | 20 | 23 | | 62 | fh 2090 |
| 13.9-14.5 | Space | 3 dB | 3 | 20 | 23 | | 62 | fh 2091 |
| 13.97-14.03 | Space | 3 dB | 3 | 20 | 23 | | 62 | fh 1900 |
| 14.45-14.55 | Space | Directive | 6 | 19 | 21 | | 62 | fh 1543 |
| 14.45-14.55 | Space | Directive | 6 | 19 | 21 | | 62 | fh 1541 |
| 17.2-20.2 | Space | Test Coupler | 27 | 14 | 21 | | 51 | fh 2695 |
| 17.3-17.8 | | Loop Coupler | 22 | 10 | 21 | | 62 | fh 2440 |
| 17.3-18.1 | Space | Directive | 15 | 20 | 23 | | 62 | fh 2430 |
| 17.3-18.1 | Space | Directive | 15 | 20 | 23 | | 62 | fh 2517 |
| 17.3-18.4 | Space | Test Coupler | 27 | 17 | 21 | | 62 | fh 2651 |
| 17.3-18.4 | Space | Test Coupler | 27 | 20 | 21 | | 62 | fh 2653 |
| 17.3-18.4 | Space | Test Coupler | 27 | 14 | 24 | | 62 | fh 2648 |

Waveguides

Waveguide couplers
Waveguide to coaxial adapters
Waveguide tapers

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| Frequency (GHz) | Description & Application | Type | RF Performances | | | | Package WR | Part Number |
|-----------------|---------------------------|--------------|----------------------|------------------|------------------|------------|------------|-------------|
| | | | Coupling Factor (dB) | Directivity (dB) | Return loss (dB) | Power (CW) | | |
| 17.5-20.5 | Space | Test Coupler | 33 | 17 | 21 | 240 W | 51 | fh 1869 |
| 17.5-20.5 | Space | Test Coupler | 27 | 17 | 21 | | 51 | fh 2695 |
| 17.6-18.1 | Space | Directive | 3.3 | 20 | 23 | | 62 | fh 2518 |
| 17.7-20.2 | Space | Test Coupler | 33 | 17 | 18 | | 51 | fh 2838 |
| 17-20.5 | Space | Test Coupler | 17 | 17 | 21 | | 51 | fh 1869 |
| 19.4-20.5 | Space | 3 dB | 3 | 20 | 25 | | 51 | fh 1969 |
| 20.2-21.2 | Space | 3 dB | 3 | 20 | 25 | | 51 | fh 2423 |
| 20-20.7 | Space | 3 dB | 3 | 20 | 25 | | 51 | fh 2821 |
| 27.5-28.5 | Space | 3 dB | 3 | 20 | 23 | | 34 | fh 2894 |
| 27-31 | Space | Test Coupler | 27 | 14 | 21 | | 34 | fh 2325 |
| 27-31.54 | Space | Test Coupler | 27 | 17 | 21 | | 34 | fh 2325 |
| 28.5-29.5 | Space | Directive | 10 | 19 | 23 | | 34 | fh 2916 |
| 28-30 | Space | Test Coupler | 27 | 14 | 21 | | 34 | fh 2839 |
| 30-30.8 | Space | Directive | 14 | 19 | 23 | | 34 | fh 2790 |
| 30-30.8 | Space | Directive | 20 | 19 | 23 | | 34 | fh 2791 |
| 30-30.8 | Space | 3 dB | 3 | 20 | 23 | | 34 | fh 2792 |
| 30-30.8 | Space | 3 dB | 3 | 20 | 23 | | 34 | fh 2789 |

WAVEGUIDE TO COAXIAL ADAPTERS

| Frequency (GHz) | Description & Application | RF Performances | | | Package | Part Number |
|-----------------|---------------------------|-----------------|-----------|---------------------|----------|-------------|
| | | Connector | VSWR (dB) | Insertion loss (dB) | | |
| 1.45-1.65 | Space | SMA-F | 20 | 0.15 | 510 1/4h | fh 1400 |
| 3.6-4.2 | Space | SMA-F | 23 | 0.1 | 229 1/4h | fh 1707 |
| 3.6-4.2 | Space | TNC-F | 23 | 0.1 | 229 1/4h | fh 1706 |
| 3.6-4.2 | Space | TNC | 23 | 0.15 | 229 1/4h | fh 2670 |
| 3.7-4.4 | Space | SMA-F | 23 | 0.15 | 229 | fh 2332 |
| 3.8-4.2 | Space | TNC-F | 26 | 0.2 | 229 | fh 1532 |
| 5.85-6.42 | Space | SMA-F | 21 | 0.08 | 137 1/4h | fh 2037 |
| 5.8-6.7 | Space | SMA-F | 23 | 0.15 | 137 | fh 2315 |
| 5.9-6.7 | Space | SMA-F bent | 25 | 0.1 | 137 1/4h | fh 2120 |
| 5.9-6.72 | Space | SMA-F | 26 | 0.1 | 137 | fh 1545 |
| 6.6-7.1 | Space | SMA-F bent | 21 | 0.08 | 137 1/4h | fh 2787 |
| 6.87-7.05 | Space | TNC | 21 | 0.05 | 137 | fh 2763 |
| 6.9-7.05 | Space | Axial- TNC-F | 21 | 0.2 | 137 | fh 2763 |
| 7.05-10 | Space | SMA-F | 20 | 0.15 | 112 | fh 1512 |
| 7.9-8.4 | Space | SMA-F | 23 | 0.15 | 112 | fh 1544 |
| 8.1-8.4 | Space | TNC-F | 21 | 0.15 | 112 | fh 2833 |
| 10-12 | Space | TNC-F | 25 | 0.2 | 75 | fh 2030 |
| 10.7-12.9 | Space | SMA-F | 23 | 0.15 | 75 | fh 2829 |
| 10.7-13 | Space | SMA-F | 23 | 0.15 | 75 | fh 2247 |
| 10.94-11.71 | Space | TNC-F | 23 | 0.15 | 75 | fh 2757 |
| 11.7-12.2 | Space | SMA-F | 23 | 0.15 | 75 | fh 2777 |
| 11.7-12.2 | Space | SMA-F | 23 | 0.15 | 90 | fh 2646 |
| 11.7-12.75 | Space | SMA-F | 23 | 0.15 | 75 | fh 2076 |
| 11.7-12.75 | Space | TNC-F | 23 | 0.15 | 75 | fh 2089 |



WAVEGUIDE TO COAXIAL ADAPTERS

| Frequency (GHz) | Description & Application | RF Performances | | | Package | Part Number |
|-----------------|---------------------------|-----------------|-----------|---------------------|---------|-------------|
| | | Connector | VSWR (dB) | Insertion loss (dB) | | |
| 12.5-14.5 | Space | SMA-F | 23 | 0.15 | 75 | fh 2263 |
| 13.3-14.5 | Space | SMA-F | 23 | 0.15 | 62 | fh 2544 |
| 13.5-14.5 | Space | SMA-F | 26 | 0.1 | 62 | fh 6629 |
| 13.9-14.5 | Space | SMA-F | 23 | 0.15 | 62 | fh 2078 |
| 13.9-14.5 | Space | SMA-F | 26 | 0.15 | 62 | fh 2776 |
| 17.301-17.305 | Space | SMA-F | 26 | 0.15 | 62 | fh 1604 |
| 17.3-17.7 | Space | SMA-F | 26 | 0.15 | 62 | fh 1451 |
| 17.3-18.1 | Space | SMA-F | 26 | 0.15 | 62 | fh 2519 |
| 17.3-18.1 | Space | SMA-F | 23 | 0.15 | 62 | fh 2318 |
| 17-20 | Space | SMA 2.9-F | 21 | 0.15 | 51 | fh 2530 |
| 17-21 | Space | SMA 2.9-F | 23 | 0.15 | 51 | fh 2305 |
| 17-22 | Space | SMA 2.9-F | 21 | 0.15 | 51 | fh 2815 |
| 18-24.5 | Space | SMA 2.9-F | 19 | 0.15 | 42 | fh 2801 |
| 19-21.2 | Space | SMA 2.9-F | 21 | 0.15 | 51 | fh 2800 |
| 22-33 | Space | SMA 2.9-F | 20 | 0.15 | 34 | fh 2529 |
| 22-33 | Space | SMA 2.9-F | 20 | 0.15 | 34 | fh 2529 |
| 23-30 | Space | SMA 2.9-F | 20 | 0.15 | 34 | fh 2500 |
| 27.5-21 | Space | SMA 2.9-F | 21 | 0.2 | 28 | fh 2816 |
| 27.5-31.5 | Space | SMA 2.9-F | 23 | 0.15 | 34 | fh 2246 |
| 29-31 | Space | SMA 2.9-F | 20 | 0.12 | 28 | fh 2804 |
| 29-31 | Space | SMA 2.9-F | 21 | 0.15 | 28 | fh 2804 |

WAVEGUIDE TAPERS

| Frequency (GHz) | Description & Application | RF Performances | | Length | Package | Part Number |
|-----------------|---------------------------|-----------------|-----------|-----------|--------------------------|-------------|
| | | Connector | VSWR (dB) | | | |
| 3.4-4.2 | Space | 0.10 dB | -33.00 dB | 103.40 mm | WR 229 to WR 229 ½ h | fh 2093 |
| 3.4-4.2 | Space | 0.10 dB | -33.00 dB | 90.00 mm | WR 229 ½ h to WR 229 ¼ h | fh 2110 |
| 3.4-4.2 | Space | 0.10 dB | -30.00 dB | 96.80 mm | WR 229 to WR 229 ¼ h | fh 2079 |
| 5.85-6.65 | Space | 0.10 dB | -32.00 dB | 93.50 mm | WR 137 to WR 134 ¼ h | fh 2047 |
| 10.7-12.75 | Space | 0.10 dB | -33.00 dB | 60.00 mm | WR 75 to WR 90 | fh 2109 |
| 10.8-12.6 | Space | 0.10 dB | -24.00 dB | 50.00 mm | WR 75 to WR 75 ½ h | fh 1809 |
| 10.9-12.8 | Space | 0.10 dB | -26.44 dB | 95.00 mm | WR 75 to WR 90 | fh 1568 |
| 10-12.75 | Space | 0.10 dB | -26.44 dB | 33.50 mm | WR 75 to WR 90 | fh 2056 |
| 11.5-12.5 | Space | 0.10 dB | -26.44 dB | 42.00 mm | WR 75 to WR 75 ½ h | fh 1799 |
| 18.1-18.4 | Space | 0.10 dB | -26.44 dB | 27.60 mm | WR 51 to WR 62 | fh 2042 |
| 18-22 | Space | 0.15 dB | -26.44 dB | 16.00 mm | WR 42 to WR 51 | fh 1797 |
| 27.5-27.75 | Space | 0.15 dB | -26.44 dB | 17.30 mm | WR 28 to WR 34 | fh 1879 |

Waveguides

Waveguides
Waveguide loads

WAVEGUIDES

| Frequency (GHz) | Internal (mm) | Wavelength (Cm) | Attenuation at 1.5 Fc for copper (dB/m) | Peak power rating MW | Package | | |
|-----------------|---------------|-----------------|---|----------------------|---------|-------------|------------|
| | | | | | I.E.C. | U.K. (RCSC) | U.S. (EIA) |
| 1.14-1.73 | 165.0 x 83.0 | 26.7-17.7 | 0.0052 | 13.5 | R14 | WG6 | WR650 |
| 1.45-2.2 | 131.0 x 65.0 | 20.7-13.6 | 0.0075 | 8.29 | R18 | WG7 | WR510 |
| 1.72-2.61 | 109.0 x 55.0 | 17.7-11.5 | 0.0097 | 5.9 | R22 | WG8 | WR430 |
| 2.17-3.3 | 86.0 x 43.0 | 13.6-9.1 | 0.014 | 3.8 | R26 | WG9A | WR340 |
| 2.6-3.95 | 72.0 x 34.0 | 11.5-7.6 | 0.019 | 2.43 | R32 | WG10 | WR284 |
| 3.22-4.9 | 59.0 x 29.0 | 9.1-4.6.12 | 0.025 | 1.6 | R40 | WG11A | WR229 |
| 3.94-5.99 | 48.0 x 22.0 | 7.6-5.13 | 0.036 | 1.04 | R48 | WG12 | WR187 |
| 4.94-7.05 | 40.0 x 20.0 | 6.12-4.25 | 0.043 | 0.806 | R58 | WG13 | WR159 |
| 5.38-8.18 | 35.0 x 16.0 | 5.13-3.66 | 0.058 | 0.544 | R70 | WG14 | WR137 |
| 6.58-10 | 29.0 x 13.0 | 4.25-3 | 0.079 | 0.355 | R84 | WG15 | WR112 |
| 8.2-12.5 | 23.0 x 10.0 | 3.66-2.42 | 0.11 | 0.299 | R100 | WG16 | WR90 |
| 9.84-15 | 19.0 x 9.5 | 3.0-2.0 | 0.13 | 0.178 | R120 | WG17 | WR75 |
| 11.9-18 | 16.0 x 7.9 | 2.42-1.67 | 0.18 | 0.123 | R140 | WG18 | WR62 |
| 14.5-22 | 13.0 x 5.8 | 2-1.36 | 0.24 | 0.083 | R180 | WG19 | WR51 |
| 17.6-26.7 | 11.0 x 4.3 | 1.67-1.13 | 0.37 | 0.048 | R220 | WG20 | WR42 |
| 21.7-33 | 8.6 x 4.3 | 1.36-0.91 | 0.44 | 0.037 | R260 | WG21 | WR34 |
| 26.4-40.1 | 7.1 x 3.6 | 1.13-0.75 | 0.58 | 0.025 | R320 | WG22 | WR28 |
| 33-50.1 | 5.7 x 2.9 | 0.91-0.6 | 0.81 | 0.016 | R400 | WG23 | WR22 |
| 39.3-59.7 | 4.8 x 2.4 | 0.75-0.5 | 1.1 | 0.01 | R500 | WG24 | WR19 |
| 49.9-75.8 | 3.8 x 1.9 | 0.6-0.4 | 1.5 | 0.007 | R620 | WG25 | WR15 |
| 60.5-92 | 3.1 x 1.6 | 0.5-0.33 | 2 | 0.005 | R740 | WG26 | WR12 |
| 73.8-112 | 2.4 x 1.3 | 0.4-0.27 | 2.7 | 0.03 | R900 | WG27 | WR10 |

WAVEGUIDE LOADS

| Frequency (GHz) | Description & Application | Power - CW (W) | Power - PK (kW) | V.S.W.R | Bandwidth | Typical Length (mm) | Waveguide Size | Part Number |
|-----------------|---------------------------|----------------|-----------------|---------|-----------|---------------------|----------------|-------------|
| 1140-1730 | Air Cooled | 50 | - | 1.03 | 15% | 920 | WR650 (WG6) | 6-LA-9014 |
| 1140-1730 | Air Cooled | 50 | - | 1.15 | FULL | 245 | WR650 (WG6) | 6-LA-9000 |
| 1140-1730 | Air Cooled | 250 | - | 1.15 | FULL | 900 | WR650 (WG6) | 6-MA-9028 |
| 1140-1730 | Water Jacket | 500 | 2000 | 1.20 | 15% | 700 | WR650 (WG6) | 6-HL-9063 |
| 1140-1730 | Air Cooled | 4000 | 3000 | 1.20 | 15% | 710 | WR650 (WG6) | 6-HF-9042 |
| 1140-1730 | Water Dielectric | 30000 | 3000 | 1.10 | FULL | 1100 | WR650 (WG6) | 6-HW-9063 |
| 1720-2610 | Air Cooled | 240 | - | 1.15 | FULL | 750 | WR430 (WG8) | 8-MA-9084 |
| 2170-3300 | Air Cooled | 36 | - | 1.03 | 15% | 650 | WR340 (WG9A) | 9A-LA-9015 |
| 2170-3300 | Air Cooled | 36 | - | 1.15 | FULL | 140 | WR340 (WG9A) | 9A-LA-9001 |
| 2170-3300 | Air Cooled | 230 | - | 1.15 | FULL | 690 | WR340 (WG9A) | 9A-MA-9029 |
| 2170-3300 | Water Jacketed | 3000 | 1000 | 1.15 | 15% | 480 | WR340 (WG9A) | 9A-HL-9064 |
| 2170-3300 | Air Cooled | 3700 | 3000 | 1.15 | 15% | 570 | WR340 (WG9A) | 9A-HF-9043 |
| 2170-3300 | Water Dielectric | 50000 | 3500 | 1.15 | FULL | 680 | WR340 (WG9A) | 9A-HW-9064 |
| 2600-3950 | Air Cooled | 28 | - | 1.03 | 15% | 540 | WR284 (WG10) | 10-LA-9016 |
| 2600-3950 | Air Cooled | 28 | - | 1.15 | FULL | 110 | WR284 (WG10) | 10-LA-9002 |
| 2600-3950 | Air Cooled | 210 | - | 1.15 | FULL | 410 | WR284 (WG10) | 10-MA-9030 |
| 2600-3950 | Water Jacketed | 3000 | 1000 | 1.15 | 15% | 390 | WR284 (WG10) | 10-HL-9065 |
| 2600-3950 | Air Cooled | 1500 | 2000 | 1.10 | 15% | 405 | WR284 (WG10) | 10-HF-9044 |
| 2600-3950 | Water Dielectric | 48000 | 2000 | 1.15 | FULL | 610 | WR284 (WG10) | 10-HW-9065 |



WAVEGUIDE LOADS

| Frequency (GHz) | Description & Application | Power - CW (W) | Power - PK (kW) | V.S.W.R | Bandwidth | Typical Length (mm) | Waveguide Size | Part Number |
|-----------------|---------------------------|----------------|-----------------|---------|-----------|---------------------|----------------|-------------|
| 3300-4900 | Air Cooled | 28 | - | 1.03 | 15% | 435 | WR229 (WG11A) | 1A-LA-9017 |
| 3300-4900 | Air Cooled | 28 | - | 1.15 | FULL | 96 | WR229 (WG11A) | 1A-LA-9003 |
| 3300-4900 | Air Cooled | 200 | - | 1.15 | FULL | 309 | WR229 (WG11A) | 1A-MA-9031 |
| 3300-4900 | Water Jacketed | 2000 | 1000 | 1.15 | 15% | 380 | WR229 (WG11A) | 1A-HL-9066 |
| 3300-4900 | Air Cooled | 1000 | 1600 | 1.12 | 15% | 379 | WR229 (WG11A) | 1A-HF-9045 |
| 3300-4900 | Water Dielectric | 35000 | 3000 | 1.15 | FULL | 610 | WR229 (WG11A) | 1A-HW-9066 |
| 3950-5850 | Air Cooled | 25 | - | 1.05 | 15% | 360 | WR187 (WG12) | 12-LA-9018 |
| 3950-5850 | Air Cooled | 25 | - | 1.15 | FULL | 77 | WR187 (WG12) | 12-LA-9004 |
| 3950-5850 | Air Cooled | 170 | - | 1.15 | FULL | 300 | WR187 (WG12) | 12-MA-9032 |
| 3950-5850 | Water Jacketed | 2000 | 1000 | 1.10 | 15% | 490 | WR187 (WG12) | 12-HL-9067 |
| 3950-5850 | Air Cooled | 1000 | 1300 | 1.15 | 15% | 306 | WR187 (WG12) | 12-HF-9046 |
| 3950-5850 | Water Dielectric | 20000 | 3500 | 1.15 | FULL | 505 | WR187 (WG12) | 12-HW-9067 |
| 4900-7050 | Air Cooled | 20 | - | 1.03 | 15% | 300 | WR159 (WG13) | 13-LA-9019 |
| 4900-7050 | Air Cooled | 20 | - | 1.15 | FULL | 76 | WR159 (WG13) | 13-LA-9005 |
| 4900-7050 | Air Cooled | 160 | - | 1.15 | FULL | 290 | WR159 (WG13) | 13-MA-9033 |
| 4900-7050 | Water Jacketed | 5000 | 500 | 1.15 | 15% | 410 | WR159 (WG13) | 13-HL-9068 |
| 4900-7050 | Air Cooled | 500 | 1100 | 1.15 | 15% | 304 | WR159 (WG13) | 13-HF-9047 |
| 4900-7050 | Air Cooled | 3000 | 1100 | 1.15 | 15% | 304 | WR159 (WG13) | 13-HF-9090 |
| 5850-8200 | Air Cooled | 15 | - | 1.03 | 15% | 260 | WR137 (WG14) | 14-LA-9020 |
| 5850-8200 | Air Cooled | 15 | - | 1.15 | FULL | 75 | WR137 (WG14) | 14-LA-9006 |
| 5850-8200 | Air Cooled | 100 | - | 1.15 | FULL | 177 | WR137 (WG14) | 14-MA-9034 |
| 5850-8200 | Water Jacketed | 1000 | 500 | 1.15 | 15% | 375 | WR137 (WG14) | 14-HL-9069 |
| 5850-8200 | Water Jacketed | 5000 | 500 | 1.20 | 15% | 375 | WR137 (WG14) | 14-HL-6618 |
| 5850-8200 | Air Cooled | 400 | 800 | 1.15 | 15% | 300 | WR137 (WG14) | 14-HF-9048 |
| 5850-8200 | Air Cooled | 3000 | 800 | 1.15 | 15% | 300 | WR137 (WG14) | 14-HF-9091 |
| 5850-8200 | Water Dielectric | 20000 | 2200 | 1.10 | FULL | 390 | WR137 (WG14) | 14-HW-9069 |
| 7050-10000 | Air Cooled | 10 | - | 1.03 | 15% | 220 | WR112 (WG15) | 15-LA-9021 |
| 7050-10000 | Air Cooled | 10 | - | 1.15 | FULL | 60 | WR112 (WG15) | 15-LA-9007 |
| 7050-10000 | Air Cooled | 100 | - | 1.15 | FULL | 161 | WR112 (WG15) | 15-MA-9035 |
| 7050-10000 | Water Jacketed | 1000 | 500 | 1.10 | 15% | 335 | WR112 (WG15) | 15-HL-9070 |
| 7050-10000 | Water Jacketed | 3000 | 500 | 1.10 | 15% | 335 | WR112 (WG15) | 15-HL-6619 |
| 7050-10000 | Air Cooled | 400 | 650 | 1.20 | 15% | 310 | WR112 (WG15) | 15-HF-9049 |
| 7050-10000 | Air Cooled | 3000 | 650 | 1.20 | 15% | 310 | WR112 (WG15) | 15-HF-9092 |
| 7050-10000 | Air Cooled | 10000 | - | - | 5% | N/A | WR112 (WG15) | 15-HC-9049 |
| 7050-10000 | Water Dielectric | 19000 | 1500 | 1.10 | FULL | 328 | WR112 (WG15) | 15-HW-9070 |
| 8200-12400 | Air Cooled | 8 | - | 1.03 | 15% | 170 | WR90 (WG16) | 16-LA-9022 |
| 8200-12400 | Air Cooled | 8 | - | 1.15 | FULL | 52 | WR90 (WG16) | 16-LA-9008 |
| 8200-12400 | Air Cooled | 100 | - | 1.15 | FULL | 146 | WR90 (WG16) | 16-MA-9036 |
| 8200-12400 | Water Jacketed | 600 | 750 | 1.10 | 15% | 320 | WR90 (WG16) | 16-HL-9071 |
| 8200-12400 | Water Jacketed | 3000 | 750 | 1.10 | 15% | 320 | WR90 (WG16) | 16-HL-6620 |
| 8200-12400 | Air Cooled | 300 | 350 | 1.15 | 15% | 358 | WR90 (WG16) | 16-HF-9050 |
| 8200-12400 | Air Cooled | 1500 | 500 | 1.15 | 15% | 358 | WR90 (WG16) | 16-HF-9093 |
| 8200-12400 | Air Cooled | 8000 | - | - | 5% | N/A | WR90 (WG16) | 16-HC-9050 |
| 8200-12400 | Water Dielectric | 17000 | 800 | 1.15 | FULL | 295 | WR90 (WG16) | 16-HW-9071 |

Waveguides

Waveguide loads

WAVEGUIDE LOADS

| Frequency (GHz) | Description & Application | Power - CW (W) | Power - PK (kW) | V.S.W.R | Bandwidth | Typical Length (mm) | Waveguide Size | Part Number |
|-----------------|---------------------------|----------------|-----------------|---------|-----------|---------------------|----------------|-------------|
| 10000-15000 | Air Cooled | 8 | - | 1.03 | 15% | 145 | WR75 (WG17) | 17-LA-9023 |
| 10000-15000 | Air Cooled | 8 | - | 1.15 | FULL | 50 | WR75 (WG17) | 17-LA-9009 |
| 10000-15000 | Air Cooled | 100 | - | 1.15 | FULL | 131 | WR75 (WG17) | 17-MA-9037 |
| 10000-15000 | Air Cooled | 400 | 300 | 1.15 | 15% | 200 | WR75 (WG17) | 17-MF-9037 |
| 10000-15000 | Water Jacketed | 400 | - | 1.10 | 15% | 290 | WR75 (WG17) | 17-HL-9072 |
| 10000-15000 | Water Jacketed | 3000 | - | 1.10 | 15% | 290 | WR75 (WG17) | 17-HL-6621 |
| 10000-15000 | Air Cooled | 200 | 300 | 1.10 | 15% | 410 | WR75 (WG17) | 17-HF-9051 |
| 10000-15000 | Air Cooled | 1500 | 300 | 1.10 | 15% | 410 | WR75 (WG17) | 17-HF-9094 |
| 10000-15000 | Air Cooled | 2000 | 300 | 1.20 | 15% | 430 | WR75 (WG17) | 17-HF-9095 |
| 10000-15000 | Air Cooled | 6000 | - | - | 5% | N/A | WR75 (WG17) | 17-HC-9051 |
| 10000-15000 | Water Dielectric | 1500 | 1500 | 1.15 | FULL | 255 | WR75 (WG17) | 17-HW-9087 |
| 12400-18000 | Air Cooled | 8 | - | 1.03 | 15% | 120 | WR62 (WG18) | 18-LA-9024 |
| 12400-18000 | Air Cooled | 8 | - | 1.15 | FULL | 40 | WR62 (WG18) | 18-LA-9010 |
| 12400-18000 | Air Cooled | 100 | - | 1.15 | FULL | 110 | WR62 (WG18) | 18-MA-9038 |
| 12400-18000 | Air Cooled | 400 | 300 | 1.15 | 15% | 240 | WR62 (WG18) | 18-MF-9038 |
| 12400-18000 | Water Jacketed | 200 | 500 | 1.15 | 15% | 235 | WR62 (WG18) | 18-HL-9073 |
| 12400-18000 | Water Jacketed | 2000 | 500 | 1.15 | 15% | 235 | WR62 (WG18) | 18-HL-6622 |
| 12400-18000 | Air Cooled | 1000 | 300 | 1.10 | 15% | 334 | WR62 (WG18) | 18-HF-9052 |
| 12400-18000 | Air Cooled | 4000 | - | - | 5% | N/A | WR62 (WG18) | 18-HC-9052 |
| 12400-18000 | Water Dielectric | 10000 | 500 | 1.12 | FULL | 220 | WR62 (WG18) | 18-HW-9073 |
| 14500-22000 | Air Cooled | 5 | - | 1.15 | FULL | 105 | WR51 (WG19) | 19-LA-9010 |
| 14500-22000 | Air Cooled | 170 | - | 1.15 | 15% | 270 | WR51 (WG19) | 19-MF-9927 |
| 14500-22000 | Water Jacketed | 400 | - | 1.15 | 15% | 235 | WR51 (WG19) | 19-HL-6017 |
| 14500-22000 | Air Cooled | 600 | - | 1.15 | 15% | 250 | WR51 (WG19) | 19-HF-9099 |
| 14500-22000 | Air Cooled | 2000 | - | - | 5% | N/A | WR51 (WG19) | 19-HC-9099 |
| 18000-26500 | Air Cooled | 5 | - | 1.03 | 15% | 95 | WR42 (WG20) | 20-LA-9025 |
| 18000-26500 | Air Cooled | 5 | - | 1.15 | FULL | 25 | WR42 (WG20) | 20-LA-9011 |
| 18000-26500 | Air Cooled | 85 | - | 1.15 | FULL | 100 | WR42 (WG20) | 20-MA-9039 |
| 18000-26500 | Water Jacketed | 400 | - | 1.15 | 15% | 200 | WR42 (WG20) | 20-HL-9074 |
| 18000-26500 | Air Cooled | 600 | - | 1.12 | 15% | 207 | WR42 (WG20) | 20-HF-9053 |
| 18000-26500 | Air Cooled | 2000 | - | - | 5% | N/A | WR42 (WG20) | 20-HC-9053 |
| 21700-33000 | Air Cooled | 5 | - | 1.03 | 15% | 89 | WR34 (WG21) | 21-LA-9026 |
| 21700-33000 | Air Cooled | 5 | - | 1.15 | FULL | 20 | WR34 (WG21) | 21-LA-9012 |
| 21700-33000 | Air Cooled | - | - | 1.15 | FULL | 100 | WR34 (WG21) | 21-MA-9040 |
| 21700-33000 | Water Jacketed | 400 | - | 1.10 | 15% | 230 | WR34 (WG21) | 21-HL-9075 |
| 21700-33000 | Air Cooled | 300 | - | 1.15 | 15% | 198 | WR34 (WG21) | 21-HF-9054 |
| 21700-33000 | Air Cooled | 1000 | - | - | 5% | N/A | WR34 (WG21) | 21-HC-9054 |
| 21700-33000 | Water Dielectric | - | - | 1.15 | FULL | 200 | WR34 (WG21) | 21-HW-9075 |
| 26500-40000 | Air Cooled | 5 | - | 1.03 | 15% | 82 | WR28 (WG22) | 22-LA-9027 |
| 26500-40000 | Air Cooled | 5 | - | 1.15 | FULL | 18 | WR28 (WG22) | 22-LA-9013 |
| 26500-40000 | Air Cooled | - | - | 1.15 | FULL | 80 | WR28 (WG22) | 22-MA-9041 |
| 26500-40000 | Water Jacketed | 400 | - | 1.12 | 15% | 192 | WR28 (WG22) | 22-HL-9076 |
| 26500-40000 | Air Cooled | 300 | - | 1.20 | 15% | 166 | WR28 (WG22) | 22-HF-9055 |
| 26500-40000 | Air Cooled | 1000 | - | - | 5% | N/A | WR28 (WG22) | 22-HC-9055 |
| 26500-40000 | Water Dielectric | 1500 | 1500 | 1.12 | FULL | 200 | WR28 (WG22) | 22-HW-9088 |
| 33000-50000 | Air Cooled | 3 | - | 1.15 | FULL | 15 | WR22 (WG23) | 23-LA-9096 |
| 33000-50000 | Water Jacketed | 400 | - | 1.15 | 15% | 175 | WR22 (WG23) | 23-HL-9077 |
| 33000-50000 | Air Cooled | 700 | - | - | 5% | N/A | WR22 (WG23) | 23-HC-9098 |
| 39000-57000 | Air Cooled | 3 | - | 1.15 | FULL | 15 | WR19 (WG24) | 24-LA-9097 |